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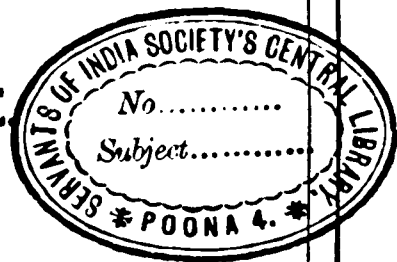


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REPORT
OF THE
Hides Cess Enquiry
Committee

21st October 1929—18th February 1930

Volume II
EVIDENCE



CALCUTTA: GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
1930

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 bad (Deccan).
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 nopoly Fort.
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 chitampoly.
 Superintendent, Bangalore Press, Lake View,
 Mysore Road, Bangalore City.

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12676

TABLE OF CONTENTS.

		PAGE.	
I. Questionnaire with forwarding letter		v	
II. Evidence of individuals, private or public bodies and Government departments or officers:—			
No.	Name of witness.	Written statement.	Oral evidence.
1.	Capt. S. G. M. Hickey, I.V.S., Director, Civil Veterinary Department, United Provinces, Lucknow . . . . .	...	1
2.	Messrs. Cooper Allen & Co., Cawnpore	6	10
3.	Lt.-Col. L. C. Larmour, Superintendent, Government Harness and Saddlery Factory, Cawnpore	16	25
4.	Mr. A. E. Corbet, Cawnpore	23	32
5.	Mr. Mohamad Latif, Cawnpore	35	39
6.	Mr. M. S. Meyer, Cawnpore . . . . .	...	41
7.	Mr. M. B. Hudlikar, M.Sc. (Leeds), Head of the Leather Chemistry Department, H. B. Technological Institute, Cawnpore	43	68
8.	Mr. C. H. Parr, I.A.S., Deputy Director of Agriculture, in charge of Cattle Breeding Operations, United Provinces, Muttra . . . . .	...	77
9.	Mr. W. C. de Noronha, Cawnpore	80	84
10.	Khan Bahadur Sheikh Niaz Mohamed, G. P. V. C., Offg. Superintendent, Civil Veterinary Department, United Provinces, Allahabad Circle	86	...
11.	Indian National Tannery, Cawnpore	87	...
12.	Messrs. W. B. Shewan & Co., Cawnpore	89	.
13.	Secretary to the Hon'ble the Chief Commissioner, Ajmer-Merwara	93	..
14.	Mr. B. M. Das, M.A. (Cal.), M.Sc. (Leeds), Superintendent, Bengal Tanning Institute, and Manager, The National Tannery Co., Ltd., Calcutta	95	130
15.	Calcutta Hides and Skins Shippers Association, Calcutta	141	145
16.	Mr. K. C. Mukherji, B.Sc. (Leeds), Manager, The Bhagalpur Tannery Ltd., Bhagalpur	150	154
17.	Dr. Sir Nil Ratan Sircar, Kt., M.A., M.D., Director, The National Tannery Co., Ltd., Calcutta	153	160
18.	Calcutta Skins and Hides Traders' Association, Calcutta	164	167
19.	Mr. P. J. Kerr, M.R.C.V.S., I.V.S., Veterinary Adviser to the Government of Bengal, Calcutta	170	172
20.	Mr. B. B. Dhavale, M.A., A.I.C., F.C.S., Research Chemist, Bengal Tanning Institute, Calcutta	175	179
21.	Mr. B. C. Burt, C.I.E., M.B.E., I.A.S., Agricultural Expert, Imperial Council of Agricultural Research	181	184
22.	Mr. F. J. Gossip, I.A.S., Livestock Expert to the Government of Bengal, Dacca . . . . .	...	191
23.	Indian Chamber of Commerce, Calcutta	194	199

No.	Name of witness.	PAGE.	
		Written statement.	Oral evidence.
24.	Mr. F. Ware, F.R.C.V.S., I.V.S., Offg. Director, Imperial Institute of Veterinary Research, Muktesar	210	213
25.	Mr. P. G. Malkani, M.R.C.V.S., Veterinary Research Officer, Imperial Institute of Veterinary Research, Muktesar . . . . .	...	220
26.	Mr. M. M. Isphani, Calcutta	222	...
27.	Indian Tea Cess Committee, Calcutta	225	...
28.	Messrs. Max Staub, Ltd., Calcutta	229	...
29.	Mr. S. B. Banerji, Calcutta	233	...
30.	Messrs. Ralli Brothers, Calcutta	237	...
31.	Messrs. Mousell & Co., Ltd., Calcutta	241	...
32.	Haji Mohamed Din, Calcutta	244	...
33.	Indian Lac Association for Research, Calcutta	246	...
34.	Messrs. Mohamad Amin Bros., Calcutta	248	...
35.	Mr. D. C. Gupta, Director of Industries, Bihar and Orissa, Patna	250	...
36.	Mr. R. D. Richmond, I.F.S., Chief Conservator of Forests, Madras	258	260
37.	Mr. Muhammad Abdul Hafiz, Deputy Forest Utilisation Officer, Madras . . . . .	...	261
38.	Mr. P. T. Saunders, O.B.E., M.R.C.V.S., I.V.S., Acting Director of Veterinary Services, Madras	263	264
39.	Mr. A. Guthrie, M. B. E., V. D., Leather Expert to the Government of Madras and Principal, Leather Trades Institute, Madras	267	277
40.	Madras Chamber of Commerce, Madras	286	297
41.	Southern India Chamber of Commerce, Madras	303	308
42.	Southern India Skin and Hide Merchants' Association, Madras	313	317
43.	Rao Sahib C. Sabapathy, Madras . . . . .	...	322
44.	Director of Agriculture, Madras	327	...
45.	Messrs. Walker & Co., Ltd., Madras	328	...
46.	Mr. R. W. Littlewood, I.A.S., Deputy Director of Agriculture, Livestock, Hosur, Madras Presidency	331	...
47.	Diwan Bahadur A. Appadurai Pillai, Director of Industries, Madras	332	...
48.	Tanners of Bangalore, Bangalore	335	...
49.	Coast Tanners of Southern India	337	...
50.	Haji Eisa Haji Oosman, Madras	339	...
51.	Ambur Tanners' Association, Ambur	342	...
52.	Tanners' Union, Coimbatore	344	...
53.	Southern India Tanners' Board, Dindigul	346	...
54.	Bark Tanners of Pallavaram, Pallavaram	348	...
55.	Mr. N. M. Kajamean Rowther, Trichinopoly	353	...
56.	Southern India Tanners' Board, Trichinopoly	359	...
57.	Director General and Secretary to Government, Department of Commerce and Industry, H. E. H. the Nizam's Government, Hyderabad-Deccan	361	...

		PAGE.	
No.	Name of witness.	Written statement.	Oral evidence.
58.	Chief Conservator of Forests in Mysore, Bangalore	363	...
59.	Mr. J. H. Ritchie, I.A.S., Secretary, Indian Central Cotton Committee, Bombay	364	368
60.	Mr. Ali Mahomed Ulvi, Acting Livestock Expert to the Government of Bombay, Poona	372	373
61.	Khan Sahib J. D. Buxy, Offg. Superintendent, Civil Veterinary Department, Bombay Presidency, Poona	...	375
62.	Mr. H. L. Newman, I.F.S., Chief Conservator of Forests, Bombay Presidency, Poona	377	...
	Mr. D. B. Sothers, I.F.S., Conservator of Forests, Central Circle, Bombay Presidency	...	378
63.	Mr. C. A. Malcolm, I.F.S., Chief Conservator of Forests, Central Provinces, Nagpur	380	...
	Mr. R. T. Jenkin, I.F.S., Forest Utilisation Officer, Central Provinces, Nagpur	...	381
64.	Western India Tanneries Ltd., Bombay	383	386
65.	Mr. P. B. Advani, Director of Industries, Bombay	390	401
66.	Capt. C. M. Flanders, Superintendent of Markets and Slaughter-houses, Municipality of Bombay, Bombay	404	405
67.	Indian Merchants' Chamber, Bombay	408	411
68.	Messrs. M. Mohammad Ali & Co., Bombay	416	419
69.	Messrs. Ralli Brothers, Karachi	422	...
70.	Messrs. Beaumont & Co., Karachi	426	...
71.	Messrs. Volkart Brothers, Karachi	428	...
72.	Karachi Chamber of Commerce, Karachi	...	432
73.	Mr. C. S. G. Haji, Veterinary Inspector, Civil Veterinary Department, Lower Sind	...	437
74.	Karachi Hides and Skins Merchants' Association, Karachi	439	441
75.	Mr. Balwant Singh, Industrial Surveyor and Additional Inspector of Factories, Sialkot Circle, Punjab	444	450
76.	Haji Osman Haji Salehmohamed, Bombay	453	...
77.	Leather Expert to Government, Central Provinces, Nagpur	459	...
78.	Veterinary Adviser to Government, Central Provinces, Nagpur	464	...
79.	Messrs. Nizamuddin & Co., Karachi	466	...
80.	Karachi Indian Merchants' Association, Karachi	467	...
81.	Buyers and Shippers Chamber, Karachi	469	...
82.	Messrs. Fleming, Shaw & Co., Ltd., Amritsar	471	...
83.	Indian Chamber of Commerce, Lahore	476	...
84.	Honorary Secretary, Gow Rakshani Sabha, Ludhiana	478	...
85.	Revenue Secretary to Government, Punjab, Lahore	479	...
86.	Secretary to the Agent to the Governor General in Baluchistan, Quetta	481	...
87.	Mr. Mehtab Singh, Industrial Surveyor, Delhi	482	...
88.	Messrs. Culverwell, Brooks & Co., London	490	...

No.	Name of witness.	Page.	
		Written statement.	Oral evidence.
89.	Association of Factors, Merchants and Importers of Leather, Hides and Tanning Materials, (Incorporated), London	492	...
90.	Fédération of Curriers, Light Leather Tanners and Dressers, (Incorporated), London	493	...
91.	Hide Shippers' and Agents' Association, (Incorporated), London	494	...
92.	United Tanners' Federation, London	496	...
93.	Messrs. Bevingtons & Sons, London	498	...
94.	Messrs. Dyster, Nalder & Co., London	499	...

NOTE.—As regards the method of taking down and preparing the oral evidence para. 8 of the Committee's Report, Volume I, may be seen.

HIDES CESS ENQUIRY COMMITTEE.

QUESTIONNAIRE AND FORWARDING LETTER.

(i) Forwarding letter.

No. 46—H. C./III-E. Q., dated the 23rd October 1929.

SIR,

I have the honour to enclose a copy of a questionnaire issued by the Hides Cess Enquiry Committee, appointed by the Government of India with the following terms of reference:—

“To enquire and report on—

- (1) the articles on which a cess might suitably be imposed and the rate of cess on each article;
- (2) the constitution and personnel of the committee which would administer such a cess; and
- (3) the functions of the committee and the objects on which the cess might be expended.”

I have to request that your replies (as far as possible eight copies printed or typed on one side of paper only) may be sent to me at your earliest convenience. Below is a schedule of the last dates and addresses, by and at which you are requested to kindly send your replies. The Committee regret that as the time during which they have to cover the ground and submit their report is very short, it has not been found possible to give more time for replies to the questionnaire.

Replies from	Last date	To be sent to me at
1. United Provinces	3rd November 1929	Cirenit House, Cantonments, Cawnpore.
2. Bengal, Bihar and Orissa and Assam.	9th November 1929	1, Council House Street, Calcutta.
3. Rest of India including the States.	12th November 1929	1, Council House Street, Calcutta.

Along with your reply you will kindly state whether you or a representative of yours would be available for giving oral evidence in case the Committee should desire to take it. You will please let me know his name, designation and address. Travelling allowance may be given to witnesses in accordance with the Government of India rules on this subject.

You need not answer questions relating to problems with which you find you have no concern. It is however particularly requested that facts and figures be extensively quoted in support of your views and statements. When views or facts are quoted, a detailed reference to the original source may be given.

Any information you can supply on the following points will be highly appreciated:—

- (1) production of hides and skins—both quantity and value—in India or any other area with which you are familiar,
- (2) consumption of hides and skins by the village tanning industry,
- (3) their consumption by the organised tanneries, whether regulated by the Indian Factories Act or not,

- (4) railway freights to and from the ports and from the chief centres from which raw hides and skins are drawn and, in particular, any difficulties experienced in this connection,
- (5) the extent to which reliance has to be placed on hides and skins imported from other provinces or countries, especially from Burma,
- (6) the local manufacture of chemicals for chrome-tannage or the necessity to use imported material, and
- (7) the tariffs on Indian hides and skins, leather and manufactured leather goods in various countries, especially those possessing markets which, apart from the tariff, are promising outlets for the products of the hides and skins industry as a whole.

Some spare copies are herewith enclosed. Also a list* of the persons and bodies to whom a copy has been sent direct. It is requested that copies be supplied out of the spare lot to important persons and firms and bodies interested in the hides-skins trade, the tanning and leather-working industries and associated trades and industries. A list of the names of such persons and bodies may kindly be supplied to me so as to enable me to keep a record of those specially addressed.

The following centres will be visited by a sub-committee of the Committee:—

- | | |
|---|--------------------------------|
| 4th to 9th November (both inclusive), Cawnpore. | |
| 11th to 15th November (both inclusive), Calcutta. | |
| 18th to 23rd November (both inclusive), Madras. | |
| 25th to 27th November (both inclusive), Trichinopoly. | } Not definitely
fixed yet. |
| 29th to 30th November (both inclusive), Bangalore. | |
| 2nd to 7th December (both inclusive), Bombay. | |
| 9th to 11th December (both inclusive), Karachi. | |

Witnesses appearing for oral evidence will be informed when and where to attend.

I have the honour to be,
 SIR,
 Your most obedient servant,
 S. P. SHAH,
 Member-Secretary.

(ii) *Questionnaire.*

I. Please give some details of your connection with the export trade or with the tanning industry in India. Have you any interest in any associated trade or industry?

II. Could the proceeds of a cess, in your opinion, be spent profitably for the benefit of the industry as a whole [including (i) the export trade in hides and skins, and in tanned hides and skins, (ii) the tanning industry both for home needs and for export, and (iii) any associated trade or industry etc.]?

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests etc.

1. What are the defects found in Indian hides and skins due to cattle diseases and pests?

* Not printed.

2. What action do you suggest for the removal of such defects?

Flaying.

3. What, in your opinion, are the defects in the methods of flaying?

4. What remedies do you suggest?

5. Do you consider that the appointment of flaying instructors and supervisors is likely to yield good results? How would you provide for the instruction of the village flayer?

6. Would you recommend the supply of flaying knives of an approved pattern to the village flayer? If so, on what lines would you organise the supply?

7. Do you consider that any improvement could be brought about in flaying in slaughter-houses? If so, what action do you recommend? What other action on the part of local bodies is, in your opinion, desirable?

8. Have you any information of the success or otherwise of any tried system of bonuses paid to slaughter-house flayers for good flaying? Please add details of the system of which you have experience. Would such a system, in your opinion, be effective?

Curing and preserving.

9. How does the system of curing and preserving in India differ from that followed in other countries?

10. What are the defects in the methods of curing or preserving hides and skins in India?

11. What remedies do you suggest for the removal of such defects?

12. In your opinion, would the question of curing and preserving form a suitable subject for investigation and research at the expense of a cess fund?

13. Can you suggest any organised system for the supply of suitable curing or preserving materials in the villages?

Adulteration.

14. Do you consider that "adulteration" or "loading" exists in a serious form? What effect has it on (a) the export trade and (b) the tanning industry in India?

15. What action do you suggest in order to combat such practices?

Other defects.

16. Are there any other defects in the quality of Indian hides and skins which could be removed? In what manner should action be taken to remove such defects?

17. Can you give some estimate of the percentage by which the value of Indian hides and skins taken as a whole (good, bad and indifferent) is reduced by the existing defects? Please indicate how you arrive at your estimate.

(b) Collection, marketing, export etc.

18. What are the various stages in the trade in hides and skins from the point when the animal dies or is killed to the time of shipment from India or entry into a tannery in India?

19. Is there any scope for improvement at any point, e.g., in transport, railing, handling, grading, packing, shipping etc.?

20. Do you consider that co-operative marketing by the producer is feasible? Please give your detailed suggestions. Has co-operative marketing been tried anywhere in India? If so, with what results?

21. Have you any remarks to make regarding the transport of raw hides and skins, tanned hides and skins, curing materials or tanning materials?

22. What is the system of grading of hides and skins (a) for sale to tanners in India and (b) for export?

23. Do you consider that the introduction of a system of standardisation and grading (a) for sale to tanners in India and (b) for export is feasible? If so, please give complete details of any scheme which you consider desirable. Has any such scheme been tried in other countries producing hides for internal consumption or for export? If so, with what results?

IV. TANNING AND ALLIED INDUSTRIES.

24. Do you consider that funds derived from a cess could be expended with benefit to the tanning industry in India on:—

- (a) Research work in tanning, dyeing and finishing;
- (b) The training of tanners, tannery foremen and leather chemists;
- (c) Developing the supply and quality of Indian tanstuffs;
- (d) Encouragement of various forms of the leather-working industry?

25. What facilities for research work in tanning and associated industries are already available in the area with which you are familiar?

26. Do you consider any expansion or modification of the existing facilities necessary? In particular, are any special facilities required in Madras? If so, what special facilities do you suggest?

27. Do you think the various centres for technological investigation should specialise? If so, please suggest details of the work to be assigned to each and of a scheme for co-ordination and control.

28. What are the existing facilities for the training of tanners, tannery foremen and leather chemists in the area with which you are familiar?

29. If any expansion of these existing facilities is required, what methods do you recommend for the supply of trained tanners etc.? How should the training be imparted to the rural tanner, both adult and adolescent?

30. Do you recommend the establishment of tanning schools and tanning demonstration parties? If so, give details of your suggestions.

31. By what means could the export trade in tanned hides and skins be improved? What are the present practices in the trade in the matter of grading? Do you consider any scheme of standardisation, grading and certification for export feasible? If so, what practical suggestions do you make?

32. What tanstuffs are locally available in the area with which you are familiar? How is the supply organised? Are any improvements needed? Are any other tanstuffs required? How should their supply be organised?

33. Please state your view as to the comparative merits of *casia auriculata* (*āvāram* or *tarwar*) and wattle bark as tanning material. Do you think that the former can be made available in larger quantities and at cheaper rates? If so, in what manner?

V. ADVERTISEMENT.

34. Do you consider that a portion of the cess funds should be applied to advertising for the benefit of the industry as a whole?

35. On what other objects, in addition to those indicated above, do you consider that funds from a cess should be expended for the benefit of the hides and skins trade, the tanning industry and any other associated industry? Please give details of the action necessary in each case.

VI. COST OF SCHEMES PROPOSED.

36. Please give estimates in some detail of the cost of each of the schemes which you have recommended, distinguishing between initial capital expenditure and annual recurring cost.

37. If funds for the schemes which you have proposed were to be obtained by means of a cess, how much money would it be necessary to raise annually?

38. What margin would you allow for expansion?

39. What principles would you suggest should be followed in the application of a cess? On what articles should the cess be levied and at what stage? Should it be levied both on the tanning industry and on the export trade? In the former case, would you restrict it to tanneries regulated under the Indian Factories Act? Please give reasons for your proposals.

40. At what rate or rates should it be levied? How would India's position in the world's markets for raw hides, tanned hides and leather be affected by the imposition of a cess at the rate or rates which you have recommended?

41. Do you recommend that, in the first instance, the cess should be levied for a specified period? If so, for what period?

42. In the event of an export cess being recommended what form should it take? Would a specific rate be preferable to an *ad valorem* rate? Please give your reasons.

VII. CESS COMMITTEE.

43. Are you in favour of the formation of a Committee to administer the proceeds of any cess or cesses which may be imposed? What constitution do you recommend for such a Committee?

44. Which interests would you recognise as being entitled to representation and in what proportions? Who should nominate—the interests themselves or the Governor General in Council on the recommendation of such interests?

45. Which interests (if any) should, in your opinion, be given representation on the Committee by statute, to what extent and in what form? As regards the other interests how, in your opinion, should they be given representation?

46. Should local governments as such be represented on the Committee? If so, should they be represented through the respective Directors of Industries or should the nomination of their representatives be left to them?

47. Should the Indian States be given any representation, and if so, to what extent and in what manner? Who should collect the cess in respect of exports from State ports and how should the proceeds be applied?

48. Are you in favour of giving separate representation to the institutions recognised for technological research? Would you give separate representation to the co-operative movement? If so, how?

49. Would you give the Committee the power to co-opt experts and others interested in the trade or the industry? If so, within what limits and subject to what conditions?

50. Should it have a Chairman *ex-officio*? If so, who should he be? Should it have a Member-Secretary or a mere (*i.e.*, non-Member) Secretary? What qualifications would you expect and what terms would you offer? Who should appoint the Secretary—the Committee or the Governor General in Council? Should he be permanent and whole-time?

51. What functions should be assigned to the Committee? In particular, as regards improvements in flaying and curing, encouragement of the tanning industry in various ways, the commercial organisation of the trade, the collection of statistical and other information etc., what should be the normal relations between the Committee and the Central and the local governments?

x

52. Through what agency should the Committee normally act? What executive and office do you recommend?

53. Should it have provincial and local sub-committees? If so, where? What should be their constitution and functions?

54. Do you consider that a special technologist would be necessary or that technological advice should be obtained from the technologists at Calcutta, Cawnpore, Madras etc.?

55. Where should the Committee's headquarters be located? Should it have any branch at any other centre? If so, where and why?

**Oral Evidence of Captain S. G. M. HICKEY, I.V.S., Director,
Civil Veterinary Department, United Provinces, Lucknow.**

(Cawnpore, the 5th November, 1929.)

(NOTE.—Mr. Price was Chairman as Dr. Meek was out of Cawnpore.)

As Captain Hickey had not submitted a written memorandum, Chairman requested him to make an oral statement of his views on the questions concerning his department.

Witness said:—On account of the defects arising from malnutrition and bad flaying, etc., considerable economic waste occurs in the hides and skins trade and industry. I, however, think that it is for the tanners rather than for the Civil Veterinary Department to attempt to bring about improvements. I hold that the Civil Veterinary Department's primary concern is to control epidemics and look after diseases generally. Among such diseases I would give the first place to rinderpest, and the second to hæmorrhagic septicæmia which is frequently confused with anthrax. Rinderpest is more or less, though not entirely, confined to bovine cattle which probably account for about 90 per cent. of it. Direct mortality from the foot-and-mouth disease is not high, death occurring in animals from secondary infection. Surra, primarily though not exclusively, affects horses. As for glanders and farcy, there is already in operation an Act for their control. The results of inoculation, if and when undertaken, are good, but the method and agency for the reporting of outbreaks leave much to be desired. Cases have occasionally come to my notice in which a delay of even six weeks took place before the reports reached the veterinary staff.

Replying to Mr. Price:—I agree with Mr. Price that there are too many superfluous cattle in India. The Royal Commission on Agriculture in India also found this to be so. This is due to a vicious circle—bad quality requiring larger numbers and making it difficult, if not impossible, to bring about an improvement in the quality. I attribute the poor quality of cattle in India to the ignorance and poverty as also to the indifference of the rural people. I consider that young stock does not get as much milk as they should get for normal healthy development. In certain parts of the country, e.g., the Punjab, the position is different.

As regards pests, what is often understood in India by the word 'warble' is not the true warble. The true warble is caused by a fly called the *hypoderma bovis*. It is black and hairy and 13 to 15 mm. long. It is the larva of this fly which is responsible for the warbles. They appear as small elevations in the skin of the back which gradually increase in size and later on show a soft centre out of which the parasite eventually escapes. In my experience what is termed a warbled skin is due to a filaria which when escaping from the skins causes a cutaneous hæmorrhage. I think it is impossible to combat these pests with the present knowledge and methods of the rural people. I believe some work on the subject has been carried out by the Camel Expert to the Government of India.

The difficulty of eradicating ticks is, in my opinion, immense. Buffaloes do not suffer so much from ticks, because when necessary they manage to keep themselves under water. Cattle suffer the most.

The average number of veterinary assistant surgeons per district in the United Provinces is about four.

Replying to Mr. Wykes:—I agree that so far as has been ascertained the warble does not exist to any appreciable extent south of Agra and seems to run along the low-lying belt at the foot of the Himalayas. I agree that military dairy farms can assist in the improvement of the breed of cattle, but such improvement would only be confined to cattle for milking purposes. What is needed in India is an attempt to evolve breeds intended for double or even treble duty, viz., milk, draft and to a small extent meat and so on.

Pox is comparatively speaking uncommon amongst cattle. My experience is that villagers do not mind using various kinds of disinfectants of the phenyle group for their cattle, but the cost and the difficulty of procuring them are great impediments. In America before cattle are allowed to pass from one area to another, they get a pesticide spray with emulsified kerosene, or some other compound.

As to firing and branding, I would draw a distinction between extravagant branding and firing for various purposes. Branding is mostly for identification. I am not aware that it is resorted to on a considerable scale in order to render the hide itself useless to cattle poisoners. I think it is due to ignorance and superstition. Indelible dyes can, in my opinion, take the place of identification by branding for the commissariat cattle.

(NOTE.—Mr. Wykes here stated that he understood that indelible paint was being used in Meerut for this purpose. Mr. Sinha stated that if coaltar were used, it would not leave a mark, unless it was applied very hot and that the marking of cattle by clipping had been reduced to a scientific system and that he himself had collected some literature on the subject.)

Replying to Mr. Sinha:—I think the starvation of cattle is largely due to their numerical superfluity. The number of veterinary dispensaries in the United Provinces is 160, i.e., three to four per district. In my opinion, there should be a hospital at every 10 miles. I agree that veterinary assistant surgeons should disclose the vernacular names of the medicines prescribed or administered by them, so that the villagers would not be compelled to have them dispensed in the hospitals or outside without knowing what they were getting. Medicines are dispensed in the veterinary hospitals at extremely cheap rates. I agree that it would be worthwhile having printed literature in the vernaculars on the subject of cattle diseases and distributing it free.

The breeding of he-goats as sires has not as yet been taken up. It is desirable to carry out experiments in this direction. The Civil Veterinary Department imported some rams from Australia and some from England and breeding experiments were tried. I considered the results to be satisfactory; the wool so obtained was reported by Bradford to be the best ever obtained from India. It was more fleecy and plentiful but some of the meat-weight was lost. These experiments had to be given up.

The cost of an average veterinary hospital staffed by one assistant surgeon helped by a compounder and a cooly is Rs. 100 per mensem on staff and about Rs. 20 per mensem on medicines. I agree that the cutting down of the provision for medicines to an average of about Rs. 250 per annum is tantamount to "taking the workmen's tools" from the hands of the veterinary surgical staff. It is advisable to tack on to general education in rural schools simple elementary training in the diseases of animals. I have an impression that this is being done in schools in France.

There are no travelling veterinary dispensaries, but veterinary assistants tour the country in the case of serious outbreaks.

As regards veterinary students, training institutions to which the United Provinces students can go are available in the Punjab, Madras, Bombay, Bengal and Bihar and Orissa. Boys are not now sent to the Punjab, as the Punjab course is longer and more expensive, even though it turns out a better grade student than the Bengal one. In my opinion, the Madras and Bombay schools would not suit the United Provinces students, but the other three would.

Replying to Mr. Shah:—[NOTE.—Mr. Shah first apologised on behalf of the Committee for having had to "rush" the witnesses from the United Provinces and requested the witness to send in his written memorandum especially on the following points:—(1) an exhaustive list of diseases and pests affecting hides and skins, (2) a study of branding and firing for various purposes and the extent to which it was possible to eliminate or reduce it, (3) an estimate of the average annual production of hides and skins in the United Provinces based, if possible, on average mortality due both to killing and to natural causes among the various classes of animals, i.e., cows, bulls,

bullocks, buffaloes, sheep, goats and other animals, (4) witness' own estimate of the staff and other measures required for dealing with pests, (5) witness' estimate of the staff and other measures needed for bringing about imported flaying, (6) the veterinary department's and the local boards' expenditure on veterinary work (7) some statistical information concerning his department, e.g., the present strength of the staff, number of dispensaries, average area served, average number of animals served, etc. Witness kindly offered to do so.] Mr. Shah then read out a quotation from the Punjab Department of Industries' Report for the year 1922-23 (page 5) about the improvement in flaying said to have resulted at Multan and at Kalanaur from the employment of two flaying instructors, and asked whether witness thought that similar action would lead to improvement in the United Provinces also, and whether he would be prepared to undertake their training and the supervision of their work. Witness replied:—I would do so provided I am given the necessary staff with sufficient training and experience. I agree that a portion of the proceeds of the cess can usefully be spent on the deputation of suitable scholars to Holland, Denmark, and other countries which are believed to have, to some extent, succeeded in the solution of the warble problem. The proceeds of the cess can be usefully spent on further research work in India by such scholars on their return because the warble problem in India is likely to be not capable of identically the same solution in India as in those countries. As to supervision over the work of travelling dispensaries for cattle, I think district veterinary officers such as have been proposed by the Agricultural Commission will on the analogy of the Civil Surgeon be able to do such work. (NOTE.—Mr. Shah here narrated to the Committee the experience of travelling dispensaries for the treatment of men and how they had to be closed down in 1922 or 1923 chiefly on account of the difficulty of supervising them even though Civil Surgeons were available in every district.)

I suggest that the Committee should get a memorandum from Muktesar. I shall myself make a search among my records for the Camel Expert's studies of the warble fly.

—————

Memorandum subsequently sent by witness.

1. LIST OF DISEASES AND PESTS WHICH AFFECT HIDES AND SKINS.

Skin is rendered totally unfit for use as regards point of infection—

1. Anthrax.

Skins are rendered poor—

1. Rinderpest.
2. Hæmorrhagic septicæmia.
3. Red water.
4. Cow and sheep pox.

There are regular breeches in the skin—

1. Black quarter.
2. Actinomycosis.
3. Multiple abscesses.
4. Ulcerative lymphangitis.
5. Malignant tumour.
6. Hypoderma bovis (warbles).
7. Filaria hæmorrhoidalis.
8. All wounds specially with maggots.

In these diseases the skins are of poor conditions and liable to show marks when tanned—

1. Ticks of all kinds.
2. Scabies.
3. Eczema.

4. Dermatitis.
5. Intestinal parasites especially tenia.
6. Ringworm.

Also I should fancy that the over use of the goad while driving draft bullocks would cause damage to the hides.

2. A STUDY OF BRANDING AND FIRING FOR VARIOUS PURPOSES.

I would advise that experiments should at once be undertaken to endeavour to find an indelible dye which can take the place of branding and firing. Also propaganda should be carried out amongst the agricultural population showing the damage done to hides and skins by the present method of branding and firing animals and it should be explained to them that firing should only be carried out in the case of necessity arising from medical grounds.

3. AN ESTIMATE OF THE AVERAGE ANNUAL PRODUCTION OF HIDES AND SKINS IN THE UNITED PROVINCES.

This question cannot be answered with any accuracy. The only figures obtainable by me are for those deaths caused by contagious diseases reported by my staff when attending outbreaks and also as reported by *patwaris* and slaughter-house figures. During the last financial year 25,413 bovines and 680 others were reported to have died of contagious disease. Slaughter-house figures obtained from 126 municipalities and notified areas show that 385,917 horned cattle, 1,062,951 sheep and goats and 714 others were slaughtered. It is impossible to break these figures to different classes as asked for, as certain boards when supplying the information grouped them together. To this total of 1,475,670 animals must be added a fairly high percentage for those animals that die either naturally or by other causes and are not reported.

4. ESTIMATE OF THE STAFF AND OTHER MEASURES REQUIRED FOR DEALING WITH PESTS.

In my opinion, to start with there would be required an expert who should first of all make a survey of the province to find out where the pests affecting hides were located. After they had been worked out, measures should be taken to see if any cheap means could be discovered to prevent animals being attacked by pests. This officer would require a staff of, say, a laboratory assistant and some field workers.

5. ESTIMATE OF THE STAFF AND OTHER MEASURES NEEDED FOR BRINGING ABOUT IMPROVED FLAYING.

Dealing with the question of improved flaying, what would be required, in my opinion, is that an expert flayer should be brought out from home. His first duty would be to examine our present methods of flaying and should report where the defects are, and make any suggestions that, he thinks, are necessary to improve the flaying of skins. After the question had been gone into he could then pick out a number of intelligent slaughter-men and train them at some big slaughter-house in the new methods and when sufficiently trained, they, in turn, could be deputed to other slaughter-houses to teach the new methods.

6. VETERINARY DEPARTMENT'S AND LOCAL BOARDS' EXPENDITURE ON VETERINARY WORK.

	Rs.
Expenditure of District Boards for 1928-29 . . .	3,28,366
Expenditure of the Civil Veterinary Department, United Provinces, for 1928-29 . . .	4,55,282

There is, however, a receipt of Rs. 1,16,000 approximately in the Civil Veterinary Department budget towards contribution of district board veterinary assistant surgeons which is included in the expenditure shown under this department.

7. INFORMATION REGARDING PRESENT STRENGTH OF STAFF, NUMBER OF DISPENSARIES, ETC.

Present number of veterinary assistant surgeons . . .	174
Present number of veterinary dispensaries	160

Area of the province 105,994 sq. miles. The average number of miles under each veterinary assistant surgeon is 609. Animal population as per cattle census of 1925, 41,473,357 or 238,352 animals per veterinary assistant surgeon.

Written Statement, dated the 2nd November 1929, of Messrs. COOPER ALLEN & CO., Cawnpore.

I. Messrs. Cooper Allen & Co. have carried on the trade of tanners, curriers and leather goods manufacturers for a period exceeding fifty years.

During the Great War, we manufactured and supplied Government with the following:—

- 6,205,152 pairs ammunition boots,
- 686,126 complete sets of accoutrements,
- 24,125 complete sets of saddlery,
- 25,317 pairs of gaiters,

in addition to huge quantities of tanned leather for the manufacture and repair of army boots, accoutrements and saddlery.

We claim to be the largest individual concern in the world which deals in leather from the raw state to the manufactured article. Both chrome and vegetable tanning are amongst our productions.

In connection with our establishment there is maintained a large workmen's modern settlement and welfare work in all its departments, including the institution of schools, hospitals, dispensaries, co-operative societies, lecture rooms and playing fields.

II. The answer is in the affirmative but we still maintain that the export duty has been productive of real good to the tanning industry in India and has done no harm to the export trade. Although, therefore, it is beside the present reference, we wish to state our opinion emphatically that the present export duty should be at least retained.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The warble fly and tick are the two main pests responsible for defects in Indian hides and skins.

2. It is suggested that particulars be obtained of the procedure followed by Denmark in the elimination of the warble fly pest.

Flaying.

3. (a) Working by bad light in slaughter-houses.

(b) Boys working as apprentices.

(c) The flayer being paid by the hide works hurriedly in order to obtain more money and consequently does bad work.

4. (a) Improvements in the lighting of slaughter-houses.

(b) Curtailment in the employment of boys working as apprentices in slaughter-houses.

(c) The introduction of a bonus for good flaying in slaughter-houses.

(d) The special training of flayers and the appointment of inspectors at each of the principal slaughter-houses throughout India.

5. We are definitely of opinion that the appointment of flaying instructors for the training of flayers and supervisors established in all the principal slaughter-houses throughout India is bound to yield good results to the tanning industry if carried out thoroughly. Slaughter-houses are provided by all municipalities in the larger cities throughout India and ultimately it should be possible (with the close co-operation of the municipal authorities) to prevent any flayer working in their slaughter-houses who has not been trained or passed by the Cess Committee or its associations. The training of village flayers would not be possible until a complete organisation

for the training of flayers for slaughter-houses and supervising them was in thorough working order. It is in the slaughter-houses where supervision is primarily needed. It is, however, thought that during the time supervision is being organised in slaughter-houses suitable propaganda can be carried out for instructing the village flayer.

6. We do not recommend the supply of flaying knives to the village flayer but consider it necessary in the case of slaughter-houses.

7. With proper organisation we are of opinion that a great improvement can be effected in flaying in slaughter-houses. The appointment of a Hides Cess Committee overseer in any slaughter-house would possibly be welcomed by the municipal authorities. Working in co-operation with the municipal authorities he would advise the Cess Committee of the improvements necessary in the present methods of flaying to obtain better results. The overseer would make it his duty to see that the lighting was suitable and that the slaughter-house was available for flaying in sufficient time to allow all hides to be properly flayed and the meat available for the butcher at the required time. He would also control the number of apprentices employed in flaying, pay, bonuses and superintend the issue of flaying knives.

8. It is understood that during the War a system of bonus paid to slaughter-house flayers was adopted in Bombay with excellent results and a similar system in force in all slaughter-houses throughout India would be equally beneficial. It is suggested that the Bombay slaughter-house authorities be communicated with and details of their system of bonus ascertained.

Curing and preserving.

9. Sun-dried and *khari*-salted hides are peculiar to the Indian hide industry.

10. The main defects in the methods of curing and preserving hides in India are the following:—

- (a) Salt being used more than once for the same purpose.
- (b) Insufficient application of salt.
- (c) Ignorance on the part of some producers in drying out hides in the sun.

11. Co-operation on the part of buyers.

12. Yes.

13. No.

Adulteration.

14. Adulteration or loading has more effect on the export trade than on the tanning industry in India. It does not exist in a serious form in wet-salted hides with which we deal.

Other defects.

16. Hides obtained from cattle slaughtered for the supply of meat to the troops are in most cases useless to the tanning industry owing to the manner in which they have been branded. This is done on both sides of the neck and also on both sides of the butt (the best portion of the hide) in letters and numbers, sometimes as much as 4" in size. It is understood that similar branding is insisted upon by certain municipalities, particularly in Simla and other hill stations.

This matter should be taken up by the Cess Committee with the request that Government instruct all government meat contractors and municipalities to carry out branding on the neck only or low down on the hind leg or institute some other form of branding.

17. Approximately 75 per cent. of the hides passing through our hands are damaged by bad flaying and the value of leather produced from such hides is considerably depreciated.

(b) Collection, marketing, export, etc.

18. Normally, the various stages in the trade in hides from the point when the animal dies or is killed are as follows:—

- (1) Cattle owners.
- (2) Butchers.
- (3) Collectors of hides.
- (4) *Arhatilars* or brokers.
- (5) Tanners or shippers.

19. See reply to question 21.

20. Not feasible.

21. It is suggested that the Hides Cess Committee represent to the Railway Board the necessity (in specified centres where large quantities of hides and skins are handled by the railway) for special wagons to be available for hide transport, all of which must have a boarded floor and sides to prevent damage by iron rust and heating during transit and that hides and skins be treated as perishable goods and transit expedited.

22. There is no recognised system of grading hides for sale to tanners in India.

23. Not practicable.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a) Yes, with advantage.

(b) No.

(c) Yes.

(d) Yes.

NOTE.—Reasons for the above will be given in oral evidence.

25. Harcourt Butler Technological Institute, Cawnpore.

27. We consider that the various centres for technological investigations should specialise but the assignment of special lines must depend entirely on the equipment of the institutes.

28. Harcourt Butler Technological Institute, Cawnpore.

Government Harness and Saddlery Factory, Cawnpore.

29. We do not consider the expansion of existing facilities is necessary.

30. No.

32. *Babul* bark (*acacia arabica*).

The supply is not organised. Further tanstuffs are required in the shape of *cassia auriculata* and it is suggested that the cultivation of this product be organised by the Hides Cess Committee working in conjunction with the forest and agricultural departments and the allotment of grants for *cassia auriculata* to be grown in quantities sufficient for the local industry.

33. *Cassia auriculata* is an ideal tanning agent for light leathers whereas wattle bark is more suitable for the heavier types such as sole leather.

The advantage of wattle bark is its high tannin content.

Although we consider the above tanning agents can be made available in larger quantities in this district, this is a subject on which the forest department should be consulted.

V. ADVERTISEMENT.

34. We consider it would be very improper for any portion of the cess funds to be utilised in advertising.

35. Apart from the replies put forward above and the details which will be given in oral evidence we cannot, with the short time at our disposal, put forward any further objects on which the cess could be spent.

VI. COST OF SCHEMES PROPOSED.

36. The very short time which we have had to consider this questionnaire does not allow us to prepare any estimate of schemes outlined above.

39. We consider that the principles which promoted the Government of India to introduce the hide export duty in 1919 should again be followed in the application of a cess.

The cess should be levied on all exports of raw hides and skins at the time of exportation.

We consider it highly improper to levy a cess on hides tanned in India. The idea of a cess is to assist and encourage an indigenous industry.

It is admitted that it would not be practicable to levy a cess on the village tanner, so why penalise established tanneries to whom the Indian Factories Act is applicable.

40. We have already stated that the hide export duty as at present levied does not harm the export trade and therefore we are definitely of the opinion that the rate of the cess, if levied, should be at least equivalent to the protective duty now in force.

41. Ten years.

42. We consider an *ad valorem* rate would be preferable to a specific rate. It is our considered opinion that the present tariff valuation is too low.

VII. CESS COMMITTEE.

43. We are of opinion that the formation of a Committee to administer the proceeds of any cess which may be imposed is desirable, though we realise it presents grave difficulties.

The constitution of the Committee might be formed on lines similar to that adopted for the Indian Central Cotton Committee.

44. The interests which we consider should be recognised as being entitled to representation are the following:—

- (a) The tanning industry.
- (b) The tanned hide shippers.
- (c) Hide and skin exporters.

The tanners, as being directly concerned with the development of the industry in India, should form at least 50 per cent. of the total Committee.

Nominations should be made by the Governor General in Council in consultation with recognised local bodies.

49. We recommend that the Committee be given power to co-opt experts and others interested in the trade or the industry but in an advisory capacity only.

51. The administration of the cess.

The relations between the Committee and the Central and the Local Governments depend entirely on the nature of the Committee it is finally decided to form.

55. The location for the headquarters of the Committee must depend upon the nature of the Committee appointed and the functions of the Committee. If the chief duty of the Committee is to develop and help the tanning industry of India then Cawnpore would probably be the most suitable headquarters, with branches at the ports chiefly concerned with the collection of the cess.

Oral Evidence of Mr. A. C. INSKIP, O.B.E., of Messrs. Cooper Allen & Co., Cawnpore.

(Cawnpore, the 6th November, 1929.)

(NOTE.—At the outset Chairman thanked Mr. Inskip for his detailed written reply to the questionnaire and also for showing the Committee round the factory in the morning. The Chairman promised that any information which the witness may care to give regarding the activities of his firm could, if so desired, be kept confidential. Mr. Inskip explained that for certain trade reasons it would be necessary to treat such figures as he might give regarding his firm's activities as confidential.)

Replying to Chairman:—After the War the demand for boots and shoes particularly of the European style went on steadily increasing. In my opinion, the trade in civilian footwear is expanding considerably. I cannot give accurate figures off-hand but shall try to supply them. As to the forms in which my firm received initial government assistance, the Government, during the War, assisted indirectly in the building of a new tannery and granted facilities for the collection of hides, tanstuffs, etc.

Concerning the warble fly pest I shall quote the following extract from "The Leather World", dated 3rd October 1929:—

"At a meeting of the slaughter-house proprietors held at the Butchers' Hall recently, the question of the damage done by the warble fly came up for discussion. The Chairman, Mr. C. A. Coggan, said that at a propaganda meeting held at the beginning of the year it was decided to make an attack on the warble fly menace, and he was glad to be able to report that the Leathersellers' Company had been instrumental in forming an influential and important committee to thoroughly investigate the matter. This pest, he stated, was costing this country from six to eight million pounds a year, and in Denmark in 2½ years they had successfully reduced the damage done by the warble from 39 per cent. to about 5 per cent. The success of effective co-operation against the pest would mean earlier maturity, better stock, an increase of about 10 per cent. in the milk supply, and better hides. The meeting unanimously agreed to support the Leathersellers' Company and hoped the Government would soon take action."

Something on these lines might be attempted in India also. During the cold weather warble holes occur in from 10 to 70 per cent. of the hides according to the district in which they are produced and I estimate that of all the hides produced in the cold weather 40 per cent. are damaged by warble holes. These hides are practically useless to the Indian tanner and only a very rough estimate of the huge loss to the industry due to this defect can be given. I advise the Cess Committee to get into touch with the authorities in England and Denmark and ascertain the lines followed by them in eradicating this pest.

As regards the bad flaying of hides, I shall quote the following extract from "The Leather World", dated 3rd October 1929:—

"So much in the production of leather depends upon the successful and careful flaying of hides, that a few years ago, the French tanning trade took the matter up very seriously and after experiments and trials reported very favourably on a certain method. Hides flayed by this system are usually at a premium at the French sales, and naturally are well sought after. This not only speaks well for the method employed, but indicates a desire on the part of the trade to purchase well-flayed hides. Although far remote from France, we understand that the New South Wales Master Tanners' Association have decided to enter into a campaign for the better flaying of hides, and a special bulletin is to be issued on the subject. The movement has received official blessing in the form of co-operation by the Department of Agriculture, who have undertaken to instruct officers throughout the country on the

advantages of careful flaying. From the lessons which have been learned elsewhere it is a foregone conclusion that an improvement in flaying will repay both butchers and tanners, especially the former, who are assured of a better price for a well-flayed hide."

I have no definite information about any tried system of bonus for good flaying but understand, that during the War a scheme was tried in the Bombay Presidency, whereby the Government was able to reduce the percentage of hides damaged by bad flaying from 60 to 5 per cent.

I understand that cattle intended for slaughter for the supply of meat to the troops are branded by the government supply officers and that the brands are frequently changed to prevent corruption. I suggest that the Cess Committee should get into touch with the proper Government authorities with a view to introducing a different method of marking cattle intended for slaughter. I shall again quote the following extract from "The Leather World", dated 3rd October 1929:—

"The question of hide branding has been an important one for many years past, and on numerous occasions reference has been made in this journal to the loss which results from the careless use of the iron. The matter is again brought to notice by Dr. W. A. N. Robertson, Director of Veterinary Hygiene, The Commonwealth Department of Health, Australia, who says that the damage caused by the present methods of branding in that country must amount to between 5s. and 7s. 6d. per hide. Looked at from the point of view of a single hide alone, the damage caused by indiscriminate branding is serious enough but when one considers the number of hides so branded annually, the loss is sufficient to make the most hardened business man experience a cold shiver. "If" says Dr. Robertson, "fire branding is really necessary, why not put the brands on the inferior parts of the hide? Even this suggestion is worthy of consideration but it must be remembered that some very presentable leather is prepared from bellies and shoulders. With the present-day tendencies to conserve raw materials as much as possible it would seem that there is still an opportunity for an inventive genius to introduce some method of identification of animals other than hot-iron branding, as, after all, this method is, at the least, crude and of necessity painful."

My firm's hide buyer Mr. A. E. Corbet will appear before the Committee later and give more detailed information on the subject of pests, bad flaying and branding.

(NOTE.—When correcting his recorded evidence, witness substituted A for B.)

As regards research, this is already provided for by the existing technological institutes and details of all research work carried out are available in the literature issued by "The Institute of Leather Trade Chemists, etc." I, however, consider that research work carried out under Indian conditions is necessary to the industry as conditions out here vary a great deal from those experienced in other countries. Taking into consideration the climatic conditions, the very best tanner/chemist procurable in the world would not be too good for India. In the event of research work being carried out by funds derived from the cess, I consider that reports of all experiments carried out, showing results, conclusions, etc., should be published as often as possible in view of the number of new processes continually being brought to light. } A

As regards research, the Technological Institute, Cawnpore, could do such work. I draw the Committee's attention to the Journal of Leather Trade Chemists for guidance in the organisation of research. Research work carried on under Indian conditions is likely to need special handling. I am quite emphatic in my opinion that the results of research should be published. } B

I think the utilisation of Indian hides damaged by warbles would and should be a useful subject for research.

(NOTE.—Witness omitted portion C when correcting the record of his evidence before the Committee.)

C { I understand this line of research has been undertaken in Germany and has yielded some results. So far as I am aware about practice in Germany warble holes are filled up with some preparations whether before or during the tanning processes.

The training of tanners is not, in my opinion, an important question at the present time as the present technological institutes are turning out more tanners and chemists, etc., than the industry can absorb and any increase in the number of unemployed students should be discouraged.

(NOTE.—When correcting his recorded evidence, witness substituted D for E.)

D { I consider that the supply of *babul* bark available in the country is adequate for the industry in its present state.

E { In my view the fish oil obtainable in Southern India is inferior; it has high acidity. The problem of growing *tarwar* (*cassia auriculata*) by the forest or the irrigation department should be taken up.

The growing of *cassia auriculata* is one of the chief lines in which the hide cess funds might be of valuable assistance to the future tanning industry. The tanning properties contained in *cassia auriculata* are well known and I suggest that the forest, agriculture and irrigation departments be approached in this matter with a view to ascertaining the best means of increasing supplies of this valuable commodity for the tanning industry. I understand that certain experiments in this direction have been carried out in this province during the past, particulars of which should now be obtained and closely followed up. The Hides Cess Committee might consider the question of grants to the forest and agriculture departments for the conservation of tracts of land which would be utilised to ensure sufficient tanning materials for the industry in the future. I also suggest that investigations should be conducted into the sources of supply and into the improvement of the vegetable tanning materials at present available and also of chemicals.

(NOTE.—When correcting his recorded evidence, witness added portion marked F.)

F { With regard to the encouragement of various forms of the leather working industries I consider that the utilisation of the cess fund for the improvement of the tanning industry would be of great benefit to India and such assistance would eventually bring the tanning industry to the same level of efficiency as in Europe and America. This, I hold, was one of the objects of Government when the hide export duty was first introduced. The shoe-manufacturing industry in India is rapidly expanding. Very large quantities of shoes, etc., are produced daily in Cawnpore, Lucknow, Agra, Lahore, Calcutta and Madras, in addition to the large number of *chapolis* produced in Northern India. The expansion in the tanning industry in India has been of immense benefit to the country. It has opened up new avenues of employment to different classes of people from the illiterate *chamar* to the university science graduate. The initiation of a large tanning enterprise involves a huge amount of capital outlay and the preparation of leather requires time and also money being tied up by the investor longer than in other manufacturing concerns. Present conditions do not encourage either the capitalist or the investor to extend the tanning industry to the point it should and could occupy. But if the following suggestions are adopted, it would help a great deal in extending the tanning industry.

Encouragement to the leather-working industry can be given if part of the cess funds is set aside for the payment of a bounty on all exports of manufactured leather articles such as footwear, saddlery, etc. The increased demand for footwear during the past few years has resulted in the extension of the chrome leather industry.

The Hides Cess Committee might consider the question of assistance to this industry by the allotment of a portion of the cess funds as a rebate to the Indian tanners on the customs duty paid by them when importing chemicals, etc., which are necessary in their business and mostly unobtainable in India.

This assistance is already given by the Government in the case of salt, the tax on which is refundable and, it is understood, on certain classes of mill stores which already receive a concession in the matter of customs duty. } F

As regards advertising, if by advertising is meant inserting advertisements in English papers on the same lines as those adopted by the Tea Cess Committee, then I am against it. By advertising such a universal commodity as tea considerable advantage can be gained, but the advertising of hides is a far different proposition. It is my considered opinion that the time is not far distant when India will be in a position to absorb her production of hides completely. If by advertisement is meant propaganda in the country itself to improve the flaying and curing of hides, I agree this will form a suitable subject on which to expend a portion of the cess fund.

I am definitely of opinion that the rate of cess to be levied should at least be equivalent to the protective duty now in force.

(NOTE.—When correcting his recorded evidence, witness added portion marked G.)

India's position in the world markets for raw hides will in no way be affected by the imposition of a cess at the rate which has been recommended. Such a rate can only raise the price of hides to the foreign buyer, whereas fluctuations in price are of much wider limits but even then do not restrict exports. In spite of the present duty exports are increasing year by year. During 1927-28 a total of 8,356,264 hides including buffaloes, cows and calves were exported in the raw as against 4,436,359 during 1924-25 which appeared to be the highest export of any post-war year. During 1927 and 1928 a rise in the price of hides was observed; in some varieties as much as 40 per cent. over the price of previous years, but still all hides available were sold and exports increased—the figures for 1927-28 showing an increased export of nearly 14,000 tons over any post-war year.

I consider that a 5 per cent. cess would not encourage the foreign buyer to go elsewhere for his hides as no other country could supply so many or so light hides as India. It is very well known that the hides and skins produced in India form such an important factor in the leather production of the world that it will not be possible for Europe or America to ignore the raw supplies available in India.

With the higher standard of living which is gradually developing in many countries I consider that the use of leather is bound to show a corresponding increase. Leather in any shape forms a vital necessity for the economic well-being of a country. This is more so in India where the shoe-manufacturing industry is rapidly extending. It is a matter of common knowledge that the habit of wearing shoes is increasing very rapidly among the Indian population and if one person in every three of India's large population buys one pair of shoes annually, something like 12½ million cow hides and 10 million buffalo hides will be required. From this it will be seen that only a small increase in the number of people wearing shoes would account for a large decrease in the number of hides available for export and it is my considered opinion that the time is not very far distant when India will have no hides to spare for export. } G

India's estimated livestock is 180 millions and if 10 per cent. were slaughtered yearly, India will need the total quantity of hides produced for its home consumption before even one-third of her population can be equipped with proper footwear.

The present duty is only a small protection to the Indian tanner and did not prove to be of sufficient assistance to enable them to obtain suitable hides during the past two years when exports were high. The hide exporter may put forward the suggestion that the 5 per cent. protective duty at present in force is having a bad effect on the export business. This can hardly be accepted when it is known that the value of exported hides during the five years previous to the War was Rs. 66 per cwt. against Rs. 46 per cwt. during 1927-28 and when it is also noticed that an increase in exports of

479,254 buffaloes, 1,493,795 cows and 274,128 calves occurred during 1927-28 as compared with 1926-27.

Any argument that the present duty raises the price of hides to such an extent as to scare away foreign buyers cannot, I consider, be entertained. It is well known that during the post-war years, the exports of raw hides have not yet reached pre-war figures and that the leanest years for the exporters were while the increased rate of export duty was in force. But this cannot in any way be the effect of the export duty.

G { During the period when this duty was in force all the tanneries in the world, including those in India, were passing through a very acute depression on account of various countries flooding the market by releasing accumulated war stocks of leather held by them. During that period even long established tanneries both in Europe and America were compelled to close down and consequently all over the world the demand for raw hides and skins dwindled to an almost unheard of level. Furthermore, during the period in question the export duty of 15 per cent. was calculated per 100 skins valued at Rs. 400 whereas the present duty is calculated per 100 skins valued at Rs. 150. Another point we have to take into consideration during that period is ocean freights which were sometimes as high as 200s. per ton whereas they are now between 45s. and 57s. per ton.

The period during which the export duty has been in force coincides with the increased demand for footwear in India with the result that a number of new tanneries have been established during the past 10 years. Any decrease in the present duty will be to the disadvantage of these concerns, will retard their progress and possibly put some, if not all, out of business. These new tanneries have added to the wealth of the country.

Throughout the world it is the manufacturing countries which are the richest—not those relying on their exports of raw materials. And if India were in a position to tan all the hides, etc., it produced, the wealth of this country would be increased accordingly.

I hold that the foreign markets cannot afford to ignore India's supply of raw hides and skins and a reasonable protective duty on exports will act as an incentive to the Indian capitalist to invest more money towards the development of the tanning industry.

(NOTE.—Witness omitted H when correcting the record of his evidence before the Committee.)

H { I would not like any cess to be imposed on hides tanned in India. The rate of cess should be at least equivalent to the present export duty of 5 per cent.

In my opinion, an export cess will not affect the price of raw hides and skins to tanneries in India. I anticipate difficulties in the distribution of the proceeds of the cess between the various provinces and Indian States.

In my firm's written reply to question 44 of the questionnaire, "tanners" means both (a) and (b) categories mentioned.

Replying to Mr. Price:—So far as I am aware, the warble fly and its life history have not been investigated in this country and the true warble might, as suggested by Mr. Price, turn out to be a different creature from the warble as commonly understood. I might, however, point out that the damage done to Indian hides by the warble fly is identical with that in European countries.

As regards the supply of special flaying knives to villagers I hold that in the absence of any supervision to ensure the knives being used correctly the results would not warrant a large expenditure under this head from cess funds. I am, however, in favour of special knives being issued, say, at cost to flayers employed in slaughter-houses, as the overseers or inspectors appointed by the Cess Committee can give instructions concerning their use.

If the railway authorities can build special wagons for the conveyance of sulphuric acid, it should also be feasible for them to build wagons for the

transport of hides and skins. Such wagons can, when the necessity arises, be used for the transport of grain and other commodities.

Wattle bark is not available in large quantities in India, but my firm imported considerable quantities from Africa as far back as 1922 and 1923.

I admit that the United Kingdom is the principal market for Indian hides tanned for export. My firm only uses wet-salted hides and not those cured with *khari* salt. *Khari*-salted hides are chiefly purchased by Madras tanners and exporters.

To a small extent the leather trade has been handicapped by the demand for canvas and rubber shoes, but speaking from experience I find this class of footwear is usually purchased by the poorer classes who cannot afford to wear leather shoes. In other words canvas shoes owing to their cheapness are worn by a class who would not normally wear footwear. I look upon this as a stepping stone in educating the masses to wear better leather shoes.

I agree that the cost of research work in the manufacture in India of tanning chemicals will be a fair charge on the cess funds.

(NOTE.—Witness omitted I when correcting the record of his evidence before the Committee.)

I cannot give figures of the production in other countries of hides similar to Indian hides and therefore likely to compare with them. } I

(NOTE.—When correcting his recorded evidence, witness substituted K for J.)

Q. 44.—The *arhatdar* would be included in (a) and (b). } J

I agree that the *arhatdar* is entitled to representation on the Cess Committee. } K

Replying to Mr. Sinha:—The few small tanneries I have visited are not properly run. I admit that if they are conducted in the proper way there would be a field for their productions.

Tanners trained in the various technological institutes usually turn to the bigger tanneries for employment. From my experience I can say that the small tanneries usually obtain their skilled labour at the expense of the large tanneries.

Replying to Mr. Shah:—If the industry requires trained men then there would be no objection to their training in schools but the present supply of trained tanners far exceeds the demand.

I am aware that imports of manufactured leather goods have increased though this increase has not been so great as the increase in the export of raw hides.

(NOTE.—Witness omitted L when correcting the record of his evidence.)

I am aware of Messrs. D. Waldie & Co.'s experiments in the commercial production of bichromate of potash. } L

Replying to Mr. Wykes:—I think tanneries in India pay a higher price for their raw hides than the exporters do. This view of mine is based on the statistics relating to the Indian sea-borne trade published annually by the Director General of Commercial Intelligence and Statistics.

Replying to Mr. Sinha:—It will be greater economy to India if she can tan all her hides in the country as by so doing she will be fostering the tanning and allied industries.

Written Statement,* dated the 13th November 1929, of
 Lt.-Col. L. C. LARMOUR, Superintendent,
 Government Harness and Saddlery Factory,
 Cawnpore.

I. Eleven years in the Government Harness and Saddlery Factory.

This factory tans its own leather by vegetable tanning methods from selected wet-salted hides—buffalo and cow, manufactures leather equipment for the Army and makes belting for other ordnance factories.

II. A cess if properly applied could benefit the industry as a whole. Such a cess should be primarily used for the improvement of hides and skins. Any improvement of the quality of hides and skins will automatically affect the tanning industry and the associated trades and industries.

The expression "associated trades and industries" is very far reaching, and in it may be included the manufacture of salt, tallow, fertilisers, meat, etc. These are all trades intimately connected with the hide trade.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Badly grown—ill nourished—warble flies and sores.

2. Encouragement of cattle owners by the introduction of stud facilities, i.e., better breeding.

Government dairy farms could assist. Government dairy farms are already installed all over India—facilities for keeping stud animals should not be difficult. Veterinary depôts in all mofussil towns, where sick animals could be treated. Educative propaganda issued as to feeding and care of animals. Stall-feeding encouraged.

The warble fly is very difficult to eradicate and in a large country such as India, I consider it would be hopeless to put forward any suggestions as to its removal.

Flaying.

3. By unskilled and careless labour—use of unsuitable knives.

4—8. Forbidding slaughtering to take place except in registered slaughter-houses. This is already done in municipalities; and should be extended generally to the mofussil towns. The object is to prevent indiscriminate slaughtering to take place in villages; by mofussil town is meant small towns scattered all over the mofussil, usually the head of districts. Referring to the local geography in the neighbourhood of Cawnpore, you have mofussil towns such as Unao, Safipur, Fateghur, Hamirpur, Fatehpur, etc. These are towns of, say, 8,000—10,000 inhabitants. Towns of this description are situated within a radius of 20 or 30 miles. Thus it is not a hardship to bring a live animal into one of the towns for slaughtering.

Slaughtering would take place under humane and sanitary conditions.

I attach a report written by a previous superintendent of this factory—Lieutenant-Colonel Forrester Walker, a very experienced officer. The report although written 20 years ago gives, I believe, a very accurate description of the conditions still prevailing in slaughter-houses and the procedure in buying and selling hides.

As stated in the report the condition of the animal on arrival at the slaughter-house is important.

I am putting forward the following procedure only as a guide, but I am confident some such scheme could be worked.

* This was received after Lt.-Col. L. C. Larmour's oral evidence was over.

After the animal is slaughtered it is handed over to the flayers, who would be paid by the butcher. Only qualified persons would be allowed to flay—children and women forbidden.

Flaying must take place immediately, as what is known as blood-bound hides lose value.

After flaying, hides will be inspected and graded by an inspector into, I suggest, 3 grades—1st, 2nd and 3rd. These hides will be stamped with grade and district.

The butcher now is in a position to sell to the hide buyer, or cure himself.

Inspection must take place in the slaughter-house. The inspector can see the animal before slaughtering and the hide when in a fresh condition, and he should be in a position to grade fairly accurately.

Unfortunately the condition of the hide may be ruined in the later stages of drying and curing; but adequate inspection beyond the slaughter-house appears impossible.

I do not consider a bonus on well flayed hides is necessary. If hides are graded and paid for accordingly, it is to the butcher's interest to buy firstly the best conditioned animals and secondly to ensure that he only employs skilled flayers. He will pay a higher wage to a good flayer.

The inspector should be responsible for the cleanliness and sanitary conditions of the slaughter-house. A great deal of damage to hides is done by hides lying about in dirty places and not cleaned and cured immediately.

A large number of hides are taken off dead animals. Animals dying in villages would naturally be flayed on the spot. But to tanners a dead hide is not as valuable as a slaughtered animal. It is realised that there is a big market for dead hides which can be utilised for cheap leather. But it must be remembered that when a villager is educated to the idea that he can get a better value both for his meat and hide from a live animal he will take a more active interest in getting his animals to the nearest slaughter-house.

The hide buyer is bound to buy dead hides. But again when he realises that he is getting a definitely graded and superior class from slaughter-houses, he will eventually drop the dead hide business.

Curing and preserving.

9. In all Asiatic countries the methods of curing are similar. Owing to the lengthy period which must elapse before the hides are submitted to the tanner dry preserving is generally resorted to. In countries where superior transport facilities exist hides are usually wet-salted.

A certain trade is done in wet salted hides for local tanning, but it can be assumed that the general practice in India is to dry-preserve hides. In this direction remedial measures to ensure sound curing would be fraught with the greatest benefit to the hide industry.

10. Hasty and imperfect drying in the sun. The use of unclean salt and unsuitable salt. Insanitary and filthy places where the curing takes place.

11. The large majority of hides for export are dried out hides. Hides are placed on frames or pegged out on the ground and simply dried out by the heat of the sun. Unless drying is evenly done, patches occur in the hides, and it can be assumed that drying out usually is carelessly done and imperfect, speed being the first consideration.

By far the most preferable way is to salt-cure hides. But owing to the requirements for export this is not popular. I am, however, of opinion if the salt-curing of hides was seriously undertaken, it would not be impossible to export salt-cured hides.

All curing should take place in the vicinity of the slaughter-house and under the authority of the slaughter-house authorities thus allowing for adequate inspection. This may prove difficult with dried out hides, owing to lack of ground space but should not be difficult with salt-cured hides.

12. The question of curing and preserving should form a very suitable subject for investigation. I imagine the loss due to indifferent curing and preserving must be very heavy. I would refer to the various reports I have attached to this report; and it will be seen the question of curing is considered most important. There is no doubt the preservation of hides by simply drying out must be harmful and it would be most beneficial to the trade in general if some method was found to preserve the hides during transport.

13. Arranging for suitable supplies of *lahori* or table salt to be easily obtainable at all slaughter-houses.

Adulteration.

14. There is no doubt about this. In certain cases it may be done on purpose, but in the majority of cases through hides not being properly cleaned.

15. Only by rigorous inspection at slaughter-houses, or at places where the curing takes place; and by organisation amongst the hide merchants to buy from slaughter-houses only.

Other defects.

16. Iron stains usually come in transit. Have wooden floors or battens in railway carriages.

17. Allowing for rejections in this factory which are about 20—25 per cent. I estimate the value is reduced by about 40 per cent.

IV.

TANNING AND ALLIED INDUSTRIES.

24. (a) By tanning is implied chrome and vegetable tanning.

Chrome tanning is a chemical process, and as such lends itself to very exhaustive chemical research. The field of research is enormous. Chrome tanning requires capital and upkeep and is not the normal method of tanning which would be required by the average small tanner, nor could it possibly be adopted in small mofussil towns.

Further, most of the large chrome tanneries would carry out their own research and only apply to technological institutes for advice.

Thus any research in chrome work, such as dyeing, finishing, colouring, would only interest the chrome tanner, a very limited class. Consequently I am not in favour of research work in connection with chrome work.

Vegetable Tanning.

This is the normal and natural tanning for India as a mofussil industry. I cannot see what good actual research work will do. What we want to teach tanners is to use to the best advantage the materials they have in their neighbourhood.

(b) I am in favour of training tanners and tannery foremen. Here again we have the two methods of tanning:—

The chrome tanner will be taught the essentials of chrome tanning in some institute and eventually drift into a large concern, where he may become a foreman tanner, or even hold a higher post; but unless he has the financial backing, can never hope to own his own tannery.

The vegetable tanner has the prospect of learning his trade by apprenticeship and experience, and can start in a small way in some mofussil town. However small his tannery, if he has been taught on sound lines, he can make good leather. Good leather is just as cheap to make as bad and gets a good sale. There must always be a market for vegetable tanned leather. An energetic man should be able to work up a profitable business in the country. If he has a slaughter-house in or near his town, he can easily procure his hides. A capable man would be able to assist in the improvement of the hide trade.

Leather Chemists.

I do not think the trade in India is at present large enough for this peculiar type of chemists.

Developing the supply and quality of Indian tanstuffs.

(c) The main tanstuffs of India are—

Myrobalans.

Babul bark.

Avaram or (*tarwar*).

These are all tanstuffs used for their various properties and in different parts of the country.

I can only speak with experience of myrobalan and *babul* bark—a mixture of this makes an excellent tannage suitable for harness leather.

In my opinion, supplies are sufficient and I do not apprehend any shortage. The popularity of these tanstuffs is only due to their proximity.

Wattle is an excellent tan, and I do not see why it should not grow in India. Experiments were tried some years ago to grow *mimosa* or wattle in the Nilgiri Hills. I am not aware of the result.

The large distances of course are a serious deterrent to the use of raw materials in India unless obtained locally. I am confident there is a future for "extracts" in India, and this should be developed.

The Raneeunge factory exports large quantities of myrobalans.

The Bhopal State has an extract factory. At the instigation of this factory, they are experimenting with an extract of *babul* bark, which if satisfactory would be an excellent substitute for raw *babul* bark.

Indian sumach, *i.e.*, *dhawa* also has possibilities if it can be converted into a powder form.

I consider the forest department should be interested in the growing of tanstuffs.

25. The Technological Institute of the United Provinces situated at Cawnpore.

28. In the Technological Institute at Cawnpore.

Apprentices in the Harness and Saddlery Factory, Cawnpore.

29—30. Tanning schools on sound lines under well-taught instructors.

Tanning demonstration parties would not be necessary if the tanners were taught in the first place.

I am not in favour of the ordinary village *chamar* being encouraged.

32. See question 24 (c).

33. *Tarwar* and wattle are tanstuffs of somewhat similar nature.

Wattle has a far higher tanning content; as a general utility tanning material wattle is much superior.

Tarwar is used generally for light leathers as half-tans.

V.

ADVERTISEMENT.

34. Yes, by propaganda.

VI.

COST OF SCHEMES PROPOSED.

36. The scheme proposed by me in brief is as follows:—

(1) Centralise all slaughtering at certain places.

(2) The places to be cities and important mofussil towns.

(3) All slaughter-houses to be under the authority of inspectors.

(4) Curing establishments to be adjacent if possible to slaughter-houses but must be open to inspection and criticism.

(5) Hides to be graded and marked after flaying.

I have endeavoured to arrive at some costs but am afraid I am absolutely unable to give any figures with any accuracy.

Unless one is aware of the present slaughter-houses, the number of suitable towns, etc., accurate figures are impossible.

Not concerned with the other questions.

Report by Lt.-Col. Forrester Walker, a predecessor of witness.

(See reply to questions 4-8.)

The following places were visited in the order named:—

Agra, Sambhar, Delhi, Meerut, Ambala, Lahore, Peshawar, Amritsar, Saharanpur, Moradabad, Bareilly and Lucknow.

2. Less important centres of supply exist, but these and others to the south of Cawnpore were not visited.

3. The quality and extent of information gained varied, but on the whole the tour proved most successful so far as to place me in possession of much knowledge in respect of the origin, method of purchase, and disposal to the factory is concerned. I very strongly recommend that whatever procedure may result from the suggestions I have to make, the superintendent of the factory be annually allowed a fortnight to inspect the operations which precede purchase.

4. The most prominent feature of the observations was undoubtedly that connected with the curing of the hides. Detailed description of the methods employed will be found below. If nothing else results from this tour than an entire revolution of the present system, Government should be amply repaid.

5. The questions which I set myself to investigate were:—

- (a) The history of the hide.
- (b) The cost to the butcher or hide dealer.
- (c) The method of purchase by the hide contractor to the factory
- (d) Its cost at this stage.

6. *History of the hide.*—The first place visited was Shahdara on the outskirts of Agra. At this place (probably unique in India) is the slaughter-house and hide market for the Agra district. Some 2,000 cattle, chiefly buffaloes are butchered here weekly. It has, despite my long experience, been a matter of wonderment to me how in a country professedly with a large majority population of vegetarians (and a minority certainly not to be described as meat-eaters) so many hides (our own consumption being an insignificant proportion) come on the market.

7. The result thus early of my investigation was to show beyond doubt that firstly, the hide was more valuable than the flesh, secondly, that there was an adequate demand for the flesh, and thirdly, that the other products, horn, fat, etc., found ready sale.

8. To suggest that buffaloes are bred for the above ends as in Europe would convey a wrong impression, inasmuch as although possibly such destiny is regarded as the natural final disposition, no attempt whatever is made to breed for the market, the primary utilisation being for milk and agriculture: the secondary, slaughter. On the other hand, it is evident that slaughter is not invariably postponed until ability to work is passed.

Quality of meat does not so much form a factor in the postponement of death, as that fat and other constituents are more valuable in a good than in a worn out animal—and it is undoubted that a fair proportion of prime animals do find their way to Shahdara (which by the way does not supply the local European demand).

9. Consumption of fresh meat amongst Indian natives is by no means limited to Mahomedans, but however this may be, the trade done in dried

meat is enormous. This dried meat is prepared at Shahdara and consists of strips of lean flesh removed from the body immediately after slaughter. The strips about ten inches long by two inches thick are dried on mats in the sun, until black; and then baled and sent to Calcutta for export to Burma, the Straits and China. Each bale of 4½ maunds is valued at Rs. 55. In this trade alone there is some solution to the mystery surrounding the number of hides available.

10. We return to the matter of hides; it was my endeavour to obtain information as to the exact procedure observed in selling and buying back to the original owner of the animal, in order to discover how far price was affected by the number of hands through which it passed, before coming to Shahdara. It is proverbially difficult in this country to get at the truth by questions, which however carefully put, must arouse suspicions of motives; but as a result of my enquiries, I ascertained that there exists a class of men whose occupation it is to go round the country and pick up such animals as they can, at such price as they can get them. These men undoubtedly in many cases lend out money and are in a position to foreclose if their demands for good bargains are not met.

11. The second stage is the sale by these men to the slaughter-men. This sale is still for the living animal but in conducting it (a scene in which I participated) considerable acumen is observed and the animal is appraised for hide, horn and fat even more than actual meat.

12. Up to this point therefore there is no separate hide trade, but the butcher after slaughter makes the sale of the hide, one, and indeed the chief item of his trade.

13. *Cost to the butcher.*—As has already been stated, the purchase of the hide by the butcher is only an item in the purchase of the animal and although the variation is considerable enough to preclude any particular accuracy, I am both from observation of purchase at this stage, and also after salting, fairly safe in saying that average cost is from 9 to 10 rupees; whilst those hides which may thereafter be bought by us would not be below the latter figure.

14. *Method of purchase by our hide contractor.*—During this tour I was accompanied by one of our hide contractors reference to whose services will be made later on. I, of course, do not suppose that I was permitted to acquire more knowledge than was expedient; nor, even had I the opportunity, of comparing his methods with those of others. It may be therefore that in describing the procedure of purchase adopted by him I am not precisely stating general methods. But it appeared to me to follow natural lines consequent upon the circumstances of the case, and the class of men with whom he had to deal.

15. The contractor in question buys the hide in two states according as the seller is the butcher or hide merchant. In the first case the purchase is made as the hide comes off the animal, in the second case after it has been cured. In either, the unit is number and not weight. Purchase in the green (*i.e.*, as off the animal) is only made when and where the contractor has his own curing depôt. Purchase in the cured state does not invariably presuppose a depôt owned by the contractor, but more frequently a subsidised hide dealer more or less dependent on advances made to him, and more or less devoted solely to that contractor's purchases—but owning his own depôt and carrying out his own curing operations.

16. In both cases the procedure is as follows:—

The purchaser examines all the hides, and either mentally, or (as I have done myself) actually, sorts them out in three classes. Having done so, he averages the weight by estimation, works out the minimum profits he may expect taking into account the likelihood of the extent of the reductions and offers a price for the lot. (It will be observed that no selection is permitted by the seller).

There then ensues a scene which if it were not so tedious would be amusing. About three hours is generally occupied in assertions and counter-

assertions, alternating with flattery and abuse; varied by lamentations as to poverty and references to past good bargains. Every passer-by, however little connected with the matter, voluntarily joins the discussion and excited messengers from one group, run, joining another, to convey a new view of the situation. During this period the price has risen and receded according to each of the two parties interested, but as a rule the crowd is left still disputing and the ultimate price settled in two minutes at the railway station when half notes are handed over on account. I have described this in some detail in order to emphasise the impossibility of any European conducting such a procedure.

17. *The cost of the hide at this stage.*—The cost of the hide at this stage is dependent (apart from the obduracy more or less of the buyer) upon the factor of curing and it will be convenient to state here in some detail in what that process consists in order to explain more clearly the incidence of the direct loss to Government occasioned by the existing methods.

In the first place it is desirable that it should be borne in mind that the Government Factory and that of Messrs. Cooper Allen & Co. (including therefore the North-West Tannery Co.) are practically the only customers for salt-cured hides. All other hides in the districts I visited are sun-dried (known to the natives as *piza* hides) and in certain other districts in lower Bengal and elsewhere actually arsenicated. The Calcutta market to which the balance of hides not prepared for Cawnpore goes, does not accept salt-cured hides.

18. Salt-cured hides are infinitely preferable to either sun-dried or arsenicated hides, especially for harness or boot purposes, as the two latter will not plump like the latter and therefore do not give a supple leather, except under the chrome process to which the larger number of exported buffalo hides are subjected on import into the United States.

Now the export market will take any quality, and Messrs. Cooper Allen & Co.'s business enables them to take a much lower grade than we do, but not down to the lowest grade of export class.

19. *Sun-drying.*—The process of sun-drying costs nothing in material and very little in labour and the hide dealer obtains a certain market for this class of goods. The demand for salt-cured hides is infinitely smaller; space, material and labour are all requisite, and it is therefore little wonder that the hide dealers prefer to deal with the Calcutta market, rather than with our hide contractors. Moreover, regarding the latter business as a mere branch of his trade, he takes no trouble with the curing business (it is "take them all or leave all").

20. *Good cure essential to good leather.*—Every tanner is perfectly well aware that the cure of a hide for first class purposes is almost as essential a part of the production of that leather as those which take place after its reception at the tannery. That we do not suffer as much as we might is solely due to our rejections "in the hair", for which as will be subsequently shown we have to pay very dearly.

It has been a revelation to me that in these days of commercial enterprise and the scientific knowledge with which it is so much bound up, any such primitive methods as I am about to describe could have place.

21. *Impure salt.*—First as to the material, the salt almost universally used is known as *Patna* and comes, I believe, from that district. This salt is nothing more or less than a salt-earth and as impure even when first received as the analysis given in Appendix B shows. Its impurity however is greatly added to by the reckless way in which it is used, and the filthy condition of the ground with which in all stages of the cure it is contaminated.

22. *Method of application.*—Secondly as to the usage followed: The hides are placed grain (hair side) downwards on a surface composed of the refuse salt of ages, mixed with animal and vegetable constituents inevitable in such places.

Dry salt is then rubbed in on a flesh side often most inadequately free of meat, on an unequal surface. The hide is then folded up hair out full of filth and put away until the next day. It is then opened out and a so-called brine applied to it, lying as it is again, on the same dirt and the unequal surface permitting the brine to collect in pools on the flesh. Of course this time the grain—now in a most tender state—gets thoroughly wet and the bacteria no doubt commence to get at work upon it.

23. *Hide structure.*—It may be here stated that hide structure consists of two principal layers, the epidermis (epithelium, cuticle) and the corium (derma, cutis) or true skin. These are totally distinct not only in structure and functions, but in their origin. The epidermis is very thin as compared with the true skin which it covers. Its inner layer the “rete malpighi” which rests upon the true skin is soft and composed of cells. Now the epidermis is completely removed preparatory to tanning by the action of the soaks and limes, but it is highly necessary that it be preserved as intact as possible until those processes can be applied to the hide.

Under the conditions just detailed the epidermis becomes loosened, or in some cases comes off bodily, and the tender corium is exposed to the very influences from which it should be protected.

As the operation of curing extends to five or six days, the state of the grain side of the hide to the eye is a mass of mud and hair, while microscopical examination would doubtless reveal bacterial damage.

24. *Dealers' ignorance.*—“But” said several dealers “you can brush off all this mud of which you complain”. This, of course, is true, and it was difficult to make them understand that by that time the damage had been done. Several, however, appeared to see that there was some force in my remarks, when asked what they thought the effect of rubbing in the filth into their own skins would be. They had not, however, ever realised the fact that the epidermis deprived of its living cell nutriment, is far more tender than that of a living human.

25. *The remedy.*—The remedy for this state of things is simple and inexpensive. A level surface of clean ground, a mat to protect the grain side of the hide, and the most ordinary care in the application of the brine, would go far to obviate the defects caused by the present system. Mechanical contrivances for stretching the hide, scientific arrangements of purifying tanks, mixture of the brine into a paste with ashes, suitable drying ovens, etc., are all features of a properly conducted curing house but it is useless to expect too much.

26. *Description of salts.*—Lastly as to the salt. During my tour I visited the Sambhar Lake Salt Works, and intended to, but did not, visit the salt mines near Jhelum.

Sambhar salt is unknown in hide curing, and though immensely superior to Patna salt is not very suitable owing to its crystalline and moisture carrying structure. Its cost and the conditions of its commercial supply are shown in Appendix C. The salt from the Jhelum mines known as *lahori* is used in the districts of Lahore and northwards. It is rock salt of absolute purity producing a beautiful white powder—but the dirty methods of its application go far to neutralise its excellent qualities. It is far cheaper than Sambhar salt: it would appear that less should be required to cure, and I was absolutely unable to discover any other reason than *dastur* for it not being used in other districts: most of the dealers here never having seen it, only shows how inherently conservative local customs are. It is, however, no use to try and press too much at once for the use of *lahori* salt. The dealers may wake up to the advantage of using cleaner methods (they promised they would) but it is too much to expect them to use straight off a new material if they are left to themselves. Moreover impure as the Patna salt is, as long as it does not touch the grain it fulfils its purpose of preserving the hide without actual damage.

Extract from the Leather Trades' Review, dated 7th August, 1929.

THE CURE OF HIDES.

The International Council of Tanners states that in the last few years it has repeatedly drawn attention by means of publicity to the protection of hides and skins from damage by careful salting and drying. In spite of this, damage to hides in the past year through inadequate preservation has been more extensive than ever before. The scientific institutes of various countries have taken up very carefully the question of the conservation of hides and skins and on the occasion of a joint meeting of the International Council of Tanners with representatives of the overseas hide trade, lectures were given by Dr. Jordan Lloyd and Professor Bergmann on the results of recent experiments. Both these research workers agree that the damage for the most part is of a bacterial nature, and could be avoided through thorough and careful salting done in good time and through storing in a very cool place. The use of impure salt is also particularly detrimental and in this connection attention was drawn to the bad effect of the addition to salt in order to denature it for human consumption, of copper sulphate, bichromate and other materials which are detrimental to the hide. It has also been found that so-called red heating can be diminished if the hides are salted carefully at the beginning and are not salted afterwards in the ship with sea water, as the sea water is full of bacteria, but are kept under conditions of storage such that the humidity of the atmosphere does not rise above 50 per cent. relative humidity. The International Council of Tanners desires to ask the representatives of the overseas trade to help in every way possible and by every means at their disposal to ensure that the raw material employed by the leather industry shall be handled as carefully as possible. The International Council of Tanners desires to bring this statement to the notice of all those who are concerned in the hide and skin trade and asks that steps shall immediately be taken to ensure that the damage which has occurred in the past year shall not be repeated in the future.

**Oral Evidence of Lt.-Col. L. C. LARMOUR, Superintendent,
Government Harness and Saddlery Factory, Cawnpore.**

(Cawnpore, the 6th November, 1929.)

Colonel Larmour referred to his predecessor's notes and said:—I recommend that the slaughtering of animals except in slaughter-houses in towns of at least such a size as to entitle them to be called provincial towns, *e.g.*, Unao, Farukhabad and Fatehpur, should be prohibited or at least discouraged. I am not in favour of slaughtering being done in the villages or in very small towns. My recommendation is based on my opinion that except by centralising slaughter there would be no control over animals or over flaying. I am not in favour of encouraging the utilisation of dead hides. My view is that an animal should before dying a natural death be taken on hoof to the nearest slaughter-house. I consider that flaying has immense scope for improvement. I would not allow untrained men and boys to do it and recommend the introduction of a system of licences. I do not know of any tried system of bonus for improved flaying. I think that inspectors should be appointed to supervise and control flaying at all slaughter-houses. Whether they should work under the control of the local bodies or under the control of the Hides Cess Committee is a matter of detail on which I do not wish to venture an opinion. It would not be a bad idea to experiment with flaying by compressed air at certain suitable places.

I consider research work on curing and preserving necessary and important. I do not know of any curing material cheaper than the common table salt. Where *lohori*, *i.e.*, rock salt is procurable it can be used. I recommend that salt used for curing and preserving slaughtered hides and skins should, if used in connection with slaughter-houses, be supplied cheap. I am not in favour of the use of *khari* as a curing agent because it gives stains and produces slips with the result that the hide becomes useless for first class work. I do not consider that the present methods of curing dead hides are capable of much improvement; in fact I am in favour of banning the use of dead hides and skins. I think it possible to bring this about by offering inducement to villagers to take their cattle on hoof to the nearest slaughter-house before they die a natural death. I agree that my factory buys only the pick of hides and that the average tanner cannot afford to pay such a high price as my factory does. The preservation of hides is an important question and is receiving intensive attention in England. Similar research in India would be necessary and therefore it would be a useful direction in which to spend from the proceeds of the hides cess. I shall send particulars from an article in the "Leather Trade Review".

I think that the breeding and feeding of cattle will substantially improve the quality of the hides and skins and that it will be a reasonable direction in which to spend some of the proceeds of the cess fund.

I attribute a good deal of the adulteration to the practice of buying hides and skins by weight. I cannot suggest any remedy for eliminating adulteration except that, if centralised slaughtering is brought into vogue, I think adulteration can be controlled through the agency of the inspectors.

As an alternative to the methods in vogue for branding cattle for commissariat purposes, I think that the branding can be done on hoofs or horns. But this system is not liked because identification is rendered more difficult. I consider that sun-drying damages the hide substance. I recommend action being taken so as to bring about shade-drying.

I do not think that the cess fund should be spent on training up leather chemists but agree that the cess can be usefully spent on the training of tanners and tannery foremen. I am not in favour of the cess

money being spent on research work in tanning, dyeing and finishing; my reason being that such work should be an appropriate burden on government revenues and not on a cess fund to be raised directly from the particular trade or industry. I should also add that the field for research is so vast that no appreciable result can be brought about by spending little doles from the Cess Committee's funds. Further I think that research would tend to be confined to chrome tanning—an industry which requires big capital investment and therefore is not likely to be undertaken in this country on a scale large enough to compensate the Indian tax-payer for the expense incurred in the research; the companies themselves will carry out their own research; hence my view that research should be confined, at any rate for the present, to the improvement of hides. Research work can, in my opinion, be done on Indian *sumach*. *Wattle* and *tarwar* serve different purposes, *wattle* giving weight and *tarwar* giving a light colour.

As regards the training of artisan and foremen tanners I think there is considerable scope for a certain number of men trained in the ordinary simple processes of tanning. I also think that there is scope for small-scale tanners in villages and the smaller towns. But I do not consider it necessary to spend the cess funds on the development of new sources of supply and of the quality of Indian tanstuffs. I might add that at Ranee-gunge there is one of the biggest tanning extract factories in the world, trading with England and America. Bhopal also is trying *babul* extracts; hence I do not think it necessary to do any more work on the supply and quality of tanstuffs.

The price of *babul* bark has risen as also has the price of *babul* for fuel. In and around Cawnpore the common tanning materials are *babul* and *myrobalans*, the latter being imported from the Central Provinces. Owing to increasing demand the price has risen and is rising. I do not think that *avaram* bark would grow in the United Provinces but it is worth experimenting with. I consider that the supplies of *babul* and *myrobalans* are ample. *Wattle* bark is obtained by me from South Africa and *valex* from Smyrna.

I am not very much interested in the leather-working industry and do not think that the cess fund should be spent on its development. In my view the cess fund should rather be spent on research for the improvement of hides. Holding the view I do about centralised slaughtering and about the rejection (even banning) of dead hides and skins, I am not in favour of the village *chamars* doing tanning in the old-fashioned ways such as bag tanning but I am very much in favour of rural tanners working in towns in the *mofussil*. I think however that demonstration parties and inspectors going round to advise and assist them might prove useful.

I believe in propaganda work in the *mofussil*. As to the cost of the various schemes I shall require some time to work it out.

As to the constitution of the Committee, my opinion is that the veterinary and cattle breeding departments should be represented on it. Certain States also should be represented. Mysore, Bhopal and Gwalior are following a progressive policy. The attachment of a technologist to the Committee and the setting up of provincial sub-committees are necessary. In my opinion, the headquarters of the Committee should be Cawnpore, Calcutta or Madras.

Replying to Mr. Price:—Sun-dried hides are damaged in the hide substance. (Mr. Price remarked on the basis of his experience as an exporter that there was some mystery about it, because he hardly handled any but sun-dried hides.)

Replying to Mr. Wykes:—I cannot say whether the warble is found south of Agra. Not only *wattle* but bark as such is a nuisance and I prefer extracts to bark as being easier to handle and store.

Replying to Mr. Rafique:—The question whether an animal is slaughtered for the meat or the hide is one which depends upon the season. I cannot say what relation the price of the hide bears to the price of the meat.

As village flayers have not so much work to do as flayers in the municipal and cantonment slaughter-houses, there is, in my opinion, a chance of getting better flayed hides from the villages. I am not aware that three-fourths of the world's hide production is consumed by Germany.

Research on tanning, etc., should be undertaken with funds supplied by Government. The proceeds of the cess should be applied to the trade only.

Replying to Mr. Sinha:—I admit that the two boys of the Fatehpur Tanning School taken as apprentices in the Harness and Saddlery Factory are promising lads. There is a field for investigation in the utilisation of the bye-products of slaughter-houses for manure, etc., but I do not know enough about these questions.

Replying to Mr. Shah:—The proceeds of the cess should be so applied that the primary producer benefits to a very considerable extent.

**Written Statement, dated the 4th November 1929, of
Mr. A. E. CORBET, Cawnpore.**

I. My experience with the export trade ranges over thirty two years and my connection with the tanning industry in India as far as raw hide supply only is concerned is seven years. I have much interest in the trade.

II. The proceeds of a cess, in my opinion, could be spent profitably for the benefit of (i) the export trade in hides and skins, tanned and raw, also (ii) and (iii).

III. 1. The defects common to Indian hides and skins are in the main due to starvation of cattle, which is reflected in the impoverished and ill nourished condition of the pelts. The principal avoidable defect is bad flaying of hides, particular other defects are brands, jungle scratches, sores. The chief diseases are small pox, and leprosy (the latter being of the black and white type respectively). The insect pests common to hides and skins are, warbles, weevils and ticks, the latter being of two separate types.

2. With the help of the agricultural, veterinary and canal departments I think a good deal could be done towards reducing starvation and disease.

3. The chief defects in the methods of flaying are lack of skilled flayers, and hurried flaying, as payment is done per animal.

4. Training and supervision of flayers. Paying flayers better money for good flaying, (this would also prevent hurried work) and the introduction of proper skinning knives and training flayers in their proper use. The improvement of present slaughter-houses to give better facilities for slaughtering, and steps also to be taken to train flayers in small towns and villages where no slaughter-houses exist. Last but not least I think much improvement could be effected if buyers were to agree among themselves not to buy any hides badly flayed. This would be a most effective way of forcing an improvement.

5. I consider that the appointment of flaying instructors and supervisors will yield good results. The instruction of the village flayer to my mind would hardly be necessary, because when these people find that the hides of animals slaughtered in slaughter-houses under improved methods of flaying naturally command higher prices, it would not take them long to find out the reason and adopt it themselves. A certain amount of propaganda work in the villages at the outset would perhaps help this matter quicker.

6. Flaying knives of an approved pattern would possibly help avoiding bad flaying, but I consider it would take a considerable time to get flayers into their use effectively. It would also mean a very expensive item when one considers the vast number of knives necessary to be supplied in this country, and the replenishment of same would be a big question.

7. Yes. For action recommended see my reply to question 4. Improvements will have to be made by degrees as necessities arise. The municipalities of cities and towns where slaughter-houses exist, have the control of these houses and could help considerably towards facilitating improvements as they arise.

8. Yes; I have information and also the experience of the result of bonuses paid to flayers for good flaying. The present run of Peshawar buff hides has improved considerably in the matter of bad flaying, due to this very suggestion made by me to my supplier there to increase the remuneration to double, which effected a saving to the supplier of approximately Rs. 2-4 per hide for the extra bonus of a matter of four annas per hide for better flaying. For example, the flayer reckons that he should earn nothing under, say, Rs. 2 per day. He gets paid at the rate of, say, four annas for each carcass he flays, which means he has to flay eight, this is more than a

man can do without having to hurry his work with the result that bad flay-cuts are inevitable, besides he has no interest in the loss in value due to bad flaying. In most cases he is a *Kassaye* by caste and has a following of young lads of the caste who are being initiated into the art of flaying and these lads do most of the damage from inexperience.

I feel sure that a system of paying bonuses for proper flaying would help materially in eliminating this defect.

9. The methods vary in certain ways peculiar to methods of individual countries and labour. The drying process of hides and skins in India is done principally in the sun, which ought to be done in the shade. Two reasons can be attributed for this, the first and main being quicker drying for quicker turnover of capital, and secondly the inability of producers to erect drying sheds for the purpose, which expense they are unable to afford. Personally, I do not think they would dry their goods even if they had the sheds, for the first reason.

In my opinion, curing and preserving is to a great extent in the hands of buyers, provided they were all unanimous in their ideas of what was the best method and adhered strictly to enforce it, and experienced hands were sent around to instruct producers in the right methods.

10. The chief defect in the methods of curing and preserving hides in India is adulteration and the ways employed are too numerous to be noted here.

Regarding preservation—where dry hides are concerned, these are taken off frames and the ground respectively, in wet condition and railed in such condition with a view to arrive at destination and reach the market as damp as possible, where they are sold by weight. This is practically universal in India and causes unlimited loss during transit through rot setting in and destruction by woolly weevils which seem to breed in such hides after a couple of weeks. In addition to this flesh and fat are left on the hides in order to adulterate weights, which cause the rot. With respect to wet-salted qualities (two) of hides the preservation could be greatly improved if eating salt were to be made procurable to producers at a cheaper rate, and where villages are concerned more easily accessible also, as these latter places use spent salt which has lost its preservative propensities, and above all it is much cheaper than new salt.

Apart from this, producers leave as much meat as possible on the hides in order to make the hides heavier, as these are also sold by weight. The consequence of all this has a very deteriorating effect on the structure of the tissues of a hide and gives poor results in finished leather.

11. The remedy to prevent this also lies to a great extent in the hands of the buyers as noted in No. 9. I reckon that 50 per cent. of producers are fully aware of the right and wrong methods of preserving, and adopt the latter with a view to cheat weights. Instructors and supervisors could do much towards training producers in right methods.

12. This matter I consider is a very urgent and vital one and a cess fund could certainly be used to the greatest advantage to the whole trade.

13. Suggestions for an organised system for supplying suitable curing and preserving materials are certainly possible, provided the expense necessary is provided.

14. Adulteration certainly exists in a most serious form (explained in No. 10). The effects are only too obvious. (a) The export trade suffers inasmuch as that they are obliged to accept adulterated weights unless they go to the extra expense of recurring the hides which deteriorate many besides losing a certain percentage by rot which inevitably occurs with stale hides and those that are in an advanced stage of decomposition which drying out partially arrests until they are soaked for recure. Such hides are a dead loss to the export trade, as also to Indian tanners. The export trade, in my opinion, loses more in such respect than the Indian tanneries

because the period of sea transit causes still further deterioration of ill-conditioned hides, in other words, the longer such hides remain in the raw the more they deteriorate. (b) The tanning industry in India suffers just as badly under this account because their methods in arresting such defects are not so up to date and scientific as those in Europe and America.

15. For action in order to combat such practices refer to Nos. 8 to 13.

16. Other defects in Indian hides which could be partially or perhaps to a fair extent removed are:—

(a) *Branding*.—This is a very common defect with what are supposed to be the prime cattle production of India, the commissariat slaughters, which are controlled by the department of the same name, who insist on iron branded numbers and figures being made on the butts and necks of animals principally, (these are sometimes put anywhere in the sides as well). These brands in the majority of instances preclude such hides from grading into first class thereby reducing their value by from thirty to forty per cent. Could it not be possible to have such commissariat cattle branded low down on the forelegs or the foreheads?

(b) *Rail wagon iron stains*.—This is of a very common occurrence with wet-salted hides and skins particularly, as the flooring and sides of wagons being made of iron impart rust to the wet hides and deteriorate their grading in consequence. Apart from this defect the heat from iron wagons containing hides, especially during the summer and monsoons, causes wet and damp hides to get heated which is one of the most serious conditions a hide is subjected to and which causes the worst form of grain damage. This matter, as also quick transit facilities, should be taken up with the Railways in India, as I consider them of vital importance to the trade.

(c) Small pox and leprosy are also common defects in hides and skins, also rural branding, which is a method used for diseases among cattle, and I think could be taken up by the veterinary department.

17. I estimate that the value of Indian hides and skins taken as a whole is reduced by the existing defects (natural and avoidable) at the present time as follows:—

- (a) Cow hides from 30 to 50 per cent. (approximately).
- (b) Buff hides from 24 to 40 per cent. (approximately).
- (c) Goat skins from 25 to 33 per cent. (approximately).
- (d) Sheep skins from 25 to 33 per cent. (approximately).

I am in a position to prove by actual present purchases *a* and *b*. (*c* and *d* are recognised American standards, and can be proved by any body in this line.)

18. The stages in the trade in hides and skins from the point when the animal dies or is killed to the time of shipment from India or entry into a tannery in India are:—

- (a) Slaughter.
- (b) Flaying.
- (c) Fleshing.
- (d) Purchase in raw.
- (e) Salting, frame drying or ground drying.
- (f) Marketing.
- (g) Selecting by buyers.
- (h) Purchasing.
- (i) { Shippers grading for export.
- { Tanners commence process of tanning.
- (j) Shippers baling ready for shipment.

19. The only improvements that come to my mind are (a) quick transport, (b) wooden wagons for railing, (c) one standard of grading or selecting for buyers.

20. I do not consider that co-operative marketing by the producer is feasible in this country, unless the producers were educated into such a system. There are too many small capitalists to make such a thing attractive and workable. I do not know of any instance where this has been tried anywhere in India.

21. I have dealt with transport of raw hides and skins in No. 16.

22. To my knowledge every individual tannery in India has its own system of grading best suited to their particular requirements.
The same applies to export.

23. I consider that the introduction of a system of standardisation and grading would be a very good idea for India, but I do not consider this feasible. It may be possible to get every buyer (tanner and exporter) to agree to a hard and fast rule of standardisation and grading, but to keep strictly to it would be open to question. It could only be possible if No. 20 was possible. There is no doubt that a scheme to introduce co-operative marketing could be tried but I am afraid to get it into working order like such institutions as exist in England and America, would take many years to effect and would to my mind be a very doubtful undertaking as the conditions of business in this country would be unsuited to such a scheme.

Oral Evidence of Mr. A. E. CORBET, Cawnpore.

(Cawnpore, the 7th November, 1929.)

Replying to Chairman:—I attribute the poor condition of the hides of living animals particularly to their starvation. As regards disease it can be reduced to some extent but not very much. The veterinary staff should take more interest in the villages. At present that staff is too meagre. They should do more touring specially in those parts of the province where cattle diseases are endemic.

The chief disease affecting cattle is leprosy. I doubt if it can be eliminated. It has a very bad effect on hides. At certain times of the year it is not so common as at others. I reckon that 10 per cent. of the hides purchased in certain districts bear leprosy marks. Leprosy cannot be called an epidemic because it is found throughout the year. I cannot say what percentage of living cattle are affected by leprosy. One variety of leprosy, viz., white, is largely met with in Bihar, especially in the area from which Darbhanga hides and skins come. The next important disease is mange. Under its effect the grain gets rattled up and then gives way. That part of the hide is spoilt altogether. Cattle should get a disinfectant wash once a week with emulsified kerosene. I do not think this would injure the hair as paraffin is already used for washing horses and dogs. Intensive propaganda under careful supervision might succeed. The form of the appeal should be that the flawless hide would fetch a far better price, i.e., the appeal should be economic.

The warble is prevalent in the North-West and the north of the United Provinces. Hides from Meerut, Muzaffarnagar, Saharanpur and Delhi are badly affected by the warble. Further up the Punjab it is still worse. In the Central Provinces the position is not so serious. The warble is not found in Eastern Bengal. I have little experience of Madras.

In my opinion it is possible to bring about improvement in flaying by paying bonus. It should be disbursed according to the quality of work done. Inspectors would be necessary. Flayers know their job even at present and are sometimes licensed, but the system is not as strict as it should be. It is not uncommon to come across boys and even children doing flaying. 90 per cent. of Peshawar hides used to exhibit defective flaying. I got into touch with suppliers in Peshawar. I told them what the extent of the gain would be if flaying were improved. The result was that by paying an extra four annas per hide the value of the hide was often raised by about Rs. 2-4. This improvement was actually brought about by my efforts and its effects are still continuous even though in a somewhat attenuated form. If my private *bandobast* could succeed, there is no reason why a similar *bandobast* by Government should not succeed equally well. Even at present flayers are sufficiently trained and such trained and experienced flayers should be able to teach others. The need is not to impart training so much as to supply the economic incentive for better work. In India and even in this province there is no recognised pattern of a flaying knife. Flayers use anything that comes handy to them. In a certain village I saw the skin being flayed with a piece of hoop iron. I believe wooden knives would be better though they will make the work harder and longer. Arrangements for hanging up an animal for flaying purposes should lead to improvement. But as flayers are used to flaying while the animal is lying on the floor, the introduction of the system will have to be gradual and its good effects will take time to materialise. In my opinion, it would be a very difficult problem to get buyers of hides and skins to agree to buy nothing but well flayed stuff. In 1915 we tried to get buyers to agree to certain standards. But although everybody agreed in theory, the standards were not adhered to.

The more suitable agency for doing propaganda will be the agency of the general administration staff in every district, i.e., the land revenue staff rather than the staffs of the agriculture or the veterinary department. But

in order to yield useful results propaganda work will have to be intensive and sustained.

As regards adulteration, I know of instances in which steel shavings, sand, lead and similar substances were used as adulterants.

I consider *khari mitti* a better preservative. The exporter prefers *khari*-salted hides and skins to table-salted ones because *khari* preserves longer and better than the common salt does. The organisation which I recommend for the supplying of curing and preserving materials for slaughter-houses is that common eating salt being much too expensive, a rebate should be given at the end of the year to all certified consumption of salt for the curing of hides and skins. Such a system is already in force in the organised curing houses. In the villages a rebate is not claimed on account of the lack of suitable organisation. The Committee should think of devising some agency for the supply of salt in the villages.

If it were possible to get all the buyers together and to get them to agree to set up standards of quality, grading, etc., it would be very desirable to bring about such a result. Hence buyers should be encouraged to organise themselves into associations. In course of time, the standards adopted by such associations would strike their roots deep and propagate themselves far and wide.

Replying to Mr. Price:—The life history of the warble is not known. If it were known, it might be possible to eradicate the warble.

The growing of grass by itself is not likely to be so profitable as to bear the cost of irrigation. But better varieties of grasses might be tried.

(NOTE.—Here Mr. Sinha, Officiating Director of Industries, United Provinces, narrated some of his experience in this connection.)

To bring about an agreement among buyers it is necessary to reduce the agreement to writing. In technical matters the reduction to writing would prove to be a difficult matter, and therefore there would be conflicting interpretations. But it has been adopted in America and England. I admit it will be easier to deal with such matters if difficulties were not so numerous as they are.

Tanneries prefer to select out of lime in order to make their own selection. I do not agree that the salting of hides by itself complicates the grading. A good selector should be, and in my opinion is, capable of grading the hides and skins which he wishes to purchase. A reason why hides are salted in the rainy season and are not air-dried is that in the rains the air is very humid and drying is not possible. A fallen hide can under favourable conditions be classified as, and fetch the price of, a prime. Commissariat slaughtered hides are not accepted by the Government Harness and Saddlery Factory, because their quality is very poor. But I cannot say why commissariat cattle themselves are so poor. They may be better than cattle slaughtered in municipal and other slaughter-houses. I agree that some other method of branding for the commissariat cattle should be found and adopted.

I believe the N. W. Railway used to supply special wooden wagons. I cannot say why they were given up. I myself have tried the use of mats on the floors of the wagons for the transport of hides. The use of such mats affords a certain amount of protection, but such protection is not complete. I think the burden of the bad qualities and defects of hides and skins falls on the primary producer, but I agree that it is a nuisance and a cause of loss all the way through from the primary producer to the final consumer of manufactured leather goods.

Replying to Mr. Wykes:—So far as I am aware, the warble is more or less confined to certain areas, viz., the Punjab, Delhi and western United Provinces. Bihar has warble flies, but far fewer. Bengal has got some but less than Bihar. Eastern Bengal has practically none. If the primary producer finds that his badly flayed hide would not be sold at all, it would not take many months to bring about reasonable improvements in flaying. At Shahdara (in or near Agra) slaughtering takes place outside the municipal slaughter-house. They sometimes slaughter up to 2,000 cattle per day.

Municipal slaughter-house accommodation there is inadequate. I shall try to procure a photograph of this state of affairs for the benefit of the Committee. This slaughtering takes place almost entirely for the Burma meat trade. Meat being the primary consideration the flaying is very bad. I agree that in every centre it would pay to provide an additional economic incentive for good flaying. In my opinion, the experiment of a bonus for good flaying can advantageously be tried in those parts of the United Provinces where stall-feeding of cattle is to some extent in vogue. But there is no reason why it should not be started in connection with every slaughter-house.

It is difficult to distinguish between a sun-dried and a shade-dried hide. Very few hides are dried in the shade. If curing were supervised by some responsible persons who knew about it, considerable improvements would result. I think it is not a bad idea to spend on research in order to work out some unpalatable mixture or compound or form of common salt and to sell it cheap.

I am quite sure about my estimate of five crores as the total loss, but it refers only to the hides and skins exported from the country. I have taken no account of loss of hides and skins consumed in the country itself.

In my opinion, the improvement of hides and skins should be the primary objective of the cess fund.

Replying to Mr. Rafique:—Weevils also make a small hole in the hides. On the flesh side there is a small collection of pus. When the hide is limed, the hole is formed right through.

I agree that there is a field for research work on the utilisation of sun-dried hides in India. But even in America and Europe tanners say that they get better results from wet-salted hides.

I have not noticed the warble in goatskins.

By the system described by me I succeeded in reducing the percentage of badly flayed hides from 95 to 25.

In my opinion, railway freights in India are alright. No reduction is needed or called for. But there are cases in which freight rates need looking into, e.g., the rate from Peshawar to Cawnpore is almost three-eighths of the rate from Madhubani to Cawnpore, although the distance in the latter case is probably about one-half of that in the former.

Replying to Mr. Sinha:—I know very little about travelling dispensaries. In my opinion, money spent on veterinary work would be desirable and useful.

Replying to Mr. Shah:—The size of the weevil hole is such as to let the lead of the ordinary pencil go through.

In my opinion, the people who are going to benefit most by improvements in hides should bear the burden of such improvements.

I shall do my best to send supplementary answers to the questionnaire by the end of the month.

**Written Statement, dated the 6th November 1929, of
Mr. MOHAMAD LATIF, Cawnpore.**

I. I am connected with the raw hide trade for the last seventeen years. I spent the first three years in the Central Provinces, touring the province to purchase raw hides. I deal only with the purchase and sale of hides. The stuff is supplied to different exporting firms on commission. I also send on my own account to *arhatdars* for sale in the market.

II. I think if a nominal cess is imposed it can be profitably employed for improving the trade—raw hide trade so far as the flaying and fighting the disease is concerned and tanning so far as the plantation of *avaram* bark is concerned. Some research should also be done to find out the formula of giving fancy colours to hides and skins. At present the whole industry of turning out finished leather is in the hands of the Germans, and they consume practically the raw hides production of the whole world.

III. 1 and 2. The following are the diseases and defects found in raw hides and skins:—

- (a) Warble fly (hides and skins).
- (b) Small pox (hides and skins).
- (c) Ticks in hide only.
- (d) Vulture mark.
- (e) *Kandah* (mark due to yoke on the neck).
- (f) *Kaucha* (goad wound).
- (g) Sore.
- (h) Scratches.
- (i) Cuts from thorns and pointed trees.
- (j) Brands.
- (k) Itches.

Warble fly.—These flies are generally found during the cold weather. It is common in the Punjab, North-West Frontier at the foot of a hill and on the hill. Many experiments have been carried in America to eradicate this evil but so far satisfactory results have not been attained.

In Denmark experiments have been carried on extensive scale and men have been employed by the Agricultural Society to go about early in the year to remove the warbles from the animal while they are in their immature state using small knives for removing them from the skin.

Cattle tick.—The tick unlike warble fly does not lay eggs. Its food is sucking the blood. In America the portion affected by ticks is washed with a preparation of caustic, arsenic, soda ash, etc., in the beginning of the year.

Brand mark.—These animals are branded by the owner when suffering from colic pain. This affords a permanent relief to the animal. The branding is done at the exact point where the animal suffers. It is also adopted for marking the cattle to show that it belongs to a particular owner, but in this case the mark is small and made on the butt. The Government Commissariat Butchery Department while passing an animal for slaughtering purpose makes a round mark with red hot iron ring on the butt of the animal. The villagers should be educated to use medicine and the Government be asked to mark the hides with coaltar instead of branding it with red hot iron rings. In most parts of Europe branding with hot iron is prohibited by law.

3. In most cases bad flaying is due to unskilled flayers who are paid nominal fees for flaying, such fees which would not attract skilled men to do the job. In big centres where skilled men are available, the bad

flaying is due to the rush with which the whole thing is done. The defects are indeed very serious. The flayers cut the inner tissues of hides making the whole piece useless to the tanner.

4. If the flayers are educated much improvement can be done. The municipality should also issue licences to skilled flayers.

5. Good results can be expected if instructors are appointed but such men should be well experienced in the trade. These inspectors should tour from place to place teaching these people what to do, also informing them that the hide will realise better price.

6. The flaying knives will not be useful as it is quite apparent that good flaying can be done if the man wishes to do it.

7. Much improvement can be made in the slaughter-houses and good accommodation and light should be provided.

8. The system of paying bonuses was tried by Messrs. Dost Mohammad and Co., Calcutta, and other individual firms at Calcutta some fourteen years ago and much good results were obtained, but in their cases the bonuses were paid by them and not by any servant appointed by them. Now-a-days the system of paying bonuses is being tried at Aligarh. A good flayer is paid As. 8 *bakshish* per piece of buffalo while a bad flayer is fined. The bonus is paid by the buyer. The fact should not be lost sight of that Aligarh buffaloes are the best in the United Provinces and suffer very little from other defects. These also fetch very good prices.

9. In India hides and skins are cured differently in different seasons. During the rainy season it is cured with eating or *khari* salt. While during the summer it is cured with salt or arsenic. In Dacca the hides are cured with salt; throughout the year the hides are dried. In European countries the hides are given a coat of salt and are exported wet.

10. The hides which are cured with *khari* salt remain for a longer period than those which are cured with eating salt. The *khari*-cured hide shows stains on being tanned in India but in Europe the stains do not show even when tanned brown.

11. Investigation should be carried out in analysing different kinds of *khari* salts.

12. No.

13. Arrangement should be made for the supply of arsenic and *khari* salt in the villages.

14. Adulteration has practically ruined the trade. Tail bone, flesh, hanging head, boulds are the different forms in which it is practised here.

15. If the buyers arrange the purchase by pieces instead of by weight, the loading practice will be minimised. In Bengal and the United Provinces goat skins are sold by pieces and so there is no loading but in the Punjab the goat skins are sold by weight, the result is that they are made heavy by plastering stony salt and cement.

16. The animal which dies natural death in the villages is not readily flayed with the result that the vultures make marks and insects wound the animal. If arrangement can be made for ready removal many hides can be saved. At many places the municipalities have passed resolution for the slaughtering and curing of the hides outside the village area. In many villages cattle owners do not care to undergo charges of establishing a hut or place for storing wet-salted or dry-salted hides and throw away the hide or give it to village *chamar*.

17. By bad flaying the hide is reduced in value by 25 per cent. By warble fly 30 per cent.

We calculate these percentages while fixing the price of the defective hides.

18. The following are the stages through which a hide or skin has to pass before being tanned or shipped:—

- (a) Purchase of an animal by butcher.
- (b) Slaughter-house.
- (c) Selling the hides and skins to *bepari*.
- (d) Curing the hide.
- (e) Bringing to the market to *arhatdars'* selection.
- (f) Purchase by shipper.
- (g) Recuring the badly cured hides, scraping the flesh and cutting the tail, head, ears and leg.
- (h) Export in bales.

19. The present railway wagons are most unsuitable for hide transport purposes. For wet-salted hides wagons with wooden bases and sides should be constructed while for the dry arsenicated hides big broad high wagons should be constructed.

20. Is not feasible.

21. The railway freight which is very high affects the price of hides at different market centres. The freight for the wet as well as the dry arsenicated hides is the same while very small quantity of dry hides can be put in the wagon. The Cess Committee should approach the Railways to have special rates for hides to be transported to Calcutta from Sialkot, Delhi and Cawnpore. Hides should be treated as perishable goods and quick transport should be arranged.

22. I select the hides in the market in the following grades:—

- Commissariat.
- Slaughter.
- Dead.
- Rejection.
- Double Rejection.
- Triple Rejection.

Calculation is made by me but the price is paid for the whole mixed lot.

23. Not feasible.

V. 34—35. Yes. The Indian raw hides should be well advertised in the world hide market, and leaflets with useful information should be distributed to rouse greater demand for Indian hides. If there is more demand for Indian hides, the primary producer is benefited, resulting in the economic improvement of the farmers.

Small leaflets should also be published in all languages explaining the danger of bad flaying, the method of treating the ordinary diseases and the method of curing the hides.

VI. 39. Cess should be imposed on raw and tanned hides and skins exported from India. The hides and skins are tanned just to escape the *ad valorem* duty, and now that the tanners and exporters are both to be benefited they should both pay cess for the improvement of the trade.

40. The cess should be Rs. 3 per bale of hide and Rs. 3 for a cask of wet-salted skin.

China and African hides compete with Indian hides in the world market. If any cess is to be imposed surely it will affect the trade so far as their competition is concerned. It should also be remembered that India produces 80 per cent. of the inferior kind of hide, which cannot command price in the world market. The Indian hides find a market because the hides are of lighter weight. If China's or other markets are low, Indian stuff do not find sale anywhere and what is true for raw hides is true for half-tanned stuff.

41. The cess should be levied at the proposed rate for five years.

42. The cess should take the form of a lump sum amount per bale or cask and not *ad valorem*, as both the Government and the trade have to keep a staff to calculate and supervise the *ad valorem* duty.

VII. 44. Tanner from Madras.

Tanner from Cawnpore.

Tanner from Bombay.

Shippers of tanned hides from Madras.

Exporter of raw hides and skins, Calcutta.

Exporter of raw hides and skins, Karachi.

Traders in raw hides and skins, Calcutta.

Traders in raw hides and skins, Cawnpore.

Three experts.

55. The Committee's headquarters should be at Calcutta.

**Oral Evidence of Mr. MOHAMAD LATIF, representative of the
Hides Merchants Association, Cawnpore.**

(Cawnpore, the 7th November, 1929.)

Replying to Chairman:—It is difficult to wash the animals with caustic soda, arsenic and other disinfectants. The people are apathetic and indifferent.

Beparis (small-scale merchants) tell me that branding is resorted to because it removes colic.

The reason why the trade cannot institute or continue a system of bonuses is that in the villages buyers would not pay bonus for good flaying.

In my opinion, the cess should be imposed on the half-tan trade also.

The weight of an average bale of hides is 1,000 lbs. Its value depends upon market fluctuations. A barrel of wet-salted skins is usually worth about Rs. 250.

I have not yet worked out the rates of the cess proposed by me from the point of view of the amount of money needed for various schemes. The period of five years which I have proposed for the Committee is based on my view that it is the minimum period during which it would be possible to perceive the effect of the application of the cess fund.

The three experts mentioned in my written evidence should represent not only the tanning industry but also the trade. They should be experts employed by the Cess Committee and not members of the Committee.

Replying to Mr. Price:—Commissariat slaughtered hides are reported to be the best if not branded with iron. Branded commissariat hides depreciate as rejections. In some cases marking is done with coaltar.

The reason why in the winter hides are sun or air-dried is that insects do not attack them. Arsenication is necessary only in certain seasons of the year.

I am not a collector of hides from outside stations but buy them in Cawnpore.

The primary producer's loss on account of bad flaying is a nuisance and a cause of loss to everybody all round.

In my opinion, no better results would be obtained by the issue of knives or patterns other than those at present in vogue. Even now *beparis* do realise that they would get better prices if the hides were better flayed. But there is apathy and indifference, hence there is not so much improvement as there might be.

In certain cantonment slaughter-houses for the government commissariat, e.g., at Rawalpindi and Peshawar, flaying is very badly done. This is because flaying is done there by soldiers. In my opinion, arsenicated hides can be kept for two years, *khari*-salted for about one year, and table-salted ones for about two months. Tanneries chiefly buy wet-salted hides.

Replying to Mr. Shah:—I also represent the Hides and Skins Merchants Association of Cawnpore. Hence I am giving evidence in a dual capacity, viz., personal and representative. My Association has never attempted the setting up of standards of quality, grading, etc.

Even assuming the claim of the Punjab Department of Industries that improvement in flaying did result on account of the action taken by that department, I would still object to the distribution of improved pattern flaying knives at the expense—wholly or partly—of the cess fund. (A little later on, witness withdrew these remarks.)

In my opinion, it is not feasible to bring round the trading and shipping interests at the important centres of the trade in India to accept common trade practices, standards, etc. These have, however, been tried in America and in many parts of Europe. The standardisation of grades has been tried

in Europe but without success. I am, however, aware that the Hamburg system is in working order. By this system, I mean the system followed by the shippers of Calcutta. The Calcutta shippers' and the Hamburg systems are the same.

The Karachi maund is not exactly one-third of the United Provinces maund. The co-existence of different standards of weight and measurement at different centres does not affect the trade or the industry at all. I agree, however, that it not only makes it necessary to calculate but also pre-supposes a knowledge of the standards in vogue at the various centres. Such knowledge may not always be readily available—especially to those new to the field.

In my opinion, the problem which faced the question of standards, grades, weights and measures in the case of cotton was different from that in the case of hides and skins. It was also much smaller than in the latter case. I am not aware if adulteration of cotton was a serious problem.

If money from the cess fund is spent on technological investigation in tanning, it is all the more necessary to spend some money on similar investigation into the problem of the half-tan industry of Madras.

**Oral Evidence of Mr. M. S. MEYER, of Messrs. Briskey and Company,
Cawnpore.**

(Cawnpore, the 7th November, 1929.)

(NOTE.—As Mr. Meyer had not been invited to send a written memorandum, and had been requested on the spur of the moment to appear and give oral evidence, Chairman requested him to make an oral statement of his views and experience.)

Witness said:—I am an employee of Messrs. Briskey & Company of Cawnpore which has a trade in the export of goat skins. The company has been in the trade from 1923 onwards. I myself have been in the trade since 1905. I was at Calcutta upto 1927; since then I have been at Cawnpore. My trade experience is confined to goat skins.

The common diseases in goat skins are small pox, mange, sores and scabs. The common defects are warble holes and pimples (*barsatis* in Hindustani). I do not think it is possible in a large country like India to bring about an extensive adoption of a system similar to sheep-dipping. But if money were available, it would be desirable to make experiments.

During the months of March and April, and July, August, September and October, the percentages of goat skins affected by the warble are greater than during the rest of the year. Even 80 per cent. of the goat skins may be affected by the warble during these months.

Our system of trade classification is primes, seconds, thirds, *i.e.*, rejections, double rejections and treble rejections, *i.e.*, five classes.

(NOTE.—Witness gave statistical information about percentages of warble-affected skins. These were noted down by the Chairman and some of the Members.)

Replying to Chairman:—The difference in value between primes and the other classes is chiefly caused by the warble.

This side of the country I do not find flaying to be so bad. Calcutta flaying is much worse than it is here. On the average defects due to the warble are worse, *i.e.*, lead to greater depreciation of value than flaying defects. In my opinion, the licensing of butchers would by itself improve matters.

Replying to Mr. Price:—I can distinguish the warble from the ordinary fly. I believe the goat warble is the same species as the warble that affects dogs. It is something like the dog tick. I know it is different from the one that affects cattle.

Replying to Mr. Rafique:—Propaganda especially in the form of leaflets explaining the defects and how to avoid them would, in my opinion, be helpful.

I agree that railway transport is not so quick as it might be. Railway wagons often leak. Hair-slip often occurs on account of soaking due to rain water leaking into wagons. When this occurs, a prime sometimes goes down to the level of a rejection or double rejection.

I am not interested in the tanning industry. I do not recommend that the cess fund should be spent on training in tanning.

The goat skins trade would not like the imposition of a cess. But if a cess must be imposed, it should be imposed on tanned skins as well as on raw skins. The cess should, however, be confined to exports.

Replying to Mr. Sinha:—Punjab goats are, from the point of view of their skins, worse than United Provinces goats. But I would not object to the cess money being spent on goat breeding. I agree that it would be a great advantage to distribute printed literature in vernacular.

From what I know India supplies about 30 per cent. of the world's goat skins. The prices which India gets for goat skins are, however, dictated from abroad.

Replying to Mr. Shah:—I am not aware that this (i.e., the dictation of the price) is due to any combination on the part of the chief skin-tanning interests in America. I agree that many of the chief tanning interests in America buy direct from India, i.e., they have their own buying branches or agencies.

**Written Statement, dated the 7th November 1929, of
Mr. M. B. HUDLIKAR, M.Sc. (Leeds), Head of the
Leather Chemistry Department, H. B. Techno-
logical Institute, Cawnpore.**

I. I have been connected with the tanning trade from 1916. Since 1922 I have been in charge of the Leather Department at the Technological Institute, Cawnpore. I started the department and developed it to its present condition.

II. I consider that the proceeds of the proposed cess can profitably be spent for the benefit of the leather industry as a whole including—

- (i) the export trade in hides and skins,
- (ii) the tanning industry both for home needs and for export,
- (iii) and also the allied industries such as glue making, gut making, leather working, etc.

Provincial Governments have been helping tanning and leather working industries by establishing schools, but so far the hide trade has not received any direct assistance. Considerable improvements in (1) flaying, (2) curing and (3) other preliminary treatments can be introduced. The expenditure involved in the introduction of such improvements may well be met by a contribution from the cess since such assistance would be of benefit to the whole industry which at present suffers from imperfect flaying and other defects.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Diseased animals yield poor hides since the quality of the skin depends on the general physical condition of the animal.

Cattle ticks cause a considerable damage to hide.

Warble flies eat away the hide substance and sacs made by them in the hides are sometimes of half the size of a walnut.

Cockle causes disturbance of the pell structure of sheep skins. Tanned skins show a series of eruptions.

Sheep scab causes disturbance similar to cockle.

Ked and Tick.—These pests suck the blood. The effect of their blood sucking is to cause a minute aperture to be made in the glossy surface of the grain in order to reach the blood capillaries, inflammation locally ensues which destroys the glossy surface for some distance around the puncture.

Lice.—They infect sheep by cutting the wool and causing itching, irritation, etc. The injury to the grain is comparable with that produced by the tick.

Fly blow.—The effect is only too clearly seen in the terrible eruptions and scars on the grain side often extending right through the skin to the flesh side.

Anthrax is the most dangerous disease but fortunately it is not prevalent in India to a serious degree. The worst disease from which most of the Indian cattle suffer is starvation. Starved animals yield the poorest hides.

A disease called *kawari* which means leprosy is sometimes seen in the Darbhanga and north-western hides. There are two kinds (1) white marks spreading in patches, (2) black lines. The scientific study of these diseases and of their effects on the leather trade does not seem to have been undertaken up to the present. Some cases of hides which have scratches on grains

and sometimes extending to the flesh side are reported to me. This may be due to some kind of fly similar to sheep maggot fly.

2. Defects due to cattle diseases and pests can be combated by organised and increased activity of the veterinary department. There does not seem to be any immediate practical and effective remedy to combat starvation.

Along with the above mentioned remedies for minimising the losses due to diseases and pests, it will be advantageous to try to get suitable strains of cattle which will yield good hides from the tanneries' point of view. Unfortunately no direct attempts can be made in this direction as the value of the hide bears only a small proportion to that of the meat. At the same time this problem can be solved by co-operating with veterinary and agricultural departments. If it be found that suitable strains can be produced which are equally good for milking or for draught and which would also yield good and suitable hides the problem will be solved to a great extent. The whole subject deserves very careful consideration.

Flaying.

3. The whole system of flaying as it is practised in this country is defective. I have dealt with this subject at length in a separate note, which I attach herewith. The defects in the method used are:—

- (1) The use of unsuitable knives.
- (2) Haste on the part of flayers to finish flaying.
- (3) Carelessness on the part of flayers.
- (4) Insufficient time for finishing slaughtering and flaying.
- (5) Insufficient light.
- (6) Employment of apprentice flayer.

4. In my note I have suggested the commandeering of slaughter-houses with a view to their organisation of conduct on "saladeros" lines. It would be advantageous if the work of flaying were done by the organised steam system.

5. Mere appointments of flaying instructors will not bring the desired results.

Instruction to the village flayers may be given through flaying instructors, but as mentioned above the desired results will not be obtained merely by giving the necessary instruction. In order to achieve success, good instruction should be supplemented by inducements in the form of bonuses for well flayed hides.

6. The modern flaying knives may be supplied to the village flayers at concession rates through the *patwaris* or through the co-operative associations, referred to in my note on curing, on the definite understanding that if the flayers are found and proved to be misusing them or not using them for flaying, the flayers will be made to pay the full market price of the knives and a penalty in addition. Misuse may be checked by the inspectors and the supervisors.

7. Many improvements can be introduced in the methods of flaying in slaughter-houses. In my note on this subject I have recommended the commandeering and control of the slaughter-houses. I have also suggested the introduction of reforms in slaughter-houses stage by stage as follows:—

- (1) To register the existing flayers.
- (2) To issue licences to flayers.
- (3) To confine the work of flaying to the licensed workmen.
- (4) To issue fresh licences after a searching test.
- (5) To introduce restrictions in order to check carelessness such as withholding or cancelling licences. I have drawn attention to the danger of too hasty action.
- (6) After systematising the work and control of slaughter-houses, the appointment of supervisors and instructors referred to in my note will increase efficiency.

I have also recommended increasing the time allowed for slaughtering and flaying. I have suggested the payment of bonuses for well flayed hides.

8. The Hide, Leather and Allied Trades Improvement Society of the United Kingdom have improved the conditions of flaying and grading. I have described the means and methods used by them in my note on flaying. The society did not pay bonuses but held competitions in hide flaying and gave prizes. The "saladeros" and "packer" establishments of America have established world wide reputation by their system and attention to details. These establishments engage flayers on fixed wages and pay them well. Careless workmen are dismissed. Some attempts were made during the war time, when the hides at Bandra were taken for military use, to improve flaying by paying a bonus of two annas to the flayers for every well flayed hide. The success achieved was very encouraging. This bonus system could be introduced for three reasons: (1) the military authorities had the first choice in buying, (2) they required well flayed hides, and (3) they insisted on taking only the best qualities. In the open market system this method will not be so effective. I was told by a contractor that he tried to give more money to flayers for well flayed hides, and that he did not succeed in his attempts in improving the condition.

At the same time if bonuses be paid on the lines mentioned by me under No. 7 the desired objects would be achieved.

Curing and preserving.

9. America with her "saladeros" and "packer" establishments has acquired a reputation by systematised methods for thorough salting (for curing) while India is in the disfavour of her hide customers through her indifferent and unsystematic methods of cure. In America they use the best salt without reference to cost while the majority in India try to adulterate the curing materials with earth and other impurities. In America they do thorough salting and "tack" the goods in order to grade to a standard, while in India salting in many instances is insufficient and artificial weight is added by adulteration. In America they use common salt for curing while in India this salt is used in curing only for home use while they cure hides for export with *khari* salt. When the skins are dried for preserving, drying according to the modern methods is done in a cool and airy place, but in India such drying is generally effected in the sun.

10. This subject is dealt with in my note on curing. The defects in the methods of curing are:—

- (1) Hides are not washed properly before curing.
- (2) Lumps of flesh that are left on the hides by the flayer are not removed before curing.
- (3) Clean salt and other curing materials are not used.
- (4) The processes are done in a very haphazard manner.
- (5) Adulteration with a view of loading is practised.
- (6) Proper care is not taken in drying the skins.
- (7) General cleanliness, which is necessary for arresting the growth of dangerous bacteria, is practically absent.

11. (a) Salt is comparatively dear. For trade purposes tax free salt can be procured on certain conditions, but it does not pay small merchants to take advantage of this concession. The trade would be benefited if the Cess Committee would reduce the price of salt for curing purposes. Salt may be suitably adulterated with certain chemicals, which would make it unsuitable for human consumption but will not have any bad effects on hides.

(b) The preparation cheapened as stated above should be made available to all curers, on the condition that they will use the prescribed methods. The inducement of a sufficiently low price may bring about the adoption of the new methods.

(c) The suitable and worked out processes of curing may be demonstrated to the curers.

(d) It will also be advantageous to evolve a process of cure on the lines of "saladeros" and "packer" establishments. In order to achieve this object I have suggested in my note—

- (1) that salting houses on the lines of "saladeros" be started and be worked in the beginning by the Cess Committee;
- (2) that hides and skins be received by these houses on a job work basis for curing; and
- (3) that the management of these houses after bringing on to a sound footing be transferred to public companies with the specific understanding that no methods of working be changed without the precise permission of the Cess Committee. In order to give the benefit of these salting houses to villagers I have suggested an organisation on the co-operative basis to deal with the village hides, as a measure to be adopted if the agents of the hide merchants prove to be obstinately unbending against introducing new methods for thorough salting.

12. Yes. In my note on technological investigation and technical education I have included curing as one of the subjects for investigations.

13. In my note on curing I have suggested that the curing materials be supplied to the villagers through (1) agents of the hide merchants; failing that through (2) the co-operative associations, or (3) through *patwaris* where these organisations do not exist. I have mentioned that only such materials as will keep the hides in good condition till they reach the salting houses be supplied to the villagers and that thorough salting be effected at the salting houses where attention could be paid to minute details. With the existing conditions of the villagers it will not be possible for them to follow the processes of thorough salting in villages.

Adulteration.

14. Adulteration (loading) is practised in the hide trade and in this respect India has a bad reputation: (a) The customers always keep a liberal margin for adulterations. Therefore it is the seller who is more affected by loading than the purchaser. (b) Tanneries buy in the open market or on the lime weight basis. At the time of settling the terms of purchase or of contracts, the factors of adulteration are taken into consideration.

15. No direct action can be taken to combat the practice of adulteration. The indirect method of standardisation grading and certification may be tried. There is no method to compel the hide merchants to adopt the methods of certification, etc. Attempts may be made by means of advertisement and propaganda to popularise the standardised and graded articles among the shippers and consumers who will naturally appreciate the results and will begin to demand certification. It is therefore quite feasible to introduce the above mentioned methods.

Other defects.

16. Branding is one of the serious defects. Branding is often employed through ignorance as a veterinary treatment against certain ailments of cattle. Sometimes it is done as a mark of recognition. A very bad type of branding is found in some cases, though rare, when it is done as a precaution against the possibility of poisoning the animal by low caste people. Branding can be minimised by the work of the veterinary department. Hides and skins are not properly trimmed. Standardisation and certification are the only methods feasible to improve this defect. Damage caused by barbed wire marks and goad marks is sometimes serious. It is very difficult to introduce reforms in this direction. I have already referred to some sort of grain scratches or more properly speaking grain splits which may be due to certain flies.

17. Bad branding reduces the price of a hide by one to three rupees, i.e., by nearly fifty per cent. I have seen some hides totally ruined by *meru* and by warble flies.

(b) *Collection, marketing, export, etc.*

18. Stages in the trade in hides from the point when the animal dies or is killed to the time of shipment or of entry into a tannery in India are: (1) flaying, (2) curing, (3) collecting, (4) marketing through agents and (5) preliminary treatments of disinfecting and baling for export.

19. There is a great scope for improvement in transport, railing, grading and packing. In wet seasons the hides are damaged by rust marks caused by the iron plates of wagons. Iron wagons should be lined with wood or some other suitable arrangements be made for adjusting wooden boards to wagon sides, coming in contact with hides for the transport of wet-salted hides.

20. In my note on curing I have described a scheme for marketing on a co-operative basis. That scheme may be suitably altered to suit the general requirements. The following scheme as is described in my note may be useful for this purpose. As an illustration I shall describe an example. Let A be the central place with a hide market and a salting house. Let there be a group of villages a, b, c, d, etc., from where hides are collected by the agents for the merchants at A. In order to establish connections between A and the group of villages, a, b, c, d, etc., let a co-operative association, either financed by any co-operative bank or by the Cess Committee, preferably by the former, be started for marketing hides and skins, etc., with the head office at A and with one or more branches at suitable centres from the above mentioned group of villages. Let it be in this particular case at C. A salting house at A establishes connection with C for the supply of suitable curing materials, etc., and distributes these to a, b, c, d, etc. C collects hides and skins from the group of villages, pays 25 to 50 per cent. of the expected prices to the respective owners of the articles, and sends these hides to get them cured at the salting house at A. After the cure the head office of this association sells them in the open market to hide merchants, to shippers or to tanners. The differences between the prices thus obtained and the money paid by C to the respective owners of the hides are met through C.

For further details the original note may be referred to.

It is therefore quite feasible to start such an organisation. I am not aware of the existence of any such associations.

21. The tanning and hide trades can be helped to a great extent by suitably adjusting the railway rates. Concession rates may advantageously be given for transporting tanning materials. By this concession suitable tanning materials can be brought within the reach of tanners. Concession rates may also be given to tanned hides and skins for export purposes. These concessions should only be given for the standardised, graded and certified articles (this will help to popularise standardising, grading, etc.). Concession rates may be allowed for hides consigned to the salting houses.

22. Tanners in India prefer to purchase hides on the lime weight basis. The firsts are purchased at the rates settled by contract, seconds, thirds and rejections are taken at certain reductions in prices. Double rejections are returned to the contractors. Some hides are bought from the warehouses on the open market system.

Hides and skins for export are bought in the open market or on the contract basis with settled terms.

23. It is quite feasible to introduce a system of standardisation and grading for sale to tanners in India and also for export.

The hides may be graded according to standardised methods and certification to that effect may be issued. Firms joining the hide association should bind themselves to follow these methods. Supervisors should check by challenging any pack or packs. The disputes may be settled by arbitration.

I have mentioned that the Hide, Leather and Allied Trades Society of the United Kingdom tried these methods with excellent results.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a) and (b) I have mentioned in my note on technological investigations and technical education that the tanning industry will be greatly benefited if the proceeds of the cess be partly expended for—

- (1) technological investigations in tanning and other processes of leather manufacture,
- (2) training of technologists. The leather manufacturing business is not very advanced in this country and there are very few firms here who can employ separate men as tanners, tannery foremen and leather chemists. What the country requires at present is the technologist, who knows enough chemistry to keep control over the modern processes of tanning and who can make leather. When the trade is sufficiently advanced all the above classifications may be introduced and separate classes of training of specialised nature may be arranged. In my note I have suggested the methods of imparting the necessary training.

(c) For developing the supply, quality and cheapness of Indian tanstuffs, it will be advantageous to introduce suitable tanning materials of foreign origin. Attempts should be made to grow them in India and the cess money should be spent for this purpose. In my note I have included this item under technological investigations.

Preparation of suitable tanning materials by blending, extraction and other methods would promote the development of the industry.

(d) Other forms of leather working industry deserve a helping hand, making of boots and shoes and equipment and working up of special skins.

25. The Leather Department of the Harcourt Butler Technological Institute devotes some of its energies for research work.

The laboratory of the British India Corporation at the factory of Messrs. Cooper Allen & Co. undertakes the routine control of the processes of tanning as well as general research work.

26. The Leather Department of the Harcourt Butler Technological Institute is being developed and requires expansion. The tannery workshop of the department is at present situated in temporary buildings. The plans of the permanent workshops are ready, and may be taken up as financial conditions permit.

The following items are necessary to bring the department to an efficient working condition:—

- (1) Construction of the permanent tannery workshops.
- (2) Addition of plant.
- (3) Strengthening of the staff.

If sufficient staff be appointed the department may be able to devote more energy to technological investigations.

The Madras Government ran a tanning school till last year. I think that it is now closed. Madras specialises in *avaram* tannages, known in the market as "half-tans". It would help the development of the trade if investigations in *avaram* tannages were undertaken at Madras. A technological laboratory specially fitted for their purposes will be of help to the *avaram* tanneries. Of late wattle bark has been introduced into Madras as a part substitute for *avaram*. This subject also falls under problems concerning Madras in the first instance. Therefore Madras has a clear claim to a technological laboratory.

27. Theoretically it is advantageous for various centres for technological investigations to specialise, so that there will not be unnecessary duplication of work. But in the case of leather problems, so-called duplication of work

cannot in many instances be avoided. Nevertheless the problems for investigation may conveniently be divided into two groups:—

- A. Problems of a highly scientific and technical nature.
- B. Ordinary technical problems.

I would therefore suggest the classification of centres on the above mentioned lines, investigations to be undertaken by various centres accordingly. India at present at least does not require more than one centre for class A. There can be two or three centres for class B.

For facilitating co-ordination and control of these centres it will be advantageous if their heads be co-opted on the sub-committee for technological investigations and technical education, of the main committee.

28. Leather technologists and leather chemists are trained at the Harcourt Butler Technological Institute, Cawnpore. Foremen tanners and foremen curriers are trained at the Harness and Saddlery Factory, Cawnpore. The Government Tanning School at Fatehpur trains village tanners.

29. The Leather Department requires expansion and equipment to bring it to thorough working efficiency. The tanning for foremen tanners at the Harness and Saddlery Factory requires alterations and additions.

With this increased equipment it will be possible to train tanners in sufficient numbers for the gradually increasing demands of the trade.

Training to adults of the villages may be given through peripatetic schools and to adolescents through localised schools.

I personally consider that the usual type of localised school is costly and does not fulfil the needs of its district in a satisfactory manner.

30. I have mentioned under No. 29 that peripatetic schools will be more useful to the village tanners than the localised schools. At the same time I must admit that it is impracticable for the peripatetic schools to give training in all the branches of tanning. It will, therefore, be advantageous if a larger number of peripatetic schools work in co-operation with a few localised schools, so that the deficiency of the peripatetic schools be supplemented by the localised schools. The number of these localised schools should be kept as low as possible.

The real trouble with the rural tanners is that they are miserably poor. They have no suitable shelter for their head, still less for their tanning requirements. They have no money either to buy suitable hides nor proper tanning materials. Most of them are engaged in farming or on fields on very small wages. They utilise their spare time for the work of tanning. Under these circumstances it is clear that neither the schools nor the demonstration parties will bring the desired relief. Perhaps some movement on co-operative principles may be useful. The Cess Committee or the Rural Development Committee may give them a helping hand by building some suitable tanning sheds for them and also by encouraging them to start co-operative associations. The village tanners will be greatly benefited if the work in this direction be supplemented by the energies of peripatetic schools.

31. The tanned leathers (*avaram* tanned) are consigned by tanners and exporters to London, where weekly auctions are held. Rates fluctuate according to demands and the goods in stock. It is sometimes believed that this system of auctioning is a handicap. In 1918 and 1919 when heavy consignments were booked for London, the warehouses there had huge stocks unsold. The goods could not be brought back to India consequently they had to sell them at any cost, with the result that many firms in the south suffered very heavily. This leads some to think that if direct connections with the dressers be established the above mentioned danger might be avoided. Under present conditions when there does not exist any grading based on fixed standards, nor any checking for adulterations, the foreign customers are not prepared to take risks. The only remedy to improve these conditions is to encourage the system of standardisation, grading and certification. These methods can be put into practice if the exporters and the tanners would form an

association and voluntarily adopt these methods. The Cess Committee may help them by means of propaganda and advertisement. In order to popularise direct shipping the Cess Committee may, as an inducement, try to come to certain terms with shipping companies and thus lower the shipping rates for standardised and graded articles bearing a certificate to that effect.

I realise that there would be other difficulties in introducing these direct connections, and vested interests will try to create trouble but I consider that these can be faced if the association gains strength. If the association becomes sufficiently strong it should be able to mould the tone of the market.

In the pre-war days when adulteration was practised on a large scale, the tanned hides were sold under various names indicating the distinctive tannages, or more properly speaking, indicating adulterations. During the War when the half-tan trade was controlled and the offence of adulteration penalised, the so-called many distinctive tannages became practically undistinguishable from one another and instead of recognising eight or nine separate tannages it became the practice to classify all *tarwar* tannages into four grades, prime, best, good and ordinary, each of the first three being subdivided into two classes, according to their growth and spread. I believe some gradation of this sort exists even in these days. There are some large European firms in Madras who keep up to the standards for which they have an established reputation. Neither government nor semi-government concerns can enforce any rules and regulations in private matters such as trade, but can help in the introduction of the new methods.

32. The tanstuffs locally available are *babul*, *dhawa* and myrobalans, the first two grow in the province while the third is imported from the Central Provinces. Some large tanneries use tannin extracts of foreign make. Somewhere in 1913 small plantations of *avaram* (*tarwar*—*cassia auriculata*) were undertaken by Messrs. Cooper Allen & Co. and by the Forest Department as an experimental measure. More scientific study was made at Dehra Dun. Some experiments are also being made at the Harcourt Butler Technological Institute. All the results are very encouraging.

Babul, the principal tanning material of this province is grown all over the province and also in the forests. The contractors bring the bark and sell in the open market. Some firms enter into agreements with tanneries and supply the bark on settled terms. The supply of myrobalans is arranged through the contractors. Tannin extracts used by tanneries are imported directly from England and other countries. The extract factory at Raneunge supplies myrobalans extract.

Many weight giving tanning materials such as *valonia*, chestnut, etc., will be appreciated. Sumach is a valuable tanning material and its supply will be to the advantage of the tanning trade. *Tarwar* will be valued by tanners making lining leathers, etc. Pancreol, tinox, chromelene, etc., i.e., other materials, are also not easily procurable. The supply of these materials may be organised through agents.

33. *Avaram* (*tarwar* bark, *cassia auriculata*), the tanning content is 15 to 19 per cent. The colour in 0.5 per cent. solution is red 4 units, yellow 8 units (in comparison *babul* has red 6.9, yellow 26 units). So *avaram* is a very light coloured tanning material. The great merits of this bark are that it is very easy to use and quick in its action and produces a leather which is capable after further treatment by the currier, of being turned to a great variety of uses. The only drawback of this tanning material is that it is very expensive.

It must also be remembered that the bark is an ideal one for half-tanned leathers and that further tanning and other treatments, such as currying, are required before the leather is complete for use.

Wattle bark is used in these days as a substitute for *avaram*, particularly for hides. It gives quite good results when used along with *avaram*. It is comparatively cheap.

Avaram can be made available in larger quantities and at cheaper rates if it be grown on a plantation basis.

V.

ADVERTISEMENT.

34. I have already mentioned under many heads that advertising and propaganda will help the industry.

35. Funds from the cess can be expended to furnish and conduct a museum, in which all kinds of leathers, leather substitutes and articles made therefrom may be exhibited. Everything concerning leather and the allied trades should be found in this museum. Models of diseased animals, precautions against certain cattle diseases, defective hides and everything regarding the trade should find a place in this museum.

VI

COST OF SCHEMES PROPOSED.

36. The schemes that I have suggested are large organisations and the details of these are not worked out. It is, therefore, not possible for me to give estimates for the same.

37. Under No. 36 I have stated that I am not in a position to give estimates of cost for the proposed schemes. Therefore I cannot give any figures in this connection.

38. I am not in a position at this stage to give any figures.

39. The same principles on which the export tax was levied may be followed in the application of the cess. The cess should be levied on raw hides and skins exported from Indian ports. I oppose any cess being levied on the Indian tanning industry.

40. I favour 5 per cent. on kips, buffalo hides, goat and sheep skins and 15 per cent. on other skins. There is a world wide scarcity of hides and skins and the demand for leather is increasing. The cess will not adversely affect India's position in the world's market for raw hides, but the organisation financed by the cess proceeds will improve the condition of hides, so that the position of India in the hide trade will be improved.

If any cess be levied on half-tan exports, the Indian tanners will suffer. The present system is that the tanned hides and skins are consigned to England where weekly and bi-weekly auctions are held. The carriers and dressers of these half-tans purchase in these open auctions. Carriers also purchase through warehouses which in their turn purchase at auctions. As it is, the exporters of these commodities are handicapped by many disadvantages, and to add any more will not be beneficial to the country. In recent years fancy prices are paid for lizard and other skins. Those who pay fancy prices will not grudge paying a cess of 5 per cent. on these commodities. I therefore recommend allowing tanned kips, buffalo hides, sheep and goat skins free of cess, other tanned hides and skins to be charged at 5 per cent.

41. The primary object with which the cess is levied is to help the industry directly. The cess therefore should be permanent. It may be necessary to change the rate of the cess. It will take at least 10 to 15 years for the schemes to reach fruition. Therefore the present rate should not be changed at least for 15 years. After that period if it be found necessary to restrict exports the rate may be enhanced.

42. If an export cess be recommended it should be levied on all raw hides and skins *ad valorem*.

An *ad valorem* cess is preferable to the other form, *e.g.*, on weight, since it varies simply with the market price and is thus easier to collect. Moreover it would be fair both to purchaser and seller.

VII.

CESS COMMITTEE.

43. I consider that the formation of the Cess Committee is necessary. The Committee should have the following constitution:—

- A Chairman.
- Vice-Chairman.
- Members.
- A Member-Secretary.

44. The following interests are, in my opinion, entitled to representation:—

- (a) The Provincial Governments.
- (b) The large Indian States.
- (c) The Chambers of Commerce.
- (d) The exporters of hides and skins (raw and tanned).
- (e) The tanners—
 - (i) Modern tanneries.
 - (ii) Half-tan tanneries.
- (f) The hide producers (butchers).
- (g) Co-operative movements.

As far as possible the nomination of representatives should be left to the interests concerned. In exceptional cases the Governor General in Council may reserve the right to refer back nominations.

45. It is obviously essential that large responsible interests should be certain of adequate and permanent representatives. Such interests are those under (a) to (e) of No. 44. The character of their representation as compared with the lesser interests comprised under (f) and (g) may best be decided by legal opinion.

Of the interests enumerated in No. 44, those under (a), (c), (d) and (e) should be given statutory representation. The others should be nominated.

46. The local Governments should be represented on the Committee. The nomination should be made by the Governor in Council.

47. The Indian States should be given representation. (1) The Mysore State, (2) the Hyderabad State (3) the Gwalior State, and (4) the Central India and Rajputana States should be represented on the Committee. The nomination of their representation should be made by the States concerned. One nominee from each State or groups of small States mentioned above should be represented on the Committee. The cess from States may be collected by the British Government officials. The revenue thus collected from the States should be spent for the improvement of the hides and leather industries of the State.

48. Separate representation to the institutions recognised for technological investigation is not essential. In case their representation be felt necessary, some nominees may be taken as co-opted members. A separate representation should be given to the co-operative movements. The nomination should be made by the All-India Co-operative Movements Association.

49. The Committee should have power to co-opt experts and others interested in the trade or the industry. Nomination in this respect should be limited to 3 and subject to the condition that none of the ordinary members of the Committee have the requisite specialist knowledge.

50. The Chairman should be elected by the Committee. The Committee should have a Member-Secretary. The Secretary should have high educational qualifications. He should have a thorough knowledge and insight regarding the working and conditions of the tanning and the raw skin trades. He should also be well acquainted with the government rules and regulations regarding finance, etc. The Secretary should be a permanent official of the

Government. The Governor General in Council should appoint the Secretary.

51. The Committee should function in the capacity of a governing body of organisations for improvements in flaying and curing, encouragement of the tanning industry, commercial organisation, etc. The Local Government may appoint committees with the Local Government's nominee on the Central Committee as an *ex-officio* Chairman. On the advice of the local committee the local Governments should deal with the Central Committee through their nominated representative. I prefer "circle committees" to "provincial committees".

52. The Committee should act through sub-committees, appointed for definite purposes, and through the various officials. I suggest the following executive officers:—

- (1) Secretary to Committee.
- (2) Deputy Secretary in charge of flaying, currying, commercial organisations and statistics.
- (3) Deputy Secretary (who should be a technologist) in charge of technological investigations, technical education, etc.

53. I have suggested under flaying and curing to divide the whole of India into five circles, and also I have suggested there, to have committees for each circle. These committees should function as the provincial sub-committees.

54. It may not be possible to procure a Secretary who possesses the technical knowledge of various branches of leather technology, in which case it will be advantageous to have a special technologist attached to the Committee. This technologist I have suggested under No. 52, may be in charge of technological investigations and technical education, etc.

55. Delhi should be the headquarters of the Committee. The sub-committees for technological investigations and technical education should be located at the place where the proposed centre for highly scientific and technical research will be situated. According to my suggestion it should be at Cawnpore. The sub-committee for the commercial organisation and statistics should be located at Calcutta or at Madras. In my opinion, Calcutta will be more suitable. The sub-committee for the tanning industry should be located either at Cawnpore or at Madras. The sub-committee for flaying and curing should be located at Delhi or at Bombay.

NOTE ON FLAYING.

Animals ready for flaying are either those which die a natural death or which are slaughtered by the "stuck throat" or "cut throat" process.

Whether the animal dies a natural death or is slaughtered, the operation of flaying is similar in every case. The most up-to-date methods are practised in the preparation of the famous "packer hides", where skilled labour and attention to details have raised "flaying" to a high standard of efficiency. In the large establishments, preparing the "packer hides", skinning is done by several men each performing a specific part of the operation. Generally ten operators, a header, a legger, a "ripper opener", a floorman or sider, a tail puller, a rumper, a fell cutter, a fell puller, a fell bearer, and a backer, work to finish the complete operation of flaying.

In India even in the big meat producing centres such as Agra, Meerut, Delhi, Saugor, etc., operations of slaughtering and flaying are very crude and unscientific. The animals are brought to the slaughtering places by butchers and their assistants. Hide merchants in many instances advance money to butchers to purchase livestock on the condition that the hides from such stock will go to the advancer of money. As a rule, by municipal laws slaughtering of animals, particularly those producing hides, is to be

carried on within a specific area, and some sorts of slaughter-houses are built for this purpose. Municipalities are the owners of these houses, and charge some fees for using them. These slaughter-houses are very badly built, and the sizes of the built portions are inadequate. Slaughtering and flaying operations are conducted either late at night or very early in the morning so that the work is finished before 5-30 or 6 A.M. The lighting arrangements are hopelessly bad.

Butchers with the help of their assistants flog the animal by passing a rope round the legs and then giving a sharp jerk. Legs are then tied. A butcher cuts the throat. There is a special man for this work in large slaughtering centres who gets half an anna per animal. When the animal is thus slaughtered it is flayed by butchers assisted by flayers. Sometimes, and particularly in the winter, which is the meat producing season for export to Burma and when there is a great rush of work, butchers' boys, and apprentice flayers take advantage of the opportunity. All these workmen use country-made knives which are not very suitable for this kind of work, though it must be admitted that a majority of flayers are quite competent and can do their job very satisfactorily if sufficient time be given to them to finish the work.

Defects. Butcher cuts.

The most serious and yet preventable injury to the skin is that due to butcher cuts. In meat eating centres, the value of hide bears a small proportion to that of the meat, particularly of healthy animals, therefore the butcher does not pay very careful attention to the hide. There is also an idea that the appearance of the meat is improved by a thin layer of white skin tissue being left on it, and for this reason as well as mere carelessness butchers frequently score the flanks of the hide with shallow cuts which greatly diminish its value. In India this injury due to butcher cuts is of a very serious nature. In this country the work of flaying is done on a piece work basis, and the rates are miserably low, ranging between 3 to 5 annas per animal. Workmen engaged for flaying are therefore tempted to finish the work quickly so that they could flay a greater number of animals, and thus could earn more. This haste in finishing the work causes a lot of injury. The slaughtering and flaying as stated above are to be finished before early in the morning, i.e., the whole work has to be done in the coldest part of the day. The winter, particularly in the north, is severe and the workmen are badly clad. Moreover it is in the winter when there is a great pressure of work, so much so that the built portion of slaughter-houses bear a very small proportion to the space actually required for the work. Consequently to cope with the work the slaughtering and flaying are done on the open grounds. The fields around the slaughter-houses are ploughed and are used for the work mentioned above. The poor workmen scantily clad as they are shiver in the open, and even if they be competent in their work, naturally spoil the job under such trying conditions. Miserably insufficient light adds to the distress. I have also mentioned in the text that the butchers' boys and apprentice flayers take advantage of this opportunity of the rush of work to learn and to earn. These are the persons who cause a lot of damage.

Work done in foreign countries to improve flaying.

The "packer hides" of the United States of America and the products of the large "saladeros" or slaughtering (salting) establishments, show what can be done by skilled work and careful attention to minute details. In the United States much of the flaying is done by means of wooden cleavers instead of sharp knives. Another method to some extent in use and which may be recommended for calf and sheep skins is to inflate the carcase before skinning with air from a compressing syringe which tears the connecting tissue between the skin and the body and renders flaying much easier.

In this connection reference may be made to the work of the Hide and Allied Trades Improvement Society in the United Kingdom. The Society

was formed with the objects of improving the flaying of hides produced in the United Kingdom, and of promoting the accurate selection of the hides both with regard to weight and quality. The tanners and the hide market authorities combined for this purpose and after the society had been in existence for some time the butchers also asked for representation on the central committee. A standard of quality was laid down based on 4 or 5 of the best markets in England, and the whole of England, Scotland and Ireland was divided up into six districts. A travelling inspector was appointed to each district, and later on the society added a supervising inspector, who has a roving commission to move from one district to another in order to ensure that the inspectors are keeping to the same standard. Every market in the United Kingdom has a special stamp with which the hides must be stamped as firsts, seconds, or thirds and the inspector's duty is to go round to each market at least once a week when he challenges any pile of hides, goes through them to see that they are classed correctly and puts them on the scale to see that they are correctly weighed. On every hide there is a fee of $\frac{1}{4}$ d. known as inspection fee which is added to the tanner's invoice by the brokers. The $\frac{1}{4}$ ds. are forwarded to the Secretary of the Society by the various hide markets with a return of the number of hides each week. The tanners have bound themselves to buy all home slaughtered British and Irish hides through the recognised markets.

There are various rules with regard to the settlement of disputes by arbitration. In each district there is a committee consisting an equal number of tanners, hide market representatives, and butchers, and in all cases of arbitration one of each class is nominated as arbitrators to examine any hide or hides. There is no fee arranged for this but out of pocket expenses are paid.

The Society arranged flaying competition and gave prizes. It also had two travelling inspectors going round the country instructing butchers how to take off a hide and as a result great improvement was effected in different districts.

Operations of this Society have greatly improved the preparation of hides produced in the United Kingdom and facilitated their marketing. The hides are now much better flayed and of better shape than formerly. The horns and tail bones are removed before weighing. The weight and quality are stamped on each hide, these points being constantly checked by inspectors and the market or the place where the animal was slaughtered is also indicated.

Another serious defect due to bad flaying is the large amount of flesh left on the hides, the result being that, notwithstanding the cure, putrefaction is liable to take place in the thick portions of flesh and therefrom to extend to the hide. If the butcher cannot take off the hide in a clean and workmanlike manner the hide should be scraped afterwards so as to remove the superfluous flesh.

Animals which die a natural death are flayed by low caste Hindus, who are not good flayers. Yet there are not many cuts on such hide. The flayer has not much use for the flesh as it is not sold. He therefore does not flay too close to the hide with the result that flesh in lumps is left on the hide remaining. The defects in such hides are (1) bad scratches due to rough handling, (2) superfluous meat in lumps left on hides, (3) putrefaction setting in due to uncleanly methods, (4) bad and indifferent curing and (5) poor quality of hide substance.

Suggestions to improve the present conditions of flaying, etc.

Organisations on the lines of the Hide, Leather and Allied Trades Improvement Society of the United Kingdom are not practicable at least in the present disorganised state of hide merchants and tanners in the country. There do not exist any strong associations of hide merchants, nor of tanners nor of butchers. Sometime back Cawnpore tried to organise some such sort of associations for hide merchants but due to many difficulties the attempts

did not bear any fruit. Moreover the hide trade in this country is moulded by the exporters more than the tanners. In pre-war time these exporters were firms from outside the British Empire. It will be interesting to note the following export figures in 1912-13 and 1913-14:—

Export of raw kips from India.

	1912-13.				1913-14.			
	Cwt.	%	£	%	Cwt.	%	£	%
To United Kingdom	35,076	4.2	137,051	3.4	14,919	2.0	62,819	1.6
To Germany	865,076	44.0	1,692,676	42.6	356,195	47.9	1,903,126	46.3
To Austria Hungary	43,620	13.7	542,634	13.7	141,537	19.0	763,430	19.4

Germany and Austria took over 58 per cent. The United Kingdom had a negligible share of 3 to 4 per cent. America, Italy, Spain and other Continental countries took the remaining 36 per cent. It is evident from the preceding statements that before the War the raw Indian kips were chiefly utilised by Germany and Austria and the export trade in Calcutta was about completely in the hands of German or quasi-German firms, and all of them had important German connections. The firms formed a strong ring and were able to prevent other firms from entering the trade in competition. America was a controlling factor in the exports of the buffalo hides (raw) and the goat skins (raw). England's share was practically nominal in the pre-war times. The recent export figures also show that the export trade of raw hides and skins is mainly in the hands of non-Britishers. The export of buffalo hides is drifted from America to the European countries, and the Britishers have practically the same position as in the pre-war days. The goat skin (raw) trade is controlled by the Americans.

So it is evident that it is not so easy to bring all these non-British interests together in British countries by mutual understanding.

If the work of organising is undertaken at all it will have to be done by an outside agency, strong in constitution and neutral to vested interests. Under such circumstances an organisation of the type of the proposed Hides Cess Committee can very effectively undertake this intricate problem.

The first step for the organisation to introduce new methods of flaying and other improvements thereby connected, is to commandeer all the slaughter-houses. These houses should be built on the most modern lines and of types similar to the "saladeros" of South America, equipped with modern means and appliances. These houses should be adequate in size to cope with the rush of work of busy seasons. Steps should therefore be taken to construct or to alter the existing slaughter-houses in the big centres as the first measure and then the activities may be extended to the districts of less importance.

Butchers and flayers working independently or employed by the slaughtering establishments or by other agencies should be registered. Later on licences may be issued to these registered flayers. Applicants for fresh licences will have to stand a test.

By the municipal bye-laws or by some other agencies all slaughtering and flaying for hide and meat trade should be confined to the workmen holding the licences.

In big centres, these workmen may be divided in groups, and flaying should be encouraged to be done by team system as is practised in the "saladeros", every workman confining himself to a definite part of the work.

By this procedure men will soon be quite efficient in their work, and the standard will soon rise. If the team work process be followed there would arise a difficulty of giving adequate wages to workmen. The existing practice is that the work is done by butchers who are the owners of the animals or by workmen engaged by butchers on a piece work basis. Therefore the introduction of the team method will seem to conflict with the individual interests of workmen and trouble may arise. The changes will not be sharply felt if the new methods be introduced cautiously and by stages.

Time for slaughtering should be extended. More time should be given for flaying, and the losses incurred thereby by workmen engaged on the piece work basis should be made good by giving bonuses based on the standard of work.

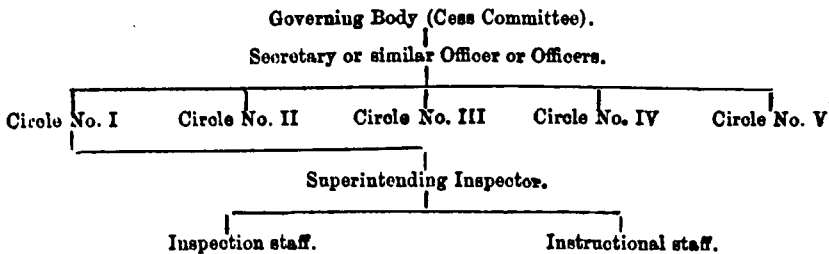
Every hide should bear a stamp indicating the flayer or the group of flayers. This will make it possible to give bonuses and to check indifferent and careless working.

Later on when the working of new methods is regularised and smoothened, restrictions may be introduced to check careless work. The organisation may withhold a few licences of workmen persistently showing signs of carelessness. This will have to be done very cautiously and tactfully.

The organisation mentioned above will require a supervising staff. I may therefore venture to make a few suggestions.

For setting up an organisation for administrative and supervising purposes India may be divided into five circles, (1) the Northern Circle comprising the Punjab, the United Provinces and Bihar with a hide market at Cawnpore, (2) Eastern Circle comprising Bengal, Orissa and some part of Central Provinces with a market at Calcutta, (3) Western Circle comprising Bombay, Sind and Khandesh, with a market at Bombay, (4) Southern Circle comprising Madras, Mysore State and Hyderabad with a market at Madras and (5) Burma Circle with a market at Rangoon. States of Rajputana, Central India, etc., may be taken in suitable circles. This is a rough distribution and suitable modifications can be made.

Each circle should have a sufficient number of inspectors who should be in charge of slaughter-houses and similar establishments whose duties will be like those of the Hide, Leather and Allied Trades Improvement Society of the United Kingdom. There should also be travelling instructors whose duties should be to teach the correct way of flaying. All these inspectors and instructors should be guided by the travelling superintending inspector with a head office at the market place. These circles should be under a suitable officer or officers attached to the Central Government. There should be a governing body to help and to guide the working of these organisations. The constitution will therefore be:—



After setting up these organisations it will be possible to standardise the product according to quality, weights and locations, and each skin bearing a stamp indicating all these points. If disputes arise the origin can be traced and the disputes may be settled by arbitration for which purpose a strong committee with representation for all the interested parties should exist both in the circles and at the central organisation.

Modern Methods of Slaughtering and Flaying.

The slaughtering of cattle on a large scale by the great packing houses of the United States has resulted in a process so efficient that these hides are obtained in nearly as perfect a condition as their nature will permit. Skilled labour and attention to details have reduced the possible damage to the minimum.

As the cattle arrive at the packing house they are allowed to rest and cool off. The killing beds are usually arranged on the top floor of the building, and the cattle are driven up through runways or elevators. Two animals go in each knocking pan there usually being half as many pans as skinning beds. A knocker uses a light sledge hammer and strikes the animal a heavy blow on the forehead between the eyes. If the animal does not drop immediately a second blow is given. The skull is broken and the animal becomes unconscious. The gate is now lifted and by mechanical means the floor of the pan is raised to a sharp angle causing the carcass to slide to the sticking bed. The sticker inserts his knife vertically through the neck in such a way as not to tear the pattern of the hide and when the knife has been entered sufficiently deep it is turned crosswise to sever the jugular vein. The animal is now shackled by passing a chain around both the hind legs, and the body raised from the floor head downward to drain off the blood.

Flaying.

Skinning is done by several men each performing a specific part of the operation.

The header sticks his knife in at the top of the head and makes a cut across the left side of the animal's face, continuing downward along the left side through the nostril. The cheeks are skinned out and the underside opened from the sticking cut through the centre of the lower lip. This method leaves the pate on the right side of the hide and allows it to lie flat when placed in the pack. The carcass is next lowered to the floor, laid on the back and held in position by a pritch pole. The claws and feet are removed by the legger and the sweet breads are taken out. In skinning the front legs the cut is upward on the right side and toward the centre of the knee. The same is the case with hind legs except that the cut runs toward the centre. The "ripper" opening next follows, opening the animal along the belly from the sticking cut to the tail is next done. The sider now removes the hide from the belly and cuts along the brisket and back to the inside of the hind leg close to the tail. After cutting down the side of the animal he makes the cut at the brisket and foreleg to joint and on the hind leg, and connects the hind legger cut. The hide is now carefully removed from the belly and down the sides. The body is then lifted until only the forward quarter remains on the floor and the tail puller pulls the hide off the tail. The rumper cuts the hide away from the base of the tail and rump. The body is again raised and the fell cutter removes the hide from the hind legs and round. The fell puller takes the hind shanks and pulls while the fell beater pounds away the hide by means of the back edge of cleavers. The backer finishes the flaying by removing the hide from the shoulders.

Flaying operation of sheep, goat and such small animals is comparatively simple. The animal is slaughtered and allowed to cool, legs are cut off and then skinning is started. In some cases skinning is done without removing the legs. Skinning of hind legs is first done and the animal is hung by the hind legs to a suitable height. A cut is given at the rump and the skin is separated by means of some suitable rounded knife. When skin is thus removed sufficient to furnish a strong grip, the remaining portion is removed simply by pulling off the skin in the form of a sock. The operation is fairly simple and generally no damage is done to the skin. Most of the damage due to flaying is confined to the rump portion.

NOTE ON THE CURING OF HIDES AND SKINS.

Flayed hides and skins, where they cannot be used in the fresh state, are preserved by one method or another. The following methods are generally used:—

- (1) Salting—
 - (a) Wet-salting.
 - (b) Dry-salting.
- (2) “Khari cure” i.e., cure by means of *khari* which is mainly sodium sulphate.
- (3) Flints—
 - (a) Sun-dried (framed).
 - (b) Sun-dried (unframed).
 - (c) Arsenicated.

There is probably no better method of preserving hides and skins than the use of salt. Salt is not fatal to bacteria, but slows the bacterial growth, partly by its direct antiseptic effect on many organisms and partly by withdrawing water from the skin. Moderate salting can preserve the skin for a couple of weeks, but in order to preserve them for a longer period thorough salting is necessary for which 25 per cent. of salt on the weight of skin must be added. It is said that well salted skin can be kept for an almost unlimited time, but some sort of deterioration does set in if kept for more than a year.

The method of salting employed in the Chicago stock yards for “packer” hides may be taken as a good type of thorough salting. For general information the method of salting for “packer” hides is given at the end of this report.

Salting done in this country is not very satisfactory. There are practically no warehouses here who specialise in salting and curing. Salt is sparingly used, with the result that the skin begins to deteriorate after a couple of weeks. The hides and skins for export from the country are therefore not preserved by this method. It is quite possible to develop Indian raw hide export trade on modern lines by following the methods of “packer” hides modified, if necessary. It is a proved fact that there is no better way of preserving the raw skin than by the use of salt, and that such a skin can be soaked without any appreciable loss of the hide substance. Tanners for this reason prefer to get a well salted skin to any other preserved by other methods.

Dry salted.

Skins after treating with salt are dried out to ensure lighter weight for transport. Skins are also preserved by steeping a strong brine, and then partially drying them; the process being repeated a couple of times before they are completely dried out. Skins preserved in this way do not yield good leather like the “packer” skins.

Indian hides for export are preserved by the use of *khari* salt; a good sample of *khari* salt is composed mainly of sodium sulphate. If this method be used on sound lines, it will give good results. The preservative power of sodium sulphate is recognised and the anhydrous sodium sulphate is recommended as a substitute for common salt. Unfortunately the illiterate people who prepare skins for the hide merchants are short sighted and have evolved a practice of creating a false weight. They use a larger quantity of *khari* than is necessary and many a times mix earth plaster with it. Hides exported from Dacca have a very bad reputation in this respect. Hides cured in this way are commonly called “plaster cure”. This cure under certain circumstances gives rise to extensive iron staining of skins.

Flints.

Drying is a very common method of preserving hides as well as other putrescible matters. This method as applied to hides is to the tanner one of the least satisfactory methods of cure, involving considerable difficulties in bringing them back to the moist and swollen condition which is necessary as a preliminary treatment to prepare them for tanning. This treatment is technically called "soaking". The higher the temperature used for drying, the greater are the difficulties in soaking. Hides and skins dried in a tropical sun are not only difficult to soften but are liable to have damaged portions which either refuse to soften or blister or go to pieces in liming owing to the structure of the hide being destroyed by heat; the outer surface drying first, and forming an impervious layer which hinders evaporation from the inside, so that the moist interior becomes melted while the outside appears quite sound. Good results are however obtained if the hides are stretched on frames and are then dried in the shade in a good draft of cool air. Hides preserved by drying after framing are known as "framed flints". If they are dried in the unframed condition the folded portions are liable to damage; for this reason unframed hides fetch lower prices.

In order to minimise the possibility of putrefaction during drying, hides and skins are sometimes steeped in a solution of some sort of antiseptic. Solutions of arsenic are frequently used for this purpose. The solutions of arsenic have little antiseptic power, but are only the germicides. They are very effective against *dermestes vulpinus*, which frequently devours the whole fibrous tissue, leaving only the epidermis. Arsenic solutions are also used as a precautionary measure against many other germs.

Methods used for curing in this country are not scientifically conducted. Ignorance, uncleanly methods, and carelessness of the villagers who prepare hides for the market make the conditions still worse.

In large centres of the hide industry such as Cawnpore, there is a regular trade of preparing hides for export from the hides received from villages, but such hides though improved in appearance do not yield good leather. For all these reasons Indian hides on the whole do not fetch the proper value. It will therefore be found difficult to improve the existing conditions, particularly of hides coming from the villages and from the places far away from railway communication. An extensive organisation will have to be undertaken to alter the present conditions.

The curing problems are therefore much more difficult than the flaying problems though their importance is equal to or even greater than the former. The most suitable method for curing as already mentioned is the one which is used by the "packer" houses. Attempts should be made to run such houses in this country. The hide world is not sufficiently advanced to introduce new methods and ideas and any suggestions to organise schemes on Western lines will be declared impracticable. All the same there is no reason why a well organised scheme should not meet with success.

The Cess Committee, in my opinion, should take up this problem. I venture to make the following suggestion as a basis for developing a suitable scheme.

Salting houses on the lines of "saladeros" should be attached to slaughter-houses and be worked on the model lines. Arrangements should be made to supply salt and other curing chemicals to these houses with concession rates, which will reduce the cost of curing. The management should receive hides for curing from the trade, and should charge the bare cost, which should not be greater than what it costs the trade with the present methods. It will be advantageous even to lower the charges, below the present cost just with a view to introduce the new establishments and the new methods. Once they are introduced they are sure to gain popularity. There is always a better demand for well flayed and well cured skins, so that these houses will soon establish their reputation as the "packer" houses have done.

Along with the departments for salting, these houses should have departments for preparing dried skins, "flints" and also the dry-salted hides, and all these departments should be run on the most modern lines. The skins cured in these establishments should be stamped. Skins thus stamped will soon begin to fetch better value.

When these houses are found to be sufficiently developed to be self-supporting, the management should be transferred to the trade and be worked on public company basis, on the specific condition that the management will not make any changes in the processes without the permission of the Cess Committee and that the Committee will have the right of inspection, etc.

Such a scheme would appear to be very ambitious and to a certain extent impracticable but there is no reason why it should not succeed, under good and honest guidance. In the beginning these should primarily be worked for demonstrating purposes, but at the same time attempts should be made to allow them to develop into commercial concerns which will not only be self-supporting, but which will be able to declare dividends if the management be transferred to public companies.

If this experiment brings a success, as it is bound to do, more houses on these lines should be run in convenient places and be worked on the lines mentioned above.

A large number of hides and skins are supplied to the trade from outside the recognised slaughter-houses. These come from small towns and villages, and from the dead animals. It will be unbusinesslike to start separate organisations for them in all places and still more so to neglect them. Attempts may be made to establish connections with these small and out of the way places and the central salting houses by organising transport facilities. Attempts can be made to organise for the supply of curing materials, suitable for a temporary cure and sufficient to ensure good condition of the skins, till they reach the central salting houses. I realise that practical difficulties will arise by the adoption of this method. The present system of collecting hides and skins is that the hide merchants have their representatives and agents in small places and their travellers for the distant villages who purchase and collect hides and skins for their masters. The hide merchants should, therefore, be induced to co-operate with the management of the salting houses. If they be induced successfully, curing materials can be supplied to villagers through them. In case the hide merchants and their agents prove to be very obstinate and unbending, attempts may be made to start organisations on the co-operative basis. As an illustration I shall describe the following example:—

Let A be the central place, with a hide market, and a salting house. Let there be a group of villages, a, b, c, d, etc., from where hides are collected by the agents for the merchants at A. In order to establish connections between A, and the group of a, b, c, d, etc., let a co-operative association, either financed by any co-operative bank or by the Cess Committee, preferably by the former, be started for marketing hides and skins, etc., with the head office at A and with one or more branches at suitable centres from a, b, c, etc. Let it be in this particular case at C. A salting house at A establishes connections with C for the supply of suitable curing materials; C distributes these to a, b, c, etc. C collects hides and skins from a, b, c, d, etc., pays some per cent. of the expected prices to the respective owners of these articles, and sends those hides to A to get them cured at the salting house. After the cure the head office of this association sells them to hide merchants. The differences between the prices thus obtained and the money paid by C to the respective owners of the hides are met through C.

The head office of the co-operative association of the group mentioned may extend its activities to more than one group of villages.

This co-operative movement will directly conflict with the interests of the middlemen of the hide merchants, who will therefore try to create troubles. There is also a possibility of facing a dangerous difficulty arising from corruption. In order to minimise these difficulties these associations may be

supervised by the supervising staff of the flaying organisation or by other agencies. So the whole scheme boils down to this: that the Cess Committee runs the slaughter-houses, to which are attached the salting (and curing) houses; that the co-operative associations for marketing collect hides and skins from villages, get them cured in the salting houses and sell them to hide merchants and hide exporters; that the central supervising staff with the help of the staff of the co-operative department, if necessary, supervises and controls the marketing associations.

In places where none of the above mentioned schemes are practicable, attempts may be made to organise a scheme to supply the curing materials on concession rates to users on the express condition that they will adopt the method of curing as will be laid down by the Cess Committee, and that the defaulters will pay the penalty which the Committee will decide. It may be possible to make arrangements with the local grocers to bring the curing materials within the reach of the users, who have so far been finding it difficult to procure them. Supervising staff specially appointed for this purpose will be able to guide the curers and check the defaulters.

Demonstration parties may also help to filter the modern methods of curing to the masses of the villages. Personally I have very little belief in the usefulness of lecturing and the demonstrating parties; villagers see the fun of demonstrations and forget everything about them when the party leaves the place.

NOTE ON TECHNOLOGICAL INVESTIGATION AND TECHNICAL EDUCATION.

Technological Investigation.

"Knowledge and human power are synonymous, since the ignorance of the cause frustrates the effect; for nature is only subdued by submission, and that, which in contemplative philosophy corresponds with the cause, in practical science becomes rule."—Bacon.

Science in recent years has conquered much of the ignorance, and the declared impossibilities of the past have been turned into the easy accomplishments of the present. The uncertain results due to the ignorance of cause have been changed into certain success, and the fool proof process. This is true with many branches of technology and still more so with leather technology. Even as late as the beginning of this century, there were many processes in leather technology which were known to a few individuals, and those that were then treated as the most important trade secrets, have become the universal methods of these days.

It will become a thesis if I attempt to trace the history of the development of leather industry, due to technological investigation, nor does it seem to be necessary, as the value of technological investigation is now universally recognised. Germany has succeeded in gaining supremacy in nearly every branch of technology entirely on the strength of the organised technological investigations.

There are great possibilities for this country if technological investigations be properly organised. Take, for instance, the case of the hide and leather trade. Hides and skins are exported to non-British countries from here who in their turn manufacture leathers from such imported raw materials and export the same to British countries and also to this country. These hides are not used here merely for want of the necessary experience and the knowledge of technology. If the technological investigations be sufficiently advanced there is no reason why the hides should not be tanned and finished in this country before they are exported. Even a partial success in these attempts will be a great asset to the country.

There is one section in this country which holds the opinion that technological investigations should primarily be undertaken by the trade of that technology, and that any attempts on the part of the Government to stimulate investigations will be futile. There also exists another section who considers

that the trade as such is in its infancy and unless the Government helps it by stimulating investigations and demonstrations and also with some sort of protection it cannot thrive against foreign competition.

Both these schools of thought will not have much to criticise if the technological investigation be undertaken by the body such as the proposed Hides Cess Committee; for this body will be the representative trade organisation, and will be working disinterestedly for the benefit of the whole trade.

Nature of Investigations.

The leather trade is a very complicated one, and the processes involve many branches of science. For instance, the processes of curing, soaking, liming, bating, etc., are based on chemico-bacteriological principles. Tanning materials require knowledge of botany as well as that of organic chemistry. Tanning processes are based on the principles of bio-chemistry as much as those of physical chemistry. Finishing processes, the appliances and machinery used for this purpose demand knowledge of chemistry and engineering. It is, therefore, needless to say that the problems of the technological investigations of the leather trade will have a much wider scope than they are generally believed to have. Moreover all these investigations will have to be undertaken with the definite motive of translating the results of the investigations into useful practical advantages, so that problems based on the principles of practical leather manufacture will always predominate.

Equipment.

In order to conduct investigations on the problems of leather industries the following equipment will be required:—

1. Well equipped chemical laboratory.
2. Bacteriological laboratory.
3. Machine room.
4. Well-fitted experimental tannery.
5. Facilities to conduct botanical investigations.
6. Library.

Location.

The organisation for carrying out technological investigations in the leather trade should be located in a place which has (1) a slaughter-house, (2) a hide market, (3) a leather trade with manufacturing interests, and (4) a forest area. The place should also be central.

Staff.

The staff necessary for the organisation mentioned above should consist of—

- (1) Leather technologist.
- (2) Assistants.
 - (a) Chemists.
 - (b) Bacteriologists.
 - (c) Practical workmen.
 - (d) Clerical and menial staff.

Choice of place for the location of this organisation.

The only places of some importance as far as the leather trade is concerned in India are—

1. Cawnpore.
2. Calcutta.
3. Madras.
4. Bombay.

1. Cawnpore has a slaughter-house, and is near to Agra, Delhi, Aligarh, Meerut, etc., which are the centres of the meat trade and also supply hides to the trade. There is a hide market with an established reputation, and which draws hides from (1) the United Provinces, (2) the Punjab, (3) Bihar and (4) certain portions of the Central Provinces and Central India. This market has representatives from all over the world who export hides to foreign countries, therefore it possesses large hide and skin warehouses. Cawnpore has the largest tanneries and leather works in India with an established reputation. Cawnpore has both chrome and vegetable tanneries of first rate repute. Forests are within an easy reach.

2. Calcutta has a slaughter-house and also a hide market with large warehouses. Calcutta is the exporting port for the northern countries. Calcutta has tanneries, particularly chrome tanneries, which have established a good reputation in recent years. There are some leather working establishments, but these are comparatively small. Calcutta has not much to add to its name in the form of a vegetable tannery.

3. Madras has a slaughter-house and a hide market. There is very little raw skin export trade to the credit of that place. Madras is one of the principal buyers of the Cawnpore hide market. Madras has a number of tanneries producing half-tanned leathers for export. There is also a tannery which produces chrome leather and a limited quantity of sole leather tanned by vegetable processes; an equipment department is attached to that tannery. Leather working generally is only practised to a small extent in the presidency.

4. Bombay has a slaughter-house and a hide market. The export trade from that market is comparatively small. There are tanneries which produce half-tans for export, but when compared with Madras, Bombay's share in the half-tan trade is very small. Also there is one tannery producing chrome tanned washers for ginning factories. The use of machinery for leather working is practically unknown to those parts.

With the information given above it is easy to note that Cawnpore enjoys a unique position. There is no other place in the whole of India which can come even near to Cawnpore in comparison. If any organisation concerning the leather world is to be started on the all-India basis, there is no other place as suitable and central as Cawnpore is.

Scheme for the all-India Technological Investigation of the Leather Trade.

Before advancing any suggestions for the development of a scheme, it will be advantageous to describe in short the existing facilities at Cawnpore. Cawnpore along with other organisations and institutions for the benefit of the public has in its borders the Harcourt Butler Technological Institute. That institution has four branches:—

1. Department of General Applied Chemistry.
2. Department of Oil Technology.
3. Department of Leather Technology.
4. Department of Sugar Technology.

The institute was started in 1920 with the object of conducting technological investigations in the four branches mentioned above. Later on the objects of the institute were modified and the teaching section was attached, with a view to training the technological and research chemists and technologists in the said four branches. As a starting measure the institute was housed in temporary buildings. The main buildings to house the laboratories, offices, the library and the museum were completed in May last, these sections were removed to the permanent buildings at the beginning of this session. The workshops are still housed in the temporary buildings.

Department of Leather Technology.

Accommodation.—In the permanent buildings the department has the following accommodation:—

1. Students' laboratory with a balance room.
2. Small machine room for shakers, etc.
3. Dark room.
4. Research laboratory with a balance room.
5. Stores.
6. Bacteriological laboratory.
7. Class room.
8. Head's room.
9. Spare room.

The tannery workshops (experimental tannery):—The experimental tannery is situated in the temporary buildings, and has the following equipment:—

Lime yard—6 lime pits.

Delime yard—Beams and other appliances, 4 paddles and also vats.

Tanning yard—

24 pits.

6 wooden vats.

6 leaching vats.

1 washing drum and two tanning drums—tumblers.

2 dyeing and fat liquoring drums.

Shaking vats.

Machine shop—

Bandknife splitter.

Reiders splitter.

One shaving machine and one double width automatic shaver.

Staking machine.

Buffing machine.

Setting machine.

Putting out machine D-2, Class B.

Boarding machine.

Ironing and printing machine.

G type rolling machine.

Rolling and embossing machine.

Compressed air spraying machine.

Motors, etc.

Other tools and appliances.

Tensile strength testing machine.

The department has a small machine room equipped with small drums, paddles, shakers, etc., to conduct small experiments. Also the department takes advantage of the semi-large scale plant of the General Applied Chemistry Department.

The department has a good collection of books, and the whole library having the most valuable books on various branches of technology is at its disposal and to supplement any deficiency the Agricultural Library with its valuable collections of books and situated in the same compound is open to the use of the department.

The plans of the permanent experimental tannery workshops are ready and are approved by Mr. Carnegie of Messrs. Cooper Allen & Co., as the most suitable for the experimental and teaching purposes. A copy of the plans is herewith attached.

Taking into consideration the equipment of the Department of Leather Technology at the institute, it is natural to suggest that the department can form a strong nucleus for the development of a department on an all-India basis.

Suggestions.—The Department of Leather Technology of the institute, if the Government of the United Provinces be favourable to the necessary change, should form a nucleus for the development of an all-India organisation of leather technology. The equipment of the laboratories should be brought to the level of the most modern and well equipped laboratories. The workshops on the lines of the approved plans should be built and the necessary machinery should be added to the existing plant to raise the equipment of the workshop to the level of the best equipped experimental tannery; the staff should be strengthened.

Suggestions for Working the all-India Organisation.

The department, at least in the present condition of the trade, should devote its chief energies to technological investigations. These investigations should mainly concern the following branches:—

Investigations—

- (1) for improving the condition of hides and skins;
- (2) for improving and suitably preparing tanning materials by blending and by introducing those of foreign origin and trying to cultivate them;
- (3) for improving the tanning and finishing processes;
- (4) for modifying processes prevalent in foreign countries to suit the trying conditions of this country;
- (5) for the manufacture of new kinds of leather not known so far in this country; and
- (6) bacteriological investigations to combat the disadvantages of tropical conditions.

Along with the technological investigations, some part of the activities of the organisation should be devoted for the advancement of the technical education of the country. The number of candidates to be admitted to train as the future technologists should be very small. These candidates should have a sound grounding in chemistry, so that the burden of teaching the principles of elementary chemistry should not fall on the department. These candidates after their completion of the regular instructional studies should be encouraged to carry on investigations both practical and chemical (in fact these are so to say joined by unbreakable links). In order to foster the spirit of investigation it will be advantageous to admit some candidates holding high degrees in chemistry, as research scholars who should be made to devote the whole of their energies for the cause of research in the leather trade. The latter candidates will in fact serve as assistants to the chemists of the department for a specific period and also will learn the methods of technological investigations in the leather trade.

When the all-India Organisation is sufficiently developed attempts may be made to help other centres of hide and leather of this country.

The claims of Calcutta and Madras in the share of the benefit by the technological investigations, through the attempts of the local organisations, should be very favourably dealt with. It will be quite possible to start fresh and preferably to develop the existing institutions in those places to deal with the local problems. Bombay at least at present has a very limited trade in both hide and leather, therefore any attempt to start large schemes to stimulate the trade will be more ambitious than useful. At the same time the Presidency can be helped by making suitable arrangements with the local institutions to conduct certain researches of local interest.

Technical Education.

In this country there are two schools of thought in this respect, one section thinks that it is useless to train people in branches of the trade when there does not exist a demand for such trained people. If the training is to be imparted it should be of such a level which will be just useful in their practical life and that any ambitious attempts if tried will spread discontent. The other section holds the opinion that unless the trained people, who are capable to introduce new means and methods to improve the existing conditions of the trade, are available, the trade cannot prosper. Their motto is "not the failure, but the low aim which is crime". Both these views have substantial weight and support at their back. The moderate and practical view which will satisfy both the schools of thought, will be to train a few candidates in the most modern and thorough methods, just sufficient in number to be absorbed by the trade and to leave a small surplus. If any portion, though very small, of this small surplus will try to mobilise all the available resources within their reach, and to utilise their knowledge of technology to start small concerns and then to develop them, any success even if it be a small fraction in the beginning will certainly add to the assets of the country. Particularly in these days with the prevalent hard conditions of the educated class of this country, any honest attempt to introduce technical education, though with an unknown future, will be welcome.

Along with technologists the trade requires foremen tanners and curriers, and artisans. The Harness and Saddlery Factory of Cawnpore, which is an ordnance factory on an all-India basis, runs a scheme to train foremen tanners. If the Ordnance Department be agreeable that scheme may be given a helping hand with the object of supplementing the factory training with the other sides though quite essential and which cannot be imparted in a factory, which is mainly run for production. Mass production in this line will be disastrous.

Training of Village Tanners and Artisans.

Here it is necessary to mention the difference between the principles underlying village tanning and known as the press system, and the principles of modern tanning which are known as the leach system. The press process requires very little space and produces leathers in a short time, but the quality is very bad. The leach system requires a large space, a large capital and it takes a much longer time to tan, but gives excellent leather. The intermediate process is known as a layer process and is practised in the manufacture of the well-known half-tans of Madras. It is impracticable for the villagers to adopt the costly leach process. The layer system to a certain extent may be useful if the village tanneries be worked on a co-operative basis. It will, therefore, be too early to start schools for the village tanners. They may be helped by bringing suitable tanning materials within their reach and by the peripatetic schools to demonstrate and to teach the uses of suitable tanning materials. It will be advantageous to stimulate co-operative movements amongst them. The scheme may advantageously be worked on the principles and the lines described in my notes on flaying and curing. These movements at least so far have been of provincial importance.

Oral Evidence of Mr. M. B. HUDLIKAR, M.Sc. (Leeds), Head
of the Leather Chemistry Department, H. B. Technological
Institute, Cawnpore.

(Cawnpore, the 8th November, 1929.)

(Chairman thanked Mr. Hudlikar for his comprehensive note as well as for helping the Committee generally during its stay at Cawnpore.)

Replying to Chairman:—I am leaving a note which shows the extensive work done on warble flies. The note also gives references to standard works many of which are procurable.

If we take the worse district in which the important defects and pests are found and, to start with, concentrate on those districts, it should be practicable to eradicate or at any rate reduce the effects of diseases, pests, etc., in those districts.

The ratio of the value of the hide to that of meat is about 20 to 25 per cent. In a bad animal the value of the hide is a higher proportion, which may go up sometimes to even 50 per cent.

Saladeros are slaughtering-houses in Chicago. Bonus will improve flaying. I do not contemplate the system of bonus as a permanent institution, but the system would start the trend of improvement and would, in course of time, be found unnecessary. The rural flayer in villages is not a full-time worker. I have not worked out a scheme as to how many supervisors and inspectors would be needed for the United Provinces. In my opinion, the Cess Committee when formed should take over the control of all slaughter-houses throughout India. I have realised the conflicting interests and the difficulties arising from the provincial Governments' and local bodies' powers and duties. But my opinion is that the improvements that we wish to bring about cannot be brought about, unless the slaughter-houses are taken over by the Cess Committee. It is also possible to work through the agency of inspectors and the local bodies themselves. A bulletin was published by the Bombay Government regarding the working of the Bandra slaughter-house. I shall make the Committee a loan of this bulletin, which is in my library.

Tacking means the removal of the superfluous salt. The conditions on which tax-free salt for trade purposes can be obtained are laid down in the Salt Department's rules. (Mr. Price said that these rules are quite simple and easy to work.) The rendering of ordinary salt unsuitable for consumption by mixing it with chemicals is possible, e.g., aluminium salt. But I do not wish to commit myself on this subject, because this is an appropriate subject for research.

In my opinion, branding has no curative effect whatsoever and is done through ignorance. I advocate propaganda through the veterinary department.

Q. 17. The 50 per cent. refers to three rupees and not to one rupee. I do not know the English word for *meru*.

It is, in my opinion, quite a practicable scheme for the railways to keep wooden boarding at important stations.

The standardisation should be inspected and checked by inspectors such as I have proposed, and it is only to such inspected hides that concessions should be allowed. In respect of such certified hides I do recommend concession rates. The proper authority would lay down a scheme for grading and would have the power to get the grading inspected and checked by its inspectors. If the certificate is granted, the owner should be enabled to claim a rebate on railway freight. I have suggested that the cost of engaging such inspectors and the cost of inspections should be borne by the cess fund. The cost of giving rebates should also be borne by the Cess Committee, if railways are unable to give the rebates without assistance from elsewhere.

Q. Would you apply this principle equally to railway transport inside the country (say, from Peshawar to Cawnpore or to Madras), or only to transport for export from the country?

A. I have not thought about this, but I shall let the Committee know.

I hold that it is feasible to organise hide merchants into an association. They should bind themselves to keep to the rules of the association.

I buy hides myself for my leather factory.

The Technological Institute Enquiry Committee's report contains information about the students trained up by the Leather Department, where they are employed, the salaries they are getting, etc. In my opinion, there is scope for such men.

There are no peripatetic tanning schools in the United Provinces, but I know the Punjab has started two such and in the Punjab Director of Industries' opinion they have been successful.

I am not particular about having an elected Chairman for the Cess Committee.

(Asked by Mr. Price, witness explained what he meant by commandeering. He did not mean that the charge of slaughter-houses should be taken over permanently and absolutely or that the authority of the municipal or other local boards or bodies be completely ousted. He was not keen on what he said about the commandeering of slaughter-houses. What he meant was that slaughter-houses should be under some sort of control of the Cess Committee.)

Replying to Mr. Price:—I was actually engaged in my own tanning industry. I was a tanner and a leather merchant in Bombay.

I shall work out the cost of the schemes recommended by me and shall submit them later.

I would not levy any cess on the tanned goods exported from India. Improvement of hides and skins is bound to benefit the whole trade including the Madras and Bombay tanning industry. I shall send later on my reasons in support of my contention that there should be no cess imposed on the tanning industry in India.

I shall give a little note explaining "kips".

Q. 40. I shall try to justify the figures in my answer to question 40 in the light of the schemes for which I have promised to work out the cost.

My experience though confined to buying on a small scale is that on the whole the prices of hides and skins have risen. For this opinion, I am depending on the declared values in the sea-borne trade figures and not on market figures specially obtained by me. The declared values in the sea-borne trade figures show rise in prices.

The half-tan trade would suffer by the imposition of an export cess. The trade in the export of raw hides and skins would not suffer and I shall elaborate this.

Q. 40. By other skins in the last line I mean skins like lizard skins. The export cess or cesses would, in my opinion, be paid by the buyers abroad.

For very good leather salting is absolutely necessary. I believe the Karachi trade in dried hides is due to the fact that it is the custom not to salt and therefore the trade has to confine itself to whatever is locally available. In my opinion, a dried hide is inferior to a salted one. I think it was the indifferent cure, adulteration and the risk thereof which led the foreign tanner and buyer to prefer dried arsenicated to salted hides. The air-dried arsenicated hide does not soak well without losing some of its substance. The reason for the disappearance of the trade in salted hides from Karachi is that there is more risk of adulteration, whereas the dried arsenicated is a cleaned hide, which cannot be subjected to much adulteration or loading. There is also the question of improper cure of salted hides. In the case of local markets the period intervening is not long enough to affect the question of bad or good curing. Salting is adopted even in the dry season in prefer-

ence to drying, because salting retards the development of bacteria in the hide and thus checks putrefaction. It also helps the operation of soaking. This is one of the reasons why the tanner in India prefers wet-salted to air-dried or sun-dried or even dry-salted hides.

For raw hides and skins the market is the whole world. Direct exports of tanned leathers from India to other countries are not large. They are confined largely to the United Kingdom. I do not know what the respective tariff duties are on leathers imported from India and from London.

I am aware of the economic principle that the railways being in the position of public monopolists should treat all members of the public equally.

I can say in a general way that we can usefully spend more than 40 lakhs, but I have not worked out the details of the schemes. I agree that the expenses of collection of a tax or a cess should be as small as possible. I have no experience of valuation for the customs tariff.

Replying to Mr. Wykes:—As a practical tanner, I would use wet-salted hides rather than dried ones. An English or foreign tanner would do the same, if he could get them at the same price.

Wattle is now grown in the Nilgiris. I do not know about the yield, but the tannin yield is good.

Replying to Mr. Rafique:—I have used wet-salted, *khari*-cured, framed, arsenicated, and crumpled hides. The hide properly cured with common eating salt is the best salted hide. (Witness here described the best scientific method of salt curing.) Bad curing damages a good percentage of the hides.

I do not recommend any concession rates for the transport of raw hides or skins if they are meant for export abroad.

I object to the use of the word half-tan.

I look upon the manufacturing interests of the country so important that in my opinion these should not be burdened with any tax or cess. In that way alone the industrialisation of India can progress. Though India has not got a monopoly of hides and skins, yet she has got a good hold over the world's market. I am aware of the slump in the hides-skins market. The Indian tanning industry will ultimately absorb the entire production of India although at present it is not in a position to do so.

I have no actual experience of the export trade in raw or tanned hides. I have experience of prices paid in Cawnpore for lizard skins, though I have no experience of the export trade in these.

Replying to Mr. Ismail:—Price is determined not necessarily by the buyers but by the forces of supply and demand. If the seller is in a position to dictate his price he does so.

Throughout my note I have indirectly suggested that help should be given to the Indian tanning industry.

Half-tan is a funny word. Madras, etc., tannage is not a real half-tan, and it is not accurate to call it so. I would not call it a rough tannage either. There is a process called "re-tanning" for washing away some of the superfluous tanne and putting on another tannage such as may be necessary for the particular purpose in view. The subsequent tannage takes very little time.

The following are the points in favour of Cawnpore for technological investigation relating to the tanning industry:—

- (i) Plenty of local hides and skins.
- (ii) Numerous big scale factories.
- (iii) Many kinds of tannages, *e.g.*, vegetable, chrome, etc.
- (iv) The Technological Institute with its various departments, especially the Department of General Applied Chemistry.

Replying to Mr. Shah:—I would use the cess fund to subsidise even the dumping of Indian tannages in foreign countries. I know what subsidised dumping is.

The Technological Institute, Cawnpore, is more appropriate for research work. I consider the Technological Institute better equipped than the Bengal Tanning Institute for research work.

As regards railway rates, I do not know what centres enjoy special rates.

I cannot suggest any practical methods of getting the shipping companies to offer special rates for Indian tanned leather, but if it were practicable for the Government of India, I would like special concession rates for sea freights too.

Replying to Chairman:—As to the relative merits of the Cawnpore and the Calcutta institutes as regards technological investigation I have to say that I was trained at Cawnpore and took M.Sc. in leather technology at Leeds. At the Technological Institute we not only do research but also training, i.e., we turn out leather technologists. In the technologists' course we have so far trained up ten students. I shall supply the list as to where they are working and the salary they are getting. Leaving out the buildings the Technological Institute laboratory is better-fitted and equipped than that of the Bengal Tanning Institute. The equipment which I referred to was the equipment as contemplated by Government and not the existing one. As regards scientific research and atmosphere we have got the Agricultural College next door. Also there are four other colleges in Cawnpore.

Replying to Mr. Rafique:—The admission qualification now is I.Sc. It used to be B.Sc. The reason why it was reduced to I.Sc. is not connected with the difficulty of obtaining B.Sc.'s but in order to impart a greater technological bias to men not hardened in a purely academic career.

In my opinion, the training of technologists would be proper and legitimate work for the Cess Committee to finance, as the men turned out will be available for all-India work, unlike foremen who, in general, can only be expected to serve their respective provinces.

The average time taken for finishing the so-called half-tan is four to five days.

We have got no skilled labour in Cawnpore from the Madras side.

Replying to Mr. Shah:—The Agricultural Research Council is expected to recognise the Cawnpore Technological Institute for all-India research on and training in sugar technology.

Notes subsequently sent by witness.

NOTE ON COST OF SCHEMES.

I have stated in my memorandum that the whole proceeds of the proposed cess can be advantageously utilised for the benefit of the trade and that the sum is not a very big one, when the organisations are to work for the whole of India basis including the Indian States.

I may propose to allot the following percentages of expenditure under various heads:—

	Per cent.
(1) Improvements in stocks	10
(2) Slaughter-houses (flaying)	10
(3) Curing (houses run on the lines of saladeros)	15
[(1) & (2) include expenses under grading, standardisation, inspection, rebate on salt, etc.]	
(4) Grants towards buildings, plant, appliances, etc.	5
(5) Investigations (and training)	20
(6) Tanning materials including growing, importing, distribution, etc.	10
Printing, advertisement and propaganda based on these lines	2
(7) Central Committee organisation	10

	Per cent.
(8) Organisation for marketing, etc.	3
(9) Concession for transport including railway and shipping	10
(10) Contingencies	3

With the above mentioned allotments I propose to examine the share of the United Provinces. If the cess be levied on raw hides at the rate of 5 per cent., the proceeds of such a cess will amount to Rs. 20 lakhs. According to the above mentioned suggestions, improvements in flaying, etc., will have a share of 10 per cent., i.e., 2 lakhs of rupees. Bovine of the United Provinces are 20 per cent. of those of British India and 18.5 per cent. of those of the whole of India including the States; the United Provinces will therefore get Rs. 33,000, for this purpose. There are 48 districts in the United Provinces. It is therefore very difficult to formulate any scheme with a small sum of Rs. 33,000, or even with double the amount. All the same I venture to suggest the following organisations for the United Provinces:—

- One inspector-in-charge of schemes connected with slaughter-houses, flaying operations, etc., with a scale of Rs. 300—20—500.
- Three assistant inspectors (this means one officer to have 16 districts which is very unsatisfactory) at a scale of Rs. 100—10—300.
- Flaying instructors (there should be at least one per district, but the sum at the disposal is too small for this purpose, therefore I propose to have one instructor for three districts) at a scale of Rs. 30—3—75.
- One clerk Rs. 60—4—100.
- Four clerks Rs. 40—2—60.
- Six chaprasis, etc.
- Rents of offices.
- Contingencies.
- Travelling allowances.
- Office expenses, etc.

If all these expenses be added up it will be seen that the recurring expenses will be nearly Rs. 20,000 to Rs. 22,000 and will rise to Rs. 40,000 in 15 years. In the beginning there will be Rs. 10,000 to 12,000, available for giving grants to various slaughter-houses, for improvements, bonuses, purchase of implements, etc.

From the figures given above it is clear that the share of Rs. 33,000 is very small.

Curing.

I have mentioned in my memorandum that more costly organisation will have to be set up to improve curing. Demonstration salting houses for modern cure are suggested by me. Cheapening of salt and paying of rebate on curing materials are also suggested. Some scheme for connecting the villages with the central curing houses is advocated. For all these improvements, the United Provinces can claim only Rs. 50,000. This is too small a sum for a big and important province like the United Provinces. With the sum or even with double the amount the activities will have to be confined to major centres such as Cawnpore, Agra, Aligarh, etc.

The salting house should have the following staff:—

	Rs.
Superintendent	100—10—250
Chargeman	50—5—100
Accountant (Head Clerk)	75—10—150
Clerk (Typist)	40—5—75
Coolies—number depending upon the extent of work.	

Running of the salting houses (after allowing the sale-proceeds), Rs. 2,000 per annum.

Therefore one salting house will cost Rs. 5,000 in the beginning and this will rise to an ultimate expenditure of Rs. 10,000 per annum, if the houses will run without making any profit, but I have mentioned in my memorandum that these houses will soon begin to be self-supporting.

If some staff be added to the instructional and inspection staff of the proposed flaying organisations, and if the duties of inspection and instruction for curing be transferred to that staff it will be possible to develop a scheme for the rural organisation. If one-third of the proposed staff under the flaying organisations be added for curing purposes, the cost of such a scheme will run from Rs. 7,000 to Rs. 14,000 per annum, which leaves a margin for running 3 salting houses.

Investigations and Training.

Under this head, as stated in the beginning of this note, there will be Rs. 4,00,000 (four lakhs), worked on the basis of 20 per cent. of the whole proceeds, i.e., 20 lakhs. There will be three centres in India, for this purpose. Therefore the United Provinces may get a share of Rs. 1½ lakhs, which is quite a good sum. Under this head I may propose the following scheme:—

For the first two years, the contributions should preferably be Rs. 25,000 recurring, and Rs. 1,25,000 non-recurring.

The tannery workshops are estimated at Rs. 87,000. The additional machines are estimated at Rs. 46,400. These estimates do not include a plant for the manufacture of tanning extract, which can be installed if the contributions be made on the lines mentioned above. Additional laboratory equipments will also be required.

The present and ultimate expenditure under the head of Leather Department will be:—

	Current expenditure. Rs.	Ultimate expenditure. Rs.
Head	8,160	15,000
Lecturer	—	6,000
Chemist	—	6,000
Laboratory assistants	—	12,000
Demonstrator-in-charge of a factory	—	1,800
Mechanic	—	900
Two mistries	790	1,080
Flesher	240	300
Oil man	192	240
Machine coolie	192	240
Coolie	180	216
Two coolies	—	360
Two laboratory bearers	—	660
[One at Rs. 30—2—30 and One at Rs. 15—1—25.]		
Running of the tannery (after making allowance for sale-proceeds)	—	5,000
Raw materials for experiments and research	1,250	5,000
Six research fellows at Rs. 100 per mensem	—	7,200
[Two for chemical research, two for bacteriological research, two for practical research.]		
Two chaprasis	—	480
Bazar peon with cycle	—	240
TOTAL	11,004	62,716

NOTE ON CESS ON HALF-TANS.

Hides and skins tanned by *farwar* bark (*cassia auriculata*) are erroneously termed half-tans but in reality the leathers produced are fully tanned and are very suitable for subsequent treatment by a currier or a dresser. It seems that the term half-tans is coined for the reason that leather manufacturers of this class use the old methods of tanning, i.e., "the layer process" and also for the reason that dressers of these leathers have to strip and re-tan them with selected tanning materials suited for various finishes of requirements. It is known in the leather world that the processes of stripping and re-tanning are followed not in the case of India tanned skins only, but all the crust leathers are treated in similar manners. I may quote in this connection the opinion of Mr. M. C. Lamb, the recognised authority on light leathers.

"It is the common custom particularly when the goods to be prepared are either imported goods, for example, East India tanned goats or sheep (Persians) Australian basils, Smyrna or Baghdad goats or sheep, or have been tanned for some little time before being dressed, to remove part of original tannage from them by operation known as stripping."

It is also interesting to note that the modern methods of tanning are so far found to be unsuitable when *farwar* bark is used as a tanning material. I may quote the opinion of the Government Leather Expert at Madras who writes:

"The method employed by these export tanners when carried out under the best conditions as regards water, bark and myrobalans and careful supervision, turns out a class of leather that is of very high quality, very suitable for European and American leather dressers and although several tanners have at different times tried to modernise the processes used, they have always turned to native methods."

From the foregoing remarks it is clear that the term half-tan is erroneously used for *avaram* (*cassia auriculata*) leathers. The leather thus produced is a fully tanned crust leather. I have always opposed levying any cess or tax on exports of tanned leathers and finished goods. I must however admit that there does exist a difference between the crust leather and the finished leather and that the exporters of finished leathers should receive preferential concessions so that the tanners may be encouraged to endeavour to finish leathers in the country. I may therefore recommend to allow the export of the finished leathers and leather goods free of cess and to levy a nominal cess on the proportionate value of the raw skins and hides used for preparing the crust leathers.

NOTE ON KIPS.

The following description is from "Practical Tanning" by Allen Rogers, Ph.D.

"The pelts of animals come to the tanner in four conditions:—

- (1) Green (fresh from animal);
- (2) Green-salted;
- (3) Dry-salted and
- (4) Dried.

The pelts so received are divided according to size into three general classes, namely: hides, kips, and skins. Hides comprise pelts from large and fully grown animals such as the cow, horse, camel and walrus Kips are the skins of undersized animals of the above species Kips and skins yield lighter leather than hides."

The following classifications are given by the same author:—

	Weight in lbs.
" Calf—	
No. 1 and 2 veal hair	8-15
Kip (veal, 1st grade)	15-25
Kip (grasser, 2nd quality)	15-25
No. 1 and 2 runner kip (light kip, poor hair)	15 down.
No. 1 and 2 extreme cows (known as extra light)	25-45
No. 1 and 2 buff or medium cows	45-60
Trimmed calf and kip—	
Calf	4-5
Calf	5-7
Calf	7-9
Calf	9-12
Kip	12-16
Kip	16-20 "

The above mentioned descriptions indicate that the term kip is used for hides and skins of the undersized cows in general. The Indian kips are known as " E. I. Kips ".

The following description of the " E. I. Kips " is from the " Manufacture of Leather " by Bennet. " E. I. Kips " which are almost a class by themselves are obtained from a small breed of Indian cattle killed when one or two years old and are largely imported into this country (England) in a dry-salted state.

The cure is of sodium sulphate earth which is mixed into a paste with water and painted with a brush, the hides being then dried in the sun. This is repeated several times before export. They are tanned for uppers, waxed kip butts, satin kips, box calf imitation, etc. A large number are now imported in a rough tanned state.

The following description from the publication of the Indian Munitions Board is interesting:—

" Dry-salted hides come principally from the damp regions in the north-east of India, where they are prepared at all seasons of the year. Dacca is the principal centre in the Eastern Bengal while hides from the middle and Western Bengal are known as Meherpores or Daisies. Dacca hides are frequently heavily adulterated, while the real Meherpore standard of cure, in which the hides are cleanly fleshed and salted just sufficiently to preserve the hides, is regarded as the proper standard of cure for dry-salted hides. Very few real Meherpores are available.

The air-dried system is prevalent in the north-west and all the drier parts of India during the cold weather and summer months. During the monsoon this method of treatment is impracticable in the greater part of the country. Air-dried hides include hides from the Punjab and Sind; North-Westerns and Agras, in which are classed also hides from the Eastern Punjab and Delhi and from parts of the Central Provinces, while further east, Patnas, Durbhangas and Purneahs are among the varieties distinguished. Air-dried hides from Central India include the Ranchi and Sambalpur varieties. A number of best hides from Northern India are dried by stretching on frames and are known as Firms or framed hides. Air-dried hides are usually preserved by dipping them in a solution of arsenic—hence termed ' arsenicated '.

..... Hides are further subdivided into:—

- (1) Slaughtereds, (2) Deads, (3) Rejections, (4) Double Rejections.

The 'slaughtered' including the best hides of animals which died through natural death For the export trade hides are also subdivided into various ranges of weights.

The descriptions given above indicate only the main lines of classification, since before the War the principal exporting houses had greatly elaborated the above classifications and shipped, mainly for the continental trade, under a variety of special marks. It may be said generally that the careful assortment of hides takes place only after they have reached the exporter. The organisation for the collection of hides up-country is still of a primitive character and the original owner of the hide has usually no great pecuniary inducement to see that it is properly flayed and preserved. The hide passes through the hands of several middlemen or *beparis* before it reaches the *arhatdar* or commission agent, who sells to the exporter or tanner."

List of ex-students of the Leather Department of the Harcourt Butler Technological Institute, Cawnpore, January 1930.

1925.

- T. N. Ganjwar . . . Cooper Allen & Co. Pay Rs. 275.
 D. D. Arora . . . Served as an Assistant Research Chemist at this institute (Pay Rs. 200—20—300) for nearly a year. Was offered private post but he refused to accept. Has been working as a teacher in a local school.

1926.

- M. A. Abbasi . . . Started a private tannery. Was given a government grant, but failed. He has now started a leather working business.

1927.

- B. S. Bhargava . . . Harness and Saddlery Factory, Cawnpore. Rs. 200—20—300 per mensem.
 I. Bose . . . Has been carrying on business in lizard skins.
 B. P. Misra . . . Begg Sutherland & Co. Sugar Chemist, Rs. 150 per mensem.

1928.

- J. C. Mazumdar . . . Cooper Allen & Co. Rs. 150 per mensem.
 R. A. Siddiqi . . . Chrome Leather Company, Madras. Rs. 100.
 M. P. Guha . . . Has joined Mr. I. Bose in the business of lizard skins.
 D. N. Sen . . . Out of employment.

1929.

- Kishori Lal . . . Has been working as a research scholar at this institute.

**Oral Evidence of Mr. C. H. PARR, I.A.S., Deputy Director of
Agriculture, in charge of Cattle Breeding Operations,
United Provinces, Muttra.**

(Cawnpore, the 8th November, 1929.)

For cattle disease the veterinary department should be approached as that is the responsibility of that department. In my opinion, it is possible by means of careful breeding to bring about improvement in hides and skins. Good milch cows yield a good hide with a silky feel about it. The hide substance appears better.

Funds are short. At present we issue about 750 breeding bulls per annum. We ought to be issuing about 12,000 bulls to cover the whole province. We have about 2,000 bulls in the districts at stud.

No work on goat breeding has been done. The Royal Commission on Agriculture recommended the starting of breeding work on goats and sheep. Funds have not yet been made available for this work, but there is an immense field in this direction.

Money can be usefully spent in the demonstration of fodder crops. There is a great field for research work in regard to such crops.

Replying to Mr. Price:—I do not think that Sind and Punjab produce good cattle because they are Muslim provinces. (Mr. Shah read extracts from the Imperial Gazetteer, Vol. III, pages 78 and 80, and pointed out that the finest cattle in India are bred in northern Gujrat which has an essentially Hindu population and where cattle are not reared for meat.)

Replying to Mr. Wykes:—Our operations extend all over the province. I cannot say that I have noticed any general improvement in the east of the province. But when young stock in villages under these operations are examined, certain improvement is noticeable.

Replying to Mr. Sinha:—In my opinion, good hay is the best fodder. We grow other kinds of fodder. *Juar*, *guar*, and maize are also very good. The average yield of *juar* and maize per acre is 200 maunds green. I do not think attempts have been made to improve the variety of fodder by selection or other scientific means. Several foreign fodders have been tried, but there is none which gives so much yield as 50 tons per acre. I agree with Mr. Sinha that there is a great field for the development of perennial fodder crops. No scientific investigation regarding the food value of the Indian fodder crops and grasses has as yet been extensively carried out. In the United Provinces no work has been done to find out the food values of different kinds of fodder, nor the feeding values of grasses. The carrying capacity of Indian grazing land is three to five acres per head. (Mr. Sinha said he was growing fodder grass (*pennisetum purpureum*) giving a yield of 50 tons per acre under proper cultivation and irrigation. Mr. Parr said he would like to see it.) We do not know exactly the value of weeds and wild grasses which grow during the monsoons. I do not know that the carrying capacity of *paspalum dilatatum* is one head per acre. The leaves of some Indian trees as *shisham* have considerable food value, but I do not know about trees like the *carob* tree which is grown in other countries. I agree that there is a great need for research work on the use and development of existing fodders and in regard to the introduction of new varieties. I agree that the names of indigenous medicines supplied by the veterinary department should be disclosed by them, if this is not already done. They should be published in the vernaculars. The extension of the veterinary department is highly desirable. No work regarding the improvement of the breeds of goats is carried on in the United Provinces. It would be of great economic importance if it is undertaken with a view to the improvement of the milk yield, the meat and the skin.

(Mr. Sinha offered to take the Chairman and the Members of the Committee to his bungalow to show his nursery of some imported varieties of

fodder grasses giving high yields. This was accepted and the Committee agreed to go with Mr. Sinha after the meeting.)

Replying to Mr. Shah:—I think it would be true to say that while the agricultural department has been equipped for and has undertaken the breeding of cattle to a certain extent, they have not been equipped for and they have not been able to seriously take up the question of the feeding of cattle.

The so-called branding for the curing of pain in the stomach probably only causes counter irritation and affords relief but not cure.

Note subsequently sent by witness.

Cattle in this country are, in the main, bred and raised solely for their use during life whether for draft, milk production, or breeding purposes. Their value after death is a matter of little importance with the majority of those who breed them. Such considerations, therefore, as the value and quality of cattle hides, seldom enter the minds of breeders in their breeding work. The difference between the price which the market offers for a superior hide and an inferior one is insufficient to make this an important consideration with cattle breeders, particularly since it is a matter of question whether as the hide trade is at present organised, the actual breeder receives much of this difference in price. Any difference is most probably absorbed by middlemen in the trade.

This being the case it appears that any general improvement in hides, if desirable, must in the main result from efforts aimed at cattle improvement in regard to those particular uses, for which cattle are of value during life.

I am informed by the trade that the value of a hide depends on its weight and quality. Quality is dependent on the condition of the animal at the time of death. Healthy animals which have been well fed throughout life produce the hides which have those qualities most in demand in the trade. The hides of half-starved and under-fed animals and those from animals wasted by disease though they make up, I understand, the majority of the hides in the market, fall very far short of the requirements of the hide trade. In meat eating countries where cattle are intentionally liberally fed in order that they may ultimately find a market in the meat trade, the hide trade does not experience the difficulties which the Hides Cess Committee are now investigating. This country is largely vegetarian; no large scale meat trade exists or is likely to be created and breeding and feeding specially for such a trade is seldom undertaken.

If the hide trade requires an improvement in the general standard of quality of hides, it must interest itself in those lines of activity which aim at improving the efficiency of cattle in regard to their uses during life. Such improvement in efficiency, be it in regard to draft or milk production, will increase the returns to the cattle owner and will make it worth his while to maintain his cattle better. He can only afford to feed them in accordance to what it pays him to feed.

The following are the lines along which improvement is possible and from which the returns to the cattle owner can be substantially increased:— (1) improvement in the size, weight and conformation of cattle for draft purposes and (2) improvement in the milking capacity of cows and buffaloes.

(1) Draft cattle are of such importance in Indian agriculture that the breeding of them for draft purposes is the most paying line of cattle breeding. The government stud bulls' distributions in this province are having a marked effect in bringing about improvement in this connection. It has been found that the progeny of these bulls bring in a return to the breeders of often twice as much as did the progeny of the ordinary village bulls which the government bulls have replaced. The demand for these bulls is beyond the supply. The supply is a matter of funds. The distribution amounts to about 750 per annum and now there are over 2,500 bulls at stud. About a

lakh of improved bulls are still required for the whole province. The supply of these bulls will have a marked effect in improving the standard of the stock of the province and consequently the return to those breeding them. As breeders the whole world over can only afford to feed cattle in proportion to the return they give, this improvement in the return will be reflected in the standard of maintenance they receive. As has already been said, in this country the cattle owner can seldom afford to stall-feed cattle beyond the return which they can bring. Working bullocks bring a good return and in general are well cared for by cultivators. Similarly good milking cows and buffaloes are usually fairly well-fed. Ordinary breeding stock and cows of poor milk yield receive the least because they return the least. They are inefficient; disease and other causes lead to great loss which results in cultivators' giving more attention to numbers than to individual quality. Improvement in individual efficiency will lead to an increase in stall-feeding and reduction in numbers. Large scale distribution of stud bulls will go a long way to bring about this result.

Improvement in the milking capacity of cows and buffaloes is not so easy as improvement in regard to draft efficiency because milk production, as the dairy trade of the country is at present, is not highly profitable. Adulteration practices in milk and dairy produce are undermining the confidence of the consuming public in milk and dairy products as they are now put on the market and the scale of consumption is small. A large quantity of milk is produced in the province which finds an unprofitable market in the form of *ghi*. There is great scope for improving the return to village cattle owners in this direction. The introduction of legislation to remove adulteration from the trade, the provision of milk marketing and transport facilities for villages producing milk to build up a dairy industry based on principles now adopted by all modern countries will do much to make cow keeping a more profitable business to villagers. If the village milk were now sold as milk instead of *ghi*, the return to the villagers concerned would increase immediately by 25 per cent. This matter should receive the attention of all those whose interests lie in the improvement of the cattle of the country.

No particular mention has been made of improvement in the feeding of cattle because it is maintained that the extension of stall-feeding practice will follow efforts which result in an increased return. Improvement in the individual efficiency and value of stock as a result of improved methods of breeding and increased facilities for markets for milk and dairy produce will, it is believed, result in the increased return required. At present the production of food crops is considered more profitable than cattle breeding and dairying and cattle are a secondary consideration. Large scale stud bull distributions and other means aiming at individual improvement and the proper development of an organised dairy industry will alter the average cultivator's conception of the value of these two branches of his industry and will bring cattle breeding on a line with general agriculture so that they will become equal partners and advance together as the industry has developed in other countries.

Improvement in hides can be brought about only as an accompaniment to improvement in other directions, draft and milk production, by which the cattle owner is enabled, by a better return, to make better and increased provision for his stock.

**Written Statement, dated the 4th November 1929, of
Mr. W. C. de NORONHA, Cawnpore.**

I. I had my own tannery, viz., "Noronha Model Tannery" at Cawnpore, besides, I have done extensive business in the purchase, curing and supply of raw hides to the Government Harness and Saddlery Factory and Messrs. Cooper Allen & Co., and I have travelled in that connection with the Superintendent of the Harness Factory visiting various hide centres in the country, such as Agra, Aligarh, Meerut, Jaipur, Sambhar, Udaipur, Delhi, Meerut, Saharanpur, Amritsar, Ambala, Lahore, Rawalpindi, Peshawar, Khurja, Bulandshahr, Lucknow, Rampur, Jullundur, etc.

II. I am of opinion that the receipts from the cess could be very usefully spent in the advancement of the hide industry as a whole. It is of utmost importance that old primitive methods of flaying hides still obtaining in villages should give place to new modern methods, which can ensure the production of good hides.

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. Hides obtained from cattle suffering from diseases, both when they die or are killed, bear the marks of the disease, which they suffer from. Not unoften the grain is destroyed in such hides and when they are put in lime all defects become visible.

These defects, however, differ with the kind, age of animals and duration of the disease which they suffer from.

2. It is not possible to remove the disease marks from the hide with any process known to me.

Flaying.

3. The following defects are generally noticed in the present method of village and slaughter-house flaying:—

- (a) The hide has no even thickness and it is this where the knife has been thrust rather deep and bears the knife-cut marks.
- (b) The knife-cuts, owing to the hide butcher's greed to take much flesh, thin the hides on many places so much that they destroy the grain.
- (c) Generally knife-cuts are to be found and these are responsible for the serious deterioration in the value of the hides.

4. The flayer should be properly trained for the work and should be supplied with proper flaying knives.

5. Yes. I would suggest that there may be instruction centres in the rural areas where village and slaughter-house flayers may be invited for instruction and practical demonstration be given as a part of the instruction. Itinerant supervisors may give such demonstration from village to village and from slaughter-house to slaughter-house creating interest in the modern method of flaying.

6. Yes. Agencies and sub-agencies can be established through approved hide dealers for the supply of approved type of flaying knives.

7. In municipal slaughter-houses, the local bodies concerned should impose the following conditions:—

- (a) That only trained flayers be employed for the work of flaying in the slaughter-houses.
- (b) That the flaying knives used in the slaughter-houses be of approved pattern.

8. I have experience of much improvement resulting in flaying from the grant of bonuses, and I consider that some sort of inducement would be necessary to make the use of improved flaying methods popular in villages and slaughter-houses. It is very difficult to detect defects and the great damage caused by careless flaying and knife-cuts, which ruin very often the best part of the hide, when the hides are raw, for the defects appear only when the hides are fleshed, haired and come out of lime.

Curing and preserving.

9. In Indian villages curing is done by the use of *khari* salt, Sambhar salt and arsenic. I have no experience of how curing is done in other countries.

10—11. I have no particular knowledge of the points touched in these questions.

12. I should think that an investigation and research into a cheap and effective method of curing and preserving is an important step in the improvement of hide industry in India and money spent on this work would be most usefully expended.

13. For the supply of curing materials to the villages, I would use the agency of hide merchants, who would be a kind of approved agents and sub-agents of the Government for the supply of these materials to those engaged in curing and preserving hides in villages.

Adulteration.

14. There is lot of 'faking' and 'loading' in hides and methods are adopted whereby the hide of one sex is passed as that of the other and a mixture of earth and *khari* salt is plastered to increase the weight of hides. This has a prejudicial effect on the export trade and the tanning industry in India.

Another form of adulteration is the mixing of hides of dead animals with those of slaughtered ones. The former are very low-priced and it is difficult to detect the one from the other unless liming process is gone through.

The dead hides can be made to pass as slaughtered hides by manipulating the *mundilas*.

15. I would suggest that this practice should be penalised.

Other defects.

16—17. The one defect generally noticed in hides is that owing to the hides being spread on the ground, the grain side which is the most valuable part of it and the grain gets spoilt. It is very important that good slaughtered hides should be dried in the shade and spread on date mats, which are cheap and available everywhere. The results are very satisfactory. I know by experience that the hide, which has its grain intact, fetches 50 per cent. more value than the one which has lost it even partially.

(b) Collection, marketing, export, etc.

18—23. Hide bazar is held in the villages every four days and in some places once a week. The dead hides are brought from various small villages and collected in the main central village, where purchasers gather. On an average about 100 cows, 50 buffs and 60 *bachelas* (cow calves) and about 150 *kuttails* (buff calves) are brought dry or salted according to purchasers' requirements and the climatic conditions of the season; in the rainy season all hides are brought salted and only a small portion dried. From December to March framed hides are made as they weigh more in the cold season and cost less in preparing. In the hot weather months hides are more easily salted. Generally hides of dead animals are collected in villages by *chamars* and sold in village weekly bazars. These hides form about 20 per cent. of the total production and about 80 per cent. of the hides are produced from the

slaughtered animals and these are the hides that are exported. Such hides are generally framed and dried and marketed in that condition. Hides are then collected by the export merchants in big centres and they are exported from there to ports.

IV. TANNING AND ALLIED INDUSTRIES.

24. Yes.

25—33. In Cawnpore there are three places where something of hide industry can be learnt:—the Harness and Saddlery Factory, Messrs. Cooper Allen & Co., and the Government School in Nawabganj.

Cawnpore is a great hide centre and offers special facilities in having all kinds of hides and skins in all stages and in all forms with or without serious flaws and no place consequently is better suited for experimental work in the development of the methods of the treatment of hides both for export and tanning. The Government should start a model tanning and currying factory to deal with raw hides till they are converted into finished leather and a tanning school at Cawnpore. The theoretical side of the training should be given in the school and the practical side of the training should be given in the factory attached to it. This factory should not be run on commercial basis but should be a great training institution and its cost should be borne from the cess funds supplemented, if necessary, by special grant by the Department of Industries. It is very important that the quality of the hides be improved. At present hides are graded into three classes, first, second and third.

First class hides are of young female animals free from knife-cuts and with clear grain.

Second class hides are of young animals with few light cuts and partially clean grain.

Third class hides are of young animals with more light cuts and slight rib marks and other slight defects.

The preservation of grain and even thickness of hide are the great points to the attainment of which the research work should be directed. Tanstuffs used in Cawnpore tanneries are *babul* bark, which is available in large quantities in Cawnpore, and gallnuts obtainable from the Central Provinces.

V. ADVERTISEMENT.

34—35. I am of opinion that booklets, pamphlets, handbills containing information about approved methods of flaying, curing and preserving and tanning should be printed in Urdu and Hindi and distributed broadcast in villages and cities, where the hide production is carried on. The greater the spread of such literature the greater are the possibilities of a hide production of better type. Money spent on this kind of advertisement would greatly improve hide industry and I am of opinion that a special percentage of the cess fund should be earmarked for this purpose. Publications of this nature and their distribution free at the outset and then on some nominal price as they gain in popularity are a part of the educative side of the propaganda for the development of the hide industry.

VI. COST OF SCHEMES PROPOSED.

36—38. I am in favour of the establishment of a Central Bureau in a place like Cawnpore under the Department of Commerce and Industry of the Government of India. This bureau may have provincial branches which in their turn may have district and village branches. The research work and model school and model tanneries as suggested above should be at the headquarters of the bureau, which should have a special research department attached to it.

Stipends should be given to the sons of those engaged in hide production business, to undergo training in the model training institution of the Govern-

ment. Annual exhibitions of hides be arranged where prizes should be given for best hides, best specimen of grain and best specimen of flaying, drying, salting and framing hides. I have no time to sketch out definite plans in their financial aspect.

39. I am of opinion that the proposed cess should be levied upon untanned hides at the time of export. Tanned hides should not be taxed. Tanned hides are imported into the country in large quantities and the future work of hide development industry lies mainly in making the country meet its needs of tanned hides from its own tanneries. It is essential that improved tanning system should be found out and widely circulated and there should be more tanneries scattered all over the hide-producing centres. The great point in securing good hides is to have them treated as soon as possible after they are flayed. If there is delay in putting hides in lime and the hides get heated, there is every danger of their being destroyed. Immediate treatment of hides after flaying is a guarantee for securing good quality.

40. I cannot suggest a definite rate without knowing its effect on the export trade of hides. The main principle to be borne in mind in the levy of such a cess is that the cost of the exported hide at the port should be such as may compare favourably with the cost of similar stuffs at other places of export. It should be definitely ascertained that this levy would not affect the export trade and that the foreign markets which order hides from India do not find the cost after the levy of the cess so high as to tempt them to place their orders at other hide exporting places.

41. I am of opinion that the cess should be levied for five years to start with.

42. The cess may be levied on the value at the place of export.

VII.

CESS COMMITTEE.

43—46. The administration of the proceeds of the cess should be in the hands of the Central Bureau, the formation of which I have recommended in my preceding remarks. Such a bureau may consist of:—

- (a) Two experts to be nominated by the Government of India whose salary will be debited to the cess proceeds.
- (b) Two representatives of the hide merchants of Cawnpore, the headquarters of the bureau.
- (c) Two representatives of the owners of tanning factories in India, and
- (d) Two representatives of the Associated Chambers of Commerce.

With the exception of the experts all will be honorary members drawing travelling allowance and a certain daily fee for attending meetings of the bureau. One of the experts will be the Secretary of the bureau.

47. The cess will be levied on all hides exported, whether coming from British India or Indian States. No special representation is necessary for the Indian States.

48. I am in favour of no such separate representation.

49. The bureau will have the power to co-opt experts whenever and for whatever period they may consider their co-option to be necessary.

50. One of the experts nominated by the Government should be *ex-officio* Chairman of the bureau and the other would be the Member-Secretary. Both would be paid as already suggested.

51. This has already been replied in the remarks given above.

52. The bureau would be directly under the control of the Department of Commerce and Industry, Government of India.

53. This has already been replied.

54. The bureau might employ a special technologist at its headquarters.

55. At Cawnpore.

Oral Evidence of Mr. W. C. de NORONHA, representative of the United Provinces Chamber of Commerce, Cawnpore.

(Cawnpore, the 8th November, 1929.)

Replying to Chairman:—I represent the United Provinces Chamber of Commerce. I am its President. I am speaking officially on behalf of the Chamber. I have been interested in the hides trade and the tanning industry for the last twenty five years. I have experience of and have visited every hide centre in the United Provinces and the Punjab. My business is really more in raw hides than in tanning. My model tannery is not now working. My Chamber would not support the proposition of imposing the cess on leather tanned for export purposes. They would support a cess on the export of half-tan hides and skins. The cess should be at such a rate that it would not affect the export trade in raw hides detrimentally.

The Government of India appointed me to accompany the Hide Commission to all hide centres.

I think that in the principal stations hide centres should be established where those that have a few hides as well as those that supply large quantities may have an opportunity of coming together for business.

I can give the names of Brahmins dealing in hides. I am therefore in favour of the organisation of markets, for the collection, etc., of hides from various stations.

I do not consider that it is feasible to grade hides, etc., according to specifications drawn up.

I think there is an immense field for research work on preserving and curing materials.

I can let the Committee have estimates of cost of the schemes proposed by me if I have time. I shall send on such estimates to Calcutta.

Replying to Mr. Price:—I do not ship hides, but I agree that in the case of shipping firms their trade marks are recognised assets. But I do not agree that the introduction of an official or semi-official grading would necessarily mean the disappearance of private trade marks of economic value to the firms concerned. I have no experience of the Calcutta standards of grading, etc., or the systems.

I would prefer propaganda in India, but have not considered the question of advertisement outside India.

By tanned hides, I mean finished leather.

Replying to Mr. Rafique:—My model tannery is intended to be both for training and for commercial work. The tannery has not yet started.

As regards the export cess, I mean that it should be imposed both on raw as well as on half-tanned hides and skins and not merely on hides. On this point, I cannot give the Chamber's reply. This answer should be treated as my personal one.

I do not know of any other country competing with India in raw hides and skins. The imposition of the cess will affect both the shippers and the primary producers.

I have seen the slaughter-houses in Cawnpore. The flayers there need training in the art of flaying. I propose that demonstrations for their training should be organised.

I would like large hide markets to be organised where hides could be collected from the villages. I want something on the lines of hide exchanges where different peoples' goods could be inspected and decisions as to quality, standard, etc., be taken at once. I cannot recommend standardisation or grading. There should be godowns for each dealer. The hide exchanges would be something like cotton exchanges.

Dead hides do not have many butcher cuts. Slaughtered hides are better in quality and fetch higher price than dead hides.

By adulteration I mean the mixing up of a dead hide with slaughtered hides in a bale intended to denote slaughtered goods.

Of the defects, flaying is the worst. I recommend a portion of the cess fund be spent on research work for the elimination of warble and other defects.

Replying to Mr. Ismail:—As representative of the United Provinces Chamber of Commerce, I withdraw that portion of my reply in which I stated that an export cess might be levied on half-tans exported.

I do not know the percentage of real slaughtered hides to the total hides and skins produced in the country.

Replying to Mr. Sinha:—My Chamber would advocate the cess fund being spent on the training of foremen tanners, etc.

Replying to Mr. Shah:—The imposition of a cess has been proposed by me without any connection with the question of the existing export duty, i.e., the export duty question stands apart from the cess proposals.

I have not much experience of imported leather goods. I have seen a number of cheap imported shoes in the market.

Replying to Mr. Rafique:—I cannot say whether the cess which I have proposed would be beneficial to the export trade in hides and skins. I have not considered whether it would be beneficial to the half-tanning industry in India.

Replying to Mr. Shah:—I cannot off-hand say whether I can support the principle of burdening with a cess any industrial processes carried on in the country.

For the constitution for the proposed Cess Committee, I proposed two representatives of the Associated Chambers of Commerce. Thereby I meant one of the Associated Chambers of Commerce and one of the Federation of the Indian Chambers of Commerce.

Written Statement, dated the 2nd November 1929, of Khan Bahadur
SHEIKH NIAZ MOHAMED, G.P.V.C., Officiating
Superintendent, Civil Veterinary Department,
United Provinces, Allahabad Circle,
Allahabad.

1. The skin under normal condition presents a moist, elastic, smooth and glossy appearance. In cases of disease such as chronic indigestion, disorder of liver, and as the result of the presence of certain parasites in the alimentary canal the skin is dry, inelastic, scurfy and adheres to the underlying tissues. The terms 'hide-bound' and 'out of condition' are used to describe this condition. Eruptions may be present in various diseases.

A similar appearance of the skin is observed in all contagious and infectious diseases such as tuberculosis, rinderpest, hæmorrhagic septicæmia, anthrax, black quarter, etc.

In addition to the above mentioned defects, it can be main factor for spreading diseases from one country to another.

2. Such hides and skins should be destroyed as their use for any purpose is injurious to the public health.

**Written Statement, dated the 2nd November 1929, of the
Indian National Tannery, Cawnpore.**

I. Our connection with tanning industry in India has been since about fifteen years.

II. Yes.

III.

EXPORT TRADE.

Quality of hides and skins.

Cattle diseases, pests, etc.

1. The defects generally found in Indian hides and skins are warbles, small pox, mange, various classes of sores and brand marks.

2. To be consulted with the veterinary department.

Flaying.

3. The present method of flaying is very defective as the butchers in charge being ill-paid do the work in hot haste and negligently and damage the hides by flaying marks. This defect is more abundantly found specially in the hill hides where the butchers in order to get nice pieces of fat meat of fat animals knowingly damage the hides by innumerable flaying marks.

4—5. We suggest that in the slaughter-house of every centre an experienced instructor selected only from the hide trade be appointed on a suitable salary whose duty should be to instruct the flayers to handle the hides so carefully as to avoid any knife-cuts and flaying marks. Besides the flayers being very ill-paid should be encouraged by a grant of a fixed allowance per hide out of the cess funds. With regard to the village flayers, a circle instructor be appointed to visit a certain group of villages in his charge and instruct the village flayers in the same way as in the cities. All the good animals tendered by the contractors for the supply of meat to the British troops are at present branded by the government officials on the butt which is the best portion of the hides and by such brands the hide is badly depreciated in value. To remedy this we should suggest that the Government be approached to avoid branding any portion of the animal except forehead.

6. No.

7. Yes. A great improvement is expected by the above procedure of supervision.

8. During the war time, the Government had undertaken some steps to improve the flaying by issuing manifestos, etc., and it did produce some good effect but only temporary.

Curing and preserving.

10. In the case of framed hides the hides are not properly cleaned and framed by which various portions of the hides are shrunk and cause damage. In the case of wet-salted hides the meat is not thoroughly removed and the hides are not properly cleaned and washed and cheapest class of *khari* is used which causes a great damage to the hides.

11. The instructors engaged for the supervision of flaying should be entrusted with the work of instructing the dealers regarding the method of curing and preservation and should also supervise the same in their godowns.

12. No.

13. The circle instructor should also be entrusted with the work of supervising, curing and preservation along with the flaying supervision in the villages.

Adulteration.

14. Adulteration or loading does exist in a serious form. It has a very bad effect on the exporters and tanneries, as it causes a great injury to the hide and affects its outturn in tanning.

15. The above said instructors and circle instructors would be quite capable to combat such bad practices.

(b) *Collection, marketing, export, etc.*

21. In transport of raw hides and skins sometimes great delay occurs in transit by rail and specially in hot weather by such delays the wet-salted hides arrive at destination in damaged conditions. The wet-salted hides and skins also suffer badly by being loaded in iron trucks. The railway authorities should be approached to provide wooden trucks specially for the wet salted hides and skins and at every booking office arrangement should be made to load such hides and skins immediately within shortest periods after it is tendered for despatch and at the same time proper attention be paid for its quickest transit to the destination. As far as we know the railway tariff rates for dry and wet-salted skins are same whereby the wet-salted hides and skins incur heavier railway freight than the dry hides. This causes an obvious burden to the tanneries who always buy chiefly wet-salted. Hence we suggest that a lower tariff rate be fixed for wet-salted hides and skins than for dry.

IV

TANNING AND ALLIED INDUSTRIES.

24. (a—d) Yes.

25. In our opinion, technological institutes at present in existence in India have not produced any good results for the tanning industry. Our own experience is that we have engaged various scholars of various institutes on trial for chrome tanning but have had very disappointing results. Consequently the present institutes are simply wasting the public money. In our opinion, the scholars as at present trained in Government Harness and Saddlery Factory, Cawnpore, are turned out more competent and more efficient in vegetable tanning than those turned out by the Technological Institute in chrome tanning. Therefore for chrome tanning also suitable arrangement be made to allow sufficient opportunity of practical training on commercial lines.

V.

ADVERTISEMENT.

34. Yes.

35. The articles on which the cess should be levied are only raw hides and skins. The cess on these articles should be levied only on exports to foreign countries. It should be never levied on the tanning industry.

VI.

COST OF SCHEMES PROPOSED.

40. Two and half per cent.

41. For three years.

42. An export cess be imposed at an *ad valorem* rate.

VII.

CESS COMMITTEE

43—44. Yes. Constitution of Committee:—

One government official as Chairman

Three members from exporters.

Three members from the tanning industry.

Three members from the hide and skin dealers.

The members should be nominated by the interests themselves. A permanent paid Secretary be appointed by the Government.

**Written Statement, dated the 2nd November 1929, of
Messrs. W. B. SHEWAN & CO., Cawnpore.**

I. We have been connected with the tanning industry since 1895. Our present tannery was started in the year 1903. We have no interest in other associated trades or industries.

II. Yes, the proceeds of a cess could very profitably be spent for the benefit of the tanning industry as a whole, including the export trade of raw and half-tanned hides.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The defects found apart from warble holes are small sores and healed up scars, and certain districts more than others have ticks. Better feeding and more care are required.

Flaying.

3. The defects in flaying are deep flesh cuts, butcher, or knife-cuts in the hide, caused more or less through carelessness.

4. If greater care is observed in flaying and with better lighting conditions in the slaughter-houses, this trouble can be overcome.

5. Yes, we consider that flaying instructors and supervisors could do a great deal to stop the evil practice of bad flaying that exists and improved results must follow.

6. If the knives in use are not defective, there is no reason to change them.

7. To effect an improvement in flaying, better lighting is very necessary in the slaughter-houses. The Committee after functioning for a time would decide what action is required from local bodies.

8. We think that a small bonus to the slaughter-house flayer for good flaying would be necessary to be effective. We have no information of such bonus systems in force anywhere.

Curing and preserving.

9—11. The defects often found are under salting. The present methods of curing or preserving hides with table salt, which is the cheapest and best known, cannot be beaten.

12—13. We are of opinion that investigation and research would be a waste of cess funds, as improvement is difficult. Salt is common and cheap.

Adulteration.

14—15. We are not aware of adulteration existing in any serious form. The hide exporter could better explain this.

(b) *Collection, marketing, export, etc.*

19. The Railways have no proper arrangements for the transport of raw hides, which are sent all over India in iron wagons. The heat in iron wagons is so great during the hot months of the year, that large numbers of hides get heated, and decompose. We suggest that if wood wagons are not available, ordinary planks be fitted to the bottom of iron wagons, specially for the conveyance of raw hides to different centres.

21. If the present railway rates were reduced for the transport of raw hides and half-tanned hides, as well as on tanning materials, which are

brought in by rail, it would certainly add to the benefit of the tanning industry.

22. It has been the practice of tanners in India for many years to grade their supplies according to their own requirements.

23. It would be an advantage if a proper system of standardisation and grading (a) for sale to tanners in India, and (b) for the export trade were introduced. The present system in force for export may be enquired into by the Working Committee. We are not sure what the practice is in other countries.

IV. TANNING AND ALLIED INDUSTRIES.

24. Yes, we consider that cess funds could be expended with great benefit to the tanning industry, but not on (a) and (b) at present.

(a) We do not think there is immediate need for research work in tanning.

(b) The training of tanners is not an important question at present, as there are a number of trained men who cannot find employment owing to the depressed state of the tanning industry and tanners would not welcome apprentices at this juncture.

(c) The question of developing the supply and quality of Indian tan-stuffs is very important for the future of the tanning industry.

(d) The various leather working industries set up by private capital should be encouraged by all means.

26. We suggest that technological departments in different centres doing leather research work should publish such work as they have done and send copies to all the tanneries in their provinces.

27. Not at present.

28. Tannery foremen and leather chemists are trained at the Technological Institute, Cawnpore, which would appear sufficient for the requirements of the tanning industry at present.

30. There is no need for training schools, or demonstration parties. Most tanneries train their own men who are recruited from the rural districts.

32. *Babul* bark (*acacia*) is available in large quantities. Supplies are brought into Cawnpore by means of bullock carts, and by rail from the surrounding districts. If improvement is possible, it will certainly add to the benefits. If *avaram* or *tarwar* bark could be grown in these districts, and supplied to the tanneries in Cawnpore, it would be a decided advancement in the tanning industry in these parts.

33. *Tarwar* bark is the best in India and is in a class by itself. There is no other bark that can compare with it.

V. ADVERTISEMENT.

34. It may be necessary to advertise at the commencement.

35. In order to enable the tanning industry to recover from its depressed state, may we suggest that a portion of the cess be allotted in the shape of bounties to tanneries for a few years. This would enable them to meet (1) the keener competition in securing supplies of hides, and (2) the disadvantageous prices charged for imported chemicals, and dyestuffs, most of which are subject to an import duty at this end and most probably an export duty at the country of origin.

VI. COST OF SCHEMES PROPOSED.

39. We suggest that the proposed cess be imposed on:—

- (a) Dry-salted buffalo and cow hides.
- (b) Arsenicated buffalo and cow hides.
- (c) Goat and sheep skins.

The cess to be levied at all sea port towns at the time of export on raw hides and skins only and not on the tanning industry.

40. The rate of cess should be a little higher than the protective duty now in force. We strongly recommend a 7½ per cent. rate on dry-salted and arsenicated hides, and a 5 per cent. rate on goat and sheep skins. We do not think that India's position in the world market for raw hides would be in the least affected by the imposition of a cess, at the same time it would stimulate the tanning industry in India.

41. In the first instance, we recommend that the cess be given a fair trial for at least ten years and if justified, then made permanent.

42. We suggest an *ad valorem* rate, because specific duties have more or less been abolished in other countries.

VII.

CESS COMMITTEE.

43. Yes, we favour the formation of a Committee to administer the cess. Constitution of the Committee:—

- (1) The Director of Industries in each province representing local Governments and Indian States.
- (2) One representative from the Bengal Tanning Institute and one representative from the Cawnpore Technological Institute, representing research interests.

Nominations to be made by the Governor General, on the advice of these interests.

44—45. As the cess is for the benefit of the tanning industry, tanners should be represented by a majority, in the proportion of about 70 per cent. These members might be given representation by statute.

A representative of the tanners from each of the following towns:—
Cawnpore, Calcutta, Madras and Bombay.

A representative of the Madras tanned hide shippers.

A representative of the Bombay tanned hide shippers.

A representative of hide exporters from each of the following towns:—
Calcutta, Cawnpore and Madras.

46. Local Governments to be represented through the respective Directors of Industries.

47. Yes, as shown in the constitution of the Committee.

48. Yes, as shown in the constitution of the Committee.

49. Yes, but as the Committee would comprise experts representing all interests, this would not be necessary.

50. The Committee should have an *ex-officio* Chairman, and a Member-Secretary, both to be appointed by the Governor General. The Secretary to be whole-time.

51. The appointment of instructors and supervisors to work towards improvement in methods of flaying and curing hides at the source. The Committee would later be in a position to ascertain other useful spheres of work. After collecting sufficient data the members could consult the interests they represent and the activities of the Committee could then be more accurately defined. The Committee should not be tied down too much at the commencement as the preliminary stages must necessarily be experimental.

The Committee should have direct relations with the Central Government. The interests of Local Governments can be served by their representatives on the body.

52. An administrative question which should be decided by the Central Government.

53. Yes, if necessary. We do not think there is any need to go into this question until the Committee has functioned for a time to show where sub-committees would be necessary. We do not think each province would require a sub-committee but some may require more than one.

54. Not necessary, since technological interests are represented on the Committee.

55. Delhi would be most suitable if the Committee is in direct relation with the Central Government, but if this location is considered too far from important centres like Madras, Bombay and Calcutta, we do not think the Committee could do better than locate at Cawnpore, practically the most important hide centre for the supply of hides, also of the tanning industry.

Written Statement, dated the 13th November 1929, from the Secretary to the Hon'ble the Chief Commissioner, Ajmer-Merwara.

111.

EXPORT TRADE.

(a) Quality of hides and skins.

Flaying

5. I think the appointment of flaying instructor is likely to yield good result. The flaying instructor should go from village to village and impart instructions to the village flayer there and demonstrate practical flaying, where there is opportunity in the presence of flayers of the neighbourhood.

6. This should be judged by the instructor.

Curing and preserving.

12. Yes.

Adulteration.

14. No. Adulteration or loading does not exist in any considerable form in the district.

(b) Collection, marketing, export, etc.

18. Animals that die natural death are flayed by village flayers and those which are killed in slaughter-houses are flayed by the butchers. The hides that are flayed by village flayers are applied salt for preservation and about 25 per cent. of them are also tanned by the village tanners for local consumption, and the remaining are purchased by small traders who in turn sell them to exporters mostly at the railway stations. The hides that are flayed at the slaughter-houses are purchased by *khatiks* and butchers who apply salt for preservation and some of whom export themselves while others sell to others for export. The hides of sheep and goat consumed by Nasirabad tanners are purchased by them from dealers in hides.

IV.

TANNING AND ALLIED INDUSTRIES.

24. Yes.

25. No such facilities are available in this district.

28. No such facilities are available.

Reply to para. 5 of the forwarding letter of the Questionnaire.

(1) The statement given below shows the production of hides and skins both quantity and value. The total number of animals has been taken from the census of cattle of the district and the average mortality has been calculated after enquiry from the villagers and *chamars* of many villages:—

No.	Class of animals.	Number of animals according to cattle census.	Average yearly mortality.	Value per raw hide untanned.			Total value of raw hides.		
				Rs.	A.	P.	Rs.	A.	P.
1	Bulls	9,626	770	5	0	0	3,850	0	0
2	Bullocks	100,324	15,048	5	0	0	75,240	0	0
3	Cows	143,116	14,311	3	0	0	42,933	0	0
4	Young stock	98,090	24,522	1	0	0	24,522	0	0
5	He-buffaloes	8,665	1,732	6	0	0	10,392	0	0
6	She-buffaloes	48,940	7,341	6	0	0	44,046	0	0
7	Young stock	43,364	10,841	1	8	0	16,261	0	0
8	Sheep	256,600	128,800	1	0	0	1,28,800	0	0
9	Goat	271,879	135,689	1	0	0	1,35,689	0	0
	Total	980,104	339,054	...			4,81,733	0	0

(2) Of the cow and buffalo class hides, about 25 per cent. are tanned by the village tanners. They do not tan sheep and goat skins.

(3) There are ten tanning factories at Nasirabad in which mostly tanning of sheep and goat skins is done. The total average outturn of tanning of those factories is about 10,000 hides yearly.

(4) Raw hides are mostly exported to Bombay and Kasur from the district. The railway freights are as below:—

	Per maund in	Per maund in
	case of full wagon.	smaller con- signments.
	Rs. A. P.	Rs. A. P.
For Bombay	1 4 3	1 13 5
For Kasur	1 0 6	1 7 11

There is no difficulty experienced in connection with railway transport.

**Written Statement, dated the 9th November 1929, of Mr. B. M. DAS,
M.A. (Cal.), M.Sc. (Leeds), Superintendent, Bengal
Tanning Institute, and Manager, The National
Tannery Co., Ltd., Calcutta.**

I. I have no connection with hides export trade, but I am connected with the tanning industry in my capacity as Manager of the National Tannery Co., Ltd., and as Superintendent of the Bengal Tanning Institute.

I have interest in the associated trade of boot and shoe and general leather goods manufacture as I am in charge of the boot and shoe and leather goods making department of the Bengal Tanning Institute. I also managed the boot and shoe department of the National Tannery.

As a manufacturer of leather I have always to be in close touch with shoe and leather goods manufacturers who consume our products.

II. Yes.

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. (a) A low standard of cattle breeding produces hides of poor substance, that is, of weak fibres and texture. They are thin and of poor weight. Bellies and shanks of the hides of poor breed are so thin and papery as to be quite unsuitable for use in making high class articles and have therefore sometimes to be wasted in the cuttings and trimmings.

(b) Ill-cared for cattle develop various kinds of skin diseases such as pox, various kinds of sores, eczema, pimples, boils, etc. Diseases like rinderpest or foot-and-mouth disease and anthrax can also be attributed to carelessness. These infections are not only harmful to the animals but are also public danger as the infection may easily spread to men and prove fatal. The germs lodge on the hides which become very dangerous to those who handle them.

Gross maltreatment to which cattle in this country are subjected and the cruel manner in which they are handled cause various defects to the hides. The ravages due to cattle ticks which leave tiny marks some times all over the hide making them absolutely useless are due to the insanitary and unclean condition in which cattle are kept. The cruel practice of goading the plough and draught cattle by poking on their buttocks by sticks at one end of which a sharply pointed nail is stuck, pierces the hides through and leave innumerable pin-holes on the best portion of the hide. Branding which sometimes covers on entire hide with marks of fantastic descriptions often spoils a substantial percentage of the Indian hide supply. The farmer's habit of letting the cattle loose in jungles full of thorny shrubs exposes the hides to scratches of thorn. The yoke which is put on the neck of draught cattle invariably spoils that portion of the hide. The damage due to warble flies which pierce the back of a hide making innumerable holes is also due to carelessness.

2. Poor substance:—This is to be remedied by the better feeding and better treatment of the cattle and also by slaughtering them before they get too old and emaciated due to old age and neglect.

For better feeding of the cattle it is necessary to provide sufficient pasture ground in the country and also set apart sufficient land for the raising of suitable cattle fodder. A portion of the *khasmahal* land should be earmarked for the purpose.

The skins diseases:—These may be prevented as in the case of human beings by paying attention to the cleanliness of the body of the cattle. Occasional bathing and scrubbing with soap will eradicate these sources of damage. Public ponds should be reserved in every village for this purpose.

Arrangement should be made by the veterinary department to provide farmers and cattle breeders with antiseptic soaps and other cleansing materials to keep the cattle clean. Veterinary officers should inspect periodically village cattle sheds and pounds and see that the cattle are kept sufficiently clean. The law regarding the neglect of animals ought to be more strictly enforced on the initiative of the veterinary inspectors. Cattle pox can be prevented by vaccination.

Infectious diseases:—Stricter watch of the veterinary department is necessary to prevent their incidence and spread. Timely segregation and prompt destruction of the carcasses of the infected cattle will materially lessen the dangers from this source. Hides coming from infected areas should invariably be disinfected by approved methods and veterinary officers should see that the disinfection has been thorough and complete.

Cattle ticks:—These are small insects like lice which infest the body of the cattle and suck the blood like bugs causing the marks, which do not disappear even when the wounds are healed. If the body is kept clean by occasional bathing of the animal and the scouring of the body, these pests can easily be removed just as furniture can be kept free from bugs.

Goad and brand marks:—These practices should be declared criminal offences and stopped by legislation if necessary. Proprietary marks can easily be put with dyes as done in other countries.

Thorn marks:—Provision of sufficient pasture grounds will automatically stop this damage.

Yoke marks:—Putting of some padding under the yoke will prevent this. In cities the vigilance of the S. P. C. A. officers will prevent it to a large extent.

Warble holes:—Remedies have been found in Europe to allay the damages due to this pest. These specifics should be tried in India. In Denmark it is reported that this warble pest has been entirely eradicated by systematic state propaganda and precaution. The example is worth imitating.

Flaying.

3. The defects of flaying are (i) cuts, (ii) deep scores on the flesh side by the butcher's knife, (iii) intentional leaving of flesh and trimmings such as cheeks, horns, hoofs, tail bones, etc., on the hides to increase weight.

4. The first two defects are more common in the hides of the city slaughter-houses where meat and tallow fetch good prices to the butchers. The third defect is found more in the hides collected in the mofussil where meat and tallow are of minor importance. As the slaughter-houses are usually under the control of corporations, and municipalities or cantonment authorities, a system of penalising the butchers by these authorities for wilfully damaging the hides by cuts and scores will go a great way in preventing the evil. At the Tangra slaughter-house in Calcutta, the hide purchasers have to pay fees for permits to buy hides. They do not get any return from the corporation for such payments as they have to meekly submit to the damage done through carelessness of the butchers. Same thing also happens more or less in the cantonment slaughter-houses. The damages are done intentionally in order to take off from the hides the last bit of flesh and fat. Penalties inflicted on them by the corporation and the cantonment authorities will compel the butchers to be more careful.

We tried the system of paying premium of 4 annas a hide for properly flayed pieces. But the allurements did not appear to be effective and it is not possible for buyers to offer more. The remedy of leaving offal on the hides rests entirely with the buyers. When the demand for hides is slack the buyers do pay less for fleshy hides. But on the revival of the trade they neglect to enforce this effective penalty. There should be authorised hide inspectors to condemn such hides, so that they may always be sold at lower prices.

5. Yes.

Instruction of the village flayer.

In villages the carcasses of fallen cattle are usually the perquisite of the village *chamar*. Only in those villages where Mahomedan population preponderates cattle are slaughtered for meat and flaying is done by unskilled Mahomedan labour. So it will be necessary to instruct the *chamars* as well as some willing representatives of the Mahomedan community. The appointed flaying instructor should be attached to a district or a cantonment slaughter-house. The presidents of the village union boards should be invited to depute suitable men from their villages for training to the district or cantonment slaughter-houses with stipends. Men so trained will be able subsequently to impart their knowledge to interested co-villagers and to others in the neighbourhood. In this way the skilled knowledge will filter down even to the remotest villages. The appointed instructors should also hold occasional peripatetic demonstrations in centres of sufficient supply. Opportune times for such demonstrations would be the Mahomedan festival, *Bakrid*, when cattle are slaughtered all over the country. In holding demonstrations films representing perfect flaying should be prepared and shown at places of demonstration. Improved flaying knives should be distributed to the village flayers at a small cost.

6. Yes. (See the last portion of the answer to question 5.)

The knives can be distributed through the presidents of the village union boards.

7. (i) Appointment of an expert flaying instructor in every slaughter-house. The flayers also should be the employees of the slaughter-house authorities and not of the butchers as they are at present in Calcutta slaughter-houses. They should be paid according to their merit with prospect of increment for good work.

(ii) Compulsory use of flaying knives of approved pattern.

(iii) Stricter supervision and penalisation for neglect by the authorities of the slaughter-houses. In big slaughter-houses the introduction of overhead trolleys on which carcasses should be hung and the flaying accomplished by division of labour so that each worker may be dexterous and efficient in flaying particular parts of the hide with the ultimate result that there will be a perfect flaying of the whole piece.

There should be good lighting arrangement. The municipalities and cantonment authorities should see that the slaughter-houses are kept free from dirt and filth so that the flayers may not be in a haste to flee from the place after doing the job in a haphazard way. The necessity of keeping strict watch over them and penalising for neglect has already been mentioned. They should also be offered bonuses for good flaying.

8. In the Calcutta slaughter-houses the flayers are servants of the butchers who bring cattle for slaughter. The butchers whose main interest is in the meat and tallow and who can easily dispose of the hides to the keen purchasers do not take any interest in the flaying. When the master is indifferent the servants are more so. We tried to improve matters by paying a bonus of 4 annas per piece but without success.

Curing and preserving.

9. In comparatively cooler countries like Europe and America, hides are usually preserved in the wet condition by the application of common salt. In tropical countries like India the system of preserving by drying and dry-salting is practised and herein lies the chief difference.

10. The greatest handicap in saving and preserving hides in sound condition in India is the unavoidable high atmospheric temperature specially in summer. Bulk of the hides in India is from fallen stock. Delay in flaying the carcasses and bringing the hides for curing in the prevailing hot weather causes deterioration which does not happen in colder climates as there the low temperature, as well as the slaughtering of most of the cattle for meat

contribute to their being kept in sound condition before actual preservation is done.

Defects in preserving by drying.

(a) Sun-blisters:—Hides are dried by putting them flat on the ground or by stretching them on a bamboo or wooden frame and exposed to the sun. The former produces the "crumpled" hides or the "commons" and the latter the "frameds" or "farmas". In the "crumpled" the hides often do not dry evenly and putrefaction sets in places where the surfaces dry up more quickly than the fibres inside forming a hard crust which prevents the elimination of the inside moisture. This raw inside eventually rots and blisters appear when the hides are soaked back in the tannery. Such hides are practically ruined and form an economic waste of a considerable proportion. The "frameds" hides drying under strain are more free from these sun-blisters than the "crumpled" hide. But even in them these are sometimes noticed, specially if the hides had been exposed to a very hot sun in the middle of the day.

(b) Burns:—The "crumpled" hides of the hilly tracts often show black spots on the flesh side which are caused by their laying on pieces of rocks which get too much heated by the sun's rays. Burns are also caused by drying over fire in wet weather in some places.

(c) Over drying:—This makes the fibres too hard and renders their soaking back to the natural soft condition of the fresh hide very difficult in the tannery. Such hides often go bad in the soak pits and are sources of great trouble and loss to the tanner.

Dry salting.

In this method the hides are rubbed on the flesh side with a saturated solution of *khari* salt and as this substance is a natural product it is mixed with lot of mud and sand. The actual preservative agent in it is sulphate of sodium. The mud and the sand have no preservative effect. But as the hides are sold by weight, the curers take full advantage of the mud and intentionally load the hides by adding more mud and sand than what is naturally mixed with the *khari* salt. A thick plaster of this muddy cure is often formed on these hides and the weighting is carried to such extreme that a cow hide which in the dry cure weighs about 7 lbs. is made sometimes to weigh 15 lbs. in the plaster-cured condition. This is the most annoying defect in the dry-salted hides.

Ravages of worms, etc.

The dry hides when stored for sometimes in godowns develop worms which eat up the substance and often ruin large packs of hides.

Heating.

Hides, specially if they were insufficiently dried out, when kept in stocks in a godown get heated which tenders the fibres and spoils the hides altogether.

Preserving by wet salting.

Hair-slip:—This defect is noticed in wet-salted hides. The defect consists in the hair coming out at the slightest pull, showing that putrefaction and rot have commenced at the hair roots. When this is the case one may be sure that the grain has been damaged and it is no longer possible to have sound leathers from such hides.

Loading:—Loading with inert materials is practised in wet-salting also.

11. Sun-blisters:—As these are caused more in the crumpled hides than in the "frameds" this method of curing should be put a stop to by propaganda. Frame curing should be insisted upon for all dry hides. The blisters in the latter case and over-drying can be remedied by performing the drying operation either in the shade at a mild temperature or in large establishments by providing specially constructed drying places equipped with fans.

and ventilators so as to keep a current of dry air at a reduced temperature all the time. The system of drying in a tunnel which has been adopted for drying leather in some large European tanneries also deserves consideration in curing hides in India. The wet hides may be stretched on frames which by suitable contrivance are made to travel the whole length of the tunnel, the hides getting drier and drier as they move forward. Wet hides would enter at one end of the tunnel and the dry hides would come out at the other end. The temperature and the humidity of air inside the tunnel should be regulated by suitable ventilating arrangement. Adulteration by loading with mud and sand or by keeping an undue amount of flesh, fat, hoofs, horns, tail bones, etc., should be stopped by legislation.

Ravages of worm can be prevented or allayed by arsenicating at the time of curing and not when the hides come to the tanners or to the tanners' or the shippers' godown. Researches may also find out other remedies in this direction.

The present methods of curing and preservation require complete overhauling by a systematic scientific research and preservative materials should be found out which will be more efficient and would give less opportunities for adulteration than the *khari* salt. A standard of cure should be established and hides containing more or less than a certain percentage of the curing material should be condemned.

12. Yes.

13. Such a system for the supply of curing or preserving materials already exists, e.g., the *khari* salt is available in the Bengal villages from dealers in localities where it is used. The same system will function in the case of a new curing material also.

Adulteration.

14. Yes. Adulteration and loading have been carried to the highest possible pitch in this country. In the dry-salted hides, the plaster is too thick in addition to the flesh, fat and other offals which are purposely kept on the hide and often extra fleshings are mixed with the plaster cure. In the dry hides flesh is kept as well as hoofs, tail bones, horns, etc., with a view to gain extra weight. Even wet salted hides are loaded with powdered stones mixed with salt and various other devices.

(a) The export trade, in my opinion, has been severely affected by this adulteration. The European buyers seriously object to pay for the mud and sand or the flesh or the horn when they are out to buy the leather making pelt only. These malpractices are one of the causes of the fall in the export of Indian hides.

(b) Tanning:—The local tanning industry is also affected. Tanners do not care to buy the heavily plastered dry-salted or the too fleshy dry hides as they cannot form an estimate of the percentage yield of the leather from such loaded hides.

15. Adulteration of hides is a malpractice and should be made a criminal offence as adulteration of any other article. A standard of cure should be established and wilful deviation from the standard should be made punishable by legislation.

Educative propaganda work should also be initiated with a view to bring home to the curers the folly and shortsightedness of spoiling their own trade by adulteration and loading.

Other defects.

16. Most of the defects known to me have been mentioned under cattle diseases, flaying, curing, preserving and adulteration. A few other minor defects are mentioned below.

Rubbed or dragged grain:—Sometimes dead cattle are dragged along hard ground, thereby the grain surface is badly scratched.

Horn marks:—These are caused by the cattle fighting with one other with their horns which cause wounds eventually leaving marks.

Tar marks:—Owners' marks are often stamped on the butt of the cattle by coaltar. These are often found indelible and they persist even after tanning.

Hump:—Most of the Indian cattle are humped which forms something like a pocket just below the neck portion of the hide and prevents the leather being finished quite flat.

Injury done by vulture:—The hides of dead cattle are sometimes injured by vultures. Often one side of the hide is entirely damaged by scratches of vultures.

With the exception of the defects caused by hump all the other defects mentioned above can be remedied by better care on the part of farmers, cattle owners and butchers.

17. My experience as a tanner is that the value of our leather is reduced by at least 33 per cent. owing to existing defects of hides.

This estimate is arrived at by comparing the values received for lower grades of leather with those for leather from defectless hides.

(b) *Collection, marketing, export, etc.*

18. The important stages are given below:—

- (i) Flaying.
- (ii) Curing and preservation by wet-salting, dry-salting or drying.
- (iii) Packing.
- (iv) Transport by rail, steamer, country boats and bullock carts from centres of collection to the markets of bigger cities.
- (v) Purchase by exporters or tanners.
- (vi) Entry into exporters' godowns or to the tanneries.
- (vii) Cleaning, sorting, arsenicating of the dry hides at the shippers' godowns and in the case of tanneries, sorting into qualities and putting into process.

In the case of fresh hides, collected from slaughter-houses in the neighbourhood by local tanners, most of these stages need not be passed through, as the hides are brought to the tanneries in a suitable conveyance, mostly bullock carts, where they are immediately put into process.

19. Improvements are possible.

(i) **Transport:**—In the case of hides collected in villages the people too often forget that the hides should be transported specially for preservation or for tanning as the case may be, to save them from putrefaction. Transport by rail is also sometimes delayed with the consequent damage to the hides.

(ii) **Grading:**—Hides are not graded by collectors and all descriptions are bundled together and sent. Assortment at the time of sending is desirable.

(iii) **Packing:**—Some dealers pack the hides well in gunnies or in straw mats while others tie the bundles up with strings and send them unwrapped by any packing material. This sometimes spoils the top hide of the bundles. Packing in suitable material, either gunny or straw mats, is desirable. This refers only to wet-salted hides.

20. Have no experience of co-operative marketing.

21. **Transport of raw hides:**—The dilatoriness of railway transport has already been referred to in answer to question 19. The steel wagons used for transporting raw hides and skins are objectionable. Both the delay and the iron wagons sometimes damage the whole wagon loads of wet-salted hides specially in hot weather. Even dry or dry-salted hides are liable to be unduly heated and spoiled under such conditions. Wooden wagons are preferable for hide transport to iron ones. The railway companies should also expedite the transport of such wagons as are loaded with raw hides and skins as they are perishable materials. The suitability of providing refrigerated cars for the transport of wet-salted hides requires serious consideration. The precaution is likely to pay for itself. The transport rates for raw hides and finished leather should also be lowered from the existing level.

Transport of tanning materials:—In Calcutta considerable quantities of *babul* bark and myrobalans are brought from other provinces and a reduction of the rates for transport of these materials will help the local tanning industry as well as the trade in the tanning materials of the supplying provinces.

22. System of grading of hides for sale to tanners in India:—There is no rigid system of grading. Tanners form a rough idea of the quality of the lots offered for sale by going through a sufficient number of hides of the packs in the sellers' godown and make offers of prices on the basis of this rough estimate. A compromise is made with regard to the price of the very bad hides or rejections for which usually half price is paid.

23. Fixing a standard is difficult. But a system of grading according to quality is quite feasible.

Details of the system of grading:—

The hides in which the tanners in Calcutta are mostly interested may roughly be divided into the following groups.

U. P. hides:—Those coming from Agra, Bareilly, Lucknow, in other words those known as "*Pacchams*". Those that come from the eastern districts of the United Provinces are called "*Purabs*".

Bihar hides:—(a) Dinapur, (b) Darbhanga and (c) Patna.

Bengal hides:—Daisies, Daccas, etc.

The hides of these broad groups should be sorted out into firsts, seconds and rejections. Wherever possible classifications under each head should be made into heavies, mediums and lights on the basis of weights. A graded scale of price should be made.

Grading into qualities and weights is done in many important countries such as Great Britain, United States, South America, etc. This system works very well with advantage to both buyers and sellers.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a)—(?) Yes.

25. Some facilities of research work in tannin are available at the Bengal Tanning Institute which has been established by the Government of Bengal.

There is yet no facility for research work in the associated industries of leather goods manufacture. The boot and shoe and leather goods making department recently attached to the Bengal Tanning Institute is meant only for training.

26. A good deal of expansion of the Bengal Tanning Institute is necessary to increase its capacity for research. Addition to staff, accommodation and equipment is necessary to deal efficiently with the problems which require solution for the further development and improvement of the tanning industry in Bengal. Development of the manufacture of such varieties of leather as are not yet done in this country, such as chrome patent leather, glacé kid, upholstery leather, picking band leather, chamois leather, leathers for book binding and other fancy work, etc., is essential. Improvement of the quality of the varieties that are already being produced is also incumbent to make the Indian finished leather saleable in foreign markets and to protect the local industry from succumbing to foreign competition. Manufacture of tanning chemicals like sulphide, synthetic bates, synthetic tannins, chrome salts, fat-liquors, dubbing, greases, finishes, varnishes, and of many preparations and grindery required in the leather goods making industries has not yet been even touched. No attempt has been made to utilise the tannery bye-products, such as fleshings, hide cuttings, etc., for the manufacture of glue and gelatine. The disposal of the tannery effluents in the most inoffensive manner has also to be dealt with. Problems for research are numerous and their solution requires a larger number of workers, more equipment and accommodation than what are yet available at the Bengal Tanning Institute.

The outstanding feature of the tanning industry of Madras is the crust tanning of hides and skins for export. The process by which this is done is

indigenous and appears very crude to modern ideas. But the product sells well in foreign markets and consequently the Madras tanners do not seem to be very anxious for any change in their methods. Difficulties some time crop up as for instance stains and marks on the leather, bad weights, etc., which need solution by investigation and experiment. Those tanneries which turn out finished leather would be in greater need of facilities for research than the half tanning trade and such research as can be done at the Madras Leather Trades Institute should satisfy this need.

27. Researches at different centres should be on local problems. When there is a great deal of difference in these problems specialisation will naturally result and researches at the various centres will assume a local colour. No rigid ear-marking of subjects for research is feasible, considering that no one centre specialises in a particular line of manufacture.

But attempts should be made to prevent undue overlapping and avoidable duplication. The best way to do it is to inspire and encourage a spirit of co-operation among the different technological research organisations, placing them under the control of a central research institute. All researches of a fundamental nature and on the problems of the place where it will be located will be done at the central institute, which will also, after consultation, formulate the lines of work for the subsidiary institutes. The central institute should issue a journal which may be named "Indian Leather Trades Journal" to which papers from all the institutes should be contributed for publication. A number of research students, two from each of the subordinate institutes, should be maintained with adequate research scholarship at the central institute. Selection of the research scholars will be made from the best candidate who have undergone the full course of instruction in their respective institutes.

The central research institute should be located in an important place where considerable development of modern tanning has taken place, which holds out possibilities for further development and where spirit of and facilities for scientific research prevail and exist. As elaborately explained on pages 113-118 of my note to the Hides Cess Committee, Calcutta, offers all the above advantages and is undoubtedly the most suitable place in India for the establishment of the central research institute.

At present there are tanning institutes at Cawnpore, Nagpur, Madras and Calcutta. All these may be co-ordinated under the above scheme. Problems of places where there are no institutes as yet may be collected by officers attached to the central institute, solved there, and communicated to the places concerned.

28. At the Bengal Tanning Institute there are facilities for the training of tanners, tannery foremen and leather chemists. A scheme has been approved by the Government of Bengal to improve the existing course of instruction so as to enable the Institute to offer "diploma" in tanning to the passed students. The question of affiliating the institute to the Calcutta University with a view to inaugurate a still higher degree course in the applied chemistry of leather manufacture is also engaging attention. A scheme of an artisan course of instruction to train up the *chamars* into the modern methods of tanning has been drawn up and is under consideration.

29. The supply of trained tanners and leather chemists for any expansion of the existing facilities of research and training may, to a large extent, be obtained from the existing tanning institutes. For work which may require specialised training suitable men who have already completed the local course of instruction in tanning, and have experience of the condition in India, may be sent abroad with scholarships to acquire the required knowledge.

The training of the rural tanners should be done by (1) peripatetic demonstration parties and (2) opening artisan night schools at different centres.

Sufficient number of peripatetic demonstration parties should be appointed in each province, which should do extensive touring, hold demonstrations, exhibitions, deliver magic lantern lectures and show films on the modern

methods of tanning. The parties should be adequately staffed and equipped with necessary tools and appliances. The work of the parties should be inspected by supervisors and reported to the central institute.

Night schools of the artisan type should be opened at places where the leather working communities preponderate.

30. Yes. Tanning schools of higher type should be located at centres where the industry has shown development and holds out possibilities of expansion. Schools of artisan type should be established in such rural areas as have a large number of leather working population.

Schools of the higher type exist at Cawnpore, Calcutta and Madras. These should be improved. No multiplication of schools of this type is necessary at the present state of the development of the tanning industry in India. There appears to be a need of artisan schools to make the tannery workers more efficient and disciplined. A large number of such schools distributed all over the country is necessary.

The importance of the peripatetic demonstration parties for rural area has already been alluded to under No. 29. These parties can also serve bigger tanneries to initiate in them new processes and methods worked out at the research institutes and to bring to the latter problems of the trade. The parties are indispensable links between the institutes and the trade and thus add enormously to the strength of the whole industry.

Number of the demonstration parties that would be required for each province will depend upon the area to be served. A start may be made with one party for each province to be increased in the light of future experience.

31. Tanned hides and skins in India fall under two classes, viz., the half-tanned and the finished. The export trade of the former has developed to a considerable extent, but that of the latter is still insignificant.

The export of half-tanned leather as well as that of finished leather can be materially increased by adopting the following policies:—

(i) The discouragement of the export of raw hides and skins, so that more hides and those of better qualities may be available to the Indian tanners. The manufacture of the finished leather in India wants the best of the hides and cannot afford to allow the pick of the Indian hides to be exported. The export duty on hides and skins was a move in the right direction.

(ii) Improvement of the quality:—This is to be done by offering facilities for research and training. This aspect has already been dealt with in my separate note to the Hides Cess Committee.

(iii) Finding new markets for the Indian leather by intensive advertising and canvassing propaganda. Indian leather trade agents should be appointed in different countries to push the sale of Indian leathers.

(iv) Initiating a fiscal policy of retaliation in respect of such countries as have put up a high tariff wall against Indian leather. These countries allow Indian raw hides and skins freely, but impose duty on Indian leather. A remedy for this should be found out.

(v) Offering banking facilities to the Indian tanners many of whom work with insufficient capital and have hence to rely upon the local market alone to get a quicker return of the investment than would be possible from an export business.

(vi) Offering bounties or subsidies to such lines of leather production as show possibilities of immense development when they are once set on their legs at the initial stage. Such for instance is the manufacture of glacé kid, the raw material of which is mostly Indian. The export of box sides may also be encouraged by the payment of a suitable bounty.

Grading:—A system of grading is practised in both half-tanned and finished leather industries, but no two tanneries can produce similar leather, and consequently an absolute system of standardisation of the grades is not feasible. Orders are to be accepted on the basis of samples sent to the purchasers and the supply should be done to the sample. Here government.

inspectors can help with a certificate to the effect, that the goods are according to sample and thus protect the interests of both buyers and sellers.

32. In Bengal the chief tanning materials are *babul* bark (*acacia arabica*), *myrobalans* (*terminalia chebula*) and *goran* bark (*ceriops roxburghiana*). *Sonali* (*cassia fistula*) and *tarwar* (*cassia auriculata*) barks are imported from other places and used.

Of these *goran* is a local product and supply comes from the Sunderbans. Its tannin content is high and speed of tanning very quick but its red colour is a great defect. Researches have been and are being conducted at the Bengal Tanning Institute to remedy this defect. Its supply is abundant but improvement is necessary in the method of its collection, transport and storing. At present logs are brought from the Sunderbans in open country boats to Calcutta, and stocked in open space along the canal banks. The rain washes out much of its tannin and the fermentation that sets up on the wet logs also destroys some tannin content. If the bark is stripped at the source of the supply, carefully dried out and sent to Calcutta packed in gunny bags much improvement in colour and tannin strength is effected. This has been demonstrated by the researches at the Bengal Tanning Institute.

Babul and *myrobalans* are also locally available, but the supplies of the local stuffs are not well organised. *Babul* trees are scattered, hence collection in large quantities is difficult. Plantation of *babul* trees in suitable areas should be attempted and the bark from places where sufficient number of trees occurs should be commercially exploited. Researches should also be done how to increase its tannin content. The supply of Bengal *babul* is not sufficient for the requirements of Calcutta. A good deal is imported from the Punjab and the United Provinces.

Myrobalans:—Bengal *myrobalans* are not of good quality. Investigations are needed to find out causes of defect and suggest remedy.

Sonali:—This is brought from Sonthal Parganas. This tree grows occasionally in various places in Bengal but does not occur in large number at any place. It is a good tanstuff and the suitability of its plantation deserves consideration.

Tarwar (*avaram*):—This is the South Indian tanstuff. It is being used in Calcutta to a certain extent by importing from Madras. Suitability of Bengal for its plantation deserves attention to provide its regular supply to this province.

Tanning extracts:—Such extracts as those of wattle, quebracho, *myrobalans* and chestnut are also used in the Calcutta tanneries. *Myrobalan* extract is made at Raneegunge and supply can be had from there; all the rest have to be imported from England.

New tanning materials:—Thirty two varieties of vegetable tanning materials have been found out by investigation at the Bengal Tanning Institute from the forest resources of Bengal, Simla and Burma. Their tannin properties have been ascertained and to get the local tanners interested in them much has to be done which needs funds.

33. *Cassia auriculata* produces a better colour, a lighter and quicker tannage than wattle bark. One of the most important properties required of the half-tanned leather exported from Madras and Bombay is that the tannin in it should be capable of being easily stripped off the leather. The *tarwar* tannin combines feebly with the leather, and can thus be easily washed, and the curriers and finishers abroad can then apply any other tannage to it as they may consider proper to make leather suitable for different purposes. The tannin from wattle is not so easily washable. On account of this light tannage and colour *cassia auriculata* is a much better material for half-tanning than wattle or any other tanstuff known, although wattle is much richer in tannin content than the *auriculata*.

A systematic plantation of *tarwar* on a large scale will increase its supply and reduce the price. Plantation should be attempted also at places for instance in Bengal, Bihar and Orissa. In the last place small scale experiment has proved the possibility of its growth in the soil near Cuttack.

V.

ADVERTISEMENT.

34. Yes. But the advertisement should not be only confined to press communication but a regular propaganda would also be necessary in foreign countries, to push sale of Indian hides and skins as well as half-tanned and finished leather through agents to be appointed for the purpose.

35. It appears that good results may be expected by spending a portion of the cess proceeds in grant-in-aid to such institutions and departments as are likely to do useful work for the prevention of remediable defects in raw hides and skins, for instance the societies and associations formed under the Prevention of Cruelty to Animals Act, can do very useful work in stopping (1) branding, (2) goading and other forms of cruelties to cattle which cause an enormous economical loss by ruining the hides. The veterinary department can arrange to stop the spread of contagious diseases and the incidence of various cattle pests, such as ticks, warbles, etc.

Besides, I would also propose granting of scholarships to a limited number of candidates for training in leather and allied industries tenable in advanced countries like Europe and America. The students so helped would be bound on return to India to work under the Committee for a number of years and their services will be utilised in developing the industry.

VI.

COST OF SCHEMES PROPOSED.

36. For the development of the hide, leather and the associated industries activities under the following heads will be necessary. The costs of these lines of work are given against each head. Details will be found in the Appendix.

	Recurring.	Non-recurring.
	Rs.	Rs.
I. Expenses of the Committee	1,00,000	
II. Expenses for the improvement of raw hides	1,00,000	
III. Expenses—Tanning	3,00,000	4,00,000
IV. Expenses—Associated industries	1,00,000	
V. Expenses for foreign propaganda for marketing Indian hides, leather and leather goods	2,00,000	
VI. Expenses—Grant-in-aid and subsidies, etc., for researches to improve hides and leather	2,50,000	
VII. Expenses—Scholarships to students for studying in foreign countries	10,000	
TOTAL	10,60,000	4,00,000

37. About 15 lakhs of rupees.

38. Fifty per cent. of the initial expenditure.

39. The principle should be not to hamper the development of the Indian tanning industry. It needs relief and not burden. If this be acted upon, no levy can be recommended on the tanning or the half-tanning industries in India. The cess should be levied on the exported raw hides when they are shipped from India in the cured and preserved condition.

40. The cess on the export of hides should be levied at 5 per cent. *ad valorem*. There is demand for Indian hides and skins from foreign countries and this demand would not cease if a cess of 5 per cent. be levied on the export. A greater fluctuation than 5 per cent. has often been observed in the prices of raw hides and skins. Foreign purchasers of Indian hides

were not wanting when a piece of cow hide was sold at Calcutta for Rs. 10 as against average normal of Rs. 5. So one need not be afraid of any untoward condition in the raw hides and skins trade if a cess of 5 per cent. *ad valorem* is levied on export.

41. Yes. It may be tried experimentally for a period of 5 years at the first instance.

42. It should be *ad valorem* on declared value in the invoice. The advantage of *ad valorem* system is that the amount of cess payable is calculated on the value of the hide or skin. But if levied at a flat rate inferior sorts of hides and skins fetching lower prices are unduly burdened by paying as much as the better selections fetching higher prices.

VII. CESS COMMITTEE.

43. A Committee may be formed to administer the cess proceeds. The constitution may be on the line of the Indian Central Cotton Committee.

44. The hide and skin trade, the tanning trade and the leather goods manufacture may be allowed representation on the Committee. I should think the Governor General in Council should nominate representatives on the recommendations of the interests concerned. The proportion should be hide and skin 1, tanning 1, and where there are organisations or associations of leather workers, a representative may be allowed for a number of constituencies.

45. Refer to reply to question 44.

46. The local Governments should be represented on the Committee through the respective Directors of Industries.

47. The Directors of Industries and Commerce where such posts exist in the important Indian States may also be allowed to sit on the Committee. The smaller States may have representation through their Political Agents when they develop their leather industries to a sufficient extent. The cess on export of hides and skins from the State ports should be collected as in the ports within British India and the proceeds should be made available for the general improvement of the industries referred to and spent on the advice of the Central Committee.

48. Yes. Important technological institutes should be given representation. The expert technologists are expected to suggest fruitful lines of development. Co-operative department should be represented by one member recommended by the Government of India. A veterinary expert should also be nominated by the Government of India to the Committee.

49. If the technological institutes be permitted to allow separate representation, the Committee need not be given power to co-opt experts and others interested in the trade or industry.

50. The Director General of Commercial Intelligence should be the *ex-officio* Chairman. Secretary should be a member of the Committee and act for the Chairman in the latter's absence. It would be an advantage if he be a technologist. The appointment should be made on a temporary basis for the present by the Governor General in Council. The post may be made permanent later. The imposition of the cess is now being recommended experimentally for 5 years in the first instance and hence the question of making the Secretary permanent does not arise at present.

51. The Committee should act like advisory board to suggest lines to be followed in the development of the interests referred to. Sub-committees should be formed from among the members of the Central Committee to deal with different classes of work for which they should be consulted. The Committee would advise the Local and Central Governments in regard to matters of policies specially with reference to legislation for the prevention of malpractices and similar matters.

52. The Chairman should be the executive head of the Committee and act through the Secretary.

53. As members from different provinces representing different interests will sit on the Central Committee, separate provision for local sub-committees is not necessary.

54. Representations of technological institutions in the Central Committee have been recommended, the question therefore does not arise.

55. The Committee's headquarters should be located in Calcutta. A special sub-committee when required may visit places on the application of local interests and hence it is not necessary to locate any branch at any other centre.

APPENDIX.

HIDES CESS COMMITTEE.

Estimate of expenditure.

	Rs.	Annual recurring. Rs.
I. Committee:—		
Salaries:—		
Secretary, 1	1,000—50—1,500	
Assistant Secretary, 1	500—25—750	
	<hr/>	18,000
Establishment:—		
1 Head clerk	150—10—300	
1 Accountant	125—15/2—200	
1 Cashier	100—5—150	
6 Assistant clerks	40—40—45—5/2—100	
2 Typists	35—35—40—2—80	
2 Duffries	20—1/2—30	
4 Orderlies	15—1/5—19	
3 Peons	15—1/5—19	
2 Durwans	15—1/5—19	
	<hr/>	10,320
Allowances:—		
Travelling allowance	25,000	
House rent allowances	3,000	
Honoraria	5,000	
	<hr/>	
Total Allowance		33,000
Contingencies:—		
House rent	12,000	
Furniture	6,500	(initial)
Purchase of books and publications	5,000	
Press advertisement and local propaganda	3,000	
Forms and stationery	500	
Stamps	500	
Rent for telephone	750	
	<hr/>	
	28,250	<hr/> 61,320

	Brought forward	Annual recurring.
	Ra.	Ra.
Liveries	28,250	61,820
Sweepers	200	
Miscellaneous contingency	5,000	
Total Contingencies		33,762
Total Committee		95,082
Say		1,00,000

II. Expenses for the improvement of hides:—

(i) Flaying.

Establishment:—		
1 Master flayer	500—25—750	
2 Assistant instructors	100—5—150 each.	
1 Durwan	15—1/5—19	
		8,580
12 Peripatetic flaying instruction parties each consisting of:—		
1 Instructor	100—5—150	
2 Menials	20—1—30 each.	
1 Durwan	18—1/2—25	
		22,752
Travelling allowance		12,000
Supplies and services—purchase of tools and apparatus		3,600
Contingencies		7,000
		Total 53,932

(ii) Curing and preservation.

Establishment:—		
1 Research worker on curing and preservation	150—15—300	
1 Assistant research worker on curing and preservation	100—5—150	
1 Peon	15—1/5—19	
		3,180
12 Peripatetic parties for rural demonstration parties each consisting of:—		
1 Demonstrator	100—5—150	
2 Menials	20—1—30	
1 Durwan	18—1/2—25	
		22,752
Travelling allowances		12,000
Supplies and services—purchase of tools and apparatus		1,000
Contingencies—Railway freights, etc.		5,000
		Total 43,932
Total hide improvement expenditure		97,864
Say		1,00,000

III. Expenses for the improvement of tanning:—

(i) Central Institute for research and training at Calcutta combined with the Bengal Tanning Institute.

	Rs.	Non-recurring. Rs.
Land (extra land for staff quarter, etc.)		75,000
Machinery, plants (additional):—		
1 Fleehing and unhairing machine	5,500	
1 Splitting machine	7,500	
1 Seasoning machine	5,000	
1 Buffing machine	1,500	
1 Embossing machine	10,000	
1 Faller stock machine	1,000	
1 Union splitting machine	1,500	
1 Steam engine	4,000	
1 Drilling machine	200	
1 Lathe	2,000	
1 Water softening plant	10,000	
1 Tanning extract plant	25,000	
1 Glue making plant	15,000	
	<hr/>	
Total	88,200	
	Say	1,00,000
Building:—		
To accommodate research laboratory, tannery, engineering workshop, staff quarter, etc.		2,00,000
Other line-shafting, gas, water and electric installations		25,000
		<hr/>
Total Block		4,00,000
		<hr/>
		Annual recurring.
	Rs.	Rs.
Establishment:—		
Director and other technical staff.		
Director	1,500—50—2,000	
1 Research chemist	750—25—1,000	
2 Assistant chemists	150—15—300	
1 Tanner	750—25—1,000	
1 Assistant tanner	150—15—300	
1 Bacteriologist	150—15—300	
1 Glue expert	750—25—1,000	
1 Engineer	250—20—350	
1 Draftsman	75—5—125	
1 Workshop assistant	75—5—125	
1 Workshop assistant	50—5/2—80	
	<hr/>	
		57,000

	Ra.	Annual recurring. Ra.
	Brought forward	57,600
<i>Office staff.</i>		
1 Office superintendent	300—20—500	
1 Head clerk	150—10—300	
1 Accountant	125—15/2—200	
1 Cashier	100—5—150	
4 Assistant clerks	40—40—45—5/2—100	
1 Store-keeper	75—5—125	
1 Assistant store-keeper	40—40—45—5/2—100	
2 Typists	35—35—40—5/2—100	
1 Librarian	75—5—125	
1 Editor for "Indian Leather Trade Journal"	200—20—400	
1 Curator	75—5—125	
	<hr/>	16,440
<i>Office menials.</i>		
1 Duffry	20—1/2—30	
7 Orderlies	15—1/5—19	
4 Peons	15—1/5—19	
	<hr/>	2,220
	Total Establishment	76,260
Travelling allowances		5,000
Supplies and services—purchase of tools and apparatus		5,000
Contingencies :—Furniture, labour, hides, treatment materials, power, freight, laboratory supplies, literature, forms and stationery, advertisement, printing, rent of telephone, liveries, miscellaneous contingency, stamps		20,000
8 Research scholarships @ Rs. 100 each		9,600
	TOTAL	<hr/> 1,15,860

(ii) Staff for working in provinces and rural areas.

	Ra.	
<i>Establishment:—</i>		
3 Chemists	400—20—500—25—750	
3 Tanners	200—10—350	
2 Supervisors of demonstrations	200—10—350	
6 Tanning demonstrators	100—5—200	
6 Shavers	30—1/2—35	
6 Fleshers	25—1/2—30	
6 Varnishmen	30—1/2—35	
12 Workmen	18—1/2—20	
9 Peons	15—1/5—19	
6 Durwans	18—1/2—25	
	<hr/>	
	Total Establishment	45,228

	Annual recurring. Rs.
Brought forward	45,228
Travelling allowances	20,000
Supplies and services—purchase of tools and apparatus	3,000
Contingencies	13,000
Total	<u>81,228</u>

(iii) 10 artisan tanning schools—each consisting of the following staff:—

Establishment:—	Rs.	Rs.
1 Supervisor	125—5—150	
1 Assistant tanner	75—5—100	
1 Shaver	30—1/2—35	
1 Flesher	25—1/2—30	
2 Workmen	18—1/2—20	
1 Varnishman	30—1/2—35	
1 Clerk	40—40—45—5/2—100	
1 Store-keeper	40—40—45—5/2—100	
1 Durwan	15—1/5—19	
2 Peons	15—1/5—19	
Total Establishment		53,520
Supplies and services—purchase of tools and apparatus		5,000
Contingencies:—House rent, furniture, hides and skins, treatment materials, forms and stationery, liveries, stamps, etc.		45,000
Total		<u>1,03,520</u>
Grand Total (i), (ii) and (iii)		<u>3,00,608</u>
Say		<u>3,00,000</u>

IV. Associated industries:—

10 leather working schools, each consisting of the following staff:—

Establishment:—	Rs.	Rs.
1 Supervisor	125—5—150	
1 Instructor in shoe making	50—5/2—75	
1 Upper closer	40—5/2—60	
1 Instructor in leather goods making	50—5/2—75	
1 Clerk	40—40—45—5/2—100	
1 Durwan	15—1/5—19	
1 Peon	15—1/5—19	
Total		40,200
Supplies and services—purchase of tools and apparatus		15,000
Contingencies:—House rent, furniture, leather and sundries		45,000
Total		<u>1,00,200</u>
Say		<u>1,00,000</u>

	Annual recurring- Ra.
V. Foreign propaganda:—	
6 Trade Agents on Rs. 1,000—50—1,500 with office establishment of Rs. 400 a month	1,00,800
Travelling allowances	40,000
Contingencies:—House rent, furniture, forms and stationery, stamps, advertisement, printing, propaganda—participation in fairs, etc., and miscellaneous contingencies	60,000
Total	<u>2,00,800</u>
Say	<u>2,00,000</u>
VI. Grant-in-aid and subsidy:—	
1. Grant-in-aid to Cawnpore Technological Institute	30,000
2. Do. Leather Trades Institute, Madras	30,000
3. Do. Tanning School, Nagpur	15,000
4. Do. Tanning School, Punjab	15,000
5. Do. Association for the Prevention of Cruelty to Animals, etc.	10,000
6. Do. Veterinary Department for research on the remedy for cattle pests, etc.	10,000
7. Subsidy to Forest Department for pasture lands	40,000
8. Bounty to industries for taking up new lines	1,00,000
Total grant-in-aid and subsidy	<u>2,50,000</u>
VII. Scholarships for foreign training:—	
2 Scholarships of £350 a year tenable for 3 years either in Europe or America	10,000
Total	<u>10,000</u>
Expected receipts by sale of products from the Central Research Institute	10,000
Expected receipts by sale of products from artisan schools	10,000
Expected receipts by sale of products from leather working schools	10,000
Total Receipts	<u>30,000</u>

Note on the Tanning Industry in Bengal and the Bengal Tanning Institute for the Hides Cess Committee, by B. M. Das, Esq., M.A. (Cal.), M.Sc. (Leeds), Superintendent, Bengal Tanning Institute.

Modern tanning is overwhelmingly progressive. To keep pace with this progress it has been found necessary in almost every country of importance to initiate and maintain research work on tanning problems. *Ad hoc* researches are made in commercial tanneries, many of which are equipped with suitable laboratories to solve the difficulties that arise; but over and above these, leather trades institutes have been provided in various countries where systematic researches are carried out. Thus there are four institutes in Great Britain, three in Germany, one in Austria, one in France, one in

Italy, one in Holland, and a number in the United States of America. These laboratories and institutes working for the last 40 or 50 years have trained a number of eminent leather chemists and scientific tanners who are helping the tanning industries of the countries concerned to hold their own in the keen competition of the modern time. Not only the future and development, but the very existence of the tanning industry of a country now-a-days depends in a great measure upon efficient and extensive research work.

This is so in the progressive countries of Europe and America. It is much more so in India, where tanning has been all along a neglected industry. Development of tanning in India really means the introduction of the modern methods, attempt to reach up to the standard of quality of Europe and America, and a continuous and persistent effort to keep pace with the world's general progress, so as to make it possible for India to hold her own and meet competition. Introduction of modern methods, improvement of quality and the maintenance of the standard are all to be done through research.

The importance of research was realised by the Indian Industrial Commission (1916-18), which thoroughly survey the condition and the prospect of the tanning industry in India, and recommended a clear policy of research for the development of the industry. Thus the Commission observed (page 60, Appendix D. The Development of the Indian Tanning Trade):—

“It may almost be accepted as axiomatic that the development of the Indian leather trade can only be accomplished by bringing to its assistance technically trained men, qualified to deal with the local problems and capable of modifying European and American methods to suit local conditions.

It is obvious that India cannot afford to neglect any of the advantages enjoyed by the tanning trade of the other countries, and it may be regarded as essential that adequate provision should be made, as early as possible, for the investigation of tanning problem in India.

The condition in India in respect of the supply of raw material, both hides and skins and tanstuffs, vary considerably, and it is possible that there may be scope for combined research laboratories and experimental tanneries at such centres as Calcutta, Madras, Allahabad and possibly Bombay.”

EXTENT TO WHICH CALCUTTA IS SUITABLE AS A CENTRE FOR TECHNOLOGICAL RESEARCH AND TRAINING OF TANNERS AND TANNERY FOREMEN AND LEATHER CHEMISTS.—To judge of the suitability or otherwise of Calcutta as a centre for research and training in leather industries, it is necessary to consider the extent to which tanning has developed in Calcutta and the possibilities of its further expansion with the help of the facilities offered by research and training. Technological research is really an attempt to solve manufacturing problems, and the object if training is to utilise the services of men trained in the development of the industry. So the existence of the industry to offer problems for research and the possibility of its expansion to absorb the trained men are essential to make research and training really useful at any centre.

TANNING IN CALCUTTA AND ITS POSSIBILITIES.—During the last 15 years tanning and its associated industries, viz., boot and shoe making, leather goods manufacture and collection and marketing of tan-stuffs have increased enormously in Calcutta.

Just before the War in 1914, there were about half a dozen tanneries in the suburbs of Calcutta, operating on a small scale and turning out crude leather by the indigenous process. With the exception of 2 none were equipped with the machinery, and the *chamar* mistry provided all the expert knowledge. The combined output of all the tanneries hardly exceeded 100 hides a day. The total value of the annual output could not have been more than 3 lakhs of rupees.

To-day there are about 300 tanneries in Calcutta, big and small, which tan annually about 7 lakhs cow hides, 7 lakhs buffalo hides, 5 lakhs goat and

sheep skins and 14 lakhs lizard skins of a total estimated value of about 2 crores of rupees. Thus in the course of the last 15 years tanning has increased about 70 times.

IMPETUS GIVEN TO CHROME TANNING IN CALCUTTA.—Among the different branches of tanning Calcutta has given a great impetus to the development of chrome tanning. About 12 or 13 years ago when Cawnpore was occupied with vegetable and Madras and Bombay with half-tanning, Calcutta took up chrome tanning, the newest of the tanning processes and struggled on to make it a commercial success. A large amount of private capital was invested and some of it has been lost in the pioneering venture. But eventually Calcutta has succeeded, and chrome tanning has been commercially established. Pioneering difficulties being over, chrome tanning happens now to be the most popular of the tanning methods on account of its speed, special suitability of chrome leather for making uppers of shoes and the quick return it gives to investment. The process is suitable not only for making shoe uppers but also some varieties of mechanical leather such as picker bands of which there is a large consumption in the Indian textile industry, and attempts are now being made for the production of this variety of leather. Now even Cawnpore, seeing the advantages of the process, has taken it up and is producing chrome leather. The pride of place for the commercial development of the process and the popularisation of chrome leather in India belongs, however, to Calcutta.

Calcutta has, at present, three large chrome tanneries, equipped with up to date plants and 40 small tanneries many of which are also provided with some machines. They are all active and their productions are supplying the bulk of chrome leather in India and the neighbouring countries. Some of these are also exporting to England whenever there is an opportunity. At a rough estimate about 2,000 pieces of cow hides are chrome tanned daily in Calcutta. This is a phenomenal development when the fact is remembered that in 1914 the output of chrome leather was hardly more than 30 pieces daily.

VEGETABLE TANNING IN CALCUTTA.—Great strides have also been made in vegetable tanning. About 2,500 buffalo hides are turned into sole leather daily by the vegetable process in about 200 small tanneries. About 2,000 men are engaged in it who have all come from the Punjab to pursue this industry in Calcutta. The tanning is done by the indigenous bag process which has got the merit of great quickness, complete tanning being effected in seven or eight days.

VEGETABLE-TANNED PATENT OR VARNISHED LEATHER.—A large quantity of this leather is made in the suburbs of Calcutta. In fact Calcutta is the only place where varnished leather is made and she supplies it to all other parts of India, to Burma, Mesopotamia and other countries.

The leather is not of very fine quality and leaves much room for improvement and offers a suitable subject for practical research. But the manufacture that is being done shows that the conditions in Calcutta are favourable for making patent leather.

VEGETABLE-TANNED COW HIDES FOR SUIT CASES, ETC.—Considerable quantity of this leather is made in several tanneries some of which emboss many attractive artificial grains on them.

HALF-TANNING OF COW HIDES, SHEEP AND GOAT SKINS.—A few tanneries have commenced this work.

TANNING OF REPTILE SKINS.—This is a new development, and has assumed considerable proportion. It now forms an important part of the tanning industry of Calcutta, and is expanding every year.

Similar, if not a greater, expansion has taken place in the manufacture of boots and shoes. Not less than 4 thousand pairs of shoes and another 5 thousand pairs of slippers are made daily in Calcutta. The value of the annual output of these may be estimated at about a crore of rupees.

Manufacture of leather goods such as trunks, suit cases, purses, and of mechanical leather, such as belting, pump hides, washers, etc., for use in mills, factories and railway workshops, has also increased greatly. It is difficult to estimate its output and value but to take the value of this branch of manufacture at about half a crore of rupees annually would be a conservative estimate.

The total annual value of the products of the tanning and its associated industries may thus be taken at about 3½ crores of rupees. In this estimate the outputs of the 27 districts of Bengal have not been taken into account. If this were done the value would increase further. But even as it is, the value of the present output of Calcutta alone is very much greater than the annual export of raw hides from India.

All this has been accomplished by private capitalists depending entirely upon the civilian trade. Calcutta has not had the patronage of Government and the advantages of government orders which the leather industry of Cawnpore* had the initial stages of its development. Neither is she the seat of a large government tannery and equipment factory like the Harness and Saddlery Factory of Cawnpore.

CONDITIONS IN CALCUTTA CONGENIAL TO THE DEVELOPMENT OF LEATHER INDUSTRIES.—This enormous and rapid advance is an eloquent testimony of the favourable conditions that Calcutta offers for the development of modern tanning and its allied industries. Some of the outstanding and palpable of these are indicated below.

(i) *Industrial enterprise.*—It is undeniable that Calcutta is the most cosmopolitan city in India. Geographically it belongs to Bengal but all nationalities participate in her trade and industry and perhaps the most enterprising men of different nations, both Indian and foreign, come to this city to try their luck and make money. The early pioneering and the subsequent development of chrome tanning are in a great measure attributable to the presence of this enterprising spirit. A striking illustration of this is offered by the starting of 12 big tanneries in Calcutta just after the War in which an aggregate capital of over a crore of rupees was invested. Although some of these have failed, the enterprise of these firms has advanced tanning in Calcutta enormously. A good deal of technical knowledge and experience has been gained and a considerable amount of up-to-date machinery obtained. The survivors are benefiting by them.

(ii) *Availability of hides.*—Being the principal Indian port, hides from the whole of North India as well as from all districts of Bengal are brought down to Calcutta for sale to the exporters and tanners. Even tanners from Madras and Cawnpore come to purchase hides in Calcutta. It is the largest emporium of the Indian hide trade and the bulk of the export of hides is done from here. There are 75 hide *arhats* in Calcutta where dry-salted and arsenicated hides of all weights and grades are available. There are 6 slaughter-houses in and near Calcutta from where about 4 to 5 hundred green hides can be got daily. Tanners in Calcutta can thus have a choice of raw material in sufficient quantity, which is very important for running a tannery.

(iii) *Availability of labour.*—On account of her industrial activities labour from all provinces migrate to Calcutta. Thus skilled workers from the Punjab, United Provinces, Bihar, Madras, Bombay and Bengal are at present engaged in the tanning and the associated industries in this city. And one's experience is that once they come to Calcutta they prefer to stay and seldom

* At Cawnpore, the Government Harness and Saddlery Factory was started in 1860 on an experimental scale, and as it proved a success, it was placed on a permanent basis in 1867. Shortly afterwards, Messrs. Cooper and Allen started the Government Boot Army Equipment Factory and at the outset they received considerable amount of financial assistance from Government (page 56, Appendix D of the Indian Industrial Commission's Report).

go back except for short annual visits to collect harvest. Labour is therefore steady.

(iv) *Market for finished leather.*—Calcutta is a large market for the sale of finished leather. As already stated manufacture of shoes in the city is considerable. About 8 to 10 thousand pairs are made here daily at a rough estimate. There are more than 500 shoe shops and 180 shops for selling leather. Bengal most probably consumes the largest number of shoes of the modern type among the Indian provinces. She is the largest market not only for the shoes made in Calcutta but also those manufactured at Cawnpore, Agra and Madras. Leather is sold not only for consumption in the city but merchants come from other parts of India as well as outside India to make their purchases. Thus the possibility of the local disposal of the output is a great advantage.

(v) *Facility of selling industrial leather.*—The large number of jute mills, rice mills, oil mills, engineering shops, collieries, tea gardens, railways, etc., offer facilities for the sale of a large variety of industrial leather and leather goods.

(vi) *Facility of repairing and replacing parts of machinery.*—This is offered by the number of the most well equipped engineering works in Calcutta.

(vii) *Availability of chemicals, dyes and treatment materials.*—There are firms in Calcutta which always hold large stocks of these materials and they often send their technical travellers to the tanners to advise on the use of their materials and help them in solving difficulties which always crop up in tanneries.

(viii) *Scientific atmosphere.*—Modern tanning involves phenomena of inorganic, organic and physical chemistry, of bacteriology and of physics. Being the seat of a premier University whose special features are higher scientific research, Calcutta offers to its tanning industry a close contact and frequent intercourse with eminent professors and students of science, of access to some of the best equipped laboratories for advice and information and a healthy atmosphere of scientific research. This is an advantage hardly to be found elsewhere.

(ix) *Special claims of Calcutta for facilities of research and training.*—The outstanding feature of the leather industries of Calcutta is that all this 3½ crores of rupees worth of business has been built up mostly by private individuals and companies. The manufacture is distributed among several small concerns which cannot afford the expenditure of undertaking research and training at their own places. They will be benefited if facilities of research and training are provided at public expense in Calcutta. The utility of a public research station is not so apparent in a place like Cawnpore where the industry is confined to a few large tanneries which are sufficiently big to arrange for the necessary research and training at their own places. As a matter of fact this has to a great extent been done at the Government Harness and Saddlery Factory where provision for the training of apprentices already exists.

Besides, the development of tanning in India largely depends upon the progress that chrome tanning can make in this country. The production of chrome shoe upper leather is already considerable and is increasing day by day as more and more people are getting interested in it. The process will also soon extend to the manufacture of other varieties of leather from the Indian raw materials. So researches for the development of tanning in India really mean the investigations that will have to be undertaken on chrome tanning. This process having been discovered comparatively recently, in 1834, is much younger than the vegetable process, the origin of which is hidden in the mist of pre-historic times. Thousands of years of practice and the experience of generations of tanners have placed a considerable amount of knowledge on vegetable tanning in the hands of the tanner. But comparatively very little is as yet known about the many complexities of chrome tanning, as a consequence of which it is as yet applicable to the production of much fewer varieties of leather than bark tanning. At the present time

chrome tanning offers far greater number of problems for solution than vegetable tanning. It has not yet been possible to make chrome tanning fool proof, and constant scientific control is necessary from the start to finish of the process.

With regard to training also a fairly large number of men has been trained in vegetable tanning by years of practice and experience. The Indian *chamar* possesses a considerable amount of knowledge of this process. But knowledge of chrome tanning has not diffused to an equal extent. Further, as chrome tanning is a chemical process a good deal of knowledge of chemistry is required to master the process. So young men having such knowledge of chemistry have to be trained in chrome tanning and the *chamars* have to be taught how to get skilled in the various manual and mechanical operations involved in the process and of which they have had no previous experience.

It is, therefore, clear that the need for research and training in chrome tanning is more urgent and pressing than that for vegetable tanning. As Calcutta is the principal centre of chrome tanning where a good deal of pioneering efforts have been made to establish it and where at large number of individual concerns are engaged in chrome tanning than in any other place, her claims for being the seat of the central tanning research institute in India are much greater than any other tanning centre in India.

(x) *Claims for Calcutta admitted by the authorities.*—The claims of Calcutta for having facilities of research and training in the tanning industry were recognised by the Industrial Commission, the Government of Bengal, the University of Calcutta and the Government of India.

The Industrial Commission in recommending suitable places for the establishment of "Combined research laboratories and experimental tanneries" mentioned "such centres as Calcutta, Madras, Allahabad and possibly Bombay" (page 60 of the appendices to the Report). The Government of Bengal recognised the force of the recommendation and sanctioned the establishment of the Calcutta Research Tannery in 1919. The Calcutta University too included tanning as one of the subjects for Post Graduate study in the course of the M.Sc. degree in Industrial Chemistry. In 1920 the Government of India inaugurated a proposal for the establishment of an Imperial Tannery for training and research in tanning and selected Calcutta as its centre.

The scheme of the Imperial Tannery was discussed at three consecutive meetings held on the 30th and 31st January and 1st February 1920. High officials of the Governments of India and Bengal and representatives of the tanning trade took part in the deliberations. The names of gentlemen present in the meetings are given below:—

- (1) Sir Thomas Holland, K.C.S.I., C.I.E., F.R.S., the then Member, Viceregal Council, in charge of the Department of Industries and Labour.
- (2) Sir Henry Wheeler, K.C.I.E., C.S.I., I.C.S., the then Finance Member to the Government of Bengal, late Governor of Bihar and Orissa.
- (3) Sir Alfred Chatterton.
- (4) Sir Henry Ledgard.
- (5) Dr. D. B. Meek, M.A., D.Sc., I.E.S., the then Director of Industries, Bengal.
- (6) Sir Nil Ratan Sircar, Kt., M.A., M.D., etc.
- (7) Mr. B. M. Das, M.A., M.Sc., represented the National Tannery Co., Ltd.
- (8) Mr. G. D. Lys of Graham & Co., Managing Agents of Bengal Tanneries.
- (9) Mr. T. A. Magnus.
- (10) Mr. Bennet of Davenport & Co., Managing Agents of Rajshahi Tanneries (Bengal), Bihar Tanneries (Bihar and Orissa).

- (11) Mr. E. I. Oakley of Kilburn & Co., Managing Agents of the Beldanga Tannery (Bengal).
- (12) Mr. E. Brigga.
- (13) Mr. Archard of Bird & Co., Managing Agents of the India Tanneries, Ltd.
- (14) Mr. Hart, Manager of Messrs. David Sassoon's Tanneries.
- (15) Mr. T. S. V. Pillai of Chari & Co., Managing Agents of Calcutta Chrome Tanning Company.

The main features of the Imperial scheme were to provide for extended facilities for the conduct of researches and practical training in all branches of leather manufacture from the raw materials available in India, using the Calcutta Research Tannery, now Bengal Tanning Institute as nucleus. The scheme contemplated extensions of the existing laboratories, and of the tannery to demonstrate to the students the economic advantages of working on a large scale sufficiently small, however, to prevent undue competition with the privately owned tanneries and involved a capital expenditure of Rs. 32,06,131 and an annual recurring expenditure of Rs. 1,57,100. The meeting supported the scheme and both Governments of India and Bengal agreed to take steps for its materialisation. So much advance was made with it that a declaration was made for the acquisition of land in Calcutta for its site. Unfortunately, however, for the post-war stringency of funds the scheme has been kept in abeyance. Should funds be available it deserves revival with such modifications as the present development may warrant.

THE ESTABLISHMENT OF THE CALCUTTA RESEARCH TANNERY.—*Development of its educational aspects and change in its designation.*—This was established by Government of Bengal in 1919. The object was to stimulate the development of the tanning industry of the province by systematic research and investigation. Its primary object having been research the name "Calcutta Research Tannery" was given to it. Teaching was its secondary function and so at its initial stage provision was made for the training of 4 apprentices only. But subsequently considerable pressure was felt for admission into the tannery from the young men of the province for training and in response the Government of Bengal sanctioned the admission of 16 more students. Later on the Government of Bihar and Orissa also approached to have their students trained and provision for the accommodation of 8 Bihar and Orissa students was made. The Government of Bihar and Orissa agreed to bear the proportionate cost of this training. In this way both the research as well as the teaching aspects of the tannery were developed, and the name was changed from Research Tannery to "Bengal Tanning Institute". This year a department for giving instructions in the making of boots and shoes and leather goods such as trunks, suit cases, etc., has been added.

2. (a) **ENROLMENT AND PRESSURE FOR ADMISSION.**—In discussing this point it has to be remembered that tanning and work in leather were regarded as an unclean occupation in India from time immemorial. Much prejudice was entertained by the educated and the wealthy communities against this industry which was consequently left to be pursued by the depressed communities of *chamars* and *muchis* who never received the light of education and were seldom out of the grip of abject poverty and distress. The bias against the trade was increased more by the wretched condition, filthy surroundings and the consequently low status of its pursuers than by any inherent unattractiveness of the work itself. Modern tanning need not be and is not an uninviting work. Some of the highest qualities of an educated man, *viz.*, a sound knowledge of the modern sciences, power of observation, good judgment, courage and business instinct, are necessary to run a modern tannery successfully. A good deal of money is also required. It is, therefore, necessary to attract educated young men of the middle and upper classes for training in this industry, men who will be able to bring their education, social influence and wealth to bear upon the trade.

Age-long prejudice dies hard and progress can only be slow but a beginning must be made. This has been done and the response obtained is encouraging.

During the last five years 703 applications for admission were received and out of these applicants 187 were graduates and 516 under-graduates. These figures show that the prejudice is disappearing.

(b) **ADMISSION QUALIFICATIONS.**—All applicants are not indiscriminately admitted. Some restrictions have been imposed to keep out unsuitable candidates.

Ordinarily candidates who have not passed the Matriculation examination of any of the recognised universities are not admitted, but preference is given to candidates who have passed higher examinations such as I.Sc., B.Sc. or M.Sc. An exception to this rule is, however, made in the case of those who are connected with the hide or leather industries, in which event even non-metrics having sufficient knowledge of English and Arithmetic are admitted. Suitable applicants are called for interview at which their health, capacity for work, alertness of mind are judged and information is also obtained about the financial condition of their family and whether any member of the family has any business connection. The latter is considered necessary because wards of businessmen and men of good financial condition are more likely to adopt a business career after receiving the training than sons and relatives of service men. Science graduates are preferred because they can follow the course better than those who have no previous knowledge of chemistry and physics. The graduates are expected to make good leather chemists, tannery managers and superior foremen. Under-graduates will make tannery assistants and practical foremen. Both the types are required for the industry.

(c) **NUMBERS TURNED OUT.**—Forty five students have passed after completing the full course. Of them, 32 or 70 per cent. are employed in the tanning or associated trades, 6 or 13 per cent. as technical chemists and 4 or 10 per cent. in other business. More could have been passed through if admission were not restricted, but that would have been sacrificing quality for quantity which is undesirable.

(d) **HOW FAR THE WORK OF THE INSTITUTE HAS BEEN APPRECIATED BY THE TRADE.**—That the work of the institute is appreciated by the trade can be judged from the service that the trade takes from it.

Whenever a new tannery is proposed to be started the promoters seek the help of the institute for plans, estimates and advice regarding suitable lines of manufacture. Working tanneries utilise the institute for solution of their problems. Employers often ask the institute to recommend to them tanners and tannery assistants and the latter again come to the institute for information about employment in the trade. Opinion of the institute is sometimes asked on trade disputes regarding quality of materials and it has also happened that the Superintendent has been requested to inspect leathers intended for export both by the seller here and the buyer overseas. At the early stages of the development of the reptile skin tanning in Calcutta many local tanners took the help of the institute in working out suitable processes of tanning and to get into touch with foreign buyers.

Small tanners in Calcutta send their tanned leather to have the machine work done by the institute until they gather sufficient confidence in themselves and raise sufficient money to buy the required machines for their own tannery. In this way many small tanners have been helped to get their places equipped with machinery. In some instances the staff of the institute had to go and inspect the machinery before purchase and to erect them when purchase was made. The small concerns which have no experience of foreign business or which cannot afford the money to indent spare parts of machinery often seek the help of the institute for supplies. Mofussil tanners some times approach it for tanning materials and stores. Tanning materials, tanning extracts, waters, chemicals, patent preparations intended for use in the tanning industry, dyes and sundry other things are sent to the institute for test and report. Dealers of tanning materials and tannery requisites, both foreign and Indian, seek the assistance of the institute to get their products introduced to the trade and the institute brings such among them to the

notices of the local tanners as are good and likely to improve the quality of their products. Enquiries for leather and leather goods received at the institute are circulated among the local tanneries.

The hide trade also utilises the institute for the investigation of such problems as defects in the cure or of the quality, etc., of hides and skins.

Enquiries of foreign dealers for information about sources of supply of several Indian hide and leather products are received and responded to.

The training given to the students of the institute has been appreciated as most of those who have been able to secure employment in the trade have succeeded in retaining their jobs. Those who have started business on their own have been able to satisfy customers. The chemical aspect of the training at the institute has been appreciated even by those who are outside the tanning industry as some of the past students have been able to secure good berths in industrial laboratories on account of the knowledge of technical analysis which they gained at the institute.

Results of successful investigations have been utilised by several tanneries which have found them useful and the peripatetic demonstration parties have introduced improved methods of tanning in several centres of the mofussil. Young men both of the educated and *chamar* communities have shown keenness in learning modern methods. The public have also been found to take an interest in the work of the institute and applications are received from various places of the mofussil to hold demonstrations in tanning with a view to teach the local people. Requests for the participation in the various district exhibitions are always received and the exhibits and demonstrations of the institute have helped the people to get a proper idea of modern tanning and improved leather and have removed much of the prejudice formerly entertained against the tanning trade.

The facilities offered by the institute have thus been well utilised and both the leather trade and the public have appreciated its work and evinced considerable interest in it.

3. STAFF, QUALIFICATION AND EXPERIENCE.—The staff consists of a Superintendent who is the head of the institute, a research chemist, an assistant chemist, a foreman tanner, two peripatetic tanning demonstrators, head clerk, a cashier, a store-keeper and a reference clerk.

Qualifications.—The Superintendent, Mr. B. M. Das, M.A. (Cal.), M.Sc. (Leeds), is an M.A. of the Calcutta University, stood first in chemistry and a Master of Science in the chemistry of leather manufacture of the University of Leeds, England. He did researches in tanning at the University under the late Professor H. R. Procter, called the father of modern tanning chemistry and Dr. E. Stiasny, now the most eminent leather chemist in the Continent of Europe. He devoted two years at the Leather Industries Department of the University of Leeds for the study of the chemistry of leather manufacture and won the highest university degree in leather chemistry, viz., M.Sc., by important researches on the chemistry of chrome tanning. He spent further 3 years in Europe principally in Germany, Italy, and England and gained considerable experience of both Continental and English methods of tanning by practical work in tanneries and currying shops of these centres. He has, therefore, 5 years' experience of tanning in Europe. Since 1914 he has been working as Manager of the National Tannery Co., Ltd., of which Messrs. Martin & Co. are the present Managing Agents and he has thus 15 years' experience of practical tanning and tannery management under Indian conditions. He has been working as the Superintendent of the Bengal Tanning Institute since 1919 as a part-time officer. The Superintendent has thus 20 years' experience of both the theoretical and practical sides of modern tanning.

Research Chemist, Mr. B. B. Dharale, M.A.—He is an M.A. in chemistry of the Bombay University and had also training in the chemistry of leather manufacture at the Leather Sellers Technological College, Bermondsey, London, and also did researches on tanstuffs at the Manchester College of Technology. He also had a training in the researches on the Indian tanning

materials at the Tanning Research Institute which was organized by the Indian Munitions Board at Maihar, Central India.

Assistant Chemist.—He is a B.Sc. of the Calcutta University. He underwent the full course of training both in practical tanning and the chemistry of leather manufacture at the Bengal Tanning Institute; served as a chemist in the tanning extract factory under James Scott & Sons, Ltd.

Tannery Foreman.—He received his training in leather manufacture at the Madras Leather Trades Institute. After completing the training he served as a practical tanner in several tanneries in Calcutta as well as outside Calcutta for 10 years and has acquired considerable experience in practical tanning.

Two peripatetic tanning demonstrators.—Both are past students of the Bengal Tanning Institute and completed the full course of training in practical tanning as well as in the chemistry of leather manufacture. The senior demonstrator after leaving the institute served as a practical tanner in two commercial tanneries for two years. Both of them are in the tanning line for six years.

4. EQUIPMENT, EXISTING AND PROPOSED.—(i) *Equipment existing.*—The Industrial Commission's conception of a tanning research institute combined laboratories with an experimental tannery. This was a somewhat novel idea and in a way different from the usual type of industrial research stations that one finds in Europe and America, which are confined more or less to laboratories. In countries where the practical side of tanning has greatly advanced by long years of practice and experience only laboratory research may satisfy the needs. But in India where practical tanning happens still to be lying at the bottom of the pit the industry has to be lifted by large scale tanning investigations conducted at the experimental tanneries proposed by the Commission under quasi-commercial conditions. The test tube and beaker experiments and the pot tanning such as can only be done on the laboratory bench will not suffice in India for a long time to come. Processes worked out on a small scale in the laboratory are often misleading and experts trained in the laboratory only without any actual tannery practice are bound to be inefficient.

In equipping the Calcutta Research Tannery (Bengal Tanning Institute) this conception was sought to be materialised. Its equipment consists of laboratories and an experimental or demonstration tannery.

Laboratories: A chemical research laboratory has been provided where investigations on the fundamental principles of tanning, on the methods of testing and assaying used in the industry, on tanstuffs and treatment materials and various other problems bearing on tanning under local conditions, are carried out.

Besides, there is a general chemical laboratory intended for students' use, where 16 of them can be accommodated at a time. They learn here the analytical methods required for testing and assaying various materials used in the tanning industry and also for controlling the operations involved in modern tanning. Both of these laboratories have been provided with most of the necessary fittings, appliances and apparatus. New apparatus and implements are obtained as occasion arises.

Experimental tannery: This has been housed in a building 100 ft. long and 40 ft. wide. Arrangements have been provided for the conduct of both bark and chrome tanning on a quasi-commercial scale.

There are 14 lime pits and 22 tanning pits for bark tanning. There is also a battery of 8 leach pits for extracting tan liquor from vegetable tanning materials and a well where the liquor is collected and from where it is pumped into the tan pits by an electric pump.

For chrome tanning the equipment consists of two paddles for delimiting and washing, two big drums for pickling, tanning, neutralising, etc., two smaller drums for dyeing and fat-liquoring, one shaving, one staking and two

glazing machines. One leather measuring machine has been indented for and is expected to arrive soon.

There is also a sole leather pressing machine. A very small experimental drum and a mechanical churning apparatus have been provided for very small scale experiments.

The machinery is run by a 29 h. p. steam engine, the steam to which is supplied by a Lancashire boiler. An electric motor of 15 h. p. has been installed and kept as a lay-by for occasions when the boiler cannot be steamed, such as when it is being cleaned for inspection or when only one or two machines need be worked for a short time.

One 1½ size Carter's disintegrator worked by an electric motor crushes the tanstuffs required for vegetable tanning.

Besides the laboratory and office and the tannery buildings, there are the stores, tanstuffs and boiler sheds and quarters for the watch and ward staff.

For the supply of water a 12" tube-well has been sunk, and there is arrangement for pumping water from an excavated tank within the institute premises. A supply of Corporation filtered water has also been arranged for to be used for drinking, laboratory experiments and for certain purposes in tanning where clean and soft water is required.

The tannery compound extends over 11 *bighas* of land, and there is sufficient room for more buildings if extension be desired.

The department for teaching boot and shoe and leather goods making has been temporarily located at the premises of the Cakutta Technical School in Corporation Street.

(ii) *Equipment proposed.*—Proposals have been submitted to the Government of Bengal for the extension of the institute to afford facilities for starting a course of training for award of diploma in tanning and for the erection of a permanent building for the boot and shoe and leather goods making department. In these proposals, considering the stringency of government funds, only the indispensable buildings and appliances have been asked for; for instance, a lecture theatre, a room for sorting apparatus and finished leather and the Hindu and Mahomedan students' mess-rooms, so that they may arrange for and take their luncheon at the time of the mid-day recess. The proposal for the diploma course has been administratively approved by Government.

Even when the above proposals are given effect to, there will be still deficiencies which will have to be made up, with a view to perfect the equipment of the institute to show it as a model for the industry. These are indicated below:—

- (1) Provision of machines which have not yet been installed; like fleshing and unhairing, splitting, seasoning, buffing machines, etc., and a building to accommodate them.
- (2) A well-equipped drying room for leather.
- (3) A water softening plant.
- (4) An experimental plant for the demonstration of tanning extract manufacture.
- (5) An experimental plant for making glue.
- (6) A museum where all tanning materials, chemicals and preparations, both of Indian and foreign origin, samples of different varieties of raw hides and skins as well as of finished leather, both Indian and foreign, should be kept in a properly classified condition for the purpose of reference and instruction.
- (7) A library of all literature bearing on leather industries.
- (8) A bacteriological laboratory with adequate equipment for the study of bacteriological problems connected with tanning, and an elementary engineering workshop where the students may learn the use of simple engineering tools and also where they may take out parts of a machine and reassemble them with a view to get acquainted with the parts.

5. COST, RECURRING AND NON-RECURRING, INCURRED OR TO BE INCURRED.—
Bengal Tanning Institute.—

	Rs.
A. Block (non-recurring)—	
(1) Buildings, etc.	1,68,686
(2) Machinery	35,920
B. Recurring—	
Budget for the year 1929-30	62,633
C. Receipts from sale of leather, etc.—	
Annual average	15,000
Boot and Shoe-making Department—	
Non-recurring	2,306
Recurring	4,820

6. SUMMARY OF RESEARCH WORK OF RECOGNISED MERIT DONE BY STAFF.—
How far appreciated by trade and industry.—Researches in tanning may broadly be of two descriptions: Those of a fundamental nature, like investigations on the chemical constitution of hide substance, of the tanning principles of the various vegetables and mineral tanning materials; on the chemical reactions between the hide substance and the tanning materials resulting in the formation of leather, on the causes of swelling and reversion of the hide by acids and alkalies, on the methods of analysis used in the industry, etc.

These fundamental researches are of general interest to the tanning industry of the whole world, and many eminent leather chemists in Europe and America are occupied with them.

The researches of the other description are investigations to solve local problems, for instance in Bengal, such problem as: What sort of leather can be produced from the various qualities of the local cow hides and goat skins by chrome and vegetable tanning? How should the operations involved in these processes be modified to suit the local conditions of temperature, atmospheric moisture, nature of the water-supply, customers' taste, etc., with a view to produce the best possible leather? Is it possible to turn out such varieties of leather as have not yet been made in this country, and introduce them into the local market? Is it possible to improve the quality of the leather that is being produced at present? Are more tanning materials available than those that are in use at present? If so, what are their tanning contents and what sort of leather would they make? How to remedy the defect of a particular tanstuff? All these and thousand other problems like these are of considerable importance to the local tanning industry, and their solution is necessary to help the industry forward. Investigations to solve these problems may be called practical researches.

For a long time to come India has much more need for these practical than for the fundamental researches. The latter will not advance practical tanning very much, whereas without the former, i.e., the practical tanning researches, the industry cannot go forward by a single step.

It was from these considerations that practical researches, calculated to be of direct benefit to the tanning industry, were undertaken at the Bengal Tanning Institute, and investigations on a large number of practical problems were and are being carried out both at the experimental tannery and the research laboratory. A summary of the more important investigations is given below:—

(i) SURVEY OF HIDES AND SKINS.—Investigations on the leather-forming qualities of the various descriptions of cow hides and goat skins of Bengal by chrome tanning: The importance of this work will be recognised by tanners and hide dealers alike. We have heard that hides and skins of

certain localities are preferred by tanners of Europe and America to those of other localities. But our knowledge was meagre and hazy, and with a view to throw more light on the subject, this investigation was undertaken. Cow hides known in the trade as Daccas, Dinajpurs, Rangpurs, Bogras, Daisis and Darbhingas, and goat skins known as Kusthias, Dinajpurs and Calcutta kills, were put under investigation. The qualities of leather turned out from them have been put on record and published in the quarterly reports of the institute. The work is by no means complete and will have to be continued. It forms a very suitable subject of research, cost of which may be met from the hides cess proceeds.

(ii) INVESTIGATIONS ON CHROME TANNING OF DRY AND DRY-SALTED HIDES.—The local chrome tanneries always prefer to use green and wet-salted hides, to dry and dry-salted ones. But the supply of the former is insufficient and cannot sometimes meet the requirements of a large tannery. The bulk of the hides is, however, available in dry and dry-salted condition. It is necessary, therefore, that suitable processes should be worked out for chrome tanning such varieties. Investigations were undertaken at the Bengal Tanning Institute for this purpose, and as a result some tanneries, now-a-days, also use dry and dry-salted hides when the supply of green and wet-salted hides is found to be inadequate.

(iii) INVESTIGATIONS ON MANUFACTURE OF BOX SIDES FROM COW HIDES BY CHROME PROCESS.—As several tanneries in Calcutta are engaged in the production of this leather, great stress was laid on its many problems. At least 32 operations are involved in the process, each of which influences the quality of the final leather. A good deal of variation is possible in most of these operations, and the elimination of the defects noticed on the locally manufactured leather and the raising of the standard of quality can only be done by trying by experiments the various ways in which each of the above operations can be performed.

This is being done at the institute, and a large number of experiments on the different operations has been carried out. The results of practical importance obtained have been published from time to time in the quarterly reports of the institute for the benefit of the trade. Papers on some subjects in this connection have also been contributed to the trade journals or read at the meetings of the Indian Science Congress. Some of these investigations are mentioned below:—

INVESTIGATION ON LIMING.

(i) Unhairing by sodium sulphide in the manufacture of box sides: This operation was taken up first. Different methods of liming were tried, and the effect of sodium sulphide as a sharpening agent by using it in different ways and in varying amounts on the final leather was closely investigated. Very important results have been obtained, and the latest process worked out for liming has to a large extent eliminated the looseness and pipiness of the grain which has hitherto been the most objectionable feature of the locally tanned box side leather. A paper incorporating all the work done in connection with the use of sodium sulphide in liming was read before the general meeting of the Indian Section of the Leather Trades Chemists, on 6th January 1929, at Madras, during the last session of the Indian Science Congress. The paper was very well received both by the practical tanners and leather chemists who were present at the meeting.

(ii) Investigation on the effect of renewal of lime liquors on the solution of hide substance: The investigation was undertaken to compare the hide substance dissolved during the liming operation (i) when the hide is treated in one lime liquor only, and (ii) when it is treated in several fresh lime liquors, renewed at regular intervals of time, the total period of liming being the same in both cases.

Results obtained show that more hide substance is dissolved in the latter than in the former case and corroborate the findings of Drs. McLaughlin and Theis who carried out similar experiments in America.

(iii) Investigation on the effect of duration of liming on the length and strength of leather fibre: Short-fibred leathers are weak in their wearing qualities and are depreciated in the trade. The present investigation was undertaken to determine the effect of different periods of liming on the length and strength of leather fibres. The result obtained so far shows that too short liming produces short fibres and too long liming weakens the fibre. Hence, there seems to be an optimum period of liming which will produce long and at the same time strong fibres. Results of experiments indicate that under local climatic conditions this optimum lies between 4 and 8 days for cow hides.

(iv) Investigation on the swelling action of caustic soda on hide: In connection with the experiments carried out to determine the swelling action of lime liquors on hide, it became necessary to study similar effects of different strengths of caustic soda solutions on hides. N/1, N/2, N/5, N/10 caustic soda solutions were tried. N/10 solution was found to swell and plump the hide most. Further experiments in this connection are in progress.

(v) Investigation on the influence of salt in liming: Experiments performed show that the addition of salt to the lime liquor causes a great swelling and plumping of the hide. This explains why salted hides appear to be more swollen and plump in the lime liquor than fresh hides.

INVESTIGATION ON BATING.

Effect on the solution of hide substance: The investigation was undertaken to find out the relation between the duration of bating and the hide substance dissolved.

Results show quantitatively that the longer the bating, the more is the hide substance dissolved.

Various synthetic bates were put under investigation, and their effects on the grain of the leather were studied.

Experiments were also carried out on removing a part of the lime in hides both before and after bating with such acids as boric, lactic and hydrochloric, as well as by drenching with fermented bran. All these delimiting treatments were found to produce loose grain. Full delimiting was also found to cause looseness. So the process of simple bating with synthetic bates keeping a portion of lime inside was adopted, and this was found to produce a fairly tight grain.

INVESTIGATION ON CHROMING.

In connection with this operation, the following experiments were done:—

(i) Effects of basicities of chrome liquor on tannage and chrome absorption: At the tannery liquors of basicities of 80, 85, 90 and 96 were tried, and the best leather was obtained from the 96 basicity. Small scale experiments were also done at the laboratory with liquors ranging in basicity from 76 to 130. In this also it was found that basicities lying between the limits 98 and 109 produced a satisfactory tannage and quantitative determinations showed that the higher the basicity, the greater was the absorption of chromium by the leather.

(ii) Influence of dilution of chrome liquor on the tannage: A series of experiments was made with six liquors containing different amounts of chromium per litre, and small pieces of pelt were treated in them. These led to the following conclusions: (i) dilution retards tanning and liquors containing 0.344 grammes of chromic oxide and less per litre refuse to tan, (ii) dilution is without any effect on the tensile strength, (iii) the general appearance of the leather and the thickness of fibres seem to be improved by dilution and the consequent slower tannage.

In large scale tanning a dilution beyond the use of 100 per cent. water on the pelt weight was found to produce looseness of grain. Good results were obtained by commencing with about 60 per cent. water and raising it to 100 per cent. with the addition of the required amount of chrome liquor and water towards the final stage of tannage.

(iii) Effects of addition of neutral salts to chrome liquor: Investigations were done in the laboratory on the effect of sodium chloride, potassium chloride, sodium sulphate and potassium sulphate. The results from sodium chloride were published in the Journal of the Society of the Leather Trades Chemists, England (September, 1920, issue), and were corroborated by similar work done by the American chemists Thomas and Baldwin. Papers on potassium chloride and sodium sulphate were read at the meetings of the Indian Science Congress in January, 1926.

INVESTIGATION ON FAT LIQUORING.

A good deal of work has been done on the preparation of ready-made stable fat liquors which can be stored and used when required. Such a fat liquor has been made and is being used under the name of C. R. T. fat liquor. The principal ingredients are sulphonated castor oil, soft soap, neutral castor oil and mineral oil, mixed in suitable proportions. Experiments also have been made with fish oil, such as the sardin oil from Madras coast. This work was published under the title "Manufacture of ready-made stable fat liquor from Indian oils (Part 1)" in the Journal of the Society of the Leather Trades Chemists, in October, 1922. Another paper on the same subject was read at the meeting of the Indian Science Congress in the year 1923. Further investigations were made to study the emulsifying power of sulphonated castor oil on neutral castor oil, and a paper on the subject was read at the meeting of the Indian Science Congress in the year 1929. The results showed that the best emulsification was obtained when two parts of sulphonated oil were used for the emulsification of one part castor oil.

Different varieties of commercial fat liquors have been tried and results compared with the preparations made at the institute. The institute preparations were found to compare favourably. Systematic experiments were also made to determine the effect of different amounts of fat liquor on the feel and finish of the leather and tightness of grain. Tightness of grain has been found to be maintained if 2 to 3 per cent. fat liquor is used.

INVESTIGATION ON FINISHING.

In the finishing process suitable seasons have been prepared. Pigment finishes have been introduced. Investigations are being carried out for the making of pigment finishes locally.

(iv) INVESTIGATION ON MANUFACTURE OF GLACÉ KID.—Indian goat skins form the principal raw material for the large glacé kid industry of America. More than 70 per cent. of the Indian goat skins are exported for being tanned into this leather.

Investigations were carried out at the Bengal Tanning Institute to study the different operations involved in its manufacture, and a process has been worked out which produces leather comparing favourably with foreign manufacture. It is only a question of time when the production of a glacé kid in this country will develop to an extent as the manufacture of box sides has done. The researches of the institute have done the necessary spade-work which will be found useful when the trade takes up the line.

An estimate about the worth of this work may be found from the remarks of Mr. N. S. T. Chari, the Managing Director of the Calcutta Chrome Tannery Co., Ltd., which are quoted below:—

"I visited the Research Tannery this morning, and having been a frequent visitor from time to time, I was very much struck with the remarkable progress which Mr. Das has been able to make in the manufacture of glacé kids, a leather which is generally supposed to be incapable of being manufactured in India. The progress made proves conclusively that the leather can be made in India properly and, in my opinion, is sure to be a big commercial success. The importance of this work can be readily recognised if it is realised that this will create in the near future a tremendous revolution in the economic side of the leather industry of the world, a revolution which will be of undoubted benefit to this country. I must congratulate Mr. Das

on the results achieved, and incidentally he has conclusively shown what useful factor his research tannery is going to be in the development of the leather industry in India."

(v) MANUFACTURE OF CHROME PICKING BAND AND LACE LEATHER.—The statistical figures for the year 1926-27 show that there were 51,061 jute weaving and 158,124 cotton weaving looms working in India. Both the jute and the cotton weaving industries are growing. Every weaving loom requires two picking straps which last on an average 55 working days on the loom. Picking hand straps up till now are imported from abroad, and the value of the last five years are given below:—

	Rs.
1923-24	7,83,909
1924-25	9,46,251
1925-26	6,83,013
1926-27	8,90,230
1927-28	8,37,194

These straps are sometimes manufactured from thick ox hides in the European countries. But in India thick ox hides suitable for the purpose are not available. As a substitute local buffalo hides were selected as the principal raw material and a systematic investigation was made for the manufacture of picking band leather by the chrome process. A process has been worked out. Picking straps cut from leather manufactured at the Bengal Tanning Institute were sent to a few local jute mills for test on the jute weaving looms and also to the Alipore Test House for testing their tensile strength in comparison with imported stuff. Reports are very encouraging. Picking straps made from the Bengal Tanning Institute leather compared very favourably with the imported material, and the life in one case on the jute weaving loom has been found to be 143 days, against 55 working days, the average life of imported picking straps as mentioned above.

The details of the investigation have been published from time to time in the quarterly reports of the institute, but the process worked out has been embodied in a bulletin which is ready for publication.

Attempts are also being made to get the local tanners interested in the manufacture of this variety of leather.

(vi) INVESTIGATIONS ON VEGETABLE TANNING.—(1) Manufacture of sole leather: In Calcutta sole leather is made from buffalo hides by the indigenous method of bag tanning. *Babul* bark and some myrobalans are used. The product is unsatisfactory.

With a view to introduce an improved method into the local tanning trade, investigations were carried out in the Bengal Tanning Institute for the production of a better type of sole leather by using not only *babul* but also the bark of *goran* which is a cheaper tanstuff and available in sufficient quantity. Experiments were made to eliminate the red colour which *goran* produces on leather, and a method was finally worked out to produce a superior quality of sole leather from a blend of *goran*, *babul* and myrobalans.

The results of the investigations have been embodied in a bulletin—"Report of investigations on sole leather tannage"—and made available to local tanners and people interested in the trade. The initiative taken by the institute has produced the desired effect, and some commercial tanneries in Calcutta have commenced manufacture of sole of a better type.

Further investigations are in progress in this connection to quicken the process by the use of tanning extracts. The results so far obtained are encouraging, inasmuch as not only the duration of time has been shortened, but also the yield of leather has been found to be greater and colour paler.

(2) Manufacture of crust or half-tanned leather: This is extensively done in Madras and in Bombay, and half-tanned leathers valued at about eight crores of rupees are exported annually from these two places to foreign countries. Bengal as yet has practically no share in this colossal export.

trade. Introduction of crust tanning is calculated to expand the tanning industry of this province, and investigations were, therefore, done to work out process suitable for this line. Commercial tanneries have also been got interested in the line, and some of them have already started crust tanning through the initiative of the institute. Some export of half-tanned leather has already commenced from Calcutta.

(3) Tanning of lizard skins: A process was worked out for the tanning of lizard skins at the institute, and gradually a number of tanneries, big and small, sprang up in Calcutta, which occupied themselves solely in this work. There are at present about 12 tanneries tanning lizard skins, with a total annual output of about 14 lakh pieces. The exhibits of tanned and finished lizard skins sent from the institute at Wembley in 1924 attracted overseas customers, and enquiries were received. The local manufacturers were put into communication with the foreign purchasers, and the result was a development of a very large business in the export of lizard skins. It has grown to such proportions that in the year 1927 about 8,000,000 skins, raw and tanned, were exported. This year is showing even a larger business, and prices have risen to an unparalled extent. The business is giving employment to thousands of poor villagers, who collect the skins, several young tanners, and middlemen. Some enterprising young men have also established themselves in England and France to organise the sale of the leather turned out in the Calcutta tanneries.

(4) Tanning of crocodile skins: Great impetus has been given by the institute to the tanning and finishing of this variety of reptile skins. Formerly crocodile skins had to be sent to Cawnpore for tanning and making up into desired articles. Since the institute directed its activities towards the line, quite a large number of these skins has been tanned in Calcutta and made up into articles by the local suit case makers. A new line of work has thus been introduced into the local trade. Possibility of crocodile skin tanning appears to be very great, as Europe is getting more and more interested in this article, and it is very likely that the local tanners will profit by following it up much more than they have yet done.

(ii) INVESTIGATION ON THE MANUFACTURE OF CHAMOIS LEATHER.—A start has been made for the production of this article by using Indian fish oils. The leather obtained by the process worked out at the institute is fairly satisfactory. For further development of the line some machines are required with which the institute has not yet been equipped.

7. WHAT SHARE GOVERNMENT OF BENGAL WOULD EXPECT FROM HIDES CESS ENQUIRY COMMITTEE.—Every province in India where the tanning industry is in existence would naturally claim a portion of the hides cess proceeds for the development of the local industry.

Importance of Calcutta in all varieties of tannages, specially the chrome process, has been explained. Researches on tanning problems as well as on the curing and preservation of hides and skins and the training of students are being done at the Bengal Tanning Institute. Propaganda for better flaying and curing is also being done through the peripatetic tanning demonstration parties. The Bengal Tanning Institute which is already doing useful work in the lines proposed to be financed from the cess proceeds is competent to do further useful work by widening its scope, if funds be available for additional staff and equipment.

Besides, as Calcutta will be paying most to the fund, being the chief centre for export of raw hides and skins, it has prior claim to the greater portion of the cess fund and for being the centre of the larger part of the activities that may be proposed to be done from the proceeds of the cess. A central research station for the improvement and development of the hide and the tanning industries should be established in Calcutta, making the Bengal Tanning Institute as its nucleus.

8. FACILITIES FOR PRACTICAL TRAINING AS APPRENTICES IN FAIRLY LARGE-SCALE COMMERCIAL TANNERIES.—Commercial tanneries do not admit apprentices for training purposes. A very limited number of apprentices is on very rare

occasions taken by some commercial tanneries, with the object of getting them incorporated in their own staff. Arrangement for training of students who intend to start their own business on completion of training or aim at service in tanneries has to be made in government institutes. Training is more effective where the apprentices can attend to a larger number of hides and skins in process than trial lots of one or two pieces. At the Bengal Tanning Institute there is arrangement for work at semi-commercial scale, and, as such, it is much more suitable as a training place than the usual types of leather trade institutes where large-scale tanning is rarely done.

**Oral Evidence of Mr. B. M. DAS, M.A. (Cal.), M.Sc. (Leeds),
Superintendent, Bengal Tanning Institute, and Manager,
The National Tannery Co., Ltd., Calcutta.**

(Calcutta, the 11th November, 1929.)

(NOTE.—At the outset Chairman on behalf of the Committee thanked Mr. Das for his detailed written replies to the questionnaire for his printed note on the tanning industry, for his list of researches conducted at the Tanning Institute, and for taking the members round the Tanning Institute.)

Replying to Chairman:—The waste due to cutting and trimmings takes place in the boot and shoe-makers' places. Tannery trimmings consist of raw hide, limed hide and tanned leather trimmings and may amount to one per cent. of the total. The raw and limed hide trimmings are used for the manufacture of glue. Research work on the manufacture of glue is desirable in this country.

Khasmahals are the lands which are directly under the Government and which do not belong to any zamindar. Government leases out such lands to the farmers and landlords.

There is an Act for the prevention of cruelty towards animals. This is a provincial Act. There is a law to regulate anthrax and foot-and-mouth diseases. There are also some customs restrictions against the export of Indian hides to Australia, and some other countries, where it is incumbent that all hides should be disinfected from the port of export.

The disinfection in 5 per cent. carbolic acid is not a Spanish regulation, so far as I am aware.

There are not very many countries which restrict the import, but Australia does restrict, as far as I am aware.

The Society for the Prevention of Cruelty to Animals can bring good marks under their jurisdiction. Good marks spoil the best portion of the hide by creating pin holes. For the whole of India this is a big problem. In my opinion, it is possible to extend the operation of this Act to villages and rural areas. Coal-tar colours can be used as a substitute for branding. These can be made permanent. Dyes used for woollen fabrics are also sufficiently fast on the live hide. These dyes, however, would go off with the going off of the hair and would have to be renewed. In that respect they differ from the branding which is done on the skin. In America branding has been reduced to a great extent by the use of dye-marks which only affect the hair.

Warble is a fly. A good deal has been investigated about its life history and a specific has also been found. There are several theories about it. One theory is that the fly sits on the back, punctures a hole, lays eggs in the hole and in time that puncture heals up. The eggs remain inside. They hatch and become grown-up flies which again puncture the back and come out.

There is some literature available on the work done on warble flies in Denmark. I shall look up the references and let the Committee have a note.

Flaying: Regarding the penalisation of butchers my experience is confined to the Calcutta slaughter-houses. Flayers are not servants of the Calcutta Corporation, but of butchers. The Corporation has no control over them. If flayers were to be rendered liable to be penalised, hides would not be scored so badly as they are done now. The Corporation can make its servants work better. Tanners have never organised themselves to refuse to buy badly flayed green hides. I think penalisation is a better method than the giving of bonuses. I have tried the bonus system myself. But I found that a bonus of 4 annas per hide did not produce the results we wanted.

I would not combine the peripatetic flaying parties with peripatetic tanning parties. They must be separate units, although they must be controlled by one central organisation. The demonstration work of the two cannot be combined.

Flaying in the Tangra slaughter-house is not particularly good, and there is scope for improvement. There are small slaughter-houses in Matiabruz and flaying is done there during the day-time. There is one slaughter-house at Howrah, one at Dum Dum and another in the city also.

The hide merchants and exporters would be able to give a better idea of the waste due to sun-blisters, etc.

The best curing material is common salt. *Khari* salt is, so far as my experience goes, the best curing material for Indian conditions. Common salt is not suitable for the Indian climate, specially in the summer. For export, hides must be cured with *khari* salt, or *khari*-salted and then dried. Common salt absorbs moisture in the air. Hence, for the Indian climate and the tropics, common salt is not a suitable material for curing for export purposes. Common salt is suitable for local tanners. *Khari*-salting and then common salting is better than common salting alone in the hot weather.

By low temperatures I mean comparatively low temperatures, i.e., 105° to 110° F. in the shade.

I do not know of any other country where adulteration has been stopped by legislation.

The estimates given in answer to question 17 are based on my own experience as a tanner and as manager of the National Tannery.

Replying to Mr. Price:—The National Tannery is a commercial and a private limited liability concern.

Pinjrapoles are rooted in the Hindu sentiment for cows, bullocks, etc. I would rather delete the sentence about the *pinjrapoles*.

It is difficult to get magistrates to penalise passive cruelty, but what I have referred to is an act of active and not of passive cruelty to the animals.

Increase in staff could, I think, eliminate delay in reporting cattle diseases. I consider that the installation of telephonic systems for communicating diseases is impracticable. Mere bathing in water would not do. But as villagers and farmers cannot get antiseptic soaps, etc., occasional scouring of the body with rice-straw and water would do some good. If the cultivator knew how to do so, it is within his power to keep pests off. In Great Britain, etc., cattle are not infected so much with ticks.

For commissariat purposes, i.e., with reference to cattle which are going to be kept alive for a week or so before being killed for army meat supply it would not matter if tar branding were replaced by dye-marks because within a week such dye-marks would not go away. In fact they would be permanent for a season.

As regards the driving of animals, e.g., in carts, from the tanner's point of view tail-twisting would be better because the tanner has no use of the tail. Goading would be worse.

The life history of the warble is not yet finally known. I am not aware that the warble fly in India is different from the warble fly in Europe. It is a fit subject for investigation. I quite agree that it is possible to eradicate this pest if we had adequate funds to undertake the campaign.

As regards good work by flayers in municipal employ, the municipality can get that from the flayers. It should be possible by law to legislate against the liability of a municipal board against bad flaying by flayers in municipal employ. (NOTE.—Mr. Price here remarked that slaughter-house regulations are for sanitary purposes and not for the improvement of hides and skins and therefore the municipalities might be justified in refusing to undertake any liability in respect of flaying, etc.)

My experience of the western side of India is limited. In India the tanning part of the trade is left essentially to low class people, viz., *chamars* and so on, but the buying and selling of hides are not so confined. Tanning has been despised in all parts of India among the upper classes of both communities—Hindus and Muslims. I agree that generally speaking tanning is done by low class and illiterate people. This, however, I say with reference to Bengal, Bihar and Orissa and the United Provinces.

In Eastern Bengal hides are practically all salted even in the dry season because in this part of India they do not get a long really dry weather. But in the United Provinces, Bihar, and some parts of Western Bengal hides are cured by drying. As a tanner, I always prefer a dry salted hide to a dried hide, a wet-salted hide to a dry-salted hide and a green hide to a wet-salted hide. Salting is not economic. Salting is bound to be more costly than mere drying. There is the cost of good salt and there is the additional cost of transport. But the tanner is safer in taking a salted hide rather than merely a dried one. The better qualities of Indian hides are all dry-cured; they come from the drier areas. For instance, the United Provinces hides, the Punjab hides,—they are dried and therefore better quality hides are got in the dry condition. Dry-salted hides come from Eastern Bengal. Foreign buyers give preference to dry arsenicated because dry-salted ones are more liable to adulteration.

I did some exporting to Australia. The only thing I know about Karachi is that all inferior hides are exported from Karachi. I come to know this from statistics. The better class Punjab hides come to Calcutta.

I have not computed the loss due to defects in the raw article.

Replying to Mr. Wykes:—Q. 1.—It is not merely carelessness but also ignorance.

I want the veterinary departments to provide farmers with soaps and to educate them in their use. In the beginning the free distribution of soaps in order to set an example may be resorted to.

Branding lower down the body or better still on the hoofs would be better.

So far as I am aware, no research work has been done in India on the warble.

My idea is to put the flayers under the control of the slaughter-house authorities. I quite agree to their licensing.

My experience about the payment of a bonus for good flaying has been rather disappointing. Here they do not care how they flay. They flay mercilessly. A buffalo hide is scored all over. I suggest the teams of flayers only for the larger slaughter-houses like those at Calcutta, Bombay, etc. Here also the system is to employ inexperienced boy flayers.

Some fallen animals give good hides, and as nobody takes interest in the flesh of the dead animal, flaying is better done. Hence, in grading, some dead hides often rank with slaughtered hides.

I would not jump to the generalisation that village flayers do not require instruction.

I do not think that even experts can always detect blisters in the inside of the hide.

I have done some work on the mixing of common salt with sodium carbonate, but I did not go very far. In the *khari* salt there is not much sodium chloride. This is the line of research I would like to be pursued by the Cess Committee.

When a hide is heavily plastered, the price of it is actually lower than if it has no plaster on it, i.e., the loss ultimately falls on the prime producer.

Loading could be stopped in two months if buyers would amalgamate. But it is not feasible. My idea is that it is possible to fix a standard of curing by performing some analyses on the hides.

I quite agree that the improvement of the hides should be one of the objects on which the cess fund should be spent. The improvement of hides must go with the improvement of tanning, because improvement of the hides will be of benefit to all concerned. But I do not agree that it should be the primary function of the Cess Committee to bring about an improvement in the hides leaving aside the tanning industry.

Replying to Mr. Weston:—Generally speaking, the more intelligent sections of the population of this country have not yet come to apply themselves to this particular trade or industry. The preparation, curing, etc., of hides and skins are left to the ignorant, less responsible and less intelligent men in this

country. I therefore want instructors for specific jobs like flaying. Although the hides from the mofussil do not have so many scores or cuts, yet they have flesh and fat left on them. I think there will be better control if the flayers are municipal employees than if they are merely placed under municipal control.

In my opinion, it is possible to secure some return for the fee levied on flayers. The improvement of flaying will be some return for such fee. In my opinion, the chairmen of village union boards should take interest in the sort of work I have proposed in my memorandum.

In my opinion, *khasmahal* lands should be reserved for grazing so as to secure better feeding for the cattle.

Replying to Mr. Rafique.—The boot and shoe manufacturing department of the National Tannery has now been closed. Breeding and feeding should be and are under the agricultural department. But looking after the health of the animals should be under the veterinary department. In the slaughter-houses a good proportion of the animals slaughtered are old animals.

A system has been tried in Denmark whereby the whole country is now free of the warble pest. Other countries also are imitating Denmark's example. In England such action is contemplated and I think that similar action in India also is feasible. In Bengal, we have not got the warble pest, but the Punjab suffers most in this respect.

In slaughter-houses they care more for the meat and the tallow and thus manage to score and cut the hide. If the flayer is paid by the butcher he is sure to score the hide. Slaughtered hides are purchased mostly by tanners. In my opinion, flayers should be penalised so as to bring about some improvement.

The soaking back of dry hides is more difficult than that of dry-salted (*khari*-salted) hides. Long soaking may damage the hide particularly if the temperature be high. For the primary producer the most convenient thing is drying.

In India the percentage of deads is much greater than that of slaughtered hides. But I cannot give the exact proportion.

Replying to Mr. Ismail:—The veterinary staff is inadequate. It is too small but it is designed to look after the foot-and-mouth or rinderpest and similar outbreaks. To look after such infections as that from ticks and sores also would mean more staff and consequently more money. Whoever has got the money should take up the question. The cess fund may be utilised for veterinary purposes such as the construction of bathing pools, etc. In my opinion, it is not the Government's function to look after the health of cattle belonging to private individuals but as such diseases cause enormous national loss and economic waste to the country the Government should devise some remedies to combat them. In England also there is a controversy on the very same lines. The warble is considered by some to affect the quality of the meat and therefore they recommended that the Government should step in to find a remedy.

To enforce the law against the commoner forms of cruelty, a large staff would be needed. But I have not gone into the question of its organisation, cost, etc.

The period of instruction in flaying will have to be fixed by the instructor proposed to be employed. Stipends are necessary to attract boys to come in as also in the case of artisan boys or artisans. My recommendation of team work for flayers has reference only to the big slaughter-houses especially in the cities. High class Hindus and Mussalmans would not touch dead animals. Such work would therefore fall on the lower classes who would require more training. *Chamar*-flayed hides also are usually very badly flayed.

For export, *khari*-salted hides are better. Research work on *khari* can be profitably undertaken. For goat skins also common salt is not very suitable. It is usual to mix *khari* and common salt for such purposes. Lizard skins for export are preserved with *khari* salt and not common salt.

If the hides of animals slaughtered in villages could be brought to a central drying place built by co-operative or capitalistic organisation it would be a good thing. The hide or skin cannot last for more than one night without curing and preservation. Therefore, to start with, drying places should be tried only in connection with big slaughter-houses.

Mota-taiyari or heavily plastered hides fetch a lower price. The primary producer does not adulterate. It is the man who cures it that does the adulteration. The primary producer does not always lose. Sometimes he benefits as there is at times a big rush by the traders at the curing stage.

Now-a-days it is very rare to find a carcass wasted. It may be that in Bengal during the monsoons a few carcasses are thrown away in the water but ordinarily carcasses are not wasted like this. In Madras and Calcutta even bits of hides are also tanned.

Replying to Mr. Bleeck:—I do not consider that the prevention of cruelty to animals is outside the range of practical politics. It is not merely damage to private property but also involves cruelty. I think that Government has enough power to prevent it. It is possible for the Police to stop branding, etc. Education by itself is not a guarantee against adulteration because educated men would demand a higher standard of profit.

Replying to Mr. Shah:—*Khari* salt is a natural product though not of Bengal. It is brought from Bihar. *Khari* salt is sodium sulphate plus earth. Being a natural product it would be difficult to expand the sources of its supply. I have not gone into the question whether *khari* salt can be manufactured or not. I, however, know that it can be imitated.

The employment of flayers by municipal boards would be desirable. Municipalities should recoup themselves for the larger cost of flaying by charging an additional fee, i.e., a fee higher than the present slaughter-house fee. About 4 annas is the fee for flaying a hide. I do not think that butchers will have any objection to paying an additional slaughter-house fee so long as the fee does not exceed the present flaying charges plus fee.

It would be necessary to devise a system for the identification of hides flayed by individual flayers so that bad flaying may be suitably dealt with. In my opinion it can be easily done.

As regards adulteration it was suggested that traders were capable of looking after their own interests. But some foolish buyers do exist in every trade and one of the incidental results of my scheme would be to protect such foolish buyers, even though they would not deserve the protection. The Punjab Government have brought about some improvement in flaying, but I have no idea of the system that is followed there. (NOTE.—Witness deleted the last sentence when correcting his evidence.)

Replying to Mr. Price:—I have no experience as a member of a municipal board nor as a lawyer. I agree that self-interest is a great drive for efficiency in business.

(Chairman: Why do buyers buy the hide of the living animal rather than after it is flayed?)

Witness:—Because it is the custom.)

Replying to Mr. Wykes:—The new pattern knives for improved flaying are not available in India, but I can show some pictures or illustrations.

Replying to Mr. Rafique:—The system in practice is to buy the hide when the animal is alive because the butchers would not kill the animal unless there is a demand for the hide. The quantity of hide is very small when the market is dull.

Replying to Mr. Price:—The half-tanned leather of Madras sells well. Better stuff can be produced by modern methods. The fact that it sells well is a proof of its commercial excellence. "Half-tans" go mostly to the United Kingdom, some go to America and some to Japan. The bulk goes to London. In London they are sold by auctions which are held sometimes weekly and sometimes monthly. The tanner is therefore under some risk for

at least 3 months. I do not consider that the auction method is commercially a sound one. This has at times led to great disasters.

I would discourage the export of raw hides and skins in the interests of tanning. There is no inconsistency between the discouragement of the export of raw hides and skins and advertising of hides and skins. The reason is that pending the development of the Indian tanning industry to its full capacity a market should be found for the surplus available for export. At the present moment Indian hides cannot be sold for export.

(Replying to Chairman:—The surplus is localised geographically.)

The geographical difficulties in getting the supplies from the places where they are available are not insuperable. The discouragement of the export of raw hides and skins will make more hides (of a better quality also) available to the tanner. They may not always be cheaper.

Some exporters have correspondents to fulfill the functions of trade representatives, viz., to give them information, etc. The shippers' mark has got a commercial value, just like any other trade mark. If the government certificate is taken it does not displace the private mark. It will only put a check on the private mark.

In my opinion, the trade can bear an export duty of 5 per cent. If the exporter has got to accept only a particular price for hides and skins exported then any export duty is liable to be shifted to the primary producer. The Indian hides have, however, got some peculiarities.

I consider that an *ad valorem* rate is better than the flat rate. I have no experience of customs work. If an *ad valorem* rate is payable, appraisers have got to be employed by the Customs. This appraising is very costly to the Customs. Customs work is outside my experience.

(Continued, the 13th November, 1929.)

Q. 40.—I have no objection to the prime producers being represented on the Committee, if it be possible to bring about their representation. At present they have no associations. Their organisation in trade associations would be necessary; otherwise representation would be difficult. If Directors of Industries or of the veterinary departments or of the cattle-breeding sections were to be put on the Committee to represent prime producers, the Committee would grow too bulky. On the other hand, Directors of Industries as such take more interest in the industry as well as the trade. Hence, I have proposed that they should be put on the Committee. The agriculture departments as such do not take interest in the production or the improvement of hides. I have, however, no objection to the agriculture departments being represented on the Committee. What I mean is that the Director of Industries who is a government servant can and will look after the primary producer also.

Q. 42.—I prefer an *ad valorem* rate, because it distributes the charge evenly and is more equitable. I am not, however, an economist.

In reply to question 37, I have said "about fifteen lakhs of rupees". This is what I estimate should be raised annually. I do not know the amounts raised from the cotton, tea and lac cesses. I can see reasons why the proceeds from one cess should exceed the proceeds of others by a large amount. In my opinion, both Government and the Legislature might accept a cess at a rate which yields an income hugely in excess of the income from another cess. If more can be obtained from the hides cess, more benefit can be made to accrue to the primary producer. In my opinion, the development of the tanning industry must benefit the primary producer. Industrial development must in the end bring wealth and prosperity to him also. Compared with other countries, e.g., England, America and Germany, the tanners in India do not know how to make leathers. There is, therefore, scope for developing the tanning industry. I am not for prohibiting the export of raw hides and skins. All I say is that we in India must be trained to tan—even at the expense, if need be, of the primary producer.

Replying to Mr. Wykes.—There is, in my opinion, scope for absorbing limited numbers of all the three grades of tanners. Every tannery can absorb a few well-trained and not unduly costly men. New tanneries can, if circumstances are favourable, be started. So far the tanning industry has been developed on somewhat stereotyped lines. The development of the industry and the training of men must both go *pari passu*. One cannot be separated from the other.

Q. 25.—I had things like research in associated industries in view, e.g., research is possible in the materials for the manufacture of boots and shoes.

Q. 26.—(NOTE.—At Member-Secretary's suggestion Chairman pointed out to Mr. Wykes that the tannery attached to the Technological Institute at Cawnpore was not a model tannery, but a demonstration tannery meant only for the training of students.)

Research in the manufacture of patent leather in India is possible.

If we can convert a portion of goat skins into glacé kid—as the consumption of glacé kid is increasing—we shall be able to do away with the necessity of importing from America to a certain extent. (At this stage Mr. Wykes pointed out that a very big tannery in Cawnpore imported highly paid experts from England or the manufacture of glacé kid in India and yet the industry could not be established. In reply to this, witness said:—) It was wrong of the firm in question to have imported costly experts from England straightaway without having studied local conditions and problems. The box kip industry which is now fairly well established did not develop in that way, but by stages and with reference to local conditions. There was a time when box kips made in India were not popular. They had to be hawked.

In a tannery in India absolute specialisation is not feasible. Indian tanneries must keep an eye primarily on the local, i.e., the Indian market and then on the foreign market.

I know that fleshings are sold, but they are not sold for the manufacture in India of glue from them. They are sold for export.

Madras half-tan products are good, but the methods followed by the people engaged in that industry are often crude. Thus, e.g., for lifting water, instead of using a simple pump they use a few men who go up and down on the end of the pole acting as a lever. Similarly for deliming processes many people are employed who try to press the lime out with their feet.

In my opinion, research work at different centres should be on local problems.

(NOTE.—Mr. Wykes said that Calcutta does not supply the bulk of chrome leather made in India and in this connection he referred to one big tannery in Cawnpore which, he said, supplies chrome leather equal to the production of twenty tanneries in Calcutta. Mr. Das replied:—) Such a big Cawnpore tannery can look after its own research, but there are many smaller chrome tanneries which stand in need of assistance, by way of research. They cannot do all their research for themselves.

Bark tanning is done by small people with little capital. There is a demand for such tannage.

(NOTE.—Replying to Mr. Wykes' statement that Agra produces 20,000 pairs of shoes, slippers, etc., per day and that the Punjab is the most important consumer of the modern types of shoes, etc., Mr. Das replied that may be so.)

Subject to a certain minimum capital being available, chrome tanning on a comparatively small scale is possible. It is a quick process. Capital is not locked up. Hence, in my opinion, it is too much to say that chrome tanning is the rich man's luxury. In fact, compared with bark tannage, which locks up capital for a long time, chrome tanning is now-a-days comparatively the poor man's privilege.

Primitive tanning cannot be eliminated, but it can be improved without adding much to the cost, and if that were done, the demand for its products would continue as at present.

Demonstration parties are meant to do industrial missionary work. The results of research must, to be useful, filter down. Only such demonstration parties can undertake such work for the benefit of the small-scale tanners. Bigger tanners can go to the research institutes for the solution of their problems. But there are certain big-scale tanneries in charge of men on comparatively low salaries, which also need such assistance, *i.e.*, assistance in the form of better trained but not unduly costly employees.

I do not suggest that the improvement of the raw material should be neglected. I would like that work to be undertaken, but as has been done in other countries, I would first improve tanning.

As regards my suggestion No. (vi) under question 31, I am in favour of giving bounties only for exports. Such bounties should come from the cess fund.

No experimental work has been undertaken in Bengal on growing *avaram*. This can and should be done. Similar experimental work should be undertaken in the United Provinces also.

As regards the estimates of cost (my answer to question 36) the Committee can read just the figures to be apportioned for various purposes.

Replying to Mr. Weston:—I am aware of the difficulties of sending men abroad to become experts in every branch. In fact this is not possible. Hence, in my opinion, the establishment of tanning research institutions in India is necessary. There should be a central research institute also. Scholars would then be sent abroad only to obtain further *specialised* knowledge. The central research institute should also undertake training for research. The ordinary research institutes would act as feeders to the central research institute.

Replying to Mr. Rafique:—We are now occasionally selling our box kips even in England. At suitable prices, England would absorb all grades. All leathers can be sold at a price. If they can be improved without adding much to their cost, so much the better. India's capacity for consumption is immense. Her capacity for expanding the tanning industry is also immense. During the last fifteen years, the production of tanned leather in India has increased seventy times. Five or six years ago, the market would not even look at our leather. Now we find that slight improvements are occasionally suggested; but otherwise the tanning industry is fairly well established. The reason why I propose a cess on the exports of raw hides and propose that the tanning industry should be benefited is that, in my opinion, the two should not be differentiated. If the tanning industry is developed, the producer must benefit. The improvement of the tanning industry must result in the enlargement of the interests of hide producers in India. The Indian Industrial Commission expressed their opinion that protection to the Indian tanning industry was necessary. This is why in 1919 a protective duty of 15 per cent. was introduced. The 5 per cent. rate of cess proposed by me is for its protective effect. Further, it should, in my opinion, be spent on the development of the tanning industry.

(NOTE.—Questioned by Chairman as to whether apart altogether from the removal or the retention of the present export duty, witness would recommend a cess, witness replied that he would.)

I would impose a cess on framed arsenicated hides also; though I know that tanners in India do not use such hides. The lizard skins trade is improving. But, in my opinion, it is only a passing show. Hence I would not recommend a cess on that trade.

The Secretary if he is a member of the Committee should officiate for the President. I am quite emphatic of my opinion that the President of the Committee should be a high government official.

The 5 per cent. rate has a protective value. Another reason for it is that it alone yields the amount needed for the scheme.

Replying to Mr. Ismail:—I have very little experience of skins. I tan only hides. An expansion of the tanning industry will not reduce unemployment very much.

(NOTE.—When correcting his evidence witness preferred to say, “will reduce unemployment.”)

If a sender sorts out inferior from superior hides, the aggregate of prices obtained would be higher and the sender would in the end gain.

I want the Cess Committee to refer the question of freights to the Railway Rates Advisory Committee. I am quite aware of the fact that small differences about prices mean quite a lot to the tanner. I do not want the cess fund to be utilised for railway freights.

The village flayer will flay a dead animal if it pays him even a few annas. I cannot imagine hides rotting on carcasses, nor have I heard of such cases. But these statements of mine do not have reference to exceptional circumstances. I can imagine such a state of things arising in Indian States especially Hindu States. They often have a contractor to whom the right of collecting hides is leased out. He has to work through *chamars*. When prices are too low, such a lessee-contractor may not care to collect some hides. The *chamar* as such would, however, always collect. The possibility of the rotting of hides on carcasses is a matter depending on the price which, to a certain extent, can be affected by a cess. In my opinion, however, a cess up to 5 per cent. will produce little effect on collection. As to whether a cess in excess of 5 per cent. will have more effect, and, if so, of what nature, I have not thought out.

Regarding the Madras tannage, I do not call it crude merely because it is indigenous. In my opinion, it is possible to economise in labour. The processes employed can be so changed or adapted as to save labour. Thus I hold that there is a field for improving the methods and for economising. The products of this tannage are, however, good and the industry deserves every encouragement. I would like India to specialise in bark tanning for the Madras tannage, as she has got special facilities for such tanning. Chrome tanning can also be done on a relatively smaller scale than that possible in the big tanneries.

I think it is desirable for the primary producer to have a reliable home demand, viz., for the tanning industry. The question of the sale of Indian hides, etc., is one of price, and the cess at the rate proposed by me will make little difference to it. In 1920-21 the article managed to sell—duty or no duty.

If foreign buyers are prevented from buying our raw hides, a certain additional percentage of our tanned stuffs would sell abroad. What percentage it would be, I cannot say.

I agree that the tanning industry must be developed at any cost. (NOTE.—Mr. Price said that witness had stated that it should be developed at anybody's cost. Chairman replied that witness had stated before that it should be developed even at the primary producer's cost.) I would take into consideration the interests of the country as a whole and encourage tanning.

The use of myrobalan extract leads to a little darkening of the colour.

The *ad valorem* cess should be charged on invoice prices. I do not recommend tariff values for the purpose of assessing the amount due on account of the duty or cess.

Replying to Mr. Bleeck: Q. 23.—I think grading, etc., are feasible at Calcutta.

As to whether it can be done up-country, I do not know. The Cess Committee, if any should be set up, should go into this question. Cess fund can be spent on grading, etc.

I do think the better class of Indian hides are exported. The reasons for this are—firstly, that the export trade has been longer in the field and is therefore in a position to compete with the tanners on better terms. Secondly, good dried hides are not asked for by the Indian tanners. I do not maintain, that at present India can absorb all hides produced in India.

Q. 17.—The estimated production of hides in India as put down in Mr. Arnold's book on hides and skins, is between 15 and 25 millions in the post-war period. The loss may be estimated at two crores. I would even allow this loss to go on, but would develop the tanning industry first. The loss has gone on all these years.

To be effective, propaganda must be done in every country. I do not think that the spending of cess money on advertisement or on research will interfere with vested interests.

Q. 31.—In my opinion, banking facilities should be provided at the expense of the cess fund. While I think this is feasible, I admit I have not given the subject much thought.

I do not advocate the training up of a large number of people as tanners. But training in research is on a different footing. A developing industry will absorb some such men. The rest can go on with their research work. The field for research is unlimited, and it should therefore be the main work undertaken. Training should at present be controlled to meet the demand for trained men. I agree that research should and will have reference to practical conditions obtaining in the country.

Replying to Mr. Shah:—Tanning interests operating behind tariff walls in other countries can afford to pay prices for Indian hides which Indian tanners cannot afford. Indian tanners have, as regards their export trade, to compete on the basis of free trade and often even to contend against high tariff walls. Hence, they are often liable to be out-bidden by foreign tanning interests. This is one of the reasons why they cannot compete with foreign tanning interests in the buying of good Indian hides at the same price.

I am aware that ordinary exchange and commercial banks would charge industrialists rates of interests varying between 7 and 9 per cent. There is no bank in India for industrialists as such. In my opinion, therefore, it will be a legitimate direction to spend the proceeds of the cess fund if the Cess Committee were to find the difference in the rate of interest charged by the ordinary banks and the rate at which similarly placed tanning interests in the advanced European countries can obtain their loans.

As regards the estimate of expenditure (in my answer to question 36), I agree that if more money is raised from the cess than the total stated by me, some more money can and should be set apart for the improvement of raw hides.

I, as a tanner connected with the Department of Industries, Bengal, am aware of the growing difficulties in the way of Indian students obtaining admission in technical and technological institutions abroad.

Replying to Mr. Price:—I have no experience of Indian States. I do not know their areas, nor their aggregate area.

There are many classes of Indian hides. They differ from each other, but I cannot agree that they differ radically.

Replying to Mr. Rañque:—It is easier for the trade to undertake its own organisation than for an outside authority to impose it from above.

I agree that the Indian tanning industry cannot at present absorb all the better quality of hides.

Full-chrome leather cannot be turned out from half-tans, i.e., from the Madras tans. But leather for such purposes as the manufacture of trunks, boxes, etc., can be made from half-tans.

Replying to Mr. Ismail:—Lizard skins have to be exported raw because of the tariff walls in other countries. There is some difference between hides from various provinces. Hence, if one source of supply is cut off, an alternative source would have to be tapped by the men affected by the cutting off of that source of supply. The alternative source would often not be as economical as the source cut off.

The smuggling of Indian hides into Burma, in case India has a cess but Burma has none, is possible. In such a case the Customs authorities will have to watch the developments.

Question by Chairman:—Generally, would you recommend any steps being taken which would limit the competition for the producer's product thereby reducing the amount which he would receive?

Reply by Mr. Das:—Generally I would not reduce competition, but the case of the tanning industry in India is an exception. If tanning develops in India, the competition for Indian raw hides will in effect increase and not decrease.

Written Statement, dated November 1929, of the Calcutta Hides and Skins Shippers Association, Calcutta.

I. The Association is, as the name indicates, an association of traders interested in the shipment of hides and skins from Calcutta.

II. Yes.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Diseases : Pox and itches.

Pests : Warbles and ticks.

2. As far as the export trade is concerned, it would be useful if the proceeds of the cess were used to finance one or two research institutes where measures could be devised to fight diseases and pests. The trade, in conjunction with the veterinary department of Government, should control the researches and, when methods have been found would control also the expenditure of money for propaganda.

Methods used in other countries for combating warble and tick pests could be tested, and similarly efforts could be made to endeavour to find methods by which *deparis* could treat their hides to obviate these being destroyed by worms before the hides come to market.

Flaying.

3. Careless take-off, resulting in cuts, and leaving flesh on the hide as a result of which the hide is liable to rot.

4. An electric flaying machine has been introduced in many slaughter-houses on the Continent. It is understood that wherever these machines have been introduced, a better price has been paid by buyers, and propaganda might be undertaken to encourage the use of such machines in slaughter-houses in this country. As a corollary, the building of slaughter-houses should be encouraged wherever possible.

5—6. The appointment of flaying instructors and supervisors may be expected to yield good results; they would have to tour the country and carry on propaganda to convince the villagers that if the hides are properly flayed they will receive more money for such. The instructors will also require to demonstrate the proper methods which should be used in flaying. In the opinion of the Association improvement is certainly possible, and the endeavour should be made to instruct the local *chamars* on the lines indicated.

7—8. See answer to question 2.

A system of premiums might be introduced for good flaying as it has been found to be successful in Europe everywhere, and it is common for competitions to be held at which prizes are awarded for good flaying. This has been found to be a most useful system, and might well be tried in India. It is true that here the practice is to sell the hide on the animal before even it is slaughtered, so that it is not a matter of immediate interest to the flayer to do his work with special care, but the purchaser of the hide might be prevailed upon to give a bonus for good flaying.

Curing and preserving.

9. India differs from other countries in this respect only in so far as the climatic conditions demand.

10. Hides come down air-dried but without being properly treated by preservative to protect them from being damaged by worms. Further, too much flesh and fat are frequently left on the hide, underneath which the hide is liable to rot.

As regards salted hides, a considerable percentage has been cured with table salt, which tends to decompose the fibre of the hide.

11. See answer to questions 5 and 6 above—propaganda and instruction.

12. Yes.

13. This might be done through the agricultural department. The Geological Survey might be asked to report whether there are any further local resources for the supply of *khari* salt, which is understood to come now only from the Northern Bihar area. *Khari* salt is particularly good for the treatment of hides owing to the fact that it hardly attracts moisture. Researches might also be made to prevent the adulteration of *khari* salt which is frequently mixed with mud so that its curing properties are affected.

Adulteration.

14. Adulteration and loading do exist to a serious extent, and affect both the export trade and the tanning interest, with the result, from the point of view of the export trade, that adulterated hides cannot be shipped but have to be washed and scraped during the course of which the hide suffers not only in regard to fibre, but also in the grading.

15. Endeavours have at various times been made to combat the practice, so far without lasting effect, and the matter is one that can be dealt with only by the trade.

Other defects.

16. Iron brands seriously detract from the values of hides, and it is not uncommon to find a hide in as low a class as the fifth where, but for iron brands, it would be a first class hide.

Propaganda might be undertaken, as suggested in the answer to questions 5 and 6 above, with a view to teaching the villagers the damage that is occasioned to hides by over-branding.

Goat marks are also the cause of serious damage to hides, and might be dealt with in the same way.

17. The Association finds this an extremely difficult question to answer, and does not think that it is possible to arrive at more than a rough estimate. It is necessary to take into consideration not only the hides that are exported but also the tanned quantity.

Taking first cattle hides, the annual production may be estimated as from 12 to 15 million hides, say, an average of 13 millions divided as follows:—2 million Agra, 6 million ordinary arsenicated, and 5 million Dacca (salted) hides.

2 million Agra hides.—About 50 per cent. of these are ordinarily damaged by warbles, ticks, brands, marks, etc., and the extent to which these are damaged may be taken as about one-third of their value; that is to say, the aggregate of this damage in respect of Agra hides alone may be taken as some Rs. 20 lakhs per annum.

Further, about 50 per cent. of Agra cowhides are damaged by bad flaying, cuts, etc., and the depreciation in value may be taken at 10 per cent. representing Rs. 6 lakhs per annum.

6 million ordinary arsenicated cow hides.—The damage done by bad flaying (on account of flesh, rot underneath the flesh, and so on) affects 50 per cent. of these, and the extent to which the value of this 50 per cent. is depreciated may be taken as fully 20 per cent. Taking the value at Rs. 3 per piece, this works out at a total of, say, Rs. 18 lakhs per annum.

Further, about 15 per cent. of these hides are damaged by branding and the depreciation in value may be taken as averaging about 25 per cent. This comes to Rs. 7½ lakhs per annum.

Damage by worms affects 25 per cent. and the depreciation in value is, say, 20 per cent. representing Rs. 9 lakhs in all on this heading per annum.

5 million Dacca (salted) hides.—Of these there are one million wet-salted and 4 million dry-salted. Of the 4 million dry-salted, 70 per cent. are badly cured, loaded or adulterated. Of the 70 per cent. the depreciation in value is approximately 10 per cent., altogether, say, Rs. 14 lakhs per annum.

Defects by lace cuts, butcher cuts, holes, iron brands affect 30 per cent. of the total, and the depreciation in value of this 30 per cent. is about 20 per cent. representing Rs. 12 lakhs altogether.

Goat skins.—Taking the whole produce as 30 million, 25 per cent. are affected by damage, and the depreciation in value may be taken at 40 per cent. The average price of a goat skin may be taken as Rs. 1-8. This gives Rs. 45 lakhs per annum as the total damage.

Buffalo hides.—The total produce may be taken as 1½ million hides per annum. Of these the proportionate damage is estimated at 30 per cent., and the depreciation in value in the case of this percentage is about 20 per cent. The average price may be taken as Rs. 6 each. The total damage per annum on this account is therefore Rs. 5½ lakhs.

Aggregate damage.—The aggregate damage on all hides is, according to the above estimate, Rs. 137 lakhs per annum, but as is stated at the outset of this question, the estimate can be only a very rough one.

(b) *Collection, marketing, export, etc.*

18. *Slaughtered animals.*—The hides pass through the hands of a *bepari* and *arhatdar* into the hands of the shipper. In the shipper's godown, they are treated with arsenic solution, then graded into assortments and weights and finally baled up and pressed for export.

Dead animals.—Skins are removed by *chamars*, who carry out the first rough preparation, either by air-drying or salting. Hides then pass on through one or two middlemen till they pass into the *arhats* for sale to shippers or local tanners. The subsequent process is the same as detailed above, except that salted hides are not treated with arsenic solution, but where necessary are re-cured, i.e., superfluous salt and dirt removed before shipment.

19. Apparently no.

20. The Association is doubtful as to whether co-operative marketing is feasible.

21. Air-dried hides are frequently much damaged by worms by delays in railway transport.

22. As regards hides for export, an elaborate system exists and has been laid down in a printed pamphlet issued by a Hamburg dealers' association. This system of grading is accepted and forms the basis of arbitration for contracts in practically all countries which buy raw Indian hides.

As regards hides for sale to tanners in India, there is no system of grading in the Indian bazars.

23. A system of standardisation and grading for export is in existence among shippers. For sale to tanners, there is no standardisation whatever.

IV. TANNING AND ALLIED INDUSTRIES.

The Association does not propose to deal with this part of the questionnaire, as the members are not concerned with the tanning and allied industries.

V. ADVERTISEMENT.

34. Yes.

35. The Association is of opinion that, if the objects referred to in their answers to the earlier questions can be attained by the expenditure of the cess funds, the country will benefit considerably.

VI. COST OF SCHEMES PROPOSED.

36—38. The Association finds it impossible to enter into the details that specific replies to these questions would necessitate, and it appears to them that the first question for decision is the amount of the cess to be levied, and that thereafter a decision should be made as to the purpose for which the funds will be expended, this depending on the amount available. The Association understands that this was the principle adopted in the case of the tea cess. That is to say, a rate of cess was decided upon, the expenditure of the Tea Cess Committee in the way of propaganda being based on the amount available; as the Association understands the position the principle has not been to determine the rate of the cess according to the objects upon which the amount obtained from the cess is to be expended.

39. The principle to be followed should be the application of the cess to all branches of the trade that would benefit by the expenditure of the cess funds. But it should be levied only on goods that are exported, whether raw, partly tanned, or full tanned.

40. Considering that the size and the weight of the bales are restricted by shippers' contracts and by shipping companies' documents, and that the variation in the size and the weight of the bales is not very important, it is proposed that the cess should be levied at a rate of, say, Rs. 5 per bale. The imposition of such a cess would not appreciably affect India's position in the world's markets.

41. In the first place the cess should be levied for a period of five years.

42. See answer to question 40. The proposal to levy the cess at a bale rate is made because its adoption would simplify the levy of the cess and avoid a great deal of trouble and work in connection with Customs control and consequent delay in shipment.

VII. CESS COMMITTEE.

43. Yes. The Committee should consist of representatives of the industry, the veterinary department and local Governments.

44. Representation should be in proportion to contribution. Nomination should be by the Governor General in Council on the recommendation of the interests concerned.

45. All by statute.

46. Yes. Nomination to be left to local Governments.

47. No opinion.

48. No.

49. Yes, according to requirements.

50. Yes. Chairman and Member-Secretary. Terms depend upon final constitution and funds available. Secretary should be appointed by Government.

51. Administer the funds and make best possible use in accordance to requirements and experience.

52. Funds to be collected through Customs. Office attached to some government department.

53. Yes, functions according to circumstances.

54. Technological advice to be obtained from existing sources.

55. The headquarters should be at Calcutta; branches might be established at Karachi, Madras and Cawnpore.

Oral Evidence of (1) Mr. A. SOMMERFELD (of Messrs. Mousell & Co., Ltd.), (2) Mr. D. MITCHELL (of Messrs. A. Forbes & Co.), (3) Mr. MOHD. AMIN and (4) Mr. J. LESER (of Messrs. Mohd. Amin Bros.) on behalf of the Calcutta Hides and Skins Shippers Association, Calcutta.

(Calcutta, the 12th November, 1929.)

(NOTE.—As Mr. Sommerfeld was to arrive at 11 O'clock, there was some preliminary examination which was not however treated as official evidence on behalf of the Association.)

Replying to Chairman: Q. 4.—Mr. Mitchell said:—I personally have no definite information. I understand that Mr. Bleeck has it. I agree that the electric flaying machine would be useful only where electric power is available. It cannot be worked with a small battery.

(NOTE.—Mr. Mohd. Amin suggested that such flaying might prove to be inconsistent with the demands of the Islamic religion.)

Qs. 7 and 8.—The experiment of a bonus or premium for good flaying has succeeded elsewhere and might be tried in India. There is a risk, that if bonus is not paid, the flayer might make a mess, but as it is the flayer's means of livelihood, licensing might bring about an improvement. The fear of the cancellation of a licence would keep him from doing very bad work. The flayer is interested more in his earnings than in his reputation. Even now he is permanently employed, even though on a piece-system.

Replying to Mr. Price:—A flayer has other duties also, viz., to cut up and trim the meat.

Replying to Mr. Wykes:—The flayer's bad work is due to hurry rather than to lack of skill. Employment on a monthly wage basis would reduce the present temptation to speedy though defective work.

Replying to Mr. Rafique:—Mere fixed salaries would not do. In addition to a fixed salary, a bonus must be paid. A system of combining a bonus and a licence would work well. As to how the bonus should be found I have understood that the cess fund would find the bonus. I agree that at law the slaughter-house authorities would render themselves liable for damage to the butcher for bad flaying by flayers in municipal employ. It is likely that slaughter-house authorities would not like to undertake such additional liability.

Replying to Mr. Price:—It is due to mere carelessness that goat and sheep skins get damaged.

Replying to Mr. Ismail:—The hides and skins trade cannot be compelled to arrange for the purchase of hides and skins after the flaying. Under that system the loss would fall on the butcher. Trade customs are likely to stand in the way of this innovation. Butchers are not likely to kill the animal unless the hide is bought beforehand.

Replying to Mr. Bleeck:—I am in favour of abolishing the piece-work system if it is possible. In our opinion, the difficulty is that of finding a practical way for doing so. I agree that there is always an opposition when any improvement is sought. In a matter like this butchers should be consulted.

Replying to Mr. Price:—All that I have said above refers to green hides. Calcutta shippers do not buy direct from slaughter-houses but through middlemen.

* * * * *

(At this point Mr. Sommerfeld came in and official evidence on behalf of the Association began.)

Replying to Chairman:—Mr. Sommerfeld said:—I am President of the Association and the spokesman of the Association's witnesses.

Q. 2.—The Association would be in favour of helping the existing institutes from the cess fund provided such institutes are suitably staffed and equipped. But, if necessary, new ones should also be financed. We cannot suggest what should be done to the institutes if the imposition of the cess is discontinued after the five years which we have proposed as the initial term. The organisation of the trade to prevent adulteration is a difficult matter. Attempts have been made on previous occasions to bring it about. It is possible that similar attempts will be repeated in future. How far they will succeed, we cannot say. Our experience is that when the market is going up, everything available is bought up. This is somewhat a sheer trade necessity. When forward sales have taken place, the parties concerned are often forced to buy up adulterated hides. But they clean them later before exporting.

Q. 17.—All our estimates in reply to this question are moderate, in fact very conservative. They have all been based upon estimating back from exports. It is our experience that the indigenous tanning industry utilises a somewhat larger number than is exported. In arriving at those figures we have also taken into consideration the number of livestock in the country. We have no direct evidence of hides being left to rot on carcases. Our estimate of the loss due to damage is also moderate and very conservative.

Q. 22.—Each firm has its own mark. But grading for export is almost uniform for all firms. Both are equally important to the trade as a whole. The firm's name is important, because it amounts to an interpretation by the firm concerned of the existing grading system.

Q. 34.—Propaganda in India for educating the people in India will, in our opinion, prove useful. But we have no objection to a part of the cess fund being spent on advertising abroad.

Q. 39.—Leaving aside the question of export duty altogether, we think that tanning research should be financed from the cess to a certain extent. We say this because some of the funds are bound to come from the export of tanned goods in which we include skins.

Q. 40.—According to the extant rules a certain number of pieces must be put in every bale shipped. If we sell 8 to 9 lbs. hides, the bale must have 150 pieces and therefore the weight must be between 1,200 and 1,350 lbs. For cow hides the upper limits of weight per bale is 1,800 lbs. This is by shipper's contract. The shipping company would, however, accept a heavier bale. From their point of view certain measurements must not be exceeded. Very often a 1,800 lbs. bale is less valuable than a 1,200 lbs. bale. The average value of a bale is £40 to £60. Thus the average may be taken at Rs. 700 c.i.f., at destination. F.O.B. at Calcutta the average price is Rs. 500 to Rs. 600. A cask of skins is worth much less. Its average value is Rs. 175 to Rs. 200. In our calculations we have not considered the question of skins in casks. We were there thinking of bales of hides; nor did we think out carefully in respect of tanned goods.

Q. 44.—We are quite emphatic about the principle we have enunciated.

Q. 54.—We agree that this involves the giving of grants-in-aid to the existing institutes.

Replying to Mr. Price:—Table salting is practically useless for export purposes both for hides and skins. Sometimes it even tends to decompose hides. We ship both *khari*-salted as well as arsenicated dry hides. We do the arsenication ourselves, although some *arhatdars* arsenicate a small percentage themselves.

Under the present circumstances, I would advise salting and not air-drying, as the present demand is for salted. I am aware that the Karachi trade is in dried ones. I know that salting creates difficulties, specially as it enables the *depari* to load the hides. Manipulation from one salting to another is bad for hides. Home buyers prefer salted hides, because in

respect of them the buyers are surer of the results they are getting. It is not within our experience that dry-salted hides get iron stains during transport in railway wagons. We agree that the supply of wagons should in general be a flexible one, and that therefore there should be as few special type wagons as possible. But the question of special wagons does not concern exporters as such, though it does concern the traders who sell to exporting firms.

The cattle population of India is about 180 million. (Here Mr. Price stated that one witness had stated that the average life of cattle was about nine years. Mr. Sommerfeld continuing said:—). If that be so, 20 million hides should be the annual production in India. Even judging by this our estimates are conservative. In our opinion, a great many of the present defects can, in course of time, be eliminated. This by itself would save over a crore of rupees, but many material benefits would also accrue.

We have not studied the question of freights. The Hides Cess Committee could and should negotiate for the quick transport of hides and skins as they too are, to a certain extent, perishable commodities.

Q. 23.—New shippers have to conform to about the same standards as the old ones, because the home buyers expect them to do so. I agree that if they do not come up to such expectation, there is a certain amount of risk of the whole trade getting a bad name. The seller's trade mark is a commercial asset. It is a marketable commodity.

Q. 39.—I am opposed to the imposition of an excise duty in any form. The cess should be at a rate which will not affect the position of Indian hides in the world's market. At the rate recommended by us the income from Calcutta alone would be four lakhs a year. I do not wish to express any opinion as to whether the cess should be on the same lines as in the case of cotton, tea and lac.

Q. 42.—The ground for our objection to *ad valorem* duties and our preference for specific ones is that we want simplification. The imposition of specific duties would eliminate appraisement and weightment. At present the trade has to pay for these.

Q. 50.—We are not keen on having a member-secretary. We thought the member-secretary would be honorary, and therefore cheaper. If the work involved is large enough, the secretary should be a non-member. We do not have a member-secretary for our Association because no member would be able to give the necessary time for regular secretarial work.

Q. 55.—We want Calcutta to be the headquarters on the ground that Calcutta would yield most of the cess fund. But we agree that even if Calcutta be the headquarters, the Committee should meet elsewhere also.

Replying to Mr. Wykes: Q. 4.—I have not seen the machine in question. But Mr. Bleeck will show a pamphlet dealing with it. Compressed air-flaying might improve matters and might even be better than the electrical flaying machine.

Q. 6.—If mechanical flaying cannot be introduced, the next best course to adopt would be a safety flaying knife.

Qs. 7 and 8.—What we meant by referring to our answer to these questions was that methods followed in other countries should be employed in India in this respect also.

Q. 10.—An expert can detect the change from *khari*-salt cure to table-salt cure. We have to take such pieces as they form a small proportion of the goods received by us.

Q. 15.—Members pay a fee for membership but it is nominal.

(Replying to Chairman, witness said:—Violation of rules by members cannot always be proved.)

We can imagine *chamars* leaving hides to rot on carcasses, if prices for hides are so low that it does not pay to take them off. If the export

trade is not profitable, he will take the hide off only if he can make leather out of it otherwise not.

Q. 17.—Depreciation has been calculated in the light of the proportions which have to be assigned to the lower grades. The calculation has been a difficult matter and the estimate is conservative. It may be even one-half only of what it really comes to. In our opinion, our estimate of the loss is the very minimum.

Qs. 36—38.—I cannot say about the fairness of any particular amount which should be spent on any particular object.

Q. 39.—We consider it fair that whichever part of the trade or industry benefits by the fund should contribute to it. It is within my experience that half-tans are re-exported from London to continental countries and to America, sometimes even to India.

Q. 44.—We do not think that non-exporting tanners should be on the Committee, our ground being that non-exporting tanners would not contribute to the cess.

Replying to Mr. Rafique:—Village-flayed hides are also sometimes badly flayed.

I think the cheapest method of curing is air-drying. Poisoning will enable an air-dried hide to last for years to come. Even a *khari*-salted hide can last three years if it is kept properly. Bengal goes in for dry-salting. Purnea, Darbhanga, etc., are air-dried. Agra are air-dried except in the monsoons.

Adulteration is more common among dry-salted hides. Railway freights are, in our opinion, too high.

Q. 40.—In our opinion, every other country competes with India in the matter of her hides and skins. It is the world's market that regulates the prices of Indian hides. In our opinion, the burden of the cess will fall on the same persons who at present bear the export duty, i.e., on the primary producer.

A bale of goat skins is worth about Rs. 700 at present.

Q. 44.—The primary producer's representative should not be on the Committee, as we do not think that his representation is feasible, but if it were feasible we would not mind it.

Q. 50.—The Secretary of the Committee need not be a man in the trade.

Replying to Mr. Ismail:—The question of rotting of hides on carcasses is a question of price. Production in India is larger than her capacity for absorption. Hence those not wanted for export or local tanning are left on. If the man gets a price lower than the cost of getting it to the market, he would not flay it. We can imagine such circumstances but cannot give details or specific instances. We know that the numbers brought to the market fall off when prices go down, but it is possible that they are then being withheld from the market. The same principle holds good not only of the Calcutta market, but also of Cawnpore and Dacca markets.

Q. 39.—By part-tanned we mean half-tans which are finished abroad. In our opinion, part-tanned means that only finishing remains to be done. If the cess is high, India's position in the world's market is bound to be affected. When the market rises, it would not affect the trade. Indian tanneries cannot absorb the total quantity produced in the country.

If tanners say that they do not want to have any benefit from the cess fund, we would not object to their being kept out. But they are bound to benefit if flaying, etc., improve. The benefit is automatic. The Association want the cess for the improvement of flaying, etc.

If the funds accruing from the cess at Rs. 5 per bale prove insufficient we would not be prepared to recommend that the rate of cess should be raised.

Q. 55.—Calcutta exports more raw and tanned goods combined than any other port; that is why, in our opinion, Calcutta should be the headquarters.

Replying to Mr. Weston :—**Q. 40.**—This is our estimate of what the trade could bear. We accept the principle that the cess should be at a rate which does not affect the position of India in the world's markets. In the case of half-tans and leathers produced in India, the cess could be reduced if their markets were affected. But in such cases the reduction should be general and not confined to half-tans and leathers. We would not differentiate between the trade and the industry as regards the cess or the rate of the cess.

Replying to Mr. Shah :—Assuming that the accepted policy of the State was to encourage an industry, we do not think that the Cess Committee should in the distribution and management of the cess funds follow a policy in opposition to that accepted by the State. We prefer specific duties and therefore specific cesses to *ad valorem* ones. We prefer them because they are simpler. Before the preparation of this memorandum, neither we nor our Association had recommended such specific duties in replacement of the present *ad valorem* one. If flayers were full-time paid employees of slaughter-houses, there was not any considerable risk of the slaughter-house authorities being involved in litigation with butchers on account of bad work on the part of their employees—the flayers—so long as flayers were properly examined beforehand and their work was properly supervised. A system of grading by Government or the Cess Committee need not supersede private trade marks, but, in our opinion, grading by any authority outside the trade is an absolute impossibility. The system will not work.

We agree that in fixing the headquarters the expenditure to be incurred from the cess fund and questions affecting management and general administration should be kept in view just as much as the question as to which centre contributes the most to the cess fund.

Replying to Mr. Price :—Arrivals at the exporting markets in the current year are 30 per cent. lower than when the prices were high. This may be due to the withholding by *beparis* from the market and to some extent to non-production. Stuff withheld may have been utilised by village tanners too. Such tanning is not a constant factor but one which depends on prices to be paid for such surplus over export as is available. In our opinion, any improvement that results would benefit the producers, traders, exporters and tanners. Even tanners cannot help being benefited.

Replying to Mr. Wykes :—The application of the cess fund should not be confined to the improvement of the hides and skins. Cess fund can and should be spent on the research institutes also.

Replying to Mr. Ismail :—Tanned goods should bear the cess if their position in the world's markets is not affected. In our opinion, those countries which at present take Indian raw hides would not be compelled to take tanned ones if India were to stop the export of raw hides and skins. The preliminary processes are not the same for exports and for tanneries as the latter use green as well as wet-salted hides.

Replying to Mr. Rafique :—By bad flaying in villages, we mean that they leave more flesh and parts of horns and hoofs. We admit that hides flayed in villages have fewer butcher cuts.

**Written Statement, dated the 9th November 1929, of
Mr. K. C. MUKHERJI, B.Sc. (Leeds), Manager,
The Bhagalpur Tannery, Ltd., Bhagalpur.**

I. I have been connected with the tanning industry for nearly 20 years now. I got my training in the applied chemistry of leather manufacture in the Leeds University (England) obtaining the B.Sc. degree. After that I worked in a tannery in Doncaster for about nine months.

I was employed as the Assistant Manager of the National Tannery Co., Ltd., Calcutta, for some time. Since then I organised the Bhagalpur Tannery Co., Ltd., and been working as its Manager all along. I am also a member of the Board of Directors of the Bengal Tanning Institute. I am also interested in the export trade, i.e., in the export of fancy skins. Moreover I am also directly and indirectly connected with boot and shoe industries as well as the manufacture of suit cases.

II. Yes.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The common defects found in the Indian hides and skins can be divided as follows:—

- (1) Defects due to the malnutrition of the animals.
- (2) Defects due to ignorance, neglect and cruel treatment of the animals by the owners, e.g., branding, etc.
- (3) Defects due to epidemic diseases amongst the cattle such as foot-and-mouth diseases, anthrax.
- (4) Defects due to the various skin diseases which leaves even after recovery marks on the skins which are more or less permanent, e.g., warble, ticks.

2. Earnest efforts should be made to educate the people about these various defects and the economic loss which these are causing. The malnutrition of the cattle is more or less intimately connected with the poverty of the people of the country—unless that is removed, there will not be much strides towards the proper feeding of the cattle. But it will improve matter if pasture lands as of old are again left in the villages for the grazing of cattle and certain quantity of fodder grown for them annually by each cultivator. The various departments, such as the veterinary department, should at once start intensive propaganda among the people for combating the various epidemic diseases. By film shows and broadcasting lectures the dangers as well as the means of prevention should be brought home to the people.

Steps should be taken, if necessary, by legislation to prevent the various cruelties practised.

Flaying.

3. In the rural area when an animal dies, the village *chamar* takes it and skins it. He, generally, is not an expert in the art of flaying. He leaves too much fat and flesh on the skin which is unsuitable. Sometimes, especially during the Mahomedan festivals, when animals are slaughtered, they are flayed by ordinary people and they cut the skins deeply which spoils the skins greatly.

On the other hand, in the towns, where slaughter-houses exist, the skins are flayed by butchers and they remove the fat and flesh too closely as these have a ready market and in this way the skins get deep cut marks. It is his careless handling which deteriorates the value of the skins greatly.

4. It is necessary that the value of good flaying be brought home to the notice of the people concerned and to make them realise that it will pay to do the flaying carefully. One would say that if trained men flayed the skins it would be much better. But this is not possible in the villages. So the village *chamar* must be taught to flay properly.

5. This can be done by the appointment of touring flaying instructors, who should demonstrate to these people the proper method of flaying. The instructors can work through the village headman, who will arrange to get the *chamars* to learn the work. The *chamars* may also be encouraged to learn this by small stipends.

6. Yes. The instructors would be able to supply them.

7. In the slaughter-houses, which are under municipal control trained men should be appointed by the municipality for the slaughter and flaying of the animals. This would greatly improve the quality of flaying.

Curing and preserving.

9—13. The defects in the methods of curing and preserving are mostly due to the fact that in the first instance it is done in the interior and as have been said above too much flesh and fats are left on the skins and are dried with these so that the skins and hides are liable to get damaged and putrefied. Moreover the drying should be done in shades not in direct sunshine, but generally exactly the opposite thing is done in the villages.

The question of curing and preserving is certainly a suitable subject for investigation and research at the expense of a cess fund along with the training of the village *chamars* in this line.

Other defects.

16. Compare No. 1 above.

17. From my enquiries from some of the hide merchants of Bihar, I learn that the value of the goat skins are reduced nearly 50 per cent. during eight months of the year owing to the skin diseases, tick marks, etc.

(b) Collection, marketing, export, etc.

18. The village *chamar* or the owner of the skin sells it to the local hide merchant, who either offers it to the district merchant or takes it to the *arhatdars* in Calcutta. The *arhatdars* in turn sell it either to the tanner or to the shippers—who have their own godown. There the skins are made ready, selected and baled for shipment.

21. Arrangement should be made for the quicker transport of raw hides and skins in the country and no restrictions should be made for carrying skins by passenger trains upto a limit. India being a hot country, during the hot weather, at least, where the hides and skins have to travel long distance in hot blazing suns—if they can be carried in cold storage vans or some such arrangement, it will keep them better.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a)—(d) Yes.

25. I am principally connected with Bihar and Bengal. There are no facilities in Bihar; we have, however, the Bengal Tanning Institute in Calcutta, where Bihar students are trained and Bihar Government makes a contribution. The work of the Bengal Tanning Institute has been very useful.

26. Yes, expansion of the existing facilities is certainly necessary. The provinces where there are no facilities, arrangements should gradually be made to provide facilities in those places. India has a unique position in the world leather market and instead of raw materials, she should export finished products. She can easily do this as soon as her tanning industry is sufficiently developed. She can, in fact, dictate terms to the rest of the

world. But to bring about this state of affairs, net work of research workers should take up the problems and help to bring the tanning industry to the up-to-date state.

27. No. It is, so far as I know, not done in any of the institutions in Europe. But, I think, there should be a central research institution in Calcutta and to avoid overlapping of work, the other institutions should be in touch with the Calcutta institution. The existing Calcutta institution should be converted into the central research institution and it should be the connecting link between the other institutions in the country.

28. The existing facilities are (1) the Bengal Tanning Institute, (2) the various tanneries which take in a few apprentices.

29. Yes, artisan schools and demonstration tanneries should be established and tanning demonstration parties should be appointed to tour in the villages and instruct the rural tanners in up-to-date methods. The tanning demonstration party under the direction of the Bengal Tanning Institute is doing useful work and that line of work should be greatly increased.

31. I have already indicated the lines of improvement; demonstration tanneries, research work, subsidies and grants, etc., are necessary to develop the tanning industry.

32. *Rabal, asan, amaltash, dhawa, myrobalana, sal* are available in my part. There is no organised supply and organisation is necessary for their marketing and sale. There are various other tanstuffs available but they have not all been tested as to their value.

The supply of *araram* bark would greatly facilitate the half-tanning industry.

33. *Araram* bark gives a quick tannage, smooth and pale in colour, for this reason it is very much liked in foreign countries, specially as the tannage can be easily stripped, wattle bark on the other hand gives a richer tannage. Arrangements ought to be made for the larger supply of *araram* bark by increased plantation in places where it can grow. This matter ought to be taken up at once. In view of the fact that there is a greater demand for half-tanned leather from this side, this matter is of great importance.

V.

ADVERTISEMENT.

34. Yes, arrangements should be made to popularise the Indian hide and tanning industry in Europe and other countries.

35. The funds should be made available for giving scholarships to suitable persons for training and research work in foreign countries, on condition their services should be available to the Committee at least for 2 or 3 years on their return, if the Committee so desire.

VI.

COST OF SCHEMES PROPOSED.

39. The cess should be levied on the export trade of hides and skins at the ports of export. The tanning industry is not organised properly yet and it is necessary to have funds to develop the tanning industry as much as possible. If the tanning industry develops quickly on a large scale there would be hardly any necessity for the export of hides and skins. All efforts should be directed towards that end. There is greater demand for Indian tanned leather and that tanning industry should be developed as quickly as possible. My own belief is that, over and above the cottage tanneries, every district in this part can afford to maintain an up-to-date tannery. If this can be organised, all the hides and skins will be practically used up in the tanneries. There will be no difficulty about the consumption of the output of leather, as I have mentioned above India can dictate her own terms to the world's market.

The cess should be levied at the rate of 5 per cent. *ad valorem*.

VII.

ONE COMMITTEE.

43. Yes. To be representative of the whole country, the Committee will naturally be a big one. It should contain one representative of the tanning industry and one representative of the hide industry from each province to be elected by the industries concerned. Director of Industries of each Province should represent the local Government concerned. There should be one representative of the veterinary department and another of the co-operative department. The heads of the leather trades Institute should also be there. There should be 6 representatives of the Native States, 3 representing hide and 3 tanning industries, respectively.

50. There should be an *ex-officio* Chairman representing the Government of India.

There should be a non-Member Secretary who should carry on the executive work delegated to him by the Committee. The Committee should manage and be responsible for all the affairs.

The Secretary should be appointed by the Committee.

55. The headquarters of the Committee should be located in Calcutta.

**Oral Evidence of Mr. K. C. MUKHERJI, B.Sc. (Leeds), Manager,
The Bhagalpur Tannery, Ltd., Bhagalpur.**

(Calcutta, the 12th November, 1929.)

Replying to Chairman:—I am Manager of the Bhagalpur Tannery, Ltd. I received my training in the applied chemistry of leather manufacture at Leeds and was later apprenticed at Doncaster.

Replying to Mr. Price:—As Manager of the Bhagalpur Tannery which manufactures and exports fancy skins I have had some knowledge of the export trade but no other experience of customs work.

Many of the defects found in the Indian hides and skins are due to the ignorance of the village *chamars*. This can be easily removed by educating them. Of course it would be very difficult to bring them up to the modern standards, but from my experience I have found that they can easily pick up this technical work not requiring much intelligence.

Table salt is commonly used for curing.

There are some objections to the use of dry or arsenicated hides even in the dry season for chrome tanning. But for bark tanning there are none.

The time taken for the transport of raw hides is a very important matter as rot sets in very soon. The Committee should therefore negotiate with the railways for the quicker transport as also for the introduction of cold storage vans. There should be no restrictions on the carrying of raw hides, etc., by passenger trains.

India can dictate terms to the rest of the world's hides and skins market. I admit I know that the market is very unsettled for the last few years. I have been in the market for the last 12 years. In 1923-24 hides could secure only a low price. But in 1927-28 there was a boom when the prices of Indian hides went very high. (Note:—Mr. Price argued that when at one time one cannot buy a hide and at others one can hardly sell a hide, it cannot be said that India can dictate terms to the rest of the world. Witness however differed and said:—) She can do so because she occupies a unique position. She supplies about 75 per cent. of the world's requirements. (Note:—Mr. Price said:—Only 33 per cent. Witness replied that he had got his information from the Industrial Commission's Report, which should be relied upon.)

The Indian tanning industry is not up-to-date. The Cess Committee should help to improve the industry by giving it better raw material.

Avaram bark is the best and quickest tanning material we know of in India. The Cess Committee should help to secure (1) the improvement of raw materials and (2) the development of the tanning materials such as *avaram* bark.

I agree there should be one representative of the hide industry from each province on the Cess Committee. By hide industry I mean the hide and skins trade.

As to the cess to be levied I am of opinion that it should be 5 per cent. *ad valorem*. I know that it would involve a lot of work for the Customs but this can be done by them in the same way as they do for the roads cess fund and transfer it to the district boards. I am not in favour of giving any commission to the Customs for collecting the cess.

I considered that even one anna per bale would be a heavy burden on the tanning industry. I am definitely opposed to a cess on the export of tanned goods because any such cess would be an intolerable burden on the industry.

As regards the constitution of the Cess Committee I agree with Mr. Price that there should be a non-Member Secretary, because he should be under the orders of the Committee.

The headquarters of the Committee should be located at Calcutta. The biggest tanning place is of course Madras, but considered from all points of view Calcutta has grown up to be the centre of the hide industry.

Replying to Mr. Wykes:—Some of the defects in Indian hides and skins are due to the malnutrition of the cattle. It would therefore improve matters if pasture lands were supplied to villagers and they were taught to grow fodder on it. There is no water scarcity in Bengal.

It will be better if we can arrange with the railways for the introduction of cold storage vans for the transport of hides and skins.

Owing to the enormous waste caused, I am of opinion that any money available should be primarily spent on producing better quality hides. It should be spent on the improvement of hides and of the tanning industry. The training of tanners, tannery foremen and leather chemists would greatly improve matters.

In referring to the subsidies I had in mind the Bihar State Industries' Aid Act and a similar one in Madras. What I mean is that the cess fund should be utilised to assist young men in setting up small tanneries by providing them with capital. Of course Governments do help in this direction but they do not always do so. I myself once applied to Government for help, but did not get any. Hence I advocate that the cess funds should be so utilised.

I want that *avaram* bark should be made available in larger quantities by increasing its plantation.

Replying to Mr. Rafique:—I get wet-salted and dry hides for bark tanning both from the slaughter-houses and from the local market. I recommend that the hide should be cured with table salt.

The cess should be imposed for the improvement of the trade as a whole. At the present stage the tanning industry cannot contribute to the cess fund. Even in the case of half-tans it should become a finished industry before it can pay any contribution to the cess fund.

Replying to Mr. Ismail:—Indian hides form a class by themselves and the world wants this particular quality. Hence my statement that India can dictate her terms to the rest of the world.

The cess should be only on the export of raw hides and skins. It should not be used for anything outside the industry.

The present tanning industry is not up-to-date. There are some processes by which even Madras tannage can be improved. For instance the Bengal Tannery follows the processes advocated by the Bengal Tanning Institute. Leather prepared by such processes will of course command higher prices, but I have not compared the prices of such products with the prices of Madras leather.

Replying to Mr. Bleeck:—I admit that I cannot gauge the world's requirements. But from my experience in England and the enquiries I made from America and Germany I know that they prefer Indian hides and skins.

I suggest legislation for the prevention of cruelty to animals. The Society for the Prevention of Cruelty to Animals should be able to take up this work. At present the Society is not working outside Calcutta because it has not got sufficient funds.

Special flaying knives can be used with advantage. The villagers should be taught to use them.

Replying to Mr. Weston (through Mr. Das):—Railway transport of raw hides and skins should be made quicker. Instead of wagons fitted with wooden planks I would prefer the introduction of cold storage vans.

Indian hides and skins are used in England for the boot and shoe upper leather. The special characteristics of Indian hides are that they are very soft, pliable, and durable. The particular characteristic on account of which there is a big demand for them, is the nature and smoothness of the grain. It is on account of this that India can have a monopoly.

As regards the burden of any levy—In 1919 some tanneries were started in Calcutta. About a crore of rupees was invested on them, but most of them failed. The reason for their failure was that the right quality of leather could not be produced. Therefore the development of the tanning industry is in the interests of the Indian investing public. The tanning industry should get most of the assistance from the cess fund. Also if the tanning industry develops, the Indian tanners will themselves ask for better quality hides which will lead to a speedier improvement of the industry. Hence assistance should primarily go to the tanning industry.

Replying to Chairman :—Legislation to prevent cruelty to animals should be worked through the societies for the prevention of cruelty to animals. Any assistance given to the societies would be a fair charge on the cess fund, because defects like goad marks, etc., reduce the value of the hides. If necessary I would even stop the export of raw materials and thus develop the tanning industry.

India can at present sell finished leather abroad. My own tannery does not produce enough finished leather for sale abroad. But I know of some firms which are selling abroad their finished leather products. To give examples the National Tannery of Bengal and the Chrome Tanning Co., are two such firms. There are also other firms and tanneries which sell finished leather abroad. They do not experience any difficulty in finding a market abroad, but in case a market cannot be found abroad, I would suggest that the cess fund should be utilised for advertising such finished products abroad. India has a monopoly of the world's market for hides and skins. The price of Indian hides should have gone up if there had been a monopoly but as the market is always fluctuating I do not know if this happened. (Note:—The Chairman remarked that it could not then be a real monopoly.)

I suggest the establishment of a central research institute in Calcutta but I admit that I have not gone into details.

There is a great demand for Indian tanned leather. There could be no difficulty in selling all India's output at a profit. An export duty of 5 per cent. *ad valorem* should be levied on all exports of raw hides and skins. I fixed it at 5 per cent. because it is the highest it can bear. (Mr. Price remarked:—You want to kill the export of hides and skins; then why show any mercy by fixing the rate only at 5 per cent.?)

The headquarters of the Cess Committee should be at Calcutta because, as it stands now, it is the centre of the export trade as well as of the tanning industry.

The functions of the Committee should be the organisation of flaying, removal of diseases, considering schemes for subsidy, etc.

Calcutta has another advantage so far as research work is concerned. It has the Bengal Tanning Institute. This institute should be developed into the Imperial Research Institute.

Replying to Mr. Price :—I was at Doncaster in 1913. There they tan Indian cow hides. England is now the worst customer for raw hides but she is India's best customer for half-tans.

Replying to Chairman :—As regards my remarks about German and Japan tariff barriers I admit I do not know what the import duties in Germany, Japan, etc., on hides and skins and leather in its various forms are.

Replying to Mr. Price :—The reason why I want subsidies though India can control the world's market, is that new tanneries could be started.

Replying to Mr. Rafique :—I buy raw hides for my tannery from the local market. I am aware that there is a slump in the local market for the last five months. The foreign exporter is not buying in the market, but from this one instance alone I would not say that India cannot command the world's market. I know that the Australian hides compete in the market with Indian hides.

Replying to Mr. Ismail:—I have heard of substitutes being used. I admit that people would go in for substitutes only when prices are high but I do not think that the whole world would go in for substitutes.

The tanning industry should be encouraged as much as possible and saved from any burden as much as possible.

Replying to Mr. Bleeck:—The myrobalan trade has been organised in other parts of India, but there is no organised supply of the same in Bengal.

I admit that as proposed by me the number of members on the Committee would be about 40 which would make the Committee very unwieldy but I see no way out of it if all interests have to be represented on the Committee.

My object in levying the cess is to develop the tanning industry, to keep the raw materials in the country and through the cess develop the tanning industry as well as the hides and skins trade.

Replying to Mr. Shah:—I admit that I do not want to prohibit exports altogether. I want the benefit of the industry as a whole by taxing the industry.

**Written Statement* of Dr. Sir NILRATAN SIRCAR, Kt., M.A.,
M.D., Director, The National Tannery Co., Ltd., Calcutta.**

I. I started the National Tannery and I still hold majority of shares in that concern.

II. Yes.

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. Indian hides and skins contain marks of cattle pox and those due to various kinds of skin diseases. Cattle pests like ticks, warbles, etc., also damage hides and skins.

2. The skin diseases referred to are mostly due to carelessness of the owners and they can be prevented if greater attention is paid to the treatment of cattle.

As regards damages due to pests cleanliness would improve a lot but to improve the health and breed of cattle veterinary precautions are necessary.

Flaying.

5. Yes.

Curing and preserving.

12. Yes. Such researches are very much needed and the proceeds of the cess fund would be very usefully utilised for the purpose.

Other defects.

17. I understand that the price of leather is reduced by 33 per cent. on account of these defects.

(b) Collection, marketing, export, etc.

19. Transport of hides by railway appears to be rather dilatory which is prejudicial to the wet-salted hides specially in summer months. Tanneries often suffer loss from putrefaction of hides in transit.

21. The freight on hides and tanning materials specially when brought by goods train but not in full wagon loads is high. A reduction in this will help the tanning industry.

IV.

TANNING AND ALLIED INDUSTRIES.

24. (a)—(d) Yes.

25. There are facilities for research work in tanning at the Bengal Tanning Institute.

26. Expansion of the existing facilities at the Bengal Tanning Institute is necessary.

27. No rigid specialisation in technological investigations is possible, different centres will have their own problems for solution. Overlapping and duplication should however be avoided so far as is possible under the control of a central organisation situated at Calcutta.

28. There are facilities for the training of tanners, tannery foremen and leather chemists at the Bengal Tanning Institute.

30. Yes. As far as is necessary for the training and the development of the tanning industry.

* This was received after Sir Nilratan Sircar's oral evidence was over.

31. Standardisation and careful grading suiting the requirements of the foreign markets would improve the export trade in Indian tanned hides and skins. I think such standardisation and grading to be feasible, if the requirements of the purchasers are carefully studied.

33. Cultivation of *avaram* will increase its supply and will also make it cheaper.

VI. COST OF SCHEMES PROPOSED.

39. The cess should be levied on the export of raw hides only and not on the tanning industry as I do not think that the latter can bear any impost in its present stage of development.

40. An all-India scheme to effect an improvement in the health, breed and fodder of cattle; in the flaying, curing and preservation of hides with the object of securing a higher appreciation for them in foreign markets; as also in the growth and development of the tanning and other associated industries would require a very large amount of money. The only source of any fund appears to be the proceeds of the proposed cess on raw hides. It is however to be borne in mind that the levy on the export of hides should not be unreasonably heavy. Past experience is that a 5 per cent. export duty has not materially affected the export trade, therefore if the cess be kept at 5 per cent. it will not weigh too heavily on the export trade but at the same time it will be possible to make a start in the improvements aforesaid for the interests of all concerned.

VII. CESS COMMITTEE.

43. Yes, the constitution should be somewhat as follows:—

1 representative from the tanning industry of each important province.

1 representative from the hide and the skin industry of each important province.

1 representative from the leather goods manufacturing industry of each important province.

The Directors of Industries of each province.

A veterinary expert of the Government.

A cattle breeding expert of the Government.

A representative of the co-operative department.

A representative from each of the important technological institutes.

46. Local Governments should be represented by their Directors of Industries.

51. The Committee should administer the cess funds and initiate policies to effect the improvement mentioned above through proper organisations and should advise the Central and Local Governments on such matters as will require government help and co-operation.

**Oral Evidence of Dr. Sir NILRATAN SIRKAR, Kt., M.A., M.D.,
Director, The National Tannery Co., Ltd., Calcutta.**

(Calcutta, the 14th November, 1929.)

(Note:—Chairman said that Sir Nilratan had not found it possible to send written evidence, and added that as the founder of the National Tannery his views were of great importance. He requested Sir Nilratan to give a preliminary oral statement of his views on the questions before the Committee.)

Preliminary statement by witness:—If we find a considerable sum available, it should be devoted to the improvement and development of (i) the articles concerned in the export trade and then (ii) the tanning industry in India.

Though there is an artificial cleavage between the hide trade and the tanning industry, yet from a broad standpoint the whole (whether raw hides and skins or leather) is an asset to the country under one head. I would devote the cess fund in the first place to the improvement of the hides and skins. This means the breed, the feed and the health of cattle in the country. Thereafter flaying, curing and preservation, transporting, packing and other methods by which hides are rendered suitable for transport. I think a large sum can and should be devoted to the improvement of primarily the breed and then the health of cattle. Veterinary service, veterinary propaganda and generally the maintenance of cattle-sheds, etc., under veterinary advice—all these will need a large sum. As regards the improvement of fodder the advice of the agriculture and co-operative departments will be necessary. Various new types of fodders may be cultivated.

The various defects are ticks, warbles, pox marks, etc., many of which are preventible and with the help and advice of the veterinary service we may be able to do away with all these.

After the death of the cattle there is the question of flaying, curing, preserving, transporting, etc. Improvement is possible and is necessary.

The flayers have got to be trained and supplied with suitable instruments for flaying. Then the curers have got to be properly trained and supplied with proper chemicals for the purpose. As regards preservation it is a matter of research as to the best preservatives and what new things will have to be found out by proper research. As regards railway transport it is common knowledge that both tanners and exporters do not get the facilities they would like to have. It is possible to expect improvements in these departments. So far for the export trade. I have only another suggestion to make in this connection that a suitably large sum should have to be spent for advertising in connection with exports.

Next of course is to deal with the hides and skins that remain here in this country for tanning. A very large number of hides and skins are tanned in this country for Indian consumption. The Indian Industrial Commission estimated this at about 50 per cent. But it appears to me that it is much more than 50 per cent. of the total production of the hides and skins in this country. Whatever it is, in India there are tanneries of all sorts. So far as the organisation of the tanning industry is concerned, there are new problems to be solved in connection with the hides and skins, the tanning materials, and the conditions under which they have to carry on their business. Then again we require trained men. As regards organised tanneries we require trained workmen and expert advisers. I think it is to the interest of the leather trade to have these men properly trained and to have arrangements properly made for research work in these tanneries because further development of the industry in India means better prospects for the hide trade.

If we have to expend money for the welfare of cattle—there are about 60 millions of them in India—if we have to provide for at least suitable fodder

for them and also for making arrangements for looking after their health and also to make some provision for the breeding of these cattle and afterwards if we have to make provision for proper flaying, proper curing, proper preserving and proper transport we require a large sum indeed. It is natural to expect that this sum should be paid by the trade. We cannot expect Government to spend large amounts of money as subsidy for a particular department in this way. And in any country the general principle is to tax so much of it as is exported as raw material. The finished products should however be left alone. Relieve the manufacturing industries and for that purpose tax the raw materials that are exported from this country. Various questions arise in this connection. What I have stated is only a general principle. There are other facts governing the applicability of that principle. In the case of tea for instance there is no question of differentiation of the raw material from the finished product. I wish that such a state of things should come about also in the case of hides and skins. In regard to tanning the stage has not yet been reached in the tanner's improvement when he can make both ends meet. As regards the cotton and the jute industries, there also part of the raw material is exported and part is converted into finished products in the country. But the circumstances are very different in the case of jute. It is a monopoly of India, Bengal in particular. As regards cotton, things are on a different footing. But I do not know that the analogy holds good in the case of hides and skins. I think that for the development of the finished products in leather and allied industries we shall be justified in imposing a small cess of about 5 per cent. on the export of raw materials (hides and skins). The question may naturally arise in this connection whether this cess should also be levied or even a fraction of it levied on such materials which though considered as manufactured products in this country are actually treated as raw materials in other countries. The general principle is that those should also pay a small cess or a cess in the proportion to which they are used as raw material. The case of the Madras tanners is however peculiar. They do a very large business. They form a very strong support to the leather industry in India. But for them it would have been a difficult problem for all those who are concerned with one branch or the other of the whole trade. I do not know all the circumstances connected with the half-tan business in Madras. I believe they have their market restricted only to one country and it is Great Britain. And if their market is so restricted there is another difficulty as regards the immediate imposition of a cess upon these manufactured products. In fact the great difficulty in this branch of industry is formed by the insurmountable tariff walls in most of the foreign countries. There is only one country open to us—Great Britain—so far as partially tanned goods are concerned. But as regards the hides and skins there are several countries open to us. I would therefore support the proposal for the imposition of a 5 per cent. cess upon the export of raw hides and skins, the duty being collected *ad valorem*. This duty should be collected by a Committee on which there should be representatives of the different departments of the Government and of the different interests such as the trade, the tanning industry and other branches of the industry. As regards details they will depend upon the application of the principles upon which the Act is based. For the present we should suggest that there should be represented on the Committee the departments of industries of different provinces, also the departments of agriculture, veterinary and co-operation and then the business or trades concerned.

Replying to Mr. Bleek:—The diseases and pests of animals including cattle have not received much attention in the past. The deterioration of cattle and other animals has gone on unchecked. In this respect a valuable asset of national wealth has been neglected.

Government cannot be expected to incur much more recurring expenditure from their own resources than they do at present. But they can be asked for help from time to time, this being mainly of a non-recurring character. Besides the Government, local bodies too are spending a large amount for the prevention and cure of cattle disease. I do not mean that Govern-

ment should not incur more recurring expenditure but that even though it is a laudable object, it will not be feasible. After all in India the most valuable lives after human lives are those of cattle. But I do not think Government can spare much more for the benefit of cattle than they are doing at present.

For the Madras tannage the market is restricted and therefore the demand is limited. In other countries it is used as a raw material.

Replying to Mr. Ismail:—Money can usefully be spent on the various improvements specified by me. It should be raised by means of a cess. In proposing the cess, the protection of the tanning industry is not my object although it may be a contingent result. If the rate of cess is only 5 per cent., as I propose it should be, much of it should be spent on the improvement of hides and skins.

Replying to Mr. Wykes:—It is a matter of deep regret that a large proportion of our hides and skins are in such a miserable condition. There is of course a market for everything at a price.

On the whole if you wait till you have a real demand for training, training will never be imparted. Hence, we have to go on feeling our way, i.e., adjusting the demand for and supply of trained men to each other. The pulse of the demand should be felt and the supply should be regulated accordingly. For good tanners technical training is in my opinion necessary. In my tannery I had first employed men not scientifically trained but with practical training received in other tanneries. But such men did not prove satisfactory. Now really trained men are employed and we find them far more satisfactory.

I do not mean that the Cess Committee should undertake the sole and exclusive responsibility for the improvement of cattle. My idea rather is that the Committee should act as an expert co-ordinating body utilising the agency of the provincial departments concerned.

Replying to Mr. Weston:—I do not know the conditions of the skins market. Hence, theoretically I would include skins in raw materials on which a cess can and should be imposed. But I repeat that I do not know the conditions of that market.

In my opinion, the tanning industry has been benefited by the Bengal Tanning Institute, but that institute has many problems still to tackle. The tanning industry has, on the whole, taken interest in the institute. The country, however, does not require a number of institutions of the same type and similarly run. In my opinion, it is not good that the tanning industry should be in the hands of such men as the "No. 4 bridge" bag-tanners.

Replying to Mr. Shah:—I have great hopes regarding the glacé kid industry in India, but to make it profitable, huge production is needed—approximately eight to ten thousand dozens a day. We have the expert knowledge and the other factors constituting the human element in the industry, but the competition of other countries and their tariff policies, etc., are beyond our control. Large capital investment is needed.

I consider the collection of a cess *ad valorem* fairer even though not as simple as that of a specific one.

I am not in favour of the cess being imposed at a rate below 5 per cent. because a vast amount of money is needed for the various schemes of improvement.

Replying to Chairman:—The arrangements to be made for bringing about the improvements in view will involve recurring expenditure. Hence, I do not favour a cess for a term of, say, five years. The income must be permanent. Within a term of, say five years, cattle improvement would not be noticed.

The public will, of course, have a right to examine the policy and working of the Committee periodically. The Committee's programme may have to be modified in the light of experience.

The general principle which I support is that a cess should be levied only on raw materials. Steps should be taken to encourage in India the finishing of the Madras tannage provided there is not great difficulty about exporting our finished goods to other countries. In such a case a proportionate cess might reasonably be imposed on the basis of the general principle.

It may be that some Madras tannage exported to the United Kingdom is re-exported from there to other countries, but I do not know the precise position.

(NOTE.—The Chairman here referred to the tea cess and the expenditure on advertising by the Tea Cess Committee, and asked:—If you could advertise in other countries the Madras tannage along with raw hides and skins, will this not be advantageous to India? Witness replied:—The case of advertisement of hides and skins is not on all fours with that of the advertisement of tea. In tea we hold a monopoly; in hides and skins we do not.)

Considering that the market for half-tans is restricted I would not impose a cess on half-tans, *i.e.*, Madras tannage. As a principle I agree that a cess should be imposed on raw material. But in practice, I would not impose a cess on the Madras tannage.

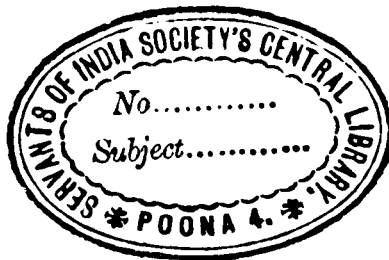
Replying to Mr. Bleek:—It is a fact that superfluous useless cattle are kept alive in India. But as there is a religious sentiment underlying it, it is impossible to eliminate them.

Replying to Mr. Weston:—I am President of the Post-Graduate Department of Science in the Calcutta University. For some years past the technological chemistry department of the University has been trying to co-operate with the Bengal Tanning Institute. Negotiations have been going on and though matters have been delayed, yet they will mature in course of time. As regards higher research in tanning of the type done at Leeds, it can, in my opinion, take place only at Calcutta. The combination of the various necessary factors is available only at Calcutta. For high research a highly scientific research atmosphere is necessary, and such atmosphere is most highly developed at Calcutta.

Replying to Mr. Shah:—I have not visited Cawnpore for some years now. I have maintained some touch with the development of the Technological Institute there. The training in technology which is provided at Cawnpore is of the graduate but not of the post-graduate standard.

Replying to Chairman:—Should it be found that the partially tanned exports from India go mainly to countries which place no serious barrier in the way of the import of the finished article then I consider that the "partial-tans" should bear a proportionate cess.

Replying to Mr. Wykes:—I believe, Madras tans take about a month to go through the various processes. I wanted to introduce this industry into Bengal. The outlay needed is small; not much expert knowledge is needed. The Madras product cannot be used except as material to be finished into something else.



Written Statement, dated November 1929, of the Calcutta Skins and Hides Traders' Association, Calcutta.

I. The Association represents the traders (*arhatdars*) of raw hides and skins in Calcutta. The *arhatdars* also deal in lizard and reptile skins.

II. Yes. The cess can be spent profitably only on the removal of such defects in the trade where the damage done is proportionately greater than the money that will be spent.

III. 1. The cattle disease is *goti* or *chichak* (small pox) but it is found that the number of hides suffering from *goti* is very small. The cattle also suffers from warble fly, sore, ticks, and worms.

2. The veterinary expert should carry on research in the matter and devise means of fighting the warble fly and tick which spoil a great percentage of hide coming from up-country (the United Provinces and the Punjab). Warble fly is also called *poka* or *meru*.

3. and 4. In the slaughter-houses the hides are hurriedly flayed. The flayer has no interest in the sale of hides and as he is paid per piece he hurries to flay as many hides as possible. He also employs small inexperienced boys to help him to flay the belly portion of the cattle. In Calcutta the slaughter-house hide is sold to the tanner when the animal is alive. This is more the reason why Calcutta slaughter-house hide is very badly flayed. If the flayers are made to realise that by flaying badly they will be held responsible, surely much improvement can be expected. We would suggest that the municipalities and union boards should be asked to issue licences to skilled flayers and that these flayers be paid a monthly salary and in order to meet these expenses the municipalities should raise the slaughter-house fees. A contribution of 10 per cent. of the total salary paid to the flayers by the municipality be made to these municipalities from the cess fund.

5. Good result can be obtained by appointing flaying inspectors and instructors who would go from place to place, teaching and advising people how to flay and how to cure the hide, and what materials should be used for curing purpose. These inspectors can also discourage the practice of loading the hides with bones, flesh, and mud.

6. We do not think any good result can be obtained by providing flaying knives. India is a big country where every village and district has its own custom and *dastur*. Nobody will buy the flaying knives however cheap they might be sold. If free distribution is made, there will be much waste than good work done. Hides can be flayed well if the flayer knows his work, and works slowly. The only way to get better flaying is to make the flayer independent of butcher and compelled to flay slowly. Where the flayers are municipal servants on monthly salary they would not flay hurriedly.

7. The slaughter-houses should be well lighted, sufficient space should be provided for slaughtering, flaying, and cutting the animal into pieces. In most of the slaughter-houses there is no arrangement for hanging the animal after it is slaughtered. Sufficient number of pulleys should be provided. The municipalities should be asked to co-opt a member of the hide merchants in their slaughter-house committee, who will suggest means of improvement from time to time.

8. Some 15 years ago some traders tried the system of paying bonuses for better flayed hides which was successful, only because the buyers used to pay. If a paying inspector is appointed there is little chance of its success, while much money will be wasted.

9. In India the hide is cured with eating salt and *khari* salt and the dry hides are preserved with arsenic. In India the climate varies from time to time. During the rainy season when it is difficult to dry the hide, the *beparis* bring their goods in wet-salted condition cured with eating salt or

khari salt or with both. The hide is generally dried in the villages. This is an inexpensive method and by air-drying the hide can be preserved for a longer period. Hides cured with eating salt remain undecomposed from 2 to 3 weeks; with *khari* salt 18 weeks and air-dried arsenicated 2 years to 3 years. Hides are arsenicated so that these may be preserved against worms. In the villages the *chamar* or the collector, collects the hide and when he has accumulated sufficient to make one or two bundles of ten pieces he sends it to the nearest hide market for sale. These markets in some places are held twice a week. It is for this reason that hides are air-dried. Dacca and Shil-long hides generally come in dry-salted condition. These hides are cured with *khari* salt and are dried.

10—12. Some research should be carried on to find some very cheap curing substance. At present air-drying is the cheapest, and eating and *khari* salt come the next. Tanners do not like air-dried hides. They always purchase from slaughter-houses or buy wet-salted in the market. In the Calcutta market Madras and the local tanners are the only buyers for wet-salted cow hides.

13. There is at present no organised system of supplying properly the curing and preserving materials to the villages. Generally hides are air-dried and washed in light solution of arsenic. Arsenic is not available in the villages and the village hide merchants are not given licence to wash their hides with this solution before despatching them to market. Cess Committee should arrange for the cheaper supply of curing salts and should have powers to issue licence to village hide merchants to store small quantities of arsenic. The arrangement for the supply of salt is required only during the rainy season when the hides cannot be dried.

14-15. Adulteration exists in a very serious form, but it is for the trade to combat it. If the shippers and the Madras buyers organise themselves not to buy loaded hide it can be extirpated very soon. At the time when the price is low and there are few buyers, hides are well cured and very little loaded. In short loading varies with the price—more price more loading. We think the Committee cannot remedy this evil. It is for the traders to remove it.

16. The other defect that spoils the quality of hide is branding. It is used to mark the animal. In some places the owner brands his animals to make their skin useless for sale, out of fear that these animals may be poisoned by the village *chamars*. Somewhere branding is adopted as a means of making a mark of ownership, while some people believe that branding cures the animal of pain and lameness.

17. The buyers degrade the hide from one selection to another on account of its containing *pokas*, brand mark or bad flay. A hide containing few open *pokas* is reduced in value by 15 per cent. to 20 per cent., bad flaying alone, 20 per cent., very bad, 30 per cent. to 60 per cent., brand mark, 15 per cent. to 50 per cent. The difference from one grade to another is 15 per cent. for light cow hides, 20 per cent. for medium and 25 per cent. for heavy cow hides. It is very difficult to give an accurate figure of reduction caused by these defects. The value depends on the nature and magnitude of defects as well as on the size and weight of hide. It can be safely said that bad flaying and *poka* each reduces the value from 15 to 20 per cent.

18. The following are the stages:—

- (1) Collected by *beparis* from *chamars*.
- (2) Cured with salt and dried or air-dried.
- (3) Transported to *arhatdars* at central market places.
- (4) Wet-salted to be re-cured.
- (5) Sold to buyers.

19. Some improvement can be made by supplying bigger wooden railway wagons. Hides and skins should be treated as perishable goods and quick transport should be arranged.

20. Have no experience.

21. Railways should be asked to attach the hide wagons with the passenger trains without charging extra. If speedy transport is arranged much damage, which is caused by the delay, can be avoided during the rainy season. Special rates should be allowed for transport of *khari* salt by the railway companies.

22. There is no system of grading prevalent in the market. Buyers are allowed to select the hides and after selection is made and *parta* is calculated by the buyers the hides are sold. Grades are not sold separately. Buyers have to buy the whole lot except triple rejections.

In view of the fact that hides have different qualities and arrive in different states it is impossible to introduce any system of standardization either at Calcutta or in the villages.

IV. 24—33. My Association has no experience of tanneries or tanstuffs. In Bengal the trained tanners after passing from the Calcutta Research Tannery find great difficulties in securing employment.

V. 34. A portion of cess should be used for advertising raw hides and skins and half-tanned hides and skins abroad. Small leaflets in the vernacular of the provinces describing the method of curing and drying the hides, also mentioning the facts that better flayed hides fetch better price should be distributed.

VI. 36—38. It is very difficult to give estimate of scheme, but to improve flaying, centres like Calcutta, Agra, Aligarh and Peshawar should be tackled first.

39. Cess should be levied on the raw or half-tanned hides or skins exported from India. The principle adopted in the imposition should be to benefit the industry and not to give protective effect to one part of it. A cess or duty, whatever it is, is paid by the primary producer. The principle in this case should not be to benefit a class of industry at the expense of primary producers or collectors of hides and skins. Since both the raw hides and skins as well as the half-tanning industry are to be benefited by the improvement in the quality of hides and skins, both should contribute to it in the form of a cess.

40. The cess should be 1 per cent. *ad valorem* on raw and half-tanned hides and skins.

41. The cess should be levied for 5 years to see if any of the stipulated improvements are possible and also to see if the rate of cess is more or less to cover the expenses of schemes.

42. The rate should be an *ad valorem* rate on hides and skins.

VII. 43. Yes. The Committee should have a President, preferably an official. Secretary—an expert in the trade. Members—from different interested associations. Experts—to be co-opted by the Committee.

44. One raw hide and skin shipper from Calcutta, one raw hide and skin shipper from Karachi, one half-tanned hide shipper from Madras and one tanner from Madras.

A member from Cawnpore Hide and Skin Traders' Association, two members from Calcutta Skin and Hide Traders' Association, two expert tanners and chemists, a tanner from Bombay.

55. The headquarters of the Committee should be located at Calcutta. Calcutta is central so far as Cawnpore, the Punjab, Karachi and Madras are concerned. It is here at Calcutta that tanners and buyers of raw hides and skins meet. There are big tanneries in Calcutta which turn out finished leather. As regards the holding of meetings, the matter should be left to the Cess Committee to decide the place from time to time.

**Oral Evidence of KHWAJA ABDUL GHANI on behalf of the
Calcutta Skins and Hides Traders' Association, Calcutta.**

(Calcutta, the 26th November, 1929.)

Replying to Chairman:—I represent the Calcutta Skins and Hides Traders' Association. I am its President.

Qs. 3 and 4.—The reason why I recommend the figure of 10 per cent. as contribution of the total salary paid to the flayers by the big municipalities is because the prosperity of the hide business chiefly depends upon good flaying and so my suggestion is that some portion of the cess fund should go in order to assist flayers in order to have better quality of hides. I suggest that a greater portion of the hides are degraded in quality on account of the bad flaying and I put a stress upon the percentage to help the good flaying. I cannot exactly give the amount of salaries of flayers calculated at 10 per cent. because I do not know what the amount of the cess will be, and so it is as suggestion that I have given the 10 per cent. figure. All I want is assistance from the cess fund to improve the flaying.

Q. 8.—The practice of paying bonuses for better flayed hides does not continue now; previously some buyers used to pay a bonus and others did not.

Through the negligence of *chamars*, hides are dried upon hard stones and that portion of the hide which is fixed up to the hard stone, gets rotten. This system should be stopped by means of propaganda and through instructors. Arsenication of hides is necessary because in transit un-arsenicated ones, due sometimes to delay, may become rejections and sometimes turn into double rejections. I, however, do not put a stress on arsenication. (NOTE.—When correcting his evidence, witness deleted the word “not” in this sentence.)

Q. 13.—It is possible for the trade itself to organise. If they combine themselves they can. There have been efforts made in the past to organise traders, but now the curing materials are easily accessible.

Q. 40.—By half-tan, I mean that which is not completely turned into finished leather.

No cess should be imposed on finished leather exported from India. I would prefer a specific rate to an *ad valorem* rate if all the bales are of equal value. (NOTE.—When correcting his evidence, witness substituted the word “average” for the word “equal” in this sentence.)

Q. 55.—In our opinion, Calcutta should be made the headquarters as it is the biggest port, a centre of tanning, and the principal market of India for hides. It supplies three times the materials compared with Madras. Besides, there are big tanneries—both private and Government—run.

Replying to Mr. Price:—Our Association is in favour of levying a cess though not gladly. (NOTE.—When correcting his evidence, witness added the words “in place of duty” after the word “cess” in this sentence.) I represent neither the shippers nor the tanners, but the producers of the cattle from whom the duty comes. Whatever it is—whether a cess or an export duty—the producer who is a poor cultivator has got to pay. But if there is to be a cess we want it on both raw and half-tanned. By half-tan I mean the products of Madras and Bombay which are unfinished leather.

Our Association does not actually indulge in export. We sell to shippers and tanners. Shippers are at a disadvantage in buying because they have to deduct the export duty from the price which tanners do not have to pay. The cess or the duty will be a burden upon the producers who are the poor cultivators, *chamars* and collectors of hides. They will be ruined. If by some process or other the primary producer can be given a little more for his hide than is actually taken from him by means of other process, then he will benefit and I agree that will be desirable.

In our opinion, there should be an official interested in agricultural or animal husbandry to help the Committee. The Secretary should be a whole-time man.

If the producers of half-tans refuse to contribute in any way to the cess fund, they will have no right, in my opinion, to representation on the committee administering the fund. The general principle should be, "no representation without contribution".

I cannot give the figures of fallen hides. They may be three times the slaughtered hides. Dead hides do not have so many cuts as slaughtered hides. Such hides belong to the *chamars*; whereas flayers in the slaughter-houses have no interest in the hides. The best thing would be to make the flayer interested in his work.

I know very little about the warble fly. It is found in the North-Western and the Punjab hides. I cannot say whether it is due to the cold season. In my opinion, research work on the warble would be useful.

Madras tanners' methods of buying do not encourage improvement in the standards of hides in the trade. They buy un-cut bundles without examining the contents. Madras buying is not well organised. The trade is sufficiently united in Calcutta. The Madras buyers in Calcutta are not the agents of the real buyers, but the agents of financiers.

(NOTE.—Mr. Rafique explained that there were two sets of financiers—one in Calcutta taking 2 and 3 per cent. per month and the other the financiers at Madras who give financial help to the tanners and who are themselves the exporters of tanned hides and skins.)

I do not know what the cess on cotton is.

I agree that if a complicated system of levying a cess is employed, the resulting fund—the cess fund—would be much smaller as Customs would naturally have to be paid for collecting the cess.

The Committee should be a business committee. I would, however, prefer to have expert tanners and chemists as employees of the Cess Committee and not as members of the Committee.

Calcutta should be made the headquarters, and meetings of the Committee could be held at different times and at different places.

My attitude is that it is the function of the Committee to improve the flaying. It is also for the Committee to decide the best means by which this improvement could be effected. What I have put forward are merely suggestions.

Replying to Mr. Wykes:—With this 1 per cent. cess the Committee would be able to wipe out the defects and improve the quality of hides.

(NOTE.—Chairman asked:—Supposing from experience it was found that some money was necessary and could be spent economically in the same way, would you recommend a higher rate of cess? Supposing that by one per cent. cess, India would improve the value of her hides by two or three per cent., would you recommend, say 2 per cent. to get an improvement of 6 or 7 per cent. of the hide?)

Witness:—I cannot give an idea unless this 1 per cent. cess is worked out for some time. If India gets the benefit of 2 or 3 per cent. out of the 1 per cent., I would, of course, recommend a higher rate.)

I would recommend increasing the cess if experience shows that thereby the value of hides and skins can be further increased and the increase of funds is necessary, and the trade does not suffer.

Q. 6.—I do not think that the distribution of improved pattern knives even in slaughter-houses where they can be properly controlled will do any good.

Q. 11.—I think that in five years' time some results would be visible.

Half-tan is that which is not fully turned into leather, e.g., the Madras stuff. Leather is the finished product after which it does not go through any

of the processes. Leather means completely tanned and finished stuff—the stuff which is ready to be manufactured into articles of leather, etc.

Replying to Mr. Rafique:—Madras tanners are not well organised. If the Committee thinks that it would be a good idea to have an organiser or a marketing expert or an expert businessman on the Committee, it can have him.

Madras tanners buy Purnea and wet-salted hides in the monsoons. They do not buy arsenicated, nor Calcutta buffaloes.

Replying to Mr. Bleeck:—It may happen that additional advantages accrue, such as the improvement of cattle generally, which will improve the milk supply and improve the quality of meat and the general value of the cattle. Although these general benefits arise, the improvements should be borne proportionately by the cess fund. It should be laid down that if the additional benefits do arise, contributions would be made from other funds likewise, that is to say, that if the hide is improved and an animal is improved likewise, the hide merchant should pay for the improvement of the hide and that other fund should contribute towards the improvement of the animal in other directions.

(NOTE.—Chairman explaining said, if as a result of the activities of the Cess Committee it was found that there was general improvement in other directions, such as, milk supply, meat supply, it would only be reasonable that the financing of the processes which have caused these improvements should be borne partially by funds from sources other than the cess fund. Mr. Ghani said that was what he meant.)

If we are going to kill all these diseases from which cattle die, we should also spend some of our efforts in trying to increase the fodder supply.

As is at present the custom, contracts are made with some zamindars, Rajas or States, to collect the hides.

If the price of hides falls so low that the man who has got these contracts would lose by deliveries of these hides, he would not continue the contract. Under the contract system whereby parties enter into some agreements to take all the hides from certain areas, these contractors are willing to forfeit their earnest money without thereby incurring the loss; the loss of earnest money is smaller than it would be by taking delivery of the hides and by collecting the hides.

Replying to Mr. Price:—This is sometimes the case when the price of the hide is low, i.e., there are occasions when hides are not collected from fallen animals, but are left to rot. When the prices of hides are very high, people are more willing to exchange their old cattle for new ones. The net result is that by the high price of hide, the old and useless cattle are reduced in number.

I do not think that a very small cess would really interfere with the price. A cess of 10 per cent. would most certainly affect the market price.

Replying to Mr. Wykes.—In my opinion, Madras buyers are inefficient buyers. They cannot handle good quality of hides. Purnea and Darbhanga hides are inferior to North-Western hides. These hides are bought by Madras tanners mostly. In general Madras tanners do buy lower grade hides.

In the rainy season Madras buyers consume a fairly large quantity of wet-salted hides. In the remaining eight months the shippers are the bigger buyers.

Replying to Chairman:—When the price of hides is low in India as at present, the Madras tanners do not buy more. They are not expanding their tanning industry when they get an opportunity of having cheap hides.

**Written Statement, dated the 12th November 1929, of
Mr. P. J. KERR, M.R.C.V.S., I.V.S., Veterinary
Adviser to the Government of Bengal, Calcutta.**

I. Veterinary Adviser to the Government of Bengal.

II. Yes, the improvement of cattle in India and control of contagious diseases.

The benefit would accrue directly to the owners of cattle and indirectly improve the trade. Hides from good well-nourished cattle are better quality.

III. 1. Indian hides are of poor quality and unskillfully treated prior to coming into the hands of the exporter. The carcasses are frequently decomposing before the skin is removed.

2. General Education.—The people who deal with hides are the lowest of all and the least educated. They do not apparently appreciate the fact that a badly flayed and preserved hide loses value; or are too indolent to make any effort to improve their methods. If the rupee aspect of the matter is not sufficient to stimulate them to try to do better work nothing else will.

4—5. No. I think the cost of instructors, etc., would be out of all proportion to the benefit.

6. Supply good knives on payment only. Otherwise they will be sold again. Such knives might be supplied to the present vendors of knives at a very low margin of profit, but then dealers would reap most benefit over the retailing of them.

If of superior quality material they will promptly be copied in shoddy and sold at cut-throat price.

7. Through slaughter-house authorities perhaps some improvement might be achieved if they will combine and employ only expert flayers. Again if the enhanced value of the hides so flayed will not stimulate the parties concerned nothing else will.

8. Might be tried, but such a practice will be open to grave abuse.

V. 34. Advertisement for benefit of the industry as a whole is a suitable way to spend part of the cess.

VI. 37. About Rs. 10 lakhs. I believe at present the 5 per cent. duty on hides and skins in Calcutta produces about 20 lakhs revenue. A cess of $\frac{1}{4}$ per cent. should produce about 2 lakhs, multiplied by four for the four large exporting ports and add 2 lakhs for other products not included in hides and skins about 10 lakhs per annum.

I would include the whole tanning industry, if possible, in the cess.

My idea being that all who profit by the trade should contribute to the cess to improve the cattle of India.

39. Cess on all products from animals exported in unmanufactured, semi-raw state. Hides, skins, bones, bonemeal, wool, hair: Cess should be levied in such a way as to cause the least possible handling and trouble to exporters, perhaps a flat rate on the bale.

40. The cess should not be such as to debar India competing in the cheap hide markets of the world. Freight to Europe is already a serious handicap.

41. Yes. For five years to gain experience of (1) yield, (2) method of levying and collection, (3) avenues for its useful expenditure.

VII. 43. I think the present Imperial Council of Agricultural Research would be a suitable body to administer the cess. This would reduce greatly the cost of administration and would entail, perhaps, the employment of an additional expert whole-time, and an additional Secretary. The appointing of a hide industry representative on the governing body and one or two representatives on the advisory body. The provincial producers, etc., would be represented by their veterinary or agricultural officers and Minister-in-charge regarding cattle improvement and contagious disease and the economic side by the provincial Minister.

Should research be deemed necessary this body, already organised, would be the best to direct it.

The organisation of a separate body to deal with this matter would be very expensive.

44. Exporters, tanners, producers.

46. See No. 43. Yes. Ministers.

48. No.

49. Yes, when necessary, with due regard to the benefit expected.

50—51. See No. 43.

52. For collection—Customs.

For disbursements—provincial industries department and allied departments through the Minister-in-charge.

53. Yes, in provinces in which the big ports are situate.

55. Delhi. (See No. 43.)

Oral Evidence of Mr. P. J. KERR, M.R.C.V.S., I.V.S., Veterinary Adviser to the Government of Bengal, Calcutta.

(Calcutta, the 27th November, 1929.)

In my opinion, the majority of hides are not butchered hides. They are dead hides skinned after death. There is very little of butchering done and the hide goes through many stages of putrefaction before it is skinned. The poverty of the hide is due in many cases to the dead animals being left for many hours before they are skinned. The majority of the carcasses are left lying for hours together. Secondly, it is due to the death of animals from contagious diseases.

Replying to Mr. Price:—Slaughter of unfit animals is contrary to Hindu religion and this is a handicap to the "elimination of the unfit" in cattle improvement. I do not know if it is the custom that the *chamar* who first touches the carcass has the first claim to it. I cannot say that dead hides are frequently well-flayed. On the other hand, it is my experience that hides of slaughtered animals are sometimes better flayed. Protection of animals from diseases alone can and will increase the quality of the hides. We should gain the confidence of the owners of the animals and give them advice as to breeding, inoculation, etc. I cannot say that they will be grateful to us if we save the lives of useless animals because their idea of usefulness or otherwise is quite different from ours. If an animal cannot be used any further for ploughing, he does not kill it.

The Premium Bull Scheme has been in operation for the last two years. We cannot produce even 250 at present whereas we require 2,500 for distribution. Bulls are scarce and we have not been able to meet the demand. Castration is part of the arrangement with the Premium Bull Scheme. The scheme has been in operation only for the past two years and hence we cannot impose any stringent conditions; nor can we say how it is going to work. Bengal does not know the value of its bulls, but the United Provinces know their value. There is no Bengal-breed of cattle here; they are imported.

Replying to Mr. Wykes:—Nine to ten years is the average life of a cow in India. If they are well-cared for, they can live even up to 12 years. Cows have generally about 6 calves, but they can have more also.

Replying to Mr. Price:—Hindu sentiment does not extend to buffaloes, except to a limited extent. They are often sacrificed for the *Kali Puja*.

Replying to Mr. Wykes:—In India there are about 180 million cattle. Of the 20 million hides produced each year 15 million are from deads and the rest are from slaughtered. The reason for this low number of slaughtered hides is that there are very powerful agencies at work to prevent the slaughtering of animals. The Cattle Protection Society prevents the slaughtering of animals and also their being sold to butchers. Calves and others are bought by the society and sent to the *pinjrapoles*. Once admitted they are not allowed to leave until they die.

The Hides Committee if it is formed will meet with opposition from the society and from Hindus in general all over the country, if healthy animals are slaughtered wholesale.

There are at present three or four *pinjrapoles* at Lillooah, Kanchrapara, Sodepore, and Oyaria (near Raneegunge).

I have not noticed if dried calf skins have increased by 100 per cent. (NOTE.—Mr. Wykes said this figure was given to him by the Madras tanners) because I have not come in touch with the trade.

Replying to Mr. Rafique:—Many of the Brahmins give bulls as free gifts which they brand and then let loose. They are left to be fed by the public. They brand the hide to show that it is a holy animal, and that it should not be taken away. In Eastern Bengal, which is thickly populated by Mahomedans, they have no objection to the slaughtering of animals, probably

because they are meat eaters. They, however, eat goat; probably it is cheaper.

The hides of starved cattle are certainly poorer in quality. The cattle put on flesh in the monsoon and then decline in condition.

In villages it is not the custom to slaughter animals for food.

In Bengal the period during which cows give milk is about 6 months; sometimes even more and sometimes less. The period depends on the cow's ancestry; nine months is the limit. The milk yield of a cow from the up-country stock is about 2 to 2½ seers for the whole day. I cannot give you the proportion of milch animals in the *pinjrapoles*. We have fodder supply for only 50 per cent. of the total number. Only one in every two serves any useful purpose. Cattle are kept for work and not for milk generally.

The nearest District Magistrate or the Sub-divisional Officer or police station and the district board receive notice of cattle disease. He or they inform the veterinary assistants who indent for serum, etc., for inoculating the diseased animals. We have no travelling dispensaries. At present we have hardly one veterinary assistant surgeon in each sub-division, though it is the Government's intention to bring the number up to two for each sub-division. Clinical diseases are at present treated by the veterinary assistants. There should be a hospital at each district headquarter and a dispensary at every sub-divisional headquarter. The scheme recommended by the Royal Commission provides for 1,100 veterinary assistants in Bengal whereas I have only one hundred at present.

The warble is a fly which lays its eggs on the legs of the animal, generally the parts with the coarser hair. This disease can be controlled but not in this country. To keep the animals free from parasites we have to groom the animals and keep them clean. But here in India with the present stage of development of the country and with the present education of the people who keep cattle (whose standard of cleanliness is very poor) it is impossible to effectively remove the disease. Even in dog hospital it is difficult to keep animals free from ticks, etc., and much more difficult to do so for animals in their natural surroundings.

Some people brand their animals in the belief that it is a protection against disease. It is only an ancient custom. Branding as a means of curing is not an effective one. It serves only as a mark of recognition or identification.

Replying to Mr. Bleek:—The cess money can be usefully spent on the animal industry. The Veterinary Department in Bengal is not sufficiently staffed to control contagious diseases. The first thing that can be done with the cess fund is to provide adequate staff. There is also an enormous field for research. The cess money could also be spent for the provision of officers of European training in the research institute. The Veterinary Department gets only Rs. 70,000 to spend on the purchase of biological products from the Government of India.

In Bengal cattle affected with tuberculosis are few. There is of course some risk of tuberculous cattle infecting human beings also but such cattle rarely find their way into the meat market in India. Foot-and-mouth disease is very prevalent but it is not very fatal, though it causes economic loss in work and milk. The estimated fatality is only about $\frac{1}{3}$ to 1 per cent. Most destructive is rinderpest. After that comes hæmorrhagic septicæmia. Hæmorrhagic septicæmia affects buffaloes more than cattle.

Replying to Chairman:—By preventing cattle diseases such as rinderpest, etc., the number of cattle would increase. This would render the problem of fodder for the increased number of cattle more acute. This will have to be tackled by the Livestock Expert by preservation and also by growing fodder crops in between the regular crops. Provision for the increased number of good cattle is essential. I think it is desirable to spend the cess funds on animal husbandry, i.e., the development of animal industry which will get better value out of it. It is difficult to tackle the warble fly. The problem is too big to be tackled.

I cannot give figures of expenditure in the *pinjrapoles*. Lakhs and lakhs are spent per annum.

For the Premium Bull Scheme we require 2,500 bulls whereas we have hardly 250. It is not my suggestion that the whole of the cess should be spent for the benefit of the producers of hides.

Replying to Mr. Price:—The *pinjrapole* at Lillooah is well run and in course of time its example may be followed by others also.

We can tackle the warble, if it can be tackled at all, only at the stage when it lays eggs. The warble is a boring and a blood-sucking fly.

Replying to Mr. Wykes:—I have seen cases of warble in Bengal also. It lays eggs on the animal's limbs, generally on the coarser parts of the hair on the legs.

Provincial Governments should be responsible for the improvement of hides, elimination of diseases, breeding of cattle, etc.

Flayers are the lowest of the low and the least educated of all. It is indeed a difficult problem to educate them. The provision of monetary incentive is the only way in which flaying can be improved. It is the only thing which will appeal to that class of people.

Replying to Chairman:—If money were to be placed at the disposal of the veterinary department it will be spent on research work and then on publishing and making known to others the results of the research.

Replying to Mr. Price:—A fair proportion of the cess fund should be spent for the benefit of the primary producer. But I would not say that the whole of the cess fund should be spent on it. A proportion of the cess should be spent on the organisation of the trade so as to eliminate the middleman as far as possible.

It often happens that hides on carcasses are left uncollected. I see them every time I go out on tour.

Replying to Mr. Shah:—When I said that the veterinary research staff should be staffed by European officers I only meant men with European qualifications.

Replying to Chairman:—Regarding the Committee which is to administer the cess, my suggestion is that the cess money should be made over to the Imperial Council of Agricultural Research. Members representing the hide trade and the tanning industry will have to be put on the Council. These should be represented on the advisory body and not on the executive body. Or the Hides Cess Committee might be a sub-committee of the Imperial Council of Agricultural Research. I think that the Imperial Council of Agricultural Research is to be split up into various committees. There is already an executive,—whole-time, by utilising these officers, the necessity for appointing others would be obviated.

**Written Statement, dated November 1929, of Mr. B. B. DHAVALÉ,
M.A., A.I.C., F.C.S., Research Chemist, Bengal Tanning
Institute, Calcutta.**

I. As Research Chemist of the Bengal Tanning Institute which is both a research and a training institution, I am closely connected with the tanning industry in India.

II. Yes. The cess proceeds can be profitably spent for the benefit of (i) the export trade in the hides and skins and tanned hides and skins, (ii) the tanning industry both for home needs and for export, (iii) the associated industries like (a) the manufacture of boots and shoes, (b) manufacture of glue, (c) manufacture of tanning extracts, etc.

III. 1. The majority of Indian hides is pitted with pox marks, tick marks and in some cases we find warble holes, etc.

2. More careful veterinary precautions. The owner should also be more attentive to keep the animals clean.

IV. 24. (a)—(d) Yes.

25. There are facilities in the Bengal Tanning Institute for research work in tanning and for laboratory scale experiments for making tannin extract and glue.

26. To increase the utility of the institute further expansion is necessary.

27. Modern tanning is very progressive and every line of leather manufacture would present problems for solution by the different technological institutes. The environments and the conditions vary considerably in different provinces of India. Consequently the technological institutes at different centres will have these local problems to tackle. I do not think there will be much overlapping and no rigid specialisation would be possible. Co-ordination, however, to prevent avoidable overlapping is desirable which can be secured by the establishment of a central research station with powers and facilities to control and keep in touch with the subordinate institutes.

28. Bengal Tanning Institute provides facilities for the training of tanners, tannery foremen and leather chemists.

29. There will be no dearth of suitable tanners and tanning chemists, etc., from the products of the local institutes. In case a specialised training be found necessary suitable candidates may be sent out for training abroad. For the training of rural tanners peripatetic demonstrations are necessary and to provide skilled labour to sufficiently organised industries, schools for the training of artisans may be started at different centres.

30. Where the industry is sufficiently developed and can regularly absorb a number of trained assistants, tanning schools should be established. Supply of skilled labour is another item for consideration. The tanneries have at present in most cases to get their own people trained from raw recruits. It would be an advantage if the proposed artisan schools supplied this demand. For rural areas where tanning is done on a cottage industry scale by the proprietor with the help of his family introduction of improved methods is only possible by practical demonstration. Depending on the nature of the industry to be developed the composition of the party would consist of an experienced demonstrator and such assistants as would be considered necessary.

31. The expansion of the export trade in tanned hides and skins presupposes development of local tanning. The products of the local industry should be raised up to that standard as are wanted by foreign purchasers. The articles should be made to satisfy the tastes of the customers and the market should also have to be expanded by advertisement, propaganda, etc., besides there are points for consideration such as (1) banking facility, (2) a fiscal policy of retaliation towards such countries as do not allow a free entrance of Indian leather, and granting of bounties and subsidies to encourage production of high quality of leather. As regards leather, I do not

think standardisation is possible as no two tanneries can produce similar grade of leather. Quality of leather does not depend only on the quality of raw materials used but also to a considerable degree on the skill and experience of producers.

32. *Babul, goran*, myrobalan and *sonali*, are the principal tanstuffs that are extensively used in the Calcutta bark tanneries. The materials referred to are brought down to Calcutta from various collecting centres and made available to the local tanners. Better organisation for collection and a good deal of chemical investigation are necessary to improve the colour of *gorus* tannage. The point has been exhaustively dealt with in my note on Indian tanstuffs. Many workable materials have also been found out by investigation from the Sunderbans, Darjeeling, Simla, Madras and Burma forests. A good deal of work has yet to be done to get the materials introduced to the trade.

33. *Cassia auriculata* produces much more pale coloured leather than wattle and the tannin penetrates the pelt very quickly. Another advantage of the *avaram* tannage is that the tannin combines feebly with the leather, can be removed easily and the hide or skin may be tanned with any other process preferred by the curriers and finishers abroad. Yes, by wider plantation.

V. 34. Yes.

35. Appointments of trade agents in countries which are likely to get interested in the Indian hides and skins and leather, etc., are expected to create wider market for Indian products.

Advertisements, propaganda, participation in fairs and exhibitions would also considerably help in the achievement of the result aimed at.

VI. 39. The cess should be levied on the export of raw hides and should be collected at the port of despatch. Tanning industry is not in a position at present to contribute to the cess fund and the question may be reviewed when local industry is sufficiently developed.

40. I think it should be at the rate of 5 per cent. *ad valorem* on the declared invoice price. 5 per cent. would, in my opinion, be no serious handicap.

41. It may be levied experimentally for at least five years to see how it works.

42. Please refer to reply to question 40.

VII. 43. Yes. On a par with that of the Indian Central Cotton Cess Committee.

44. The hide and skin trade, the tanning and other associated industries. In the Committee, the hide and skin trade and the tanning industry should be equally represented and there should be one member only for the associated industries. The Governor General in Council should nominate the members on the recommendation of the interests concerned.

45. The representation should be all by statute and to the extent as mentioned in No. 44.

46. The local Governments should be represented by the respective Directors of Industries.

47. Important States maintaining their own Director of Industries may be represented through them. Collection of cess should be made as in British territories and the proceeds made available to the Central Committee for the development of the industry in general.

48. Yes. Yes, through nomination by the Central Government.

49. Does not arise.

50. Yes. Director General of Commercial Intelligence may better be made the *ex-officio* Chairman of the Committee. The Secretary should be a Member-Secretary to facilitate the work of the Committee and it would be desirable to have a technologist in this post. He should be appointed by the Governor

General in Council. Until the cess is made permanent he should continue temporarily but it is necessary that the Secretary be a whole-time officer.

51. The Committee should be divided into several sub-committees to deal with different matters and would advise the executive body on the lines to be followed in the development of the particular industry. The Committee would act as an advisory body to the Local and Central Governments in the matter of legislation such as are required for the prevention of malpractices in the trade, etc.

52. Through the Secretary. Secretary would be the executive head and may have an assistant and other necessary staff.

53. Not necessary. Sub-committees concerned, on necessity arising, may visit places requiring first hand information on any particular subject and when assistance is desired by a provincial industry.

54. Necessity does not arise.

55. At Calcutta.

**Oral Evidence of Mr. B. B. DHAYALE, M.A., A.I.C., F.C.S.,
Research Chemist, Bengal Tanning Institute, Calcutta.**

(Calcutta, the 27th November, 1929.)

Replying to Mr. Price:—The primary producer will have his share of the benefit which will accrue by the Committee being able to devote attention to the betterment of hides and skins. I have mentioned this point later on even though it has not been mentioned in my reply to question II. The education of the primary producer should be one of the objects on which the cess fund should be spent. I am not a tanner and therefore I cannot say whether and how far Indian hides are at a disadvantage compared with the hides of other countries.

Q. 33.—Wattle bark is not quicker than *avaram* bark in its velocity of penetration. In fact, *avaram* is quicker than wattle. The reason why Madras tannage is still purchased is that although methods go on changing, the capacity of the Madras tanned material for absorbing further tannage is, to some extent, retained.

Q. 39.—I do hold that tanned hides should pay no cess. I agree that Madras tannage should not pay a cess. I say this because the tanning industry as a whole needs and should be given protection. I do, however, hold that later on the question of a cess on the tanning industry should be reviewed. The Madras tannage, in my opinion, is a tannage. It is part of the country's tanning industry.

It may look unfair to give the tanning industry representation even though it does not contribute towards the cess. But such a position is necessary in the beginning. It can be reviewed later on.

Q. 40.—I have proposed an *ad valorem* cess because otherwise the lower quality goods will suffer in comparison and therefore the better quality goods will tend to go out.

I would not give my opinion as to whether from the point of view of the collection of the cess by the Customs authorities, it will be desirable to simplify the collection procedure.

Q. 46.—While I have proposed that the Directors of Industries should represent the local Governments concerned, I have no objection to the departments of agriculture being given representation.

In my opinion, it is better to keep the Imperial Council of Agricultural Research and the proposed Cess Committee as separate entities, although it would be a good thing to keep them linked.

Calcutta has been proposed as the proposed Committee's headquarters. This is because Calcutta is the chief centre of the export trade and has also a good local tanning industry and a research institute.

The results of research done elsewhere have to be adapted to Indian conditions. This is why it is impossible to do away with research in India.

Replying to Mr. Wykes:—Q. II (iii).—It is true that today the market for tannin extracts made in India is small. We have to create a market abroad as also in India. So far as I am aware, there are tannin extraction factories at Raneegunge, Kharagpur and Bhopal. At the Bengal Tanning Institute we do experimental work in connection with tannin extracts also. At this institute we can turn out about twenty students per year. I agree that in the present circumstances of the country all these twenty cannot be absorbed in the industry. In fact, we are neither getting nor training that number. It only denotes our full capacity. But if the tanning industry develops as it should, it will be able to absorb more men than at present.

Q. 29.—The cess fund should find the cost of sending them abroad for specialised training.

Q. 30.—Sometime back the position of Calcutta was such that it could absorb a number of trained students. At present, however, I cannot mention

any place where schools can usefully be started. At the Bengal Tanning Institute we are going to train up adult artisan tanners.

Q. 31.—(NOTE.—Mr. Wykes was going to question the witness regarding the policy of retaliation referred to in his reply to question 31, when the Chairman asked witness whether he considered himself qualified to answer questions going beyond his scope as a tanning chemist. Witness explained that he thought that as the whole questionnaire was circulated to him he was expected to answer all the questions. When it was explained to him that that was not so and in fact that all witnesses were expected to confine themselves to only those questions which concerned them specially, witness said that he would like his examination to be confined to questions concerning the chemistry of tanning and to such general questions as everybody could answer.)

I am quite sure that Madras kips are leather. They are tanned leather though up to a point. They retain some capacity for absorbing tannin. East India kips cannot decay. Salt being a preservative, salted hides too would not decay, but their resistance against decay would not be permanent.

Generally 7 per cent. tannin would prevent putrefaction.

Leather is the product derived by the absorption of tannin by hide or skin fibres.

I do not know the life of a *babul* tree. I have not studied it from year to year. So far as I am aware the Punjab *babul* is the best from the point of view of tannin content. Before, however, it can be grown elsewhere, the various conditions of its growth will have to be studied.

I have not used Salem myrobalans. I have not seen them. I cannot say if they will grow in the Central Provinces.

Replying to Mr. Rafique:—I do not purchase hides. I have no direct experience of the raw hide market at Calcutta. By the export trade of hides and skins I mean raw hides and skins. I would call a skin treated only with salt a cured skin. I would not call it a tanned skin or leather. *Goran* tannage shows objectionable red stains and colour. There is no demand for it. If Bengal can grow *avaram*, tannage similar to Madras tannage can be done in Bengal too. I do not know how long a wattle tree takes before it gives the maximum yield of tannin.

I have no experience of the uses to which Madras tanned leathers are put. By 'associated industries' in my reply to question 44 I meant such industries as glue making, tannin extraction, etc. There used to be a glue making factory at Madras. It was then run by Government.

Q. 52.—I cannot give any particular reasons for recommending that the Secretary should be a Member-Secretary.

I hold that there is plenty of scope for research in tanstuffs in India.

Replying to Mr. Bleeck:—Q. 11.—The demand for tannin extracts can be fostered, *i.e.*, not merely research work but also the education of the people in the use of such extracts will have to be undertaken. Even at present the Bhopal Produce Trust are doing such work. I cannot specify the proportionate values of raw materials, chemicals and labour in leather.

I have analysed *khari* salt. The preserving medium in it is sodium sulphate. The salt comes out as a deposit. I do not know much about its origin in nature.

Replying to Mr. Shah:—The so-called half-tans of Madras mean that they retain some capacity for further absorption of tannin. It, however, does not mean that the capacity for further absorption of tannin is half. Usually it is much less. Hence by half-tans what is meant is leathers not fully tanned, or incompletely tanned. I cannot state the proportion or percentage of tannage left incomplete.

In practice the Madras tanned goods are treated to further tannage. What exactly that further tannage is, I do not know.

Replying to Chairman:—(NOTE.—In reply to a question from the Chairman, witness said that he would answer only those questions which related to the chemistry of tanning.)

Tannage is due to the combination of tannin with hide and skin fibres. This combination may be weak. For example, *avaram* tannage is weak. Hence it can be removed. Madras tannage is, so far as I am aware, subjected to further tannage, because a heavier or more suitable tannage may be desired by the party in question.

I visited the Sundarbans for collecting tanstuffs. Among others *kankra* leaves and barks were collected by me in the Sundarbans. These trees are not found in such numbers as *goran* and *sundari* trees. I am trying chemical decolorisation of the colouring due to the use of the bark of *goran* as a tanning material. I think tanners have, generally speaking, adopted our method of mixed *goran* and myrobalans. The transportation and the collection of tanstuffs in the forests are the principal difficulties in dealing with Indian forests. The mixing up of various trees is also another difficulty.

One of the important fields for research is to find out in the case of each tanning material at what stage or in what month the maximum tannin content can be obtained.

I agree that during the 10 years that the Bengal Tanning Institute has been doing work only a fraction of the problems has been tackled. Much more time will be needed for dealing with all the problems.

The 5 years' duration proposed by me for the Committee is not final. It is only a provisional term for starting the Committee on its work. What I mean is that at the end of the first 5 years its work should be reviewed; and then its life should be renewed with such modifications of the constitution, etc., as may be found necessary.

Replying to Mr. Price:—The impurities of *khari* salt are not useful for the preservation of hides and skins. Pure sodium sulphate is costly. I think painting with a brush should suffice. But we have only just taken up this experiment. Sodium sulphate can be diluted with water for curing or preserving. (NOTE.—Mr. Bleek here explained how the use of sodium sulphate as a preservative was already fairly well known to the trade.)

Replying to Mr. Rafique:—I cannot say if dried arsenicated hides would give better results than *khari*-salted ones.

Replying to Mr. Bleek:—Epsom salt is magnesium sulphate. Glauber's salt is crude sodium sulphate. I think Madras tannage can be treated with the semi-chrome process. (Here Mr. Wykes explained that the so-called semi-chrome process is not a chrome process at all, but a bark-tannage throughout giving a chrome appearance.)

I have no experience of the costing of various tannages. I cannot say how much wattle bark or *babul* bark is needed for tanning. I shall, however, let the Committee have these figures later on. At the Bengal Tanning Institute it is the tannery side which has worked these figures out.

Copy of letter No. 1686-B. T., dated 30th November, 1929, from the Superintendent, Bengal Tanning Institute, Calcutta.

I understand from Mr. Dhavale that you want to get an idea of the cost of tannage by the vegetable process as followed in Calcutta. The cost (material and labour inclusive) comes to about 4 As. per pound of leather with *sonali* and myrobalans and 5 As. per pound of leather with *avaram* and myrobalans.

**Written Statement, dated the 5th November 1929, of
Mr. B. C. BURT, C.I.E., M.B.E., I.A.S.,
Agricultural Expert, Imperial Council of
Agricultural Research.**

I. I have no connection with the hide trade or tanning industry but was for 7 years Secretary of the Indian Central Cotton Committee, and thus associated with the administration of a Central Committee and expenditure of cess funds.

II. Yes.

III. 20.—Yes.

Please see paragraphs 342 and 387 of the Report of the Royal Commission on Agriculture with which I agree.

Please see paragraphs 342 and 387 of the Report of the Royal Commission principles of co-operation are well understood. Co-operative sale societies for cotton are doing good work in the Bombay Presidency. In addition to getting for the grower a fair price for his produce they have helped to put better produce on the market through their system of seed distribution and of grading. Co-operative commission shops in the Punjab promise well.

V. 35. In my opinion, part of the proceeds of the cess should be devoted to the improvement of Indian cattle. Better cattle would mean better hides. There is enormous scope for improvement both by breeding and by better feeding and better cattle management generally. The hides from stall-fed cattle and especially from dairy cattle are superior to hides from jungle-fed cattle. There is very little good grazing in India and no enclosed pastures comparable with those of European countries, and forest grazing must inevitably lead to scratched hides. Indian cattle breeding is passing through a transition period. The extension of cultivation and especially of irrigation has led to a contraction of the breeding areas and a rise in the price of cattle. Village breeding is of increasing importance and better breeds are needed. There are several Indian breeds of great value but pedigree herds are few and heavy expenditure is necessary to establish such herd which are a necessary preliminary to real improvement.

Better feeding under village conditions is largely a matter of education and the organisation of co-operative action. The value of ensilage is well known. Village silo pits are quite feasible but money for propaganda and village experiments is wanted. The provincial agricultural department could do a great deal at once if they had the money.

The Royal Commission on Agriculture has drawn attention to the great importance of research on animal nutrition and the pressing need for more work. This would seem to be a legitimate object for the expenditure of cess funds.

Veterinary science.—The provincial veterinary departments are understaffed, under-financed and over-worked. They can hardly cope with epidemic diseases which the Royal Commission on Agriculture recommended should be their first care. (Paragraph 265, Recommendations 17, 28, 39.) There are numerous other important diseases of cattle in India which have hardly been studied and of the economic effect of which little is known. But that these diseases lead to the depreciation of the hides can hardly be doubted. Given funds and staff the veterinary department could intensify the campaign against epidemic diseases, undertake work on other important diseases, and give more general assistance to cattle owners in the treatment of wounds.

Part of the proceeds of the cess should, in my opinion, be devoted to veterinary research and veterinary aid to cattle owners.

Goats.—The goat skin industry is of considerable importance and goat keeping is of considerable economic importance to the Indian agriculturist. The Royal Commission on Agriculture drew attention to the need for the improvement of goats by proper breeding. A few breeds exist which are far

larger and much better milkers than the average and the establishment of pedigree flocks and distribution of such would lead to improvement and to a better supply of good skins. There is a risk that unless something is done these breeds may be lost. Money raised by a cess might be spent to advantage on this object.

VI. 36. (1) All cattle work is expensive and there is practically no limit to the amount which could be wisely spent on cattle improvement. A breeding farm capable of turning out 80 to 100 bulls per annum costs 2 lakhs capital and about Rs. 23,000 per annum recurring expenditure. Such farms cannot be expected to be self-supporting as the small breeder cannot pay high prices for pedigree stock. There is an immediate need for some 20 farms of this type in India. Many important breeds are not yet being dealt with.

(2) Research on animal nutrition is expensive and to deal with the most urgent problems, some 7 lakhs non-recurring and 3 lakhs per annum recurring is needed. Perhaps, part of this could be provided from the proceeds of a hide cess.

(3) Demonstration on better feeding can be carried out in small units. Each unit would mean, say, Rs. 2,000 initial and Rs. 1,000 per annum recurring—many such are required.

(4) A goat breeding farm would cost, say, one lakh initial and, say, Rs. 10,000 per annum recurring. Several such are needed.

(5) The amount of money which could profitably be spent on veterinary work is very large indeed and one lakh per annum in each of the major provinces would not be excessive—but much good could be done with less.

37. It is not contemplated that all the expenditure suggested under No. 36 should be met from a hide cess. An expenditure of Rs. 20 lakhs per annum on cattle would be modest when it is considered that there are 150 million cattle in India, 23 million sheep and 39 million goats.

41. No. The cess should be permanently fixed and the amount varied by amending legislation if and when necessary. To limit the cess to a period of years would prevent a long view being taken in its application and the absence of any guarantee of continuity would reflect unfavourably on the work done.

VII. 43. Yes. I consider that the Committee should be incorporated by the Cess Act and the funds vested in the Committee subject to such control by the Governor General in Council as may be necessary. The constitution of the Committee should be defined in the Act as also the method of assessment, collection and the objects on which the cess fund should be spent; details should be dealt with by statutory rules under the Act. The Indian Cotton Cess Act and Rules would be a suitable model except that the preamble and the section dealing with expenditure of cess funds would need to be much wider. The dissemination of information and the demonstration of improved methods should be included as well as research and experiment.

44—45. The Committee should be fully representative of all interests including those of the cattle owner. Appointment by the Governor General in Council is the most convenient method but trade and industrial representatives should be representatives of recognised trade associations wherever such exist. Direct nomination will be necessary for special interests, the local Governments concerned nominating individuals. The model of the Cotton Cess Act, has been found convenient in practice.

46. On the Cotton Committee officials (agricultural officers) are nominated by the Local Government but the Governments are not represented as such. This is satisfactory—an official member should be able to discuss matters without actually binding his Local Government. I would leave it to local Governments to select their representatives. If any work on cattle improvement is undertaken a livestock officer would often be required as well as the Director of Industries—or other industrial representative—of a province.

47. Yes—as on the Indian Central Cotton Committee, if the States agree to co-operate. Probably most of the hides are exported from ports in British India and at the outset the cess might be restricted to these. It is doubtful

if States would agree to handing over a cess collected at State ports to a Central Committee and some might object to levying it.

48. Technological research institutes actually working on problems connected with the hide and tanning industry should be represented on the Committee. A representative of the co-operative movement nominated by the Government of India would be helpful.

49. Additional members should be appointed by the Governor General in Council. Experts should be freely co-opted on sub-committees and could be invited to attend the meetings of the main Committee as visitors. As the Committee will have statutory functions and powers its composition should not be varied too lightly.

50. An *ex-officio* Chairman appointed by the Government of India is desirable. A whole-time Secretary (non-Member) would be necessary. He should be appointed by the Governor General in Council. The Secretary should have high technical qualifications and be capable of taking a very active part in co-ordinating research work. The same pay as a provincial Director of Agriculture would probably be suitable with such local allowances as may be necessary.

51. So far as possible grants should be made to local Governments for specific purposes and work should be carried out by existing institutes. Close touch with provincial industries departments will be essential and in regard to cattle breeding and disease with the agricultural and veterinary departments.

52. As far as possible the Committee should work through provincial agencies. The Secretary should be the chief executive officer. The office establishment will depend on the work to be done but the greatest care should be taken to start with a good nucleus including a good superintendent and a good statistical assistant. An Assistant Secretary may be necessary at an early date.

53. This will rather depend on the scope of the Committee's work and on the provincial organisations, *e.g.*, Boards of Industries.

54. I think a special technologist would be required. If he toured freely he would be of great assistance to local technologists. Whether a central laboratory for him would be needed is a matter for the consideration of the Central Committee when they have planned their scheme of work.

55. There are several possible headquarters but the one to be chosen should be the one at which the Secretary would be in the closest touch with the trade and industry.

**Oral Evidence of Mr. B. C. BURT, C.I.E., M.B.E., I.A.S.,
Agricultural Expert, Imperial Council of
Agricultural Research.**

(Calcutta, the 28th November, 1929.)

Replying to Chairman:—Q. 20.—There are two types of co-operative cotton sale societies, viz., the Hubli type and the Surat type. The Hubli type conducts auctions of graded *kapas*; it also distributes seed of an improved strain. The Surat type pools the produce of the members, arranges co-operative ginning and then sells the baled cotton.

In actual fact the Hubli type has been the more successful. Members of the society deposit their *kapas* in the society's yard and receive a receipt for it showing the weight and the grade. An advance upto 80 per cent. of the value of the *kapas* is then made to the member. The *kapas* is graded by trained graders lent by the department of agriculture. Grading is for (a) purity of type, and (b) cleanness. At the auction the different grades are auctioned separately. At present each member's lot is kept separately, and he reserves the right to accept or refuse the bid. Members attend the auction.

Replying to Mr. Price:—It is much easier to judge of the purity of *kapas* than the purity of ginned cotton. In the Hubli society only *kapas* produced from improved seed distributed by the society is now admitted to the auctions.

The Gujarat type may be theoretically better; in practice it is not, because highly expert graders are absolutely essential to the success of this type.

If areas where co-operative principles have obtained some hold over the people can be found, there is no reason why co-operative sale of hides and skins should not succeed. Co-operative societies will have to deal with *chamars*. In their case too co-operative marketing might succeed.

It is not the cultivator of cotton who adulterates or mixes. Mixing is done mainly by the ginner. I think the cultivator of cotton does accept the grading done by, or on behalf of, the co-operative societies. The committees of the co-operative societies consist of the cultivators themselves. At Hubli they have not yet reached the pooling stage. In Surat they have.

Replying to Mr. Wykes:—Every cotton grower does not belong to the association, but large proportions of them do so in certain areas. The people who supply the mills are represented at the auctions. To give an instance, Messrs. Tata and Company were, and are, the biggest supporters of the movement from the beginning.

As regards hides, if co-operative marketing is not possible because of the small number of hides handled by each village, and collection is still done by *arhatdars*, as at present, graded marketing is still possible, but it will not be co-operative marketing.

The Hubli cotton marketing society deals with an area equivalent to about two U. P. *tahsils*. A *tahsil* is called a *taluka* in Bombay.

As for hides, I would start with an experiment at such a centre as Hardoi or Sandiĵa. Cawnpore is, in my opinion, too big. It is really a provincial centre.

I think the dead hides should be dealt with first, and after that the slaughtered ones, so far as any co-operative organisation is concerned. Co-operative societies of owners and butchers might be feasible. But one of the essentials for the success of co-operation is something like equality of status—both economic and social. There is great need for organising markets based on the grading system in the cities; these, however, need not be on co-operative lines.

The cotton co-operative societies of Bombay are financed by the Bombay Provincial Co-operative Bank direct. An outside expert does the grading

for the society and for the members of the society. He is provided by the agricultural department. I agree that there are difficulties in the case of hides which are not to be found to the same extent in the case of cotton, viz., that hides are perishable and they go on coming in all the year through.

The society collects from members and pays out 80 per cent. of the estimated price. I agree that the society might salt and then sell to the *arhatdars*. The society will have to take a little risk. Through co-operative societies instruction as to salting, better flaying, etc., can filter down to the members. Auction is not the only means of sale by a society; it is possible for a society to act through an agent.

Replying to Mr. Bleek.—Grading is, I agree, a difficult matter. I also agree that when the demand for certain grades is slack, capital must be locked up for certain periods. But the grading which I have in view is not the final grading such as is done by exporters and shippers, but a sort of preliminary or *kutcha* grading. I hold that while others in the trade may understand grading, the *ryots* themselves hardly ever do so.

I agree that bad flaying must cause enormous loss; also adulteration in the case of dead hides, and that the use of preservatives is not very well known. In all these respects, the advantage of a co-operative society is that you can deal with an organised body of primary producers instead of individuals.

Arguments similar to those which are advanced against primary grading were at first urged in the case of cotton also. But we did manage to organise the *ryots*. Better produce is now being delivered as it fetches better prices. The moment you organise primary producers into a body, there is no end to the good work you can do to them through such bodies. You have, however, to supply the monetary incentive in order that improvements may be taken up. I am only giving you my experience of co-operative organisation as regards cotton.

Replying to Mr. Rafique.—In the case of cotton, there is a grading for purity and three gradings for cleanliness in each class of cotton. In the case of cotton you have got over a hundred types of cotton in India. The grading of cotton for final export is a highly complicated matter. In the case of hides it may be so too, but I think cotton grading is perhaps even more highly complicated. Cotton prices are doubtless as liable to great fluctuations as hide prices. The idea of co-operation is not to eliminate all middlemen but only the unnecessary ones. The *beparis* can buy from co-operative societies, and they can organise themselves for sale to the *arhatdars*.

There is an alternative to co-operation so far as graded sales are concerned, viz., regulated markets, e.g., in the Berar cotton markets, which are established under the Berar Cotton and Grain Markets law. These markets are not run on co-operative lines. The Royal Commission on Agriculture and the Indian Cotton Committee (1917) have described these markets in detail.

Replying to Mr. Price:—Q. 35.—As regards co-operative principles, I agree that the Punjab is an advanced province.

The primary producer of hides is the only part of the trade I know anything about. On the Central Cotton Committee the exporting and mill-owning interests are keen on benefiting the primary producer. They argue that his benefit would redound to the benefit of all.

It is impossible to say on whom the cess really falls. A moderate export duty is probably shared by the primary producer and the consumer. But, as regards a small cess, it is impossible to say whether it goes back to the primary producer or is borne by the consumer. More likely it is passed forward to the consumer. But a heavy cess is likely to come back to the primary producer to a certain extent. A small cess may not come back to the primary producer.

If you improve tanning and also hides and skins, the primary producer will benefit indirectly. From the point of view of the primary producer, expenditure from cess funds on tanning research is justifiable. I would not merely begin at the end where only the primary producer is directly benefited. I would rather begin simultaneously at all ends.

Replying to Mr. Wykes:—In dealing with the improvement of cattle, better feeding is an essential part of the problem. I do not see that such improvement should lead to larger numbers; I refer to breeding better-quality cattle. The fodder supply is the crux of the cattle question. The cess funds could legitimately be spent on the demonstration of better methods of cattle-feeding as I have explained in my note.

Replying to Mr. Rafique:—As regards Indian cotton, there is no exact parity of price between it and the American cotton. Indian and American cottons do not exactly replace each other. On account of its size the Indian cotton crop does affect the world's prices for all cottons. Within certain limits, the market for Indian cotton is semi-independent.

By a small cess, I mean As. 2 or As. 4 a bale in the case of cotton. I cannot express any opinion as to what a small cess would be in the case of hides and skins.

The heavier the duty, the larger the proportion which will fall back on the primary producer.

The Government of India are concerned with cattle research. In fact under the Devolution Rules central research is a legitimate work of the Government of India.

The Governing Body of the Imperial Council of Agricultural Research numbers seventeen of whom nine are provincial ministers of agriculture. In my opinion, the proceeds of a hides cess can appropriately be spent on the improvement of hides as well as on tanning and on the research necessary in both cases; also on the improvement of cattle by which I mean both development and research work.

Replying to Mr. Bleeck:—Bengal is not a cattle-breeding, but a cattle-importing province. The climate of Bengal doubtless leads to apathy. As regards improvement of Bengal cattle, I suggest that you should hear the Livestock Expert of the Agricultural Department, Bengal, and not only the Director of Veterinary Services in Bengal. The Hissar cattle-breeding farm sends out 700 bulls per annum. In the United Provinces there are some large controlled breeding areas where only improved bulls are used. In Gujarat, Sind and Madras there are also such areas. Real progress is being made in those provinces where cattle-breeding is an important feature of their agriculture.

I agree that the price of a decrepit animal may often be the price of its hide. The prices of working bullocks and milch cows have risen steadily ever since I came out to India: yet the profits on cattle-breeding are not very attractive or commensurate. This is due to large areas of what used to be the grazing lands and deserts now being brought under the plough. Thus, cattle have to be fed on fodder crops in many parts of the country where they used to be let out to graze. The system suitable for the future is farm-breeding and not jungle-breeding. This is because arable land cannot economically be diverted to grazing purposes. In the Punjab, United Provinces and Bihar—provinces which I know—cultivators do grow fodder crops. In fact, the rotation of crops is, to a certain extent, decided by the need for cattle fodder, e.g., the growing of *juar* is often a question of fodder.

Replying to Mr. Price:—Root crops do not do well in India. A complete substitute for root crops is silage, i.e., fodder preserved in silage. The government cattle farm at Ranchi feeds cattle on *juar* and maize silage for as much as eight months every year.

In South West Bihar (e.g., in Shahabad district) they grow a catch crop of pulses. Often very little seed is obtained from the crop; it is mainly grown for fodder.

One Indian State has come of its own will into the Imperial Council, viz., Hyderabad.

The Vice-Chairman of the Imperial Council is *ex-officio* Chairman of the Central Cotton Committee. I am *ex-officio* a member of the same Committee.

Replying to Mr. Price:—It is possible to keep animals reasonably free from ticks. It is rare to find the cattle in government farms badly infested with ticks. I am not either a veterinary or a livestock expert but I consider that the control of ticks in jungle herds is very difficult; in villages where cattle can receive reasonable attention it is possible.

Replying to Mr. Wykes:—Cattle suffering from wounds, sores, etc., and many common diseases do not get proper attention in the villages. More veterinary dispensaries and hospitals are undoubtedly needed. There is an enormous field for veterinary research work.

I would make grants to veterinary departments. I agree that careful specification of the work desired by the Cess Committee would be necessary for controlling the proper utilisation of such grants.

Replying to Mr. Rafique:—In my note I was referring to the *Jumnapari* breed of the United Provinces. There is a stretch of ravine tackled the problem.

Replying to Mr. Price:—There are only about 39 million goats in India that is about 1/6th of the total livestock population. I understood any hide cess would apply to goat skins also; that is why I have discussed the question of the improvement of goats.

Replying to Mr. Wykes:—The average normal life of a goat is over 8 years. I would not however be positive about this.

Replying to Mr. Rafique:—In my note I was referring to the *Jumnapari* breed of the United Provinces. There is a stretch of ravine country between the Jumna and the Chambal in the south of the Agra and Etawah districts where you get this very fine breed. There is, or used to be, a good demand for the export of such goats to Java.

Replying to Mr. Price:—Different breeds of goat certainly vary in hardiness. You can however get improvement in the breed without losing the hardiness or other characteristics of a breed.

Replying to Mr. Price:—Q. 36.—There are a number of breeds of cattle which are not being worked on at all at present. For example in the United Provinces there are the *Kosi* and *Khairigarh* breeds for which breeding farms exist but no farms have been started for the *Bahraich* and *Kenwaria* breeds.

In this portion of my written evidence I am suggesting work which could be usefully and legitimately financed from the hides cess fund.

The cotton cess at present yields about 6 to 7 lakhs. The yield is much larger than in the case of the cesses on tea, lac, soft coke, etc. I cannot express any opinion as to what the yield of the hides cess should be.

Replying to Chairman:—Q. 36.—When Director of Agriculture, Bihar and Orissa, I put up a proposal to the Local Government. The proposal was to start with one such unit in each Deputy Director's circle as an experiment. The idea was to work up ultimately to one such unit in every sub-division. On this scale about 800 such units would be needed for the whole of India.

Steps should be taken for the preservation of the *Jumnapari* breed of goats. A pedigree flock is necessary. Otherwise the breed may be lost. The export trade in goats is not likely to cause the disappearance of the breed. But the area is precarious and in a bad year the flock might be seriously reduced and then there might be cross-breeding with inferior breeds coming in to replace the loss.

I am no judge of goat skins.

None of this breeding work can be entirely run by a cess fund. In the case of the Cotton Committee nothing like all the cotton work is financed

by it. The Committee aids only certain special types of investigation. I do not recommend any cast-iron system as to the proportions up to which local Governments or bodies can be aided from the cess funds.

Replying to Chairman:—Q. 41.—The cotton cess is permanent. This feature enables the Cotton Committee to take a long view and plan well ahead for the future, both as regards the Committee's research and other schemes. In practice however progress is reviewed every three years. By "permanent" I mean that any change would involve the introduction of amending legislation. This permanency permits of steady development. It also eliminates the element of uncertainty at a time when the results of research may just be in sight.

Replying to Mr. Price:—The lac cess is different from the cotton cess in origin and in the method of its administration. It is handed over to an association which is registered as a society, and not to a statutory and fully representative body. This may be the reason for the difference in treatment as regards the term during which the cess is to be in operation. I consider a statutory form better and more desirable especially when the cess to be administered yields a fairly considerable amount.

The Customs authorities charge the Cotton Committee a fixed percentage (which I think is $\frac{1}{2}$ to $\frac{3}{4}$ per cent.) for collecting the cess. I am speaking from memory. At Bombay the Committee can get the more recent figures from the Cotton Committee's office. The $\frac{1}{2}$ or $\frac{3}{4}$ per cent. roughly covers the Customs department's cost of collecting the cess.

Replying to Mr. Rafique:—The term of the cess could of course be renewed. But such renewal would mean uncertainty as to the future and would interfere with the normal development of the Committee's work.

In my opinion based on the experience of the Central Cotton Committee it would take at least 2 years to work out a complete research programme and to get the organisation for research into full working order. Before the results of the research can be properly assessed, at least another 5 years would be needed. This means at least 7 years. This is why I think a term of 5 years for the cess would be too short. If however it is (as suggested by Mr. Rafique) going to be a term of 10 years I do not see why the cess should not be made permanent from the beginning. The legislature does and will always retain freedom for reconsideration. Hence I would recommend that the hides cess should be fixed permanently. An amending bill can be brought in at any time, as has been done on more occasions than one in the case of the Cotton Cess Act, though not in that case to vary the amount of the cess.

Replying to Mr. Bleeck:—I have no opinion as to whether the cess should be levied at a flat rate or should be *ad valorem*. But I think that the system devised should be such, that the cost of collection is as low as possible and the method as simple as possible.

Replying to Mr. Shah:—In the case of the cotton cess it was the Government of India who sanctioned the payment to the customs authorities of a fixed percentage to cover the cost of collection. Before the Government of India gave their ruling, details were worked out by the customs authorities and supplied to the Committee. It was a matter of arrangement between the Central Cotton Committee, the Customs authorities and the Government of India. The Act provides for the payment of the cost of collection.

Replying to Chairman:—Q. 43.—In the original draft sent up by the Central Cotton Committee, demonstration, propaganda, improvement of marketing and of manufacturing processes were included among the objects on which the cess funds should be spent. The draft was modelled on the Lac Cess Act. In the draft the statement of objects was very wide. But in the legislation as actually enacted there is no reference to demonstration, propaganda, improvement of marketing and manufacturing processes in the operative section. I cannot say that we really suffered by the narrowing down of the scope of the objects, but we were inconvenienced. We could and

might have taken up certain lines of work, which owing to the restriction of the objects we could not do.

As regards advertisement, it is not an object specified in the Act. For example, the Central Cotton Committee was once asked by the Government of India to provide an exhibit of Indian cottons for the British Empire Exhibition, 1924. We felt that we could not spend the cess funds on advertisement. Hence the Government of India gave us the necessary funds. If advertisement had been included among the objects of the Act we should probably have incurred some small expenditure on advertisement or propaganda to encourage the use of new Indian cottons abroad.

Replying to Mr. Bleek.—The Government of India thought that the scope of the objects as specified in the Act should be narrowed down. A possible reason was that the Reforms had only just then been inaugurated, and the Government of India were exceedingly careful not to trench on the legitimate work of the provincial Governments. I might here say that there is now a strong body of non-official opinion which thinks that the scope of the Cotton Cess Act should be widened if found necessary.

Replying to Chairman:—*Qs. 44 and 45.*—In my opinion, cattle owners' representative on a Hides Cess Committee could be secured in the same way as the cotton growers' representatives of the Central Cotton Committee. On the latter there are 10 representatives of the primary producer. They are nominated by the local Governments, and they are all connected with cotton growing. In my opinion, they do represent the village point of view.

Replying to Mr. Price:—Members of the Indian Central Cotton Committee are not paid, except that travelling allowances including the halting allowances are paid. The rate is $1\frac{1}{2}$ railway fares as usual. We get extraordinarily good meetings. The average attendance is well over 75 per cent. The meetings are held far from the homes of many of the members. Still most members attend. The Burma representative is the only member who can seldom attend; the Bengal representative is reasonably regular. The recent meeting at Indore was well attended. The rules under the Cotton Cess Act forbid payment to members other than for *bond fide* work done for the Committee.

The Indian Central Cotton Committee numbers 44 or so. I do not think it is too big. I do not think it is at all unwieldy. The fact that it works through technical sub-committees has proved a solution of many of the difficulties, which would have been experienced on account of the size of the Committee. My experience is that the members talk only about those matters with which they are really concerned, or about which they have special knowledge.

Replying to Mr. Bleek:—I do not think it is a sound principle to say that representation should be proportionate to contribution. In my opinion all the important interests all over India should be represented on the Hides Cess Committee.

All cotton exported or consumed in mills pays the cotton cess. In my opinion, the Madras tanner should be represented on the Hides Cess Committee even if he does not pay the cess or otherwise contribute to it. Further important sections benefited or likely to benefit should be represented on the Committee. The Committee's funds should be looked upon as public funds for the benefit of the industry as a whole. Without any personal knowledge of the question I agree that hides tanned in India might contribute a part of the cess.

When the Cotton Cess Act was passed the issues involved were not so wide as those with which the Hides Cess Committee is concerned. In the case of the cotton cess the provision of funds for research and the setting up of a permanent body for the improvement of cotton growing and marketing and for administering the cess were the only two issues. The protection of the industry was not an issue before the country as appears to be the case of the hides cess.

Replying to Mr. Price:—Q. 47.—The cotton cess is small. It is levied at certain land frontiers also. For example at the frontier between British India and French and Portuguese India. The danger of smuggling would not be present except at those Indian States ports where liners touch, even if the cess were to be levied at a much higher figure. In the case of the Cotton Committee the Indian Cotton Committee had recommended the representation of the major States on the Advisory Cotton Committee. Thus the States were already represented on the Advisory Cotton Committee before the Act was passed. The Advisory Committee was in existence for 2 years before the Act was passed.

Replying to Mr. Price:—Q. 50.—As Secretary of the Indian Central Cotton Committee I represented no interests. The non-Member Secretary should be a highly qualified technical man, who should also have organising capacity. Administrative capacity alone is not enough, as the Committee will have to deal with both research and trade problems.

Replying to Mr. Rafique:—I have not consulted the Vice-Chairman of the Imperial Council of Agricultural Research on this point; hence I cannot say whether he should be the *ex-officio* Chairman of the Hides Cess Committee. Generally speaking, the relation between the Hides Cess Committee and the Imperial Council of Agricultural Research should be similar to that between the Indian Central Cotton Committee and the Council. But the determination of the exact relationship will largely depend on what the objects on which the cess funds should be spent are to be.

Replying to Mr. Shah:—The salary of the Secretary of the Central Cotton Committee is the same as that of a provincial Director of Agriculture, namely, Rs. 2,000—50—2,250, plus £13-6-8 overseas pay (when admissible). I suggest this scale plus the usual allowance under the government rules for a whole-time Secretary of a Hides Cess Committee.

Replying to Chairman:—I do not think that the Imperial Council of Agricultural Research will have any difficulty about taking up any additional work. I have not however consulted the Vice-Chairman about this. I suggest that he be consulted personally.

Q. 51.—(NOTE.—Witness volunteered the following as an addition to his written evidence:—The Cess Committee might make a grant to the Imperial Council of Agricultural Research for research on any all-India problem submitted by the Committee to the Council. Every province has a provincial research committee to co-operate with the Imperial Council of Agricultural Research. These committees might be of use to the Hides Cess Committee.)

Replying to Mr. Price:—Q. 55.—The fixing of the headquarters of the Central Cotton Committee did not depend on the collection of the cess or on the question of contributions to the cess, but on the fact that Bombay is the chief centre of the cotton industry in India.

I agree that a neutral headquarter might prove a solution of the difficulties arising from the various conflicting interests.

Replying to Chairman:—The holding of meetings of the Committee at various centres in rotation would largely meet the question of local jealousy or patriotism. The headquarters should however, in my opinion, be at the place which the executive committee would find most convenient for purposes of monthly meetings.

Replying to Mr. Rafique:—If you can find a place where all interests can be represented, it would be desirable.

Replying to Mr. Shah:—I would not like to express any opinion as to which particular city would be the most suitable as the headquarters of the Committee.

Replying to Chairman:—I agree that a scientific research atmosphere would be a desirable advantage.

(NOTE.—Witness added that his written evidence was his personal evidence but as such had the approval of the Vice-Chairman of the Imperial Council of Agricultural Research.)

Oral Evidence of Mr. F. J. GOSSIP, I.A.S., Livestock Expert to the Government of Bengal, Dacca.

(Calcutta, the 28th November, 1929.)

Replying to Chairman:—I have not submitted a written memorandum.

Most of my service was spent in the Punjab in charge of the cattle farms there. The common experience of breeders is that as the animal improves, its hide also improves. The hide becomes thinner and more pliable and has more substance. This is what we mean by the improvement of the quality of the hide. The improvement of the animal can be brought about by better feeding and better breeding. At Rangpur there is a cattle breeding farm where we cross a Hissar or Haryana bull with local cows. Thus we get a better dual-purpose animal. In Bengal also we have got the Premium Bull Scheme in operation. I shall send a copy of the Scheme to the Secretary. Government pay a premium of Rs. 120 per annum to owners of good bulls such as are approved by my department. A good bull can serye between 70 to 90 cows per year.

We have also got ten co-operative bull-breeding societies. There will be 10 more by the end of this year; i.e., we shall have 20 in all. For these societies my department selects the bulls, and my assistants advise the villagers and supervise the breeding work. The bulls are supplied free by Government. The co-operative society has to look after the bull and to feed it and to undertake its management. The society works in close co-operation with milk unions.

Fodder growing for cattle has during the last two years been definitely on the increase. Propaganda is done through district agricultural officers. The Cattle Improvement Scheme was started only last year. There is plenty of scope for doing more work in this direction. In the matter of the castration of scrub bulls little or nothing is being done. Our present proportion of bulls to cows in Bengal is about 1 to 7, but if a bull is suitable for stud purposes, the proportion could and should be 1 to 50. If we had more money, we could do a lot of work, especially by reserving areas and putting in select bulls in every village. My opinion is that the villager will use the bull if the animal is not too big for his cow. The cross between the Hissar bull and the local cow has produced an animal which is 25 per cent. bigger in size.

The cost of the cattle breeding farm at Ramna is 10 to 12 thousand rupees per annum recurring. The capital cost of the herd is 25 thousand rupees. The Rangpur farm costs Rs. 29,000 a year. I do not know about its capital investment; but it must be a big figure. At Rangpur we have in all 250 cattle; at Ramna only about 100 cattle. The Ramna herd was formed only last October.

The improved breed has a mellower skin. By better breeding the size of the hide can be increased. The amount of substance in it can also be increased. The better the breed of the animal the finer will be the hide.

In Bengal we have got a fair amount of ticks. At Belgaum in Bombay the military farm uses a dipping tank. Animals are driven through it. In my opinion, spraying is not so effective as dipping. We do spraying at Rangpur and Ramna. Cooper's dip is what I recommend.

I do not know that there are so many ticks in Bengal. The better the condition of the animal the fewer the parasites. The care taken by the villager is also greater.

I have seen very little of the warble fly in Bengal and very little of it in the Punjab also.

Replying to Mr. Price:—I agree that the Bengali is a buyer rather than a breeder of cattle. He buys from the United Provinces and also from Bihar and Orissa. What he buys is usually the rubbish left after the other provinces have made their purchases. Local breeding in Bengal is small.

I agree that sentimental objection to the slaughtering of animals reduces the food supplies available for other and better animals. I have known people selling to butchers, but if the purpose were disclosed, they might raise objections to the selling of animals to butchers.

I think cattle often die a worse death in the *pinjrapoles* than in the slaughter-houses.

A young calf is worth eight annas to a rupee. This is however only a hearsay estimate, and I would not like my statement on this subject to be regarded as a positive one.

Pinjrapoles are maintained by Marwari firms. Religious sentiment being at the root it is difficult to get at a solution of this problem. Some *pinjrapoles* have good bulls and stock, but a good deal of what they have is bad. I have not so far succeeded in persuading them to let the bulls out for breeding, etc. I do not think the *pinjrapoles* spread disease; they are all well-fenced. With some exceptions Bengal has not many buffaloes. The problem of fodder for cattle is very acute in Eastern Bengal, where the land is used for cultivation only.

Replying to Mr. Rafique:—It is a question of time to work up to the Hissar standard in Bengal. It may take 10 generations. In Eastern Bengal the climate may have something to do with it. But it is not so in Northern and Western Bengal.

Replying to Mr. Rafique:—The number of superfluous animals in this province is large. Starvation is undoubtedly due to the excessive number of cattle and the small area we have here for growing fodder and for grazing.

In Bengal a man would be lucky if his cow gave 1 to 1½ seers of milk per day. The cow is practically useless. Very few of them give sufficient milk even to feed their calves.

Zamindars in Bengal do not keep large numbers of cattle. In one or two places, however (e.g. Midnapore), they do.

We get about one lakh of hides every month from Dacca. I think that most of them, say at least 60 per cent. of them, are dead or fallen hides. I might say even 80 per cent.

Replying to Mr. Bleek:—A lot of animals we have here are absolutely useless, and the majority of those are imported from Bihar. There is very little selected breeding in Bengal. In fact we have no actual breeds here at all.

There are thousands of cattle in Mymensingh, but most of them are absolutely useless. When one can buy a two-year old animal for 4 or 5 rupees, it shows that they have no economic value. There are dozens of places in Bengal like that. But I do not know if the hides of those animals are good. Most of the cattle in Midnapore are short-statured. It is indeed a big question how to improve them.

Buffaloes do not stand the heat. For paddling work lighter bullocks are preferred. A very big animal simply lies down. A small animal is more suitable for all purposes in Bengal.

Replying to Chairman:—Dacca goats are small goats. My idea is to import bigger animals from the Punjab, as they give 3½ to 4 seers of milk per day.

Replying to Mr. Price:—In the North-West goats are used for meat as well as milk. But in Bengal the goat is not bred for milk but rather for meat. The bigger breed will give more meat and more milk. I have seen a goat in Poona giving 11 pounds of milk per day.

I am at present after only the milk and the meat and not the skin of the goat. The improvement of the skin is possible along with breeding for larger size and more meat. I see little sheep breeding in Bengal.

Replying to Mr. Rafique:—The finer Dacca skin can to a large extent be retained, even if cross breeding for more meat and milk is resorted to. I think that if money is available, the improvement of livestock will be a

legitimate activity to be partly or wholly financed from the cess fund. I hold that the cess fund should in fact give the cattle breeding sections of the provincial governments some money. I do not think that the fact that cattle breeding is a provincial subject should stand in the way of the cess fund being devoted partly to such work.

Replying to Mr. Bleeck:—Most parts of India prefer grey animals as they stand the heat better. The pigment in the skin of such animals is black.

Replying to Mr. Price:—We are importing bulls from Sind. Sind can spare many.

Replying to Chairman:—If money is available I think there is plenty of scope for work in the direction of improving the breeds of cattle and other livestock.

Written Statement, dated the 16th November 1929, of the
Indian Chamber of Commerce, Calcutta.

I am directed by the Committee of the Indian Chamber of Commerce, Calcutta, to acknowledge receipt of a copy of the questionnaire issued by the Hides Cess Enquiry Committee and to send to you hereby their views on the subject. My Committee have not considered it necessary to give replies to your questionnaire *ad seriatim* but have expressed their views in this memorandum in a manner which would cover the most important ground of the enquiry.

My Committee have, on a previous occasion, strongly protested against the proposed removal and reduction of the duty on the export of raw hides and skins. The Indian Industrial and Commercial Congress have also expressed their strong protest against the proposed removal of this export duty on more than one occasion. My Committee therefore desire to make it clear here that the fact that this Chamber is submitting this memorandum of written evidence, and nominating representatives to tender oral evidence on behalf of this Chamber should not be construed as an act of acquiescence on their part to the proposal for the abolition of this export duty. If, however, it is the intention of the Government not to call this export duty a duty but a cess my Committee have no objection to their doing so as long as the rate of the duty or of the cess, as it is proposed to call it, is made sufficiently high to have a protective effect on the tanning industry of the country and is confined to the portion of the raw hides and skins which are exported out of India.

It is necessary to state here briefly the salient points connected with the organisation of the export trade in raw hides and skins, because these have a considerable bearing on the quality and volume of production of hides and skins in this country. Without meaning any disparagement to the firms or individuals engaged in the handling of this export trade in India, it could be said without fear of contradiction that these persons know very little about tanning and understand about as much about the classes of leathers into which the raw materials which they export are worked up in the tanneries of foreign countries. The exporters from India ship the hides to the buyers in foreign countries according to a rough classification which is in force at the present day. The importers of hides in foreign countries are generally big financiers who give the hides on long credits to the tanners in their countries or elsewhere according to requirements. These tanners are thus in a state of perpetual indebtedness to the importers and, their complaints, if any, are feeble and ineffective. These tanners have very little choice in the matter except in rare cases when they are financially strong. The result is that an inefficient system prevails, and while all the middlemen have been growing fat, the primary producers at this end and the tanners at the other have continued to shoulder the burden and make very slender profits. The object of my Committee in bringing out this fact is to point out that with a more efficient system of purchases for export, and better knowledge and understanding on the part of the exporters, many of these so-called defects in Indian hides would have been long ago removed. The hides when they come to a port like Calcutta or Karachi, or when they enter a market like Cawnpore or Amritsar, are already spoilt or endangered as far as the tanners are concerned, and, at this stage the exporters come and pick them up and, after classification, export the stuff to Europe. From the necessity imposed on the exporters to sell different weights to different countries, sometimes it happens that they have to stock in their godowns for long periods the particular weights for which they cannot find immediate demand. They have to store them in an arsenicated condition sometimes for months together before they are able to find buyers. This is also responsible for deteriorating the quality of hides for purposes of tanning. A better system of direct up-country purchases with curing yards at the place of purchase and proper scientific methods of curing under the supervision of competent men will eradicate most of the evils mentioned

* See note at the foot of page 196.

in the questionnaire. If necessary, on the guarantee that exporters will employ them, a certain number of boys can be given training in hide curing in the different government tanning institutes, and if this is done most of the defects which are found today would disappear. Tanners in India, more especially those who are manufacturing finished leather, are doing quite a lot towards improving the raw material they use.

The primary producers, i.e., the village *chamars* get very little for their hides, and there are probably half a dozen middlemen through whose hands the hides pass assuming ever-increasing values before they actually reach the exporters. The organisation being what it is, high market prices do not bring in any benefit to the primary producers as they do not get any higher prices. There is therefore nothing to induce them to improve the quality of hides, and the supply of any number of flaying knives and flaying instructors will hardly do much good.

In the opinion of my Committee the employment of a more intelligent and efficient class of people by the exporters, coupled with extensive branch buying at important places of production, would do more towards curing defects in Indian hides than any amount of government efforts or propaganda in that behalf. The time is fast coming when, if the exporters do not take care and improve their methods, they will be replaced by a class of people who understand better and put in more energy and initiative to earn the high profits which the exporters at present do.

The case of butchers is quite different, and they are in close touch with market conditions. If there is bad flaying a small premium of 2 annas has } X
very often stopped the evil.

Diseases and pests are a different matter and these can be cured only } A
by the efforts of the government veterinary department and their closer
co-operation with farmers and cattle owners.

The total value of export of raw hides and skins from India is about 8 to 10 crores of rupees per annum. Assuming that in addition to raising the present export duty to 10 per cent. a cess of 10 per cent. *ad valorem* which my Committee recommend, is levied on this export trade, the amount of money available every year from the levy of the cess would be 80 to 100 lakhs of rupees. The way in which this amount could be expended with advantage for development of the tanning industry in India for which purpose alone the cess should be imposed, would become clear only if we realise the difficulties which beset the industry today and the way in which these difficulties could be removed. Moneys have been spent freely by various provincial Governments on tanning research institutes to train foremen, and some of these institutes are closed today simply because the boys trained in these institutes could not secure employment. There is even today a very large number of trained men who are unable to get any employment. These different tanning institutes have been working without any co-ordination and they are hopelessly out of touch with the industry. This, however, is not the fault of the officers-in-charge of these institutes but is entirely due to the want of forethought and definite aim at the time of the establishment of these schools. Barring the solitary exception of Bengal, my Committee are not aware of any tanning institute which has done creditable work for the industry. The success of the institute in Bengal is due to the fact that the Government were fortunate in securing the services of its present superintendent who is not only equipped with scientific training in the subject but is also in close and live touch with the actual tanning industry of the country. Take for instance, the tanning industry in Madras and Bombay engaged in the production of so-called half-tanned hides for export purposes. These hides when they find their way to Europe, are used mainly for the following purposes: (1) Russet leather, (2) Waxed butts and splits, (3) Bag and case leathers, (4) Semi-chrome, (5) Linings, (6) Roller leathers, (7) Book-binding leathers (8) Moroccos and imitation glacés. There have been a few more lines that have been omitted but all the above mentioned lines can be manufactured in

A } this country just as efficiently as they are being done in foreign countries, and, after all, the extra processes of manufacture involved are only a few more than what the Indian tanners have already done. If they could be taught how to finish their half-tanned products into any of the leathers enumerated above and if they knew where to find the market for these, there is no reason whatsoever why they should not be able to turn out all these leathers of a quality which could compare well with the foreign stuff. The days when skilled workmen handling whitening knives and sleeking blades in the tanyards were a *sine qua non* for the production of good leathers are past, and modern machinery can do much more efficient and satisfactory work than the old world craftsmen ever dreamt of. Therefore, with the introduction of a few machines and proper instruction of correct processes for a particular variety or class of goods, the Indian tanners of the East Indian hides will certainly be able to produce finished leathers from the present half-tanned products, in the country itself.

B } Difficulty comes in with regard to the marketing of these goods in other countries. These difficulties arise on account of two reasons: (1) ignorance of the markets, and (2) high tariff walls in countries which take our raw materials free and shut out our finished goods.

The proceeds of the cess fund should, in the opinion of my Committee, be spent on the appointment of trade agents in foreign markets where our manufactured leathers ought to be sold, and in giving aid and grants to tanneries and research institutes for effecting improvement in the quality and addition to the quantity of the production of Indian leathers. To that end, my Committee would suggest the immediate appointment of at least five trade agents in foreign countries who are conversant with the Indian leather trade conditions. One such trade agent should be placed in England, one in the Continent with headquarters in Germany, one in the Balkan and Asia Minor with Smyrna or Salonica as centre, one in America, and one in South Africa. The duties of these trade agents must be to keep in touch with the market, secure buyers and popularise the Indian finished leathers in their respective countries. These five trade agents together with their establishment may cost somewhere about 10 lakhs of rupees, in return of which we ought to be able to ensure a large market for the manufactured leather of the country. Secondly, my Committee would propose that bounties should be given to these tanners who export their products to countries which have put up high tariff walls equivalent to the amount of the tariff that they have to pay in the foreign countries in order that they may be able to create for them eventually a large market in foreign countries and utilise all the raw hides and skins in the country itself. Their present handicap should thus be offset by grant of bounties to them. In the initial stage, this would be a big item of expenditure, and it may be argued that the money that would be realised from the cess would be insufficient for the purpose. If so, one way of increasing the fund at our disposal will be to impose a still higher export duty or cess on the particular classes of Indian hides and skins which these countries with a high tariff wall import from us. Unless such a bold policy of affording assistance to the Indian tanning industry is pursued, my Committee are afraid that there would be no rapid development and progress in the Indian tanning industry.

These different trade agents suggested to be appointed in the foreign countries should be directly under the control of a special officer appointed in the Industries Department of the Government of India. The qualification of this special officer must be:—(1) an intimate knowledge of the tanning industry of this country; (2) knowledge of the methods of manufacture of different kinds of raw hides into ultimate finished leathers; (3) a general acquaintance with the shoe industry; (4) previous actual association and work in the leather industry of the country. This special officer should not only control and direct the activities of the different officers in the foreign countries but also supervise, co-ordinate and direct towards proper channel the work of the different provincial tanning research institutes. He must be paid from the proceeds of the cess fund. He must be advised and assisted

by a small Committee in which proper representation should be given to the following interests:—(a) that portion of the tanning industry in India which is engaged in the production of finished leathers; (b) that portion of the tanning industry which concerns itself with the production of half-tanned hides and skins; (c) the shoe factories of Agra and Cawnpore; and (d) an official of the co-operative department. The administration of the proceeds of the cess should be in the hands of this Committee. All applications for bounties and grant of aids should be made to this special officer and, on his advice the Committee will ultimately decide as to the action to be taken. The expenditure to be incurred on this officer, his establishment and the Advisory Committee, is roughly estimated at Rs. 3,60,000 a year. } A

The different provincial schools are all maintained, my Committee presume from provincial funds and there will therefore be no necessity to make any provision for the same from the proceeds of the cess. But if it is suggested that as the control of the institutes will be transferred to this special officer in the Industries Department of the Government of India, the expenditure of these institutes also should be met from the cess fund in the custody of the Central Government, then my Committee would propose the abolition of different research schools and suggest the concentration of all these in one large technical tanning institute in Calcutta with half a dozen different experts engaged for tackling the special problems of different provinces. Such an institute, according to our estimate, would cost about Rs. 6,40,000. Thus out of 80 or 100 lakhs of rupees which might be derived from the cess fund, Rs. 10 lakhs will be spent for the establishment of 5 trade agents to be appointed in foreign countries, Rs. 3,60,000 for the special government officer in the Department of Industries and the Advisory Committee, Rs. 6,40,000 for a Central Research Institute, making in all Rs. 20 lakhs. The balance of Rs. 60 or 80 lakhs will be available for giving help to the tanning industry by means of bounties. The Committee proposed to be appointed for administering the proceeds of the cess should be a statutory body and should be appointed for a period of not less than three years. There is no necessity for representation of the local Governments on this body, but the representatives of different interests, which my Committee have suggested, will secure to that Committee members from different provinces as the trade is at present organised. The special officer with the Government of India in the Department of Industries suggested to be appointed would preside over this Committee, and, a Secretary, if necessary, may be appointed by the Committee on a permanent tenure. My Committee consider it premature to go into minute details of the scheme proposed above at this stage, and if so desired, they would be prepared to submit a separate memorandum for working out the scheme for administering this fund in greater detail. } B

It has been a matter of great regret that the Government of India have decided without consulting the interests concerned to exclude Burma from the scheme of this cess. This will be a prolific source of smuggling of raw hides and skins between Burma and India. My Committee therefore desire to record their strong protest against the exclusion of Burma from the scheme. } C

It is also a matter of regret that the Hides Cess Enquiry Committee did not include Agra in their itinerary. The daily production of shoes in Agra in the season under the normal market conditions comes to very nearly 30 to 40 thousand pairs. The shoe factories at Agra practically supply the whole internal demand for shoes including Burma, and with a little improvement, Agra shoes can easily be made to find good markets in foreign countries even. My Committee are aware that the United Provinces Government started a shoe-makers' school at Agra which they have now handed over to Dayalbagh there. The school though started by Government was by no means a modern one and the machinery installed was not even up to the standard of the smaller factories in Agra. A school with a complete set of modern shoe-making machinery which will undertake a certain class of piece-work for manufacturers is a great and crying necessity, and, if

such a school is established and minor defects in the finishing of bottoms and heels are removed, there is no reason why Agra shoes should not find a large export market. This would immediately have a beneficial effect on the tanning industry of the country. My Committee would therefore strongly urge the Hides Cess Enquiry Committee to visit Agra and record evidence there even though it might mean a slight prolongation of their work and a slight delay in the submission of their report.

There is another matter in regard to which my Committee would like to invite your attention. It is with regard to the great anomaly about the railway rates in India. The present railway rates are a great handicap to the industry engaged in the production of finished leathers. The policy underlying the classification of railway rates for different varieties of goods has been mainly to attract raw materials to the ports for shipment and, for this purpose cheap rates of freight have been given to them. No thought or attention has been paid to meet the requirements of the indigenous industry. For instance, raw hides from Peshawar to Delhi cost 8 annas per maund in railway freight and from Delhi to Calcutta the railway freight comes to Re. 1 per maund, whereas if finished leathers are despatched by goods train from Calcutta to Delhi, the rate is somewhere between three and four rupees per maund, while for Peshawar it would be nearly double. Then, again, there is a difference in rates between what the railway call "country leathers" and "finished leathers". This sort of differentiation is iniquitous and must be removed. A uniform cheap rate should be introduced by the railways to enable tanners all over India to reach the internal markets and procure their supplies from outside their own places. Facilities for cheap removal of the raw material should be given to these tanneries as are now being given to the export trade.

My Committee are aware that some Indian tanners have done trade in finished leathers successfully with the United Kingdom. Glacé kids, manufactured from the Indian goats' skins in America are imported to a large extent by the United Kingdom, and there is no reason why this trade cannot be captured by the Indian tanners. It is not difficult to produce glacé kids in this country for purposes of export. The high tariff walls, however, in other countries are an impediment to the production of glacé kids in India. If measures could be devised, as suggested above, by means of grant of bounties to the Indian tanners to help them to overcome this handicap placed deliberately by the foreign countries in their way, by legislating in a manner which admits the Indian raw hides and skins free, and which imposes a heavy duty on Indian finished leathers, a great impetus would be given to the indigenous tanning industry.

Again there is the question of the utterly unsuitable high exchange ratio which is hanging like a millstone round the necks of Indian manufacturers desirous of exporting their commodities to foreign countries. But for the 1s. 6d. ratio that obtains today as the official rate of exchange, some at least of the Indian tanners would be shipping their finished leathers to foreign countries. A lot of other complications have also risen as a result of this unwise persistence on the part of the Government in trying to maintain this impossible ratio, and if the 1s. 4d. ratio is restored, the change would contribute not a little towards a more intense and rapid growth of tanning and other allied industries in this country. The higher ratio of 18d. has had very disastrous results on trade and industry, and my Committee would suggest that the Hides Cess Enquiry Committee should take cognisance of this fact while making their recommendations to the Government.

NOTE.—The capital letters A, B, C and X mark the bracketed portions to which reference was made by the members or the witnesses during the course of the witnesses' oral evidence.

Oral Evidence of Mr. N. S. T. CHARI and Mr. M. P. GANDHI,
on behalf of the Indian Chamber of Commerce, Calcutta.

(Calcutta, the 19th December, 1929.)

Replying to Chairman:—We officially represent the Indian Chamber of Commerce but not the Federation of the Indian Chambers of Commerce. Our Chamber has got 2 tanner members: (1) The Amalgamated Trade and Industries, and (2) Mr. Chari. The capacity of Mr. Chari's tannery is 1,500 kips a day. The capacity of the Amalgamated Trade and Industries' tannery is 400 to 500 skins per day. That tannery tans only skins. Our Chamber has also got one exporter member, viz., Mr. M. M. Isphani. Our Chamber's memorandum is based on our consultation with the tanner members. The exporter member was invited to express his view, but he sent no reply. I (Mr. Gandhi) cannot say if that exporter member personally accepts the memorandum. The memorandum embodies the views of the committee of the Chamber.

Page 194—mark B.—Mr. Chari replying:—What we mean by "A better system of direct up-country purchases with curing yards at the place of purchase and proper scientific methods of curing under the supervision of competent men will eradicate most of the evils mentioned in the questionnaire" is that the exporter should be able to guarantee the quality of every hide. I may myself be in the export trade; hence I cannot give out very much in connection with the system to which reference has been made by me. I hope I will not be misunderstood. By the statement "Tanners in India, more especially those who are manufacturing finished leather, are doing quite a lot towards improving the raw material they use" what we mean is that we insist on quality—*e.g.*, I buy direct from the slaughter-houses. I insist on quality. I pay for it, and I get what I want. I pay two or even three annas per hide for faultless flaying to the flayer through the butcher. I insist on the premium reaching the flayer. I do not find it necessary to impose any fines. In Rangoon the same thing was tried and proved effective during the War. The premium should be paid by the purchaser, *i.e.*, by the trade. Bad flaying would disappear if the system of purchase after inspection was generally adopted.

If the tanning industry further develops shippers ought not to get slaughtered hides at all. (At first witness had stated they would not get slaughtered hides at all.)

At the rate proposed by my Chamber the yield of the cess on the export of raw hides and skins would be 80 to 100 lakhs. The cess should be on the export trade in raw hides and skins and it should be at 10 per cent. The yield of the cotton cess may be 6 lakhs but the analogy of the cotton cess does not hold good in the case of hides and skins. In my opinion, 80 lakhs can be usefully and efficiently spent for the improvement of the tanning industry. In fact, I hold that we can efficiently spend even 3 times that amount. If we do so we can in 5 years revolutionise the Indian tanning industry. We are at present exporting what is, practically speaking, full tanned leather. Under the present circumstances of the Indian market we cannot consume all our raw hides and skins. Hence it is better that we, export them in the tanned condition. I would however like that all the tanning and finishing processes should be carried out in India and then finished leather exported abroad. By the trade agents in foreign markets where our manufactured leathers ought to be sold, I mean that only those people should be so appointed who are thoroughly acquainted with the conditions of the tanning industry. They should be employees of the Cess Committee. I would like them to concentrate on leather and not fritter away their energies on the Indian export trade in hides and skins. Smyrna is a big market for our raw hides as also Salonica. There is at present an important duty on our leather. In order to be able to compete with foreign tanners on their own terms we tanners in India should get subsidies.

South Africa is even at present a big market for our leather, and we should exploit it. I am quite certain that it is a big market. I have got big inquiries from there. I myself send 20,000 sq. ft. per month to East Africa. The leather I send there is mostly chrome-tanned.

Page 197—mark B.—I do hold that there are special problems for the different provinces. The so-called half-tannage of Madras has problems which are different from those of the half-tannage of Bombay. But they are connected or associated problems. The reason why I have suggested a big central institute at Calcutta is that facilities for scientific learning and research at Calcutta are the best in India. By bringing the workers together all of them will be benefited. Decentralised research work merely involves some waste of money. I wish however to make it clear that I recommend a central research institute only if local governments refuse to finance their own present provincial institutes on the ground that if the cess is levied the financing of such provincial institutes should be the Hides Cess Committee's duty.

Page 197—mark C.—The reasons why I protest against the exclusion of Burma from the scope of the Committee's inquiry are two. Firstly, there is the question of smuggling from India to Burma. If India imposes a cess, but exports from Burma are free, there is the risk of the smuggling of hides and skins from an Indian port to a Burmese port. Even apart from smuggling, it is possible that it may pay an exporter to first ship to a port in Burma and then re-ship from there to any foreign destination. I agree that there is no considerable risk of smuggling across the land border. The second reason is that Burma hides are used by tanners in India who will be handicapped in their competition with the foreign buyers of Burma hides.

Replying to Mr. Wykes:—I repeat that the importers of hides in foreign countries are generally big financiers. The only function they are performing is financing. Instead of lending money they lend hides.

In Madras this is not the prevailing system. There the practice is to lend money and not hides. The tanned goods are sold through them. They are more or less in the nature of commission agents for the purpose of selling tanned goods.

Owing to indifferent drying and the lack of proper cure, etc., hides suffer most of the damage before they reach the exporting port.

The so-called tanning institutes, in my opinion, can easily take up curing and preserving work, and other work allied to tanning work.

When referring to the village *chamar* as the primary producer I had in mind only the dead hides. The case of butchers is different and has been separately dealt with at X on page 195. The *chamar* flays the dead animals.

I would like the exporters to go to the important places where hides are produced or collected. I agree that in a country like India it is impossible for them to go to all possible places where hides are produced or brought. But there is no reason why they should not go to the important ones.

In my opinion, the exporters do not know how to cure. I cannot agree that the exporters do not make much or at least fair profit. If inquiries are made about their circumstances it will be found that their profits are very large. In Rangoon I have come across cases where the profits made by exporters vary between Rs. 4 to Rs. 8 per buffalo hide and Rs. 1 to Rs. 1-6 per cow hide.

In my opinion, it is not necessary to spend anything out of the cess funds for the improvement of the hide and skin trade. This improvement will come along automatically with the improvement of the tanning industry. Only tanners can suggest the means of improving the hides from the point of view of business. Exporter can bring about some improvement, but they must insist on quality.

(Replying to Chairman, witness stated:—A good proportion of slaughtered and a much smaller proportion of dead hides are used by the Indian

tanning industry. It is difficult to give figures off-hand, but I think that taking slaughtered and dead hides together the consumption of the Indian tanning industry is about 50 per cent. of the production in the country.)

Replying to Mr. Wykes:—Every country wishes to encourage its industries. India cannot be content with being merely the exporter of raw materials.

Page 196—mark A.—Madras and Bombay tanners do not know how to finish their leather and if they do know how to do it, they do not know where to sell it. I do not agree that they are disinclined to being brought within the scope of the Factories Act. The foreign markets can be forced open by giving bounties to the exporters of finished leather made in India. Such bounties should be just about equal to the import duties prevalent in the countries of destination.

Page 196—mark B.—As regards the ignorance of the markets as one of the difficulties with regard to the marketing of our goods in other countries, what I mean is that we have a hazy idea about markets and so have those at the other end. Trade journals do not give the prices of finished leather. Foreign markets expect to buy our leathers very cheap, because they think that our raw hides and labour are very very cheap. In my opinion, it is possible for us to market our finished leather in some foreign countries, e.g., I have up to date shipped at least 5 million sq. ft. to England. When I was in charge of the Mysore Tannery I used to sell through Mr. Jamal Mahomed's firm. I hold that from the point of view of technical training and experience the men in charge of German tanneries are inferior to those in charge of our tanneries. As regards the difficulty arising from the high tariff walls in countries which admit our raw materials free but shut out our finished goods, what we mean is that barring the United Kingdom for finished leather and the United States of America for side leathers there are tariff walls elsewhere; some of these are high. Even a country like Greece has an import duty of 25 per cent. The import duty in Germany is on the average about 25 per cent. I may give an illustration of the difficulty of Indian leather manufacturers trying to sell abroad. The German price for black box-kip is 12 mark per sq. ft. If there be no import duty in that country I can easily sell my leather in Germany. I do not agree that the import duty is only 8 per cent. I know that it is 25 per cent. If there be a 10 per cent. import duty I would probably not mind it very much, but it is much more than 10 per cent. in Germany.

Page 197—mark A.—The reason why I would give no representation to exporters is that they have no interest in the development of the tanning industry; in fact, in my opinion, their interests are hostile to those of the tanning industry.

The condition or assumption on which I said I prefer one central institute is that the money for financing it is to come from the cess fund. But if local governments go on financing their provincial institutes, I have no quarrel with them.

As regards tanning, I do not think that variations of temperature matter very much. In my opinion, the importance of water, lime, temperature, etc., has been unduly exaggerated by tanners. (Subsequently witness explained in another connection that this remark applies to chrome and not bark tanning.)

By bounties I mean bounties on the export of finished leather. Tanners should be enabled to sell on the same terms in other countries as they have to compete in India, i.e., bounties should be just adequate to enable them to neutralise the effects of the tariff barriers prevailing abroad.

Page 197—mark C.—The freight from Calcutta to Rangoon may or may not be high enough to offset the advantage of the export (free from duty or cess) of hides and skins from Burma by reason of Burma being excluded from the scope of the cess. There is however another reason for our protest against the exclusion of Burma. In South India tanneries get and use hides from Burma. These tanneries will be hard hit by Burma's exclusion.

Northern India cannot take the place of Burma. Apart from any other question, it takes 21 days to send hides from Cawnpore to Bangalore whereas from Rangoon to Bangalore it takes only 6 or 7 days.

We can produce in India glacé kid equal to any that is produced in any part of the world. (Note:—At this stage witness showed some pieces of glacé kid and claimed that although they had been made from rejections they were as good as glacé kids produced in any other foreign country). There is no big market for glacé kids in India. But there is a large one in England. In the United Kingdom there is no duty on their imports. I am trying that market myself. I have already sold some lots at a profit. America is of course a big market but there is a big import duty.

Replying to Mr. Rafique:—At present I am running only one tannery. I practically introduced chrome tanning in India.

Page 195—mark A.—Even if veterinary departments cannot get more money from the provincial Governments, the cess fund should not be utilised for doing veterinary work, *viz.*, both research and propaganda. We have not got correct information regarding the damage done by ticks and other pests. I agree that the tickless hide would fetch a better price, but I am not sure that it would necessarily mean that India would get higher prices for it.

The 85 lakhs is too small a sum for the development of the tanning industry. Hence in my opinion the whole of that amount should be reserved for that purpose. In case any savings are left, they could be utilised for the improvement of hides and skins. But I doubt if there will be any such savings. I do not think any money from the cess fund should be spent on the improvement of curing and preserving. I know there is a cure which is superior to salting or the use of *khari* salt. I know that Mr. Das and I have discovered better cures. I cure with a certain material. With its use I can guarantee the quality of the hides.

As regards branding I do not see what propaganda we can usefully undertake. The only propaganda we can do is general education, which is outside the terms of reference to this Committee. I do not think that the distribution of leaflets can or will do much. It is because people are illiterate and ignorant. As to whether I have been in the export trade, I would prefer to say that I have been an outsider watching the game. In my opinion, the exporters' classification is very rough. A double rejection has sometimes given me first rate leather whereas a so-called slaughtered has given me bad leather. Thus what I mean is that the exporters' classification is not a reliable guide to tanners. The fact that there is a large number of grades does not mean that the selections are right. What I thus mean is that the names of the grades are all right. But buyers seldom get what the grades are supposed to represent. I have dealt with about half a dozen Calcutta exporting firms but such dealings took place prior to 1914. I know that the same classification as was prevalent then is prevalent even now. In this connection I am talking only of Calcutta and not of Karachi. The methods of purchase adopted by Madras tanners are suitable considering the purposes for which they purchase. For such purposes they need not select the hides. They do not pay a uniform price for every hide they come across. They know the worth of the lots they are buying. There are three methods of purchase, *viz.*, (1) through their own men in the exporting centres or (2) through commission agencies in such centres or (3) direct at all the important centres. The Madras tanners have representatives in the Calcutta and also Cawnpore markets.

Page 194—mark A.—What I mean is that the system, whereby arsenication and long storage have to be resorted to, is bound to do damage to the quality of hides for purposes of tanning, irrespective of the preservatives used. Hides are bound to deteriorate with time.

There have been times when Madras tanners could not come into the Calcutta or the Cawnpore market. Hence I cannot say that when the world price for raw hides rises, the prices of Madras tanned goods rise in

the same proportion. This price may rise but the proportion may be different.

I would levy no cess on the export of tanned goods. It is a question of principle. In my opinion, it is a very sound principle of economics that industry should not be taxed. I do not know any country where industry is taxed like that. I cannot possibly agree that an impost, however small, on the export of the products of an Indian industry would do it no harm. The principle on which the Chamber have recommended the 10 per cent. cess is that of protection. A cess must adversely affect the industry just as any excise or import duty does.

Q. If an industry can bear a cess at the rate proposed and if the cess money is to be spent for its benefit, would you object to the cess?

A. Yes, we would. We do not want a cess on this industry under any circumstances. What we want is bounties for the encouragement of this industry.

The institutes should teach and do research work on all that has to be done for, and all that is known about, the tanning industry. As to the question of the absorption of the trained men, the tanning industry will, if my scheme is adopted, expand so much that many more trained men can and will be absorbed in it.

(Continued, the 20th December, 1929.)

Replying to Mr. Rafique:—As regards the appointment of trade agents in other countries we would prefer that they should be reserved exclusively for pushing the interests of the tanning industry including the leather working industry. We do not feel the slightest anxiety about pushing the interests of our trade in raw hides and skins. As things are today we can consume all our hides and skins. I expect the annual production of hides is about 30 millions, $\frac{3}{4}$ of which is consumed in the country, leaving only one-fourth as the surplus available for export.

Tanned hides cannot be put to all the uses to which raw hides can be put. But I maintain that if a foreign country cannot get our raw hides then they are bound to take our tanned hides. Only in this direction we must meet the special requirements of the foreign country in question. This I consider we can do.

In my opinion, the raw hides trade will not be made impossible by a cess even at 10 per cent. The fluctuations in the price of raw hides are so great that, for example, in 1927-28 foreign buyers were prepared to pay 100 to 150 per cent. more than they used to do before. (Replying to Chairman: These were prices at different periods in the year.) The 10 per cent. cess cannot possibly kill the export trade. The reason for prices soaring high in 1927-28 was that there was a rush of buying, i.e., of demand. Among countries raising stock India today stands first in the world. She not only occupies the first place, but also a unique place. This is because the surplus available for export is very very large, which is not the case with the countries who are her possible competitors. A country with a huge surplus to dispose of by way of export can dictate her price for her exportable goods. I hold that the surplus does not go a-begging in the world's markets. The world wants our stock and cannot get on without it, and must therefore pay our price for it. Foreign prices regulate our price of hides as they are an article of international trade.

Calcutta tanners use wet-salted hides, because they can get them. But there is nothing to prevent them from using dry-salted ones if it became necessary to do so.

The 10 per cent. cess would give protection to the tanning industry because it would place a handicap on the foreign tanner. He would have to pay more for our hides. The exporter in India pays no more for his hides purchased in the country, i.e., he would pay the same price as the tanner in India. When the Indian tanner competes in the foreign leather

markets he gets the benefit of the 10 per cent. He would get the benefit of the 10 per cent. as regards the internal market also, because the foreign tanner would be under a handicap of 10 per cent. in regard to his exports of leather to India. The value of imports of leather and leather goods into India is only 70 lakhs. Thus we tanners would get protection not only in the direction of imports of foreign leather and leather goods but also as regards the 9 or 10 crores worth of the export trade in Madras and Bombay tanned goods.

The foreign tanner buys his hides from the exporter in India. The 10 per cent. cess would give protection to the finished leather industry also and not merely to the Madras and Bombay tanners. In fact, we do not recognise any conflict of interests between the Indian finished tanner on the one side and the Madras or Bombay tanner on the other.

We want representatives of the tanning and leather working industries to be on the administrative Cess Committee. We do not want the exporters to be on that Committee. Tanners are qualified and competent to bring about improvement in the quality of hides. Not only that; they are also interested in bringing about an improvement. Hence in our view the representation of tanners only on the Committee is quite enough. They will certainly look after the improvement of hides and skins. As to the question whether tanners should get representation without contribution to the cess, our view is that in respect of this issue the question of "no taxation no representation" does not arise. The duty or the cess whatever you call it is to be protective in character. We do not want the exporters who are antagonistic to the tanning industry to be on the Cess Committee, as they cannot be expected to take action for the furtherance of the tanning industry. We would like the headquarters of the administrative Committee to be located at Calcutta. But in fact we do not mind where the headquarters are located. Any other centre which is found the most suitable would do for us.

Replying to Mr. Ismail, Mr. Gandhi:—We had in view only the industrial development of the country when we prepared our memorandum. When we approach such questions, only the good of the country as a whole is the general point of view from which we make our proposals.

Mr. Chari:—The analogy of the cotton or of any other cess is not applicable to this case. This cess has got to be protective. By the foreign countries on page 194 we mean Germany, America, the Balkan countries, United Kingdom, etc. Germany, United States of America and the Balkans take most of our raw hides. Of these, Germany is the biggest. The import of raw hides into Germany is free. There is however a tariff wall against the import of finished goods into Germany.

By middlemen we mean the large number of persons who stand between the *chamar* on the one side and the tanner on the other. So far as the foreign tanner is concerned, even the exporter of hides is, in our opinion, a middleman. 75 per cent. of the hides produced in India including the Indian States are deads. The rest are slaughtered. In fact, my view is that the figures of production alleged to have been given by some other witness, viz., 80 and 20 per cent. may be more correct. Even our 25 per cent. is a very liberal estimate of the number of slaughtered hides produced in India.

Indian tanners of finished leather can and do use the best quality of hides. Exporters get only the refuse. Madras and Bombay tanners also can buy good class hides and many of them in fact do so. I have 25 years experience in tanning. In the Madras Presidency Malabar and Nilgiri hides are the best, and these are all used up by the Madras tanneries. But no surplus is available for export. I am quite sure that the Malabar and the Nilgiri hides are good. In fact, I have not yet come across anything to touch the Nilgiri hides.

The exporter of raw hides is compelled to pay a proper price for hides, because there is the local tanner's competition. I might make myself clear

by giving an illustration. The goat skin buyers of America have combined and by combination have brought about a depression in the price of Indian skins. The tanners in India do not get the benefit resulting from such depression to the extent that the producers lose. They no doubt get some, but not all. It is because the local tanneries as they stand today cannot consume all the hides and skins produced in India. Thus we definitely hold that there is a loss to the country on account of the formation and dealings of this ring. The ring of foreign buyers at Calcutta would have liked to exclude Indian tanners but could not. Their aim may have been to exclude the Indian tanner from the market, but they could not do this. I certainly heard that some years ago there was a boycott by the foreign exporters of men who sold to the local tanners direct. I have however no personal knowledge or experience of this ring or of the boycott.

When I referred to climatic conditions as not being very material to tanning I had in view chrome tanning, and not bark tanning. Chrome can be produced at any temperature. But, for vegetable tanning you have got to have peculiar climatic conditions and to have the important tanning materials. On account of the difference of water, different results are obtained from different tanneries in even the same province, for example Madras.

Aravam is the best tanning material though the most costly. The burden of the cess would fall, as does the present export duty, on the foreign buyer.

Replying to Chairman:—The export duty and the cess would both be of benefit to the tanner in India. Compared with the volume of production of hides and skins in India we have not got a big enough internal market for our leathers. Hence we must keep in view the possibility of having to export our finished leather. The number of hides consumed in the country for the manufacture of leather to exports is 2: 1. From the point of view of the home tanning industry the 10 per cent. cess would have no effect except that the cess would stimulate the growth of tanning in India on modern and organised lines. The quality of the work done in India will also improve.

Replying to Mr. Ismail:—Even with the cess the primary producer will get his price all right. In fact, if the tanning industry develops in the country he may even get a better price. Every country in the world entertains the ambition of finishing all its raw products. We do not know of any country which invites others to take away its raw products in order to keep up their prices. Our hides can be very quickly consumed (*i.e.*, manufactured into leather) in India. As an Indian manufacturer of leather I would pay the producer of raw materials the highest price. All the same I do not mean that the producer's interest should at present predominate over the interests of the Indian tanning industry. We hold that Indian raw materials should go out into the world's markets in the form of manufactures—for example, tanned goods. This is why we would like the proceeds of the cess to be utilised for this purpose. The local or internal consumption of hides averaging 75 per cent. includes hides purchased for the Madras and Bombay tannage. I do not know of foreign buyers having a branch in India except perhaps one. The bigger hide and skin tanners in Southern India have their branches at Poona, Secunderabad and many other places.

I cannot agree that the export of raw hides can be called an industry. If it is an industry India would be entitled to be called the most highly industrialised country in the world. A tanned hide is not only a manufactured article but a highly manufactured one too. The reason why we do not finish our tanned goods is that the Madras and Bombay tanners are not in touch with the conditions of the leather industry and the changing fashions abroad. If we were in close touch with the foreign markets, we could perhaps do it here in India.

Replying to Mr. Bleeck, Mr. Gandhi:—I have signed the memorandum and take the responsibility for signing it as Secretary of the Chamber. None of the members of the committee of the Chamber is a tanner or a hide

exporter. But the committee took the advice of others. I would not like to divulge the name of the person who gave us the information about exports and so on. Mr. Isphani is a member of the Chamber but when he was invited to express his opinion on the questionnaire, he did not reply.

Mr. Chari:—I have no great personal experience of buying and selling in foreign countries, but what I referred to above was based not on hearsay but on first-hand information from European tanners with whom I have come into contact. As regards their nationality, some were English, some Americans, some Germans, some Czechoslovakians, some Bulgarians and so on.

I can prove to the hilt the statement that the primary producer gets the same price, whatever the market price be. The inefficiency in the matter of curing referred to in the memorandum is in the executive and not in the labour. Inefficient people lacking knowledge and initiative can obtain high profits in this country. A situation like this is easily conceivable in India.

I think German tanners as a class are inferior to Indian tanners as a class, yet the Indian tanning industry is not, in my opinion, well developed. This is because though our tanners are better, we have not got the other concomitant factors which go to make for the success of the industry. Only one of the necessary factors cannot ensure the success of the industry.

I have never been out of India. I had under my employ a highly paid tanner from England and another one from America. By tanner I mean a tanning expert.

I do not know how many tanneries there are in Madras. But so far as finished leather tanneries are concerned, I know that India has at present got 16 or 17 of them. Even the Madras and Bombay tanneries will start manufacturing finished leather when the industry becomes a profitable one. I hold that the 80 to 100 lakhs of the cess fund will not come from the raiyat. I do not accept Mr. Bleock's hypothesis that the burden of the cess would be shifted on to the raiyat. Even if this money were to be taken from the general revenues of the country, I as a tanner would not grumble, but I would consider it iniquitous. If I were the Member in charge of Industries in the Government of India, I would undoubtedly act on my proposal to pay bounties to the exporters of finished leather, whose number, I agree, will rise rapidly.

Replying to Mr. Jamal Mahomed, Mr. Gandhi:—The 15 per cent. duty was imposed for protection. Hence when it was reduced to 5 per cent. we protested. We would again like it to be 15 per cent.

Mr. Chari:—Our estimate of 80 lakhs as the proceeds of the cess fund was based on the assumption that not only hides but also raw skins exported from India would be subjected to the cess. We hold that the present duty should undoubtedly continue and that the cess (if any) should be in addition. As between the cess and an export duty I would prefer the cess, as the proceeds of the cess would become immediately available for the development of the tanning industry. We are not in favour of the abolition of the present export duty, even though it does not give us sufficient protection. I hold that the exporters are not half so competent as the tanners; they lack the necessary experience. In my opinion, the average life of cattle including buffaloes in India is 6 to 7 years. The total number of cattle including buffaloes being 200 millions I arrived at the production of about 30 million hides per year.

The improvement of the tanning industry would automatically mean the improvement of hides and skins.

It has been found by experience that the Madras tannage has peculiar properties. This is why it was highly prized during the War. Tanning in any country is a key industry of primary national importance.

The so-called half-tans do not need further tanning but only colouring. Vegetable tanning on the whole is increasing in India. England and America

are our largest consumers. In those countries our tanned goods are known as East Indian tanned kips and not as "half-tans". At present the trade in the tanned kips is a wholesale trade. But if something more were done in India than is done at present, the number of classes into which the goods would have to be sorted would increase so much that the trade would become a retail trade. On each particular class of goods the margin of profit might rise, but the industry as a whole would not gain. This is why that industry continues as the "half-tan" industry. The tariffs in other countries prevent us from finding a fair market in those countries for our finished goods. England might or might not impose a duty on the imports of our goods if they are exported in a finished state rather than in the so-called half-tanned state. The Madras and Bombay tanners cannot take the risk of carrying out the further processes in India at present. Our tanned hides go to developed countries and our finished leathers go to still more developed countries. Today, however, the Indian trade in finished leathers is practically non-existent. What I mean is that it is very small. We export not only to some undeveloped countries like Persia, Iraq, etc., but also to England.

The reason why I would give bounties to finished leather factories is that they carry out all the industrial processes to the final stage. With the help of bounties equal to the extent of the import duties in other countries, I would like the tanning industry in India to be developed to the final stage.

Chrome tanning cannot replace Madras tannage. The best tanned skins come from Dindigul, Trichinopoly, etc. The reasons for these are the local water and the local tanning materials, especially *avaram*. The Madras tanning industry is about a hundred years old. In one line alone in India not less than a million and a half sq. ft. of finished leather is produced per month. The chief centres are Madras, Cawnpore and Calcutta.

Agra has been steadily increasing her production of shoes and sandals. 75 per cent. of the production in India is tanned or manufactured in India. I hold that there will be no difficulty about manning and financing the tanning of the balance of 25 per cent. For the headquarters of the Committee we prefer Calcutta, because at Calcutta facilities for research are available.

Of Burma hides a large proportion is consumed by Madras and a portion goes to Salonica. If Burma is excluded, Madras (by which I mean India because I make no difference between the interests of Madras and those of the rest of India) will be handicapped. The cess should be applied to Burma also. The 15 per cent. duty enabled me to float a company. After the duty was reduced to 5 per cent. I could not get in even the call money. When chrome tanning was in its infancy, Amritsar skins used to go to Madras and then be exported from there in a tanned condition. But about 1905 America killed that industry by putting up tariff walls.

We hold that this Committee should have gone to Agra, because it is the biggest centre of leather manufacture in India.

In the best season 12 per cent. hides are framed. But in some seasons you cannot frame hides at all. The best hides are today picked up by the tanners. There is no raw hide trade in Madras. If slaughtered hides cannot be had, the general condition of the tanning industry cannot improve.

Advertisement is needed only for the products of the Indian finished leather industry, but not for the trade in raw hides and skins. The reason why I wish that tanners should not be made to contribute is that the entire cess is to be levied for their benefit. I hold that tanners alone should have representation on the Committee.

Generally speaking, hides in India are bye-products. Hence fluctuations of price do not matter so much to the production. If there be no export of raw hides and skins, the tanners in India will not combine. My experience of Indian tanners is that they are only too prone to fly at each other's

throats. I see no chance of the foreign demand for Indian hides dying off, if the duty rises or if the cess is imposed according to my scheme.

Replying to Mr. Price, Mr. Gandhi:—It is a general principle accepted by the Indian Industrial and Commercial Congress that industries should be helped, if necessary, even by imposing export duties on raw materials. This also applies to the case of hides and skins and may apply to the case of other raw materials. As regards the question of the rice export duty, it is the European exporters of rice from Burma who want the duty to be removed.

Mr. Chari:—The European tanners referred to by me were tanners themselves and not tanners' agents. I had no reason to believe that they told me tales about themselves or about their neighbours. Everybody standing intermediate between the tanner and the primary producer makes profits more than the tanner does. In Madras the financier gives the tanner money, and the tanner makes his own arrangements for buying. He or his representative goes to the market and makes a selection. If I be prepared to pay the price I can have a piece by piece selection. But both methods, viz., selection and inspection, are adopted in Calcutta. I recognise the difficulties of the system of buying on inspection.

The alleged changing over from khari-salting to table-salting may be an attempt on the part of the merchant to cheat. The remedy is however in the buyers' hands viz., not to buy.

I am a Madras man. I work in Calcutta, Agra, etc. I can say that in no part of India are 80 per cent. slaughtered and 20 per cent. deads produced. These proportions are not true even of Punjab and Sind.

There is a co-relation between the price of meat and that of the hide. But it depends on the demand for hides. Generally, the co-relation is an inverse relation, i.e., as the one rises the other goes down.

I do not anticipate any technical difficulty in the way of the Government and the Legislature sanctioning a hides cess at the rate proposed by us.

I hold that it is an advantage to India to knock out an actual buyer of her raw materials because it will immediately have the effect of creating an industry or a manufacture in the country.

I have no experience of steamer freights. But as regards railway freights for raw hides the position is as has been stated in the memorandum. If there be a Cess Committee I would expect it to take up our case and to see it through.

I do not agree that an *ad valorem* system would involve the taxation of such additional labour as may be put into it for the proper curing of hides and skins. In my opinion, the exportable goods should be taxed at an increased rate on the ground that its value at the port would be higher.

This is one of those trades in India in which high prices do not stimulate production. When prices are low, the middleman hold back their stocks.

Replying to Mr. Shah, Mr. Gandhi:—According to the constitution of our Chamber only the committee of the Chamber can dispose of questions of policy. Our memorandum was prepared in accordance with our rules. Our committee's decision cannot be upset by the general body of members. I do not agree that our constitution is not democratic or is less democratic than that of other such bodies. It may be that our members have greater confidence in our committee.

Replying to Mr. Rafique:—The extent of fluctuations of price in the export trade in tanned goods is about 50 to 60 per cent., but in the trade in raw it is so much as 100 to 150 per cent. Regarding the former however I am, really speaking, not competent to speak with authority.

"Detanning" is current in the terminology of the Madras leather industry, but the word is used in a very loose sense.

The reason why the primary producer cannot hold stocks is that he is usually much too poor. This poverty explains the increase or decrease of arrivals as distinguished from production as prices are higher or lower.

Replying to Mr. Ismail:—The country's benefit is greater than the amount lost by taxation.

Replying to Mr. Jamal Mahomed, Mr. Gandhi:—My Chamber stands for the conservation of raw materials in the country. This refers only to such articles as can be manufactured in the country.

Mr. Chari:—Germans and others cannot afford to ignore us. If prevented from buying our raw materials they must buy our tanned goods. I am not against the representation of the primary producer. Only it is not practicable. If, however, a scheme can be devised for bringing about his representation on the Committee, we would not object to it. I do not know whether the Karachi tannage is the roughest in India.

(NOTE.—At this stage before proceeding to put his supplementary question Mr. Bleeck said to Mr. Chari that the Indian hide was the fourth on the list of German tanners, viz., the German hide, after that the North American, then the South American, and then the Indian.)

Replying to Mr. Bleeck:—I know where the materials finished in Germany from Indian hides go.

Replying to Mr. Price, Mr. Gandhi:—Our Chamber's policy about the conservation of raw materials in the country certainly applies to hides and skins. In the case of cotton also it does apply. As regards wool and oil seeds I do not know. What I mean is that the Chamber's policy is to adopt all measures for the working up of all possible raw materials in the country to the final stage, as it renders great good to the country and its economic development.

Replying to Chairman, Mr. Chari:—Conditions in India are very peculiar, therefore the analogy of other countries having or not having special agents for looking after the interests of any particular industry does not hold good in India. The conditions of our industry being what they are, I hold that we need specially trained agents to look after the interests of this industry exclusively. After a few years the position can be reviewed, and other work not connected with the leather industry may be made over to them in addition.

The indigenous type of tanning can tolerate certain defects in hides and skins, but chrome tanning cannot do so. I hold that the tanner has been able to bring about some improvement of his own accord. I still hold that world prices regulate the price of our raw hides in India.

**Written Statement, dated the 11th November 1929, of Mr. F. WARE,
F.R.C.V.S., I.V.S., Officiating Director, Imperial Institute
of Veterinary Research, Muktesar.**

I. My connection with the tanning industry in India is only that of an officer of the Civil Veterinary Department, the members of which are brought into very close contact with hide dealers both in rural areas, during outbreaks of contagious disease, and at slaughter-houses whilst carrying out the duties of a meat inspector. During a service of 22 years in India, I have spent 18 years in Madras, a province in which the hides and skins industry is of considerable importance. I have no interest in any associated trade or industry, other than the above.

II. Under this head I should like to make a very strong appeal for some of the proceeds of the proposed hides cess to be devoted to veterinary research. Whatever improvements are effected in the flaying, curing, tanning and marketing of hides and skins these will be of little avail if the original article is a poor one. As is well known the question of obtaining a good raw article is largely a matter of keeping healthy cattle and goats, for a well nourished animal produces the best hide, and the tanning industry should therefore do all in its power to help to make the veterinary services of this country efficient. The field veterinary services are to a great extent dependent on research workers for their latest information and funds for these officers are scarce. It is for this reason that I suggest that a part of the cess should be definitely allocated to veterinary research, in the same way, I believe, as part of the tea cess is devoted to research work connected with that plant.

The allocation might take the form of a grant to an institute such as this for carrying out a piece of research on a special subject or, what would probably be a better arrangement a certain percentage of the cess might be contributed each year to the funds of the Imperial Council of Agricultural Research, the functions of which are to co-ordinate and provide money for agricultural and veterinary research in this country.

III. 1. The defects found in Indian hides and skins may be classified as due to the following causes:—

- (a) Contagious diseases and endo-parasites.
- (b) Branding.
- (c) Warbles and other ecto-parasites.

(a) Contagious diseases, particularly rinderpest, and internal parasites, such as worms, are responsible for an enormous amount of debility and mortality amongst animals in this country. Under present conditions it is not possible to quote any statistics showing the loss in the value of hides and skins due to these causes, but it is quite certain that it is enormous. Although efforts are made to prevent it, the hides of practically all animals which die of contagious disease in this country find their way into the tanneries, and the percentage of low-grade hides and skins, due to preventable causes, dealt with by the tanning industry must be very great.

In connection with this question of contagious disease the special case of anthrax may be referred to. The duration of this disease in animals is very short so that little or no harm is done to the hide, but it is communicable to human beings and recently the Public Health Section of the League of Nations, Geneva, has raised the question of preventing the importation into European countries of hides and skins from countries where anthrax is prevalent, unless methods of disinfection are adopted. This is a matter of grave concern to the tanning industry in India, where anthrax is rife in animals, and only recently it has been found that at least one tannery in Madras is heavily infected with anthrax, so that all skins which pass through it are in danger of picking up the germs, and spreading the disease amongst those who work with them at a later stage.

Instances such as this could probably be multiplied if further investigation were carried out, and it seems necessary to consider taking some action in this matter, in view of the damage to the reputation of the tanning industry as a whole in this country to which such a condition of affairs might lead.

(b) Branding in itself is, of course, only indirectly related to disease, but it is convenient to refer to it under this head.

Branding of cattle in this country may be done as a treatment for some disease, for superstitious reasons, for decorative purposes, or merely as a mark of identification. In those parts of the country where it is practised extensively the loss in value of the hides must be very great, for branding is usually done on those parts of the hide, which are the most valuable.

(c) Such parasites as lice, ticks, the mange, mites, and some flies cause a certain amount of damage to the hides of animals during life and certain species of beetles attack stored hides, but the damage caused by them is only slight. The pest which is the bugbear of the tanning industry all over the world is the warble fly, and India is not free from this. The damage caused by this pest in India has never been estimated but in European countries and the United States of America the estimated losses are extraordinarily high, and there is no reason to think that the provinces concerned in India escape any more lightly. The report of the Departmental Committee on Warble Fly Pest, appointed by the Ministry of Agriculture in England, 1926, states that in the worst years, on a conservative estimate, the loss in Great Britain has been authoritatively estimated at £400,000 to £500,000 per annum. India is fortunate in that the warble flies are practically confined to the north western parts, viz.:—the Punjab, North-West Frontier Province, Sind and Rajputana, but a few cases are on record from the United Provinces and Bihar. The parasite appears to be entirely absent from the southern moist areas of Assam, Bengal, Bombay, Madras, Burma and Ceylon. A short time ago a few warbles were obtained from an animal in the south of India, but on closer investigation it was found that these were removed from a yak, which had been imported by His Highness the Maharaja of Mysore from the north of India.

The species responsible for the damage in North India are *hypoderma lineatum*, the commonest, with a few *hypoderma bovis* and *hypoderma crossi* in cattle, and *hypoderma crossi*, with a few *hypoderma lineatum*, in goats. The usual life history of these parasites in India is that the fly is seen in the rainy season from June to August. The warbles appear under the skin from September onwards, and it is between November and January that most of the warbled hides and skins are seen in the market. The maggots or larvæ escape between April and June, and after pupation appear again as mature flies in the rainy season.

The incidence of infection is variously reported but some of the leading authorities may be quoted. In 1891 Cotes stated that hides shipped from Calcutta, Bombay and Madras were depreciated to the extent of 50 per cent. on 10 per cent. of the hides, while of those shipped from Karachi 25 per cent. were damaged to the extent of 60—70 per cent. He also quotes a Calcutta merchant as saying that 50—75 per cent. of the hides which came from the North Western Province and Punjab are warbled. In 1921 Cross and Patel stated that 25 per cent. of the goat skins exported are depreciated in value to the extent of 50—70 per cent. In 1923 Bainbrigge Fletcher, Imperial Entomologist at Pusa, circularised veterinary workers in the Punjab and Sind regarding the prevalence of this parasite, and as a result stated "Veterinary reports estimate that 40 per cent. of the cattle and goat hides in the Punjab are warbled, and that such warbled hides are also very common in Baluchistan, Sind and Rajputana".

In his publication "Bot Flies of the Punjab" Cross (1926) states "It has been ascertained that cattle throughout the Punjab are infected with warbles, but in goats the infection is principally confined to those which are

kept in hilly areas, e.g., the Salt Range area. Out of 41,881 cattle examined in one year in the Punjab 11,593 were found to be infected with warbles, and flocks of goats kept in the Salt Range area were found to be infected to the extent of 40 to 90 per cent."

2. (a) As I have already pointed out, to improve the position as regards low-grade hides and skins due to the effects of contagious disease, intestinal parasites, ill-nutrition, etc., is largely a question of strengthening the veterinary services in this country, and increasing their efficiency by allotting funds for veterinary research. Up to the present time the amount of money provided for veterinary research by the Central and Local Governments in India has been very small, and I suggest that this Committee should stress in their report the importance of paying more attention to this subject in future, and showing their earnestness in the matter by proposing the allocation to this object of some of the funds to be derived from the proposed cess.

(b) The prevention of branding is a matter of propaganda work more than any thing else. In the Madras Presidency for many years past the subordinate staff of the Veterinary Department have been instructed to try and induce the ryots not to brand their animals, owing to the damage which this does to the hide, and I believe some improvement in this respect is now noticeable. For purposes of identification the cattle can be branded on the horns or hoofs, and there are now available some reliable tattooing instruments for use on the gums or inside the ears. The difficulty in this matter is that the owner and person who does the branding is not affected by the value of the hide. When an animal dies a low caste man is called in to dispose of the carcass, and he receives the hide in payment for the work he does, and it is no concern of the owner of the animal that a branded hide is of less value to the local tannery than an unbranded one.

(c) The question of preventing the ravages of the warble fly is one which has received a great deal of attention from veterinary research workers in Europe and America. The parasite may be attacked in 2 ways, *vis*—

- (i) by preventing the fly from laying its eggs on an animal or by destroying them after they have been laid, and
- (ii) by destroying the larvæ in the body of the host.

Most authorities have decided that the first is impracticable and attention has therefore been paid to destroying the larvæ in the host. This may be accomplished either by squeezing out the ripe maggots, and special gangs of men have been employed for this purpose in Denmark and Germany, or by the application of dressings to accomplish their destruction. The Departmental Committee in England, already quoted, prefer the latter method and recommend the use of a dressing of tobacco powder, lime and water, which kills 92 per cent. of the larvæ and produces no bad effects either on the health or hides of the cattle treated.

To what extent the application of such a dressing would be possible in this country is a matter which requires further enquiry from the veterinary authorities in the provinces most concerned, but it may be observed that, at least in the case of goats, the area in which the warble pest is prevalent appears to be a well-circumscribed one, and it might be advisable for a certain amount of the cess to be devoted towards employing a staff for the use of this application in this area.

As I have already pointed out, there is considerable disparity in the reports of the incidence of warble infection in this country, and the distribution of the different species of flies responsible for the condition is by no means yet certain, so that it would be money well spent to place an officer on special duty to investigate the entire problem of warble infestation in India and make proposals for its control.

**Oral Evidence of Mr. F. WARE, F.R.C.V.S., I.V.S., Officiating
Director, Imperial Institute of Veterinary Research, Muktesar.**

(Calcutta, the 20th December, 1929.)

Replying to Chairman:—Most of the veterinary research in this country is at present done at Muktesar but we have not got sufficient funds. The Imperial Council of Agricultural Research has to look after both agricultural and veterinary research. If a part of the hides cess fund could be given to the Imperial Council but earmarked for veterinary research, it could be spent very usefully either at Muktesar or in the provinces. The first line of research work connected with hides would be the warble. This pest is found in Northern India, viz., Sind and Punjab. It no doubt does extend into the United Provinces and even into Bihar, but in Sind and Punjab it is an important pest. The life history of the warble flies would have to be studied. Research work would be necessary in order to ascertain whether it would be better to prevent the fly from laying its eggs on the animal or to kill the grub. In England the conclusion seems to be that killing the grub is the better solution. But at present we know very little about it in India. Whatever research work has been, or may be, done at home, would have to be adapted to Indian conditions.

After the warble, there is the tick. I am not sure, however, that it damages hides very much. (Chairman and Mr. Wykes pointed out that the trend of evidence at Madras was that ticks eat away the surface grain of skins.) I have spent most of my service in Madras. Dips and sprays are good remedies for ticks, but I am not at all sure that dipping and spraying would be taken up in India on a very large scale. In South Africa the tick conveys diseases, viz., red-water and east coast fever. The latter is very fatal. Hence, dipping has been taken up there on a large scale. In India, however, east coast fever is not known to exist. Red-water often causes trouble as a complication with rinderpest, but alone it is an unimportant disease for Indian cattle. Imported cattle getting red-water often die, but their number is small. Dipping tanks are made of concrete. After the bath or tank is constructed, dipping itself is not very expensive. The cost of an average tank would be about Rs. 1,000. The solution to be used for dipping is not expensive. It would not cost more than a few annas to put each head of cattle through the tank once. Messrs. Best & Co. are agents for Cooper's dip and can give figures about costs. This dip is an arsenic solution. It is not poisonous through the hide or skin, but it is so if it is drunk.

The next important factor affecting hides and skins is ill-nutrition. If contagious diseases could be better controlled, the hides and skins would improve. Animal-nutrition work is mostly done by the agricultural department. There is an officer doing this work under the control of Pusa at present, but it is possible that a separate department will be formed later. The difficulty in dealing with Government over financial matters lies not so much in getting capital expenditure sanctioned as in getting funds for recurring expenditure. This is why I brought in the Imperial Council. My idea was that that Council should get a grant from the Hides Cess Committee for veterinary research work. The hides-skins trade and industry are closely associated with our (veterinary) work including cattle breeding.

The problem of mal-nutrition has hardly been touched in India. At Bangalore the feeding values of different fodders are being studied. But deficiency diseases have not yet been touched. Cattle can develop rickets. Calcium, iodine and phosphorus deficiencies are the most important and on this line no work has been done in this country. If these minerals are deficient, animals would not grow as they should.

After mal-nutrition I would take up the question of contagious diseases. These also lead to mal-nutrition. Rinderpest, hæmorrhagic septicæmia and

foot-and-mouth disease are the most important contagious diseases, but the problems of controlling them is outside the scope of this enquiry.

Replying to Mr. Price:—The life histories of these warble pests are not well known in this country. For studying them an entomologist would be needed in addition to a veterinary pathologist. A man with South African experience would be particularly useful. In the case of all pests, there is usually a stage when they can be attacked and killed, i.e., there is usually a vulnerable stage.

The warble is supposed to hatch out in the stomach and it finally comes out through the hide. I do not think that the warble can be got at when it is in the stomach, because anything likely to kill it in the stomach is also likely to kill the animal itself.

The number of animals in India exceeds the available sources of fodder. In some provinces fodder crops, e.g., *juwar*, are sown. A large number of animals such as one comes across in India, are useless except that they provide dung which is used as fuel. Whether their value as the source of such fuel is enough to make it worth the villager's while to keep the animal alive is a difficult question to answer. I therefore cannot say that the keeping alive of these animals in India is uneconomical. An animal in good condition would, I think, give a better hide. In fact, I cannot think of anything which would benefit the animal without benefiting its hide.

As Director of the Institute of Veterinary Research at Muktesar, I would like the Hides Cess Committee to give funds direct to us. But I thought that the Government of India or the Hides Cess Committee would prefer to make over a portion to the Imperial Council of Agricultural Research. By this, I did not and do not mean that there should not be a Committee for controlling the expenditure of the cess. I did not suggest that the Imperial Council should administer the cess funds. All I mean is that the Imperial Council should be utilised as an agency for distributing funds for veterinary research work so that the provinces specially affected, e.g., the Punjab in the case of the warble pest, would get their due share for research. If, however, the Cess Committee would be willing to do such work direct through us instead of through the Imperial Council, we would have no objection.

The Cotton Cess Committee's line of work was, in my opinion, successful before the Imperial Council of Agricultural Research was set up. This line of work may be followed as a successful precedent. The Tea Cess Committee run their own laboratories and keep their own scientific staff. Regarding the seed lac, I do not know the position.

It is difficult to suggest any method by which the primary producer (by this Mr. Price explained that he meant the man who breeds and rears the animals) can be represented on the Committee. I cannot think of any better method than that of leaving it to the local Governments and the States concerned. In the villages it is the *chamar* who gets the dead hide; hence, wherever such custom prevails, he is the primary producer of hides and not the breeder of cattle. I agree that a system whereby the breeder and the rearer of cattle is not the primary producer of hides is defective, but I cannot think of any method for bringing about an improvement. In Madras and in those other provinces where the proportion of cattle slaughtered is small, the primary producer of hides cannot be got at. As regards skins, the proportion which is obtained from dead animals is very small. Most of them come from the slaughter-houses. In the case of skins, the primary producer is the breeder of the animals, i.e., sheep and goats. The easiest way of getting his representative to serve on the Committee would be to get the Indian Chambers of Commerce to nominate a representative. The reason why I make this proposal is that a large number of goats are reared in and near the towns. Compared with sheep, there are more goats slaughtered for food. Consequent upon the setting up of the Imperial Council of Agricultural Research, provincial sub-committees have been or are going to be set up in the provinces. These sub-committees should be able to nominate suitable repre-

representatives of the primary producers of hides and skins. Such nominees would, in my opinion, be most suitable.

Replying to Mr. Rafique:—An important duty of the Cess Committee should be to improve the hides and skins. As veterinary officers we are intimately concerned with the primary product. The improvement of hides and skins will help the tanners also. The establishment of tanning institutes will not improve the hides. I hold that when you have something better to tan, you can take up the other work. But I see no reason why all this work of improvement could not be taken up simultaneously, though the improvement of the raw article should be the first line of work.

The distribution of leaflets would be useful if such leaflets are prepared by people who know their jobs.

To have too many animals and not to feed them is tantamount to under-feeding the good ones. I agree that ample supply of good fodder would improve the animals generally.

Replying to Mr. Ismail:—If cattle are in fact improved, it would not be merely the hide that will improve. Their capacity for work, their meat and their milk would all simultaneously improve. In terms of monetary value, meat and milk and capacity for work would improve far more than the hide which after all is only a bye-product. But I cannot say how those who benefit by the betterment of the milk or meat or capacity for work can be made to pay for the improvement of the animals. I agree that some people getting the benefit of improvement would have to be excluded from the obligation to pay for the improvement.

In South India the owner of the cattle does not get the price of the dead hide. It goes to the *chamar*. As to whether the cess, if any, would be paid by the primary producer—whoever he may be—or by the exporter or by the foreign buyer or by somebody else, I would rather not answer that question. It is a question of economics.

Veterinary officers would like to have information from tanners as to the nature, extent and origin of damage to hides and skins. I agree that veterinary officers cannot get on with this part of their work without the tanner. From the tanner we must get our statistical information too. I agree that representatives of the tanning industry should be on the Committee.

Replying to Mr. Jamal Mahomed:—I do not know what the annual production of hides and skins is. The average life of cattle in India is three or four years. This average includes calves which die early. I would not put the average life of Indian cattle as high as six or seven years; there must be large numbers of calves not living more than a week or two. I am not prepared to hazard a guess about the average life of sheep and goats. No statistics are available. I shall try to obtain rough estimates under each head later on.

By controlling contagious diseases the meat, the milk and the working capacity of animals would improve. The benefit of such improvement would go to the primary producer. The owner of the animal would get a much bigger portion of the resultant additional value than the man who gets the hide or skin. Contagious diseases cannot be brought under complete control at present. Some improvement can be brought about and the cost of doing so would be less than the additional value resultant from the improvements.

Ticks spoil goat and sheep skins mostly. We should like to help owners and tanners if we could do so. We can run demonstration dipping tanks. As regards sheep and goats also, dipping can and should be experimented with. But it will have to be repeated frequently for removing the ticks. Ticks are picked up off the grass.

As regards mange, I have never seen it in sheep and goats in India. (Mr. Jamal Mahomed said that tanners in Madras knew that it existed and described the resultant condition. Witness stated that perhaps the Madras tanners did not mean the same thing as he meant.)

(Replying to Chairman witness stated that on the goat's hair the effects of dipping would on account of long hair last longer than in the case of cows. Hence, in the case of goats, dipping need not be so frequently resorted to.)

If animals improve in condition, the number slaughtered would, to some extent, be reduced as the animals would become more valuable. But this would not affect the hide-skin trade much as hides and skins would be better in quality. The problem of combating the warble should be investigated in collaboration with the Punjab veterinary authorities. If an extensive trial be possible, it should be undertaken.

(NOTE:—At this stage, Mr. Jamal Mahomed referred to the restriction in certain countries on the import of raw hides from India. Chairman explained that there are prohibitions in certain countries, e.g., in Spain against the imports of raw hides, but veterinary officers' certificates are accepted. As regards tanned goods, Chairman explained that there was no such restriction, but the power to impose restriction was there and their import could be stopped if anthrax was found.)

Anthrax is a very important question to solve, as otherwise the import of hides and skins might be prohibited.

As regards branding for purposes of identification, branding on the horns would last longer than on the hoofs. Branding on the forehead would not spoil the hide, but it might be more painful than branding on the limbs.

I agree that whoever else may be the primary producer, the dealer or exporter is not the primary producer. If the general condition of the animal is improved, the hides of a large proportion of those which die from sickness would not have time enough to deteriorate. The hides of animals dying after three or four days of illness would not be much spoilt. I agree that old age and general debility do make a great difference to the quality of hides.

Replying to Mr. Jamal Mahomed:—I have not seen cow pox in India. Pox is found among sheep in some parts. The problem requires and deserves investigation.

Replying to Mr. Wykes:—Veterinary research has so far been done in India by general service veterinary officers. For research work more staff is urgently needed. Special officers on special contracts would have to be recruited. The results of their research would be applied by the general service veterinary officers. They and the ordinary district staffs could also do propaganda work.

In India there are at present five colleges—four are already working, viz., Lahore, Bombay, Calcutta and Madras. One more will be opened at Patna in July. Burma has also got a school at Insein. These institutions are turning out about a hundred veterinary graduates per year. The Royal Commission on Agriculture have proposed the quadrupling of the veterinary staffs in India.

It is possible that several species of the warble fly exist in India. Their life histories do not vary very much. I have no first-hand information about this, but the so-called warble in India may be a different species from the warble in Europe.

I estimate that Rs. 20,000 a year would just suffice for engaging one research officer and pay his menial establishment and travelling allowance. Spending less than Rs. 20,000 a year would be of little use and I would recommend that Rs. 1 lakh a year be earmarked for veterinary research. This would enable a team of research workers for the warble pest to be set up immediately. The Director of Veterinary Services, Punjab, would, I think, be able to conduct field experiments on problems concerning the warble at some of his farms. The Agricultural Research Institute at Pusa has recently published two bulletins on the feeding values of certain fodders. These were prepared by the specialist officer working at Bangalore.

Replying to Mr. Bleek:—One cannot say how long a particular investigation would take. Some work cannot be carried on throughout the year, I cannot therefore say whether funds intended in the beginning for research

work could after two or three or four years be released for doing propaganda and similar work.

Anthrax is sometimes found in tanned hides and skins also.

Foot-and-mouth disease can be carried through untanned hides. It is communicable to human beings, but there is no great risk of contagion to human beings through hides.

(NOTE:—At this stage Mr. Bleeck said that he protested against the statement in the witness' written memorandum about the damage caused by beetles and said that it was very considerable. Witness replied that it might be so in some places.)

The warble is found in the drier parts of India, *e.g.*, Sind and the Punjab. In Europe too the warble flourishes in dry seasons.

Replying to Mr. Price:—Veterinary research is likely to prolong the life of cattle. It might thus prolong the life of useless cattle also. But we hope that cattle breeding will improve side by side with the improvement of their health and that so many useless cattle will not be bred as is being done at present.

Replying to Mr. Shah:—In my opinion, the best places from which to recruit officers for conducting veterinary research work would be England and America. A man on Rs. 1,500 per mensem on a three to five years' contract would be able to tackle the problems. It is not necessary for him to have done precisely the same work before. General training in research is all the qualification that need be insisted upon. A real specialist who has already tackled special problems, *e.g.*, the warble, would cost more than Rs. 1,500 per mensem.

NOTE, DATED THE 6TH JANUARY, 1930, BY MR. S. K. SEN, ASSISTANT RESEARCH OFFICER, IMPERIAL INSTITUTE OF VETERINARY RESEARCH, FORWARDED BY THE DIRECTOR OF THE INSTITUTE.

I.—Average life of Goats.

From available records it would appear that in India "the ordinary limit of a goat's life is from 8 to 10 years", but few evidently are allowed to live to that age, and in the Jhang district "a goat (doubtless a female goat) is killed when 5 or 6 years old". That they are not allowed to live longer is evidently due to the fact that soon after this age they cease to be productive as would seem implied in the statements that "females come into season at the age of 12 months, kid once a year and produce about 5 times". In the Montgomery district, goats are said to produce 7 or 8 kids altogether, whilst in the Ferozepur district "they give birth to usually two kids at the end of 6 months and often deliver kids 6 to 8 times during their life." Taking all the above statements into consideration, it is inferred that the average productive part of a goat's life does not exceed beyond 6 years and this presumably also represents the usual limit of its existence.

As regards male kids, several observers have stated that they are seldom allowed to live more than one year as they are greatly in demand for food. In regard to bucks for breeding purposes, Gay (1919), speaking of Angora goats, observes:

"The goats are in their prime when 2 to 6 years old." In India, the ordinary limit of the life of bucks utilised for breeding purposes may therefore perhaps be placed at 4 years, and the number of such bucks is probably not more than one per ten does.

Records are not available showing the extent to which goats in India are susceptible to disease, but at any rate a small proportion would appear annually to fall victim to such debilitating diseases as "gillar" (Walker, 1910). In the case of sheep, Branford (1924), in the Punjab, estimates the loss by disease at not less than 5 per cent., so that in the case of goats the loss may be placed, at a conservative estimate, at not less than 2 per cent., and the

average age at which mortality occurs may be taken as 3 years (assuming that goats of all ages are equally affected). The average life of goats in India may therefore very roughly be calculated as follows (assuming the numerical strength of both sexes, to start with, as equal):—

49 does at 6 years	294
1 doe at 3 years (representing mortality due to disease)	3
5 bucks at 4 years (for breeding)	20
45 male kids at 1 year (slaughtered for human consumption)	45
100	362

The average life therefore comes to $\frac{362}{100}$ or 3.6 years.

Actually, however, the average is probably nearer 3 than 4 years, as the percentage of mortality on account of disease is presumably higher than 2 per cent., whilst a proportion of the male kids utilised for human consumption is doubtless slaughtered long before they attain one year of age.

II.—Average life of Sheep.

“The ewes are put to the tup when 1½ years old. The period of gestation is 6 months Sheep and goats produce about 5 times.” “Lambs are dropped in February; sometimes the autumn is preferred for lambing. The ewe is then one year old. She will give one lamb for each of the next 4 years.” Similarly according to Walker (1910), “the ewes are bred from until they are 5 years old and then sold”. The ordinary limit of a ewe's life in India may therefore be taken to be 5 years, and that of breeding rams 3 years (i.e., one year less than in the case of goats). Like male kids, male lambs, other than those intended for breeding, would appear to be seldom allowed to live for any considerable length of time, for, according to Walker, “males are sold to butchers”. Even in the case of wethers, it may perhaps reasonably be supposed that their average life does not exceed one year (judging from the information supplied by Gay in regard to the so-called “mutton-breeds” of sheep in Europe).

A number of workers have referred to the heavy mortalities occurring amongst sheep in India on account of disease (particularly parasitic disease). Thus, according to Branford (1928), the total number of sheep in the Punjab is 4½ millions and “about 500,000 sheep die annually in the Punjab from parasitic diseases”. In an earlier paper, the same author (1924) observes: “According to the census of 1914, the number of sheep in the Punjab was 4½ millions; this number has decreased to 4 millions according to 1919 census The writer has not been able to discover any statistics from which he can give an estimate of the loss by disease. Putting it at a very low estimate of 5 per cent. (it is probably nearer 50), deaths from disease in the Punjab would be 200,000 ‘Gillar’ appears to be a veritable scourge. 90 per cent. of sheep in affected areas are said to become infected, and 90 per cent. of the animals attacked die.”

Baldrey, writing as far back as in 1906, observes: “The mortality amongst sheep and goats in India has up to now excited very little attention amongst scientists That enormous losses do occur amongst ovines and caprines is very evident when the most cursory enquiry is made with regard to them. The number of flocks existing in India is very great, but there are as a rule few individual owners who possess any great number: a small cultivator in a village owns a few which are all grazed together, looked after by a few lads during the day, and corralled in or near the villages at night; mainly for this reason losses are not so severely felt as to have excited any great interest; that is, each owner out of his small stock of 10 to 20, loses some 5 to 6 which is, taken individually, only a very small number.”

In a later paper also, Baldrey (1912) refers to the "enormous extent to which Indian cattle and sheep are the victims of intestinal parasites".

Mr. Quirke (Punjab), giving his evidence before the Royal Commission on Agriculture, observed: "We consider that between 80 and 90 per cent. of the mortality amongst sheep is due to parasites, and we feel that quite a lot could be done with regard to the prevention of such mortality."

In certain localities, a considerable amount of damage to sheep would appear to be due to infection by liver flukes. Speaking of sheep in Assam, Mr. Harris observed as follows in the course of his evidence before the Royal Commission on Agriculture: "The wet fleece kept the animals impoverished and the liver fluke finished them off."

Mortality would appear to be particularly heavy amongst imported rams, cross-breeds and also amongst indigenous breeds kept in localities other than their normal habitat.

An examination of the reports reveals the fact that a fairly large percentage of mortality occurs even amongst sheep maintained under expert supervision (*e.g.*, in the Government Cattle Farm, Hissar), so that the percentage should be considerably higher amongst animals kept by private stock-owners in India. However, for the purpose of this note, the death rate amongst adult sheep may be placed at about 5-6 per cent. (as estimated by Branford), although as considered by Branford, it is probably nearer 50.

Several workers have referred to the high death rate in lambs, particularly amongst those born during the cold weather. Speaking of sheep on the Hissar Farm, Branford (1924) observes: "Soon after the writer joined the farm, out of 90 lambs born in December, January and February, 71 died of pneumonia."

Woodford (1929), Hosur Cattle Farm, writes: "Mortality in lambs has been as high as 40 per cent. and as low as 2 per cent. per annum; of recent years 8 per cent. is the average." The mortality in lambs belonging to private stock-owners may therefore be taken to amount, at a conservative estimate, to not less than 10 per cent., that is, 10 lambs out of every hundred die at the age of from a few days to one year or at an average age of 6 months (roughly). The average length of life of sheep in India calculated for 100 animals (the numerical strength of both sexes being taken as equal) is therefore very roughly as follows:—

10 animals at $\frac{1}{2}$ year (representing mortality in lambs) .	5
40 male lambs at 1 year (wethers, etc., for human consumption)	40
5 rams at 3 years (for breeding)	15
*1 animal at 2 years	2
*1 animal at 3 years	3
*1 animal at 4 years	4
42 ewes at 5 years	210
100 animals.	279

The average therefore comes to $\frac{279}{100}$ or 2.8 years.

* Mortality in adults about 6 per cent.

**Oral Evidence of Mr. P. G. MALKANI, M.R.C.V.S., Veterinary
Research Officer, Imperial Institute of Veterinary
Research, Muktesar.**

(Calcutta, the 30th December, 1929.)

(NOTE.—Mr. Malkani had instructions from the Director of his Institute to see if the Hides Cess Enquiry Committee wished to ascertain anything from him. The Committee desired to take his statement on some of the problems before the Committee.)

Replying to Chairman :—I am a veterinary research officer at the Imperial Institute of Veterinary Research, Muktesar. I have come here on a research tour in connection with the discovery of the second stage larvæ of warble flies in the œsophagus of cattle at Muktesar. I have visited the slaughter-houses at Muzaffarpur, Patna and Calcutta and examined the hides and the carcasses with a view to corroborating my discovery at Muktesar. The life history of these parasites has been worked out in detail in England and America. In India Captain Cross drew attention to the existence of the *hypoderma lineata* (European warble flies) in cattle in the Punjab. At that time Captain Cross could not discover the intermediate œsophageal stages of this fly, but he expressed the hope that further research would possibly reveal their hitherto unknown existence. While conducting *post mortem* examinations at Muktesar I have discovered the second stage larvæ of what is presumably *hypoderma lineata* occurring in the sub-mucosa of the œsophagus. Carpenter in one of his reports states that he examined 70 rumens but could not find any larvæ of the warble fly. I have however found these second stage larvæ under the connective tissue overlying the rumen.

Replying to Mr. Price :—I have not yet found the actual fly, but I am experimenting with a view to rearing it. Only two specimens of *Hypoderma bovis* are available in the British Museum. An examination of the hitherto discovered larval stages goes to show that the Indian warble fly is the same as the European, viz., *hypoderma lineata*. The previous theory was that young maggots were licked from where the eggs had been laid and then migrated to the skin. Carpenter has proved that the young maggots after being hatched travel down the hairs and then bore their way into the skin. The Warble Pest Committee in England also came to the same conclusion. *Hypoderma lineata* can attack goats also, but generally in goats one gets another species of the warble fly known as *hypoderma crossi*. There is a considerable amount of work to be done both in connection with the life history of the parasite and the treatment of the animal and the assistance of a trained entomologist is needed. The English committee on warble pest did not succeed in their attempt to kill the intermediate larval stages by injecting arrhenal (an arsenic compound) but appear to be of opinion that the discovery of such a drug would be a "consummation devoutly to be wished for". No, salvarsan has not been tried, but I intend carrying out experiments in this direction. I have engrafted the larvæ into the sub-cutaneous tissue of hill bulls with a view to rearing the adult flies.

Replying to Mr. Rafique :—Flies lay their eggs on the roots of the hair of the heels. The eggs are hatched and according to the latest views the first stage larvæ travel down the hairs and bore through the skin. How these first stage larvæ migrate through the body and reach the œsophagus is not known.

Replying to Mr. Bleeck :—The damage done by this fly in all the stages of its life-history is considerable. Gadding of cattle is due to the persistent attacks of the females at the time of egg-laying. During gadding time there is considerable loss in the milk yield and in the condition of the animals. Hypodermal rash is a condition that has been recently described by Hadwen to be due to the burrowing of the first stage larvæ. This condition may be said to resemble small pox. It generally passes off in a fortnight, but it makes it possible for other micro-organisms to gain entry into the animal's

system. The second stage larvæ in the œsophagus have often been found to be the cause of stenosis of the gullet. The mature maggots under the skin cause a condition of flesh which is popularly known as "jelly beef" and the damage to the hide is of course considerable as the holes made by these larvæ are in the most important part of the hide. Hadwen in America and Jensen in Denmark have described another condition of anaphylactic shock which they ascribe to the accidental breaking down of the mature larvæ under the skin.

Replying to Mr. Ismail:—The life history of these flies is definitely seasonal and the seasons for the different stages in the life history differ slightly in different countries. Generally, end of April to the beginning of August is considered to be the adult fly season, and the eggs are laid during this period. First stage larvæ have not yet been discovered inside the body, but second stage larvæ in the œsophagus are generally found about the beginning of September.

I expect that the research I am conducting will take at least 5 years (based on the analogy of the work of the Committee on Warble Pest in England), but this period may not suffice. The work done by the above committee will be very helpful.

Replying to Mr. Price:—The tick problem is a complex one. There are various species of ticks and I know of at least 30 species which can convey disease to animals. The well-known red-water disease in cattle (piroplasmosis) is conveyed by some of these species. Unfortunately not much study of these ticks has been made in India. In Texas where red-water was the cause of considerable loss, research was undertaken and the causative role of these ticks was established beyond doubt.

Replying to Mr. Shah:—At present there is no special allotment for my work and I am doing it in addition to my routine duties. I am a veterinary man but have studied entomology.

**Written Statement, dated the 6th November 1929, of
Mr. M. M. ISPAHANI, Calcutta.**

I. My firm is exporting raw hides from Calcutta to a great number of foreign ports.

II. From reasons shown below, the proceeds of a cess could, in my opinion, decidedly be spent profitably, both with regard to the tanning industry and the export trade.

III. 1. The main cattle diseases and pests affecting the hides are pox, rinderpest, warbles and ticks.

2. Establishing some research institutes, devising means to combat these pests and diseases, should go a long way in improving matters. They should keep in touch with the parties interested in hides.

3. Careless or unskilled flaying is responsible for cuts which naturally affect the value of the hides and for rotting too, caused by too much flesh being left on the hide.

4, 7 and 8. The building of slaughter-houses, which so far exist at relatively very few and practically only in the very biggest towns, should be encouraged, without which a control of the flaying will of course be a very difficult matter. At present flayers, also at the slaughter-houses, are paid by the piece, which of course, as far as the hide goes, is a pernicious custom, the flayer being solely interested in getting in the shortest possible time through as many carcases as possible. At many European slaughter-houses a premium is being paid for well-flayed hides and even flaying competitions for prizes take place. Such methods I think might be worth imitating out here.

At very big slaughter-houses with electric current at their demand electrical flaying machines might be installed which are said to have been a great success in Europe.

5—6. In the districts flaying instructors, provided with proper knives, to teach flayers and to enlighten them about the greater market value of a well-flayed hide, might prove useful.

9. The curing and preserving differ in India from other countries only in so far, as the climatic conditions demand.

10. Air-dried hides are in many cases spoiled by worms, before they reach the markets, not having undergone a poisoning process to keep them immune in this respect.

Wet-salted hides often get rotten on their way to the market, the reason being too little salt having been rubbed into them.

Dry-salted hides are often cured with table instead of *khari* salt, which leads to decomposing.

11. The only remedy would be propaganda by instructors.

12. The question of curing and preserving would decidedly be worth spending money over from the cess fund.

13. The only proper curing salt for dry-salting hides is *khari* and this being produced only in comparatively few districts, it would be a great boon to the hide trade, if the Geological Department could find any new sources of supply in India, by which the so far very high cost of *khari* might be reduced too. A better distribution of *khari* in the consuming districts might perhaps be looked after by the agricultural department.

14—15. Salted hides sell by weight and the consequence is that in order to increase their weight, they are loaded with extra *khari*, as well as mud and in some cases even cement. This leads to deterioration of the hides. I am afraid it must be left to the trade itself though, to improve matters in this respect. In fact attempts to this effect have been made already and, though unsuccessful so far, will be taken up again.

16. Another defect is the many iron brands the animals are subjected to. These brands are supposed to do good in some cattle diseases, partly they are simply the outcome of superstition though, the idea being, that branding the animals in case of diseases, will drive out evil spirits. Sometimes brands are even applied as a decoration. The Society for Prevention of Cruelty to Animals might do good work in enlightening the people in this respect.

17. A rough estimate can be arrived at best by dividing the hides into three classes:

I. Framed air-dried.—Of these about 50 per cent. are damaged by the defects mentioned to the extent of 20 per cent. deterioration—

Taking an average export of 2,000,000 pieces—

	Rs.
Worth Rs. 6 per piece	1,20,00,000
50 per cent. would be worth	60,00,000
Deterioration 20 per cent.	12,00,000

II. Unframed air-dried—

Export about 6,000,000 pieces worth Rs. 3 per piece 1,80,00,000
of which total deterioration about 20 per cent. . 36,00,000

III. Salted hides—

Export about—

4,000,000 pieces dry-salted

1,000,000 pieces wet-salted

5,000,000 pieces worth Rs. 4 per piece . . . 2,00,00,000
of which total deterioration about 13 per cent. . 26,00,000

IV. Buffaloes, air-dried and salted—

Export about—

1,500,000 pieces worth Rs. 6 per piece . . . 90,00,000
of which total deterioration about 6 per cent. . 5,50,000

18. The hides of slaughtered animals pass mostly through the hands of one contractor before they reach the shipper. The latter passes them through an arsenic bath in his godowns, after which they are selected into the different classes and weights and then baled and pressed for export.

The hides of dead animals are taken off the carcasses by *chamars*, undergo a rough curing process at their hands and then pass through one or more *beparis'* hands into the *arkhats*.

19. Not to my knowledge.

20. No.

21. Through delays in railway transport air-dried hides often suffer by worms.

22. With regard to hides, rules have been laid down by the Hamburg Association of Hide Dealers binding for all shippers. Their system of grading is accepted by more or less all countries buying Indian hides.

23. Shippers have got their system of grading hides. Tanners purchase all round.

V. 34. Yes.

VI. 36. The cost of the different schemes depends entirely on the amount of help given to the hide and skin trade, so it is too early to form an estimate.

39. The principle of application should be that the cess should be levied from all parties that benefit by it. The cess should be levied on goods exported only, whether raw, tanned or half-tanned.

40. Considering the size and weight of the hide bales are restricted by the shipping companies, the bales do not vary to any great extent. Therefore it is suggested that the cess should be levied per bale, Rs. 5 per bale being considered adequate and not too big a handicap on Indian hides in the world's markets.

41. Yes, for a period of not under 5 years.

42. Collection of cess per bale would be much simpler than any other method, also with regard to the Customs control.

VII. 43. Yes. The industry, veterinary department and the local Governments should be represented.

44. The representation should be in proportion to the contribution. Nomination should take place on the recommendation of the interests by the Governor General in Council.

45. All by statute.

46. Nominations should be left to local Governments.

48. No.

49. Yes.

50. Yes, a Chairman and a Member-Secretary. Terms depend on final constitution and available funds. The Secretary should be appointed by Government.

51. The Committee should administer the funds best possible according to requirements.

52. The Customs.

53. Yes, functions according to circumstances.

54. For technological advice the existing and experienced sources should be made use of.

55. Headquarters in Calcutta. Branches in Karachi, Madras and Cawnpore.

**Written Statement, dated the 8th November 1929, of the
Indian Tea Cess Committee, Calcutta.**

The Cess Committee have considered your request that they should furnish you with notes on the questionnaire issued by the Hides Cess Enquiry Committee, particularly with reference to questions 43 to 55. It seems to them that they can most usefully supply the information desired if they deal with the matter in a general way rather than by attempting to frame specific answers to the detailed questions 43 to 55. As they understand the reference it is that the Enquiry Committee should be given such particulars regarding the Tea Cess Committee as will enable them to appreciate its constitution, its method of working and the directions in which the funds placed at its disposal are expended.

2. I am directed to forward to you copies of the accompanying papers, namely:—

- (a) the Indian Tea Cess Act IX of 1903;
- (b) Notification No. 6479-S. R., dated 12th October 1904, containing the rules prescribed by the Governor General in Council to carry out the purposes of the Act; and
- (c) a Memorandum, dated 30th September 1926, prepared by the Committee for the information of the Royal Commission on Agriculture.

The Committee think that the last of these papers will give the Hides Cess Enquiry Committee a clear picture of the methods and the work of the Tea Cess Committee. The memorandum gives information on the following points, namely:—

Para. 1.—The origin of the Committee.

Para. 2.—The constitution of the Committee.

Para. 3.—The rate of cess.

Para. 4.—The amount realised annually from the cess.

Para. 5.—The work carried on in the United States.

Para. 6.—The work carried on in Continental Europe.

Para. 7.—The work carried on in the United Kingdom.

Para. 8.—The work carried on in India.

Para. 9.—The estimated increase since the inception of the cess in the amount of tea available for consumption in India.

3. It may be of interest to the Hides Cess Enquiry Committee if I bring up to date the information given in paragraph 4 and the succeeding paragraphs of the memorandum.

Para. 4.—Total collections in 1926-27 Rs. 13,23,406.

Total collections in 1927-28 Rs. 13,83,324.

Total collections in 1928-29 Rs. 13,58,893.

Para. 5.—The Cess Committee's method of working in the United States has now been modified, and instead of confining the propaganda to newspaper advertising an India Tea Bureau has been established with headquarters in New York to supervise the work, which consists partly of advertising and partly of other types of propaganda. During the three years from 1926-27 to 1928-29 inclusive, the Committee have spent Rs. 16,59,847 in the United States.

Para. 6.—In Continental Europe propaganda work has quite recently been restarted and at present operations are more or less confined to Germany.

Para. 8.—During the years 1926-27 to 1928-29 the Cess Committee have spent on work in India a sum of Rs. 15 lakhs. The methods of

work followed during these years have been more or less those indicated in paragraph 8 of the memorandum, but developments in certain subsidiary directions have been undertaken, particularly, for example, in regard to railway work in small towns. Considerable attention has been paid, particularly in recent years, to endeavours to check the sale for human consumption of waste and unfit tea, and this type of work has met with gratifying success.

4. In your memorandum of 25th October you ask that information should be given with regard to the Tea Cess Committee's relations with the Central and Local Governments. The Committee take it that what is desired in this connection is information bearing on the extent to which in the ordinary course the Cess Committee work along the lines prescribed for them by Government. I would explain in this connection that the actual work of the Committee in administering the cess funds is a matter for which they are responsible to the Central Government. The Committee are required to submit audited accounts yearly for the information of Government and abstracts are published annually in the Gazette of India. So far as the local Governments are concerned the relations between the Cess Committee and these are in regard, generally speaking, to discussions on subjects affecting the work of the Committee in India, such as, for example, the measures for preventing the public sale of tea that is unfit for human consumption.

5. The Committee trust that this information will be of use to the Hides Cess Enquiry Committee.

(Enclosure to the statement above.)

INDIAN TEA CESS COMMITTEE.

Memorandum for the Royal Commission on Agriculture.

The Indian Tea Cess Committee was constituted under the provisions of Act IX of 1903 which was passed by the Governor General of India in Council on the 20th March 1903. The object of the Act was to provide for the creation of a fund to be expended for the promotion of the interests of the Indian tea industry. From the year 1893 the Indian Tea Association had been collecting a voluntary assessment for expenditure on the development of foreign markets for Indian tea. There are, however, objections to this system of raising funds, and, these becoming increasingly obvious as time went on, the Association resolved to obtain if possible the levy of a compulsory cess. And in 1902 after much correspondence and discussion the General Committee of the Association presented to the Viceroy a memorial, praying for the imposition of a cess at the rate of one-fourth of a pie per pound on all tea exported. The memorial was signed by, or on behalf of, 366 tea proprietors and companies, representing 416,140 acres of tea land, or rather more than 80 per cent. of the total area then under tea cultivation in India. It was favourably received by Lord Curzon, and a Bill, providing for the levy of the cess at the rate suggested, was introduced into the Imperial Legislative Council by Sir Montagu Turner—the then Mercantile Member—on the 30th January 1903.

2. Before the passing of the Act the General Committee of the Indian Tea Association had framed—at the instance of the Government—a scheme for the administration of the funds which would be raised. Subject to certain modifications this scheme was adopted by the Government. In its final shape it provided for the formation of an Administrative Committee consisting of twenty members representing: (a) tea growers and (b) the general commercial community. The representatives of the latter were to be four in number: three of them were to be nominated by the Bengal Chamber of Commerce, and one by the Madras Chamber of Commerce. The representatives of tea growers were to be nominated by the following associations:—Indian Tea Association, Calcutta (seven); Assam Branch, Indian Tea Association (two); Surma Valley Branch, Indian Tea Association (two); Darjeeling Planters Association and Terai Planters Association, jointly (one); Dooars Planters Association

(one); Dehra Dun Planters Association (one); Kangra Valley Planters Association (one); United Planters Association of Southern India (one).

3. As is intimated above, the cess was levied at the rate of $\frac{1}{2}$ pie per lb. of tea exported. It remained at this rate until 1921-22 when, at the instance of the tea industry, the rate was raised to 4 as. per 100 lbs. In 1923-24 the Act was amended, also at the instance of the tea industry, so as to enable the cess to be levied at a maximum rate of 8 as. per 100 lbs. of tea exported. The maximum rate has not been put into operation so far. But, with effect from the year 1923-24, the levy has been made at the rate of 6 as. per 100 lbs. of tea exported.

4. The cess is collected by the Customs Department and the proceeds are made over by the department to the Committee. The collections from 1903-1904 to 1925-1926 are shown in the following table:—

	Rs.
1903-1904 @ $\frac{1}{2}$ pie per lb.	2,66,894
1904-1905 " 	2,75,490
1905-1906 " 	2,76,762
1906-1907 " 	3,04,753
1907-1908 " 	2,94,482
1908-1909 " 	3,02,095
1909-1910 " 	3,23,794
1910-1911 " 	3,31,253
1911-1912 " 	3,37,414
1912-1913 " 	3,61,727
1913-1914 " 	3,75,616
1914-1915 " 	3,89,235
1915-1916 " 	4,36,256
1916-1917 " 	3,81,662
1917-1918 " 	4,59,863
1918-1919 " 	4,31,687
1919-1920 " 	4,87,108
1920-1921 " 	3,66,439
1921-1922 4 annas per 100 lbs.	7,44,334
1922-1923 " 	7,28,052
1923-1924 6 annas per 100 lbs.	12,66,123
1924-1925 " 	12,83,392
1925-1926 " 	12,28,526

5. At the time when the cess was instituted the Committee determined to concentrate their efforts largely on the United States of America. With this end in view they spent Rs. 23,61,334 in promoting the sale of Indian tea in that country from the year 1903-04 to the year 1916-17. By that time the War had made it difficult to proceed. Freight troubles grew more and more serious, and the reduced imports of tea into the United States made advertising unnecessary. The work was accordingly restricted, so much so that in the years 1917-19 to 1922-23 a sum of only Rs. 83,363 was spent. The Committee began again in the United States in 1923-24 after making full enquiries into the trade conditions prevailing there. They decided to embark on a scheme of intensive newspaper advertising, and this scheme they placed in the hands of Messrs. C. F. Higham, Ltd., advertising agents of London and New York, by whom it is now being carried out. During the year 1923-24, 1924-25 and 1925-26 the Committee have spent Rs. 13,87,008 in the United States.

6. In Continental Europe the Committee began work in a small way in 1905-06. They selected Belgium and Germany as two countries in which to

start their operations, and they appointed a Commissioner who worked in conjunction with the distributing trade. The scheme went steadily forward until it was stopped by the outbreak of War in 1914. Apart from gifts of tea to the French and American troops nothing further was done on the Continent until 1922-23 when work was begun in France; and from that time to the end of 1925-26 a sum of rather more than Rs. 9½ lakhs has been spent in France. The total amount expended on the Continent of Europe since 1905-06 is slightly in excess of Rs. 19½ lakhs.

7. In the United Kingdom the Committee carried on an advertising scheme for a number of years before the War, the object at the beginning being to counter a propaganda in favour of China tea. The operations came to an end in 1916-17 by reason of the War. In the early years of the cess, 1903-04 to 1906-07, the Committee contributed to a League which was formed with the object of bringing about a reduction in the import duty on tea in the United Kingdom. They have also been represented at exhibitions such as, for example, the British Empire Exhibition of 1924. In all they have expended about Rs. 7½ lakhs in the United Kingdom since the institution of the cess in 1903.

8. During the years 1903-04 to 1914-15 the Committee spent small sums in India on experimental operations, the total amount being less than Rs. 75,000. But during the War they decided to begin work in India on a large scale, and in the eleven years 1915-16 to 1925-26 they have expended upwards of Rs. 41 lakhs in this country. No trading in tea has been undertaken by the Committee. The funds have been spent in encouraging the sale of tea entirely by private enterprise. More than 40,000 bazaar shopkeepers have been influenced to take up the sale of tea, and have been assisted with free supplies of suitable advertising matter, containers, measures, and packets for tea. Various attractions have also been periodically lent in order to bring customers to the shops. Arrangements for the sale of tea to Indian passengers have been organised on several inland steamers, and at important junctions and large stations on the Eastern Bengal, East Indian, Oudh & Rohilkhand, North Western, and Bombay, Baroda & Central India, and South Indian Railways. At the instance of the Committee, tea rooms have been started at most large industrial establishments in India where such did not previously exist. Tea and recreation rooms have been organised for about 300 military units.

9. According to the statistics available, the sale of tea in India and Burma averaged approximately 18 million lbs. annually for the quinquennium before the start of the propaganda work in India. During the year ended 31st March 1926, the estimated quantity of tea available for consumption in India and Burma was over 50 million lbs.

**Written Statement, dated the 8th November 1929, of
Messrs. MAX STAUB, Ltd., Calcutta.**

I. Exporters of hides and skins from Calcutta since 1921. No interest in any associated trade or industry.

II. Yes.

III. 1. Defects due (a) to cattle disease: principally pox, vernacular *goti*.

Probably rinderpest. The quality of hides deteriorates with any serious disease.

(b) Pests: warbles and to a lesser degree ticks, worms.

2. Research should be organised to discover medical treatment principally as preventive of disease, and methods should be devised for destroying pests. Based on the result of such research work organised efforts should be made all over the country to make known methods devised, to initiate and as far as practical supervise the application thereof. The cost of applying remedies (medical treatment, etc.) could obviously not be borne by a cess fund, but would have to be borne by the cattle owners.

3. Flaying is carried out carelessly. Hides are damaged by knife cuts and are not properly cleaned of flesh, fat, dirt, etc.

4. Instruction in proper methods of flaying.

5 & 6. There would probably be considerable difficulties but experiments might be made and the assistance of local authorities might be enlisted.

7. Yes. The introduction of mechanical flaying should be attempted where possible. The abolition of piece work would result in more careful take-off.

8. Attempts have been made in the past in Calcutta without much success—flayers were then paid a small cash premium—the attempt might be repeated—systems of premiums appear to work successfully in other countries.

9. In other tropical countries the system of curing and preserving appears generally to follow the line prevailing in India.

10. Apart from knife cuts the principal defects in curing result from hides not being properly cleaned before drying. The drying process also is frequently carried out carelessly, hides being either not sufficiently dried or exposed too much to the heat of the sun. In the matter of preserving little is done as far as air-dried hides are concerned until goods reach shippers' godowns. No preservative is used to protect the hides on the way to Calcutta against the ravages of insects (worms). In the case of salted hide damage is caused by the use of table salt and impure salts.

11. If some non-poisonous preservative could be found, this would be of great value for air-dried hides. A supply of good *khari* salt in places where it is not now cheaply available would do much to abolish the use of table and other unsuitable salts.

12. Yes.

13. This apparently would be a matter for a Cess Committee should this be formed.

14. Adulteration exists principally in two forms: Flesh and fat are left on air-dried hides to increase weight and cover defects. Underneath the flesh the hides rot. In salted hides superfluous salt and mud has to be removed by scraping or washing before hides can be shipped. Hides suffer thereby.

15. No method has yet been devised to combat adulteration which has had any lasting results.

16. Much damage is done by careless handling especially in the raw state.

17. To arrive at an estimate is most difficult and any estimate can only be very rough. Records of assortment based on export selections may give some idea, and are therefore quoted below. Trade terms of classification are

used as follows: Slaughtereds are hides with no visible defects. Second slaughtereds are hides with minor visible defects. Deads are hides with considerable visible defects. Rejections and Double Rejections are hides with many visible defects. Slaughtereds are taken as hides of 100 per cent. value. It should be noted that assortment of parcels varies according to season, but an approximate average is given in each case.

Framed air-dried hides (Agras and North Westerns)—

- 20 per cent. Slaughtered, 100 per cent. value.
- 25 per cent. Second Slaughtereds, 80 per cent. value.
- 35 per cent. Deads, 65 per cent. value.
- 20 per cent. Rejections and Double Rejections, 45 per cent. value.

The differences in estimated value are based on customary price differences between grades. The average loss in value on this class of goods is thus about 33 per cent. on 80 per cent. of the goods. Roughly 13 lakhs of framed cow hides is the estimate of the quantity exported in a year from Calcutta. Assuming the value of the best grade (slaughtered) to be Rs. 9 per piece the total value of the 13 lakhs pieces, provided all the hides were up to slaughtered grade, would be 117 lakhs. Taking 80 per cent. (say 10½ lakhs) as damaged to the extent of 33 per cent. these would be worth about 63 lakhs, so that the loss in value is about 54 lakhs. As regards unframed air-dried hides and salted hides it is almost impossible to make an estimate of the percentage by which the value is reduced, as e.g., pox marks are not visible owing to the layer of impurities with which these hides are covered. Assortment averages are as follows:—

Unframed arsenics (Purneahs, Darbhingas, Daissees)—

- 5 per cent. Slaughtered, 100 per cent. value.
 - 31 per cent. Deads, 80 per cent. value.
 - 37 per cent. Rejections, 65 per cent. value.
 - 25 per cent. Double Rejections, 50 per cent. value.
 - 2 per cent. Triple Rejections, 45 per cent. value.
- Average loss on 95 per cent. of hides, 34 per cent. of value.

Salted hides (Daccas)—

- 10 per cent. Slaughtered, 100 per cent. value.
- 37 per cent. Deads, 80 per cent. value.
- 28 per cent. Rejections, 65 per cent. value.
- 25 per cent. Double Rejections, 50 per cent. value.

Average loss on 80 per cent. of hides, 33 per cent. of value.

Obviously not all defects could possibly be eliminated but it is quite as obvious that there is vast room for improvement.

To estimate the total loss to the country is impossible. The total quantity of hides and skins produced would first have to be ascertained including those used locally by country tanners.

If we attempt to make an estimate taking as basis the example quoted for framed hides and assuming the preventable damage to be only ¼rd of the total loss in value, it becomes obvious that the total preventable damage on all classes of hides and skins must exceed 100 lakhs of rupees yearly, inasmuch as the 13 lakhs of framed arsenicated cow hides is only about ¼ of the total of hides exported from Calcutta only; the quantity exported from Calcutta is less than half, possibly only ¼rd of the quantity produced in India. Buffalo hides and goat skins have not been taken into account at all but the damage to the latter especially must amount to a very large figure.

18. (1) Slaughtered animals: The hides pass through the hands of a *bepari* and *arhatdar* into the hands of the shipper. In the shipper's godown they are treated with arsenic solution, then graded into assortments and weights and finally baled up and pressed for export.

(2) Dead animals: Skins are removed by *chamars*, who carry out the first rough preparation, either by air-drying or salting. Hides then pass on through one or two middlemen till they pass into the *arhats* for sale to shippers. The subsequent process is the same as detailed above, except that salted hides are not treated with arsenic solution, but where necessary are re-cured, i.e., superfluous salt and dirt removed before shipment.

19. Apparently no.

20. This seems doubtful.

21. Air-dried hides are frequently much damaged by delay in railway transport.

22. An elaborate system exists and has been laid down in a printed pamphlet issued by a Hamburg Dealers Association. This system of grading is accepted and forms basis of arbitration for contracts in principally all countries which buy raw Indian hides.

23. No.

IV. 24. Without being able to give a detailed opinion, we consider that a cess fund could be expended to benefit in certain directions the tanning industry in India.

V. 34. Yes.

35. There is room for improving the breed of cattle in India, at least in certain districts. The cultivator might be educated to the necessity of taking better care of his cattle whereby eventually he himself stands to gain most. Scientific investigation into the question of fodder supply might yield useful results.

VI. 36. The estimate given is of necessity very rough.

Research Institute: Initial cost 1 lakh.

Annual expenditure—

	Rs.
1 Superintendent (Veterinary Surgeon) monthly	1,200—1,500
1 Assistant	300— 500
2 Clerks	200— 300
10 Menials	300— 500
	<hr/>
	2,000—2,800
Maintenance	1,000—1,200
	<hr/>
	3,000—4,000

or annually Rs. 36,000 to Rs. 48,000 for each institute.

37 & 38. Depends on the number of institutes.

39. The cess should be levied on goods exported and should be levied at the time of shipment. It should be levied on both tanned and raw hides. All goods exported irrespective of factories where they have been produced. The reasons are considerations of practical working, principally as regards the collecting of the cess.

40. The rate should be a fixed rate to be determined in accordance to schemes approved for the utilisation of proceeds. The imposition of a moderate cess should not affect India's position in the world's market in any way.

41. 5 years.

42. Simplicity in the way of collection is the principal consideration why the rate should be a fixed rate collected on bales. The maximum weight of a bale would have to be fixed.

VII. 43. Yes. Representatives of the industry, of the veterinary department and local Governments.

44. Representation in proportion to contribution, nomination, on the recommendation of the interests by the Governor General in Council.
45. All by statute.
46. Yes, nomination is to be left to local Governments.
47. No opinion.
48. No.
49. Yes, according to requirements.
50. Yea, Chairman and Member-Secretary. Terms depend upon final constitution and funds available. Secretary should be appointed by Government.
51. Administer the funds and make best possible use in accordance to requirements and experience.
52. Funds to be collected through Customs. Office attached to some government department.
53. Yea, functions according to circumstances.
54. Technological advice to be obtained from existing sources.
55. Headquarters Calcutta, branches Karachi, Madras and Cawnpore.

**Written Statement, dated the 8th November 1929, of
Mr. S. B. BANERJI, Calcutta.**

I beg to thank you for a copy of your questionnaire. I regret, owing to ill health, it is not possible for me to answer all your questions in detail, nor shall I be able to give oral evidence. But I think the information given below will go to help your Committee in arriving at a decision on the terms of reference.

At the outset, I should tell you that I am correspondent of the "Leather Trades' Review," London, and of "La Halle Aux Cuir", Paris, the oldest French paper dedicated to the hide and skin trades. I am agent of Messrs. Bridge of Weir Leather Co., Ltd., near Glasgow, Scotland. I have theoretical knowledge of tanning acquired from books and foreign papers. I was Calcutta correspondent of "Hide and Leather", Chicago, for a considerable time.

In my contributions to the above papers I have dwelt on many points referred to in your questionnaire, from time to time. On behalf of the above firm I toured through the hide districts of Northern India, up to Peshawar, in August last and had an opportunity of discussing the cess question and other matters with many Indian traders.

I confess the Indian method of flaying is primitive. The Government should have flaying instructors and supervisors in all big villages and towns. Short courses for their education should be arranged for in big towns from which they should be sent out to supervise not only flaying but curing and preserving. I should have a law by which no flaying would be allowed unless this were done by a certified supervisor. Then only a better class of hides (and skins) could be assured, and these will command better prices.

The flaying should only be permitted in approved slaughter-houses, which must be built on sanitary principles. As the cattle will be slaughtered under expert supervision the cattle poisoners may find their occupation gone. A better class of flaying knives will be necessary and these can be manufactured by the iron works cheaply.

The instructors may be taught now to arrest cattle diseases and pests and this knowledge will be found of considerable assistance to villagers and slaughterers, and dealers in hides (and skins).

As primitive ways are still followed in curing and preserving in India, it is very necessary that early steps should be taken to teach those concerned how they can improve matters—to their advantage. I do not recommend the initiation of any expensive system, but there is enough field to initiate a better state of things at a slightly higher cost. The extra expenditure will yield better financial results.

It is not possible to organise a system of supply of suitable curing or preserving materials in all villages, with a population of less than 2,000 or 3,000. I would have a central stores in all towns with a population of 10,000 or more from which supplies can be drawn. Financiers should be encouraged to open such stores; and if they are shown that good returns are certain, they are sure to do the needful. But until they become bold enough to open stores supplies will have to be procured from big towns and cities.

Adulteration exists, specially in supplies of tanning materials but I am afraid nothing can be done by the Government to put down the evil. It can be checked by the buyers only, if they insist on o. k. supplies, refusing to purchase adulterated stuff on any terms.

The foreign buyers complain; but as they need the goods they have to grim and bear it. If they would be firm, adulteration is bound to go down to a considerable extent.

As is well known, hides (and skins) pass through several hands, before they reach the ultimate buyers. The collection method can certainly be improved; but in their greed to make money the middlemen purchase anything that is offered with the result that rubbish stuff is not neglected. An

apology for tanning follows and the rubbish is foisted on German buyers mostly. British tanners want A1 stuff. No wonder, the Germans have once again secured a monopoly of the Indian hide market. In my wanderings I have seen such rubbish stuff in up-country godowns that no honest trader should stock them. When I referred to the matter, my informants told me that as rubbish had buyers why should they not make as much as they can out of the same.

Certainly there is scope for improvement in grading, packing, etc., but who is going to bring about the same? Any suggestion to this end meets with the curt answer "Not necessary, the present system is enough". The storing in up-country places like Cawnpore, Jullundur, Amritsar, Rawalpindi, Peshawar, etc., is very unsatisfactory. I think no improvement in this direction is possible unless the municipal authorities there enforce some regulation governing storage. The stockists forget that dumping injures hides (and skins) and some useful instruction may be given to them in this direction.

I have no knowledge of co-operative marketing, but do not think it feasible. It will not appeal to the sellers.

The present system of transport is sufficient for all purposes.

I would certainly like to have a system of standardisation and grading for sale to tanners and for export but can this be done by law? Advice is of little use; for the sellers are, after all, not educated enough to see what is to their benefit. Their motto is "We will follow the ways of our fathers". In other words they mean to pursue the beaten track.

Now, the hide and skin industry is the fifth largest industry in India. Crores are invested in it and thousands are supported. In such a case, it is the duty of the Government of India to see how the industry can be improved to the benefit of all concerned.

Improvement means money. But where is this money to come from? By the imposition of a cess only. Now in the course of my wanderings up-country in August last, I discussed the question with dealers in various places, from Allahabad to Peshawar, and regret to say they were completely indifferent. They practically said the same thing: "We don't care. If a cess be imposed we shall increase our prices. The buyers will have to pay the increase". When I pointed out that the cess could be usefully employed in improving the quality of hides and skins, in curing cattle diseases, in securing a better supply of curing and preserving agents, etc., they agreed with me; but I felt they were indifferent to the idea.

If people will not see what will benefit them, it is the duty of the authorities to point out where they stand to gain. It is rather unfortunate that any sincere attempt to improve matters in any direction is at once seized upon by the anti-Britishers to preach their usual crusade against the Government. So I fear the latter will meet with obstruction, when they will impose a cess. But they should not mind; for, when those affected will see that the cess means, after all, more money to them, they will bless the authorities and not curse them. The present indifference will give place to an era of activity and co-operation.

Now, the suggestions made above mean a huge expenditure, which can only be met by the imposition of, at least, a ten per cent. cess. A portion of it should be spent in establishing schools for flaying instructors and supervisors; in training tanners, tannery foremen and leather chemists; in developing the supply and quality of Indian tanstuffs, etc. The present sources of supply of tanstuffs should be further explored in the existing leather institutes. The existing leather schools should be enlarged and arrangements made for teaching not *muchis* only but sons of middle class people as well. Short courses should be arranged for them. The instructions should be free in all cases. I would not discriminate between province and province, but should have a uniform standard. The instructions should always be in the vernaculars. Lantern slides and cinema films illustrating the lectures will create a lasting impression, and should be resorted to, as far as possible.

India needs pioneer workers with up-to-date knowledge and enthusiasm for work. The proposed schools will turn out hundreds of workers, who will never be out of work, and thus an avenue of employment will be opened up, to the good of the country.

Advertisements for the benefit of the industry will be of little use, for the people concerned will seldom see them. I would rather have popular tracts in vernaculars for circulation among the concerned.

Owing to the vastness of the country the expenditure will necessarily be large. The country cannot afford a large initial capital expenditure. So the expenses will have to be met from the cess funds. The first year's collections will enable the authorities to make the start. A five per cent. cess is much too small. It should be ten per cent. at least. I do not advocate the abolition of the present export duty on hides. I would have an export duty on skins as well. The country's needs must be met and this is only possible by imposing a tax in a direction where it will not be felt. There is no fear of sales of Indian hides and skins going down even if the duty be increased to ten per cent. Foreigners must have skins and they will pay the prices wanted; and if they see that a cess will bring them better stuff, they will not grudge the extra expense. They are business men, not actuated by political motives or anti-British feelings.

A sum of 25 lakhs will have to be raised by a cess for a start, and it will have to be increased to 50 lakhs within 10 years. A sum of 10 lakhs will be insufficient to give the various schemes a start.

The cess should be realised, from all stockists on all sales effected by them in towns and cities, care being taken, to see that nobody is made to pay twice. The cess should be levied on hides and skins, both raw and tanned. Tanneries should be exempted from the cess.

It would not be a bad idea to impose the cess for ten years, to begin with. If the funds be inadequate the cess may then be increased.

I suggest the imposition of a specific rate of so many annas per hide or skin. An *ad valorem* duty will give rise to trouble and its imposition will not be fair.

There should be a Cess Committee, consisting of Indians and Europeans, in each province. They should be chosen from members in the trade and the honorary workers. Their appointment should be for three years, renewable at the option of the Government. The Committee should be limited to fifteen members and should be a non-official body. The Secretary and clerks should be paid workers.

The members should be partly chosen by the Chambers of Commerce and partly nominated by the Government. The local Government should be represented by only one official, viz., its Director of Industries.

In the case of Native States these should be left to make their own arrangements for levy of a cess; but in case of hides and skins coming to British India, from any of them, the cess will have to be paid by the despatchers and collected by the railways concerned.

The Committee should certainly be given powers to co-opt experts and others interested in the trade or the industry. But not more than five such persons should be taken, for a limited period only, with no powers to vote.

The Committee will select their Chairman who will hold office for one year, but may be re-appointed by a majority of votes for one or more terms.

The Secretary will be a paid servant with no power to vote. He will look after his office and carry out the orders of the Committee. He should be, preferably, a member of the trade and paid an adequate salary. He should be whole-time officer and appointed by the Committee.

The Committee should not only see that the cess is being regularly collected, but should have sub-committees to look to the improvements in flaying and curing, encouragement of the tanning industry in various ways, etc.

The Committee should be administrative and its relation with the local Governments should be as that of the Tea Cess Committee.

It will not be a bad idea to have small sub-committees in towns with a population of 30,000 or more. They will be advisory and consultative bodies.

The Committee's headquarters should be located at the provincial capitals only, with sub-committees in towns with a population of 30,000 or more.

No special technologist is necessary at present; and technical advice when needed should be obtained from the technologists in Calcutta, Madras, etc.

Written Statement, dated the 9th November 1929, of
Messrs. RALLI BROTHERS, Calcutta.

I. We are shippers of hides. We have no interest in associated trades or industries.

II. Yes.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Diseases: Pox and itch. Pests: Warbles and ticks.

2. From the point of view of the export trade, it would be useful if the proceeds of the cess were used to keep up some research institutes where measures could be devised to fight diseases and pests. The trade, in conjunction with the veterinary department, could control the researches and would also control the expenditure on propaganda.

Methods used in other countries for combating pests could be investigated, and efforts should be made to find methods by which *beparis* could treat their hides to prevent them being destroyed by worms before the hides come to market.

Flaying.

3. Careless take-off, resulting in cuts, and leaving flesh on the hide as a result of which the hide is liable to rot.

4. If electric flaying machines are feasible, their introduction should be encouraged, and also the building of slaughter-houses should be encouraged wherever possible.

5—6. The appointment of flaying instructors and supervisors should produce good results, they would have to tour the villages and carry on propaganda to convince the people that a well-flayed hide is worth more money. The instructors should demonstrate the proper methods of flaying. Improvement in flaying is certainly possible by instruction and propaganda.

7—8. See answer to question 2.

A system of premium good for flaying might be introduced as it has been found successful in Europe, where competitions are held for good flaying. This might well be introduced in India, but the trouble in India is that it is the practice to sell the hide on the animal before it is slaughtered, so that the flayer has no particular interest to take care over his work. This might be overcome if the purchaser of the hide could be prevailed upon to give a bonus for good flaying.

Curing and preserving.

9. Only in so far as climatic conditions demand.

10. Some hides come down air-dried but without being properly treated by preservatives to protect them from being damaged by worms. Too much flesh and fat are frequently left on the hide, underneath which the hide is liable to rot. As regards salted hides, a considerable percentage is cured with table salt, which tends to decompose the fibre of the hide.

11. See answers to questions 5 and 6.

12. Yes.

13. This might be done through the agriculture department. The Geological Survey might be asked to report whether there are any further local resources of *khari* salt, which now apparently only comes from the North Bihar district. *Khari* salt is good for the treatment of hides, as it attracts very little moisture. Steps might be taken to prevent the adulteration of *khari* salt with mud.

Adulteration.

14. Yes, to a serious extent and affect both the export trade and tanning interest. The result is, from the point of view of the export trade that adulterated hides cannot be shipped but have to be washed and scraped during the course of which the hide suffers in fibre and grade.

15. Endeavours have been made to combat the practice, but so far with not much success. The matter is one that can only be dealt with by the trade.

Other defects.

16. Iron brands detract seriously from the value of the hides. Propaganda might be undertaken among the villagers to stop them over branding their cattle.

Goat marks also detract from the value of the hides.

17. The estimate can only be a very rough one.

Cattle hides. The annual production is 12/15,000,000 hides. If we take an average of 13,000,000, they may be divided as follows, 2,000,000 Agras, 6,000,000 Ordinary Arsenicated and 5,000,000 Dacca (salted) hides.

2,000,000 Agras. About 50 per cent. are damaged by warbles, ticks, brands, marks, etc., and the damage is about one-third of their value. Taking their value of Rs. 7 per piece, the damage from this source comes to about Rs. 23 lakhs per annum.

About 50 per cent. are damaged by bad faying, cuts, etc., and the damage is about 10 per cent. of their value, say, Rs. 7 lakhs per annum, or a total damage to Agras of Rs. 30 lakhs per annum.

6,000,000 Ordinary Arsenicated. The damage done by bad faying, on account of rot underneath the flesh, etc., affects 50 per cent., and the damage is 20 per cent. of their value. Taking their value of Rs. 3 per piece this amounts to about Rs. 18 lakhs.

About 15 per cent. are damaged by branding, and their value reduced by 25 per cent., this amounts to about Rs. 7½ lakhs.

Damage by worms affects 25 per cent., and the value reduced by about 20 per cent., this comes to about Rs. 9 lakhs per annum, or a total damage to Ordinary Arsenicated of Rs. 34½ lakhs per annum.

5,000,000 Daccas. Of these 1,000,000 are wet-salted and 4,000,000 dry-salted. Of the latter 70 per cent. are badly cured, loaded or adulterated. Their value is reduced by this about 10 per cent. Taking their value as Rs. 4 per piece, this comes to Rs. 11 lakhs.

Defects from lace cuts, butcher cuts, iron brands, etc., affect 30 per cent., their value being reduced by 20 per cent., which comes to Rs. 14 lakhs, the total damage to Daccas being about Rs. 25 lakhs per annum.

Goat skins. Taking the production as 30,000,000, 25 per cent. are affected by damage, and the depreciation is about 40 per cent. Taking their value as Rs. 1-8 per piece, the damage amounts to Rs. 45 lakhs.

Buffalo hides. The total production is about 1,500,000 per annum. Of these 30 per cent. are damaged, and the depreciation in value is about 20 per cent. Taking their value as Rs. 6 per piece, the total damage comes to Rs. 5½ lakhs.

The aggregate total damage to all the above is therefore approximately Rs. 140 lakhs per annum.

(b) Collection, marketing, export, etc.

18. Slaughtered animals—the hides pass through the hands of a *bepari* and *arhatdar* into the hands of shippers. The shippers treat them with arsenic in their godown, then grade them into assortments and weights after which they are pressed and baled for export. Dead animals' skins are removed by *chamars* who carry out first preparation either in air-drying or salting. The hides then pass through one or two middlemen till they come into the

arhatdars' hands to sell them to the shippers or tanners. The subsequent process is the same as for slaughtered animals except that salted hides are not treated with arsenic solution but where necessary are recured (superfluous salt and dirt are removed before shipment).

19. Apparently no.

20. We are doubtful if it is feasible.

21. Air-dried hides are frequently damaged by worms owing to delay on the railway.

22. For hides for export all sales are made on recognised grades and weights on which all buyers abroad buy. For hides sales to tanners in India as far as we know there is no system of grading in the Indian bazaars.

23. Standardisation and grading for export is in existence among shippers. For sales to tanners there is no standardisation.

IV. TANNING AND ALLIED INDUSTRIES.

24 to 33. These questions do not concern us.

V. ADVERTISEMENT.

34. Yes.

35. We are of the opinion that if the object referred to in our answers to the earlier questions can be attained the country will benefit considerably.

VI. COST OF SCHEMES PROPOSED.

36—38. To our minds the first question for decision is the amount of cess to be levied and after that a decision should be made as to the purpose for which the funds will be expended, this depending on the amount available. We understand this was the principle adopted in the case of the tea cess.

39. The cess should be applied to all branches of the trade which will benefit by the expenditure of the cess funds, the cess should only be levied on goods that are exported raw, partly tanned, and full tanned.

40. We think the cess should be levied per bale, as the size and weight of the bales are restricted by shippers' contracts and the steamship companies' agents, therefore the variation in size and weight per bale is not very important. We suggest a rate of Rs. 5 per bale, the imposition of such a cess would not appreciably affect India's position in the world's markets.

41. In the first instance the cess should be levied for a period of 5 years in order to see during that period how it works.

42. See answer to question 40.

To levy a cess per bale will be far simpler than *ad valorem*.

VII. CESS COMMITTEE.

43. Yes.

It should consist of representatives of the industry, veterinary department and local Governments.

44. Representation should be in proportion to contribution. Nomination should be by the Governor General in Council on the recommendations of the interests concerned.

45. All by statute.

46. Yes.

Nomination should be left to local Governments.

47. We are not in a position to give an opinion.

48. No.

49. Yes, according to requirements.

50. Yes, Chairman and Member-Secretary. Terms would depend on final constitution and funds available. Secretary should be appointed by the Government.

51. To administer and make best possible use of the funds.

52. Funds to be collected through the Customs. The office should be attached to some government department.

53. Yes, functions according to circumstances.

54. Advice should be obtained from existing sources.

55. The headquarters should be in Calcutta and branches might be established at Karachi, Madras and Cawnpore.

**Written Statement, dated the 11th November 1929, of
Messrs. MOUSELL & CO., LD., Calcutta.**

I. We are long standing shippers of hides and skins.

II. Yes.

III. 1. Diseases: Pox and itch. Pests: Warbles and ticks.

2. Research and practical application of its results in combination with the methods that have been tested and found satisfactory in other countries.

3. Careless take-off either through inability or through indifference which results in the hides being cut and flesh and fat being left on them underneath which very often rot develops.

4. Proper instructions as to flaying and the use of adequate instruments as in use in Europe, as for instance, safety flaying knives and electrically driven flaying machines.

5—6. Yes. We consider that the village flayers could be taught to produce a better take-off by instructors, who would have to travel about the country. Further, efficient propaganda would be of considerable benefit. As bad flay is due to improper take-off occasioned by either indifference or inability, it only requires proper teaching to remedy the latter and sufficient propaganda as to the material benefit accruing from proper take-off to combat the former.

7—8. Reward should be given to the slaughter-house flayers for good flay and occasional competitions should be held, as in Europe, for these have shown very good results.

9. The system of curing and preserving in India differs only as regards climatic conditions are concerned, as for instance, during the rains air-drying can hardly take place and hides which otherwise would come into the market air-dried are being dry-salted or wet-salted during the rains.

10. Air-dried hides are affected by worms before they are offered for sale, as they are not preserved properly against these, and dry-salted hides are very often either cured with table salt or with salt mixed with mud, in which cases the hide is not properly preserved and is liable to serious deterioration.

11. Propaganda and instructions.

12. Yes.

13. The Agriculture Department.

14. Adulteration or loading is a frequent custom in this country, and is of considerable damage to the export trade as well as to the tanners. Adulterated and loaded hides have to be re-cured during which process the hide suffers to a serious extent.

15. Unless adulteration of hides is made a punishable crime, which we do not think can be done, there is no remedy excepting such measures as the trade itself can take.

16. Iron brands, yoke marks, and goad marks. These defects could be eliminated in time by steady and continuous propaganda.

17. It is very nearly impossible to answer this question accurately, and only a rough estimate can be given. We consider that the country produces about 2 millions framed air-dried cow hides yearly, of which about 50 per cent. show damage by warbles, ticks, iron brands, yoke and goad marks. The damage done we take at about 33½ per cent., and as framed cow hides can be valued at present at not more than about Rs. 6 a piece, the damage would amount to Rs. 20,00,000. Besides that, about half of all framed air-dried cow hides are damaged by bad flay to the extent of about 10 per cent. of the value which amounts to a further Rs. 6,00,000.

Of about 6 millions ordinary air-dried cow hides, we consider 50 per cent. to be damaged by bad flay to the extent of 20 per cent. The value of ordinary air-dried cow hides at Rs. 3, the damage would amount to Rs. 18,00,000. Besides about 15 per cent. are damaged by iron brands to

the extent of about 25 per cent., damage Rs. 7,50,000. Damage by worms on account of improper preservation before the hides come to market, 25 per cent. to the extent of 20 per cent., equal to Rs. 9,00,000 loss in value.

Of the 5 million salted hides, about 4 millions are dry-salted and 1 million wet-salted. Of the 4 millions dry-salted, about 70 per cent. are badly cured or adulterated and the damage done to these hides amounts to about 10 per cent., equal to a loss of Rs. 14,00,000. The total of 5 millions of salted cow hides is damaged by butcher cuts iron brands, etc., to the extent of 30 per cent. which reduces the value of these hides by about 20 per cent. so that the loss here comes to about Rs. 12,00,000.

Goat skins: We estimate the produce with about 30 millions of which about one-fourth are affected by warbles, ticks, etc., and the depreciation in value we place at 40 per cent. Taking the average price of goat skins at Rs. 1-8, the damage to the whole produce would come to about Rs. 45,00,000.

Buffalo hides: About 1½ millions are produced per year of which about 30 per cent. are damaged by warbles, bad flay, yoke marks, goad marks, or bad or adulterated curing. The loss in value of these we place at 20 per cent. and taking the price of buffalo hides all round at Rs. 6 each, the total damage in these circumstances would be about Rs. 5,50,000.

The whole amount of the damage done by defects to all cow hides and buffalo hides and goat skins would amount to very nearly Rs. 1,40,00,000 per year.

18. The hides go through three or four hands, as collectors, *bejaris*, *arhatdars*, etc., before they come into the hands of the shippers.

19. We do not think so.

20. We hardly consider this feasible.

21. No, unless the speedier the hides come into the selling markets the less chance is there for them to deteriorate in transit. Consequently, delay in railway transport should be avoided.

22. As regards hides for export, an elaborate system exists and has been laid down in a printed pamphlet issued by a Hamburg Dealers Association. This system of grading is accepted and forms the basis of arbitration for contracts in practically all countries which buy raw Indian hides.

As regards hides for sale to tanners in India, there is no system of grading in the Indian bazaars.

23. A system of standardisation and grading for export is in existence among shippers. For sale to tanners, there is no standardisation whatever.

IV. 24—33. We do not propose to deal with this part of the questionnaire, as we are not concerned with the tanning and allied industries.

V. 34. Yes.

35. We are of opinion that, if the objects referred to in the answers to the earlier questions can be attained by the expenditure of the cess funds, the country will benefit considerably.

VI. 36—38. We find it impossible to enter into the details that specific replies to these questions would necessitate, and it appears to us that the first question for decision is the amount of the cess to be levied, and that thereafter a decision should be made as to the purposes for which the funds will be expended, this depending on the amount available. We understand that this was the principle adopted in the case of the tea cess. That is to say, a rate of cess was decided upon, the expenditure of the Tea Cess Committee in the way of propaganda being based on the amount available; as we understand the position the principle has not been to determine the rate of the cess according to the objects upon which the amount obtained from the cess is to be expended.

39. The principle to be followed should be the application of the cess to all branches of the trade that would benefit by the expenditure of the cess funds. But it should be levied only on goods that are exported, whether raw, partly-tanned, or full tanned.

40. Considering that the size and the weight of the bales are restricted by shippers' contracts and by shipping companies' documents, and that the variation in the size and the weight of the bales is not very important, it is proposed that the cess should be levied at a rate of, say, Rs. 5 per bale. The imposition of such a cess would not appreciably affect India's position in the world's markets.

41. In the first place, the cess should be levied for a period of five years.

42. We beg to refer you to question 40. The proposal to levy the cess at a bale rate is made because its adoption would simplify the levy of the cess and avoid a great deal of trouble and work in connection with Customs control and consequent delay in shipment.

VII. 43. Yes. The Committee should consist of representatives of the industry, the veterinary department and local Governments.

44. Representation should be in proportion to contribution. Nomination should be by the Governor General in Council on the recommendation of the interests concerned.

45. All by statute.

46. Yes. Nomination to be left to local Governments.

47. No opinion.

48. No.

49. Yes, according to requirements.

50. Yes. Chairman and Member-Secretary. Terms depend upon final constitution and funds available. Secretary should be appointed by Government.

51. Administer the funds and make best possible use in accordance to requirements and experience.

52. Funds to be collected through Customs. Office attached to some government department.

53. Yes, functions according to circumstances.

54. Technological advice to be obtained from existing sources.

55. The headquarters should be at Calcutta; branches might be established at Karachi, Madras and Cawnpore.

**Written Statement, dated the 11th November 1929, of
HAJI MOHAMED DIN, Calcutta.**

I. I am a hide and skin dealer, also a member of the Hide and Skin Traders' Association. And also I have connection with the Calcutta Hides and Skins Shippers Association.

II. Yes.

III. 1. Diseases: Pox and itch. Pests: Warbles and ticks.

2. So far the devices for the removal of such defects are concerned, they must necessarily be carried out. And this can be done by financing the research institutes where measures could be taken to combat diseases and pests.

Secondly, the methods of combating warble and tick pests, as used in other countries, should be tested and similarly it should also be endeavoured to make the *beparis* understand the methods with which they may save the hides from being destroyed by worms.

3. Carelessness in flaying, i.e., leaving flesh on the hide and taking no possible care in cutting it, the hide is liable to rot.

4. An electric flaying machine has been introduced in many slaughter-houses on the Continent. Though the price of it may be high yet propaganda may succeed in encouraging the use of such machines. And also the slaughter-houses should be encouraged to use it wherever possible.

5-6. Yes. The appointment of the flaying instructors may bring about good results and these should tour the villages in order that they may convince them of the benefits of flaying properly.

7-8. A system of reward by the purchaser of hides to the flayer will produce a healthy effect in good flaying, for here in India it is a practice that hides are sold even before the animals are slaughtered. Consequently, the flayer who has already sold his hides has no good interest in flaying, therefore, if a gratification be given to them for good care in flaying, it will allay the loss. A system of competition of prize for good flaying should be introduced, which in my mind will do good towards it, as it has done in Europe.

10. Hides come to dealers air-dried without proper preservation against worm-eating. Further, the flayer leaves too much flesh and fat over it, which destroys the hide by rotting. The decomposition of the fibre of salted hides are to a considerable percentage due to being preserved by table salt, which does not preserve the hide properly.

11. The appointment of instructors and supervisors to demonstrate and instruct in villages will be beneficial, and a propaganda be carried on that if the hide is flayed well they would get money. This can be done by alluring with fine hopes to the local *chamar*.

12. Yes.

13. This can be done by the aid of government agricultural department and by any new discovery of *khari* salt, if helped by Geological Survey, for it is the only preserving element of hides, which always rejects moisture, the most fatal to it. But unfortunately *khari* is reported in Northern Bihar only which is insufficient.

14. On account of serious adulteration, hides cannot be shipped before washing and scraping, during which course it undergoes damage as regards grading and fibre severing.

15. Endeavours made have not proved any lasting result so far.

16. Iron brand seriously injures the quality. It has been observed that in many cases, a hide of the 5th class would rise to a 1st class simply for it bears the iron brand. Propaganda might be undertaken with a view to teaching villagers the damages caused by over-branding.

17. Only very rough estimate is possible but even this too is difficult for me to work out.

18. Passing through the hands of *bepari* and *arhatdar*, the hides finally come to shipper, where it receives grading assortment and after being weighed and baled up is pressed for export.

Hides are removed by *chamars*, who carry out first preparation either by salting or air-drying. After that it passes through two or three middlemen, who finally put it with *arhatdar*, either to be tanned, shipped or sold; in this subsequent detailed way is the later process completed. In some places the hides are to be cleaned off its superfluous salt or dirt before their final removal.

19. Seemingly no.

21. In railway transport, air-dried hides are frequently damaged when delayed.

22. In the bazaars, as regards hides for sale to tanners in India, there is no system of grading.

V. 34. Yes.

35. In my opinion, if the cess funds be expended in the above mentioned things the country will be considerably benefited.

VI. 39. The cess should be levied upon all branches of the trade that would be benefited by its fund. But it should be levied on goods that are exported whether raw, partly tanned, or full tanned.

41. Experimentally it should be levied for not more than six years.

VII. 44. Representation should be proportionately and the nomination should be on the recommendation of the interests concerned.

45. Uniformly.

46. Yes. Nomination of their representatives should be left to them.

47. Cannot give any definite opinion.

48. Not agreeable.

49. Yes, as needs require.

50. Chairman and Member-Secretary be appointed, terms depending upon subsequent constitution and funds available.

**Written Statement, dated the 18th November 1929, of the
Indian Lac Association for Research, Calcutta.**

I am to say, in the first place, that the Committee do not propose to attempt to frame answers to questions 43 to 55 of the questionnaire, in the subject matter of which they have no specialised knowledge and are not directly concerned. They trust that it will meet the purposes of the reference if they describe, as requested, the personnel of the Association, its relations with the Central and local Governments, the working of the cess from which it derives its income, and the manner in which that income is expended.

2. The Indian Lac Association for Research was constituted under Act XIV of 1921. The object of the Act, a copy of which is attached, was to provide for the creation of a fund to be expended for the promotion and the improvement of methods of cultivation and manufacture of lac in India; and the means of creating the fund was the levy of a cess on all lac and refuse lac produced in India and exported from any Customs port to any port beyond the limits of British India or to Aden, at the rate of 4 annas per maund in the case of lac and 2 annas per maund in the case of refuse lac. The cess came into operation with effect from 1st January 1922 and it continued, in the first place, until 31st December 1926, when it was renewed at the request of the Association for the quinquennial period ending 31st December 1931. As a grant with which to commence its research work the Association received the unexpended balance, amounting to some Rs. 43,000, of the Munitions Shellac Purchase Scheme. The cess collections for the official years 1922-23 to 1928-29 are shown in the following table:—

	Rs.	A.	P.
1922-23	1,46,169	4	8
1923-24	1,71,049	1	0
1924-25	1,33,645	8	0
1925-26	1,75,836	7	2
1926-27	1,88,874	4	10
1927-28	1,78,586	0	9
1928-29	2,23,386	15	0

The cess is collected by the Customs Department and the proceeds are made over by the department to the Association.

3. The constitution and objects of the Association are defined in its rules, an up-to-date copy of which is attached; and as an indication of the type of work undertaken at the Association's Research Institute, which is situated at Nankum, near Ranchi, I enclose a copy of the report for the year 1928-29.

4. The Committee are asked in your memorandum of 25th October to give information in regard to the Association's relations with the Government of India and with the local Governments. So far as the latter are concerned, the relations mainly concern correspondence in regard to the cultivation of lac on scientific lines, to the improvement of existing methods of cultivation and manufacture, co-operation with the forest departments, and other connected questions. The local Governments interested in the work of the Association are the Government of Bihar and Orissa principally, the Governments of the United and Central Provinces and, to a less extent, the Government of Assam. The Director of the Research Institute has, at intervals throughout the history of the Association, paid visits to each of these provinces and is at all times in close touch with the respective forest departments. As regards the Central Government, relations until recently have been confined for the most part of the administration of the cess funds—a matter in which the Committee are responsible to Government in terms of the rules prescribed under clause (b) of sub-section 6 of the Lac Cess Act.

You will observe from the attached copy of these rules, that the Committee are required not only to maintain the accounts of the Association in a certain specified form, but also to submit audited copies of these accounts yearly for the information of Government, who publish abstracts of the statements of receipts and expenditure annually in the *Gazette of India*. During recent months the Committee have been in close touch with the Government of India in regard to the future control of the lac cess funds and of the Research Institute, and negotiations for the transfer of control to a Statutory Committee with its headquarters in Ranchi are at present in progress, on the lines described in the accompanying copy of the proceedings of a special meeting of the Committee held on October 14th, last.

5. The Committee trust that the information given above will be of help to the Hides Cess Enquiry Committee.

**Written Statement, dated November 1929, of
Messrs. MOHAMAD AMIN BROS.,
Calcutta.**

- I. We have been exporters of raw cow and buffalo hides since 1919.
- II. Yes, could be spent profitably for the industry as a whole.
- III. 1. Pox, itch, warbles and ticks.
2. Research work to combat these pests and diseases.
3. In many cases the take-off is careless resulting in numerous knife-cuts and leaving flesh and fat on the hide which may cause deterioration of the hide.
4. Instruction and supervision of the flayers by slaughter-house officials.
5. Not at present, first the improvement should be made in slaughter-houses.
6. Knives do not make much difference, only proper care must be taken.
7. Yes, through competent supervisors and admitting only men as flayers, who have sufficient ability.
8. As the bonus system has been found successful in many countries it may be introduced in India also. Flaying competitions should be held regularly between slaughter-house flayers and also between flayers and *chamars* of villages.
9. Not materially.
10. If flesh is left on air-dried hides and if hides are carelessly stored during the hot and rainy season, damage is liable to occur by worms. If hides are cured with table salt, they must be quickly tanned in India. If such hides are treated afterwards with *khari* salt and stored for some time, they are liable to get heated and nearly valueless.
11. Propaganda and instruction.
12. Researches may be carried out occasionally by a competent institute.
13. A supply of curing material to villages is not considered necessary as single hides from these places are mostly sent to the next town for curing.
14. A great many hides are loaded with salt, mud and blood in a serious form. Hides loaded with salt and mud are liable to get heated quickly and will often produce leather of inferior quality.
15. The trade should find a way to stop this practice.
16. Hides are often branded and thereby lose in value. Cattle owners should be instructed to abstain from branding as diseases are not cured thereby and causes only pain. Branded hides of dead cattle must be taken off and cured quickly as otherwise they will rot. Goad marks should be prevented too, as these as well as branding are acts of cruelty to animals.
17. Damage caused by men as brands, goad marks, bad cure, bad flaying, cuts and deterioration by long storage up-country amounts to about 15 to 20 per cent. of the total value.
A small part of hides produced in India originates from killed cattle, the bulk is coming from cattle which died from diseases and starvation.
18. Most hides after having been taken off pass through one or more middlemen before they reach an export firm or local tannery.
19. No suggestions.
20. Not feasible.
21. As hides pay in comparison to other raw materials a high railway freight, wagons with hides should be specially marked and forwarded quickly.
22. (b) Grading of raw hides is done by shippers according to established standards.
23. No.

V. 34. We consider of no use.

VI. 36—37. We estimate the cost of one research institute, expenses for flaying inspectors and flaying competitions at about 2 lakhs of rupees.

38. If good results are obtained, further expansion may be considered.

39. On all exported goods, raw and tanned.

40. Rs. 3 to Rs. 5 per bale.

41. 5 years.

42. A specific rate would be preferable as it would take the least trouble in assessing the cess.

VII. 43. Yes. The Committee should consist of representatives of local Governments and the industry.

44. Representation should be in proportion to contribution.

46. Nomination to be left to the Government.

55. Headquarters in Calcutta.

**Written Statement, dated the 19th November 1929, of
Mr. D. C. GUPTA, Director of Industries,
Bihar and Orissa, Patna.**

I would state at once that I have no first-hand experience of the tanning industry. Whatever knowledge I have gained of the economics of this industry has been learned from discussion with practical tanners I have met from time to time or literature on the subject I have read. I propose, therefore, not to attempt to answer all the questions in the questionnaire but only touch briefly on the salient points in this enquiry.

This province is a very large exporter of hides and skins. I have no recent figures to give but from the rail and river borne trade returns of this province for five years ending 1921-22 it will be seen that the annual average value of the trade amounted to Rs. 1.33 crores.

From time to time attempts had been made in this province to establish the tanning industry on the European lines. The first pioneer venture was the Utkal Tannery at Cuttack established by Mr. M. S. Das, C.I.E. It is understood that this enterprise established a very high reputation for the quality of its products. It, however, failed to follow up its initial success and became moribund. It has now been purchased by some public-spirited gentlemen of Cuttack who are making a splendid effort to work it for the manufacture of crust or half-tanned leather at my suggestion. In the post-war period a very large tannery was established at Motihari in the Champaran district which, however, closed down after some years of work. A small tannery at Bhagalpur also met with a similar fate.

Quality of hides and skins.—Authoritative opinions are in general agreement as regards the poor quality of Indian dead hides and skins arising out of careless flaying, curing, and preserving. It is also agreed that adulteration or loading is extremely common in the trade. As the Committee will have no doubt access to the views of those who are more competent to speak on the subject, I refrain from going into the details thereof here.

As regards remedies for these evils the main task is to educate the village *chamars* and those engaged in the collection of hides and skins. This education is better given in the form of ocular demonstration in view of the illiteracy and generally conservative character of those classes of the people. I think peripatetic demonstration parties composed of trained men and mistries are the only suitable means for the purpose. Peripatetic demonstration has done so well in other rural industries in India, as for example, in the hand-loom weaving, that I am confident that it will meet ultimately with great success in tanning also. Its effect may not be immediate but as time goes on it will begin to tell. I submit herewith a modest scheme which has already received the administrative approval of the local Government and is now awaiting the allotment of funds to give effect to. A portion of the proposed cess fund may well be spent in financing such measures throughout India.

Collection, marketing, export, etc.—The establishment of carefully worked-out standards of classification and grading would be a step in the right direction to check adulteration and loading, maintain high reputation for Indian hides and skins in the international market, and obtain a better average price for same. I understand that careful classification was the secret of success of the German exporting firms in India just prior to the War. It has been stated that these firms employed highly qualified hide experts to grade all hides purchased by them with the result that the average class of hide in each bale was much higher than is otherwise. They also studied the requirements of the Continental tanners and constantly aimed at supplying them exactly what they wanted. It is also stated that even low class hides which the other exporting firms thought valueless were turned to profitable accounts as a result of the pains taken by the Germans in classification. If this information is correct, I think one of the main

objectives to which the cess should apply would be to study the exact requirements of the international markets to which Indian hides and skins are exported and to concert measures for the introduction of classification and standards in this country similar to what are said to have been done by the Germans prior to the War to enormous profit to themselves. Similar classification and grading may well be extended also to tanned hides and skins, curing material, tanstuffs. I am unable to give a complete scheme as desired by the Committee but I believe it should not be difficult to obtain the services of experts for drawing up standardised specifications, as for instance, has been done for engineering materials and stores. The question of establishing the practice of purchase by measurement instead of by weight might also be considered in due course.

I understand that the railways now carry raw hides and skins at very low rates. The extension of similar low rates to the transport, particularly, of half-tanned hides and skins and tanstuffs would be extremely beneficial to the growth of the indigenous tanning industry. I hold the view that for the present and for a long time to come India's best prospects for the development of the tanning industry lie in the manufacture of half-tanned leather rather than chrome tanning.

I have no information if co-operative marketing by the producers has been tried anywhere. I believe, however, co-operative marketing, if it could be organised successfully, would ensure better profit to the ultimate producers by eliminating the many middlemen through whose hands the trade passes before Indian hides and skins reach the tanneries of the West. In this connection, I have it on the authority of a British tanner of some standing and reputation that the present method of exporting hides and skins through the exporting houses is hardly conducive of profit to the collector and dealer in hides and skins. This gentleman told me that a movement had already originated in England for groups of tanners to combine and make purchases of their requirements direct from producers in this country. If this succeeds, I see no reason why co-operative marketing directly in the international market should not follow in due course of time with considerable benefit to the people who are directly engaged in flaying, curing, and collecting hides.

Tanning and allied industries.—I think there could be no difference of opinion on the point that the whole of the cess fund should be devoted to encouraging measures which will conduce to the ultimate development of a healthy and vigorous indigenous tanning industry. If Western science and technology can convert Indian hides and skins, with all their defects and flaws, into useful articles of commerce there seems no plausible reason why India herself should not be able to export finished leather to the West. It is only a question of education, organisation and training. But as these cannot be had in a day, the cess fund may well be spent for creating a central organisation to foster such measures as will enable India to obtain her rightful share of the finished leather trade of the world.

From the success which some of the provinces, particularly Madras, have achieved already in the half-tanned industry I am inclined to think that for a long time to come India should devote herself to greatly extending this line of manufacture. The excellent quality and the large variety of barks, fruits, and leaves rich in tannin which the Indian forests abound in should be made available to the bark tanners of this country as economically as possible. For this organisation is necessary and of course the co-operation of the forest departments and the railways. For instance, the tanstuffs available in Bihar and Orissa are *babul*, *myrobalan*, and *asan* bark. The Conservator of Forests, however, reports that these tanstuffs are very little used in the province. It would, therefore, be seen that proper organisation is necessary to exploit the resources in tanstuffs in the various provinces and render them available to the half-tan industry.

The main question then is what should be done with the proposed fund for the benefit of the existing trade and tanning industry and encouragement of its growth on Western lines? My suggestion is that the amount of cess realised should be spent for the following purposes:—

(1) Improvement of the quality of hides and skins by the application of scientific animal husbandry, and better flaying, curing, and preserving of dead hides.

(2) Propaganda for better classification and honest trade practices. If necessary, export of adulterated or loaded hides may be prohibited by law. I would even suggest provision of government inspection of all hides exported. It is only by such stringent control that the quality of Indian hides and skins could be raised and a reputation for quality and reliability could be built up in the foreign markets. It may cause a temporary set-back to the trade but the ultimate effect will be highly beneficial.

(3) Encouragement of half-tanning by bounties, subsidies, direct co-operative marketing facilities, by providing organisation for the cheap supply of tanstuff, technical advice and guidance.

(4) Providing facilities for training tanners, tannery foremen and leather chemists. I would establish a school for training in half-tanning in each province and induce educated youths to come up for training by offering high rate of scholarships and stipends and promise of financial help in establishing themselves in business on a modest scale should they show proficiency in their work. These men will be able ultimately to organise the industry in small townships and other suitable localities and exert a wholesome influence on the village *chamars* and their methods of flaying, curing, and preserving. As for training in the manipulative arts of tanning on Western lines, this can only be done in large tanneries working on Western methods. It should be the aim of the cess fund to establish trade schools for apprentice training on approved lines in such tanneries. In this connection, I place below a copy of a letter from Mr. F. H. Briggs of Leicester which, I am sure, will be of interest to the Committee. It will be seen from this how difficult it is for any school or institution without proper facilities for factory training to turn out satisfactory practical tanners or tannery foremen. As for training leather chemists, I do not think there should be any difficulty in view of the improvement and expansion of teaching in science which have taken place already in the various Indian universities. Besides, the Bengal Tanning Institute is well equipped for the purpose and should serve admirably for the purpose of turning out leather chemists of a very high order under the able direction of its Superintendent, Mr. Das.

(5) Technological research.—It is an accepted principle in modern days that no industry can survive long or make any progress without scientific research. That there are very wide scope and opportunities for chemical research in the tanning industry is admitted on all hands. From the raw materials to the finished products there would seem to be an endless procession of chemical reactions involved in tanning each of which should offer some scope for investigation and research. A portion of the cess fund may well be spent in stimulating such researches and in the study of special difficulties and problems of the Indian tanning industry.

It is obvious, of course, that no single institution can possibly undertake to carry out the numerous researches that will be necessary. The aim, therefore, would be not to attempt to do too much in one central institution but rather to divide up the work amongst the many existing institutions in the country. If suitable grants are given to these institutions I think they would be only too glad to undertake such researches. The essence of modern industrial research is to attack the problems in hand from many directions and to co-ordinate the labours of the workers in the field. For this Advisory Councils composed of experts and scientists and representatives of the trade or industry concerned are the best means of effecting the desired goal.

(6) Collection and dissemination of business statistics, commercial intelligence, technical information, market researches and advertisement and such cognate matters should also receive due attention and emphasis from the cess fund.

Cess Committee.—I am not in favour of any cess on tanned hides. Nothing should be done to discourage manufacture. The cess should, therefore, be levied entirely on raw hides and skins.

As for the organisation for the administration of the cess, I am of the opinion that it should be vested in a Leather Bureau. The bureau will have a Director and expert staff and placed under the control of a National Control Board. There are so many conflicting interests in the leather industry and hide trade in India that it will be fatal to hand over the cess to an entirely unofficial organisation that can be thought of. I submit here with an outline of the organisation and functions of the proposed bureau which, I think, will best serve the purpose. I do not claim that it is exhaustive in detail but I think it may well serve the purpose of stimulating discussion and provoke thoughts.

Statement of cost of tanning demonstration party for a year.

	Rs.	A.	P.
1. Staff—			
Demonstrator at Rs. 100 per month	1,200	0	0
Fixed travelling allowance of Demonstrator at Rs. 30 per month	360	0	0
Railway fare by single inter class	180	0	0
Mistry at Rs. 25 per month	300	0	0
Fixed travelling allowance at Rs. 5 per month	60	0	0
Railway fare by single third class	100	0	0
	2,200	0	0
2. Equipment—			
5 tubs	25	0	0
1 beam	10	0	0
1 shaving beam	14	0	0
1 hand shaker	13	0	0
2 buckets	4	0	0
3 bowls	3	0	0
1 fleshing knife	3	8	0
1 unhairing knife	2	8	0
1 shaving knife	5	0	0
6 sharpeners	0	8	0
1 brass slicker	1	8	0
1 iron slicker	0	8	0
1 glass slicker	3	8	0
1 stone slicker	5	0	0
2 measuring glasses	5	0	0
1 stove	8	0	0
1 lantern	3	8	0
1 deg	6	0	0
1 hand churner	0	8	0
	114	0	0
Carried over	2,314	0	0

	Rs. A. P.
Brought forward	2,314 0 0
	Rs. A. P.
3. Cost of 16 demonstrations—	
Cost of a demonstration.	
3 to 7 sheep skins and 1 buffalo	11 8 0
Bark—3 maunds	9 12 0
Lime—30 seers	0 12 0
Wheat bran—5 seers	0 10 0
Oropon—3 oz.	0 4 0
Tin oil	0 2 0
Fat liquor	0 4 0
Dye	0 4 0
Sodium sulphide	0 4 0
Contingency including freight of equipment, etc.	18 4 0
	42 0 0
Cost of 13 demonstrations	672 0 0
4. Stationery	10 0 0
	Total cost 2,996 0 0
Receipts from goods produced at each demonstration	19 0 0
Total receipts for demonstration	304 0 0
	Net annual cost 2,692 0 0
	or say Rs. 2,700-0-0.

Copy of a letter, dated the 29th February 1928, from Mr. F. H. Briggs of Messrs. T. N. and F. H. Briggs, Tanners, Ltd., Leather Manufacturers, Exporters and Importers, Victoria Tannery, Waring Street, Leicester, England, to Mr. D. C. Gupta, Director of Industries, Bihar and Orissa, Patna, India.

I beg to acknowledge receipt of your kind favour, dated February 6th, regarding the sending of a student for education purposes to England.

It has been my pleasure to have had rather a lot to do with the Indian students, because I was on the Management Committee of the Leathersellers College in London for 7 or 8 years, and only resigned 3 years ago, because I had too many duties, and therefore, resigned. Yet, I am not altogether severed, because only last October they particularly asked me to serve on a special Committee for the reorganisation of the College.

By the same rule, I am, by birth, a Leeds man, and in my younger days, spent a considerable time at the Leeds University with which I still keep in active touch, having had, only this morning, a letter from the Principal.

By this, you will see that I am interested in your letter.

You ask if we can accommodate a scholar for a short course of practical training, say, for 2 years. You also use the phrase "the training of a tanning scholar".

Before I can practically answer your question, it is necessary for me to know what is the objective of the student. To put it in another way, what is his ultimate aim, because there are so many sides to the leather trade, as an industry, viz., (1) vegetable sole leather, which is an industry of its own. (2) chrome sole leather, (3) vegetable sheep, goat and hide tanning in the crust. (We call all the goods that come from India tanned in the crust.) We then come to the dressing side of the business where we have:

- (1) Harness and bag leathers.
- (2) Accoutrement leathers (all the leathers required for Government Stores, for Army and Civilian purposes).
- (3) Shoe leathers. (Here again, this can be divided into two classes, namely—
 - (a) the high class, and
 - (b) the medium classes,

but the whole is too large for any one man to interest himself in, therefore, he wants to decide whether it is A or B class. Further to this, there is the chrome upper leathers for the shoe trade, which is distinct and different to the vegetable leathers for the shoe trade, and there are places here in England which do nothing but vegetable leathers, and there are other factories which do nothing but chrome leathers, and it is very unusual for a student to take up the two.)

- (4) The bag and fancy goods trade, that is, all classes of goat, sheep and hide leathers which are used for the fancy trade. (Fancy bags of every description from lizards and crocodiles, and all such classes down to the sheep, goat, calf and hides.)

My observations when in India, and also in dealing with these students in England, is that they come here, and they want to learn the leather trade, without any conception as to which section of the leather trade, with the result that they generalise, and as a natural consequence, gain a knowledge of many sections, but are master of none.

Several tanners in India, very intelligent men, mentioned this matter to me, and asked me why the students, when they came to England, considering that England could turn out such beautiful leathers, when they returned to India, knew so little. I gave the same answer, that it was because they did not specialise in one particular department.

You mention that you generally send, every year, 3 youths from your province to England. Now, supposing you were sending those 3 youths to learn the leather trade in England, and asked me what I advised in connection with those students, I should say: "Ask which one prefers to go in purely for chrome tanning, as associated with the upper leathers". He would then learn to tan goats and sheep, calf and hides for chrome purposes. To do this, he would require a full 3 years course, which he could take up at either the London College or the Leeds University, according to his liking, it being understood, and this I should put forward as a very important point, that the whole of the time between the various sessions, when the college is closed, with the exception of two weeks holiday, is spent in some factory, doing the practical work, even if he has to pay some factory a normal sum to take him. By this, he learns in a small manner how the knowledge that he is obtaining can be applied, that is, he learns the methods in the college, and sees the practical part of the tannery during the vacations.

If assuming the student wanted to know how to dress leathers, such as they are tanning in India to the best advantage, he would have to go into what is termed a curriers and leather dressers establishment, where all those leathers are handled, and that ought to be for a period of 3 years.

By the same rule, if he is going for harness leathers, or some leathers, the same remarks apply.

Whilst I notice that you mention 2 years only, I may say that taking our own case, when we take what we term apprentices, we take fellows after leaving the High Schools or Colleges, at not more than 17, under which circumstances, we never take them for less than 4 years, and we always suggest 5 years apprenticeship. At the end of 5 years, we always advise them to have a further 4 or 5 years agreement with us, because, to turn out a thoroughly efficient man, it requires 8 to 10 years at the end of which time he, as you may assume, understands his work.

I have enlarged on this more than I should do in the ordinary sense, but I know that you are very practical and very intelligent, and I felt that you would like me to put the position before you, illustrating all its aspects.

You can depend upon me doing all possible to help you, but first I particularly advise that you should get to know what the student wants to become, after which I would make the necessary enquiries, or possibly take him ourselves, so that the most was made of the opportunity in both the interests of the student, and the interests of the Indian industries.

Written Statement, dated the 5th November 1929, of
Mr. R. D. RICHMOND, I.F.S., Chief Conservator of
Forests, Madras.

IV. 24. (c) The well-known tanstuffs of this presidency which are extensively used in tanning are the barks of *cassia auriculata* and *cassia fistula*, also the fruits of *terminalia chebula*. In the last 2 years some demand has arisen for the bark of *hopea parviflora*.

Cassia auriculata grows gregariously in open plains and in scrub forests. It reproduces itself by seed and coppices freely. It grows readily on dry shallow soils, gravelly or black cotton. Once it is established crops can be harvested for many years. It is a valuable tanstuff and its growth could, in some places, with advantage be improved to a small extent by supplemental sowings and some tending in suitable areas. It is difficult to suggest how the proceeds of a cess could be applied in this matter; the work would be in the hands of small private parties and forest *panchayats*.

Something too might be spent on research to determine the best rotation for cutting the tannin contents at different ages and so on.

The Forest Department is doing some work of this class at present.

It is unlikely, however, that it is worth while spending much on *avarams*.

Myrobalans, fruits of *terminalia chebula*, from different districts vary widely in quality. Salem and Vellore myrobalans are of the best quality while the Kurnool nuts are considered useless. Again almost the whole quantity collected in the Northern Circars is exported out while that produced in the southern districts is wholly absorbed in this presidency. The question of drying, grading and storing myrobalans before the nuts come on to the market needs investigation and on this money might usefully be spent.

Wattle bark.—Imports of wattle bark into Madras have considerably increased in recent years. Its use in the Madras tanneries has expanded at a very rapid rate.

Black wattle (*acacia decurrens*) and silver wattle (*acacia dealbata*) are acclimatised in this presidency. They are now chiefly grown on the Nilgiris and the Palnis. The South Indian wattles compare favourably in tannin content with similar varieties grown in Natal.

As an industry, the growing of wattle is still in an experimental stage. Further effort might be provoked by the grant of a bonus—from the proceeds of a cess—for every acre brought under this form of cultivation within a certain period.

The Leather Research Chemist might be subsidised.

32. The following tanstuffs are available in the forests of this presidency:—

(a) Barks of—

Acacia arabica.

„ *catechu*.

„ *decurrens*.

„ *dealbata*.

„ *leucophloea*.

„ *sundra*.

Albizzia odoratissima.

Anogeissus latifolia.

Avicennia officinalis.

Bauhinia purpurea.

Bridelia retusa.

Buchanania latifolia.

**Cassia auriculata*.

„ *emarginata*.

* „ *fistula*.

Ceriops candelleana.

Cleistanthus collinus.

Eugenia jambolana.

Garuga pinnata.

**Hopea parviflora*.

Lagerstræmia parviflora.

Morinda citrifolia.

„ *tinctoria*.

Odina wodier.

Phyllanthus samblica.

<i>Phyllanthus polyphyllus.</i>	<i>Carissa spinarum.</i>
<i>Rhus mysorensis.</i>	<i>Phyllanthus emblica.</i>
<i>Rhizophora conjugata.</i>	(c) Fruits of—
,, <i>nucronata.</i>	<i>Acacia arabica.</i>
<i>Shorea robusta.</i>	<i>Cæsalpinia sepiaria.</i>
<i>Scymida febrifuga.</i>	<i>Diospyros embryopteris.</i>
<i>Terminalia tomentosa.</i>	<i>Oroxylum indicum.</i>
<i>Ventilego madraspatana.</i>	<i>Phyllanthus emblica.</i>
<i>Zizyphus jujuba.</i>	* <i>Terminalia chebula.</i>
,, <i>xylopyra.</i>	,, <i>belerica.</i>
(b) Leaves of—	,, <i>horrida.</i>
<i>Anogeissus latifolia.</i>	<i>Zizyphus xylopyra.</i>
<i>Carissa carandus.</i>	

Those marked * are in common use.

The right of collecting the tanstuffs from the government reserves and unreserves is leased out to contractors who arrange for their collection, removal and disposal. These leases are auctioned annually or periodically in accordance with the local practice in the different districts.

The present methods of sale, either by public auction or by sealed tender, are the most suitable, as they reach all classes, encourage competition and have been worked successfully.

33. There are, however, some tracts where *avaram* is not at present fully utilised. The reason generally is want of suitable labour (*madigas* and *malas*) in sufficient numbers in or near the unexploited areas or that the shrub is so scattered that the cost of collecting and transporting the bark to the market will be much above the market rates.

It is unlikely that *avaram* will ever be produced more cheaply than at present. Supplies might possibly be improved and better organised if the leases are for a period rather than for one year.

The creation of plantations of *avaram*, thus concentrating supplies, is not likely to be financially profitable.

Oral Evidence of Mr. R. D. RICHMOND, I.F.S., Chief Conservator of Forests, Madras, accompanied by Mr. MUHAMMAD ABDUL HAFIZ, Deputy Forest Utilisation Officer, Madras.

(Madras, the 19th November, 1929.)

Mr. R. D. RICHMOND.

Replying to Chairman:—The forest department cannot afford to spend money on the plantation of *avaram*. Ordinary agricultural land would be too good and cannot be used. *Avaram* can grow on poor and even sandy soils such as cannot be used for ordinary cultivation. In my opinion, it will not pay anybody to cultivate *avaram*. Forests under the charge of village *panchayats* might take up the work, but the forest department cannot afford to do so. It is true that a little tillage and scattering of seeds would suffice for propagating the *avaram*. But even such work would render it necessary to give grants to *panchayat* forests. Such forests cover about 3,000 sq. miles in this presidency. There are large quantities of *avaram* remaining uncollected even now. This year the price has come down as will be seen on the chart supplied with Mr. Guthrie's memorandum. I agree, however, that if money were available, some experimental work in connection with the plantation or cultivation of *avaram* might usefully be done. Messrs. Best & Co. tried the cultivation, but so far as I am aware, they did not succeed.

Acacia decurrens is grown to some extent in this presidency. Mr. J. P. Parry has been growing it. The idea of planting the wattle in India originated with a German in the last century.

Mr. Parry gets or expects to get about seven tons of bark per acre as against four which they get in Natal. But in connection with the commercial plantation of the wattle the utilisation of the wattle poles presents a difficulty. There are subsidiary uses for the poles, but Mr. Parry's plantation is a long way from centres of consumption and the railway.

In the case of *acacia dealbata*, the bark is too heavy. So far as I am aware, Mr. Parry has no scheme for preparing extracts from the wattle bark.

(NOTE.—Here Mr. Pillai, Director of Industries, Madras, added that Mr. Parry had applied for a loan of about two lakhs, but the Board of Industries had turned the application down.)

I think wattle bark as a tanstuff has a future in this country, but, in my opinion, it is not necessary to have money from the Cess Committee for this purpose. Government in the Forest Department and private enterprises can undertake the necessary work. For wattle-growing the forest department prefers private enterprise. The wattle poles are not much good as timber. The wattle does not grow at altitudes of less than about 5,000 feet. It does not need much rain—about forty inches suffice. At 3,500 feet Mr. Parry at first failed. An altitude of about 5,000 feet is necessary. The area available for wattle plantation is necessarily limited. Besides, competition with tea for high lands has to be taken into consideration.

Whether it be the wattle or the *avaram*, concentration is necessary from the point of view of harvesting and marketing.

Replying to Mr. Wykes:—Last year the imports of wattle bark amounted to 14,000 or 16,000 tons. For planting about Rs. 100 an acre would be needed, less than that would most probably not suffice.

Replying to Mr. Rafique:—There has been some demand for the bark of *Hopea parviflora*, but the supply is limited. At present we are supplying about 50 tons, but 150 tons is about the maximum we can ultimately supply. I cannot say what the percentage of its tannin content is.

Hopea is cut by selection and not in whole areas.

Avaram seed can be collected. Now and then we get orders from foreign countries for *avaram* seed. The cost of collecting comes to about As. 2 per Madras measure (equal to about 2½ lbs.). *Avaram* seed does not keep very long as it is attacked by weevils. March and April are the season when the seed can be bought. Sowings have to take place in June. We collect only dry seeds. Germination has been 80 per cent. successful. We do not collect the *avaram* seeds on a commercial scale. Ten pounds would suffice for sowing an acre.

Replying to Mr. Jamal Mahomed:—The forest department started an experimental plantation of *avaram*, but it was poorly stocked. The work was taken up during the War. But it was not very systematically followed up. I cannot say whether Northern India is suitable for growing the *avaram*. At present we utilise only the wild growing *avaram*. In my opinion, *avaram* growing would not pay although the growing itself is an easy matter. The plant itself is a bush three to four feet high. (Here Mr. Pillai explained that the Board of Revenue, Madras, had issued instructions that the growing of *avaram* in village forests should be taken up.)

It is not difficult to grow the wattle. Government is not doing this on a commercial scale. In my opinion, the area suitable for the growth of the wattle in this presidency is not very large.

For meeting the present average demand for wattle bark an area of about 16,000 acres would be needed if the yield is estimated at seven tons per acre and the rotation at seven years. If the yield is estimated to be four tons as in Natal and the rotation is assumed to be eight years, nearly 36,000 acres would be needed. I dare say the wattle can grow in Northern India also, e.g., in the Himalayas, say at Kurseong. Mr. Parry wants assistance even now for making the growing of the wattle a commercial success. We have not tried to ascertain how far the wattle would prove suitable for match-making. But as the wood is white, it might prove suitable.

Replying to Mr. Pillai, Director of Industries, Madras:—*Cassia fistula* (*konnai*) wants a better class of soil than the *avaram*. In my opinion, it will not pay to devote reserved forests to its plantation.

Replying to Chairman:—We have no staff or funds for research work at present. We would like to have some more staff for such work. A survey of the tanning materials available in the forests of this presidency was undertaken during the War.

Replying to Mr. Jamal Mahomed.—Sumach is easy to produce. It is obtained from a common tree. The commercial aspect of the question is at present under the department's consideration. The imported sumach is different from the Indian one.

Mr. MUHAMMAD ABDUL HAFIZ.

Avaram is our chief tanstuff and yields over a lakh and a half of revenue to Government in the Forest Department. The forest department has been leasing out the right to remove this bark from the government reserves and the unreserves which are under the control of the revenue department. Unreserved forests are included in the forest department's auctions of the right of collecting *avaram*. It grows mostly outside the reserved forests. It can grow along canal banks, road margins and along the railway embankments. I doubt, however, if the railways would take much interest.

Replying to Mr. Wykes:—An *avaram* plantation—one acre in area and seven years of age—was cut down by the forest department in 1927. It yielded 257 lbs. of dried bark. The cost of harvesting was Rs. 5-8. The cost of formation (excluding the cost of clearance, fencing, etc.) would vary between Re. 1 and Rs. 1-8 per acre. In this particular case the ground was hard and the cost was Rs. 1-8. This plantation was on the top of Nallamalai hills—far away from a railway. The experiment, therefore, did not yield useful commercial data.

We have formed four plantations of *avaram* on different soils, in the Vizagapatam, Anantapur, Kurnool and Nellore districts, to determine the most economic rotation for exploiting *avaram* bark. Crops, one year, two years and three years old, have been raised, and 2 more crops have yet to be raised to complete their series. So it would take another two years to know the result definitely.

We can collect *avaram* seeds. *Avaram* produces itself naturally by seed and also coppices freely. Sowings of *avaram* seeds have given good results. Seeds used should be fresh and sound, about 5 measures per acre would be found sufficient. Sowings should be done with the burst of the monsoon in June or July. Late sowings as well as sowings under bushes fail as the plant does not stand shade or drip. Sowings should be done in furrows 4 ft. apart and 6" to 8" deep. The furrow is first made by ploughing, then the seeds 10 to 15 are dropped in it at intervals of 3 or 4 ft. and the furrow is closed by another being ploughed alongside it. Seeds sown should not be buried deep in the soil but should only be just lightly covered.

(Here Mr. Guthrie, Leather Expert to the Government of Madras, said that he found that as regards the *avaram*, the age of the plant did not matter, but the size of the bark did. He also added that as regards the tanning of skins the *avaram* had a future, but as regards the tanning of hides it had almost gone out.)

The case of the wattle is more hopeful. Wattle poles can be utilised for the manufacture of straw-boards, paper pulp, etc.

The best myrobalans are used up by the tanneries in the presidency. What is exported to foreign countries is myrobalans from the Agency areas, which are of poor quality. Almost the whole quantity collected in such areas is exported and very little is used by the tanneries in the presidency.

Replying to Mr. Jamal Mahomed:—There is no plantation of myrobalans. No attempt has been made to form such a plantation, i.e., we have not planted a pure forest of myrobalans. *Terminalia chebula* trees yielding myrobalans can grow at an altitude of from 1,000 to 3,500 feet. We look upon the myrobalan tree from the point of view of timber as well as of the nuts or the fruits. Salem and Vellore myrobalans have been declared the best in the world.

The *avaram* can grow along canal banks. I do not think that the fact that water flows in the canals would necessarily render the canal banks so water-logged or damp as to inhibit the growth of the *avaram*.

There was a proposal made by, or in connection with, the Leather Committee that the practice common in the villages of collecting the green twigs of *avaram* for using as green manure should be stopped. But the Collectors, who were consulted, are said to have expressed difficulty in stopping this practice.

**Written Statement, dated the 1st November 1929, of
Mr. P. T. SAUNDERS, O.B.E., M.R.C.V.S., I.V.S.,
Acting Director of Veterinary Services, Madras.**

This department is concerned only with questions 1 and 2 under the heading "Cattle diseases, etc." of the questionnaire.

Serious damage to hides may be occasioned by—

- (1) Warbles (larvæ of *Oestrus Bovis*) both before it is fully developed and later, after it has escaped.
- (2) Melanosis—a condition associated with a black pigment, melanin, and usually in the form of a sarcomatous growth.
- (3) Wounds, injuries, etc.
- (4) Parasites especially ticks, though their effects can hardly injure the commercial value of the hide.

Branding may be included under the third item, wounds, injuries, etc., as branding is deliberate injury. Brands are usually applied for one of three purposes:—

- (a) Identification,
- (b) Decoration, and
- (c) Prevention and cure of disease, in which particular this department is intimately concerned. Much of the branding done is with a mistaken idea of disease prevention and should be discouraged. Branding for cure of disease is by comparison not very frequently practised, and more often affects the limbs than the more valuable portion of the hide.

**Oral Evidence of Mr. P. T. SAUNDERS, O.B.E., M.R.C.V.S., I.V.S.,
Acting Director of Veterinary Services, Madras.**

(Madras, the 19th November, 1929.)

Replying to Chairman:—The warble pest is not very prevalent in Madras. In Northern India I believe the pest is far more serious. I suppose there is something like a dividing line in this respect, but I do not know how it runs. I am quite sure that in the Madras Presidency the warble pest is quite uncommon.

Melanosis is black pigmentation in the white part of the hide or skin. This too is not common in Madras.

Ticks are exceedingly common. The tick punctures the hide or the skin by its mouth parts. The small punctures in the skin did not, in my opinion, damage the tanned hide to any extent, but after consulting Mr. Guthrie I think the damage done is serious enough.

Dipping of cattle, sheep, goats, etc., in arsenic, or sulphur and tobacco or sulphur and lime solutions would prove an useful preventive. The animals could be made to go through long narrow tanks provided with a sloping ramp at the other end. Arsenic is the best preventive. As regards the period during which immunity from ticks would be secured, it would vary. Provided every animal was dipped, the period would naturally be much longer. Our experience is that cattle migrate to and from the uplands with the weather. But the ticks do not migrate very much. The routes by which cattle travel are definite. But our experience has been that attempts to control cattle disease by posting the staff along the frequented routes only cause a diversion of the traffic to other routes.

As regards tobacco it need not be high class. Cheap tobacco would give just as good service. Kerosene if used would have to be emulsified. Besides it would not have such durable effect as arsenic or the other dips. The arsenic dip is the most efficacious.

The Veterinary Department, Madras, suffers from financial stringency. Hence we have to concentrate on the more serious diseases, especially epidemics. If, however, funds are available my department will be delighted to undertake such work as dipping, etc.

The veterinary department does not do cattle breeding. The agriculture department does it. They have far more control over villagers in this respect. My department is concerned with the diseases of animals rather than with their health. My department would not like to be associated with the dead animal. Hence I would not like to have anything to do with flaying, etc. If we undertook instruction or demonstration in flaying, it is more likely that the villagers would get prejudiced against the department. They might think that the department was encouraging killing or slaughtering. For our regular and legitimate work we would welcome any financial assistance that the Cess Committee could give us.

As regards branding, the education of the villager and an intense propaganda in the rural areas are essential. One of the main objects of branding is to protect the animal against poisoning. "Firing" for cure and prevention of disease affects the extremities of the animal's body especially the legs but not so often the middle portions of the body.

The Madras Province has a few commissariat slaughter-houses. I do not know whether cattle intended for slaughter for commissariat purposes are branded by the commissariat or not, during the period between purchase and slaughter as this comes under the Military Department.

Anthrax is a common disease. But the animal dies rapidly. Hence the hide does not deteriorate very much, and from the point of view of the tanner the damage is not considerable.

Replying to Mr. Wykes:—Starvation of cattle is prevalent in Madras as elsewhere. Under-bred and under-fed stock do yield bad or poor hides. At

one time the veterinary department used to do some cattle breeding, but now it is done by the agriculture department.

Ticks are found all over the animal's body even though they generally seek the thinner parts of the body. The general health of cattle would improve if ticks did not suck their blood. The resultant benefit would be immense, but I can give no estimate in terms of money.

Our experience with imported bulls was that they used to die quickly. But half-breds or country-breds who got acclimatised to the country used to do better. I would, however, like all these statements of mine on this subject to be verified. In the Madras Presidency private enterprise has now begun to undertake the work of cattle-breeding.

Replying to Mr. Rafique:—Ticks affect the milk yield of the animal. Dipping would have to be done once a week in order to be effective. There is no place in the presidency at present where dipping takes place—with the exception of Kuppam. People will not bring their animals over long distances to have them dipped. As the areas to be tackled are vast, only a few villages can be tackled at a time. In my opinion, each *taluk* would need about 20 dipping tanks.

The warble in India is the same as in England. Recently some work has been done on its life history.

Replying to Mr. Jamal Mahomed:—Lack of funds and shortage of veterinary assistants are our principal difficulties. It is a fact that there is a paucity of qualified men. Demonstration and propaganda are needed. Anybody can run a dip once it is demonstrated to him how to do it.

Ticks are worse at certain seasons of the year.

I have not worked out the cost of dipping—capital and recurring. My rough estimate of the recurring cost would be 1 anna per dip per animal. I will work out the cost of various types of dipping, i.e., arsenic, sulphur and tobacco, sulphur and lime, etc.

From the point of view of my department the hide is merely incidental—a bye-product—something like the brown paper on a parcel.

Mr. Guthrie and I are going to find out which diseases cause the pock marks. The term pock is very loosely used.

Mange can be prevented by dipping. A portable spraying machine like Cooper's would prove useful for both propaganda and demonstration.

Rinderpest is the most serious cattle disease in India; but it does not do considerable damage to the hide.

Branding on the head would be more painful. On the horns and hoofs it would not be painful, but it would not last so long. For a week's identification of the cattle intended for slaughter for commissariat purposes branding is not needed at all.

Replying to Mr. Pillai.—In the village cattle yards a lot of preventive work is done by villagers to keep the ticks off the animals. Propaganda can be done in order to train the villagers. Ticks can be starved into death. By spraying, liming, paris-greening, burning of the ground on which the cattle stand ticks can be kept off.

Arsenic is a poison for cattle also. Hence it would be difficult simultaneously to use it for the dip and prevent its being used for poisoning cattle.

Replying to Chairman:—I agree that a time may come when weekly dipping would no longer be necessary.

Replying to Mr. Jamal Mahomed:—The female tick lays her eggs in the grass. Some ticks are continuous and others are interrupted feeders.

Replying to Mr. Rafique:—The veterinary assistant in Madras gets Rs. 60—4—120 per mensem. Then there is a selection grade, after which there is the Madras Provincial Veterinary Service. We take graduates of one of the veterinary colleges in India. We have got a veterinary college in this presidency too.

Estimated cost of dipping with Cooper's Cattle Dip.

Tank of 3,000 gallons capacity.

Dilution of 1 gallon dip to 150 gallons water.

Herd of 200 cattle.

Cost of 20 gallons Cooper's Dip making 3,000 gallons of wash, Rs. 154-4.

Allowing $1\frac{1}{2}$ gallons consumption per head per dip gives consumption of 250 gallons for dipping the herd.

3,000 gallons will provide 12 dips for the herd.

Cost of each dip per head is therefore As. 1-0-4.

Renewal cost per dip per head will be the same.

The capital outlay for maintaining the tank will remain Rs. 154-4.

NOTE.—The above dilution would be for dipping at intervals of from 2 to 4 weeks. At a dilution of 1/350 the cost per dip per head would be Pies 6-2.

Estimated cost of spraying with Cooper's Cattle Dip.

Dilution 1 gallon to 150 gallons water.

Cost per gallon of "wash" is Pies 10.

Consumption per head per treatment—

with the provision for recovering drainings $1\frac{1}{2}$ gallons. As. 1-3.

without provision for recovering drainings $2\frac{1}{2}$ gallons. As. 2-1.

NOTE.—The above "Note" concerning dilution and cost also applies here.

NOTE.—This estimate has to be lowered approximately by 10 per cent. if the Cooper's Dip were to be imported from England direct.

**Written Statement, dated the 11th November 1929, of
Mr. A. GUTHRIE, M.B.E., V.D., Leather Expert to
the Government of Madras, and Principal,
Leather Trades Institute, Madras.**

I. The Leather Expert of this province is the son of an English currier. He joined the Leather Trades Department of the Yorkshire College, Leeds, now the Leeds University where he took three years Diploma Course which was at that time the most advanced course possible to take. After obtaining his diploma, he continued to work as a research student for another year. During the time he was a student, he spent the vacation working in his father's workshop and thus got practical experience along with the theoretical knowledge obtained in Leeds.

He then spent a few weeks in a tannery in Holland and left there on employment by Messrs. Cooper, Allen & Co., of Cawnpore, with whom he served as Chemist and Assistant Tanner for close on nine years. He has been Leather Expert to the Government of Madras for 18 years during which time has been in intimate contact with the trade of Madras. During the "control" period he was Deputy Controller of Hides, Madras.

11. A certain sum could profitably be spent on the objects mentioned but it is impossible to say how much, without very careful examination of the various schemes proposed. It is unwise to definitely decide the exact method on which a cess should be spent. This should be left for the Cess Committee (if formed) to decide as they will be in a much better position to weigh schemes than the present Committee who have only a few weeks to get their schemes together.

III. 1. The most important fault in the great proportion of Indian hides is that the hides are from dead animals, i.e., from animals that have died a natural death. In most countries 85 to 90 per cent. of the hides tanned come from animals that have been slaughtered for food whilst in India the opposite is the case. The difference between slaughtered and dead hides is very great as may be seen from the values quoted in the trades papers. As an example of this I may mention that the market quotations for English hides for the week ending 28th September 1929 vary in price for slaughtered hides from 6½ to 8½d. for different weights and classes, whereas casualty hides, i.e., "dead hides" were quoted from 3 to 5½d. Indian dead hides are, however, usually even inferior to dead hides from other countries as the animals in many cases have died from the combined effects of old age and starvation. The hide of an exceedingly old animal loses all its mellowness and becomes harsh and empty whilst starvation has a very similar effect. Pests, especially insect pests, are exceedingly common in India and many hides are damaged to a very great extent by them. The two best known are the tick and the warble, the former of which is found in almost all parts of India whilst the latter is luckily confined to the area north-west of a line drawn from Karachi to Agra. The tick damage is not so evident on a hide as is warble but as it is much more prevalent, the total damage done by this is most likely far in excess of that done by the warble. Tick damage is usually much more prevalent on animals that have either been very old or have had diseases and consequently hides of this type with the combination of defects are of very little value indeed. Various forms of skin diseases such as mange decrease the value of the hide considerably and make it only useful for black or other cheap work. Mange also acts as a centre from which putrefaction spreads in the case of poorly cured hides.

2. A certain amount of work has been done during the last twenty years on the elimination of these defects but the accounts of these are difficult to obtain and I consider it unwise to suggest means of overcoming them until all such records have been collected, examined and the results considered. This, I think, would be one of the first matters to be undertaken by the Cess Committee.

3. The chief defects in the method of flaying in South India is that in many cases the actual flayer has no incentive to doing good work. For instance, in Bangalore Cantonment, it is usual that the tanner buys hides on the living animal. The butcher then slaughters the animal and skins it, but as he has no interest whatever in the hide it can be seen that he rather would cut these than damage the carcass with the result that the hides are often badly scored with the knife. In places where the butcher sells his hide on inspection to tanners after they have taken off, the flaying is, as a rule, very much better which shows that the flayer can, if he chooses, flay well.

4. The only remedy for this state of affairs is that the tanners should refuse to buy the hides except on inspection and that ill-flayed ones should be separated and a reduction in the price of these demanded. This unfortunately can only be done by a combine of the tanners and at the present time this is exceedingly difficult to bring about.

5. The appointment of flaying instructors is hardly likely to yield valuable results unless the actual flayer can have some interest in doing good work. As far as the village flayers of Southern India are concerned, the number of animals slaughtered is so small, that the cost of this type of instructor or supervisor would be far in excess of the results obtained.

6. Flaying knives of suitable pattern may be kept at headquarters and tanners and hide merchants informed where these are available. I do not think that at any rate at present a big organisation for distributing these is at all warranted in Southern India. At the same time it may be pointed out that the same type of knife may not prove suitable all over India as men in certain districts may prefer one type whilst those in others prefer another.

7. Slaughter-houses vary to a great extent in equipment, lighting, etc., so that it is impossible to give any general reply to this question.

8. On one or two occasions the Leather Expert of this presidency has been told of system of bonuses being given to the flayers by tanners who bought the hides on the animals whilst alive or have contracted for all the hides slaughtered in slaughter-houses. Where this has been done the result has always been satisfactory and the flaying has been very good, but as contracts have often changed hands, this system has never been worked for any length of time as far as is known. The Committee will, of course, have details of the scheme as carried out under the Munitions Board in the government tannery at Bombay during the control period.

9. On general principles the curing of hides in India follows the practice of the other countries. The chief difference, however, is that in many cases care of detail is lacking. The work done by the tanners' research associations of Great Britain and of America have lately shown the great damage done to the hides unless cooled immediately after removal and as this part of the process is often omitted in India, the curing can never give the very best results.

10. The chief defect in the method of the cure of the hides in India is that often exceedingly crude materials are used. Even the eating salt used is much inferior to that used in most other countries whilst kaari salt which is largely used is a saline earth rather than a salt and often contains a very large amount of organic matter and putrefactive bacteria. In addition to this, the temperature at which drying is done is often greatly in excess of that which raw hides can stand without damage. This is especially bad in the case of hides that are only dried, and the following table shows the results of experiments made on drying hides at different temperatures and the result obtained when soaking back the dried hides (see Appendix I).

11. The remedies for these defects, I suggest, is work for research under a Hides Cess Committee. Various methods have been proposed and tried in different centres and before undertaking further work on this, collection of all the data available is, I consider, essential.

12. The question of preserving hides forms, I think, one of the most suitable subjects for investigation and research work at the expense of cess

funds. At the present time, English, American and German research associations are all employed on the same question and there is little doubt that they would be only too glad to reciprocate with any work on this subject done in India. During the last 2 or 3 months several important papers on this subject have appeared in the trade journals and in the scientific publications of the International Society of Leather Trade Chemists, the American Leather Chemists' Association and the Collegium (Journal of the International Association of Leather Trade Chemists).*

13. In several European countries where salt is taxed—tax-free salt denatured by the addition of some chemical is issued free of tax to slaughterhouses, tanners, etc. It may be quite possible that a scheme of this type could be worked out by a Cess Committee and the Salt and Abkari Departments.

14. Adulteration of raw hides is very considerable and fairly regular. In the case of dry hides this often takes the form of damping which causes very serious effects to the hides as putrefaction is only kept in check and not destroyed by drying. Damping to obtain weight is an exceedingly dangerous and objectionable practice and yet this is exceedingly prevalent in the hides sent from certain districts to Madras. In the case of dry-salted goods, the more usual practice is to rub in an excessive amount of the saline earth used and cases where the resultant leather from the same class of hides varies as much as 30 per cent. from the normal are not unusual.

It is easy to see that an Indian tanner buying hides of a certain type and expecting a certain percentage of yield on this is put to a very great loss if the yield is only 70 per cent. of the expected and normally obtained from hides of that class.

16. In some parts of India the branding of cattle is carried on to an extraordinary extent and in some cases the amount of branding done makes the hides practically valueless. In some cases this is done purposely in order to make the hide valueless, as it has been found that in districts where the village system still holds, by which a dead animal becomes the property of the village sweeper, that the mortality amongst the animals with valuable hides is extraordinarily large, and zamindars and people of this type have told the Leather Expert of this province that they regularly brand for this reason. They pointed out that a live animal that can work, however badly the skin is disfigured with brands, is worth more to them than a dead animal which belongs to someone else. In other parts of India branding is not so excessive and is used either as a means of identification or for surgical use. It is undoubtedly true that branding of animals that have gone lame will often cure them and make them fit for further work. Brands of this type are of course economically sound but brands of the former type are in the long run a source of loss to the country. This, however, will need a large amount of propaganda and persuasion to overcome the fears of the cattle owners and to change the system that is the cause of this trouble.

17. Any figure that would be given under this head would be more or less guess work. Madras is especially unsuited to make this estimation as she gets a much larger proportion of the poor quality hides than her share, as most of the high quality hides are exported raw and only the poor quality ones sent down to Madras for tanning.

18. As tanneries exist in most parts of the Madras Presidency the stages through which hides go before arriving at the tannery are usually much less complicated than in Northern India and other districts collecting for export. Quite a large proportion of the hides slaughtered and those of the animals that die are within easy reach of the tanners to whom they are taken, sold and immediately put into work without any curing. In other cases a slight salting is all that is necessary whereas in certain districts the trade is organised on lines similar to that in other parts of India. In districts away from

* (The International Society is the allied branch of the old International Association which in pre-war days included all European nations. The German Section is now known as the International Association.)

tanneries most of the fallen hides are dried and carried to the local weekly *mandies* or markets in the neighbouring villages. At all these markets there are agents of tanners or hide merchants who make offer for the hides and send them away to their headquarters or to tanneries direct according to the importance of the market. In the same way skin of animals slaughtered in the villages are salted and disposed of in these weekly markets either to collectors or to tanners' agents.

20. Up to the present there has been little or no co-operative marketing of raw hides in Southern India.

22. In theory, there are supposed to be certain grades of raw hides that are sold to the Indian tanner, but unfortunately it usually works out that every merchant is a law unto himself and hides sold under the same name by different merchants often vary considerably in characteristics, state of cure and value. As the grading is done in other parts of India, the reply to this question should come from the districts doing the grading.

23. Under present condition any system of standardisation of grading is an impossibility and even with a body such as the Cess Committee, it would be exceedingly difficult to work out a scheme by which anything could be done towards this.

IV. 24. Funds derived from cess could usefully be expended on (a) research work in tanning, (b) the training of tanners and leather chemists, and (c) developing the quality of Indian tanstuffs.

25. There has been a Leather Trades Institute in Madras since 1915 with chemical laboratories and a small scale tannery equipped with necessary machinery in which practical manufacturing experiments could be carried out. Up till two years ago the same institute had a teaching side and has fully trained about 100 students from all provinces in India during the course of its existence. The course was based on the courses of the Leather Trades Department of the Leeds University and the Leather Sellers' College in London. A prospectus of this institute is enclosed.

26. The Leather Trades Institute, Madras, has at present the facilities necessary to carry out research work and technical inquiries made by the local tanners. From the increased rate that enquiries are coming in from tanners, it is quite likely that further laboratory accommodation will shortly be necessary. The Madras Leather Trades Institute was in existence several years before either the institute at Calcutta or Cawnpore was thought of. It has trained more students than the combined Calcutta and Cawnpore institutes have done. Many of the students from Madras are already in positions of responsibility from Kashmir to Ceylon and from Calcutta to Bombay.

27. It is very doubtful whether it is possible for the various centres of technological investigations to specialise. There must be a certain amount of overlapping as it is obviously impossible to send samples of hides or skins in process or of tan liquors from one end of India to the other without change. From the experience in the Leather Trades Institute, Madras, there is plenty of work from local tanneries whereas if there was only one central institute, it would be impossible for the Madras tanners to get help. Of course, the Madras Institute would specialise on the export trade when the other institutes would be more useful on the work done in their neighbourhood but absolute specialisation is, I think, an impossibility.

28. As pointed out in Nos. 25 and 26 above, the Madras Government trained tanners, foremen and leather chemists up till two years ago. But as three other provinces in India follow the lead, the supply of all these trained men began to be far in excess of the demand with the result that applications for admission to the Madras Institute fell and it was finally decided to close it down. The size of tanning trade of India does not at present warrant several teaching institutions of this sort. I may mention that in England with a tanning trade greatly in excess of that in India, there are only three

teaching institutions of this kind and the number of students in these institutes has fallen very greatly during the last few years for the same reason as given above. It seems, therefore, that there is only room for one teaching institution in India. As far as leather chemists are concerned the number now being trained is obviously too big for the demand. There are only about six leather chemists employed by private firms whilst the Local Government employ, perhaps, double this number, or a total in all of 18 so that a wastage or demand of 1 per annum is all that can be expected. Of the men trained in the Madras Leather Trades Institute only one obtained employment as a chemist—all the rest being employed as tanners.

29. The training of the rural tanner is a difficult undertaking as normally he cannot afford the time and the cost of living at any centre where this could be imparted. In Madras there has been a certain demand for this type of training but when it has been sifted it has always been found that a scholarship to the boy of an amount far in excess of his value was the aim and object of the applicant and not a desire to learn. In Madras, the tanners train their own tannery staff or obtain from other tanneries doing similar work.

30. As far as Madras is concerned, the knowledge of tanning is so widespread that the establishment of the tanning schools and tanning demonstration parties is unnecessary. In some of the provinces where tanning is exceedingly backward, these schools and demonstration parties are likely to prove of value.

31. One great difficulty from which the export trade in tanned hides is suffering is due to the import duty on wattle bark. Last year the import of wattle bark was over 14,000 tons, the duty on which was levied at 15 per cent. *ad valorem* or about Rs. 20 a ton, i.e., almost 3 lakhs of rupees was paid by the Madras tanners. This works out to almost a quarter of an anna per lb. on all the tanned hides exported and when it is considered that all other countries, with, I believe, the exception of Australia, import wattle bark free, it can be seen that this duty is a very severe hindrance to the Madras tanner whose goods have to be sold in competition with those tanned by tanners in other countries with cheaper material. The abolition of this duty would make it possible for the tanner to tan his hides at 2 pies less than at present per pound. Although this difference seems small, it might, in many cases, make trade possible where it is not possible at the present moment.

32. The tanning stuffs locally available that are used in the export trade are:—

- (a) *Avaram*.
- (b) *Konnai*.
- (c) *Wattle*.
- (d) *Myrobalana*.

(a) *Avaram (cassia auriculata)*.—The supply of this material, on which the Madras tanning trade has been built was at one time sufficient and cheap enough to meet all the demands of the Madras tanning trade. As, however, the trade has developed very considerably and as the cost of collecting the bark has also increased very considerably, the price of the bark has become prohibitive for tanning hides and is now usually used for tanning skins only. The right to collect this bark on *peramboke* and forest lands is usually auctioned yearly, or for a longer period, and the purchaser of this right usually arranges with the local people who will collect this bark to bring it to his godowns where he pays a definite amount for the bark brought in. He, in turn, sends it to bark dealers in Madras, Ambur or one or two other centres. The number of dealers who purchase the right to collect *avaram* is very large and the amount collected by some is very small so that it is almost impossible for them to deal direct with tanners and consequently the middleman is essential. It is impossible to give the exact amount of *avaram* collected but the report of the Director of Tanstuffs during the period of

control is valuable as it shows the amount then collected. It is, however, possible to estimate the amount of bark used from the leather exported and a table showing this is given as an appendix (II). It normally takes about 3 lbs. of local barks to tan one pound of tanned hide and 2½ lbs. for each pound of tanned skin whilst only 1 to 1½ lb. of wattle is necessary for each pound of tanned hide. In Appendix II one pound of wattle has been taken as equivalent to 2½ lbs. of local barks.

The price of *avaram* varies very greatly at different periods of the year. Graphs of price kept for many years show that normally the price rises in December usually to about 50 per cent. higher than it has previously been. It then keeps at this height till about June when it falls and remains at the lower rate till November. The average December-June price for several years has been about Rs. 42 to Rs. 44 while for July to November about Rs. 30 to Rs. 32 has been the normal.

(b) *Konnai (cassia fistula)*.—This bark has been used by the Madras tanners for many years as a partial substitute and as supplement to the supplies of *avaram* bark. In certain parts of the presidency it is worked regularly by coppicing. The value of this is less than *avaram* as it contains less tannin matter and the colour is not quite so good. Its cost follows that of *avaram* keeping about three quarters the value of the more expensive bark.

(c) *Myrobalan (fruit of terminalia chebula)*.—The South Indian myrobalan is normally much superior in colour and tannin contents to those obtained from other parts of India and local tanners are always willing to pay very considerably higher prices for South Indian myrobalans than for other types. A bulletin giving details of analyses and other work done in the Leather Trades' Institute, Madras, on various types of myrobalans from different parts of South India is daily expected from the Press and will be sent to the Cess Committee as soon as it is received.

(d) *Wattle*.—There is a small amount of wattle grown in South India. In the Nilgiris unfortunately the greater part of the wattle is *acacia dealbata* which has a bark that has not a great value for tanning. There are, however, a few plantations of *cassia decurrens*, the bark of which is quite as strong as the imported material and finds ready sale to local tanners. The High Range in Travancore also supplies small quantities of *cassia decurrens* of quite a good quality. The price of these local wattle bark is of course dependent on the price of the imported material.

(e) *Divi divi* is collected and exported. On account of its properties it is not useful in the tannage of leather for export.

(f) The Leather Trades Institute has for many years been trying to find a tanning material suitable to supplement the supplies of bark in the presidency. It lately published a bulletin on *hopea pariflora* bark which had been found quite suitable to use on hides. Unfortunately the Madras forests are of very mixed nature and it seems impossible to get regular supplies of any barks from them. Before undertaking this investigation the institute was informed that large quantities of this bark would be available, but firms who have watched the work of the institute and have already tried to obtain this bark in commercial quantities have found very great difficulty in getting the quantities they require. They, however, are very pleased with the result of the bark when they have used it.

33. *Avaram* bark gives a leather of peculiar whiteness and hard wearing qualities and, as before mentioned, it is this bark that has made Madras tanning trade what it is now. For skins it is unrivalled, and as with skins, the quality means a great deal in the value, the high price of this bark has not prevented tanners from continuing its use. It may be mentioned here that the difference between the value of real prime skins and those not quite so good a colour and quality may be several shillings a pound so that it matters little whether the tanning costs are one or two annas higher per pound as more than this is returned in the quality. On the other hand, for hides the question of cost has made it impossible for the Madras tanner to use *avaram*. Although the users of tanned hides in England say that they

much prefer *avaram* tanned hides, they will normally pay only a half penny more per pound for *avaram* tanned kips than for wattle tanned ones. As one pound of leather requires 3 pounds of *avaram* and only 1 to 1½ pound of wattle for tanning, it can be seen that with *avaram* at the lowest price mentioned above, i.e., Rs. 30 per candy, the cost of the tanning material is three annas per pound of leather whereas with wattle the cost is only 1½ to 2 annas. With *avaram* at Rs. 40 the cost is four annas so that it can be seen that the Madras tanner cannot economically use *avaram*. It seems almost impossible to increase the supplies of *avaram* at an economical price. During the last 20 years the price of *avaram* has more than doubled and as the cost of labour increases, the price is likely to take an upward rather than a downward tendency.

V. 34. It is exceedingly difficult to decide without a mass of figures and statistics, that are not at present available, whether advertising would be of benefit to the industry as a whole. The trade of India in hides and skins is a big one but differs exceedingly from the tea trade where advertising is such a large part of the work of the Cess Committee. This question, I do not consider, can be settled in the short time available for answering the questionnaire and would have to be considered by the Cess Committee, if brought into being.

35. In America the Tanners' Council of the United States of America through their Economic Research Department finds that it can give great assistance to the tanners and hide merchants by collecting and regularly publishing statistics regarding the availability and stocks of different materials at various centres and the state of the market in all parts of the world. I consider that this is a question that should be considered by any Cess Committee as although the collection of statistics in India is a much more difficult matter than in countries with highly organised trades, yet the advantages might be equally great. An useful account of the way in which this association helps the trade is given in the Leather Trades' Year Book, 1927 (published by the United Tanners' Federation of Great Britain).

VI. 36. The upkeep of the Madras Leather Trades Institute during the last 10 years has averaged about Rs. 50,000 per annum and I consider that a grant of slightly more than this amount would make it possible to greatly increase the usefulness of the work of the institute which could be very usefully employed in working out to Indian conditions, the researches done by the Technical Research Branches of the United Tanners' Federation of Great Britain and of the Tanners' Council of the United States of America etc. If the Cess Committee wishes to have their own research station the capital expenditure would, I estimate, be 2 lakhs to equip a building and laboratory comparable to the present Leather Trades Institute.

37—38. As the amount that would be spent in other presidencies is not known, the amount of the cess, etc., cannot be estimated.

39. The Madras tanners and tanned hides exporters have again and again declared that they will oppose any action that will reduce in any way the small assistance they get from the export duty on raw hides and skins and in any case consider that a cess should only be levied on raw hides exported from India. It should not be levied on raw material required by the Indian tanner nor on exports of leather.

40. If the cess is to replace the export duty, it should be the same rate or higher than the export duty now is and on the same materials only. If kept at the same figure it would not affect the world's trade at all as the only difference would be a difference in name, the amount being the same. A higher cess would give greater protection to the local tanner.

42. It can be seen from the export figures that the so-called 5 per cent. export duty on hides and skins during the last year was really one of only 4 per cent. This seems to point that the tariff valuations have been 20 per cent. below actual values and as far as the classes of hides are concerned that are bought by the Madras tanners the undervaluation has been very much more than this at times leaving the duty at 3 per cent. or even less.

VII. 43—55. I consider that a Committee formed on the lines of the Central Cotton Committee should be appointed to deal with a cess if imposed.

Exports of raw hides and skins are almost identical in value to that of tanned hides and skins, so that the representation should be the same. In the same way the export tanners deal with the same or slightly larger amount of material and consequently they should have a similar representation. It is not known exactly what is the amount of leather tanned for local use and it is impossible therefore to give representation on the same scale, but as this is a quickly developing trade, I do not think that the same representation is too great. As Calcutta and Madras predominate in their respective spheres, the representatives for these branches of these trades would come from these centres; it is only just I think to give a representation to Karachi and one to Bombay both of which do considerable export trade. It would, I think, be wise to have an officer from the Indian veterinary and agricultural departments who would, I think, be of very great assistance as liaison officers as they could keep their departments in touch with the Cess Committee and the Cess Committee in touch with the work of their departments. I, therefore, consider a Committee composed as follows would be quite suitable:—

1. An Official Chairman.
2. A Member-Secretary who should be a technologist appointed by the Government of India.
3. Two members representing the Calcutta raw hide and skin exporters.
4. Two members representing the Madras tanned hide and skin exporters.
5. Two members representing the export tanners.
6. Two members representing the tanners making leather for use in India.
7. One member representing raw hide interest from Karachi.
8. One member representing tanned skins and hides in Bombay.
9. One member of the Indian Veterinary Department.
10. One member from the Indian Agricultural Department.

Of the above representation, one of the members representing the tanned hide exporters should be nominated by the Madras Chamber of Commerce and the other by the South Indian Chamber of Commerce whilst the tanners' representative should be selected by the South Indian Skins and Hides Merchants' Association—one representing hide interest and the other the skin interest. Of the two members representing the tanners of leather for local use, one should be from Cawnpore and the other selected from the tanners in other parts of India. The method of electing the other members should be arranged by the localities concerned. As regards Indian States I am not in a position to make proposals. In Southern India the co-operative movement has little or nothing to do with the leather trade, but if in other parts of India they have any distinct connection an extra member representing them might be added. If the Secretary is as suggested a technologist, I do not consider it would be necessary for other representation from the technological institutes. The functions of the Committee should be similar to that of the Central Cotton Committee and in every way to be on the same lines as this organisation. It is impossible at present to make any estimate of the requirements of the office, etc., and this can only be done when the Committee is formed and the Secretary chosen as so much depends on the amount of the cess, the work to be done and other things that have yet to be decided. I consider that the Committee should have power to co-opt experts and others interested in the trade for sub-committees dealing with special subjects but that no one should be co-opted to the general committee.

As Madras is not only as important as any other port of India from the point of view of export, but also is the centre of the export tanning trade,

I consider that Madras is the most suitable place for the headquarters of this Committee, but as it is quite likely that the raw hide trade would strongly object to this, I consider that a neutral ground might be considered and with a Committee as suggested above the best centre I consider would be Nagpur or neighbourhood. This place is only about 24 hours from Madras, and Cawnpore, 12 hours from Calcutta and 18 from Bombay. The only district from which the distance is greater is Karachi and the extreme North-West of India and on account of the size of India, it is absolutely impossible to find any place near to both Madras and Karachi.

APPENDIX I.

Table showing the results of experiments made on drying hides at different temperatures and the result obtained when soaking back the dried hides.

Sample.	Temperature of drying.	Remarks.	Time of softening in water.	Remarks.	Dissolved by salt solution.
I	15° C	In vacuo	20 hours	Without mechanical work.	1.68%
II	22° C	In sun	2 days	Ditto.	1.62%
III	35° C	In drying closet	5 days	Twice worked	0.15%
IV	60° C	Do.	Refused to soften sufficiently for tanning.	...	Traces.

Taken from the Principles of Leather Manufacture by Em. Prof. H. R. Proctor (Second Edition), Page 159.

APPENDIX II.

Estimated amount of Avaram bark (cassia auriculata) used in the tanning of hides and skins.

Year.	Tanned hides exported.	Bark used.	Tanned skins exported.	Bark used.	Total bark used.	Wattle import.		Local bark used, net amount.
	Tons. 7,500 @ 3 lbs.	Tons. 22,500	Tons. 5,500 @ 2½ lbs.	Tons. 13,700	Gross Tons. 36,200	Tons. Nil.	Tons. 36,200	
1923-24	11,100 ..	33,300	4,300 ..	10,700	44,000	600 x 2½ = 1,600	42,400	
1924-25	10,900 ..	32,700	5,300 ..	13,200	45,900	1,600 .. 4,400	41,500	
1925-26	10,400 ..	31,200	5,500 ..	13,700	44,900	4,100 .. 11,200	33,700	
1926-27	9,800 ..	29,400	6,000 ..	15,000	44,400	5,800 .. 15,900	28,500	
1927-28	13,900 ..	41,700	6,400 ..	16,000	57,700	2,800 .. 24,300	33,400	
1928-29	14,800 ..	44,400	6,100 ..	15,200	59,600	14,200 .. 29,000	30,600	

To this must be added bark used on tanned hides and skins used in India estimated by the Leather Expert as 3,000 tons at present as against half this quantity pre-war or 8,000 tons bark as against 4,000 tons pre-war.

**Oral Evidence of Mr. A. GUTHRIE, M.B.E., V.D., Leather Expert
to the Government of Madras, and Principal, Leather
Trades Institute, Madras.**

(Madras, the 19th November, 1929.)

Replying to Chairman:—I am not speaking on behalf of the Madras Government but in my capacity as Leather Expert.

Q. 4.—This system prevails in the slaughter-houses. Sometimes contracts for the purchase of hides are entered into, often on the basis of so much per pound. Combination of tanners is desirable. Skin tanners in the southern parts of this presidency, e.g., Trichinopoly, etc., are trying to do this. The same should be possible among hide tanners. I recognise that it is not very easy to bring this about, but in my opinion the time for doing so is opportune. In Bombay As. 2 per perfectly flayed hide used to be given to the flayers as bonus. No instructors were found to be necessary. In my opinion, the training of the flayers is desirable but not indispensable. A method more likely to be successful is to make it worth the flayer's while. In my opinion, the finding of the bonus is legitimate work for the trade itself.

Q. 11.—I think the Cess Enquiry Committee need not go into all these questions in great detail.

Q. 17.—In my opinion this is a fact. I have not seen a good hide from Northern India since I left Cawnpore. The figure at which we can and do sell our tanned hides abroad sets a limit. At that limit we cannot buy good hides. What I mean is that we cannot get good hides at a price at which it would pay us to tan it as Madras tannage and sell abroad. This is a handicap due to the situation of Madras away from the sources of good hides, viz., Northern India. Madras tanners bought last year one-fourth in the Madras Presidency and the rest came equally from Cawnpore and Calcutta. A good deal also comes in from Burma. I cannot at present give the percentage of Burma hides consumed by the Madras tanneries. I am all along talking of hides and not of skins. The tanner in the north, being on the spot can, I expect, get good hides. Northern Indian hides reaching us are the so-called arsenicated which are sometimes not arsenicated at all.

Q. 23.—Here I refer to raw hides.

Q. 31.—I have said that the import duty should be abolished. (Chairman remarked:—This is beyond our terms of reference).

Q. 35.—In the legislation bringing into existence the Cess Committee, there should be a provision for enabling the Committee to get such statistical information as it may find necessary.

Q. 39.—The 5 per cent. export duty has assisted the tanning industry, though it has not reduced the price of the hide. It has only led to the protection of the Madras tanner, viz., by making the price ratios different. The favourable alteration of the price ratio between the prices which exporters of raw and the exporters of Madras tanned hides can pay for raw hides and skins is the advantage obtained by the Madras tanners.

Q. 40.—The so-called 5 per cent. duty is really equal to only 2½ per cent. on the prices of the raw in Madras. The original intention of the 5 per cent. was protection. The cess should also protect. Hence the rate of cess should be at least 5 per cent. It may appropriately be even higher. The effect of the 5 per cent. cess will depend on the values of the articles in question.

Q. 43.—I have not considered this question from the point of view of contribution to the cess fund, but rather from the point of view of spending the cess money. I would not draw the deduction that the cess should be imposed on Madras tanned hides and skins.

Qs. 43—55.—The tanners in Madras are not usually the exporters.

I have overlooked the collectors of hides and skins. I missed them out. Representation should be given to them. In this manner I would balance up the two sides so far as the representation on the Committee is concerned.

I think we can profitably and economically spend forty lakhs for the benefit of the industry as a whole. I understood however all along that so far as skins are concerned the export duty would continue.

I cannot say what the schemes will cost. I do not want the cess to be wiped out or even reduced after a few years.

Replying to Mr. Wykes:—Upto 25 per cent. of the number of Madras collected hides show tick marks. Their value is reduced, but the reduction is, roughly 1 anna per lb. The total loss thus comes to $\frac{1}{4} \times \frac{1}{4}$, i.e., a little less than 2 per cent. This is the extent of the loss due to the damage caused by ticks.

The claims made by the firm of Cooper's regarding sprays, etc., for eliminating ticks should be examined.

The southern Madras skin tanners are being associated and organised. They are the prime skin tanners.

Q. 24.—I think there are too many places for turning out leather chemists in India. As regards tanners, i.e., workmen and foremen, there is, in my opinion, still scope for absorbing them in the industry. Of the twenty men turned out by my institute and fit to be tannery chemists, only one has become such a chemist; the rest have been employed as tanners.

Q. 32.—This amount of bark would not suffice for the Cawnpore tannage where heaviness and standing-up property are needed. Cawnpore tanners mostly over-tan their stuff.

I used to be an employee of Messrs. Cooper Allen & Co. Compared with wattle, *avarum* gives hard wearing qualities for certain types of work. But it has one great fault, viz., that it cannot last for more than fifty years. Thus it cannot be used for book-binding. The more *avarum* tanning you give, the worse it becomes. In this connection, I wish to bring to the Committee's notice the report of the Society of Arts.

Q. 34.—Advertisement would do some good to the Madras tanners, but the type of advertisement I have in view is not the sort undertaken by the tea people. I rather have in view advertisement at and through trade-fairs exhibitions, etc.

Q. 40.—We pay 15 per cent. duty on wattle. We use the best myrobalans. I recently met some people from abroad who were interested in tannin extracts. I showed them the Madras tannage and asked them whether their extracts could turn out such leather. They said they could not. Madras can turn out leather infinitely superior because Madras can put in much more labour and work into it. Labour being cheap, we can afford to put in plenty of it. In Europe, etc., they cannot afford to do that. This is why, in some cases, our costings come higher. But as regards the same type of leather, Madras tanners can turn it out cheaper.

I estimate that a third of the skins from Madras remains untouched when they go abroad. As regards the fancy leathers the currier (I once got into trouble in England by using the word "tanner" in this connection) dopes and polishes or glazes. In some cases the cost does not run to over one or two pence per skin. As regards the velvet or morocco, the cost of finishing generally is half of what the tanning charges for Madras leather come to. Some such stuff may have to be re-tanned, especially if solidity is wanted. But all such processes could be put through in about two days.

Last year America imported from outside twenty-two million sq. feet valued at four million dollars for linings. Most of these were Madras tanned. The cost of work done abroad worked out at Rs. 1.

Tanning in Madras costs Rs. 2. Hence my statement that the cost of processes carried out out of India comes to about 50 per cent. of the cost of Madras tannage.

Cow hides go through the semi-chroming process in some cases. This really is no chrome process at all. The hides are simply shaved, blackened and glazed. Madras tried to send some chrome stuff to England but did not succeed.

The currier at home has to re-tan the East India kips for army work.

Madras tannage costs As. 5 per lb. The stuff is worth a rupee per lb. This is by leather weight. This means that the raw material portion of the cost is about As. 10 a lb. Thus the proportions of the cost of raw material to Madras tannage and to the so-called re-tannage abroad for this particular type of work come to 2: 1: 1, viz., As. 10, As. 5, As. 5, but instead of a lb. you get a 1½ lb. Hence the cost per lb. comes to Re. 1.

In skins Germany takes a very large proportion of what is exported by Madras. Tanned skins imported into Germany from London were worth one and a half crore of rupees. Most of this must have been Madras stuff.

Continental buyers prefer to buy from London rather than direct from India.

(Witness drew the Committee's attention to the Indian Leather World for all these costings and other figures and promised to supply a note on the system followed by the Madras tan trade).

Replying to Mr. Rafique:—I should say that 80 per cent. hides are deads and the rest, i.e., 20 per cent. are actually from the slaughter-houses. Of the classification called slaughters only about 50 per cent. come from actual slaughter. I am talking of what comes to Madras. The deads do not have the same feel as slaughters. Immediate air-drying is what I recommend. Every village has got salt but the *chambr* cannot afford to use it. Indian hides are in demand because they are kips rather than hides. They are in a class apart. North China hides with which I had to deal were much heavier than Indian hides.

I know very little about the warble in India. Generally, we get warbled hides from the north west. Where action can be taken against the warble, it can be eradicated.

The Madras Presidency has 18 millions grown-up cattle. Considering their number the veterinary staff available here is too meagre. But I agree that we should experiment on the various problems affecting the diseases and pests of cattle.

In Madras we do not export raw hides. But I know that elsewhere tanners do not get a look-in when it is a question of buying good hides for the tanners in competition with exporters.

Flayers have no immediate incentive to do good work. If it can be made worth his while, the flayer will flay well. If a dead animal be still warm, good flaying is easy. But otherwise it is very difficult to avoid cuts. Besides this, the village flayer gets very little practice in flaying. The training of flayers should begin at the important slaughter-houses. I am doubtful whether the distribution of improved flaying knives would do much good. If flayers see any advantage in good flaying they will do so. The system in Madras has been successful because the flayers had an incentive and bonus was paid by the trade itself. But it was only tried for short periods. The bonus should be paid by the trade.

In the Northern Indian winter the framed hide is the best. In summer salting is necessary. There are three big research associations in England, America and Germany, working on the salting of hides. There is also an international association for similar work. In my opinion research on curing and preserving is necessary in India. More harm is done to a hide by its being left for a couple of hours on the floor in a higgledy-piggledy fashion than by anything else afterwards. The hide should be hung up for airing and cooling.

As to the adulteration of raw hides the dealers some times damp the hides in order to increase the weight. This fictitious weight is not the only

defect; the real defect is that the hide substance gets damaged. Then the Dacca hides have piles of mud on them. So far as the export of tanned hides from Madras is concerned this is now very clean. There is very little adulteration. Skins exported with tanners' trade marks on them are generally clean. Where goods are sold in Madras, and then exported, adulteration is rife, especially in goods going to Japan. Japan wants such stuff. We in Madras cannot afford to buy good quality dry arsenicated hides as they are too costly. When selecting hides Madras generally begins only with seconds. The half-tans exported to the United Kingdom are mostly Cawnpore *sukhties*, i.e., dried.

It is the Dacca rejection dead hides that we Madras tanners buy. I have no experience of Calcutta or Dacca markets.

Chromepet is the largest tannery in the East. It also dresses and finishes. The tannery at Trichinopoly with a capacity of 250 hides per day and Messrs. Gordon Woodroffe's tannery at Madras, which is going to commence work soon, do the finishing also in Madras.

The cess should be both protective and beneficial to the trade and industry. I would put a cess on hides even if they are not needed or used by the Madras tanners. The reason for this is that otherwise the classification from the point of view of the customs authorities would be impossible to check and verify. In any case 5 per cent. protection to Madras tanners is very necessary and is beneficial.

Countries which wish to do chrome tanning must buy raw Indian hides. Germany cannot dispense with Indian kips. Hence if the export of raw hides were to be prohibited or heavily taxed, Germany would find it necessary to take half-tans. Madras cannot send finished leather to Germany as the import duty is 30 marks per 100 kilos. (Note.—The Chairman explained from his own notes the relation of import duties in Germany to the *ad valorem* incidence at certain basic prices).

Madras tanned hides and skins are practically a monopoly in England. But this monopoly does not enable the Madras tanners to dictate their own prices. The price depends on the buyer in England who has to compete with the German chrome-tanner. Thus my statement that Madras tanned hides and skins have practically a monopoly in England should be read in the light of this further remark. From the point of view of control over prices the monopoly is not a real one.

I would not advocate one industry being benefited at the expense of another.

Replying to Mr. Pillai:—What we call "best hides" for supply to the jails are found often to be fourths. The jails buy fourths and we dress them for the jails.

Tannery operatives cannot afford to spend six months without getting stipends. I think the cess should legitimately be spent on their training. But I am not sure if stipends are a legitimate direction in which to spend the cess.

Q. 39.—I propose a cess only on exports and not on internal production.

Replying to Mr. Shah:—The type of men whose training I had in view when I said that the cess should be spent on such training was the foremen type or the leather chemist type but not the artisan or the operative tanner. I agree that the training of artisan tanners would be legitimate work for provincial governments. I agree that my general principle that one industry should not be made to benefit at the expense of another is a general proposition. There can be exceptions. (Note.—Witness promised to let the Member-Secretary have the figures of Burma hides consumed by the Madras tanners). Before looking up these figures I cannot say how far the exclusion of the Burma hides from the scope of the Cess Committee's enquiry is likely to detrimentally affect the Madras tanners, who at present have to buy some of their requirements of raw material from Burma. It may be that the tanners in Germany and some other countries are in a position to pay higher prices in India for good hides because they operate behind

the tariff walls and as regards their home-markets they are to that extent secured from foreign competition in the disposal of their finished goods. The duty is approximately from 30 to 40 marks upwards per 100 kilos. This duty is on all classes of leather barring our skins. The duty is the same on fully tanned and finished goods. As regards hides there is no difference in the tariff wall between Madras-tanned and finished Indian leathers. This is so far as I can make out at present. In my opinion, it is this tariff wall which prevents us from selling finished leather to Germany. I consider that the import duty on leather in Germany prevents the Madras tanner from being able to sell finished leather to Germany. I wish to make it clear that what I have said refers to hides and not to skins.

(Continued, the 22nd November, 1929.)

Replying to Mr. Price:—The advantage of salting over ordinary frame-drying is that the latter has to be done only at certain temperatures; whereas the salt enables the curing to be done at higher temperatures also. For certain classes of leather the dry material is, in my opinion, as good as dry-salted.

Replying to Mr. Jamal Mahomed:—I consider Madras tannage a full tannage but not heavy. There is no more tanning to be done to the Madras-tanned leather. Chrome cannot entirely replace Madras tannage. The present Madras kip is clean whereas the pre-war one was loaded. Hence the figures of the exports of the pre-war period are not directly comparable with the post-war figures. About 10 per cent. must be added as the present exports are clean. A large portion of this tannage undergoes no further tannage. A second lot undergoes a little.

Chrome-tanning is fixed and is not adaptable. Vegetable tannage is adaptable. This fact has a great deal to do with the continued vogue of Madras tannage. I know of an American firm which has found that in chrome-tanned leather the co-efficiency of expansion is greater for difference of moisture. This fact is an advantage in favour of vegetable tannage.

In calf skins tannage there has been an extraordinary increase.

I do not think hides are being left to rot on carcasses any more than before the 15 per cent. duty, was introduced. In the 1921 slump probably this phenomenon did take place. I do not think the 15 per cent. duty had any effect on the production of raw hides.

I do not consider Madras tannage to be crude. Skilful tanners have always gone back to it. I am not in favour of any cess on tanned stuff whether for export or not. I am not however a business man and do not pretend to be one. I think Malabar hides are a good class of hides. None of the Malabar hides is bought for the export trade. Madras tanners cannot afford the best class hides from Northern India. Tanneries in India are capable of expansion. In a reasonable time we can expand them. During the last 3 War years we increased our tannage four-fold.

Replying to Mr. Ismail:—Germany according to our estimate has a tariff of 10 per cent. on tanned hides. (Here Mr. Ismail referred to the Imperial Institute's reports on hides and skins. Witness agreed that the statements made in the report were accurate).

Under the present conditions it would be difficult for India to finish all her tannage in India with any hope of marketing it. But it is an object to be aimed at, though we cannot do it all at once. The reason for this is that we can only do the stock lines and therefore cannot compete with home firms who do rush orders of small sizes. I do not think India would find it profitable to do such retail business. Finishing can succeed if local consumption backs it. Till then the tanning industry in India will to some extent have to rely on the Madras tannage.

(Mr. Ismail read out a letter from Messrs. Bird & Co., dated the 17th January 1919. In reply witness stated that he could not help the Committee on that matter.)

Replying to Chairman:—In the Indian conditions it is desirable to follow European research for adaptation to Indian conditions. There are good research institutions in Germany, America, and Britain but we must follow up their work with our research for modifying the results of their research to suit our conditions.

I am not keen on a central research institute. I favour decentralised research. Cawnpore, Calcutta, Madras, each of these can tackle its own special problems. My institute in Madras needs more staff and more money.

Madras should be the headquarters of the Committee even though the export tanners may not contribute to the cess. Contribution is not the crux of the question. Madras as headquarters will enable the cess funds to be spent to the best advantage. For improving the hides the Committee should be near the centre of India. I object to Delhi on the ground that there is too much of officialdom and red tape there.

Replying to Mr. Jamal Mahomed:—India has 200 million cattle. United States of America has about 50 million and is a bad second. China is a long way down. America has now become an importing country for hides. For many years India will spare raw hides for export. India's surplus is much greater than that of other countries. Cutting off of the Indian supply will, in my opinion, disorganise the world market for hides. India's position cannot be ignored in spite of a cess of even 10 per cent.

Replying to Chairman:—I am not a business man. Madras stuff can certainly benefit by advertisement, by exhibitions, etc.

STATEMENTS SUBSEQUENTLY SENT BY WITNESS.

1. *English costings for finished Madras tanned hides and-skins.*

It has been found impossible to get figures of English costings for finished Madras tanned hides and skins but the following figures are believed to be near the truth.

(Costings reckoned on 1 lb. export weight of leather.)

	Kips.	
Raw hide.	Madras tannage.	English finish.
	<i>Lining Leather.</i>	
11 to 16 annas	4½ to 6 annas	3 to 5 pence.
	<i>Semi Chrome.</i>	
11 to 16 annas	4½ to 6 annas	3 to 6 pence.
	<i>So-called Semi Chrome (not stripped and retanned).</i>	
11 to 16 annas	4½ to 6 annas	2 to 4 pence.
	<i>Strap and Bag Leather.</i>	
10 to 14 annas	4½ to 6 annas	3 to 6 pence.
	<i>Army Kip and other similar Curried Leather.</i>	
10 to 14 annas	4½ to 6 annas	4 to 6 pence.

SKINS.

(Per skin.)

Raw skins.	Madras tannage.	English finishing.
<i>Natural Lining.</i>		
Re. 1 to Rs. 2	3 to 6 annas	Nil.
<i>Doped Lining and cheap Upper Leather.</i>		
Re. 1 to Rs. 2	3 to 6 annas	2 to 6 pence.
<i>Moroccos and Velvets.</i>		
Re. 1 to Rs. 2	3 to 6 annas	3 to 8 pence.
<i>Lacquered and other goods.</i>		
Re. 1 to Rs. 2	3 to 6 annas	Higher.

2. Imports of raw hides and skins from Rangoon into Madras during the years 1922-23 to 1928-29.

---	1922-23.		1923-24.		1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
Buffalo hides.	321	158,974	61	26,265	189	83,333	159	54,579	223	88,529	145	60,500	263	115,000
Cow hides .	35	27,188	323	195,589	630	524,573	620	558,668	612	486,771	474	374,600	552	453,000
Goat skins .	554	342,449	606	440,131	632	417,645	589	394,662	486	368,113	456	394,000	441	397,000
Sheep skins .	13	23,114	133	79,946	63	40,331	90	35,580	68	35,916	136	73,900	162	93,000

3. Number (in thousands) of tanned hides and skins exported from Madras.

Year.	Bufs.	Cow.	Buff Calf.	Cow Calf.	Goat.	Sheep.
1903-04 .	1,453		...		14,971	} Total skins including calf.
1904-05 .	1,715		...		13,425	
1905-06 .	2,168		237		5,323	7,041
1906-07 .	2,941		266		5,971	7,770
1907-08 .	1,690		146		5,619	8,318
1908-09 .	2,194		244		6,067	8,414
1909-10 .	2,172		227		5,117	8,110
1910-11 .	1,715		228		6,616	8,437
1911-12 .	2,094		491	Total calf	7,449	8,783
1912-13 .	156	2,560	452		5,522	8,770
1913-14 .	154	1,710	435		7,055	7,506
1914-15 .	238	2,079	736		5,938	6,758
1915-16 .	262	2,791	476		6,945	7,063
1916-17 .	319	3,316	760		8,606	8,199
1917-18 .	199	3,668	400		552	1,335
1918-19 .	92	6,249	518		923	2,535
1919-20 .	292	4,872	160	673	3,945	10,190
1920-21 .	40	800	73	354	1,995	6,647
1921-22 .	72	1,158	59	391	2,772	9,776
1922-23 .	131	2,077	206	760	3,105	10,139
1923-24 .	170	2,667	192	928	2,747	12,251
1924-25 .	171	2,787	268	863	7,318	11,133
1925-26 .	83	2,759	346	970	7,953	11,945
1926-27 .	86	2,740	317	964	9,767	11,657
1927-28 .	234	3,642	614	1,214	10,197	12,748
1928-29 .	269	3,837	665	1,023	10,346	11,374

**Written Statement, dated the 18th November 1929, of the
Madras Chamber of Commerce, Madras.**

II. The proceeds of a cess can undoubtedly be spent profitably to the benefit of both the raw hide and skin export trade and since the interests of the tanned hide and skin export trade and the tanning industry for export are practically identical, the proceeds of any cess can be spent to the advantage of both these trades. The tanning trade for home consumption will also be directly benefited.

Some other trades, for instance, bark collection and chemical manufacture, would also be benefited by the lowering of rail freights and by granting bounties, etc., but the boot and shoe industry would only be benefited indirectly.

The primary producer of the hides will also be considerably benefited and the country's economic condition considerably improved since both from the raw skin exporter's point of view and the tanning industry, better hides are wanted for which higher prices are paid. Since practically every rural family in India owns cattle, it would be to the benefit of the country if the value of their hides were increased.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Two parasites damage a hide so seriously as to spoil its value as leather, the first and better known being the warble and the second, the tick.

The damage caused by the warble fly may be easily detected in the raw hide consisting as it does of small holes down the backbone. These holes are in the most valuable portion of the hide, the butt, and as a result a warbled hide has to be graded as a Rejection or at best a Fifth. The extent to which a hide may be damaged may be realised from the fact that an Indian kip in the Leeds University Leather Department Museum shows 680 warble holes. Warble is most noticeable in hides from Sind and the north west part of India but of late we have noticed it in hides from other districts such as Malabar and Burma.

The tick is not so well known and it is only of recent years that attention has been drawn to the damage it does. It is very difficult to detect in raw hides and it is possible that raw hides shippers do not take it into account when grading their goods. In the tanned hide however it is somewhat more easily seen and appears as a small rayed star visible on both flesh and grain side but often very difficult to detect except in a good light. It is much disliked by English curriers as it forms a hole when hides so affected are shaved or split in currying. Parcels of hides are often affected to the extent of almost 100 per cent. but so long as the damage is confined to where the shank joins the body it need not be too serious. When however it spreads across the shoulders or into the butt the hide has to be graded as a Rejection or Fifth. It seems to be considered that it is only found on poor weak animals, but in our opinion it is the tick itself which is responsible for the condition of the beast. The defect is found all over India and as it is far more prevalent than warble and just as serious there is no doubt but that it causes an economic loss to India even greater than that caused by warble.

The defects due to diseases are many but would probably be more difficult to combat than warble and tick damage. Examples of such diseases are mange, and pox complaints which result in blisters on the hide.

2. The question as to how best to cope with the warble fly has been under examination in England and on the Continent for many years. A com-

mittee was recently appointed by the Leather Sellers Co., whose terms of reference were as follows:—

“To investigate the ravages caused by the warble fly in this and other countries, and to inquire as to what steps have been taken in the past, and are now being taken with a view to its reduction and extermination, and as to whether any, and if so what, further steps are advisable in this direction.”

The Secretary of the Leather Sellers Co., and the Manager of the United Tanners' Federation are Joint Secretaries of this Committee. It appears also from reports in the “Shoe and Leather Record” dated 20th April 1923 and 13th September 1929 that systematic cattle dressing has been practised in Worcestershire and that a cheap and effective remedy has been found able to effect 100 per cent. kill at a cost of only 1d. per animal treated. Remarkable results have also been obtained in Denmark where in four years the warble pest has been reduced from 37 per cent. to 4 per cent.

There does not seem to have been the same attention given to a cure for tick, but whereas warble is a subcutaneous parasite tick is found on the surface of the skin, and it should be a comparatively easy matter to devise some form of dip or spray which would free animals from ticks.

In the event of a cess being introduced it is, in our opinion, important that the question of insect parasites be examined at once by the Cess Committee. The economic loss to India caused by the warble and tick must be enormous, as these parasites are capable of utterly destroying the value of a hide, and any money spent in successfully combating their activities must result in a saving to the country which would more than compensate for the expenditure. If the Government of India are unable to provide funds for research work, and, if a remedy is found, for subsequent propaganda throughout the country, a portion of the cess fund could very usefully be spent for this purpose.

We desire to make it clearly understood that expenditure of this nature cannot fail eventually to prove profitable since insect damage considerably depreciates the value of any hide, whether it be exported raw, or tanned in India, and thus causes serious economic waste.

Diseases such as mange are we presume already under consideration by the veterinary department and it is difficult for us to make any suggestions on this subject.

The defects in the quality of hides and skins in India are inter-related and in most cases are due to ignorance, apathy or customs of caste, etc. Crores of rupees are positively wasted annually through these reasons and in this Chamber's opinion the only way in which this money can be saved is by extensive and intelligent propaganda and instruction as outlined below.

Flaying.

3. Defects in flaying are due to many causes. In many cases the animal is lying on the ground, whereas the best practice is to have the animal suspended in some manner free of the ground. The flayer is untrained and has no monetary attraction to do his work properly and consequently does it in the quickest manner possible.

In most municipal and cantonment slaughter-houses, where animals are passed for slaughter, the slaughter-houses are under considerable supervision and the time allowed for slaughtering and flaying is often inadequate. In many cases the slaughter is done late in the afternoon, and as a consequence the work has to be hurried and it is often performed in a bad light. Generally speaking, it is the hides in the big slaughter-houses which are most badly flayed. This is particularly the case in Bangalore, Hyderabad and Secunderabad, and also Madras, Rangoon and Mandalay.

4-8. The best ways to improve flaying would be:—

- (1) To increase the time allowed for slaughter.
- (2) To allow the slaughter to take place in the early afternoon or morning when the light is better.
- (3) By instructions to the flayers.
- (4) By ascertaining the most suitable shaped flaying knife and supplying knives at cost or under cost.
- (5) By passing and marking all perfectly flayed hides and by paying a bonus on such hides as well flayed. This bonus need not necessarily be paid from cess funds, buyers would be prepared to pay it and the amount would vary from one anna to eight annas according to the weight and class, (i.e. whether buffalo or cow.)

Prior to the War, the hides in the Bandra slaughter-house, Bombay, were exceedingly badly flayed, but during the control time the Government paid a bonus, we believe of 2 annas per hide, for perfectly flayed hides. As a consequence, the flaying became practically the best in India, and although as far as we know, the bonus is not now paid, yet the flaying is of a high standard in Bombay slaughter-houses. It might perhaps be feasible in cases of large slaughter-houses where electric power is available, to instal Perco flaying machines. These have been successfully installed in England and on the Continent and Perco flayed hides command a premium of approximately $\frac{1}{4}$ d. per lb. Such an installation might bring the slaughter-house under the Factories Act; probably this matter could be arranged. Two or three machines might be purchased from the cess funds in the first place. Compressed air is also being used successfully to facilitate flaying. Extract from the Meat Journal on this subject is enclosed.

As regards flaying instructions to the village flayer, such instructions could be imparted by men who are also conversant with the best methods of preserving on the lines of a scheme outlined below.

Curing and preserving.

9-13. This is a question of vital importance, and it is through bad curing particularly, that crores of rupees are lost annually. The methods of curing in India vary tremendously in different parts of the country. The well preserved hides from such centres as Agra, Jullundur, Sialkot and Lahore, etc., in other words, from those parts of the country where the Mahomedan population is large and cattle are slaughtered for food, are very much better than those from Central India Hindu States, where cattle slaughter is either prohibited or strictly limited. Even so, the deterioration of hides from dead animals can be considerably minimised by good preserving.

The comparison with the other countries is difficult since conditions are very different, but generally speaking, it may be said that as far as dry hides go, the best come from Java; as far as dry-salted are concerned, the best come from South America and as far as wet-salted are concerned, the best are from the large slaughter-houses in Chicago.

In this Chamber's opinion, one of the most useful methods of employing funds derived from the cess will be in the instruction of flayers, butchers and all other people concerned in the raw hides trade in the proper manner of curing and preserving hides.

The defects in Indian hides are due mainly to the following causes:—

- | | |
|---|--------------------|
| (i) The large proportion of hides from dead animals. | } Dead hides only. |
| (ii) Putrefaction setting in before the animal is flayed. | |
| (iii) Leaving too much flesh on the hides due to improper flaying, thus causing more putrefaction since it retards the penetration of preserving media. | |
| (iv) Drying in the sun. | |

As regards salted and dry-salted hides additional defects are caused by using bad *khari* salt containing mud, alum and drying in the sun.

Khari salt is expensive and is often mixed with mud. Ordinary salt is also expensive due to the salt tax. In other countries where salt is taxed, duty-free salt is issued for use on raw hides. It can easily be rendered unfit for human consumption cheaply and safely; the best example in this case is Italy. The salt intended for the hide and skin trade has a small percentage of bichromate of soda mixed with it. This colours the salt a brilliant yellow and renders it too distasteful for it to be eaten. Such salt could be treated by the Salt Department and issued for sale through the usual salt merchants, or it would be denatured by salt merchants and a refund of duty obtained as is the case with methylated spirits. It would be cheaper than the ordinary salt and also cheaper than *khari* salt in the majority of districts. In spite of these measures in some districts it would be exceedingly difficult to introduce the use of a salt cure except during the rainy weather, but it could be pointed out by instructors that provided the hide is properly and promptly flayed and dried in the shade, good results can be obtained without the use of salt. Agra framed hides fetch much better prices than ordinary crumpled hides and are not treated with salt.

We enclose a statement of assortment received from a hide dealer in the Rangpur district. It will be seen from this that 55 per cent. of the hides are either rejects or double rejects and we feel convinced that this percentage could be reduced to not more than 15 per cent. provided proper care was taken with the hides and such malpractices as the wetting back of ordinary dry hides and then *khari*-salting them and re-drying were stopped.

We also enclose a price list showing current raw hides prices in Cawnpore which shows the tremendous difference in the value between the most expensive and the least expensive hides. Whilst all these low grade hides cannot become high grade hides through good curing, yet a very large percentage of them could be included in the good grade hides if they were properly cured. If proper curing methods could be shown to the flayer and others engaged in the trade, the benefit to all concerned from the primary producer onwards would be tremendous.

In this Chamber's opinion the best means to achieve the desired results is by training instructors and propagandists and by research work. The period of training need only be short. In the first place at least 500 instructors are needed, this should be increased later on to 1,000. Each of these instructors will be given districts to work in and by means of oral and practical instruction and by means of pamphlets and posters they could instruct the villagers and butchers as to the best methods of flaying and preserving and give them information as to where to purchase special salt, etc.

Adulteration.

14. Adulteration exists in serious forms in many parts of the country, and in wet-salted hides, dry hides and dry-salted hides. In wet-salted hides, adulteration consists of weighting of the hides by means of clay mixed with salt; this enables more salt to be applied to the hide and also holds moisture. This is done mainly in the Bezwada district and is particularly bad in Parvatipuram. Another form of adulteration of wet-salted hides is by mixing rice water (*congee*) along with mud and salt. By its binding properties it enables more salt and mud to be plastered.

The worst form of adulteration as regards dry hides is by watering them to increase the weight; this is generally done prior to railing of goods, especially when buyers are buying on a rail receipt weight basis. This practice is exceedingly bad, since not only is the weight falsely increased, but the hides are liable to sweat and putrefy and become grain damaged.

The most serious form of adulteration from a false weight point of view is undoubtedly in Dacca hides. It is not exaggeration to say that in many cases as much as 50 per cent. of excess weight is to be added to the hide. This is generally due to the fact that the Dacca hide passes through many hands before it reaches either the tanner or raw hide exporter, and at every stage the hides are wetted back and given an additional cost of

plaster which is supposed to contain *khari* salt but which actually consists of mud and cement and occasionally barytes.

As far as the export trade is concerned, exporters are better able to answer the question as to the effect of adulteration of this trade, but from conversation with exporters we understand that the trouble is mainly in the dry-salted Dacca hides, where they have no claims for excess cure in spite of the fact that the majority of them scrape the hides before exporting. Apart from the consideration of adulteration, the extra labour, rail freight, etc., which is incurred through this false weighting is considerable and uneconomical.

As far as the tanning industry is concerned, the tanner only learns his lesson through bitter experience and, after having incurred losses, he avoids buying hides from those districts where adulteration exists. Against this, there is the fact that there are many tanners and consequently the raw hide seller is able to carry on his adulteration almost indefinitely. The personal experience of one of the members of this Chamber as regards Dacca hides has been so unsatisfactory that although they were fairly large purchasers sometimes ago of these hides, they have not bought any for the last 2½ years. Where they used to get per 100 lbs. of dry hides, 220 sq. ft. of finished leather, in the last lots purchased, they only gave 170 sq. ft. Similarly from a tanned hides point of view, where it used to be possible to obtain an yield of 68 per cent. leather, this went down to 45 per cent.

15. Many efforts have been made to check this adulteration in Dacca hides and in this Chamber's opinion, the only means to combat it successfully is by co-operation amongst buyers or perhaps by appointing inspectors, possibly a combination of both suggestions would be more feasible and have better results. Buying by the hide or per score should stop the practice, provided buyers co-operated.

As regards the wetting of dry hides, it might perhaps be possible to check by this penal measures, such as are at present the case with cotton and as regards wet-salted hides the presence of inspectors who would be in a position to report to hide buyers those dealers who are unnecessarily weighting their hide, might be beneficial.

Other defects.

16. The principal other defect in Indian hides is branding. The reasons for branding are:—

- (1) Identification.
- (2) Religious reasons.
- (3) Veterinary reasons.
- (4) Customs prevailing in many parts whereby the hide of the animal which dies becomes the property of the members of the sweeper caste.

As regards the first, this is not practised to any large extent in India and where it is done, it should be comparatively a small matter of propaganda, if not to remove the practice altogether, to have the animal branded on the foreleg or shoulder where the brand would not do so much harm.

Our knowledge is insufficient to enable us to express an opinion regarding the second reason.

As to the third, it is certainly a fact that a lame animal can often be cured by branding. Generally speaking, however, such a brand is low down on the leg and does not do a great deal of harm.

The fourth reason is undoubtedly the cause of many hides being unnecessarily branded. There have been definite instances of the deliberately poisoning of good animals by members of the sweeper class in order to obtain the hide. Reference to Hyderabad Police records about 10 years back might bring to light the actual cases. Mr. A. O. Hankin, C.I.E., C.S.I., retired Inspector General of the Hyderabad Police will be able to give information

on this subject. We also believe that some large zamindars and the land owners in Southern India brand their cattle excessively for the same reason.

It is extremely difficult to recommend any action to be taken in this matter except by propoganda and education.

17. Owing to the entire lack of statistics any estimation in the deterioration of Indian hides due to bad preserving and other defects is almost guess-work, but the enclosed statement and price lists of assortment definitely show that deterioration exists to a very large extent, particularly in dry hides. At a low estimate, the deterioration may be put at 33 per cent., for instance, *Chauri Chauras*, if properly fleshed, flayed and preserved would become equal to, if not better than, *Mixed Purab* framed and *Desis* equal to dead framed.

Taking the average of the past 3 years the value of raw hides exported annually is approximately 3½ crores, similarly the value of tanned hides is equal to 3½ crores. The raw hide value of the tanned hides is approximately 2/3rds, this means that the tanned hides exports represent a raw hide cost of 2½ crores. The value of the raw hides used for internal consumption at a low estimate is 2½ crores, the total is therefore 7½ crores and on a basis of 33 per cent. deterioration, it means that 2½ crores are wasted annually.

(b) *Collection, marketing, export, etc.*

18—23. Hides of animals slaughtered in slaughter-houses are usually sold direct to the tanner, but the number of slaughter-house hides or skins represents a very small portion of the total production of hides and skins in India. By far the greatest numbers are collected by commission agents, dealers and some times tanners from village *shandies*, and from collecting agents who collect skins and hides, sometimes over quite a large district.

We do not consider that co-operative marketing is feasible, and in regard to railway rates there certainly is room for improvement here, for railway freight on raw hides represents a very considerable proportion of the value of finished leather.

Similarly, railway freight on tanned hides to ports and tanning materials to tanners should be reduced.

As regards grading hides, exporters of both tanned and raw have their own standards of quality well known to buyers, and there does not seem much room for alteration in this connection.

As regards grading for sale to tanners, tanners base their price on the quality of hides offered for sale.

IV. TANNING AND ALLIED INDUSTRIES.

24. The tanning industry would be much benefited if funds were available for all four purposes specified in the questionnaire.

25. There is in Madras the Government Leather Trades Institute adapted for research work and for practical tanning.

26. We understand that Government are considering the closing down of this institute on the ground that the expense of keeping it up is not justified. We wish very strongly to protest against this as it is, in our opinion, essential to the Madras tanning industry that there should be a technical institute with a really competent expert in charge. The majority of Madras tanneries are very small concerns unable to maintain their own chemist or expert, and in order to assist these an institute where analyses of waters, barks, etc., can be made and where expert advice can be obtained is absolutely essential. Should the cess be imposed a portion of the funds derived therefrom might in Madras be expended in this way, though as the tanning industry is an extremely important one to the presidency and contributes largely to its prosperity it is only right that the Madras Government should afford assistance of this nature to small tanners who are not in a position to afford it themselves, without having to fall back on cess funds.

27. It would be impossible for centres for technological investigation to specialise since each must be competent to deal with problems immediately to hand. It would however be possible to maintain small centres each under an expert for practical assistance in various parts of India and to have one central research institute of an advanced nature under an expert with a staff of research chemists. This we recommend as being the most satisfactory as well as the cheapest scheme. We suggest that the Madras Institute is well equipped to be the main research institute and that as Madras is the centre of the tanning industry the main research institute should be located in Madras.

28. At present there do not appear to be any facilities for training tanners, tannery foremen or leather chemists in the presidency. The Institute used to undertake this work until that side of it was closed down by Government two years ago.

29. In our opinion, the work should be undertaken again, although possibly on a smaller scale, since the trouble over the last few years seems to have been that the supply of trained students of the institute has exceeded the demand. There is however undoubtedly a demand of a limited nature for such trained students and it is essential that a small supply should be forthcoming. It would, in our opinion, be almost impossible to train rural tanners unless they could be induced to undertake a course in Madras, which we consider unlikely. The best way of assisting them is to have an expert in Madras to whom they can apply in case of difficulty.

30. We do not consider that the establishment of tanning schools or demonstration parties is likely to be profitable.

31. Since the East India tanned kip on arrival in England or America has to compete with other leathers it stands to reason that the most effective way of improving the trade in tanned hides is to cheapen their cost and thus enable them to compete successfully with these leathers. Unfortunately however the attitude taken by Government over the past few years has not helped in this way. The duty on raw hides has been reduced from 15 per cent. to 5 per cent. and is based on an extremely inadequate tariff valuation; exchange has been stabilised round about 1s. 6d., and though this penalises raw hide as well as tanned hide shippers the fact remains that the tanned hide is the more valuable article and that tanned hide shippers are consequently more severely penalised. Although repeatedly approaching in the matter Government have done nothing towards removing the 15 per cent. import duty on wattle bark, which raw material is now an absolute necessity to the tanning industry; finally steamer freights have comparatively recently been increased. It is no exaggeration to say that unless some action is shortly taken by Government to assist the rough-tanning industry it seems likely that this industry will disappear so far as hides tanning is concerned.

Hides are at present classified under various marks according to the type of pelt and tannage and are then assorted into Seconds, Thirds, Fourths, Fifths and Rejections. Any scheme of standardisation of grading or of certification for export is quite impossible, and even if possible could do nothing towards obviating the difficulties under which the industry is labouring.

32. The tanstuffs locally available are (a) *avaram* (*cassia auriculata*), (b) *myrobalans* (*terminalia chebula*), (c) *divi divi* (*caesalpinia coriarius*), (d) *konnam* (*cassia fistula*), (e) *wattle* (*acacia decurrens*). There are also several stuffs of minor importance which are either not properly understood or are difficult to procure, e.g., *phyllanthus emblica* and *hopea parviflora*.

(a) *Avaram*.—See last para. of this section.

(b) *Myrobalans*.—The myrobalans in use in South India are the Salem or Bangalore variety which are larger and better coloured nuts than those found in North and Central India. The supply is usually adequate and

although the price of these Salem myrobalans is altogether too high in proportion to their value it seems to be impossible to remedy it. Possibly the cultivation of this tree by the forest department would be remunerative.

(c) *Divi divi*.—This is not used for the ordinary E. I. kip tanning as it possesses peculiar properties which make its use dangerous.

(d) *Konnam*.—Was used in the past to supplement *avaram*, and is still used in small quantities. Its price is below that of *avaram* but its tannin content is very low and as a tan bark it is worth little consideration.

(e) *Wattle bark*.—There is a good deal of *acacia dealbata* in the Nilgiris, but this variety is of little use for tanning owing to its low tannin content though suitable for extract making. There is also a little *acacia decurrens* in the Nilgiri and Palni Hills, there being one plantation near Ooty owned by Mr. J. P. Parry. Mr. Parry's results have been, we believe, good, and the tannin content of his bark is high, and it seems likely that the cultivation of *acacia decurrens* could be undertaken very successfully in the Nilgiris. It is a tanstuff in use throughout the world, and is not likely to lose its popularity, and since South Africa, the present chief grower of wattle, has difficulty in meeting the world's requirements Government should make every endeavour to foster the growing of wattle in India by undertaking it themselves and advancing capital for the purpose to private concerns on easy terms.

Another method of encouraging the growing of wattle bark in India would be to offer a small bounty of, say, Rs. 20 per ton on all home-grown bark. This expenditure might be met from cess funds.

33. There is no doubt but that *cassia auriculata* as a tanstuff is very much superior to *acacia decurrens*. It produces a very mellow white leather and has certain properties which make it particularly suitable for use by Indian tanners. Unfortunately, however, the nature of the bark is such that the labour of collecting it is very great, and consequently in order to make it worth collecting it has to realise a price in excess of its merits. It does not seem possible to make it available in larger quantities and at a cheaper rate. A large portion of the bark now available in South India is not harvested as its price is not considered sufficiently remunerative. This question has been examined by the Madras Government and Madras Chamber of Commerce and recently by the Imperial Institute and no satisfactory solution has been put forward. An attempt was made after the War to promote the growth of *avaram* by leasing government land to private concerns on favourable terms but few, if any, of the ventures made proved successful. Something can of course be done towards cheapening the delivered cost of the bark by obtaining a concessional rate of freight from the railways, but this will make very little difference.

The nature of the bark is such that its collection and transportation seem to forbid its being put on the market at a price which will enable tanners to use it instead of wattle, except for skins where an exceptionally good tannage is repaid by a commensurately high price. An examination of the position by the Madras Chamber suggested that tanners could profitably use *avaram* at about Rs. 25 per candy, a price at which good bark has not been sold since November 1922. The evidence of Mr T. Clear, I.F.S., however before the Leather Industries Committee of 1923-24 showed that the bark had to realise about Rs. 34/35 per candy in order to make it worth the trouble of collection, and the difference between the selling and buying price seems too wide to be bridged.

It should be stated, however, that if a way can be devised by which *avaram* can be produced in greater quantities at a sufficiently low price this will be of very great benefit to the Madras tanning industry, and though, in our opinion, such a way is not to be found, yet any suggestions to this effect should be welcomed and carefully examined by the Hides Cess Committee.

VI. COST OF SCHEMES PROPOSED.

36—42. Under this heading we propose to deal only with the articles on which a cess should be levied and the rate of the cess. We strongly oppose any cess on the export of either tanned skins or tanned hides. The consumption of tanned leather in India is negligible compared with the export of tanned hides and tanned skins. Indian tanners have to compete with the rest of the world in the sale of their leather, and it is an undoubted fact that the tanned hides industry particularly is continually subjected to waves of depression, and on the average the profit left for the Indian hide tanner represents a very small percentage of the value of the leather he produces. In addition to this the manufacture of leather gives employment to a very large number of Indian workers, and on this score alone it is of much more importance to India than the export of raw hides or raw skins. Moreover in war time the tanning industry is of vital importance to the country.

The export cess on raw hides and skins exported of not less than 10 per cent. should take the form of an *ad valorem* cess. The present system of tariff valuations has, so far as Madras is concerned, proved to be very unsatisfactory, in that the valuations given in the schedule have been very much below real values in nearly all the items mentioned in the Tariff Schedule. We do not see any reason for limiting the cess to a specific period; we think the cess should be permanent.

VII. CESS COMMITTEE.

43—55. We are in favour of the formation of the Committee to administer the proceeds of the cess, and we suggest that nominations to the Committee should be made by the Governor General in Council on the advice of the trades interested. We think the representatives on the Committee should consist of tanners, exporters of tanned hides and skins and exporters of raw skins and hides; an equal number to represent each branch of the trade. The Committee should have power to co-opt experts from time to time, the conditions, and the period during which the experts should act in the Committee should be decided by the Committee. The Chairman of the Committee should be nominated by Government and the Secretary should not be a member, but he should be permanent and full time. The Committee should act through either the Central Government or the local Government, and Collectors of Customs should collect the cess in the same manner as the present export duty is collected. The headquarters of the Committee should be located in Madras with branches at Calcutta, Bombay and Karachi.

Flaying cattle by compressed air.

(Extract from the Meat Trades' Journal.)

Compressed air for skinning large animals has been used in Switzerland for some years. The abattoir managing body in Zurich are very satisfied with the results.

The stunning and bleeding follows the usual practice in England. The head is then removed, but the carcass is not opened up. The overhead rail equipment for transporting the carcasses is very complete, so that no time is lost in getting them to the skinning room. The system works much better with the body still warm.

The carcass is laid on a trestle with the belly upwards. A small hole is made in the skin near the rump, and the nozzle supplying the compressed air is put in. This nozzle is a plain round pipe, with a trigger for turning off the air. The skin is then blown up. The air pressure is very moderate, being only 28 lbs. square inch.

The inflation continues until the skin is almost entirely freed from the carcass. It assumes a balloon-like appearance, but still the hide is capable

of further stretching when the air is cut off. If it is left too long, there is a danger that it will be over-strained and damaged. This process takes about a quarter of an hour.

The skin is then cut down the middle and the insides of the legs. It is remarkable the way the skin almost falls off, requiring only a few strokes of the knife here and there. The head is afterwards treated in the same way.

The special advantages of the use of air are its speed and the ease of handling. The hide is left quite free from all particles of fat, while the carcass has a very good appearance also. This is due to the absence of cuts and the loss of patches of the surface fat. The air separates the skin at a uniform depth over the whole carcass.

The machinery used is a small rotary air compressor, driven by an electric motor.

Statement of assortment.

	Pieces.
Slaughters, Light, approximately 5 lbs. average . . .	35
Medium, approximately 8 lbs. average . . .	25
Heavy, approximately 15 lbs. average . . .	1
Deads, Light, approximately 5 lbs. average . . .	63
Medium, approximately 8 lbs. average . . .	80
Heavy, approximately 15 lbs. average . . .	31
Rejects, Light, approximately 5 lbs. average . . .	48
Medium, approximately 8 lbs. average . . .	95
Heavy, approximately 15 lbs. average . . .	17
Double Rejects, Light, approximately 5 lbs. average . . .	11
Medium, approximately 8 lbs. average . . .	49
Heavy, approximately 15 lbs. average . . .	16
Wrappers, approximately 8 lbs. average . . .	25
Calf skins mixed, approximately 2 lbs. average . . .	11

507

Guaranteed perfect sound assortment cure clean and fine free from chick cured hides. Average all round weight between 7½ and 8 lbs. Prices Rs. 75 per 20 pieces, landed in wagon at Goods Shed, Saidpur.

Price list showing current raw hide prices in Cawnpore.

Description.	Percentage.	Price per score.
		Rs.
Wet-salted hides—		
Real Agra Slaughter	5	130—140
Selected Cawnpore Slaughter	10	115—120
Pachcham quality	20	100—105
Mixed Purab	30	90—92
Purab Dead Ordinary	25	80—85
Rejections	10	40—50
		Price per maund of 82 lbs.
		Rs.
Dry hides—		
Framed—		
Purab Agra Slaughters		75—80
Halali Selections		60—62
Mixed Purab		52—56
Dead Framed		45—46
Rejects		35—40

	Price per maund of 82 lbs. Rs.
Unframed—	
Chauri Chaura	38—39
Desi	85—96
Rejects	20—25

DETAILS OF SCHEME FOR PROVIDING INSTRUCTORS AND ADMINISTRATORS THROUGHOUT INDIA TO IMPROVE THE FLAYING AND PRESERVATION OF HIDES.

The area of India including the Native States is approximately 1,700,000 sq. miles. It will be seen therefore that the 1,000 instructors suggested will be by no means too much, however, since the instructors have to be obtained and trained, it will take sometime to reach this quantity. The places at which training could be imparted are as follows:—Madras, Calcutta, Cawnpore (Technical Institute), Lahore (Punjab Government Tannery), Hyderabad, Deccan (Agricultural or Veterinary Colleges), Bangalore (Chamrajendra Technical Institute). Other places might be Bombay, Karachi, Rangoon, Dacca, Coimbatore and Trichinopoly.

Rs. 14,00,000 seems a lot but if the value of the Indian hides is increased by 2 per cent., there is no loss to the country as a whole.

Cost of Instructors.

	Rs.
First Year—	
500 Instructors @ Rs. 80 per mensem	4,80,000
20 Divisional Superintendents @ Rs. 150 per mensem	30,000
5 Chief Superintendents @ Rs. 600 per mensem	30,000
10 Flaying Experts @ Rs. 600 per mensem	72,000
	<hr/>
	6,24,000
Travelling expenses	1,00,000
Printing, pamphlets, posters, etc.	25,000
	<hr/>
	7,49,000
Second Year—	
500 Instructors @ Rs. 85 per mensem	5,10,000
500 Instructors @ Rs. 80 per mensem	4,80,000
20 Divisional Superintendents @ Rs. 160 per mensem	38,400
20 Divisional Superintendents @ Rs. 150 per mensem	30,000
5 Chief Superintendents @ Rs. 650 per mensem	39,000
5 Chief Superintendents @ Rs. 600 per mensem	30,000
10 Flaying Experts @ Rs. 600 per mensem	72,000
	<hr/>
	12,11,400
Travelling expenses	1,50,000
Printing, etc.	50,000
	<hr/>
	14,11,400

Oral Evidence of (1) Mr. G. A. CHAMBERS, (2) Mr. C. A. INNES
and (3) Mr. J. W. MACFARLANE, on behalf of the Madras
Chamber of Commerce, Madras.

(Madras, the 20th November, 1929.)

Replying to Chairman:—We shall speak officially for the Chamber. We have no one spokesman but will consult together and in each case one of us will reply.

Q. 3.—In general, slaughter-house hides are badly flayed owing to hurried work.

Qs. 4—8.—Time for slaughter cannot be changed on account of the exigencies of meat supply.

In many cases the tanner contracts with the butcher. Generally speaking, the hide is not bought on or after an inspection but while it is still on the live animal.

Qs. 9—13.—Our statement that in the first place that at least 500 instructors would be needed is based on the very large area to be covered. In fact, the number recommended by us is not big enough even for the Madras Presidency. The Cess Committee will, however, have to start in a small way. We do not know to what extent co-operative societies can help, but we have not thought of the problem from this point of view.

The lack of success as regards the *avaram* was due to the fact that the Forest Department could not spend large sums of money on experiments and similar work. But the position may become different if we could approach the forest and other departments with funds.

Q. 15.—Before the War there was co-operation between the German buyers, but we do not know of any co-operation for buying among the Madras tanners.

Penalisation is feasible.

Q. 17.—The 33 per cent. depreciation is the depreciation in value, not in the numbers affected. Generally speaking, the two-thirds ratio stated there is correct, i.e., the raw hide value of a tanned hide is generally two-thirds.

Q. 23.—Our Chamber has not so far approached the Railway Rates Advisory Committee. Individual railways were approached but without success.

Q. 31.—The competition of the Madras kips is with English and German-made leather in England and with American-made leather in America. The English semi-chrome has to compete with German chrome in the British and also in German and American markets.

10 per cent. of the East Indian light-weight kips are semi-chromed in England. (NOTE.—Mr. Chambers thought the figure should be 15 to 20 per cent.)

Dyeing and finishing of hides is at present being done to some extent in Madras.

Qs. 40—42.—It appears to us that 10 per cent. would not harm the raw export trade. (NOTE.—Mr. Macfarlane admitted that he did not do any raw hide export trade but he was largely interested in the raw skin export trade.) A

Figures prove that the export trade was not and would not be hurt. The main thing is that 10 per cent. would protect, and it is for its protective effect that the Chamber has recommended this rate. It will help the tanner to buy his raw material at a lower price. We wish to make it clear that we would rather have the export duty. We would prefer an increase in the export duty to the imposition of a cess. The Chamber's intention in submitting this memorandum is not to recommend a cess but rather that if there is to be a cess at all, it should be at least 10 per cent.

(NOTE.—While correcting his evidence, Witness added the portion marked A.)

Our proposals for improvement would certainly benefit the tanner as well as the exporter. The tanner cannot stand any cess on his industry. It has had a number of handicaps including the 1/6 ratio. No further handicap should be imposed. We oppose the cess on the export of the Madras tannage. We ask for representation on the Committee because the tanning industry would ultimately benefit the producer of the raw hides and skins and therefore even if the tanning industry does not contribute, it should have a representation on the Committee.

B { The tanning industry deserves representation on account of its importance to India's prosperity as an employer of labour.

(NOTE.—While correcting the evidence, the portion marked B was added by the Chamber.)

Replying to Mr. Price:—Our tannage (i.e., the East India kips) goes mainly to London. A good proportion goes to America through London. There is a little direct trade also with America. An increase of import duty in the United States would hit the Madras tanners both directly and indirectly. Thus if the United States followed their present ideas for protection, we Madras tanners would be hit.

[NOTE.—Mr. Chambers made a statement to the following effect:—

We want goods at a lower price. This would be at the expense of the prime producer. (Mr. Macfarlane differed). There is very little profit on Madras tanning.

Mr. Macfarlane said:—I do not think the prime producer pays the present export duty or would pay the cess. It is very largely paid by the foreign buyers of Indian hides and skins.

Mr. Chambers said, the villager who produces the hide does not lose anything at all.

Mr. Innes added that the opinion expressed by Mr. Macfarlane was the uniform opinion of all the tanners].

The conditions in the Punjab, Sind, etc., may be different from those in other provinces of India.

Cess, if at all, should be at 10 per cent. We have been informed that skins have not been included in the scope of the Committee's inquiry. The total proceeds of the cess at 10 per cent. on both hides and skins would be seventy to eighty lakhs. Our scheme involving an expenditure of fourteen lakhs relates only to the appointment of faying instructors. We do not know the figures of the total proceeds of the cotton, tea and lac cesses. We are not in a position to say whether the Government and the Legislature will accept a cess yielding seventy to eighty lakhs. Owing to the short time at our disposal we have not thought out many schemes for absorbing seventy to eighty lakhs. We have all along taken it that this Committee's sitting is without prejudice to the question of the export duty whether on hides or on skins or on both.

Q. II.—The primary producer would also benefit by a cess. It is in very few cases that the villager receives the price of the hide. Ordinarily, it is the *chamar* whose perquisite the hide is. The prime producer's interests can and will be looked after by government officials. The prime producer, however he may be, would be benefited by improvements brought about with the help of a cess.

Qs. 9—13.—Tanners would rather use green and thereafter wet-salted hides. Thereafter dry-salted. Then air-dried in the shade. This trade is full of tricks. If all hides were shade-dried and arsenicated, cheating will to a large extent be eliminated. Tanners would prefer shade-dried arsenicated hides.

Damage done to hides in wagons is not serious. Wooden wagons are desirable but the proposition is not a feasible one.

Q. 14.—An arsenicated hide is not necessarily a sound hide. The soundness depends upon the time when the arsenication was done. Putrefaction is so difficult to detect.

Adulteration must be profitable. It could not be due to mere ignorance, for otherwise it would not go on the way it has done in India.

(NOTE.—Mr. Chambers said, I do not consider the difficulties of organising buyers whether for tanning or for export insuperable.)

In Madras we cannot get together for buying, but this is not an impossibility. No effort has been made so far to do so. When Government put a veto on adulterated hides, it was found possible to stamp out the adulteration.

We are in favour of combination for the betterment of hides.

Q. 39.—The argument that tanners should not be on the Committee because they do not contribute does not hold good, because on account of the semi-monopolistic position of Indian hides and skins the incidence of the cess is shifted not to the primary producer but to the foreign buyer. Hence the tanners would contribute just as much as the exporters to the cess. The tanner would, all the same, not object to a contribution to the cess, but he wants the duty to continue for his protection. The Madras Chamber have not considered the problem of a cess proportionate to the raw hide content of the Madras tannage. (Mr. Macfarlane added that, in his opinion, the Chamber were not likely to agree to any cess. Mr. Innes agreed with Mr. Macfarlane).

Even without contributing, the tanners, as such, have a moral right to representation on the Committee.

Q. 42.—The customs authorities are collecting the duty on a tariff valuation which is too low. When they collect the cess, they may have to be paid something for collection. Put it briefly, we tanners down here want protection whether you call it a cess or duty.

Replying to Mr. Wykes:—Warble-damage is not very serious in the Madras Presidency. Ticked hides are many times more numerous.

I believe that in South Africa good results have been obtained by spraying for protection from ticks.

Our scheme has been too hurriedly prepared. We had so little time. We agree that supervisors will have to be attached to slaughter-houses.

Bombay flaying which improved during the War has deteriorated since then.

Q. 14.—Buying on railway receipt weight may not be necessary, but it is customary and there is no help to it.

Q. 15.—Whoever tries to organise would find it necessary to lose a little money.

Q. 31.—Even taking labour costs in the Madras Presidency, finishing in Madras would not necessarily pay. The English finisher's position is different. All the same, we are moving in that very direction. We are today making far better leather than we used to do ten years ago. Our leather can today sell at home and even in America, but it will all take time.

Q. 55.—Mr. Macfarlane said:—I would have no objection to a branch of the Committee being at Cawnpore. I think the headquarters should be in Madras.

Replying to Mr. Raigue:—75 per cent. to 80 per cent. of hides are deads and 20 per cent. come from slaughtered animals. Table-salted hides are better than *khari*-salted ones. With *khari* you can get iron stains. As a tanner I would cut out *khari* because of its liability to abuse. We tanners would rather use wet-salted hides rather than *khari*-salted. Government can supply cheap but denatured common salt. We think that there is ample field for research on different cures for different conditions—climatic and other—in India. Slaughtered arsenicated framed hides are the best from

the tanners' point of view. I cannot say how many of the 20 per cent. slaughtered are consumed by tanners in India. A large portion of the better class hides go out. This is because we cannot compete with exporters. The tariff duty operates in favour of the export of the better class.

The buyer of the East Indian kips knows what he is buying. In buying raw hides, one is never sure what one is buying.

Every one expects to buy cheap in India; that is the difficulty with our leathers. Hides are bought in India because they are cheap and not because they are inferior.

Indian hides do not have a world-wide competition to face. No country in the world supplies the quantity or the particular type of Indian hides at the price which they fetch.

The 15 per cent. duty operated when the world had stocks of tanned hides in reserve after the War. Hence the tanner could not derive much benefit from that duty. We reiterate that our Chamber's view is that the principle on which the cess should be levied is that of protection.

Replying Mr. Jamal Mahomed:—The lowering of freight and bounties must benefit the tanner. The same applies in reference to the lowering of freights and grant of bounties in respect of bark, i.e., these must also benefit the tanners.

The warble makes a hole right through. The tick is more universal than the warble. You cannot chrome-tan a ticky hide, though you can bark-tan it better than chrome-tan it.

Q. 2.—This preparation can be made in India. (Chairman:—We will see if it is an ointment.) The tanner is entitled to representation, because he has to tan. He should get it even if he does not contribute.

Q. 3.—Hanging of a carcass would by itself lead to some improvement in flaying.

We Madras tanners use many framed hides. But we do not get them in all seasons. Framing is done in certain seasons only. The same area wet-salts in certain seasons and frames them in certain other seasons. Freight on wet-salted hides is higher than on dry ones. It is the exporters who take up the larger portion of the slaughtered hides. The Calcutta Chrome Tannery use almost exclusively Agra slaughtered hides. Even then a lot go out of India. The Madras hide tanner buys mostly lower class hides. Any statement to the contrary in the Fiscal Commission's Report or anywhere else is quite an inaccurate statement of fact.

Q. 14.—When discussing the question of buying on the basis of the railway receipt weight, we referred to raw hides. Tanned hides today are quite clean. There is practically no adulteration in them. Before the War the position was very different. The tanner of today is producing a straight leather. The buyer in London or elsewhere knows what he is buying. Secondly, Madras kips are put to far more numerous uses now than before the War. Thirdly, they are now more widely known throughout the world. These are the various reasons why their exports have increased.

The competition between tanners and exporters enables the prime producer to get better prices. The Madras tanners help the primary producer with healthy competition for his products.

Q. 17.—The figure of 2½ crores should be corrected to 1½ crores.

I do not think the Madras tannage can be improved upon for a light leather. It is the best in the world. The tanneries can and do provide the necessary training. Average bark tanning costs 4½ to 5 annas per pound. We shall later on supply the proportions of the values of raw hides to the cost of Madras tannage and to the cost of finishing abroad. (Mr. Chambers said: I am a chrome tanner and also a bark tanner.) Finishing, etc., are possible in Madras, and we are moving in that direction, but it is bound to take some time. The Indian market for leather though getting more extensive is still not very wide. To some extent the need for close touch with the

changing fashions abroad furnishes the reason why Madras leaves the finishing, etc., to the various curriers.

If there be a heavy cess India's position in the world's markets will not, in our opinion, be affected. The quantity produced by her and the fact that Indian hides are light-weight make them something like a semi-monopoly.

Replying to Mr. Ismail Mr. Macfarlane said:—As a buyer of raw skins I do not ask my agent to buy at so much *minus* the present export duty of 5 per cent. The export duty has helped the hides tanning industry, but it alone is not responsible for the increased export of tanned hides and skins. Indian bark-tanned leather has to compete, as leather, with German, American and other leathers. But we have the advantage of cheap labour. The substitution of *avaram* by wattle has to some extent enabled tannage to be cheapened. But we still have the burden of the 15 per cent. duty on the import of wattle bark. We hold that the Madras tannage is a full tannage. The only thing lacking is the final finish. It is also a light tannage.

We do not regard the collection of hides, etc., as an industry.

Replying to Mr. Pillai: *Q. 15.*—In our opinion, the penal provision proposed by us would work.

The Leather Expert or his assistant need not go round on his own initiative. It would be better if he went on invitation.

Q. 32.—It looks a sound proposition to improve and grow myrobalans. It is an Indian monopoly. Our Chamber is in favour of wattle cultivation being stimulated. The wattle grows only at certain elevations.

Replying to Mr. Shah:—The use of the word 'practically' in the 4th line of the first paragraph of the memorandum may not be necessary. But we shall examine the question as to whether there are any specific matters in which the interests of the tanned hide and skin export trade and the tanning industry are not identical. If any such matters are discovered, we shall let the Committee know.

In our opinion, a bounty or subsidy would be more suitable for encouraging the production of wattle bark in India.

Q. 11.—Even apart from the cess or the export duty any money that could be found would be well spent. In our opinion, it should be found whoever finds it, whether the Central Government or the Provincial Governments. The Committee referred to in the last paragraph on page 286 was appointed last July.

Q. 8.—There are at home Buyers' Associations which pay bonus to flayers for good flaying.

Curing and preserving: The opportunities for preserving slaughtered hides are naturally greater than in the case of dead ones. This is why a larger proportion of hides from areas where cattle are slaughtered in larger numbers are more satisfactory.

In Lahore slaughter-houses the hides are delivered after 24 hours. Meanwhile considerable damage is done to the hides. As regards the system followed in Java, we shall send a note for the Committee's information.

We shall supply a note on the classification followed by the railway, for the transport of raw hides and skins.

We do not know of any country where official grading or official standardisation is being done.

The reason why Madras tanners use Burma hides is that that hide has the substance which cannot be had in any other Indian hide.

It will be difficult to work out the ratios of rates of raw hides and skins to (a) Madras tanned and (b) the regular tanned hides and skins. But we shall do our best to give such ratios.

Replying to Mr. Price:—There are no auctions in America. The majority of tanned hides are sold by treaty in London; the majority of skins are sold by auction in London which is a convenient distributing centre of exchange.

Replying to Mr. Rafique:—The myrobalans which are exported are not the sort used by the Indian tanners. It is only the inferior variety which is exported. The foreign tanner does not want or need the superior type of myrobalans. Madras tanners do not want that the cess should take away or reduce his present protection by the existing export duty.

Replying to Mr. Jamal Mahomed:—Our statement that the cess would yield 70 or 80 lakhs was based on the assumption that the cess would be imposed both on hides and skins. If it is not imposed on skins the figures would naturally be reduced. The licensing of flayers was considered (in the time of Sir Charles Innes when he was the Director of Industries) but was abandoned. We want to make it clear that our Chamber is in favour of research being done on tanning, etc.

Our Chamber does not wish to differentiate between Madras tannage and finished leather exported for the purpose of the imposition of the cess.

Malabar hides are good and are locally consumed.

**Written Statement, dated the 15th November 1929, of the
Southern India Chamber of Commerce, Madras.**

Southern India is particularly suited for the tanning of hides and skins owing to supplies of the required quality of water, vegetable bark, salt, lime and other tanning materials and to the existence of a well trained labour population. It is true that a large percentage of hides is wasted by bad flaying or insufficient curing, and the proceeds of the cess can be usefully spent to combat these evils. Village tanning industry is practically non-existent in this part of the country.

South India has been the seat of the tanning industry for a long time now, and her tanneries have so developed that she has to rely on other provinces and neighbouring countries for nearly 75 per cent. of her requirements of hides and 25 per cent. of her requirements of skins. She depends to a very considerable extent on supplies from Burma and the exclusion of Burma from the scheme of the cess which the Government of India have decided without consulting the interests concerned and after the Committee had commenced its work, would be a severe blow to the South Indian tanneries and it is not unlikely that some of them would have to close or severely cut down their output. The Cess Committee would be in a position to give assistance to the Indian tanning industry by means of cheaper supply of tanstuffs and low railway freight. The question of local production of chemicals and of chrome tanning materials is not an urgent problem and as they bear but a small proportion of the total cost, their import from foreign countries to supplement local supplies is not a serious obstacle to the growth of the industry.

The importance of reducing railway freight for hides and skins and tanning materials cannot be too strongly urged. Special rates between given stations work out at less than 3 pie per mile per maund, but such rates are available only to a few stations while the supplies and centres of manufacture are so scattered that nothing but a revision of the general classification would help the trade. The present M. S. M. Ry. rates of 62 pie per mile per md. for *R. R.* and 42 pie per mile per maund for *O. R.* are decidedly too high to permit a free flow of raw materials to the tanneries and of tanned goods to the ports. The tanning industry would receive further assistance if the transport charges are moulded to give preferential treatment to the raw materials going to the tanneries rather than to the ports, and to the tanned and manufactured goods moving within the country as against the imported goods railed from the ports.

II. The proceeds of a cess levied only on the exports of raw hides and skins in addition to the existing export duty can profitably be spent on the tanning and allied industries as well as on the improvement of raw hides and skins in the manner hereinafter suggested. The export trade in raw hides and skins is not an industry as is suggested in this question but only an export trade in raw materials.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Hides: Warble and pox.

Skins: Monsoon defects, pox, *pori pori*, sores, warble, *meru* and anthrax.

2. The veterinary department has been doing something in this matter. As some of these defects are due to climatic conditions it is not perhaps possible to remove them completely. However, further and more active steps can be taken by the veterinary and agricultural departments.

Flaying.

3. We find deep knife cuts which even penetrate to the grain side of the hides and skins, mostly in hides. These are more prevalent in slaughter house pelts.

4. Hides: Electric flayers may be introduced by municipalities or union boards in big slaughtering places such as Agra, where electric energy is available. Also a bonus of, say, 4 annas per hide can be given to butchers for each well-flayed hide. Municipalities and union boards may also introduce a system of licensing flayers, so that the suspension or cancellation of licence for default would operate as a check.

Slaughter-houses should be well-lighted. They should be kept open throughout the day so that there will be no need for hasty flaying.

5. It has not been known that knife cuts are due to deficiency of flaying knowledge but the appointment of special flaying instructors and supervisors may be tried. There is not much killing of cattle in villages in this part of the country, and flaying of dead cattle is not badly done. Instruction to village flayers does not appear to be a practical proposition.

6. The supply of flaying knives of any approved pattern might be tried.

8. The system of bonus paid to slaughter-house flayers for good flaying was tried and found successful during the War at Bandra, Bombay. Individual exporters in North India have also been known to have successfully tried the system.

Curing and preserving.

9. In Southern India curing is generally done to preserve the skin or hide till it reaches the tannery either by rubbing powdered salt on the flesh side or by simply drying the pelts.

10. Defects in methods of curing and preserving are due to improper salting, oversalting, using cheap salts which contain minerals, drying in the sun, etc. Such salts when used damage the hides and skins.

11. This can be done by making all salt used for curing and preserving purposes duty-free and by facilitating the supply of such duty-free standard salt to curers and preservers in all places. The distribution may be made through village officers or *patels*, under the control of the Salt Department. The abuse of this concession may be prevented by the admixture before issuing, of some chemical or denaturing ingredient which would not be poisonous but would still render the salt useless for human consumption.

12. Yes.

13. At present duty-free salt is not available except in organised tanneries and further, the conditions and restrictions are too severe to permit its widespread use. See also answer to question 11.

Adulteration.

14—15. There does exist some degree of adulteration in skins and hides but the remedy lies with the buyers. This evil carries its own cure and the trade has been taking steps to detect adulteration and deal with the suppliers of such stuff. No outside agency can stop the practice smoothly and effectively.

Other defects.

16. Branding of animals is chiefly done for one or another of the following reasons: (1) to safeguard against and at times to cure certain diseases prevalent among cattle, (2) to identify the ownership of the animals and (3) to lessen the value of the skins and hides of such animals as are flayed alive by robbers. As regards (1) the veterinary department should find out other effective remedies for such diseases. Propaganda should also be carried out to stop the practice of branding for diseases. To deal with the 2nd and 3rd causes perhaps it would be sufficient if Government take more active steps to check cattle lifting.

17. The depreciation in value of skins and hides owing to various defects may be estimated at 30 to 40 per cent. at least. Half of this loss may perhaps be made good by systematic efforts.

(b) *Collection, marketing, export, etc.*

18. When the animal dies or is killed, it is flayed. In slaughter-houses the hides and skins are sold in wet condition to a tanner or to a dealer. The tanner if his tannery is near, soaks them immediately for tanning. In case his tannery is at a distance, he preserves the skins or hides, packs and despatches them to the tannery. If the buyer is a dealer, he salts them or salts and dries them for despatch to the market.

In villages, the skins and hides flayed are sold to petty merchants or tanners. The petty merchants in turn send them to commission agents for sale or sell them to tanners. Such commission agents collect skins and hides from petty merchants in the villages or in the weekly markets or *shandies* and sell them in turn to tanners or raw stuff exporters.

In Northern India, in centres where there are no tanneries within their reach, the commission agents dry them and sell them either to a tanner who may be some miles away or to a raw goods exporter, because the salted skins and hides cannot stand the weather long unless they are dried. Drying is also done for the purpose of reducing the railway freight, which is saved by about 40 per cent.

The raw goods exporter simply ships the dried material thus supplied, after assorting and packing.

19 and 21. The chief difficulties are in railway transport. Freight is high. Packing conditions are stringent. Delays are common. Oftentimes wagon supply is short. The wagons are leaky, and being made of iron impart rust and stain and cause heat during transit.

In this connection, the Committee may usefully examine the facilities given by the Governments of the Western countries which are industrially advanced. Special facilities and low rates are obtaining in such countries with a view to develop their industries. The railway rates for the transport of raw materials to manufacturing centres and of manufactured articles to market centres and ports of shipment should be substantially reduced to encourage the retention and manufacture of the raw materials within the country.

IV.

TANNING AND ALLIED INDUSTRIES.

24 (a, b, c, d). Yes.

25—27. As far as Southern India is concerned, there already exists in Madras a Research Institute. It should be enlarged and made more efficient and useful by putting more funds at its disposal. It can suitably be developed into a Central Technological Institute. Each province has however got its own peculiar problems to be tackled.

28—30. Facilities are provided sufficiently by the industry itself for training tanners and foremen. Research scholars can be trained in the research institutes. In this province, tanning is done on an organised and established system. There is practically no cottage tanning industry in this part of the country and so no training or rural tanners is required.

31. The export trade in tanned hides and skins can be improved by encouraging the tanning industry which is possible chiefly by making it easier for the tanners to get hold of more and more of the raw goods. This can be done only by restricting the exports of raw skins and hides by means of a higher export duty. A higher export duty on raw goods would compel their foreign buyers to transfer their custom to our tanned goods.

The trade has long established its own methods of grading suitable to, and recognised by, all the foreign buyers. Hence no fresh scheme of standardisation or grading will serve a useful purpose; on the other hand it may do immense harm.

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The trade has long established its own methods of grading suitable to, and recognised by, all the foreign buyers. Hence no fresh scheme of standardisation or grading will serve a useful purpose; on the other hand it may do immense harm.

32. All necessary tanstuffs, such as lime, barks, oils, myrobalans, etc., are available locally. The supply of barks is by contract system. One improvement that can be made for the cheaper supply of indigenous tanstuffs is by the reduction of railway freight on such materials. This industry also requires a large quantity of wattle bark and it is anomalous that its import should be checked by an import duty of 15 per cent. *ad valorem*. Research should be made regarding the use of extracts.

33. *Cassia auriculata (acaram)* is decidedly a superior tanning material, but it is not necessary for tanning hides, as wattle bark tanning has been done in hides in a fairly efficient manner. *Acaram* bark is necessary for high class skin tanning and it should be made available in larger quantities by cultivating it wherever it can be successfully and cheaply done in government *paramboke* lands and reserve forests, and reducing the railway freight thereon.

V.

ADVERTISEMENT.

34. Advertisement can be done by exhibiting the Indian tanned articles and leather goods in foreign countries through the Indian Trade Commissioner or other agencies.

VI.

COST OF SCHEMES PROPOSED.

36—38. We cannot work it out at such short notice.

39. The fundamental principle of levying a cess should only be to encourage and develop the indigenous tanning industry and improve the quality and selection of the raw stuff. Hence the cess should be levied only on the exports of raw skins and hides and in addition to the existing export duty.

40. The rate of cess may be fixed at 10 per cent. *ad valorem*. The exports of raw stuff may be gradually reduced by being diverted to the tanneries. This is exactly what is desired in the interests of the country. It should not be forgotten that not long ago, before the foreign countries, principally Germany, Italy and America began to import and use our raw stuffs in their own factories, they were using our tanned skins and hides to a very large extent. They would in the natural course again commence buying our tanned goods both because our raw stuff would become dearer to them and because our tanning methods would have improved.

41. The cess, as proposed above, on the exports of raw hides and skins, should be permanent or at least be levied until such time as the tanning industry of the country may not require it any longer.

42. The cess may be an *ad valorem* rate, but the scheduled values should not fight shy of the ruling market rates as they do now.

VII.

CESS COMMITTEE.

43. This Chamber is in favour of the formation of a Cess Committee which should be a statutory body.

44. The following interests are entitled to representation on the Committee:—

Tanners.

Finished leather manufacturers.

Exporters of tanned hides and skins.

Exporters of raw hides and skins.

Government.

The non-official representatives are to be elected by the interests concerned, and the representative of the Government to be nominated directly by the Governor General in Council.

45. The above interests should be given representation by statute, representatives being elected by the interests concerned.

Extent: The Committee should consist of—

- 3 representatives of tanners.
- 1 representative of finished leather manufacturers.
- 2 representatives of tanned hides and skins exporters.
- 2 representatives of raw hides and skins exporters.
- 1 chairman to be nominated by Government.

46. Yes, but on provincial committees only. Nomination of Director of Industries only.

50. The Chairman may be *ex-officio*. The appointment of the Chairman may be left to the discretion of the Government. There should be a mere (non-Member) Secretary, to be permanent and whole-time and to be technically qualified. The selection of such a Secretary, his qualifications and terms may all be settled by the Committee itself.

51. The Committee should administer the proceeds of the cess as best advised. The Committee shall be independent in exercising its functions but responsible to the Government for the proper appropriation of the funds. The details of the work of the Committee to be settled by itself.

52. The Committee should normally act through the agency of other departments of the Government. No special executive is required, since the collection of the cess will be done by the Customs Department and the disbursements will be through government departments or local bodies or trade organisations and Chambers of Commerce.

53. Provincial advisory committees may be formed.

55. The Committee should be located at Madras as it is the centre of the tanning industry. By the Committee having its headquarters at Madras, it will be in immediate contact with the needs of the industry, which is the principle adopted for the location of the Cotton Cess Committee, the Tea Cess Committee, and the Lac Cess Committee.

**Oral Evidence of (1) Mr. M. SUBBIAH, (2) Mr. C. ABDUL HAKIM
(3) Mr. MAHOMED GHOUSE, (4) HAJI ABDUL QUDDUS,
and (5) Mr. M. JAMAL MOIDEEN SAHIB, on behalf
of the Southern India Chamber of Commerce,
Madras.**

(Madras, the 20th November, 1929.)

We are the official representatives of the Southern India Chamber of Commerce to give evidence on the Chamber's behalf.

Replying to Chairman:—Our Chamber is in favour of levying a cess on the export of raw hides and skins.

Q. 2.—Monsoon defects are due to climatic conditions. They appear in the rainy season.

Q. 4.—The bonus should be paid by the buyers of the hides. The trade should eradicate the evil of bad flaying by paying better prices for well-flayed hides. But if cess money is available, it should be spent on finding bonus for good flaying.

Q. 8.—We have no personal knowledge of the system referred to in our answer to this question.

Q. 15.—The steps taken by the trade have been that lower prices have been paid for adulterated skins. We think that the remedy lies in the hands of the trade.

Q. 16.—Flaying alive is now and then practised in this presidency. (Mr. Pillai said:—It is treated as a serious crime.)

Q. 28.—What we mean is that the facilities for training provided in tanneries are good enough for turning out qualified tanners and foremen.

Q. 31.—By the word "easier" what we mean is that the supplies of raw hides and skins would become more plentiful to the Indian tanner. That is to say supplies would not be drained away. We also mean that they would be within easier reach. We do not mean that they would become cheaper in price. Our view is that the price would remain the same or practically the same.

Q. 32.—Wattle bark is being locally experimented with, but it has not yet been marketed on a commercial scale. We agree that the growth of wattle should be subsidised. The 15 per cent. duty on the import of wattle bark should be removed. Protection to the wattle-growing industry in India should be given in the form of a bonus or a subsidy.

Q. 34.—The countries in which, we think, Indian tanned articles and leather goods should be exhibited are Germany, United States, Italy and other countries importing our hides and skins.

Q. 39.—We agree that the tanning industry would benefit. But as our object is that the industry must be encouraged, we do not consider the imposition of any burden justifiable. It would only handicap the industry. The margin of profit in this industry is generally very small. Moreover, the tanning industry has been in a depressed condition for sometime. The imposition of a cess will disable tanned goods exported from India from competing with other goods (on the same terms as at present) because their price would be higher on account of the cess.

(NOTE.—When correcting the evidence the Chamber deleted the portion marked A.)

Q. 40.—What we mean is that the export price of raw hides and skins would rise and thus export would be reduced. Some of us are exporters. Raw hides and skins are bought in India with an eye on the prices of hides and skins in the world's markets. Prices in India are determined by world prices.

Replying to Mr. Price:—There are no exporters of raw hides in Madras. Madras is usually an importer of raw hides from other centres in India and Burma. As Burma supplies enough of what we need, we do not go beyond Burma to the Malay countries. From Burma we get about 800 tons of hides. Burma buys tanned hides from Madras.

Avaram is used for tanning goat and sheep skins and wattle for hides. The use of *avaram* for the former even though *avaram* is not as cheap as wattle is an economic necessity, due to the fact that it is more suitable for the different classes of work involved in the tanning of goat and sheep skins. If money were available, we recommend its being spent on the development of the sources both of *avaram* and of wattle. We know the proverb "He who pays the piper calls the tune". But in our opinion the cess, if any is imposed, would be paid by the foreign buyers. We believe the exporter can dictate the price to a certain extent. Our view is that the tanning industry would benefit by improvements to the raw material. We would not willingly do anything that would take money away from the pockets of the poor village people but the export duty or the cess is not paid by the village people but by the foreign buyer.

Replying to Mr. Jamal Mahomed:—By "easier" we mean that larger supplies would be available for local tanners.

Tick marks (*pori pori*) are monsoon defects. By the word 'climatic' in the Chamber's answers we mean seasonal. If there be a cess it will be paid immediately by the exporter who however will recover it from the foreign buyer.

Replying to Mr. Wykes:—*Qs. 17 and 32.*—We do not do chrome-tanning.

(Mr. Wykes gave an estimate of 1 crore a year as the benefit which would result.) Replying to this witness said:—We were not aware that such a large amount of benefit would result. We would not however levy a cess on the export of tanned articles for obtaining this benefit, as we are against burdening the industry of the country. The cess on the export of raw hides as proposed by us is moreover sufficient for the purpose.

Q. 24 (b).—In our opinion, the tanning industry can absorb more tanners. But we do not think that the training can be satisfactorily done in central institutions run by Government. Tanners do receive and train up apprentices. In our opinion, the cost of training up men in tanneries should be borne by the Cess Committee.

Replying to Mr. Rafique:—Some of us have got experience of buying raw hides and skins at Lahore, Amritsar, Cawnpore, Calcutta and Dacca.

Q. 4.—None of us have any experience of the electric flaying machines. In our opinion, improvement can result if flayers are licensed. We hold that flayers are not unskilled but that they have to do their work in a hurry. Our estimate of the origin of hides is that 80 per cent. are deads and 20 per cent. are slaughtereds. The deads are not, as a rule, badly flayed. We have no idea about the improved pattern flaying knives. We think that a bonus should be paid out of the cess fund as the payment would furnish the necessary incentive for good work. Slaughter-house supervisors would be needed. A system of marking in order to identify the work done by different flayers would be needed, and in our opinion, it is not difficult to work out such a system. The trade would not, in our opinion, mind paying as. 4 per piece more if flaying has been carefully done.

Q. 9.—For curing we consider that common eating-salt is the best.

Q. 17.—Even though the depreciation is 30 to 40 per cent. yet, even if improvement were to result, we still are not in favour of any contribution to the cess being levied from the Madras tanning industry.

Q. 18.—Railway freight is charged by weight and not on numbers of pieces.

Q. 24.—In our opinion, the training of foremen and artisan tanners should be a duty of the department of industries, and we would not like the tan-

ning industry to contribute towards that end in any way which would handicap that industry.

Replying to Chairman:—We would not find it possible to market our goods abroad because foreign countries would undersell us. We have to compete. The cess would raise the price of our goods in the world's markets. This is what we mean by handicap.

Replying to Mr. Rafique:—The market for tanned hides and skins fluctuates within limits which are in a few cases so much as 50 per cent. this or that side.

We can tan all the hides produced in India. We do not know the correct figures of production of raw hides in India. We cannot say how many hides are turned out by Madras tanneries per year. The tanneries worked full time last year. (Mr. Guthrie said five million hides were tanned in Madras last year.) But 200 tanneries were closed. (Mr. Guthrie said that in 1918-19 Madras tanneries tanned $7\frac{1}{2}$ million hides.) Some tanneries came into existence since the War, but many closed down also.

A profitable price is not being obtained at present. We cannot sell at a profit. We have to keep the European market in view when buying our raw materials.

B { Madras tanned hides can be used for all purposes for which raw hides can be used, but they cannot be chrome-tanned. Hence a chrome-tanner would not purchase Madras tanned hides. Germans are our chief competitors. The price of raw Indian hides is one which the buyer lays down and not one which is dictated by the seller. If a 10 per cent. cess is imposed, the *bepari* would get 10 per cent. less.

C { The price is generally determined by the buyers in some cases and sellers in others. But in the case of our hides the foreign buyers have to go to us because of our unique supply and quality. If the cess is levied on only the export of raw hides then the foreign buyer pays it. But if it is levied on all the raw hides within the country, more of it will be paid by the Indian *bepari* or some such person.

(NOTE.—When correcting the evidence the portion marked C was substituted by the Chamber for the portion marked B.)

(NOTE.—The figures were re-examined and the witnesses said:—Our answer to question 17 was intended to mean that the average defective hide has a depreciation of 30 to 40 per cent.)

Q. 45.—Our proposal to put six representatives of tanners and tanned exporters on the Cess Committee is based not on the principle of contribution to the cess but on that of encouragement and preference to industry as against the export of raw materials and is intended to give an effective voice to the real interests of the country. As regards the dealer, we regard his interests as identical with those of the exporter's, as both of them deal in raw goods. We would not like any more representation for raw goods interests.

Madras is the chief centre of the tanning industry, and therefore we have proposed that it should be the headquarters of the Committee.

We cannot say that India has got a monopoly in tanned skins.

As to whether seventy to eighty lakhs or thirty five lakhs can be usefully spent, our view is that schemes can be devised and altered, contracted or expanded according to the necessities of the case. We hold that it would be legitimate to impose a cess on one trade or industry for the encouragement of another industry, if it is to the greater good of the country. But here there is no such question of one industry against another at all, tanning being the only industry in the case.

Replying to Mr. Pillai:—Q. 5:—Improved flaying knives can be supplied at or below cost. We do not think that stocking and distribution would present serious difficulties, but we think that there should be no compulsion about their use.

Q. 24.—In our opinion, no special central institutions for the training of tanners are needed. The apprenticeship system should be subsidised.

Replying to Mr. Shah:—We shall give information separately about the railway stations to which special rates are available. We shall also supply information about the railway rates and the basis of classification of raw and tanned hides and skins.

Q. 4.—All the Muslim members among us are agreed that from the point of view of Islamic religion there would be no objection to the use of electric flaying machines.

Q. 8.—We shall supply information about the names of individual exporters in Northern India who have successfully tried the system of bonuses for careful flaying.

Q. 31.—The statement that a higher export duty on raw goods would compel their foreign buyers to transfer their custom to our tanned goods is justified by figures in our possession. We shall supply a copy of these figures for the Committee's perusal.

We do not think that the introduction of a practical scheme of uniformity of grading is necessary. In our opinion, it is not even desirable.

Q. 40.—We recommend only one representative on the Committee because, in our opinion, it would be more suitable to put in government officials in the form of an advisory panel. The Madras tanning industry cannot afford to contribute to the cess fund at present because the period of transition may be a period of difficulty. It is already experiencing hardships. Instead of giving it protection and relief it should not be saddled with a burden. We are altogether against handicapping the industry of the country in any manner.

Replying to Mr. Price:—There are not many flay-cuts in goat skins in this part of the country. The goat skins are usually obtained in the form of bags. They are not slit down the belly. The interests of the owners of cattle are, in our opinion, not so important as those of the industry for as far as hides are concerned the owner of cattle does not get the benefit of the hides in the majority of cases. But if they can be brought in by a feasible organisation we have no objection. That is why we have proposed no representation for them. In our view the constitution of the Cotton Cess Committee is not suitable. It is too cumbersome. We realise that at 10 per cent. the cess on the export of raw hides and skins would produce about eighty lakhs a year. We do not know the yield of the cotton cess. But in our view the hides cess is on a different footing. In the case of the cotton cess, the problem to be tackled is one of research. In the case of the hides cess, there are so many different types of activities to undertake.

In our opinion, the payment of a direct bonus to the tanners from the cess fund would not do as much good as the spending of the cess money in appropriate directions would.

Replying to Mr. Rafique:—We do not at present consume certain classes of hides at certain times but can consume them more and more but we would impose the cess on their export (under different circumstances. For example, we can tax them by making them costlier to the foreign consumer). } D

(NOTE.—When correcting the evidence the portion marked D was added by the Chamber.)

The rate of expansion of the tanning industry fell off when the rate of the export duty fell in 1923 from 15 to 5 per cent. No other country produces the so-called half-tanned hides.

Replying to Mr. Jamal Mahomed:—More facilities should be created for the supply to tanners of duty-free salt. We do not propose a cess on tanned exports because we do not want a handicap on industry. We cannot buy raw hides and skins heavily when there is a slump in the market. The reason for this is that when the demand for raw hides and skins is slack, the demand for the Madras tanned hides and skins abroad is also correspondingly slack.

We have no particular objection to the representation of the primary producer if it were feasible, but the primary producer is scattered all over the country and is not well organised.

Replying to Mr. Ismail:—Our Chamber is opposed to the imposition of a cess on any kind of tannage—whether Madras or other.

Replying to Chairman:—Wattle is more economical for hides. *Ararum* has its own use for certain classes of work. This is why we want both the tanstuffs simultaneously. Neither can be eliminated from our work.

Tanners buy hides from the Calcutta market through commission agents. But some tanners keep their own employees at Calcutta. When the commission agent's services are utilised, he is the only person between the buyer and the seller.

E { We do not tan many framed Agra buffs because they are too costly (when
 F { compared with the proportionate price of tanned hides. But with proper
 protection to the tanning industry we can export them in the tanned state
 rather than in the raw form, without at the same time any loss of price to
 the primary producer). A 10 per cent. cess on their export would (ensure
 this effect by making the raw material costlier to the foreign buyer than to
 the Indian tanner).

(NOTE.—The portions marked E and F were added by the Chamber when correcting the evidence.)

We have not yet, as a Chamber, approached the Railway Rates Advisory Committee. The reason for this is that there is no question of discrimination or undue preference to be referred to that Committee. But we have made separate representations to the railway administrations concerned.

Our Chamber is in favour of the cess being levied for the benefit of only the tanning industry. The cess should be on the export of raw hides and skins and not on tanned. The rate should be 10 per cent.

Our Chamber has not considered the question as to whether any cess should be imposed on the export of lizard, snake and other fancy skins.

**Written Statement, dated the 16th November 1929, of the
Southern India Skin and Hide Merchants' Association,
Madras.**

II. In our opinion, the proceeds of a cess to be levied on the exports of the raw hides alone in addition to the export duty may profitably be spent on the tanning industry and allied industries and also on the improvement of raw hides and skins in the manner described and suggested below. We maintain that export trade in raw hides and skins is not an industry but only an export trade.

III. EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Hides: Warbles and pox.

Skins: Monsoon defects, pox, *pori pori*, sores, warbles, *meru* and anthrax.

2. We understand that the veterinary department is doing something in this respect. As some of these defects are due to climatic conditions it is not perhaps possible to eradicate them completely. However, further and more active steps can be taken by the veterinary and agricultural departments.

Flaying.

3. We find deep knife-cuts which even penetrate as far as the grain side of the hides and skins, mostly in hides. These are more prevalent in slaughter-house pelts.

4. (a) Hides: Electric flayers may be introduced by municipalities or union boards in big slaughtering places such as Agra, wherever electric energy is available. Also a bonus of 2 to 4 annas per hide can be given to butchers for well-flayed hides, the same to be done by some organisation.

(b) Licence to flayers may also be granted by municipalities or union boards.

(c) Slaughter-houses should be kept open throughout the day as the time now allowed to keep open the slaughter-houses is not sufficient.

5. We consider the appointment of special flaying instructors and supervisors is likely to yield some good results. There is not much killing of cattle in villages in this part of the country and consequently instruction to village flayers is not a practical problem.

6. The supply of flaying knives of any approved pattern might be tried.

7. Refer to answer to question 4 above.

8. The system of bonus paid to slaughter-house flayers for good flaying was tried and found successful during the War time (Ref. p. 92, Report on Hides and Skins—Imperial Institute, London, 1920). It may be tried on a larger and more attractive scale.

Curing and preserving.

9. In India, curing is generally done to preserve the skin or hide till it reaches the tannery either by rubbing powdered salt on the flesh side or by simply drying the pelts.

10. Defects in the method of curing and preserving are due to improper salting, over-salting, using cheap salts which contain minerals. Such salts when used damage the hides and skins.

11. This can be done by making all salt used for curing and preserving purposes duty-free and by facilitating the availability of such duty-free salt to curers and preservers in all places. The distribution may be made

through village officers or *patels*, controlled by the Salt Department. To avoid misuse of this concession some chemicals may be mixed before the salt leaves the factory.

12. Yes.

13. Refer to answer to question 11 above.

Adulteration.

14 and 15. There do exist some cases of adulteration in skins and hides and the trade can effectively deal with it.

Other defects.

16. There is the defect of branding of skins and hides. The branding of animals is chiefly done for three reasons: (1) to safeguard against and at times to cure certain diseases prevalent amongst cattle, (2) to identify the ownership of the animals, and (3) to lessen the value of the skins and hides of such animals as are stolen by cattle lifters. As a remedy for cause (1), the veterinary department should find out effective remedies for such diseases and also propaganda work should be carried out to stop the habit of branding for diseases; the second cause may be eliminated by the use of other marks than branding; and to rectify the third cause the Government should take more active steps to check cattle lifting. As a result of branding, the value of hides is reduced in many cases by about 50 per cent.

17. It is very difficult to give an estimate of the reduction in value of the pelts by various defects. Roughly, it may be taken at about 30 per cent. of the value, half of which may, we think, be remedied.

(b) Collection, marketing, export, etc.

18. When the animal dies or is killed, it is flayed. In slaughter-houses the hides and skins as flayed are sold straight away to a tanner or to a dealer. The tanner if he is nearby soaks them immediately for tanning. In case his tannery is at a distance he preserves the skins and hides, packs and despatches them to the tannery. If the buyer is a dealer he salts them or salts and dries them for taking to the market.

In villages, the skins and hides flayed are sold to petty merchants or to a tanner if he is nearby. The petty merchant in turn sells them through commission agents or to tanners. Such commission agents also collect skins and hides from petty merchants in the weekly markets and sell them in turn to tanners or raw stuff exporters. The raw goods exporter ships the dried material thus supplied after assorting and packing them.

19. No doubt there are delays in transit and railway freight is also very high, which in turn increases the cost price. Many a times, there are difficulties in getting wagons and some times the wagons are leaky, which cause great damage both to the tanned and dried goods.

20. Co-operative marketing in this instance is not at all practicable. The commission agents are already doing similar business and even advancing considerable amounts on goods, and in many cases they even extensively finance the producer by giving him in advance considerable sums free of interest so as, of course, to make him (producer) to stick to a particular agent.

21. Quicker transport and sounder and readily available wagons will be of great assistance. Further concessional rates of freight ought to be the rule for transporting raw materials to the manufacturing centres and manufactured articles to selling centres.

22. There are different systems of grading adopted in different centres according to the requirements of the buyers, either to tanners or exporters.

23. As the trade itself has established satisfactory standards and grading of skins and hides suitable to its requirements, there is no necessity for the introduction of any new system.

IV. TANNING AND ALLIED INDUSTRIES.

24 (a, b, c, d). Yes.

26—27. As far as Southern India is concerned, there already exists in Madras, a Research Institute, which is quite essential. It may be enlarged and made more efficient and useful by putting more funds at its disposal. Each province has got its own peculiar problems to be tackled and they are perhaps being tackled by the respective provinces.

28—30. Facilities are provided sufficiently by the industry itself for training tanners and foremen. Leather chemists can at present be procured amongst England returned specialists. Research scholars can also be had in that way. In course of time it may be arranged to produce leather chemists and research scholars in India by establishing institutions therefor. In this province tanning is done on an organised and established system. There is practically no cottage industry in this part of the country and so no training of rural tanners is required.

31. The export trade in tanned hides and skins can be improved by encouraging the tanning industry which is only possible by making it easier for the tanners to get and use more and more of the raw stocks. This can be done only by restricting the exports of raw skins and hides by means of a higher export duty.

As regards the matter of grading, the trade has long established its own method of grading suitable to, and recognised by, the foreign buyers. Hence any other scheme of standardisation of grading, etc., will not help it any way.

32. Tanstuffs such as *avaram*, *konnam* and *myrobalans* are available locally.

Avaram is the most important tanstuff of Southern India. It grows wildly in certain regions. Those regions are given out for varying periods on auction for collecting barks.

Nowadays wattle bark imported from South Africa is also being used and that is for tanning hides. A large quantity of this bark is being required. The import duty on this raw material required by the tanning industry ought to be abolished as a means of cheapening it. Its cultivation also may be tried in suitable places in this country.

33. *Cassia auriculata* (*avaram*) is decidedly a superior tanning material to wattle bark, but it is not necessary for tanning hides, as wattle bark tanning has been taken to hides in a fairly efficient manner. *Avaram* bark can be made available in larger quantities by cultivating them wherever it can successfully and cheaply be done in all government *poramboke* lands and supplying same at cheaper rates by reducing the railway freight thereon.

V. ADVERTISEMENT.

34. Advertisement can be done by exhibiting the Indian tanned articles in foreign countries through the Indian Trade Commissioners.

VI. COST OF SCHEMES PROPOSED.

36—38. We cannot work it out at such a short notice.

39. The principle of levying a cess should be only to encourage the development of the tanning industry and improving the quality and selection of the raw stuff. Hence the cess should be levied only on raw export trade in addition to the existing export duty.

40. The rate of cess may in addition to the existing export duty be fixed at 10 per cent. *ad valorem*. This would not affect the position of India in the supply of hides and skins to other countries. As the Indian supplies of raw skins and hides are such important factors in the available supplies of the world the outside countries cannot certainly afford to lose them (Indian supplies). Even if foreign countries were to find it difficult

or less profitable to import our stuff they are sure to go in for our tanned articles.

It should not be forgotten that not long ago, i.e., before the foreign countries (principally Germany, Italy and America) began to import and use our raw stuff in their own factories they were using mostly our tanned skins and hides. As this will lead to a further development in the tanning industry and thereby improve the export trade in tanned articles, it should be welcomed as it is in the best interests of the country.

41. The cess as proposed above on the exports of raw hides should be permanent or at least till that time when the tanning industry of the country may not require it any more.

42. The cess may safely be an *ad valorem* rate, but should represent correct market values.

VII

CESS COMMITTEE.

43. We are in favour of the formation of a Cess Committee which should be a statutory body.

44. The following interests, in our opinion, are entitled to representation on the Committee:—

Tanners.

Chrome tanners.

Exporters of tanned hides and skins.

Exporters of raw hides and skins.

Government.

The representatives to be elected by the interests concerned and the representative of the Government to be nominated directly by the Governor General in Council or the Governor in Council as the case may be.

45. The above interests should be given representation by statute, representatives being elected by the interests concerned.

Extent: The Committee should consist of—

3 representatives of tanners.

1 representative of chrome tanners.

2 representatives of tanned hides exporters.

2 representatives of raw hides exporters.

1 chairman to be nominated by Government.

46. Yes. On the provincial committees only.

47. Yes. In cases like Hyderabad and Mysore, on provincial committees.

50. The Chairman may be *ex-officio*. The appointment of the Chairman to be left to the discretion of the Government. There should be a mere (non-Member) Secretary to be permanent and whole-time. The selection of such a Secretary, qualifications and terms to be settled by the Committee itself.

51. The Committee should administer the proceeds of the cess as best advised. The Committee shall be independent and responsible to the Government. The details of the work of the Committee to be settled by itself.

52. The Committee should normally act through the agency of the Government. No special executive or office is required, since the collection, etc., of cess will be done by Customs Department.

53. We expect the above Cess Committee in co-operation with the Government of India should decide details in this respect.

55. The Committee should be located at Madras as it is the centre of the tanning industry. By the Committee having its headquarters at Madras, it will be more convenient for the Committee to know the needs of the industry then and there, in the same way as the Cotton Cess Committee is located at Bombay and the Tea Cess Committee at Calcutta.

Oral Evidence of (1) Mr. AHMAD BATCHA, (2) Mr. MUSTHAN SHERIF, and (3) Mr. IBRAHIM SAHIB, on behalf of the Southern India Skin and Hide Merchants' Association, Madras.

(Madras, the 21st November, 1929.)

Replying to Chairman:—We are giving official evidence on behalf of the Association.

Q. 17.—The figure of 30 per cent. refers to depreciation in the value of hides taken as a whole (*i.e.*, hides—good, bad and indifferent) and not merely in the value of bad or defective hides.

Qs. 28—30.—So far as tanning is concerned, we recognise that climatic conditions have an important bearing. Those in India being different from those of England, the specialists trained in England will have to adapt their theory and practice to Indian conditions. To this extent, some special research work will be needed in India. It is desirable, in our opinion, to undertake such work.

Q. 31.—At present there are obstacles to open buying by tanners in competition with exporters. By this we mean that this competition itself is the obstacle. Tanners can of course get hides in competition with exporters, A { but we tanners want hides cheaper (when compared with the cost price of the foreign buyers after export. The difference is paid by the foreigner.)

(NOTE.—When correcting the evidence the portion marked A was added by the Association.)

Q. 32.—Wattle bark has had to be imported because little Indian grown wattle bark is at present available. We do not use chemicals and cannot say if all chemicals needed for chrome-tanning are available in India.

Q. 34.—We do not need much advertisement in foreign countries. Our tanned products are sufficiently advertised. We find no difficulty in selling our Madras tannage. There is considerable demand for our output. We ought generally to be able to sell our output at a fair profit, subject indeed to ordinary trade depression. But there is depression in the tanning trade for some time past and this is mainly due to foreign competition.

Q. 40.—These foreign countries used to use our tanned skins and hides before the War. We cannot say in which years.

(NOTE.—The Chairman drew their attention to the statement on page 16 of the pamphlet published by the Southern India Chamber of Commerce and desired the witnesses to reconcile their present allegations with that statement.)

Q. 42.—In this connection we have got an export cess in view, *viz.*, a cess on the export of raw hides. Madras on the whole is not an exporting port for raw hides and skins. An *ad valorem* rate whether for purposes of an export duty or a cess should be based on the selling prices current in the ports of export, *i.e.*, in this case the ports of Calcutta, Bombay and Karachi. The selling prices current in these ports would be different from the selling prices ruling at Madras.

Q. 55.—Calcutta, Bombay and Karachi should collect the cess. But as the tanning industry is largely concentrated in Madras, and our intention is that the tanning industry should be protected and encouraged, Madras is naturally indicated as the most suitable centre.

We are in favour of a cess on the exports of raw hides, if the export duty on the export of raw hides and skins remains as it is. As to whether our Association favours the imposition of a cess apart altogether from the question of the abolition, retention or reduction of the present export duty, we are not in a position to answer this question as the Association never considered it in this form. The Association has not considered the question whether the cess should be imposed on goat and sheep skins. If there

is to be a cess at all, it should be at 10 per cent. In our opinion, there was more than ample justification for the imposition in 1919 of the 15 per cent. export duty. The 10 per cent. cess which we have proposed is intended to, and will, give protection.

Replying to Mr. Price.—Our Association was founded in 1917. It is an Association of tanned skins and hides merchants. The Association has some members who export raw skins and hides. Out of our membership of 110, fifteen members are exporters of raw skins. The predominant interests represented in the Association are those of exporters of tanned hides and skins.

Our Association did not consult the Southern India Chamber and we were not influenced by that Chamber in the views put forward by us. We have looked at the question from the point of view of tanners and exporters of tanned goods.

(NOTE.—When correcting the evidence the Association changed the word "did" to "need".)

B { An export cess would help us tanners if there is also to be an export duty. It is really the export duty that helps us. (We do not take into consideration the question whether we compete with the foreign buyer or not.) The incidence of the duty falls on the foreign buyers. The seller in India can, we think, dictate the price to some extent.

(NOTE.—When correcting the evidence the Association deleted the portion marked B.)

The agricultural population forms the largest interest in the population of India. It may be seventy per cent. or even more of the Indian population. Most agricultural families own cattle. The value of the hide is a component part of the value of cattle only in a few cases. But, in our opinion, the owner of cattle is not affected at all by the export duty or the cess because we think that the foreign buyer pays the duty. The prime producer is not affected at all even if Indian tanners can buy cheaper than foreign tanners through the Indian exporters.

Preventible deterioration of the value of hides amounts to about 15 per cent.

We, *i.e.*, the tanning interests, ought not to be made to contribute towards the cost of improving hides and skins as we are against taxing an industry of the country at the present stage of the industrial development of the country. Moreover, the money can indeed be obtained without taxing the industry and to the great advantage of the country as a whole by taxing only the raw exports. Further if the hides are improved, we shall pay higher prices. Most of the resultant benefit will go to the primary producer. We have no objection to representation being given to the primary producer provided a workable scheme can be devised for doing so and should be given if possible. In our opinion, the tanning interests need not contribute and yet should be represented on the Cess Committee. This view of ours is based on the economic importance of the industry to the country and on the need for placing at the disposal of the Cess Committee the advice of the tanning interests on the various questions concerning the improvement of raw hides and skins and of tanning and other industries. In our opinion, tanners would not be able to give such advice unless they have direct representation on the Committee.

Q. 55.—We have not gone into details concerning the Tea and Cotton Cess Committees. We do not know how much those committees get to spend. At the rate recommended by our Association the proceeds of the cess would be about sixty lakhs. This is a large amount. We have not, however, considered whether the Government and the Legislature are likely to sanction the raising of a cess yielding such a large amount (but think they will sanction as it will benefit the country as a whole). We have not considered the question

of a cess on the export of skins but confined ourselves to a cess on the export of hides.

(NOTE.—When correcting the evidence the portion marked C was added by the Association.)

Replying to Mr. Wykes:—As tanners we know in what forms adulteration exists. If the result of tanning is below expectation, we believe there must have been loading or adulteration. The adulteration of raw hides is not important and has not affected us (tanners) very considerably.

Q. 20.—As to marketing, each tanner can go to the local hides market. The small tanners in fact do so and for their purposes this is quite enough. Larger tanners have to have employees or agents in non-local markets.

Our reason for holding that co-operative marketing is not feasible so far as buyers are concerned is that tanners' notions differ from each other.

Q. 20 (b).—If the tanning industry develops it can absorb more men. At present we have enough trained men for the industry.

Q. 32.—*Avaram* bark is the most important because it is a better tanning agent than wattle. It gives a good light colour and mellowness which no other tanning agent gives.

Replying to Mr. Rafique:—(Mr. Batcha said: Personally I have not much experience of the raw export trade.)

We tanners consume practically all the Madras slaughter-houses hides.

Q. 3.—Bad flaying is, in our opinion, due to a variety of reasons, namely hurry, lack of skill, use of bad knives, sometimes even hoop iron being used for flaying.

Q. 4.—We have not seen the electric flaying machines. An American who came out to India to find out the possibilities of meat-canning told me about these machines. We, Muslims, would have no objection to the use of electric flaying machines.

Q. 4 (a).—By organisation here we mean the Cess Committee. The amount collected by the Cess Committee will be so large that it can afford to pay the bonus. But we are opposed to any cess being imposed on the tanning industry, because it is an industry. That is with us a question of principle. We as tanners would not contribute to the cess for the improvement of hides as, in our opinion, the cess would handicap the industry.

Q. 8.—The improvement referred to here was due to the bonus and not to the purchaser being close at hand.

We buy arsenicated framed buffalo hides. We cannot off-hand give figures of such hides consumed by the Madras tanning industry. We shall give such figures later on.

We tanners prefer wet-salted hides; after that dry-salted and then arsenicated hides. Un-arsenicated dry hides come last. We know the difference between the various classes of hides in the market. The reason why we think we should not contribute to a cess (for improving hides is that we do not stand to gain much by such improvement in hides. For improved hides we shall pay higher prices justified by the extent of improvement. We do not know the accurate figures of production of hides in India. Our estimate is 23 to 25 millions a year. Taking the whole of India the tanning industry consumes about 15 millions. The rest are exported. This figure of 15 millions is derived by deducting from our estimated total production of 23 to 25 millions the number exported which is 7 to 8 millions. Madras exports about 5 million tanned hides. We do not tan all hides produced in India. We cannot say what quantities we can tan with our present equipment. Our capacity for tanning can increase if we have more work to do. This capacity has not been tested. During the War the maximum turn-out for export was 7½ millions but this figure does not take into consideration the quantities consumed in the country. } D

(NOTE.—When correcting the evidence the Association substituted the words "is that we are against taxing the industry of the country. Moreover for" for the portion marked D.)

Our Association represents tanners whether for export or not. A few members do chrome-tanning also. Some members are also exporters.

Q. 20.—I myself advance money, interest free, for collecting hides and skins; but my experience is confined to the Madras Presidency.

Qs. 26—27.—We consider the research institute necessary. The local Government will have to provide funds for it. We do not think we should pay for it, or contribute towards it, or to a cess for maintaining it. If under these circumstances it cannot be started or maintained, research should, in our opinion, be left to individual tanneries. After all we bark-tanners do not need much research.

Qs. 31—32.—We would not contribute to a cess even if the cess were a nominal figure. We look upon this as a question of principle; namely, that an industry should not be handicapped.

The fluctuation in the tanned hides trade is sometimes as high as 50 per cent. The usual limits of fluctuation are about 15 per cent. A chrome-tanner would not use a bark-tanned hide. If a chrome-tanner cannot get raw but only bark-tanned hides he must close down his chrome tannery.

Q. 39.—In our opinion, the cess should be imposed if at all, on only raw hides and calf skins. The benefit resulting from the improvement of hides and skins will accrue to the producer of hides and skins but not to the tanner who will pay a proportionately higher price for the better hide and skin.

Q. 40.—No other country in the world produces bark-tanned hides.

We think tanners pay more to the original or the primary producer than exporters do.

We as an Association are not concerned with the question as to whether there should be a cess on the export of lizard, snake and other fancy skins. Tanned goat skins similar to Madras tannage are not produced by any other country.

Replying to Chairman:—There is a demand for such tanned goat and other skins. We have not considered the question as to whether the cess on the export of tanned skins would, like the cess on the export of raw hides and skins, be passed on to the foreign buyer. However, we may say that with a view to encouraging increased sale of tanned skins in foreign countries, no burden should be placed on tanned article.

Qs. 44—45.—Exporters of tanned hides would be able to advise the Committee about the conditions prevailing in the foreign markets. In our opinion, two representatives of these interests are necessary. Our view is based on the prospective development of the tanning industry.

Replying to Mr. Jamal Mahomed:—By the word "easier" we mean comparatively cheaper than the (rates at which foreign buyers can buy in India).

(NOTE.—When correcting the evidence the Association substituted the words "cost to the foreign buyer after the goods are exported" for the portion marked E.)

By skins in connection with the question of a cess we mean calf skins but not goat and sheep skins. These latter we understood to be not within the scope of this Committee's inquiry.

By the primary producer we mean the owner of the cattle but not the exporter nor the commission agent.

If the market here in India is 10 pence and the foreign buyer offers only nine pence we would not be able to sell for the time being. We would in that case wait. We would not ordinarily go to the buyer or meet him part of the way unless our prices meanwhile go down.

Improved flaying will benefit the primary producer. He would get a better price for his hide. The benefit of improvement will go mostly to him. Of the 23 to 25 million hides 7 millions are exported. The rest, i.e., about 15 millions are tanned by tanneries in India.

We have slumps in the tanned and in the raw hides trades. They sometimes do correspond in point of time. When the raw hide market is depressed the tanners would sometimes come in to buy for their future use.

The man who is used to buying bark-tanned hides cannot switch off to chrome-tanned hides.

Replying to Mr. Ismail:—We do not accept the statement that the number of people employed in the raw hide trade is larger than that of those employed in or in connection with tanneries. Even if there were no export trade there would still be the hide trade for the supply of hides to the tanneries in the country. Our Association would have the cess if it be protective and to the extent that it is protective. We do not wish to answer the question as to whether meat eaters in North West India, namely, Sind, the Punjab, the Frontier Province, etc., also should pay the cess because of improvement in meat due to better health of animals resulting from the application of the cess funds.

Replying to Mr. Pillai:—It is difficult to get duty-free salt. Hence Government should take some steps to make it available easily.

Qs. 26—27.—We mean that if government finance is not enough the cess fund should finance the research institute.

Q. 32.—Government in the Forests Department should subsidise the planters of wattle. We do not think that the cess funds should be utilised for such subsidies.

Q. 33.—By *poramboke* lands we mean waste lands only.

We as an Association are aware of the concession made by the Madras and Southern Mahratta Railway in freights. But the concession has proved ineffective because it applies only to wagon loads. The bark is an incompact substance and a wagon load does not come up to the prescribed weight. If bark were as compact as sand or ballast, the benefit of the concession would be more substantial.

Replying to Mr. Shah:—If the cess were permanent and the rate were the same, even then we would prefer the export duty to remain. (NOTE.—On behalf of Mr. Shah the Chairman explained the difference between the cess and the duty.) Witness then replied if the cess were permanent and if the rate were the same as put forward by us and only on the raw exports and if these were guaranteed by statute, he would not mind the cess taking the place of the export duty.

Replying to Chairman:—The 15 members of the Association export raw goat and sheep skins. These 15 members have not been specifically consulted as regards the retention of the 5 per cent. duty on skins. The question of duty on skins was never considered because we thought it was outside the scope of the Committee's enquiry. These 15 members have been consulted and they want the duty on hides to be retained.

Replying to Mr. Rafique:—We consume all qualities of hides. The foreign market demands better quality. The buyer of hides for the finished leather industry in India would also be protected because he would be protected by import duties on leather and leather goods.

Replying to Mr. Jamal Mahomed:—In our opinion, chrome cannot supplant India's vegetable tannage. The so-called half-tannage of Madras is a complete tannage. The foreign buyer merely dyes and finishes. We do not do this finishing here in Madras as we are not and cannot be in touch with the changing demands in the foreign markets. Secondly, we have tariff walls to think of. If we begin finishing here these walls might go up still higher. Thirdly, the Madras tanning industry is handicapped as the trade is at present a wholesale trade, but if we turn out finished leather it would become a retail trade.

The 15 members of our Association who are exporters of raw skins have never objected to the present duty being retained. These members are, however, more of dealers in tanned skins than in raw skins.

We, tanners, do not come across better hides than Malabar hides.

**Oral Evidence of Rao Sahib C. SABAPATHY, of
Messrs. C. Sabapathy & Co., Madras.**

(Madras, the 22nd November, 1929.)

I understand that the Southern India Chamber of Commerce and the Southern India Skin and Hide Merchants Association have pleaded for an increased cess on certain articles. The production of raw hides in Bengal is 10 times that in Bombay and Madras Presidencies combined. There is a big export trade in dried meat from or through Calcutta to Rangoon, Singapore and Japan. Bengal has a larger Muslim population and uses more beef than mutton. In Madras we have Moslems but 90 per cent. eat only mutton and do not eat beef; hence the production of hides in Bengal Presidency is larger than in Madras.

We have a limited market in London, Germany, etc., for our vegetable-tanned hides. I am talking only of Madras-tanned hides and not of skins. The Madras tanners could not consume the major portion of the raw hides produced in Bengal. Before the War European firms in Calcutta were exporting raw hides of which 50 per cent. was consumed by Germany and the rest by the U. S. A., London, etc. The above European firms made arrangements with the Bengal hides *mandi* that they should not sell even a single hide directly to the Madras tanners. If Madras tanners required hides, they must buy through the European firms who supplied hides to the United States, United Kingdom and Europe. Before the War the Madras tanners did not go to Bengal to buy raw hides, whether in good season or in the off-season. Madras Presidency produced about 90 to 100 thousand hides and calf skins per month which were bought and tanned by Madras tanners and were sold to foreign markets. The tanners were then making money and were well off. The hides which were produced in the Madras Presidency being all wet-salted gave better measurements for tanning than the dry-salted hides from the Bengal Presidency which were dried lengthwise. They were using for their tanning materials a mixture of *avaram* and *konnam* barks which gave better colour and no false weight. Out of this the manufacturer at the other end made patent leather out of light weights and side leather out of the heavies. In pre-war time 70 to 80 thousand hides were shipped to London which was quite sufficient for the consumption of London and Germany and the market was very steady. When the War broke out, the British Government required more tanned hides for the supply of boots and other military purposes. The production of tanned hides in the Madras and Bombay Presidencies increased from 1 lakh to 4 lakhs. And here I may say that the Government appointed a Controller in Bombay as well as Madras for fixing certain rates for selected qualities of hides which our Government supplied to the allies and also for those which they used for their own purposes. Owing to the prohibition of the tanning of goat and sheep skins the market dropped considerably and the tanners were afraid to buy raw skins at a cheaper rate; the price therefore came down from 150 to 50 or 60 rupees. Some tanners bought those skins at cheaper prices, dried them and shipped them to London and America. The shippers made a fortune out of those skins; that is to say about 100 per cent. in price. When Peace was declared Government which were collecting tanned hides in Madras and Bombay Presidencies found a big stock on their hands. At that time (in 1919) while I was in London they were not able to dispose of those hides. The colour of a part of the goods which were tanned with wattle bark instead of *avaram* bark changed. The Government could not find buyers of their stock; so the Government at London insisted on the brokers that their stock should be sold first—at least 50 per cent. of it. There were no sales owing to poorer colour. The Government were not able to dispose of their goods and the other Indian consignors were incurring a great loss on account of storage, interest, etc. The Indian tanners who were consigning to the agents at London arranged with the Government that they should not insist that their stock should be sold first.

The Government withdrew their stock and arranged with private tanners who worked them and disposed of them at a heavy loss. If those hides had been tanned out of *avaram* bark the colour would not have changed and the Government would not have been put to such a heavy loss. Then the Government successfully put down the corruption of some of the tanners who were using fat and mud by refusing to take such hides.

The demand for tanned hides decreased in London whereas the production in Madras and Bengal Presidencies did not decrease. Our East Indian vegetable tanned hide tanneries were not able to work so many hides owing to financial difficulties. Some of the factories then closed. On the 19th of November I wrote an article a copy of which I now hand over to the Chairman. From this it would appear that the financial situation all over the world except America is very poor. Under these circumstances unless the tanner reduces the quantity of hides, from my experience I think that there will be no good prospect for him, and therefore the increase in the levy will do more harm to the tanners than good.

Raw goat and raw sheep skins.—Madras tanners do not enter into the Bengal markets for raw goat and raw sheep skins. In Madras and Bombay Presidencies we were tanning a large quantity of goat and sheep skins. In pre-war time (I do not remember exactly the time) the export of tanned East Indian skins was about 30 lakhs. And they were obtaining reasonable price in London. During that time if a tanner could tan 10 thousand skins a month and if prices would go up or down he would stick to that quantity, which is quite the reverse now. The competition in the price of skins would not affect the tanners in the Madras Presidency. Why? Because the southern districts, Trichinopoly, Dindigul, Coimbatore, Erode, etc., are making full nice tannage for the purpose of colouring and also for the purpose of gloves, etc. Such dried skins do not make chrome leather successful due to many thorn scratches. But now and then there are certain disturbances. People who have not worked go and spoil the market. If we take the shipment the tanners who tanned more or less averagely about 15 to 20 lakhs per month, in comparison with it the dried skin shipment is very little. It does not exceed 7 to 8 lakhs. In pre-war time there were more tanners tanning goat and sheep skins and the shipment of dried skins was more. Then nobody thought of a levy on exports. Now the shipment of dry skins is much less than in comparison with the pre-war time. I really do not understand how it affects the tanners to enhance the duty for it.

In War time the Government levied a duty, *viz.*, on exports to countries in the Empire of raw hides and skins at 5 per cent., and at 15 per cent. on those to other countries. Later on as Peace was declared the United States Federated Association protested. A year or so later the members of the Federated Association submitted a memorandum that the duty should be removed altogether or otherwise at least a uniform duty should be imposed. Government then fixed a uniform duty of 5 per cent.

Avaram bark is a big industry in our presidency, in Mysore, in the Nizam's Dominions, Bellary and other places. Now the production has been reduced considerably, due to all the tanners except me and a few others in Coimbatore, etc., using the wattle bark for tanned hides. Wattle bark is imported from Durban from the beginning of the War. Before that the whole production was consumed by Germany and London. No doubt the tanners benefited by using wattle bark rather than *avaram* bark. On the other hand the tanners lost very heavily, because wattle bark takes the colouring away quickly. As soon as it arrives at London and is kept some-time there it changes the colour and they cannot be used for patent leather. Also the raw hides weighing 20 lbs. consume only 12 lbs. of wattle bark whereas the same raw hides consume 25 lbs. of *avaram* bark. One of the biggest firms had complained that they passed a resolution that hides would not be purchased if tanned with wattle bark, but the Southern India Chamber and the Southern India Skin and Hide Merchants' Association have not taken notice of it. (NOTE.—Here the witness showed a piece of leather tanned with wattle bark and wanted to know from the Leather

Expert if it contained any skin disease or any other defect.) Further some of the big tanners who tanned goat and sheep skins in order to get more quantity have raised the prices. The petty tanners not able to compete with them make an adulteration using sugar and salt which gives heavier weight that is to say $\frac{1}{2}$ to 1 lb. per ten skins. Now owing to financial difficulties at the other end and higher costs it does not pay even the big tanners shipping genuine skins. If the big tanners want to improve the Indian industry they should not send their men to collect skins at the fairs paying higher prices to get skins for their share. Such being the case if the Committee intends to enhance the duty for raw hides or raw skins they will suffer a great deal.

I am a tanner and do my work on a commission basis. I am however primarily a business man and not a trained tanner. I use different tanning materials for different purposes. I use *avaram*. I do not use wattle. It gives a false weight. I do not in fact like wattle. I do not purchase tanned goods from tanners. I also export raw goat skins. My interests at present are more with those of the exporters of raw goat and sheep skins than with those of the Madras tanners.

I am not in favour of an export cess on raw or tanned goat and sheep skins. In fact I am not in favour of any cess at all. We cannot tan all hides and skins produced in India. In the Madras Presidency about 3 lakhs of hides are tanned, i.e., about 36 lakhs per year. These include buffalo hides and calf skins. The present capacity of the Madras tanneries for tanning goat and sheep skins is about 17 to 18 lakhs per month.

I have experience of tanning hides with wattle bark. On the average, 12 lbs. of wattle bark is needed for 20 lbs. of wet hide (=10 lbs. of dried hide). The vegetable tanned hides of Madras, etc., are exported to London and Germany where they are used for the manufacture of leather for lining purposes. The tanned hides are put in drums. Lime and oil are taken out of all Madras tannage. Fleshing takes place again. Then a different colour is put on. After that they are dried and then polished. The time taken by these various processes is about 7 days. I have myself seen these processes in London, Germany and America.

Replying to Mr. Price:—I look upon the request for a cess of 15 per cent. as a "put up job" against the primary producer by a province which is not much of a primary producer of hides and skins. Madras has no dearth of animals but Madras people do not eat beef.

The import of wattle bark into India is injurious because it damages India's reputation for tanning hides and militates against the interests of those tanners who stick to Indian tanning materials. It also results in overproduction in Madras stimulated by the avarice of tanners. In my opinion, the amount of loss likely to result to the industry as a whole by the imposition of a cess is far less than that at present caused by careless methods of working followed by the industry at various stages. As regards flaying, the usual difficulty is that too much flesh is left on the hides. I am in favour of a bonus being paid for securing better flaying.

I know very little about the warble. I agree that there is room for research. The pet is undoubtedly damaged by the warble, ticks, pox, etc. Ticks cannot be eliminated. By ticks I mean *pori pori*. If improvement were to result, the benefit would accrue to the primary producer as also to the tanner.

If tanners do not contribute to the cess, I would give them no representation on the Cess Committee.

Replying to Mr. Wykes:—I have not been financially interested in Mr. Parry's wattle plantations.

Replying to Mr. Jamal Mahomed:—I am not a member of the Southern India Chamber of Commerce or of the Southern India Skin and Hide Merchants' Association. I tan for and on account of merchants in London and America on a commission basis. Thus I take no risks in tanning.

From 1919 to 1928 I have, on an average, tanned about 10 to 12 thousand goat and sheep skins per month. I have also tanned Arabian goat and South American dry calf skins and sheep skins imported through Germany. I am now tanning hides (about 1,000 to 1,200 pieces a month).

I have no figures to prove that compared with Bombay and Madras put together Bengal produces ten times the number of hides. Madras produces about 100,000 raw hides per month. Excluding Sind, Bombay produces much less. My estimate of Bengal's production being ten times that of Madras and Bombay put together is based on the estimates of production in Madras and in Bombay. Bengal's production, I think, is about 9 to 10 lakhs. Bengal's production may, therefore, be about five times that of Madras and Bombay put together. To this extent my previous statement may be incorrect. Madras tanneries can tan 2 to 3 lakhs a month, provided they buy their raw hides in Bengal. During the War the high water mark of tanning was reached when Madras used to tan about 4 lakhs of hides per month. I do not know the value of tanned hides exported from India, i.e., I do not know the present figures. In my opinion, the tanning capacity of Madras tanneries is limited.

Before the War there was a German ring operating in Calcutta.

Germany imports Madras tanned hides through London. I have no figures to give off-hand as to the extent of such imports.

I do not want the duty on the wattle bark to be removed, because the bark does not suit the tanners or the foreign buyers of tanned goods. 98 per cent. of the tanners are using wattle bark today. (As a result of this practice there is no accumulation of tanned goods.) A

(NOTE.—When correcting his evidence, witness deleted the bracketed portion marked A.)

When the tanned Madras goods reach London the lime and the oil are taken out from the tannage.

In my opinion, the primary producer of hides and skins in India is the cattle owner who produces the hides and not the *arhatdar*.

Replying to Mr. Ismail:—By using the words "put-up job" in reply to Mr. Price's question I had in view the subordinates acting on the instructions of the masters. In pre-war time no Madras tanner bought direct from the *mandis*. After that they began to do so. European firms in Calcutta then boycotted the Indian tanners. The European firms at Calcutta used to give almost uniform prices and they wanted to control the market for securing cheaper, i.e., steadier prices. They wanted to avoid large fluctuations. The margin of profit in the raw hides and skins trade at Calcutta is small. This is why they wanted to steady the market and form a combine for that purpose. If the market is steady the primary producer knows what to expect and therefore what to pay for the animal.

Wattle bark was first introduced into India in 1913. I myself introduced it. It was cheaper than *aravam*, but it puts false weight. Hence its use spread rapidly. I do not know the figures of the imports of wattle.

Replying to Mr. Rafique:—In pre-war days, fluctuations were vastly different from what they are now. I cannot say whether more people are engaged in the trade now than were engaged then. In my opinion the burden of any cess imposed on the export of raw hides and skins would fall on the manufacturer at the other side, i.e., on the foreign buyer. He must pay it. Immediately of course the exporter would have to pay it when exporting, but the exporter would at the cess to his price. Assuming that there were no cess, the primary producer, i.e., the merchant who collects the livestock, would not get any higher price than he does at present without the cess.

I agree that any improvement in the quality of hides and skins would benefit the tanner also. In my opinion, even a nominal cess on the export trade in tanned goods will affect the tanning industry in India. The tanned export trade cannot bear a cess of even one per cent.

I do not know of any other country which produces the same tannage as Madras does. I cannot name any class of tanned skins which could stand a one per cent. cess without any considerable reduction of trade. I do not recommend a cess on raw hides and skins either.

Replying to Mr. Jamal Mahomed:—A cess on either raw or tanned hides and skins will lead to a reduction of production in India.

Before the War, Madras tanners could not buy hides directly from hide dealers unless they adopted the same methods as were adopted by the European firms in Calcutta. In those days the Madras tanners used to enter the hide markets in such a way as to cause big fluctuations. I do not remember if Government bought wattle-tanned stuff during the War.

**Written Statement, dated the 24th October 1929, of the
Director of Agriculture, Madras.**

IV. 33. I think it is possible that *avaram* (*cassia auriculata*) could be grown to a much greater extent than is the case at present. I hope to see that it is so, but for the purpose of supplying litter for cattle, in order to increase the production of good cattle manure, not for the production of bark.

**Written Statement, dated the 4th November 1929, of
Messrs. WALKER & CO., LTD., Madras.**

Before replying to the questions tabulated, we would like to mention that our firm has been in the skin and hide trade since 1849 and that we have always worked in very close touch with the tanners throughout the presidency. Up to 1922 when our firm had to be reconstructed, about 50 per cent. of the skin tanneries throughout the presidency were financed by us. During the War, our supplies of tanned skins to the War Office were the second largest in this presidency and in addition we were one of the seven firms handling raw hides in Calcutta for the War Office.

III. 1. Pox, mange and ticks.

2. Under present conditions with cattle and goat and sheep roaming over the country practically uncontrolled, we can see no remedy. We suggest, however, that veterinary officers might visit villages and teach villagers improved methods of keeping their animals pointing out the harm done by allowing them to stray loose as they do at present.

3. The defect is due to butchers caring more for the meat than for the hide with the result that the hide gets badly cut. So far as goat and sheep are concerned the flaying in India is, in our opinion, correctly done but Burma pelts are often very badly cut.

4-7. We suggest that expert flayers from England should be imported as a temporary measure and that these men should visit the slaughter-houses in all important centres and teach the butchers how to correctly flay hides.

As regards goat and sheep skins, the improvement which we suggest is that the butchers immediately after flaying the skin should instead of throwing it on to a heap in a corner hang the skin in the air. If this were done skins, which are at present very often putrefied and so suffer grain damage, would be saved.

As regards instructing the village flayers, we suggest that bulletins in vernacular should be distributed to the headmen of the villages and they be ordered to read these to the butchers. Special flaying knives are not, in our opinion, necessary.

8. We have no information.

9-13. These are matters which chiefly concern Northern India as the main trade in the South is in the tanned article.

14-15. Yes. Both hides and skins are loaded with an excessive quantity of carriers salt which has the effect of damaging the grain. The adulteration is, of course, resorted to in order to gain extra weight. The adulteration of tanned skins and tanned hides in Southern India by tanners is a very serious problem. They indiscriminately use epsom salt and sugar in order to gain weight and these articles seriously damage the goods. Home and foreign buyers are constantly clamouring on account of such adulteration. The only method of stopping this in our opinion is, as was suggested during the War period, to bring in penal legislation. Unless this is done, we are satisfied the practice will continue.

16-17. We are unable to answer these questions.

18. In Southern India there are middlemen who advance money to butchers and they collect the skins and hides as soon as they are flayed. The goods are then assorted and railed in a wet-salted condition to the various centres where the tanners buy. In some places like Madras, Trichinopoly and Bangalore, the bulk of such slaughtered skins and hides finds their way direct into the tanneries without ever being salted. In many such cases the skins and hides are bought while the animals are still alive, the owner making his own arrangements for disposing of the carcasses.

19. We can think of none.

20. If co-operative marketing could be brought about, we believe that it would result in stopping adulteration as the tanners' representative would

dictate his own terms and refuse to accept adulterated goods. It would also prevent undue inflation of prices by the middlemen which at present so often stands in the way of business.

21. Railway freights are, in our opinion, excessive from centres such as Dacca, Cawnpore, etc., to the tanning centres in the Madras Presidency. Such charges amount to roughly 1 anna per pound on raw hides before the goods reach the tanners. This is a distinct handicap to Indian tanners, as foreign buyers of raw hides and skins are able to secure their requirements delivered in their own countries at, say, roughly 40 per cent. of the cost incurred by the Indian tanner owing to the cheap sea freights available. The same complaint also applies to bark and other materials required by the Indian tanners.

22. Tanned hides are graded as 2nds, 3rds and 4ths in the percentages required by the foreign buyers and according to the custom of the trade with excess 4ths and 5ths sold separately while tanned skins are graded as 1sts, 2nds, 3rds and 4ths. Dry-salted goat and sheep skins in this presidency are graded as 90 per cent. Primes and 10 per cent. Seconds.

23. In the distributing centres, there is at present no recognised standard of grading when goods are sold to Indian tanners. On the other hand, the tanner has to sell his tanned goods to foreign buyers on a standard grading. We suggest the appointment of assorters in the various centres to grade the raw hides and skins before they are sold to tanners. The wages of such assorters would not be very heavy and could easily be borne by the sellers.

IV. 24. Yes. We consider the cess should be entirely used for the encouragement of the tanning industry by research work, etc.

25—30. Up to quite recently we had in Madras the Leather Trades School but this has since been closed by Government owing to dearth of pupils. We consider this should immediately be re-opened and to encourage pupils free scholarships should be awarded. The course should include the training of pupils in the manufacture of all classes of finished leather. We think also a museum should be included in which specimens of all finished goods should be available for examination by Indian pupils in order to show them the possibilities of developing trade in finished leather.

31. Present methods cannot, we think, be improved upon.

32. *Avaram* and *konnam* barks are available but in insufficient quantities for tanners' increased demands with the result that thousands of tons of wattle bark are imported yearly from South Africa. The Government Forest Department should be called upon to plant all vacant areas in suitable localities with wattle bark and make it available to the Indian tanners in due course.

33. *Avaram* bark owing to its producing a lighter coloured leather is exclusively used by the tanners in this presidency for skins. It lacks, however, the percentage of tannin contents of wattle with the result that tanners prefer wattle bark for use with hides. We think Government would be wise to try and increase wattle bark supplies in this country rather than *avaram*.

V. 34. Yes. Occasional bulletins regarding improved methods of tanning and results of research, if any, might regularly be despatched to all tanners in vernacular.

35. We suggest that several skin and hide tanning experts be appointed and be made to tour throughout the tanning centres to teach the tanners in their own vernaculars the best methods of tanning.

VI. 36—38. This is a matter for Government to work out.

39. The cess should be imposed solely on raw hides and skins exported from this country.

40. The cess should not exceed the present 5 per cent. duty on all raw skins and hides exported, but we feel that in cases where foreign countries impose a larger percentage, then shipments of raw skins and hides to such countries should be penalised to a similar extent. We would instance the 18

per cent. duty which it is anticipated America will shortly impose on all tanned skins and hides imported from India.

41. It should be for three years subject to revision at the end of that period.

42. We prefer an *ad valorem* rate, as this is the only fair method of assessment.

VII. 43—46 and 48. The distribution of the cess should be left in the hands of a Central Committee presided over by an officiating member of Government with members to be chosen from the skin and hide associations and chambers of commerce throughout India, the heads of the veterinary department in each province, tanners' representatives, also a member to represent concerns such as the Cawnpore Leather Works and the Chrome Leather Company of Madras, etc.

47. This is entirely a matter for Government to decide.

49. Yes. We do not see why any limit should be imposed.

50. Yes. The Chairman should be *ex-officio* and a member of the Indian Civil Service. As regards a Secretary, he should, in our opinion, be a technical man with large Indian experience.

51. The Committee should be under the control of the Central Government but should be given wide powers to deal with the expenditure of all amounts collected.

52. Through local Governments who would consult the various associations.

53. We are opposed to the multiplication of committees.

54. Yes. We consider a whole-time technologist should be appointed.

55. As Madras is the chief tanning centre in India, we consider the headquarters of the Committee should be here.

**Written Statement, dated the 6th November 1929, of
Mr. R. W. LITTLEWOOD, I.A.S., Deputy Director of
Agriculture, Livestock, Hosur, Madras Presidency.**

III. 1. (a) This requires a separate and careful study by an expert. A low standard of cattle-breeding due to violation of elementary laws of breeding and poor feeding may bring about a thin and deteriorated condition of the hides which can be classed as "not durable".

(b) Diseases of the skin both parasitic and non-parasitic affecting its circulation, nutrition, sensibility and texture are varied and many and if they are not properly treated are likely to result in thickened condition of the hides in patches or bring about weak spots. Hides of cattle which die of anthrax are a source of danger on account of the lurking spores in them.

2. The best remedy for the removal of the aforesaid defects lies in the prevention of contributory causes by—

- (a) raising the standard of breeding on scientific lines;
- (b) tackling the diseases of the skin by suitable treatment and inspection of hides by experts for anthrax before release.

Written Statement, dated the 11th November 1929, of Diwan Bahadur
A. APPADURAI PILLAI, Director of Industries, Madras.

III. 6. The suggestion is feasible and can be given effect to. I would supply specimens of flaying knives to the chairmen of municipal councils and the presidents of the union boards for introduction and distribution to the slaughter-houses under their control both in municipal and union board areas. The slaughtering of cattle is done in authorised slaughter-houses. It will not be difficult therefore for these local bodies to insist upon the use of the knife prescribed for the purpose in the licences granted by them. Knives may be manufactured at a central depot such as the industrial workshops in Madras or the government industrial schools or left to be manufactured by the licensees themselves by local blacksmiths subject to the approval of the municipal chairman or the union board president concerned. There is nothing impracticable in this suggestion. In places outside the municipal or union board limits, dead cattle are taken by *Adi-Dravidas* or *Arunthathiyas* and flayed in remote corners under a tree or by the side of a channel. These cases are few and need not be provided for. Revulsion to consume the carcasses of dead animals is gaining ground among *Adi-Dravidas* and this practice may in course of time fall into desuetude. It seems sufficient therefore for our present purposes to confine our attention to areas within municipal or union board limits.

7. *Vide* reply to question 6.

13. The chief curing or preserving material appears to be salt. Arrangements can be made with the Salt Department for the issue of duty-free salt as in the case of the fish curing yards, where this concession is now being granted.

15. The only means of combating such practices is by legislatures, making adulteration or "loading" penal. To make the enactment effective it would perhaps be necessary to confine tanning to licensed tanners in authorised tanneries, and to provide that every hide or skin leaving such licensed tannery should be stamped with the registered number or trade mark of the tanner. Infringement of the Act should entail fine or other punishment. A staff of government inspectors of tanneries to secure immunity from adulteration or loading would perhaps be necessary.

16. The only other defect in hides observed in this presidency appears to be branding but this is mostly done, so far as my observation goes, for purposes of identification and for medical treatment. It is just possible to educate the cattle owners and ryots to confine themselves to minimum branding of permissible nature instead of the unmethodical branding in vogue at present. The reform will be a matter of slow process but sure to succeed in the long run.

19. This is a matter mostly for the dealers of raw and tanned hides. It is just possible to have a system of local agency whereby agents will buy up the hides as they become available and transport them without delay to the dealers themselves. This reform should, in my opinion, come from the dealers.

20. Co-operative marketing by the producer does not seem feasible. There is such a keen competition for the purchase of hides on the part of dealers and tannery owners that it seems impossible to form any co-operative organisation for the purpose of purchase.

21. As for the transport of tanning materials, the Madras and Southern Mahratta Railway Company, Limited, has very kindly consented to charge the lowest rate in force on the railway as shown below:—

	Pies per maund per mile.
For the first 75 miles	38
For distances above 75 miles but not exceeding 300 miles	plus 20
For distances above 300 miles	plus 10

This schedule applies to such commodities as sand and ballast. It is just possible to secure similar concessions from the South Indian Railway and other railway companies. The reduction of railway freight on raw hides seems also a practical proposition. Railway companies if properly approached may be prepared to reduce their rates. In addition to such reduction speedier transport of raw hides may also be asked for. One of the importing firms of Madras has brought to notice that a wagon of raw hides at present takes three weeks to travel from Cawnpore to Madras during which time probably it becomes heated and the hides damaged. It might be possible to minimise such delay.

IV. 24. The funds derived from the proposed cess can be usefully expended in the directions, indicated in the questionnaire. Government are already impressed with the necessity of carrying on research in the Leather Trades Institute, Madras, in tanning, dyeing and finishing, and the removal of the defects now observed in the tanned leather; to help tanners in getting over the difficulties experienced in tanning and to suggest the best means of preventing malpractices in tanning. Work in this direction can be concentrated and more money spent to the advantage of the tanning industry.

The Leather Trades Institute, Madras, for the training of students, has no doubt proved a failure; but there is scope for the voluntary training of tanners, tannery foremen and leather chemists. Sufficient facilities have to be afforded to the tanners at the Leather Trades Institute to bring forward their difficulties and to get them rectified.

30. I would suggest the staff of the Leather Trades Institute visiting tanning centres occasionally and educating the tanners in the improved methods of tanning and in removing the difficulties experienced by them in actual work. Demonstration parties as such may not be necessary but there is reason to expect that occasional visits by the staff of the Leather Trades Institute as suggested above would be productive of much good.

32. The principal tanstuff in Southern India, viz., *avaram*, grows in all reserved forests and in *poramboke* lands. The right to gather *avaram* twigs is sold by auction and the price secured is regulated with reference to the accessibility of the locality. Besides the reserved forests, *avaram* grows largely in several of the village forests under the control of the forest *panchayats*. At the instance of the Board of Revenue who controls all forest *panchayats* attempts are being made systematically to devote certain plain portions of village forests for raising *avaram*. I know personally that several forest *panchayats* in the North Arcot district have taken to this. They could not get sufficient seed for sowing during the last cultivation season. In several instances the *panchayats* collected seed with a view to sowing them on a larger area. Systematic action in this direction for a course of years is bound to result in appreciable increase in the growth of *avaram* and consequently in the output of *avaram* bark.

Konnai which seems to be as good as *avaram* is also being largely resorted to in the tanneries in the North Arcot district. I have seen tanneries where *konnai* and *avaram* are used in equal proportion or sometimes in the proportion of 1: 2. The tanners mix *konnai* with *avaram* in order to keep down the cost of tanning, maintaining at the same time the colour and quality of the tanned skin unimpaired. It will perhaps pay the tanning industry if the cultivation of *konnai* is undertaken in all forest *panchayats* and if possible in reserved forests for the supply of bark as a tanning material. Under the existing orders the forest *panchayats* notify the results of auction sales of *avaram* to the industries department and these are communicated to the Southern India Skin and Hide Merchants' Association for information and communication to the tanners so that the latter may know the nearest source from which they can procure the tanning stuff. The same procedure can perhaps be followed in respect of *konnai*, *myrobalans* and *divi divi*.

33. The price of *avaram* is regulated by the law of demand and supply. It is not possible to make it cheaper except perhaps by the production of larger quantities. The suggestion of the Advisory Committee on Tanning

Materials of the Imperial Institute, London, to grow *sesame* as an irrigated crop was recently considered and has been found impracticable.

V. 34. I see no objection to the application of a portion of this cess fund to advertising for the benefit of the industry as a whole.

35. It is not possible accurately to foresee the objects on which the funds from a cess can be expended for the benefit of the hides and skins trade. Circumstances should be dealt with as they arise.

VI. 41. If the cess is to replace the export duty, no specific period need be prescribed.

42. It seems desirable to continue the present *ad valorem* rate.

VII. 43—55. I generally concur in Mr. Guthrie's suggestions. The Cess Committee proposed by him will consist of 14 members. Addition of other representatives will perhaps make the Committee unwieldy. It is desirable that the Committee should have an official Chairman. The Director General of Commercial Intelligence and Statistics will perhaps be the suitable officer for the purpose. The Committee could normally act through the Directors of Industries of the respective provinces. What executive will be necessary for the Central Committee is a matter of detail which can be worked out after the Committee is formed. The formation of provincial and local sub-committees is a matter that could be considered later, after the work of the Central Committee is defined. It would be desirable to locate the headquarters at a centre intrinsically important from the point of view of the leather trade. Calcutta might, in my opinion, be suitable

**Written Statement, dated the 16th November 1929, of the
Tanners of Bangalore.**

III. 1. Hides: warbles, pox.

Skins: *pori pori*, monsoon defects, *meru*, etc.

2. More propaganda work should be carried out by the veterinary department to educate the villagers by distributing hand bills and pamphlets and to issue patent medicines through the village officers and *patels* with instructions as to their use.

3. Hides are flayed very badly in slaughter-houses resulting in very deep cuts.

4. Bonus system to the flayers and keeping the slaughter-houses open throughout the day.

5. Yes. The inspectors might go round the villages and educate the villagers.

6. Yes.

7. Certainly.

9. The hides or skins are preserved in India either by applying salt till they reach the tannery, or by drying.

10. Improper salting, using cheap salt and drying in the sun during summer.

11. By issuing duty-free salt and by reducing the railway freight on such salt.

12. Yes.

13. Curing materials may be distributed to the villagers through the village *patels*.

14—15. There exists adulteration and the trade will have to look into it.

16. If the masses are educated by propaganda and supplied with medicines to combat the diseases during pestilence these might be stopped to a certain extent.

17. Owing to the above defects such as bad flaying, bad curing and branding, about 50 per cent. of the value of the hides is reduced.

18. As soon as the animal is killed or dies, it is flayed. If the stuff is purchased by a tanner who happens to have his tannery nearby he removes the stuff immediately and soaks. Otherwise the hide is salted and sold to village collectors who collect and sell to a big dealer who in turn sends them to a big market to be sold on commission, where the same is sold either to a tanner or a raw hide exporter. Both the tanner and exporter assort the stuff before buying. The tanner sends the stuff to his tannery and the exporter ships.

19. There are abnormal delays in transit and the railway freight is also high.

20. This is not possible.

21. The Hides Cess Committee might represent to the Railway Board the necessity for special wagons for conveying skins and hides to the different centres. It can also ask the Railway Board to treat skins and hides as perishable goods and to quicken their transshipment.

22. Different system of grading is followed in different centres.

23. Not necessary and the trade has got its own standards established

IV. 24. Yes.

25—27. There is a Leather Trades Institute in Madras which is doing very useful work and more money might be placed at its disposal for expansion whenever necessary.

31. Just at the moment raw hides are going out of India in large quantities and it is necessary that these exports should be curtailed by increasing the present export duty. The country is very rich in raw skins and hides and there is a very good demand in the foreign markets for our stuff. Germany is taking away most of the raw stuff and converting the same into chrome with chemicals and machinery and competing with our tanned hides in other markets. Our tanned stuff is mostly purchased by the English curriers who finish it according to the requirements of the trade and fashion which change every now and then. Owing to German competition the English curriers are also handicapped and trade is in a very bad condition and the Government should take immediate steps to protect the industry, both English and Indian, by imposing heavy duties on the export of raw stuff.

32. The tanning materials required for the tanning industry are available locally with the exception of wattle bark which has to be imported from Africa. The railway freight on the tanning materials should be reduced considerably to make these tanstuffs cheaper. As the cost of *avaram* bark has gone up the hides tanners have taken to wattle and are producing very good leather with the same. As the same is necessary the import duty on wattle bark should be abolished.

33. *Avaram* tannage is no doubt an ideal tannage. But it is not necessary for tanning hides. *Avaram* bark can be cultivated by the agricultural department in the *poramboke* lands. The present railway freight on *avaram* is so high that it is not collected largely as the collector or producer cannot get back his money due to high transport cost.

VI. 39. The principles which prompted the export duty on raw hides and skins in 1919 should again be followed in the application of a cess. The cess should be levied on all exports of raw hides and skins at the time of exportation. When the tanning industry is clamouring for protection it is but right that the cess should be levied on the exports of raw hides and skins to give protection to the industry which is in rightful need of it. It is highly improper to levy a cess on hides tanned in India. The idea of the cess is to assist and encourage and protect the indigenous industry.

40. In addition to the existing export duty the cess may be fixed at 15 per cent. *ad valorem*. The effect of this would be more production of tanned hides and less exports of raw hides. Those countries which are now importing large quantities of raw hides will import our tanned hides as hitherto and thus the wealth of the country will be greatly increased.

41. The cess as proposed on the exports of raw hides and skins should be permanent.

42. *Ad valorem* rate for goods sold on forward contracts and specific rate for those sold on consignment basis.

VII. The Cess Committee should be formed with the consent of the Federation and in consultation with the Southern India Skin and Hide Merchants' Association and the tanning industry should have a predominant representation.

The headquarters of the Committee should be at Madras and the Secretary should be a technical man.

**Written Statement, dated the 16th November 1929, of the
Coast Tanners of Southern India.**

- I. We are tanners and exporters for the last 50 years.
- II. The cess should be imposed only on raw skins and hides exports in addition to the existing export duty. The proceeds of such cess should be utilised for the development of the tanning industry.
- III. 1. In hides: warbles and pox and in skins: pox, anthrax and sores.
2. The veterinary department may well take necessary steps to prevent such cattle diseases and pests.
3. The main defect in flaying is knife-cuts which affect the grain side of the hides.
4. Training in flaying may be given to butchers and such trained butchers may be employed in the work of flaying in slaughter-houses.
5. Yes.
6. Yes. As best advised.
8. Yes. The system of bonus paid to slaughter-house flayers during the war time in Bandra slaughter-house, Bombay, was found successful in reducing the percentage of faulty flayed hides. We recommend the system throughout.
10. The defects in curing are due to insufficient or over-salting, the quality of salt used and delay in salting after skinning.
11. Free and sufficient supply of salt at all places at lowest prices may help the situation.
12. No.
13. Yes.
14—15. No doubt there is adulteration in skins and hides. This is practised with a view to covering the defects in skins and hides, and to increase the weight of such hides and skins. This may appear to be profitable to some extent, but really it is most detrimental to the trade in general.
16. In hides, branding is also a main defect. Steps may be taken to prevent diseases in cattle which will stop this defect.
17. As a result of such defects in hides and skins, the depreciation in the values of such defective skins and hides will vary from 40 to 50 per cent.
18. As soon as the skins or hides are taken from the dead animal, they are cured and preserved when they are sold to tanners and after drying to exporters.
19. Sometimes we experience much difficulties in securing wagons from railway companies and the freight is very high. Sometimes the wagons are inordinately delayed in transit which causes damage to skins. Further, it will be of interest to note here that the railway freight is very high as compared with ocean freight.
20. Co-operative system of collection and marketing of skins and hides is not a practicable effort.
21. Facilities for transport by railways should be given.
23. The trade itself has already satisfactorily established grading.
- IV. 24. The cess may be spent for any purpose that will ultimately improve the Indian tanning industry and export trade.
25—27. The Madras Leather Trades Institute is already engaged in research and it is for the Government to enlarge the same.
31. The export trade of tanned hides and skins may be improved by developing the tanning industry of the country and affording facilities for better and more supply of raw skins and hides to tanneries, which can be done only by restricting the exports of these to foreign countries.

32. All necessary tanstuffs, such as barks, oils, lime and myrobalans are got locally. The supply of barks is by contract system. The hide tanning alone requires a large quantity of wattle bark. Large supplies may be effected by the free entry of such bark into India without any prohibitive duty. Hence the abolition of the present import duty on wattle bark will help the supply very much.

33. *Acaram* bark is superior to wattle bark. *Acaram* is more used in the skin tanning and wattle is used for hide tanning. On account of the want of sufficient supplies and high cost of *acaram* bark the substitute of wattle bark is used.

VI. 39. The principle of the levy of cess should only be to protect and develop the tanning industry of the country, and improving the supply of raw materials and to improve the quality of skins and hides. The cess should be imposed only on the raw skins and hides exported from India.

40. The rate of cess may be fixed at 10 per cent. on the valuation representing the correct market values.

VII. 43. The Cess Committee may be formed to administer the cess.

44. The following interests may be represented on the Committee:—

Tanners, chrome tanners, exporters of tanned skins and hides, exporters of raw skins and hides and a Government Chairman.

**Written Statement, dated the 17th November 1929, of
HAJI EISA HAJI OOSMAN, Madras.**

I. I am connected with the tanning industry for a very long time.

II. In my opinion, the cess is to be levied only on the export of raw hides and skins in addition to the existing export duty. The proceeds of such cess collected may be usefully spent in improving the tanning industry by appointing leather chemists to advise tanners for producing better leathers than what they are producing at present, both for local consumption and for export. This may also be used in offering bonuses to flayers who flay hides and skins without cuts and holes.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The defects due to the diseases are warbles, small pox, flea-bites (*unikadi*), etc.

2. For the removal of such defects the veterinary departments should be asked to find out some means and methods to protect the animals from these diseases.

Flaying.

3. The defects in flaying are deep knife-cuts and holes. These are due to insufficient time allowed to the flayers in the slaughter-houses.

4. Offering bonus to good flayers is considered to be a remedy. This was tried in Bombay during the recent War and proved effective. If the slaughter-houses be kept open for longer time to allow the flayers sufficient time to do their work neatly, this may also prove effective.

4. Yes, the village flayers may be visited by the flaying instructors from time to time and taught the correct method of flaying.

7. Yes, offering bonus to good flayers and keeping the slaughter-houses open for longer time is desirable.

8. The bonus system was tried in Bombay during the recent Great War and was found to be effective.

Curing and preserving.

10. One of the defects in the method of curing or preserving hides and skins is insufficient salting, owing to high price of salt. This leads the preservers to seek cheap stuff, i.e., impure salt which proves harmful to the leather.

11. The salt used for the purpose of curing or preserving is to be supplied duty-free to all the curers and preservers.

12. Yes, but it will be more timely to make the salt easily available duty-free to all the curers and preservers and the results seen, before the research work is taken in hand.

13. It should be widely made known throughout the villages in India that salt required for curing and preserving purposes is available duty-free, and that it should be within easy reach of all the users.

Adulteration.

14. Loading exists in places where hides are sold by weight. Buyers reduce the price according to the loading and so no one is affected by it.

15. No action is necessary.

Other defects.

16. The other defect that could be removed is the branding of animals. Such defects could be remedied by imposing certain fines on the owners of such animals. In some places dead animals are dragged to some distance by which one side of the hides get damaged. This could be remedied by advising the draggers to carry them instead of dragging as this procedure will fetch them a much better price for their hides.

17. It depends upon the damage done to the hide, 25 per cent. to 75 per cent.

(b) Collection, marketing, export, etc.

18. When an animal dies or is killed it is flayed, cured by salt or is dried and sent to the market where it is purchased by either a tanner or an exporter.

19. Yes, there is scope of improvement in railing, by approaching the railway authorities to book and despatch the consignments soon, so as to reach their destinations regularly and within a fixed time after despatch. As an instance I may quote that wagons loaded and despatched from Cawnpore have arrived in Madras 10 to 12 days after they were despatched. In some cases wagons have arrived even 20 to 25 days after they were despatched. This delay is mostly caused in transshipments and could be remedied if the railway authorities are approached to take the necessary action.

21. Special reduced rates for railing raw and tanned hides and skins, curing and tanning materials from the market to the tannery and *vice versa*, should be given.

22. They are graded: (1) free from defects, (2) a few defects and (3) too many defects.

23. The trade has a standard system of grading and hence any new system will be unnecessary.

IV.

TANNING AND ALLIED INDUSTRIES.

24 (a, b, c and d). Yes.

31. The export trade in tanned hides and skins may be improved by restricting the export of raw hides and skins by imposing heavy export duty on them. As a result the tanners will be able to get large supplies of raw stuff at workable rates.

The trade has a standard system of grading and any new system is unnecessary.

32. Tanstuffs required for the tanneries, namely, lime, oils, myrobalans, barks, are available in the local market. The improvement needed is that the railway freight should be reduced on them. From places of origin to the nearest railway station good roads should be provided.

33. The liquor of the *avaram* bark is considered better than that of wattle bark. The former is used entirely for skins. The latter is used by hide tanners. *Avaram* bark can be made available at cheaper rates by growing same in the available government lands. By removing import duty on wattle bark, this also could be made available at cheaper rates. It is desirable that the import duty should be abolished.

V.

ADVERTISEMENT.

34. I think it is not necessary.

VI.

COST OF SCHEMES PROPOSED.

39. The cess is to be levied only on the export of raw hides and skins in order to encourage the tanning industry.

40. A cess of 15 to 20 per cent. would prove advantageous in discouraging the export of raw stuffs, skins and hides.

India's position will not be affected by the imposition of such a cess. Instead of raw the tanned struffs will be exported and India's tanning industry will much improve.

41. The levy of the cess should be permanent.

42. The cess should be collected at *ad valorem* rates, otherwise difficulty would be felt in collecting the cess according to the market fluctuations.

VII.

CESS COMMITTEE.

43—44. There should be a Committee to administer the proceeds of the cess. It should consist of representatives of:—

Tanners (bark and chrome),
Exporters of raw and tanned hides and skins, and
Government.

The representatives of the interests to be elected by the interests concerned and the representatives of the Government to be nominated by the Governor General in Council.

The proportion should be—

8 representatives of bark tanners.
2 representatives of chrome tanners.
5 representatives of exporters of tanned skins and hides.
3 representatives of exporters of raw skins and hides.
1 representative of Government (Chairman).

45. Tanners and exporters to the extent given above.

46. Yes, the Directors of Industries be given representation on the provincial committees.

47. Yes, on the provincial committees. The collection of cess in the Statesports may be left to the States themselves. The proceeds of such cess may be spent in improving the tanning industries in those States.

48. Research institutions are to be given representation on the provincial committees.

50. Yes, he should possess the knowledge of tanning. Non-Member whole-time Secretary. The Committee shall appoint a Secretary and decide the terms according to his qualifications. He should be permanent and whole-time.

51. The Committee should be assigned to use the proceeds of the cess to improve the tanning industry and the allied trades. The Committee should be independent to use the proceeds of the cess as they think best.

52. The Committee should normally act through the agency of the Government. Thus the cess may be collected by the Customs Department in addition to the existing export duty. In this case no special officer will be required.

53. In my opinion, sub-committees in large tanning industrial places will be useful.

54. In my opinion, a special technologist is not necessary at present. However, the Committee may appoint one, if found necessary, later on.

55. The headquarters of the Committee should be in Madras, as most of the tanneries are in this presidency. Thus the Committee would be in a better position to do the needful in the improvement of tanning industry without much delay.

**Written Statement, dated the 17th November 1929, of the
Ambur Tanners' Association.**

II. In our opinion, the amount collected through a cess to be imposed on the exported raw skins and hides only apart from the export duty may with advantage be spent on the tanning and allied industries and also on the improvement of the quality of raw hides and skins.

III. 1. Hides: Warbles and pox.

Skins: Monsoon defects, *pori pori*, sores, pox, brands, warbles and *meru*.

3. There are knife-cuts mostly in hides. These are more found in the supply from the slaughter-houses.

4. *Hides*: A bonus of 2 to 3 annas per hide can be granted to butchers for well-fayed hides, the same to be carried out by some organisation. Slaughter-houses might be kept open throughout the day as the time now allowed is insufficient.

5. We consider the appointment of special faying instructors and supervisors might yield some good results. There is not much killing of cattle in the villages of this presidency and consequently instruction to village fayers is not a thing that could be taken up with much benefit.

6. The supply of the right type of faying knives might be experimented with.

9. In this country curing is generally done to preserve the hides till they reach the tannery either by rubbing salt on the flesh side or by drying.

10. Defects in the method of curing and preserving is due to insufficient salting, over-salting and also by using wrong salts which contain other harmful substances such as minerals. The use of such salts will damage the hides and skins.

11. All salts used for curing and preserving purposes should be made duty-free and arrangements might be made to make such duty-free salt easily available to all users of salt for curing and preserving purposes.

18. When the animal dies or is slaughtered it is fayed. Then they are salted and taken to marketing places where they are bought by tanners or exporters of raw stuff.

19. There are delays in transit and the railway freight too is very high, which forces up the cost price. There are also delays in getting wagons and in some cases the wagons are leaky.

20. The commission agents do this part of the work and it cannot be done better.

21. In India which is industrially in its infant state the railway rates should be so regulated as to charge cheaper rates on raw materials booked for manufacturing centres. Tanned articles to marketing or shipping places should also be charged at a low level in order to retain the raw materials within the country for the benefit of its industry.

22. There are different systems in different places according to the requirements of the users concerned.

23. The trade has itself established some system in this respect and it works out quite all right.

IV. 24 (a, b, c, d). Yes.

25—27. There is already in Madras a Research Institute, which is doing some good work. It may be further enlarged and made more useful.

28—30. Facilities exist sufficiently within the industry itself, for training tanners and foremen and *mistries*. In Southern India tanning is done on a well-organised and established system. There is no cottage industry in tanning in this presidency worth mentioning.

31. The export trade in tanned hides and skins can be very well and easily improved by enhancing the present low rate of export duty. In grading, selecting and standardising the trade does not require any outside help as it has a well organised and long established system in these respects.

32. Tanstuffs, such as barks, oils, myrobalans, lime, etc., are available locally. But railway rates are too high and should be reduced. Hide tanner requires a large amount of wattle bark. The abolition of the present import duty on wattle bark will help the industry much.

33. *Cassia auriculata* (*avaram*).—This of course is a much superior tanning material to wattle bark, but hide tanning requires more of wattle bark. Skin tanners use only *avaram* bark the supply of which might be increased by cultivating them in all government *poramboke* lands.

39. The principle on which a cess should be levied must be to encourage the tanning industry and also to improve the quality of the raw hides and skins. Therefore, the cess must be put in only on the raw hides exported, in addition to the present export duty.

41. The cess on the export of raw hides should be permanent.

42. The cess should be at an *ad valorem* rate.

Written Statement, dated the 17th November 1929, of the
Tanners' Union, Coimbatore.

III. EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Skins: *Pori pori*, warbles, *meru*, monsoon defects, pox and sores.
Hides: Pox and warbles.
2. The veterinary department is giving its attention to the above. Because some of the diseases are caused by monsoons, it may not be possible to stop them. Anyhow a more active measure can be taken by the veterinary department.

Flaying.

3. The flayers are careless enough to spoil the hides by knife-cuts which even spoil the grain side.
4. The bonus system can be very usefully employed.
5. The employment of flaying instructors may yield good results.
6. It can be tried.
8. The bonus system was tried in the war time and found very useful.

Curing and preserving.

9. In India, we do not use any chemical as in other countries but only common salt which is rubbed on the fleshy side and left to dry. It is also cured by simply drying the pelts.
10. Over-salting, using cheap salts which contain minerals like iron which damage the skins as well as hides.
11. By supplying salt to the tanners duty-free.
12. Yes.

Adulteration.

14. There are cases of adulteration.
15. The traders have to take care.

Other defects.

16. There is the practice of branding animals when they are sick. And in the commissariat the cattle are numbered.

The former can be alleviated by the veterinary department, and the latter, if they use some other mark to distinguish the animals, say, by tying numbered bills round the animals' necks or branding them on their forehead.

(b) *Collection, marketing, export, etc.*

19. There is delay in transit and to add to this difficulty the railway freights are very high. At times we do not get wagons and if secured they are leaky and in rainy weather seriously damage the skins. These can be remedied by the railway authorities.

21. Prolonged delays and very high freight.
23. We do not think it can be.

IV. TANNING AND ALLIED INDUSTRIES.

- 24 (a, b, c, d). Yes.

25—26. There is the Government Leather Trades Institute which can be made more efficient by placing good funds at their disposal.

31. The tanning industry can only be encouraged by making it possible for the tanners to use more and more of the raw material. But as long as the competition of the exporters of raw hides and skins exists this can never be done. So the only way to encourage tanning industry (the largest in Southern India) is to restrict the export of raw skins and hides by raising the export duty.

32. *Avaram* bark, myrobalan, salt, oil, *chunam* and wattle bark are required for tanning hide. Improvement can be made by abolishing the import duty on wattle bark.

33. Wattle bark contains more tannin than *avaram*. But *avaram* is the better tanning material of the two for skins. For tanning hides for the purposes of belting and sole, wattle bark can be advantageously used. *Avaram* can be made cheaper by lowering the transit charges and by increased cultivation.

VI.

COST OF SCHEMES PROPOSED.

39. The principle of levying a cess should be to develop and encourage the tanning industry. The existing export duty is not sufficient to safeguard the home industry. Tanning industry is almost dying for want of protection from the foreign competition. So a protective duty in the form of cess should be levied on the export trade in addition to the now existing export duty.

40. The rate of cess should be about 15 per cent. on the valuation. The Indian tanned skins and hides can stand their own in the world market by the imposition of a cess on the exports of raw hides and skins.

41. The cess should be permanent.

42. The cess can easily be at an *ad valorem* rate provided the valuation is correct.

VII.

CESS COMMITTEE.

43. We leave the constitution of the Cess Committee to be decided by the Southern India Skin and Hide Merchants' Association and Southern India Chamber of Commerce.

Written Statement, dated the 17th November 1929, of the
Southern India Tanners' Board, Dindigul.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. Amongst hides, chief defects are pox and warbles and among skins, anthrax, pox, sores and *meru*.

2. It is for the veterinary department to find a solution for it.

Flaying.

3. In flaying deep knife-cuts are the chief defects.

4. A bonus system of 3 to 8 annas for well-flayed hides and 1 to 2 annas for skins can be tried.

5. Yes.

6. Yes. It is for the Cess Committee to organise the supply to the villagers.

8. We did not try.

Curing and preserving.

9. Indian curing material is generally salt. We do not know about other countries.

10. Cheap mineral salts are used as good salts cost more, hence a lot of defects.

11. To avoid it, good salts must be made available to all the preservers at lesser cost which can be done only by arranging supply of duty-free salts. Also see that they are not misused.

12. Certainly it must.

13. Yes. Through the village officers.

Adulteration.

14. Yes. To some extent.

15. It is for the traders to be cautious which they are even now. We think the trade will take its own care.

Other defects.

16. Branding is the worst defect found, and it is done by Government on the cattle which should be eliminated by them alone. Also by cattle owners to protect their cattle, from thieves who flay the animal alive, by lessening the cost of the hide flayed like that, which should only be rectified by the police organisation. Branding is also done to avoid and to cure some diseases which can be put to an end through the veterinary department by researches.

17. By the above named defect, the value is reduced by nothing less than 60 to 70 per cent.

(b) *Collection, marketing, export, etc.*

19. Yes. A good deal in transit and railway.

20. No. It cannot be either to the advantage of the producer or of the purchaser. Further, it will not be practicable.

21. Yes. Railways make abnormal delays and the rate is also too high

23. No.

IV. TANNING AND ALLIED INDUSTRIES.

24. Yes; we think this can be done to a very good advantage to the industry.

25. The Leather Trades Institute is the only facility.

26. It should be enlarged and improved to a very great extent by providing considerable sums.

30. Yes.

31. The export of tanned hides and skins can only be improved by providing more raw materials to the tanners at a comparatively cheaper price as to pay them for tanning any stuff. Both these can only be possible by restricting the export of raw hides and skins and aggravating their cost by a prohibitive export duty. Unless the above means for improvement is tried, neither the British currier will be in a position to pay a suitable price, nor the tanning be worth while for the tanner to do. Hence the need of improvement in the export of tanned hides and skins.

As for grading, etc., the trade looks after itself.

32. *Chunam*, *acaram* bark, myrobalans, oil, etc., and all required for bark tanning. Improvement can only be done by reducing railway freights and abolishing import duty on wattle bark which is also very badly required.

33. *Cassia auriculata* is decidedly a better tanning material for skins and wattle is badly required for hides tanning.

Cassia auriculata can be made available in larger quantities by more production through more plantation and cheaper by reducing railway freights.

VI. COST OF SCHEDULES PROPOSED.

37. Too short a time is given to work them out.

39. The principle followed in levying a cess invariably is for encouragement of an industry. Now the tanning industry stands in need of such encouragement and protection from the foreign exploiters. Therefore the cess must be levied on exports of raw stuff only and used for the development of the industry and the raw stuffs available. It should be never even thought of levying a cess on tanned exports or locally consumed articles which even now are at the point of break down by the foreign competitors against the British carriers and the raw exporters against the tanners.

40. The rate should be fixed at 20 per cent. above the present export duty which can only serve the above purpose of encouraging and developing the tanning industry. The position of tanned hides and skins will be very favourably affected in the world market by the imposition of the above cess.

41. Till the industry stands on its own legs; protected very kindly by the Government with a suitable substitute, i.e., by enhancing the present export duty.

42. An *ad valorem* rate on the correct selling invoices or consular invoices where it can be available.

VII. CESS COMMITTEE.

We leave all about the forming of the Cess Committee to be settled by the Southern India Skin and Hide Merchants' Association and the Southern India Chamber of Commerce, affiliated bodies of the Federation of Chamber of Commerce, who are to see that tanners have predominant voice in the Committee because the cess is to be administered chiefly to improve tanning industry. Also that all advantages proposed by tanners will automatically look to the wants of raw exporters in addition to the special wants of tanners.

us has been tanning exclusively hides collected in the district of Chingleput, it has been his experience that branded hides are at least twenty five per cent. In the more southern districts the percentage must be greater, but we are unable to give at present the percentage of such branded hides in the total production of Indian hides.

18—23. As soon as an animal dies or is killed it is flayed and is offered for sale by the retail producer. This is purchased by the small dealer who after purchasing salts the hides and skins for the purposes of preservation. As soon as he collects sufficient quantity he despatches it to a commission agent, who in turn after grading and sorting offers them for sale to a tanner. The tanner after inspection pays its price and takes delivery of the goods. This is merely a common procedure but very often exceptions are resorted to in order to eliminate the intermediaries. It is generally believed by the tanners that a skin or hide soaked fresh in a tannery is preferable to one cured and preserved with salt. Large tanners therefore, make direct contract with the butchers in the slaughter-house making heavy advances to them to secure the skins and hides in sufficient quantity each day to serve the purpose of a single soaking in the tannery. In such cases the dealer or the commission agent is eliminated. Again to eliminate the commission agent the dealer himself offers his stock to a tanner if there is one nearby when he has collected sufficient quantity. The only point we can suggest towards an improvement is the opening of suitable facilities for transport; in addition to railway facilities, roads may be opened and water communications may be secured wherever possible. The reduction of railway fare is an important factor and a sufficient supply of wagons preferably wooden is essential. In other respects it is our view that the trade had settled itself and we do not consider the system of co-operative marketing feasible.

IV. 24—33. We consider that the funds derived from a cess can also be spent with benefit to the tanning industry in India, on all the four objects mentioned under question 24. There is already a Government Leather Institute in Madras which besides doing some research work is training students to understand the technique of tanning. As Madras is the largest tanning centre in India it is but proper that technical institute of the kind should exist at Madras. If the Institute can concentrate upon and develop the bark tanning process and train tanners who can be of real help in the production of bark-tanned hides and skins, it can be of considerable advantage to the value of the industry. The bulk of supply of tanners is now drawn from the industry itself in which persons are taken as apprentices to undergo training in a systematic manner though without entering into the theoretical side of tanning. Men trained in research work and those having knowledge of leather chemistry may be of considerable advantage to particular tanners who may care to have them and such men can always be secured amongst persons who have returned from England after undergoing the necessary training. The demand in this direction to the extent that it may exist can also be met by men trained in the existing Government Leather Trades Institute. The tanning industry in this province is a complete and organised system where practically no cottage industry exists. And as such there appears to be no need of training a rural tanner. The export trade in tanned skins and hides can be improved and even sustained only if sufficient encouragement is given to the tanning industry. It is not merely essential that the tanner should obtain raw materials of the right sort but at a price which would give him a return for his labour. This is possible only if foreign competition to purchase raw hides and skins is adequately combated, this rendering it a business proposition for consumers abroad to purchase Indian tanned commodity in preference to its raw material. In other respects it is our opinion that the export trade of tanned skins and hides is settled and well-regulated and any interference or modification in the standardisation or grading is not necessary. All the necessary tanning materials such as lime, bark, myrobalans, oil, are available within our province. The most important help that can be given to the

tanning industry so far as the supply of tanning materials is concerned is the reduction of railway freight on bark. The railway freight invariably makes it costly for the tanner to purchase bark and at the same time tends to consume the profit that may be made by the bark dealer. The *avaram* bark is no doubt superior to wattle bark from the standpoint of better tannage and colour, but all the demand for tanning of skins and hides cannot be met by *avaram* bark, and the import of wattle bark is therefore necessary in order to supplement the enormous increase of demand. In fact wattle bark is preferred to *avaram* bark by tanners of hides as the wattle is a more powerful tanning agent than *avaram* giving a uniformity of result, within a shorter period with better tanned weights. Wattle bark is being so efficiently adopted for the tanning of hides that there is nothing defective or wanting which may be spoken of the tanned product. The only direction in which the industry can be helped so far as the supply of this tanning material is concerned, is the abolition of the import duty that is collected on wattle bark. If loss of revenue or unfair competition with indigenous bark industry is feared the cultivation of wattle bark in India may be experimented. We understand that some attempt was made by some planter in the Nilgiri districts, but the progress which such attempt has made or the help that Government might have rendered to such plantations is not known. If the planting of the *avaram* bark can be tried on a large scale on waste lands suited for its growth it would also be a great source of support to the tanning industry.

V. 34—35. It is our view that during the continuance of the Great War when all export of raw skins and hides was prohibited, and when all the tanned hides were commandeered by the Government, the War Office had such a large supply, that it supplied all the requirements of all the allied countries for tanned hides. This amongst others had a great advertising effect and necessity led those countries to discover the benefits and adaptability of Indian tanned hides. This advantageous position will be sustained only if unfair competition from foreign purchasers of raw hides is curtailed. Under these circumstances the advertisement may not help a great way, but to a certain extent it may be tried by exhibiting Indian tanned skins and hides through the Trade Commissioner. The cost of such advertisement may be met from the cess fund. Portions of the fund may also be utilised for the amelioration of the conditions of the labourers who form the backbone of the tanning industry, by providing them with better housing accommodation, sanitation, medical aid and education.

VI. 36—42. Within the short time at our disposal it has not been possible to work out the details called for under questions 36 to 38. In dealing with the rest under the section we have to recall what we have hinted at elsewhere in the statement. The test of tanning as an industry over and above the export trade is the extent and the period over which labour is employed for production of value on a given quantity of raw material. The tanning industry must therefore employ a large section of people living in the country and as such wealth that is earned is distributed over a large field even carrying it to person who would otherwise starve and perish. It will be clear therefore that tanning is pre-eminently an industry as distinct from the export trade; and what would give benefit to the largest number—deserving number—has a preferential claim upon a public fund that may be collected by the Cess Committee. It is on this principle every civilised country considers the maintenance and support of its industry a supreme and sacred necessity; and if India does so, no charge of unfairness or error of judgment can be laid at its doors. Tanning is an industry and it is an Indian industry; it has therefore to be fostered, sustained and perfected. Far from the imposition of a cess on the tanning industry it needs subsidising by the State; but if that consummation cannot be expected, the materials required for the tanning industry should be made available in proper quantity and quality and at suitable prices. The means of facilitating the transport of raw material has been already stated; but the full benefit and support to the industry cannot be secured unless a cess is imposed on

raw hides in addition to the existing export duty. The only article therefore on which cess can be levied is raw hide and the stage at which such cess has to be imposed is when it is intended for export outside India. Imposition of a cess on the export of raw hides will render possible the securing of the supply of adequate quantity and quality of the proper hides which when tanned will find a better market in the countries to which they may be exported. This no doubt may tend to diminish the export of raw hides but they will all be diverted to the tanning industry, which in return will increase the export of tanned skins and hides. This after all is not an adverse effect, and it is only a goal which we all should strive for, sinking no doubt differences of individuals or sectional advantages. The prices of hides and skins are so very fluctuating that an *ad valorem* cess of ten per cent. should be imposed on the export of raw hides and skins. A specific rate will be very difficult to fix and under fluctuating conditions it may be too depressing or too light. If it is an *ad valorem* cess, correct market value should no doubt be taken as the basis of calculation.

VII. 43—55. A Cess Committee representing tanners, chrome tanners, exporters of tanned hides and skins, exporters of raw hides and skins and Government should be formed. The representatives of the various interests should be elected by the various interests concerned, and the Government member is to be nominated by the Governor General in Council. The various interests should be given representation by statute and the proportion in which such representation should be provided is three for tanners, one for chrome tanners, two for tanned hides exporters, two for raw hides exporters, one Chairman to be nominated by Government. The local Government may be given representation through its own Director of Industries. Provincial committees may be formed and on them alone representation may be given to the provincial Governments and to the Indian States. The Chairman may be *ex-officio* member of the Committee and he may be appointed by the Government. There should be an ordinary full-time Secretary of the Committee who need not be a member. The Committee shall select its own Secretary and fix his remuneration and other conditions. The Committee shall be independent and responsible to the Government only. The Committee should act normally through the Government, its own Customs authorities collecting the cess. The Committee should be located at Madras as Madras is the centre of the tanning industry, in the same manner as the Cotton Cess Committee is located at Bombay and the Tea Cess Committee at Calcutta.

**Written Statement, dated the 17th November 1929, of
Mr. N. M. KAJAMEAN ROWTHER, Trichinopoly.**

I. My family has been connected with the tanning industry for nearly 8 decades. I have got at present bark tanneries tanning goat and sheep skins at Dindigul in Madura district and at Sempattu in Trichinopoly district. In the latter place I am running a chrome factory and turn out box sides and soles among other goods. I started this industry about the year 1920 and my factory products are in fairly good demand throughout India. In this connection it may not be out of place to mention that my goods received the first prize for excellence in chrome tanning at the All India Exhibition held in Madras in 1927. Bark-tanned goat and sheep skins turned out in my factory are being regularly exported to London market and this export business I have been carrying on for nearly 8 decades. Thus I am interested both in bark and chrome tanning of hides and skins.

II. In my opinion, any cess that is to be levied on hides and skins ought to be levied and collected only on raw hides and skins exported outside India. In no other case should any cess or any other form of tax be levied. In the case of hides and skins utilised for tanning in India, as the industry is already suffering from serious drawbacks, I consider it not desirable to handicap same any further.

In recent years, particularly after the Great War export trade in raw hides and skins has been progressing a great deal to the detriment of the Indian industry and the Indian manufacturers find it hard to compete with the foreign purchasers of raw skins, the net result being a great deal of decrease of the tanning industry in India and the unattractiveness of the industry to the local manufacturers.

As for hides these are produced on a large scale in Northern India and they are in great demand in the south, particularly in the Madras Presidency. The natural flow of this raw material from the north to the south is greatly retarded by the variations in railway freight. To mention only one instance, the charge of the M. & S. M. Ry. and the S. I. Ry for these goods for a certain distance is more than what the G. I. P. Ry. and the E. I. Ry. charge for double the distance. Therefore it is needless for me to say that this is a great handicap to the South Indian manufacturers to compete in the Northern India markets with the foreign purchasers, who are prepared to pay higher prices than the Indian manufacturers. It facilitates the purchase by the foreign merchants and cheap transmission thereof to the nearest port. Further there is also a good deal of delay in railway transmission from north to south. Any attempt therefore at helping the Indian industry to be really useful should be to levy a cess on the export of hides besides directing its attention towards lowering of the heavy rates of freight on railways like the M. & S. M. and the S. I. Ry. and taking steps for causing as little delay as possible in the transmission of these goods by the railways concerned.

The cess that is to be levied on the export of raw hides and skins should be based on the selling value of the tanned hides and skins in foreign markets.

On the question whether the proceeds of the cess can be spent profitably for the benefit of the industry as a whole including the export trade in hides and skins and in tanned hides and skins, I should make distinction between these two trades, namely those in raw hides and skins and in tanned hides and skins.

As regards the export of raw hides and skins though the proceeds of the cess may be utilised for the benefit of the Indian industry, still I think it will be very difficult to distinguish between raw hides and skins that are meant for local industry from those that are likely to be exported abroad. So there is every chance of the object for which the money is spent in this

direction being practically frustrated. In view of this difficulty I am opposed to the proceeds of the cess being spent on export trade in raw hides and skins.

On the contrary much can be done in the direction of helping the industry in tanned hides and skins, particularly in reducing the railway freight. Further attention may be bestowed on the question of proper production of tanning materials, and in establishing research and other institutes for teaching how to produce best quality finished leather goods.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The defects found in the Indian hides and skins due to cattle diseases, pests, etc., are many, but the worst are ticks, pox and branding.

Flaying.

3. The only defect that results from bad flaying is butcher's cut.

4. As for remedying that I do not think there is any way except to suggest some steps being taken for bringing home to the butchers the advantages of proper flaying. In big centres the latest improved methods of flaying may be availed of by the local bodies concerned.

5. I do not consider the appointment of flaying instructors and supervisors will serve any useful purpose in the villages.

6. Perhaps flaying knives of an improved pattern will be of some use. Of course in towns and other areas of fairly concentrated population the question of supply could be easily dealt with by the municipalities, union boards and the village *panchayats* in actual working and even for other areas it will not be difficult to arrange the supply through the connected headmen.

7. I consider that much improvement can be brought about in flaying in slaughter-houses. *Vide* paragraph 4 above.

8. I have no information of any bonus to flayers. It strikes me, however, that a system of prize giving may profitably be resorted to once a year for good flaying in important centres.

Curing and preserving.

9—10. As far as I am aware the curing and preserving in India is not done in the best manner possible. People do not see to the proper draining of the protein after the skins are salted. Very often skins are not properly salted, or are over-salted and very few people realise the advantage of using good quality salt.

11. All that I can suggest for remedying the defect pointed above is for the authorities to see that the skins are properly washed and dried before salting and that the salted skins be kept at the slaughter-house and the authorities see that the protein is properly drained off before being released from the slaughter-house. I would also suggest the supply of best quality salt free of duty to the merchants for supply to slaughter-houses. The only fear of this being abused can be easily allayed by the mixing of some soda ash with the salt before the same leaves the factory.

12. I should certainly think that the question of curing and preserving would form a very suitable subject for thorough investigation and research at the expense of the cess fund.

13. *Vide* paragraph 11 above.

Adulteration.

14. So far as my experience goes there is a good deal of adulteration and loading during salting process. Sand, flour, *kanjee* and utilised salt are being very freely used during salting process.

The natural result of this adulteration and loading on the tanning industry in India is that it spoils the colour, quality and strength of the tanned products.

15. It is practically impossible to eradicate such abuses.

Other defects.

16. The only other defects that I can think of are the scratches that are found on the skins by reason of bad handling of the dead animals and more often branding.

As for branding this is systematically done in the case of animals kept by the Government mostly in the Military Department and the Agriculture Department. Steps may be taken to suggest to the authorities concerned that the branding, if it cannot be avoided at all, can be done in such a position as not to affect the value of the hide of the animal. In general the veterinary department may be instructed that when branding is necessary same may be done with as little damage to the value of the hide as possible. The disadvantage and loss due to branding the animal without due consideration of the value of the hide may be brought home to the people by the agriculture and veterinary departments.

17. I can roughly say that India is losing 30 per cent. of its value by reason of the existing defects above referred to. My estimate is the result of my actual experience of sorting the different qualities of tanned products spread over a number of years.

(b) Collection, marketing, export, etc.

18. In villages after death or killing, the skin is flayed and is taken to the nearest village fair either after salting or drying it or before. It is very often purchased by petty merchants who sell it to bigger skin merchants often found in big towns. They generally send the skins to leather centres for sale. It is here that the raw skins are purchased either by the tanner or exporter.

In towns where there are slaughter-houses the hides and skins are generally purchased by raw skin dealer or tanner. Generally therefore the skin passes through numerous hands before reaching the tanner or exporter.

19. Transport and other railing defects have been drawn attention to above where remedies also have been suggested.

20. I do not consider that there is much scope for co-operative marketing in this matter. The benefits of co-operative movement have not yet been generally realised by the ordinary Indian and this particular business being mostly in the hands of men below the average the co-operative movement will not be fruitful of good results. Another special reason why the benefits of co-operation cannot be brought home to the villagers lies in the fact that the market is never steady.

21. *Vide* above. In general, railway freight for the transport of raw tanning materials to the tanning centres and the tanned articles to the market centres should be reduced as much as possible for the encouragement of the use and manufacture of raw materials within the country. In this connection care should be taken to avoid encouragement being given to raw materials being exported beyond India, and to avoid this I would suggest verified statements being taken from the consignees to the effect that the materials are not for export beyond India.

22. There are different systems obtaining in different centres according as the buyers are tanners or exporters.

23. As the present standardisation obtaining in the different markets are fairly satisfactory to all concerned I do not consider that there is any necessity for the introduction of any new system.

IV. TANNING AND ALLIED INDUSTRIES.

24-26. In the Presidency of Madras the Leather Trades Institute established by the Government was doing useful work in disseminating theoretical and practical knowledge of approved methods of tanning, and in my opinion, the recent abolition of the institute is a great set-back. It is necessary not only to re-establish the original institute but also to expand its activities in such a way as to give practical training to people who may be engaged in the industry though they may not possess any educational qualifications. Besides imparting education in theoretical and practical tanning its activities should also be expanded so as to include giving practical training in the manufacture of finished leather goods of all descriptions, particularly those which are largely imported into India.

27. In my opinion there need not be any specialisation of technological investigation.

28. Tanners and tannery foremen are being practically trained in the existing tanneries, as a large number of these exist in this presidency on an organised scale. So far no facility exists for the training of leather chemists in our area.

29. If the Leather Trades Institute of Madras be re-established and run on the lines suggested above, it will serve the purpose of supplying trained tanners, etc.

30. The tanneries, wherever they exist, are on an organised scale and this industry is not found here as cottage industry. There is therefore no necessity for any special attempt being made to impart training to rural tanners.

Besides re-establishing the Leather Trades Institute, Madras, special facilities may be given to the various tanners by making the advice of the leather chemist available to them.

31. Any improvement in the export trade of tanned hides must necessarily depend upon the supply of raw products to the Indian manufacturers and this can be obtained only by a levy of export duty on raw hides and skins which are meant for export to foreign countries. The import duty on tanned hides and skins and other leather goods that are being imported into India from foreign countries will also be very helpful for the improvement and expansion of the industry in India. Every attempt also should be made by the Government and the Railways in India to purchase their requirements in India alone instead of importing from outside, and in particular no opportunity should be missed by these departments to substitute Indian leather goods in the place of foreign goods, for example, in the matter of belting, upholstery, etc.

As for grading, the trade being a long established one in India and particularly in the Madras Presidency I do not consider that any new scheme of grading or standardisation is necessary, because grading or standardisation varies according to the different countries which demand the goods.

32. Tanstuffs required for the industry are available in India and the supply is fairly organised.

Avaram bark required in this presidency comes mostly from government lands. The present practice is for the Government to lease the right of removing the bark every year. It is advisable for the Government to divide its area in such a way as to allow a free growth of this plant and lease the lands only in every three years so that the quantity and quality may improve.

Other tanstuff besides *avaram* required is wattle bark. Its supply is at present charged with an import duty and it should be removed so as to

encourage better supply. Government should also take steps for growing large quantities of wattle in India itself, so that in due course India may be self-sufficient in the matter of tanstuff instead of depending on foreign countries.

33. For light skins the *avaram* bark is certainly superior to wattle bark. *Vide* paragraph 32 above. The only means of enlarging the supply of *avaram* bark is for the Government to prevent its use for the purpose of green manure and diverting the whole supply for the tanning industry.

V.

ADVERTISEMENT.

34. The fund can profitably be utilised for finding ways and means of capturing the foreign markets. Earnest attempts should be made at all the exhibitions throughout the world for the proper display of Indian leather goods in the shape of finished articles or tanned hides and skins. I am of opinion that the High Commissioner for India can help the industry a great deal by bestowing some attention on this matter.

VI.

COST OF SCHEMES PROPOSED.

39. *Vide* paragraph II above.

40. *Vide* paragraph above. The rate depends on the value obtainable in the foreign countries for the goods in question.

The rate should be so fixed as to make it prohibitive so that as large a quantity of raw hides and skins as possible may be conserved for tanning and other industries in India itself.

41. Of course no specified period can be given in this matter. It all depends upon the rapidity with which the local industry progresses. Unless and until the Indian industry improves and comes up to the level of foreign countries the export cess must continue.

42. In my opinion, a specific rate of export cess will work great mischief to the Indian tanner and if the duty is to be really useful it must be on an *ad valorem* basis, as otherwise the specific rate will only be conducive of encouraging export of good and valuable skins and conserve only valueless and bad skins for the country.

VII.

CESS COMMITTEE.

43. A Committee should certainly be formed for administering the proceeds of any cess that may be imposed. The Committee should be constituted of leading tanners, of finished leather goods manufacturers and of representatives of well-established associations of tanners. Any Committee that is to be established should be located in some important tanning centre centrally situated so as to be within easy access of all parts of India.

44—45. In the constitution of the Committee preponderance should always be given to tanners. So far as individual tanners and finished goods manufacturers are concerned the nomination may safely be left in the hands of the Governor General and as far as the associations are concerned their representatives may be elected.

46. Local Governments should have representation on the Committee, and the representatives may be nominated instead of being *ex-officio*.

47. What has been stated above applies to the States and the tanners therein. The State concerned should collect the cess and the application of the proceeds should be only in the hands of the Committee.

48. Recognised technological institutes may be given representations on the Committee and I do not think that there is any special reason for special representation to the co-operative movement.

49. It is not necessary to co-opt experts, etc., in the Committee.

50. The Committee may elect its own Chairman from among its members. The Committee should have a full-time Secretary. The starting pay of the Secretary should be at least Rs. 1,000 a month.

51. From the answers to the above questionnaire it has been throughout suggested that a good deal of work has to be done by the local Governments concerned and the Committee, in my opinion, can do much useful work with the Governments' active co-operation.

52. In the view above stated I do not consider that there is any necessity for any big executive and office to the Committee and the Committee can normally act through the agency of the Government.

53. No.

54. I do not consider that special technological advice is necessary for the Committee, but then the necessary advice may be obtained from time to time from technological experts at the discretion of the Committee.

55. In my opinion, Madras would best serve the purpose. *Vide* paragraph 43 above.

**Written Statement, dated the 17th November 1929, of the
Southern India Tanners' Board, Trichinopoly.**

II. In our opinion, the cess to be levied may profitably be spent on the tanning industry and allied industries and for the improvement of the raw skins and hides in the manner suggested below. We maintain that the proposed cess should only be levied on the exports of raw skins and hides. We cannot agree that the export trade in raw skins and hides is an industry.

III. 1. Hides: Pox, etc.

Skins: Defects due to monsoon, anthrax, sores, etc.

2. The activities of the veterinary department will help it to some extent. But we understand that they are not successful. However we suggest that better and more efficient steps should be taken by the department to cope with the work.

3. Deep knife-cuts due to unskilled flaying.

4—5. Instructions on flaying should be given in all slaughter-houses by the authorities in charge of such slaughter-houses. Flaying instructors and supervisors may be appointed. Further licensed flayers should be allowed to do the work of flaying in all slaughter-houses.

8. Yes. During the Great War the system of giving bonus for well-flayed hides was tried in the Bandra slaughter-house at Bombay and a bonus of 2 annas was given to skinners for every well-flayed hide. This had a very good result in reducing the faulty flaying to a great extent.

9. Curing in India is generally done with common salt.

10. The defects in curing is due mainly to using cheap salts.

12 and 14. Yes.

16. Branding.—The veterinary department may be asked to look to this as branding is done simply to ward off cattle diseases.

17. As a result of these defects the value of such defective hides is reduced by 40 to 50 per cent.

18. The trade has already established its method of collecting and marketing hides and skins.

19. Better transport facilities, unrestricted supply of railway wagons and reduction of railway freights on such goods will be sufficient.

21. Delays in transit and high rates of railway freight.

IV. 24. The cess may be expended in all ways which may be necessary to improve and develop the tanning industry as a whole.

25—27. The Madras Leather Trades Institute affords facilities in this respect. The institute may be improved and enlarged to enable it to give better and more help and assistance to the industry.

31. The export trade in tanned skins and hides may be improved by developing tanning industry in India, diverting all raw skins and hides to the Indian tanneries, for a better and improved output to be manufactured in India itself, as much as possible of the tanned articles to be exported from India and restricting the export of raw skins and hides (India's valuable resources), which are indiscriminately carried away directly from India by foreign countries, such as America, Germany, Italy, etc., to feed their own tanneries, placing at the same time high tariff walls against Indian tanned goods.

32. All kinds of tanstuffs required for bark; tanning are available locally. The only difficulty is the price of such barks which go up on account of high railway freights which should be reduced substantially. Wattle bark which is used mainly for fanning hides should be made more available and at

cheaper rates. This could be effected only by doing away with the present import duty on wattle bark, which greatly increases the cost price.

33. *Avarum* bark is superior and is more used for tanning skins.

VI. 39. The principle on which the proposed cess is to be levied, should be nothing else but to encourage and develop the tanning industry. If at all such a cess is levied, it should be only on the raw skins and hides exported from India without prejudices to the export duty. We cannot agree that the cess should cover tanned articles. Any such suggestion is purely reactionary and destructive. Any additional charge on the Indian tanned goods will surely affect the inter-Imperial trade of the country.

40. The rate of the proposed case may be fixed at 15 per cent. *ad valorem*.

41. In our opinion, the cess may be permanent or until that time when the tanning industry may not require it.

42. The cess should be on the valuation as above suggested, but the same should be calculated on correct valuations.

VII. 43. We are in favour of the formation of a Cess Committee to administer the cess by a statute.

44. In the event of the formation of a Cess Committee, the tanners should have a predominant representation on the Committee. The other details, the establishment, functions, etc., of the Committee, we leave in the hands of the trade organisations concerned.

**Written Statement, dated the 28th November 1929, from the Director
General and Secretary to Government, Department of
Commerce and Industry, His Exalted Highness the
Nizam's Government, Hyderabad-Deccan.**

There are no accurate statistics for the hide and skin trade and leather trade in Hyderabad State. The Customs figures show the following values for exports and imports of hides during the last 4 or 5 years. The term hides includes both tanned hides and skins.

Year.	Exports.	Imports.
	Lakhs.	Lakhs.
1334 Fasli	38.98	7.36
1335 "	42.67	7.21
1336 "	44.49	9.55
1337 "	45.98	14.27
1338 "	34.72	...

It is estimated that about one-quarter of the total exports consists of tanned or half-tanned hides and skins while the rest are raw-salted. The bulk of the imports consists of tanned or half-tanned hides and skins. There are a number of fair-sized tanneries in the State. The principal tanneries are situated in or near Hyderabad and Secunderabad, and it is estimated that half the exports come from these tanneries; but there are fair-sized tanneries at Warangal, Jalna and Raichur. These tanneries are of the Madras type, and they turn out semi-tanned hides for which *tarwar* bark is principally used, and their output is sent to Madras for export. There is very little finished leather produced in the State. The system of collection, marketing and export is much the same as in the Madras Presidency and the half-tanned hides are usually graded and packed by commission agents at Madras. It is probable that the industry could be very much improved, and a survey of it, as a preliminary to taking steps for this purpose, is under consideration.

The proposal for a cess is generally acceptable to His Exalted Highness the Nizam's Government on certain condition (*vide* the attached extract from a memorandum, a copy of which has already been forwarded to the Government of India). In view of the size and general importance of Hyderabad State as well as the value of its trade in hides and skins, the State should receive the same representation on the Committee as is afforded to the major provinces, and should have the same rights to share in the allocation of the cess. It will be of great assistance to Hyderabad if any Committee which is formed has at its disposal the services of a reliable technologist whose advice and assistance will be available to the State. Any system by which the Committee relies solely on existing institutions would not be suitable for the Indian States. If the Committee gives grants-in-aid to any provincial institution, it should be a condition that students from Indian States should be admitted to the institutions for training on the same basis as the inhabitants of the provinces and it should not be open to the provincial Governments to charge them special fees. The Indian States should be allowed to nominate their representatives.

It is not desired to express any opinion regarding the other details of the scheme, but the Director of Commerce and Industry will, if desired, give evidence before the Committee and express his opinions on the points at issue.

*Extract from a memorandum on the proposed cess on hides and skins
imported from India.*

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3. On the other hand, His Exalted Highness welcomes the imposition of a cess for the purposes described, provided that Hyderabad State receives her proportionate share of it. In the case of the cotton cess, Hyderabad has received as yet no share in the proceeds, though a great part of her exports of raw cotton, which in some years are valued at 10 crores of rupees, are exported to Japan and elsewhere, and contribute largely to the cess. It is presumed that grants will be made by the Indian Central Cotton Committee towards research work in the Dominions, similar to those afforded to the British provinces, as claims are put forward, and on this understanding His Exalted Highness would be willing to co-operate in a similar organisation for the collection and control of a cess on hides and skins.

**Written Statement, dated the 4th January 1930, of the
Chief Conservator of Forests in Mysore, Bangalore.**

I am giving you some information about the tanning bark exploitation in Mysore with which the Mysore Forest Department is chiefly interested.

The chief tanning bark available in the State is *avaram* (*cassia auriculata*). A small quantity of *amiltas* bark (*cassia fistula*) is also exploited. The right of harvesting the produce in all government lands is sold once in two years, generally in public auction. The realisations from the sale are indicated below:—

Lease period.	Amount realised.
	Rs.
1915-17	5,71,453
1917-19	8,04,860
1919-21	19,92,808
1921-23	3,24,430
1923-25	6,13,970
1925-27	9,75,542
1927-29	7,32,589

Correct information is not available as to the actual quantity harvested each year; but the following statement gives figures of export of the bark by train so far as they are available:—

Year.	Quantity exported.	
	Lbs.	Ry. mds.
1923-24	8,373,623	101,763
1924-25	18,286,712	222,235
1925-26	12,812,694	155,710
1926-27 (July—December)	6,139,491	74,612

During the past 5 or 6 years, imported East African wattle bark has become a serious competitor to the locally available *avaram* bark so far as the local tanning industry, which deals mostly with the heavier hides, is concerned. The local tanners seem to prefer wattle bark to *avaram* on the ground that it is cheaper, that it takes a short time for tanning and that it gives a heavier weight to the leather than obtained in the case of *avaram*-tanned leather. In recent years large and increasing imports of wattle are being imported to Bangalore from the Madras Harbour, in spite of *ad valorem* import duty.

With the preference given to wattle bark by the local tanners the price of *tangadi* bark has fallen to a considerable extent; and unless some immediate steps are taken to improve the collection of the *avaram* bark and to make it available to the tanners at reasonable rates it is likely that considerable number of men employed on tanning bark collection will be thrown out of employment, not to speak of loss of revenue to the State and the non-utilisation of a locally available produce. It is in this line a considerable amount of research and investigation is to be carried.

No investigation of any kind has been carried out with reference to the locally available tanning stuffs and no facilities are locally available for such a work.

I would therefore strongly recommend an imposition of an export duty on untanned hides. It will not only encourage local tanning industry but also provide necessary funds to investigate the suitability of our local tanning stuffs both as regards quality and price.

**Written Statement, dated the 21st November 1929, of
Mr. J. H. RITCHIE, I.A.S., Secretary, Indian
Central Cotton Committee, Bombay.**

VII.**CESSE COMMITTEE.**

43. I consider that a Committee is necessary to administer the proceeds of any cess or cesses which may be imposed. The Cess Act would make provision for a Standing Finance Sub-Committee whose powers would be delegated to it by the full Committee.

The constitution of the Committee would include—

- (1) Member for Commerce to Government of India *ex-officio* President.
- (2) One representative from each major province in India, preferably the Director of Industries.
- (3) Director General of Commercial Intelligence and Statistics.
- (4) Representative from each Chamber of Commerce.
- (5) Representative from each exporting and tanning organisation in each province.
- (6) A representative from each of the larger Indian States.
- (7) Such additional persons appointed by the Governor General in Council.

44. Tanning, exporting and leather merchants in the proportion of 2, 3 and 1, respectively.

The interests themselves should make their nominations to the Governor General in Council through the Secretary of the Committee.

45. In the case of the Indian Central Cotton Committee, all interests connected with cotton in India are represented on the Committee and I consider that a similar organisation would be advisable in any other Cess Committee. The statutory representatives on the Indian Central Cotton Committee are given in section 4 of the Indian Cotton Cess Act (XIV of 1923). Other interests not definitely defined in the Act may be included in a sub-section similar to section 4 (zi) of the Indian Cotton Cess Act.

46. Local Governments should, I consider, be given definite representation on the Committee in the person of the Director of Industries. Much of the propaganda and research work in the provinces will be carried out through them and it is likely that the funds given for such work will be expended through that agency. The other trade interests in the provinces will probably be given separate representation.

47. Certain of the major cotton-growing Indian States are represented on the Indian Central Cotton Committee even though the Indian Cotton Cess Act does not apply to their territory. Most of the cotton produced in Indian States is, however, exported from ports in British India or consumed in mills in British India and thus becomes liable to cess.

In the case of hides, probably the same applies and export from Indian State ports may be negligible. It would, therefore, be advisable to confine the cess to British India only and give representation to the major Indian States and to groups of the minor ones as has been done in the case of the Indian Central Cotton Committee.

48. I am not in favour of giving representation to institutions devoted to technological research. In all probability, the Cess Committee will have its own laboratory and technologist and the manufacturing interests on the Committee will be sufficiently strong and knowledgeable to lay down a programme of work for its own technologist to carry out. There is a grave danger of making a Committee of this nature too large and unwieldy. Technologist from technological institutions can be co-opted, if necessary.

The co-operative movement should, I think, be given representation. Probably the best way would be to follow the procedure adopted on the

Indian Central Cotton Committee. The Government of India make the nominations after consulting local Governments.

49. The Indian Central Cotton Committee has very frequently co-opted experts and others interested in the trade to attend sub-committees and meetings of the full Committee and has received very valuable help and I am sure the Hides Committee, if formed, would be greatly benefited by co-opting members to their meetings.

The Indian Central Cotton Committee has placed no limit to the number of such co-opted members, though in actual practice the number has never exceeded six. Co-opted members have, of course, no vote but can and do partake in the discussions on the subjects for which they have been invited. It has frequently happened that a co-opted member has taken part in the discussions on other subjects on the agenda but that, of course, is a matter on which the Chairman has the final say.

50. Yes, I think the Chairman should be *ex-officio*. I would suggest the Member or Secretary for Commerce, Government of India or the Director General of Commercial Intelligence and Statistics.

There will be sufficient work for a full-time Secretary and I would be inclined to adopt the same arrangement as in the Indian Central Cotton Committee, viz., a non-Member Secretary who will be the chief executive officer of the Committee. Although the Secretary of the Indian Central Cotton Committee is not a member of the Committee he is included in the membership of some of the non-statutory sub-committees.

Although it would be preferable to have as Secretary a man with a good knowledge of the trade, I think it would be advisable to appoint, in the first place, a man with experience in organisation. There will be a large amount of spade work to do in getting into touch with business interests, local Governments and in organising the office. An officer of the status of Director of Industries should, I think, be appointed as Secretary for the first five years, after which period it could be left to the Committee to decide who their Secretary should be. The Government of India constituted the Indian Central Cotton Committee in 1921. The Committee then drafted the legislation necessary for the Indian Cotton Cess Act which was passed in 1923 and which incorporated the Committee and provided it with funds. This procedure should, I think, be followed in the case of the Hides Committee. It gives the original members a chance of getting together and ascertaining the views of all sections of the trade. The demand for a cess will best come from the trade. In the case of the Indian Central Cotton Committee it was the trade interests who asked for the cotton cess. The Secretary of the Indian Central Cotton Committee is appointed by the Governor General in Council and I think this procedure should be followed in the case of the Hides Committee. If it is decided to obtain a government official as Secretary, the appointment will probably be for a period of five years. A full-time and permanent Secretary will be necessary. In the case of the Indian Central Cotton Committee, Government sanctioned the employment of a Deputy Secretary to assist the Secretary in his work.

51. The functions of the Committee should be advisory and the provision of funds should allow experimental and research work to be carried out in all branches of the trade. The collection and maintenance of statistics should be one of the Committee's chief works and it should also act as a bureau of information.

As regards the relation between the Committee and the Local and Central Governments, I think the same methods adopted by the Indian Central Cotton Committee should be followed. In the case of the Indian Central Cotton Committee, the Committee is directly under the Government of India, Department of Education, Health and Lands. Budgets have to receive the sanction of the Government of India and the Committee's powers have been definitely laid down in the Act and Rules thereunder. As will be seen from the copy of the Act which I enclose, the Committee has very wide financial powers. The Government of India have laid down a list of banks and securities in

which the Committee can invest its money and surplus funds and the Committee can utilise these funds in any way, provided the previous sanction of the Government of India has been obtained. A considerable amount of latitude has always been given to the Committee in the past and in no case has the Government of India put a veto on any of the Committee's schemes or proposals.

As regards the local Governments, the Committee makes grants of money for carrying out specific research schemes proposed by the Directors of Agriculture and sanctioned by the Committee. These grants are usually for the employment of staff and equipment (which remains the property of the Committee). The Committee has nothing to do with the recruitment of the staff. These powers have been delegated to the local Governments by the Committee. Very frequently, however, a man who has had a post-graduate training as one of the Committee's research students, is employed by the local Government on our recommendation.

The Committee also makes recommendation to the local Governments on any point which, it considers, is in the interests of the cotton growers of the province.

52. In the case of the Indian Central Cotton Committee, the Secretary is the only executive officer and I think this is the only possible means of working. The size of the office will, of course, depend entirely on the amount of work to be done. In the case of the Indian Central Cotton Committee, the office staff consists of 18 clerks including the superintendent, distributed as follows:—

Superintendent	1
Statistical section and Library	3
Correspondence	3
Accounts section	3
Records and Despatching section	4
Typing section	4

The Secretary has powers under the Act to employ temporary staff and this is often done before and after the general meetings of the Committee to deal with the heavy work entailed.

The Indian Central Cotton Committee works mainly through the provincial departments of agriculture with regard to its research schemes, and through Local and the Central Governments and trade organisations in other matters dealing with marketing or questions of policy.

53. The Indian Central Cotton Committee has no provincial or local committees and though these might be of advantage, the Committee has never really required them. The provincial representatives on the Committee have always looked after the interests of their respective provinces.

Between the half-yearly meetings of the Indian Central Cotton Committee in Bombay any matters requiring attention are dealt with by what the Committee has called a Local Sub-Committee. This sub-committee consists of all members resident in or near Bombay. The Statutory Standing Finance Sub-Committee composed of eight members deals with all financial matters—including the investment of funds and sanctioning expenditure—at its meetings which are held on an average about ten times yearly. The Cotton Ginning and Pressing Factories Sub-Committee, also a Statutory Committee under the Cotton Ginning and Pressing Factories Act of 1925, deals with all points arising out of the working of the Act. A Malpractices Sub-Committee—recently formed—deals with all cases of abuses and malpractices brought to the notice of the Committee and is now discussing means of checking various abuses.

The Agricultural Research Sub-Committee meets during the meetings of the full Committee and reviews the progress reports of the workers on the schemes financed by the Committee, examines new research proposals and

studies the reports of research students. It is composed of the majority of the experts on the Committee with two or three trade members.

The Technological Research Sub-Committee also meets twice yearly during the meetings of the Committee and deals with all matters pertaining to the technological laboratory and technological research. It is composed of agricultural and trade members in equal proportion.

The Research Students Selection Sub-Committee meets usually once a year to select suitable students for scholarships.

Most of the detailed work of the Committee is carried out by these sub-committees with a consequent considerable saving in time at the half-yearly meetings of the Indian Central Cotton Committee.

54. I think that a special technologist should be entertained and given his own laboratory to carry out his work and his researches. One of the first actions of the Indian Central Cotton Committee when the Indian Cotton Cess Act provided funds was to build a special technological laboratory and obtain the services of a highly qualified Director. Tests for agricultural departments had in the past been carried out through the courtesy of various mills but it was not to be expected that the mills would carry them out with the care and attention necessary for such important work. The technologists at Calcutta, Cawnpore, etc., will have other work to do and it would, therefore, be too much to expect them to give the attention necessary for the Committee's work.

55. The Committee's headquarters should be at the place where there is the largest trade and export, viz., Calcutta. There is no necessity to have branches at any other centre.

**Oral Evidence of Mr. J. H. RITCHIE, I.A.S., Secretary,
Indian Central Cotton Committee, Bombay.**

(Bombay, the 3rd December, 1929.)

Replying to Chairman :—The question as to who ultimately pays the cotton cess is a debatable point; some hold the view that it is the grower of cotton who pays it and others that being a small cess it is not shifted back to him. As regards actual payment it is paid by the mills in British India on their own consumption and by exporters. In the latter case the Customs authorities collect the cess for the Cotton Committee. Mill and exporting interests are represented on the Central Cotton Committee; also certain chambers and associations. In the Central Provinces, Punjab and Madras ginning and mill interests have been given representation. The co-operative movement has also got one representative. Representation on the Committee is not confined only to those who contribute to the cess, there being also representatives of non-contributing interests.

Q. 46.—The Director of Industries has been recommended by me, because, in my opinion, he is the official most interested and most intimately connected with such work. But I have no objection if other provincial officers similarly interested and connected are put on the Committee to represent the local Governments. I see no reason why it should not be possible to get different local Governments represented through different representatives, e.g., by the Director of Industries in one province, the Director of Agriculture in another, a Forest officer in a third, a Veterinary officer in a fourth, and so on.

Q. 48.—The reason for this statement of mine is that the Government of India considers the Central Cotton Committee with its 45 members too unwieldy. In my opinion, the membership of a cess administrative committee should be smaller. Co-option rather than statutory membership is preferable for securing the representation of certain interests.

I am in favour of having a non-Member Secretary. This preference of mine is based on my experience of the Cotton Committee's work. I would put organising capacity before technical qualifications and experience, at any rate to start with.

Q. 50.—I did not realise, that this Committee would have to do all such work as is mentioned here. I took the exemplar of the Cotton Committee for my guidance and thought that another subsequent committee would be called upon to do the sort of work which was done by the Cotton Advisory Committee.

Q. 51.—In the case of the Central Cotton Committee, we are precluded from spending the proceeds of the Cotton Cess or the Cotton Committee's income on propaganda and similar activities.

Every new item of expenditure has got to go to the Government of India for sanction, but such sanction is usually a formal matter and is generally accorded.

Q. 54.—I proposed Calcutta as the headquarters of the Cess Committee, because I thought it was the centre of the trade. I would now substitute, "e.g., for viz.", in my reply to that question.

Replying to Mr. Price :—I admit I have been guided by the analogy of the Cotton Committee. In the case of cotton there was no demand from the primary producer himself for the imposition of a cess. The demand came from manufacturers and exporters. The analogy between the case of the hides cess and the cotton cess is therefore still stronger. In the case of the cotton cess manufacturers did not propose the cess in order to obtain their raw material cheap. Even now the attitude of all members is that the cultivators' lot should be improved.

The cotton cess is collected from power-mills in British India but not from mills working in the Indian States. If the hides cess is to be levied

on consumption within the country, all tanneries, whether worked by power or not, will have to be brought under the operations of the Cess Act. In my opinion, discrimination between power and non-power tanneries is not feasible.

The cotton cess used to be 4 annas per bale. It is now 2 annas. The recurring income now is about 6 lakhs per year. We also get about a lakh or 1½ lakhs from investments. The yield of the cotton cess is larger than in the case of tea, lac and soft coke. Our cess is a permanent one.

The cost of collection as charged by the Customs authorities is 1 per cent. So far as I remember, the Bombay Customs authorities do not charge us for the cost of collection, but I shall verify this and let the Committee know. The cost of collection in the case of the cotton cess is low, because the system adopted is so simple. An *ad valorem* cess will be more complicated and more costly.

I do not see how the proposed Committee can profitably spend 80 lakhs a year if such a large amount be its annual income. In the case of cotton some trade members of the Central Cotton Committee have objected to the provincial Governments' schemes on the ground that the activities underlying those schemes should appropriately be financed by the provincial Governments themselves. Personally, I should not care to have to handle a cess of more than 10 lakhs a year. In the case of the cotton cess we have accumulated some savings.

The fact that in the case of hides and skins the cess will be on an article of universal production in India should be taken into consideration in connection with the representation of the Indian States.

In my opinion, the entire trade including the allied branches should be given the benefit of expenditure from the cess funds.

If exporting tanners refuse to contribute to the cess, I would not give them representation on the Committee.

In my opinion, the headquarters of the Committee should be an important centre of the trade, e.g., Calcutta. Research work will, in my opinion, have to be central; its application will have to be a provincial activity. Where scientific investigation is to be undertaken, a scientific atmosphere is, in my opinion, desirable.

Replying to Mr. Wykes:—I think that any cess imposed should be permanent.

We make no grants or loans to mills from the cotton cess or from the other income of the Central Cotton Committee.

We do not collect the cotton cess at ports within the territories of the Indian States.

Replying to Mr. Rafique:—The original cotton cess was at 4 annas per bale, but the Act itself prescribed that after 3 years the rate was to be 2 annas per bale. The idea of the initial rate of 4 annas, was to provide the Cotton Committee with large funds at the commencement of the Committee's work, i.e., to give an initial accumulation of funds.

On two sub-committees of the Cotton Committee, namely, the Sub-Committee for Agricultural Research and the Technological Research Sub-Committee, the Secretary is a member *ex-officio*. But on the statutory sub-committees, he is not a member at all.

Though Bombay is our headquarters, meetings can be and sometimes are held elsewhere. We have now adopted the practice of having at least one meeting at Indore once in three years, so that every member can before he severs his connection with the Committee's work have an opportunity of getting to know personally the work which is being carried on at Indore. I agree that as regards cotton, Bombay is a large centre both for the export of cotton and for the cotton mill industry. I would recommend as the headquarters of the proposed Hides Cess Committee the place which collects the largest cess amount.

Replying to Mr. Advani:—For the Secretary's post I would prefer a person combining administrative ability with technical qualifications, if such were obtainable.

In case profitable use can be found for spending an amount exceeding 10 lakhs, I would not object to the imposition of a cess yielding more than 10 lakhs. In the case of the Cotton Committee we only finance schemes of all-India importance but not those of merely provincial scope or importance.

(NOTE.—At this point Mr. Advani pointed out that the provincial Governments have at present no departments specifically charged with the duty of doing the sort of work which the proposed Hides Cess Committee would be called upon to undertake. He also pointed out that in the case of cotton it was possible for the Cotton Committee to expect the departments of agriculture to undertake certain work solely at the expense of the provincial funds. He then asked whether witness had any objection to the proceeds of the hides-cess being applied to legitimate purposes in case the provincial Governments could not finance the schemes in question. Witness stated:—I would not object. In the case of the cotton cess the Committee is precluded from doing propaganda work.)

In the Bombay Presidency is centred half the cotton industry of India and the largest export of cotton. Hence it is the natural headquarters of the Cotton Committee. In Bombay we have never had any difficulty about a quorum necessary for holding meetings of the sub-committees. I agree that compared with the owners of cotton mills tanners in India are not organised. My view however is, that if tanners are not prepared to contribute to the cess, they should come in as co-opted members but not as regular members.

Replying to Mr. Shah:—Amongst the contributors representation should be proportionate to the size or importance of the interest and not to the contribution to the cess funds.

I am not prepared to agree that the interests of industry should be treated on a different footing from those of the trade in raw products. I do not claim to have any information about the industrial history of Japan, Germany, America and other countries. I know that departments of industries, agriculture, veterinary work, etc., are spending and not revenue-earning departments in provincial Governments, but I would not be in favour of the Cess Committee treating the Indian tanning industry as merely a spending branch of the Committee's work. Therefore I would not give tanning and leather-working interests any direct representation on the Committee if they do not contribute. If necessary, they can be admitted as co-opted members.

Generally speaking, the revenue staff of the provincial Governments do not make any charge for the collection of the cotton cess from the mills. They do not levy such a charge even though under the rules they are entitled to do so. I shall let the Committee know later on which provincial Governments do make such a charge.

I have not thought of the question as to how expensive the collection of an *ad valorem* cess would be compared with the collection of a specific cess, but it stands to reason, that an *ad valorem* cess should be more complicated and more expensive.

The cost of collection should, I agree, not be the sole factor determining the question as to whether the cess should be on the *ad valorem* or on the specific basis. In my opinion, the system should be such that it yields the maximum amount for the rate fixed upon.

The Indian States as such do not make any contribution to the cotton cess fund. No province as such makes any contribution either.

I agree that the amount to be raised by means of a cess should be considered in the light of the previous history of the cess in question.

Replying to Mr. Price:—The cotton cess was meant for the benefit of the primary producer, who in India is not to be found all over the country. But

the production of hides and skins is universal in India, i.e., all areas produce them.

Precedents are important factors in legislation.

Seed lac, tea and soft coke cesses are, like the cotton cess, intended for the benefit of the primary producer. Secondly, as in the case of the cotton cess the amounts yielded by them are limited.

Replying to Mr. Wykes:—In my opinion, only those who pay the cess should be represented on the Committee. I do not agree that the primary producer will pay the hides cess imposed. I would give primary producers a very large share on the Committee.

Replying to Mr. Rafique:—A cess of 2 annas per bale on cotton does not affect India's position in the world's cotton market. I would not recommend a cess on cotton which would affect it. If schemes were worked out in such a way that the rate necessary for the financing of those schemes was likely to affect India's position in the world's markets, I would be in favour of modifying the schemes. I consider that a specific rate is preferable to an *ad valorem* rate. In my opinion, if the tanner is going to benefit by the imposition of a cess namely in the direction of being able to purchase his raw materials cheaper, the exporter should get greater representation on the Committee than the tanner. In my opinion, all non-contributing interests should come in only as co-opted members.

Copy of letter, dated 3rd December, 1929, from Mr. J. H. Ritchie, I.A.S., Secretary, Indian Central Cotton Committee, Bombay, to the Secretary, Hides Cess Enquiry Committee.

I herewith send the information promised by me this morning.

1 per cent. of the gross amount of cotton cess collected is deducted in the following places on cotton exported:—Bombay, Karachi, Calcutta, Chittagong, Rangoon and Madras.

The Collector of Customs, Bombay, charges the same commission on cess collected from mills in the presidency.

No commission is charged on cess collected from mills in other provinces.

**Written Statement, dated the 29th October 1929, of
Mr. ALI MAHOMED ULVI, Acting Livestock
Expert to the Government of Bombay, Poona.**

1. The following defects in hides arise:—

(a) *From a low standard of cattle breeding.*—Under country conditions where cattle of both sexes are left to themselves on scanty pasturage, there are apparent signs of malnutrition, and the animals are observed to:—

- (a) mature slowly,
- (b) get undersized,
- (c) develop thin skin, incapable of resisting external influences.

On slaughtering such animals, the bye-product, viz., the hide, is found to be—

- (a) uneven in texture,
- (b) lacking in strength,
- (c) usually thin and shrivelled,
- (d) undersized and hence below the standard,
- (e) light in weight,
- (f) easily bored through by birds like crows, while spread out for drying,
- (g) poor in value,
- (h) classed inferior by the dealer and rejected for export or trade purposes.

From experience I can say that the hide from a well-bred and well-fed animal weights twice as much as that from an under-fed and low-bred animal of the same breed and age.

(b) *From cattle disease.*—Worms and insects affecting skin and disease like mange cause deterioration in quality of hides. In case of wounds, the surface looks punctured, and the hide is only fit for local industry of the village *mochi*. In many diseases the cultivator's method of branding spoils evenness in quality of hide. Internal ailments like wasting diseases of lung and heart also indirectly affect the quality of the skin.

2. Removal of the above defects consists in:—

- (a) superior breeding, and
- (b) good feeding.

Government have introduced a system of cattle breeding stations, where breeding bulls of standard size and constitution are produced for putting out in approved localities of pure-breed cattle zones, whence their selected male progeny is sent out to improve cattle in rest of the country-side. This scheme requires one bull for every herd of 50 cows, and all scrub bulls to be castrated. No improvement can, however, be effected without proper feeding. To meet this the agricultural department has been demonstrating improved methods of fodder production and conservation, and systems of feeding and rearing livestock.

A number of useful fodder crops have been introduced in the country-side to fit in with cropping scheme of the ordinary cultivator to enable him to maintain his livestock in condition. The task of cattle improvement by better breeding and feeding is gigantic and needs elaborate organisation throughout the country.

**Oral Evidence of Mr. ALI MAHOMED ULYI, Acting Livestock
Expert to the Government of Bombay, Poona.**

(Bombay, the 3rd December, 1929.)

Replying to Chairman:—If my department were to be given more funds to be spent on cattle breeding, I would utilise such funds for producing many more "premium" bulls on the various cattle farms than we are doing at present. These bulls would be sent out to approved cattle breeders for breeding purposes. After every three years another bull has to be brought in, the idea being to prevent in-breeding. The important cattle breeding zones in the Bombay Presidency are the following districts or portions thereof:—(1) Karachi, (2) Thar Parkar, (3) Upper Sind Frontier, (4) Ahmedabad and Surat (to a small extent), (5) Tapti Valley in Khandesh, (6) Pandharpur, Man and Malshiras talukas, (7) Nasik and Thana, (8) Dharwar, (9) Krishna Valley in Belgaum district. These have intensive cattle breeding. Pasture is available in them at some periods in the year. My department does no propaganda work with regard to the economisation of fodder. In my opinion, cattle-breeding can improve hides. The hide of a well-bred and well-fed animal is bound to be better than that of an ill-fed and ill-bred one. The strength and weight of the hide both improve.

I am not concerned with cattle diseases, but know a little about them. The chief diseases that affect the hide and skin are the mange and certain diseases caused by insects and other parasites. Mange is bacterial. It can be cured by the application of antiseptics. In Bombay we have got the dipping system in operation somewhere. But in my opinion dipping has not yet proved successful for mange or for other skin diseases. Dipping gives polish. There are several proprietary dips on the market. Any one can buy them. Their use is not, so far as I know, restricted by the need for a licence. The insect parasites referred to by me are ticks, lice, etc., and their eggs.

Replying to Mr. Price.—I agree that there are in India too many inefficient and therefore superfluous cattle. This fact is due chiefly to the ignorance of the cultivating classes and also to the religious sentiments of the Hindus.

Young calves are often castrated in Gujarat so that breeding may be controlled. My department now uses Burdizzo's castrator. I know in some places Hindus who agree to the use of such clamps.

Hindus may not agree to part with scrub bulls in return for good breeding bulls. I agree that such scrub bulls as are not needed for breeding purposes might be slaughtered. But they can be used for ploughing and other work. Burdizzo's clamp enables the bull to become a useful bullock.

I do not know the proportion of scrub bulls to cows. The operation of the Hindu sentiment results in sheer economic loss to the country. I find some business-like sentiment amongst some Hindus. Among Muslims it is easier to improve the breed of cattle. This is the reason why the Sindhi cow is the best.

In Konkan the male buffalo is used as a beast of draft. In Gujarat, Sind and Bombay, male buffalo calves are not always butchered, but in many cases they are left to die a natural death after birth.

When weaned the buffalo calf can live on coarse food compared with the cow calf.

Replying to Mr. Wykes:—I would not advocate money being spent on the better feeding of animals without provision being made for their breeding. In the present circumstances better feeding would not prove to be a paying proposition. So far as breeding is concerned, I would do it for milk and for work.

Replying to Mr. Rafique:—The increase of fodder supply and the removal of superfluous cattle are both interconnected problems. In my opinion, cattle-breeding would be a fair charge on the hides cess fund.

As regards the breeding of sheep, my department tried to improve the fleece of sheep but not anything else. As regards goat breeding, nothing has been done. As a milch animal, the goat is not looked upon with much favour in the rural areas of this presidency.

Replying to Mr. Advani:—We spend per annum roughly a little over Rs. 1,00,000 on cattle breeding in this presidency including Sind. But the cattle breeding section can consume several lakhs with profit to the country. My rough estimate is that a non-recurring capital expenditure of ten lakhs and a recurring expenditure of about five lakhs (three for breeding and two for propaganda and other work) would give us a fairly good start, although we can usefully spend even a larger amount.

I agree that so far as breeding work is concerned, the additional value of the hide would be a small consideration. The bulk of cattle in this presidency are raised for milk and work. Hence from the cess fund the cattle breeding sections in the various provinces would expect only a proportion of the money needed by them; the balance would have to be found by the provincial Governments concerned.

Replying to Chairman:—I shall send copies of the Bombay Premium Bull Scheme.

As regards the schemes for spending money on cattle breeding, I would work up the schemes in five years.

Replying to Mr. Wykes:—In the case of goats under favourable conditions one gets on the average two kids in about fourteen months, but as a rule, goats breed at the end of a year. Most goats are killed when they are eighteen months old. They usually have one kid before they are slaughtered although many prefer the slaughtering to take place before the goat—whether male or female—has bred.

**Oral Evidence of Khan Sahib J. D. BUXY, Officiating Superintendent,
Civil Veterinary Department, Bombay Presidency, Poona.**

(Bombay, the 3rd December, 1929.)

Replying to Mr. Price (presiding in the absence of Dr. Meek):—Rinderpest is distinct from pox which is communicable to human beings. The only damage that results in the case of rinderpest is that if pustules are not looked after maggots form and in rare cases but not as a general rule these maggots bore holes in the hide. Otherwise hides and skins are not very badly damaged by rinderpest. Rinderpest and the foot-and-mouth disease are preventable. In Bombay we hardly find the warble. Where it is found steps can and should be taken to deal with it. The eggs are licked in from where they get fixed to the legs. I cannot, however, say if our knowledge of the warble is at present scientifically exact. Nor can I say that it is so in other directions. For research work an expert entomologist would be needed. I do not know what work Pusa has so far done in this direction.

In this province ticks are the greatest pest. Ticks are of various types and there are many varieties in each type. Cattle are affected by several varieties. We do not know much about the varieties which attack the goats. In Bijapur, Dharwar and Kanara the ticks are of the worst in the presidency. We cannot afford dipping. Nor are we very confident about its success. We have, therefore, been using bucket-spraying. Hindus do not mind destroying ticks. In order to cope appropriately with ticks they must be destroyed. Sheds and cow pens are the places where ticks hatch. Ticks can be killed with kerosene. If exposed to sun light for a sufficiently long time ticks can be killed. But they can remain inert for a long time. Posts, roofs, etc., have to be lime-washed. Digging up the ground and then burning are desirable but the cattle owners would not take the trouble.

Kymac spray has proved useful in the case of sheep also. It keeps the scab off and keeps the wool in good condition. Its solution makes the hide or the skin offensive to ticks and kills them. It costs Rs. 13-8 per tin of 13 lbs. One tin can give 200 gallons of efficacious solution. As we have no dips the sheep and cattle are sprayed with the solution and what number can be sprayed in 200 gallons is not accurately ascertained. Kymac has got to be sprayed in. Some of the ticks are not dead when they drop down. Besides we have to think of the eggs. Hence we do the spraying and then burn the spot in question so that the eggs of the ticks or ticks if any have fallen are destroyed.

If there were a central fund we could utilise some money to good purposes. We would be able to put *pucca* dips in centrally situated villages, but legislation would be necessary in order to enable my department to cope with the problems of cattle disease. Such legislation must be central and not provincial. Even then there would be difficulty on account of the Indian States as they are slack in the matter of prevention and cure of cattle disease. I agree that the States should be able to claim some benefit from the spending of the cess fund, if they agree to deal with diseases as laid down.

We have no connection with any Central Government departments or institutions. Our officers do however get into touch demi-officially with the Central Government departments or institutions, e.g., with Muktesar. I do not see why there should be jealousy among the provinces over the work of prevention or elimination of cattle disease.

We have now nothing to do with the breeding of cattle. But we do castration. We do 50 to 60 thousand castrations of scrub bulls per year. Bulls so castrated can be used as bullocks. Burdizzo's castrator takes only a few seconds. The pain it gives is very dull. Its use does not offend Hindu sentiment. Bombay *pinjrapole* authorities have approved the Burdizzo system. I am in touch with the *pinjrapole* authorities. The Bombay *pinjrapole* is now an ideal institution. There used to be a lot of economic waste; now they try to convert some things into economic assets.

Replying to Mr. Wykes:—I cannot say how animals this presidency has got.

We have about 22 sprays in 3 districts. These districts, however, are the worst in the presidency for ticks. In my opinion, every 6 or 7 villages should have sprays. But I recognise that this would be too expensive. As regards dipping, each *taluka* would need 4 or 5 dips approximately. The making of a cement dip would cost about 500 to 800 rupees at least.

Without legislation to back us we fear we cannot succeed.

The normal life of a goat is about 5 to 6 years. This takes account of the fact that many are slaughtered for food.

We have to keep one stationary veterinary dispensary per *taluka*. We want to have one travelling veterinary also per *taluka*.

As for the warble we hardly get it in this presidency. A few years ago we found it in Kanara. We also found many other insects which damage hides, etc., for example, leeches, biting and blood-sucking flies, ticks, etc. The area where they were found is more or less a forest area. The blood-sucking flies leave holes from which at times blood oozes out and sometimes spurts off.

Black quarter does some damage to the hides.

Replying to Mr. Rafique:—Our sprays are meant for more propaganda work. Legislation with penal provisions is, in my opinion, absolutely necessary. Our total budget is about 3 lakhs per year. We have leaflets in the vernaculars dealing with various cattle diseases. Our staff is 120 veterinary assistants and 5 inspectors.

Replying to Mr. Advani:—Some years ago we were instructed to try to bring about improved flaying. Our work actually leads to the improvement of hides. For example, we can claim that as a result of our department's work branding as a specific against all diseases is going down. I cannot say what the actual monetary value of our work to hides and skins is. I cannot give an estimate of the expenditure necessary to bring about a reasonable improvement in hides and skins. From our point of view the primary purpose of the department is and should be the animal's health and not its hide. The additional value of the hide is and should be a secondary consideration. It may be possible to apportion by the rule of thumb method the expenditure debitable to hides and skins and that debitable to the improvement of the health of the animals. In the case of rinderpest the "serum simultaneous" method can confer something like permanent immunity.

**Written Statement, dated the 3rd November 1929, of
Mr. H. L. NEWMAN, I.F.S., Chief Conservator of
Forests, Bombay Presidency, Poona.**

IV. Qs. 32—33. The principal tanstuffs in demand in this presidency are *cassia auriculata* bark and myrobalans (*terminalia chebula*) and in a minor degree the bark of *acacia arabica*, *cassia fistula*, *terminalia tomentosa*, and fruit of *acacia concinna* and *terminalia belerica*.

The myrobalan tree is propagated and planted by the forest department but hitherto artificial propagation has met with little success, the sown seed and the young seedling having many enemies to contend with in the open forest. The right of collection of tanstuffs is sold on leases which run for a term of years. The revenue realised by sale of these products during 1928-29 was as follows:--

Names of products.	Amount realised.
Myrobalans and <i>Acacia concinna</i>	Rs. 66,239 (This amount includes also a small amount of revenue on account of honey and wax, cinnamon, etc., of the Southern Circle, separate figures for which are not available.)
<i>Cassia auriculata</i>	Rs. 16,842.

Attempts were made shortly after the Great War to introduce *cassia auriculata* by sowings. These were a failure. I am unable to advise definitely as to the means of making the tanstuffs available in larger quantities; the annual production of seed is profuse, but the plant is confined in its wild state to the poorest soils unfit for cultivation or the production of tree growth and it would seem that these poor soils cannot carry more than a very sparse stocking. Presumably better soils could not be made available, but if they could, and the cultivation of the plant concentrated on them in readily accessible areas there is no reason to doubt larger supplies could be secured. To the best of my knowledge the bark of *cassia auriculata* is regarded as far the best tanstuff in India.

Oral Evidence of Mr. D. B. SOTHERS, I.F.S., Conservator of Forests,
Central Circle, Bombay Presidency.

(Bombay, the 3rd December, 1929.)

Replying to Mr. Price (presiding in Dr. Meek's absence):—We do look at forest utilisation or exploitation from the commercial point of view, i.e., we want to derive as much revenue as possible from the forests compatibly with the maintenance and whenever possible improvement of the existing forests. This fact does stand in the way of our taking into consideration ulterior objects. Unless we find that particular lines of experimental work are at least *prima facie* commercially promising, we would not undertake such work. But if an outside body were to give us money for experimental purposes, we could take up such work.

Cassia auriculata sowings proved a failure. The plant grows in a scattered condition. Even poor soil is not always too bad for it. Bombay Forests Department now spends mostly on teak and to some extent on sandalwood, as these promise the largest direct yield.

Replying to Mr. Wykes:—I have been informed that the further south you go in the Bombay Presidency, the worse the quality of the myrobalans becomes. I have no idea as to what the Salem myrobalans are like.

I am not sure how much we spend on experimental work. The total sum available in the circle for all regeneration and planting work is Rs. 15,000, and it is out of this sum that any expenditure on experimental planting must be met.

If there were small-scale experiments to be conducted, we would be willing to conduct them unassisted. But for larger experiments the forests department would need and expect outside assistance.

From our sowings of *cassia auriculata* in 1920 we got no revenue. I believe *cassia* is a dry land plant. We do have the *babul* in Bombay and in Sind. It is used mainly as firewood. The bark is merely a bye-product.

Replying to Mr. Advani:—Just at the end of the War there was a financial slump. It was about then that our experimental work was undertaken.

About Rs. 5,000 per annum for three years is roughly what we would need for experimental purposes in connection with *cassia auriculata*. But we have at present no idea as to what the commercial possibilities of this forest product is. We have no idea as to what quantity of *cassia auriculata* is produced in this presidency.

Even if by growing *cassia auriculata* the forests department could confer benefits on other industries in the presidency, we could not take up such work unless definitely ordered to do so by the Government, or unless we received a subsidy.

Replying to Mr. Shah:—I have not been able to consult the Chief Conservator or in fact anybody, and therefore the views expressed by me may be taken as mine, although most of what I have said tallies with Mr. Newman's memorandum.

The Central Circle consists of Poona, Satara and Colaba districts and the whole of Khandesh.

In the Bombay Presidency, there are no *panchayati* or village forests except that in Kanara some patches of forests near the coast have been made over to groups of villages. I have not, however, visited the Coast Division of Kanara since those forests were formed.

All forests are reserved forests. We have no *zamindari* forests in this presidency. We do not manage any Indian State forests. We have, however, got some private forests, e.g., forests on *inamdari* lands.

My department never tried the *cassia auriculata* in such forests. The fact that the experiments were not repeated was determined by the financial slump mentioned by me earlier and by the poor results obtained. The grounds for

our arriving at the conclusion that the experiments had failed were that the growth was both sparse and stunted. We did not try to investigate the reasons why our growth was so sparse and stunted.

We in the forest department would not, without the special orders of Government, take up work which would not prove directly remunerative to us. In the alternative, we would need a subsidy from somebody. I do not think anybody ever thought of the interests of the tanning industry at the time the *cassia auriculata* plantation was set up, nor at the time when it was declared to be a failure. I believe the experiments were taken up in 1918-19. I was not, however, there at the time. I could not tell the Committee whether *cassia auriculata* does or does not, and can or cannot grow in Sind. I know that a large proportion of the crop of *cassia auriculata* remains unharvested at present. I cannot say why.

Replying to Mr. Price:—The *inamdari* and private forests are beyond our jurisdiction.

We do not have to clear the roots of the *babul* in the presidency proper. We have not tried to clear the roots of the *araram*.

I do not know whether the twigs and sticks of *araram* can be used for baskets, etc.

**Written Statement, dated the 6th November 1929, of
Mr. C. A. MALCOLM, I.F.S., Chief Conservator
of Forests, Central Provinces, Nagpur.**

IV. Q. 32.—The Central Provinces forests can supply the following tanstuffs:—

(1) *Harra (terminalia chebula)* of which probably 6,000 tons are available in government forests, and more than double the quantity in the Feudatory States and *zamindaris*. The trade appears to be well organised. Balaghat, Mandla and Raipur are the principal centres.

(2) *Ghont (sicyphus xylopyra)*. The flesh of the fruit is said to be a good tanning material. Only tried during the War on a small scale. Abundant in Saugor, Damoh and Jabulpore. Probably 2,000 tons could be collected at 14 annas to Re. 1 per maund f.o.r.

(3) *Koha bark (terminalia arjuna)*. Large quantities available throughout the province at about 14 annas per maund if a method can be devised to bark the tree without killing it.

(4) *Dhaura (anogeissus latifolia)* Sumach. Common throughout the province. Cost about 14 annas to Re. 1 per maund. Could probably be reduced by regular coppicing of the tree. Much waste through damage by rain. Commonly used by tanners in villages.

Little is known of other tanstuffs. They are not common and little used. *Woodfordia floribunda* has been tried but quantities small.

As a war measure *cassia auriculata* was shown. It took well in Berar where it is already found wild and is used by local tanners at Burhanpur. But it is expensive to collect as the wages in Berar are high. Probably small supplies could be secured if the collection were organised as a cottage industry as is said to be the case in Madras.

The principal drawback is that although there are 37 million cattle in the province, religious prejudices put every conceivable obstacle into the way of the tanning industry and the freights are too high for the export of tanstuffs.

**Oral Evidence of Mr. R. T. JENKIN, I.F.S., Forest Utilisation Officer,
Central Provinces, Nagpur.**

(Bombay, the 4th December, 1929.)

Replying to Chairman:—I have not received official orders yet but I believe I am to represent the Central Provinces Government.

At the present moment one of our local tanners is carrying out certain experiments to improve the supply of tanning materials and is doing research work. He has tried *salai* bark on goat skins. This has given extraordinarily good results. He has got a certain amount of technical knowledge. That is the only work done at present. We have got a tannery expert who has just been going into the question of the supply of myrobalans.

We have no institute or facilities for the investigation of minor forests products. The tanning expert seems to think that there is a field for it. He has written a pamphlet on myrobalans and made suggestions for improving the method of collection and grading.

We can spend money profitably if we have or get funds.

We practically do no planting of tannin trees. The only planting we do is teak and *babul*. The *babul* or *harra* does not have much timber value. We tried the sowing of *avaram* (*tarwar*) during the War, but the cost of collection killed the possibility of trade. We are now experimenting in *semal* plantation with a view to the match industry. There is a government tannery and perhaps a laboratory is attached to it. I have not seen it. It is about six miles from Nagpur. At the present moment we have got a large number of tanning materials not actually in use, but the use of which could presumably be extended. There is a field for research work in connection with the forests of the Central Provinces. The forest department would consider the possibility of planting tanning trees for the future.

Freights are too high for the export of tanstuffs. This may be taken as the view of the Chief Conservator of Forests. There was a reference not long ago to the Railway Rates Advisory Committee by certain firms dealing in myrobalans for export.

Replying to Mr. Price:—Central Provinces forests are, and are expected to be, revenue-producing. Commercial profits are thus an important factor in the policy of the forests department. We are bound to keep revenue in view when conducting any experiments. On our own volition we would not be prepared to do anything likely to diminish revenue. The Central Provinces Government is undergoing a loss of revenue in order to help the agriculturists in the matter of reduced grazing rates for cattle. The Central Provinces have thirtyseven million cattle. A large number of these is surplus in the sense of being unfit for work and useless. This surplus adds to the pressure on such grazing as the forests can provide. In the matter of grazing provided by the forests department the agriculturists often misuse their rights and privileges.

Cassia auriculata does well in certain places. The sticks stripped of bark are of use only as firewood. *Babul* furnishes good firewood. In fact it is grown principally for that purpose. In the Central Provinces they make much charcoal. The *babul* bark is stripped and utilised. So far as I know it is not burnt and its commercial value is generally recognised.

Replying to Mr. Wykes:—As to whether we would be prepared to undertake any experiments or not, I cannot say what the views of the Local Government of the Central Provinces are likely to be. Unless ordered by Government or given a subsidy by some other authority we can only undertake small-scale experiments.

The quotation of Rs. 3-10 per three standard maunds of uncrushed myrobalan was recently given to me by a Raipur merchant. The Central Provinces forests would welcome myrobalans selling at Rs. 8 per maund. If Salem

myrobalans fetch such a price it would be worth our while growing them in the Central Provinces forests. I cannot say how long a myrobalan tree takes to bear fruit. I tried myrobalan plantation on a small scale but did not succeed. The tree would not grow. Our Central Provinces myrobalan trees mostly grow at altitudes of 2,000 feet. We never experimented with the wattle. We have no large unoccupied area at altitudes of 2,000 ft. and over.

During the War we succeeded in growing *tarwar* in Berar. But wages were too high. Hence, our harvesting was too expensive.

Replying to Mr. Rafique:—We experimented with *tarwar* sowing during the War. The Maihar Institute also did some experimental work. For this Messrs. Freymouth and Pilgrim's pamphlet may be seen. I believe there must be a field for further research in this connection. With the exception of one or two small ones, the Central Provinces has, practically speaking, no tanneries. One of these tanneries is experimenting with tanstuffs. After the War also we tried the plantation of *cassia auriculata* to some extent in various parts of the Central Provinces. Berar was the only part where it grew well.

Replying to Mr. Ismail:—The *cassia auriculata* we grew was somewhat scattered. There was no big area available for continuous coppicing. It is possible to have a large area exclusively under *cassia auriculata*. The cost of sowing it is small but that of collecting is great. With labour at As. 2 or As. 3 per day, it may be feasible to collect *tarwar* economically. I cannot say whether *tarwar* is used as green manure by the villages. I have never heard of it. I cannot say what sort of soil *tarwar* needs. I have not been in a *tarwar*-growing area. I cannot be sure if *tarwar* would grow well on a stony rocky soil, but I believe this to be the case.

Replying to Mr. Shah:—In the Central Provinces, we have no *panchayati* or village forests. The only non-government forests are *malguzari* forests.

I cannot say whether *tarwar* can be used as a good tanstuff without its bark being stripped. So far as I am aware, the Department of Industries, Central Provinces, has never approached us in the interests of the tanning industry with a proposition making it worth our while to consider the growing of *cassia auriculata* for the sake of the tanning industry.

Replying to Mr. Price:—Normally, we would have to take the orders of the Central Provinces Government if we had to take up any uncommercial work.

Replying to Mr. Rafique:—I cannot state what the area in the Central Provinces is on which *tarwar* can grow.

**Written Statement, dated the 8th November 1929, of
The Western India Tanneries, Ltd., Bombay.**

1. Smallpox, itches, tick marks, warble holes, being the most common.
2. Agricultural or veterinary institutes should suggest remedies.
3. Cuts caused by flaying knives.
4. By extra payment of two annas per cow and buffalo hide to the flayer of clean-flayed hide and deducting at 6 pies for each half-through cut from the remuneration payable to the flayer.
5. We would suggest the appointment of a flaying instructor or supervisor in slaughter-houses, on a salary not exceeding Rs. 75 per month; but better still, by providing absolutely flat level flooring of cement on which the hides are to be laid for rough fleshing, as generally where hides are sold by weight attempts to clean flesh on rough floorings cause the butcher cuts. Suitable flaying knives may be provided.
6. Ditto, as No. 5.
7. Ditto, as No. 4.
8. The method suggested in No. 4 was introduced during the control in the last War. Since then the practice of extra charges of 2 annas per hide remains both for badly or well-flayed hides. The former generally predominates.
9. Generally speaking, hides are dried in shade (commercially called sun-dried, which are mostly dried in the shade) in dry countries like India and other parts of Asia and Africa, in dry season; and in monsoons hides are mostly wet-salted or salted and dried. But in moist and cold countries like Europe the hides are generally preserved in salted condition.
10. Hides preserved in India in the cold months by drying in the months of November to February inclusive, are generally well preserved and of those preserved in the months of March to October in the plains 20 per cent. to 30 per cent. are generally decomposed partly or wholly. Hides preserved in the cold climates of the Himalayan tracts are generally well preserved.
11. As these defects are due to climatic conditions, the only remedy is to preserve them by wet-salting all hides in the plains during the months of March to October inclusive. We suggest that Government should issue tax-free powdered table salt to villages which may be poisoned by addition of a small quantity of white arsenic in bags marked as poisoned salt, provided the Railways agree to reduce the present rate charged for carriage of salted hides which is prohibitive. To avoid payment of heavy freight and the heavy cost of table salt, the collectors of hides dry the hides in the shade. Thus, in spite of all due care hides preserved by drying in the hot weather are liable to be putrefied as a natural consequence. Thus, on an average, 30 per cent. of the hides of dead animals are more or less lost to the trade.
12. Investigation and research and instructors would not be of any use. Economical conditions must be brought about as suggested above which would be readily adopted by the hide collectors in their own interest.
13. Suggest the supply of poisoned powdered table salt free of duty and *khari* salt to all villages throughout the year.
14. Adulteration does exist, where tanners expect hides at a lower price than their real value. But in organised trade centres like Cawnpore, there is very little adulteration, as adulterated hides fetch lower price than their real value.
15. Nil.
- 16—17. Replied in No. 11.
18. The selected hides of cows, buffs, skins of cow calf and buff calf are generally sent to the exporting centres, Karachi, Madras and Calcutta. Goat skins are generally sorted at Amritsar, Cawnpore, Karachi, Bombay, Calcutta and Madras.

19. At the above exporting centres the trade is well organised and we cannot suggest anything except in the matter of cheap freights.

20. We are not aware of co-operative marketing being tried in India.

21. The ocean freight charged on raw and tanned hides are reasonable, but we would suggest that all tanning materials, i.e., chemicals used in tanning trade, chiefly chrome salts, vegetable tanning extracts should be allowed free of duty to help the tanning industry, viz., bichromate of soda, chrome alum, soda ash, sodium sulphide and various tanning extracts. Chemicals at present not manufactured in India only should be made free of import duty for the use of the tanneries.

22. Hides are graded as under of various weights:—

<i>Slaughtereds.</i>	<i>Deads.</i>
Wet-salted
Khari-salted
Dry-salted
Framed
Sun-dried

These are again divided into four classifications, according to defects and further divided into average weights.

23. Owing to the climatic conditions and in the absence of remedies suggested in No. 11, any other system of standardisation, except those now current, are not possible.

24 (a). No.

(b) The industries at the present moment are not able to take up half the number of tanners and foremen available. As regards leather chemists, we doubt if one out of 10 would find employment in the trade.

(c) Trade in supply of *farwar* and *babul* bark and myrobalans, the principal tanning agents, is well organised, and does not require any development but reduction in railway freight would make material difference.

(d) If encouragement would be given to shoe industry which is the biggest industry in leather working industry, it would help the leather industry in general.

25. Nil in Bombay.

26. Refers to Madras.

28. Tanners and tannery foremen are selected from labourers who have worked in tanneries for at least five years; being practical men they make better foremen. There is no facility for training men into leather chemists, nor there is any demand for such men.

29. An academically trained tanner who has not worked as a labourer cannot control the work, nor the labour. A tanner trained in any other way would find it difficult to get employment in a tannery. Rural tanners follow the family trade and are well trained to employ the methods they can afford. They would be able to produce better leather if they can finance their purchases and finance larger capital required for longer tannage. Leather produced by them is easily sold in the village.

30. No.

31. The majority of tanned leather exported is sold by auctions in London at the risk and cost of the exporter where the leathers are resorted and regraded. Therefore, standardisation of grading and certifications would be of little use unless the exporting firms are ready to purchase out right such graded tanned hides at the port of export.

32. *Avaram*, *babul* and *amaltas* bark and myrobalan nuts are available readily throughout the year at a rate which fluctuates according to the demand. If the railway companies can be induced to lower the present rates of freight charged on the wagon capacity, the tanning materials could be made available at lower rates, for railway freights are the determining factors, or foreign tanning extracts are allowed to be imported free of duty.

33. *Avaram* bark is the best bark next to *babul* bark, available in India. The former gives light uniform colour, and quick tannage. Wattle bark gives reddish colour and leather has a tendency to crack. Therefore it is not preferred.

We are not in favour of levying any cess on hides tanned for export or for Indian consumption, for the following reasons:—

(a) The tanning industry is the biggest industry in India, after textile and jute.

(b) After the introduction of chrome tanning in Europe and America, a number of tanneries doing bark tanning in Europe and America, have been converted into chrome tanning.

These countries depend on the supplies of bark-tanned leather exported from China, India, Brazil and Africa, mainly for their cheapness. Any cess or tax on Indian tanneries, would handicap the Indian tanners in competition with other exporting countries.

(c) Post-war slump has practically wiped off the majority of tanners in India of the finance they had built up in the previous 20 years, mainly due to adverse exchange and the low price due to slump, realised in the London auctions.

(d) Any cess levied on the Indian tanners would be like taxing an industry on its last legs.

(e) Tanning industry requires the smallest fixed capital and therefore is within reach of small capitalists. A village *chamar* with a capital of Rs. 200 can eke out a living. This industry maintains a large number of untrained labour, viz., bark collectors, lime kiln burners and tannery labourers, etc. Tanning being a poor man's industry helps to relieve to a certain extent the unemployment problem. Taxing an industry which is already at the mercy of the foreign buyers, would be like killing the industry. Tanning industry is a scavenger of the raw hide and skin export trade. All the hides and skins rejected by the exporters of raw hides and skins are consumed by Indian tanners. Tanning industry which is the feeder of the poorest in India, particularly the untouchables who are not employed in any other industry, deserves protection, and does not certainly permit of levying any cess.

(f) Since the introduction of chrome tannage in India and the production of cheap chrome upper leathers, more than 70 per cent. of the requirements of shoe leathers in India are met by Indian tanneries. Even those tanneries that are worked by machineries are hardly able to keep themselves afloat.

(g) All tanneries in India, including those of the village tanners are worked purely by hand labour. Excepting perhaps a dozen tanneries in India that are partly worked by power and mostly by hand labour, tanning trade in India may be generally termed a hand labour industry. Levying a cess or tax of any kind on the produce of an industry worked by hand, would be an absurd proposition and would be a repetition of the history when hand loom industry was taxed in the days of the East India Company.

For reasons stated above, we are against levying any cess on the leathers tanned in India.

As for the raw skin and hide export trade, the raw Indian goat skins mostly purchased by the United States of America, can well afford to pay the export tax, as the Indian goat skins are considered next best to Brazilian goat skins and the next best skins available in the world market, for the manufacture of glacé kid, and can afford to pay the export duty at present levied without fear of competition.

Buffalo hides which are only available in India, can also afford to pay export duty without fear of competition, but we doubt if export duty on cow hides and sheep skins can stand competition against other countries exporting similar commodity free of duty.

As we are not in favour of any cess on leathers tanned in India, we }
abstain from passing any remarks on questions 34 to 55. } A.

Oral Evidence of Mr. PRATAP PANDIT, Managing Director of the Western India Tanneries, Ltd., Bombay.

(Bombay, the 4th December, 1929.)

Replying to Chairman:—I represent the tanning trade. There is no association of tanners in Bombay. I therefore appear before this Committee in my personal capacity. I employ 300 workmen, both men and women. My tannery mostly does hides. Its capacity is 100 to 125 buff hides and 50 cow hides per day. I do mostly chrome tanning. For vegetable tanning we generally use *babul*. Buffalo hides are generally vegetable-tanned.

Q. 4.—The six pies mentioned by me here is a mistake. It should be 4 annas per hide, i.e., a fine of 4 as. is imposed for bad flaying. The bonus of 2 as. is paid by us, i.e., by tanners. We pay 2 annas more to the contractor who pays it to the butcher. The contractor is not a municipal employee. We, i.e., buyers, fine the contractor for bad flaying. But in actual practice the fine is very rarely imposed.

Q. 8.—I must admit that in practice the system has proved a failure, as we pay 2 as. more than we would pay if there were no such system.

Q. 5.—This employee's salary should be paid by the municipality as it is the municipality who gets the licence fee. I do not know if flayers are licensed.

Q. 11.—Arsenic should be added to salt to render it unfit for human consumption. It was not my idea to suggest that arsenic should be added for its preserving properties. I agree that any other method of rendering the salt unfit for human consumption would be good enough.

Q. 12.—Research in curing, etc., should be done by the institutions we have already got; for example at Madras, Calcutta and Cawnpore. Hence what I mean is that no additional facilities for research are needed.

Q. 24 (a).—I do not want anything more over and above the existing facilities. If we tanners have any problem for solution we seek assistance from others; for example from the American leather world. We believe in research work done by practical men, for example, by men who can apply the results and test them under factory conditions. Research by mere theoretical institutions does not appeal to us. In England practical tanners do refer some research questions to theoretical institutions. The tanners there do rely on the results obtained by such institutions because those institutions are more practical. Thus I would modify my attitude towards research institutions in India provided they were more in touch with practical work on factory lines.

I think climatic conditions do not make much difference to chrome tanneries. I am positive about this. (NOTE.—Witness subsequently explained that this reply had reference to Bombay tanning under Bombay climatic conditions.)

Q. 24 (b).—Genuine practically trained tanners would, in my opinion, find jobs; but tanners turned out by schools would not. I hold that it would be cheaper to send men abroad rather than to train them in India.

Q. 24 (c).—We do not get as good tanstuffs in Bombay as Madras does. The present price of *tarvar* is low. Last year it was high.

Q. 24 (d).—Finished leather is sold retail to shoemakers. Encouragement should be given to industries which are the biggest consumers of leather.

Q. 33.—I do not do any export trade, but I know of people who do. I know of one firm which is doing well. Some classes of Indian goat skins are the best in the world. They are in the position of a semi-monopoly. Buyers will have to pay the export duty. In my opinion, Americans will have to buy such goat skins, as they cannot do without them.

Page 385—mark A.—What I mean here is that I do not wish to express any opinion.

Replying to Mr. Price:—I agree that the monetary incentive is the best in such matters. Our contract with the contractors is an annual one. It is often renewed from year to year. The rate was fixed by us six months ago. For buffalo hides we pay by the wet weight, and for cow hides by the piece. If a hide is badly cut or slashed we can fine but we rarely do so. I agree that it is a poor *bandobast*.

In Bombay tanners buy on their own account direct and not through financiers.

We used to export our leathers to London on the consignment basis and to America on the C. I. F. basis. For the last three years we were doing chrome tanning for the local market, i.e., the Indian market. We had bitter experience of the consignment system as we lost heavily. In Madras the shippers take the risk; in Bombay they do not. So far as Bombay business is concerned the whole of it taking about six months, from the point when hides are bought by us to the auction where our goods are sold, becomes a gamble. What I mean is that the auction system itself is a gamble.

Replying to Chairman:—I have very little experience of the Madras tanning industry. In the raw trade the shipper is in a better position to avoid the gamble. I do not think the raw exporter works against the interests of the primary producer.

Qs. 14—19.—Exporters of raw hides and skins are very particular about their selections. The tanners generally buy what is rejected by the exporters. In goat skins it is particularly so. But even in hides it is largely so. The tanning business has not been so remunerative as it was during the War. After the War the foreign markets let the tanners down, but the local markets have not let them down.

The exporter's (of raw) system is a sound one as it supplies the rupee incentive. Tanners for export cannot follow that system.

Replying to Mr. Wykes:—We enter into contracts with contractors who are butchers. The majority of the hides purchased by me come from Cawnpore. I buy wet-salted. The Bombay hide market is the worst organised market. In fact it is a reject market for hides. For goat skins however there is a good market at Bombay.

Q. 11.—The loss of 30 per cent. occurs mainly during March to October. What I mean is that the 30 per cent. of the hides are ruined during the period owing to lack of proper preservation. The only proper way of dealing with them is salting, but salting does not pay.

Q. 14.—I mean by this tanners both in Madras and Bombay.

Q. 24.—We finish all hides in our tannery. Except in bating, climatic conditions do not make much difference. My previous answer had reference to the climate of Bombay and not of India in general.

Q. 24 (b).—I had cottage industry in view, for example, the Agra leather-working cottage industry where very little machinery is used.

Q. 31.—I doubt if the Cess Committee's certificate as to grading, standardisation, etc., would be acceptable.

Q. 33.—I have no experience of wattle bark tannage. I have however, tried *quebracho*.

Replying to Mr. Rafique:—I have no experience of the raw hides and skins trade. I have seen the raw hide market at Calcutta. But I have not bought parcels there. At Cawnpore I have made some purchases.

In the monsoons all hides have to be wet-salted and then we tanners can get good hides. But unfortunately the hides then obtainable are the worst hides of the year; the winter ones are the best.

Bombay city and suburbs have about 30 tanneries. Most of them do crust tanning. They mostly do export through the agents of European firms. The consignments are sent out at the risk and cost of the tanners themselves. The parcels are sorted at the cost of the tanners who bear all the charges in connection therewith. The little profit that remains goes to the tanners.

Bad flaying is not due to lack of skill but to carelessness. The supervisor proposed by me is for checking and not for instructional work.

The so-called sun-dried hides are 99 per cent. shade dried. As a tanner I prefer table-salted hides to dry-salted ones which themselves are better than framed hides.

Pegged hides are practically useless.

European consumers of Madras tannage retain the tannage in a certain sense. The tanning done here is not genuine half-tanning. Madras tannage is leather; *i.e.*, the so-called half-tannage is leather tannage. It is so tanned only in order to give it a particular finish, etc. European tanners would find it more costly to do similar tannage. Madras tanned hides and skins can be put to all the uses to which raw hides and skins can be put. I do not think that if we prohibit the export of raw hides and skins the foreign consumers would be compelled to buy our Madras-tanned goods.

Q. 39.—I am not in favour of a cess at all. But if a cess has to be imposed at all, it should be on raw hides and skins. I know the Madras tanned skins. They get better prices than Bombay ones does. I am not in favour of any cess on leather tanned in India.

Replying to Mr. Ismail:—Bombay is not an organised hide centre. In the United Provinces there is little adulteration. I do not think there is much adulteration in hides intended for export, *i.e.*, on the stuff that actually goes out. But before it leaves the ports adulteration does exist.

Q. 14.—I would change my answer to this question as below :

“Adulteration does exist when the market is going downward.”

I agree that the idea is to get a better price through added weight. Adulteration does exist both for export and for tanners. I do not mean that the tanner encourages adulteration or is responsible for it. Adulteration sometimes takes place in the *arkats* also. But it generally takes place at the source. The exporter does not adulterate.

I do not know of any custom by which the hides of dead animals belong to *chamars* or sweepers. The custom may be prevalent in the rural areas. In the Indian States and in the municipalities the right of removing the dead animals and collecting their hides is usually leased to contractors. Sometimes the primary producer of the hide may not be the owner of the dead cattle. For example, in Bombay city the owner of the cattle has even to pay for the removal of the dead animal. So far as I know the agriculturist does not get the price of the dead hide. In the case of the live animals he does.

I do not think India can consume all her hides. Tanners have no objection to the export trade. There should be no restriction on such export trade. Speaking generally it should be free. If we cannot consume all our hides we must send out a good portion of them abroad. The country's interests are, in my opinion, consistent with the export of hides whether raw or tanned. Tanners cannot pay the price for good quality hides. At certain seasons Madras tanners can pay as good a price as exporters do for skins. For hides also the position is similar but only at certain seasons, provided the demand for tanned leather is firmer.

The existence of tanneries in India helps the price of hides and skins to be kept up, because this fact tends to introduce more competition. Tanneries often buy good hides which would not remain good if they had to be kept for some time, for example, say, three months.

The tanner gets his money from the shipper when the goods are delivered. In Bombay however the system followed is the consignment system. In Bombay there are, practically speaking, no shippers on the Madras system, where advance is paid to tanners on the basis of the price paid on previous occasions. In Bombay 95 per cent. of the trade is on the consignment basis. Madras tanners do better as they sell to shippers. Under the present circumstances public sales are the best method for our tanned goods exported from India. (Subsequently witness withdrew this statement.) I would give

up tanning rather than send goods to the London auctions. I do not know the procedure adopted at the London auctions. Tanners often put a price subject to which the parcels can be withheld.

The sorting done here is not enough. They have to be resorted in London. The sorting in Bombay is firms' own sorting. Sorting at the other end is more complicated. The resorting is a sort of checking of the original sorting.

In America they cannot do the *avaram* tannage. *Avaram* cannot be exported as it is bulky, and as it is not indigenous to America.

By retanning I mean washing and dyeing and finishing. If it is a chrome process a little *avaram* tannage is washed out and then the stuff is chromed. For lining leathers a little sumach is used. The word retan is used commercially and does not fully describe the actual process the stuff goes through. I do not think chrome tannage of hides can be used as a substitute for Madras tannage.

Replying to Mr. Advani:—I do not think there is much room for improvement in the flaying of dead hides. I do not agree with the view that there is not much money incentive for good flaying to the village flayer of deads. Flaying of deads is good.

Real trained tanners would, in my opinion, be useful to tanneries.

Replying to Mr. Price:—I have not lived in a village, nor in Sind, the Punjab, or the North-West Frontier Province.

Replying to Mr. Wykes:—For the figure 75 rupees used by me you can substitute any figure.

Replying to Mr. Rafique:—I agree that the framed hide is the least adulterated. When the market goes down only the best hides are brought to the market.

Replying to Mr. Ismail:—Generally a local financier buys up hides from butchers and does the salting, etc. The dealer does the curing. The man who brings the fallen hide to the market does not know its ultimate destination.

Replying to Mr. Advani:—*Avaram* is the best tannage. After that comes *babul* tannage. I have no experience of village flaying or preserving.

**Written Statement, dated the 12th November 1929, of
Mr. P. B. ADYANI, Director of Industries, Bombay.**

- I. I am not connected with the industry in any way.
- II. The proceeds of a cess, in my opinion, could be spent profitably for the benefit of the industry as a whole. My suggestions in this connection are given in subsequent paragraphs.

III. EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1—2. I have no information on these two questions.

Flaying.

3. It is a well known fact that on the whole the flaying of animals is not done satisfactorily. In the villages the village-mahar often sells his yearly output of hides to a petty hide dealer for a fixed price in advance. He, therefore, cares very little whether he produces well or badly flayed hides. His work is, therefore, often done indifferently.

In some of the slaughter-houses too much work is given to each man to do and there is no extra payment made for flaying carefully.

The result, therefore, is that the value of many of the hides is reduced considerably because of too many unnecessary cuts, superfluous fat left and bad trimming, etc.

Apart from carelessness and indifference, bad flaying is also due to the use of knives which are not best suited for the purpose.

4. Remedies are suggested in answer to questions 5, 6, 7 and 8.

5. Appointment of flaying instructors and supervisors is, in my opinion, likely to yield good results. Peripatetic demonstration parties may be organised to operate in the various slaughter-houses and important hides and skins producing centres. The village flayers also should be taught good methods of flaying by actual demonstrations given by peripatetic parties. The issue of circular letters, etc., showing improved methods of flaying, etc., will not have much effect. This department issued in 1920 a circular letter bringing to the notice of those interested an improved skinning knife used in Ireland during war time. This did not produce any results. It is essential to arrange actual visual demonstrations.

6. I would recommend the supply of flaying knives of an approved pattern to the village flayers as well as to the flayers in the various slaughter-houses. The supply should be arranged through the various industries departments operating through peripatetic flaying parties suggested in answer to question 5 above.

7. It will be easier to bring about improvement in the slaughter-houses than amongst the village flayers. I would suggest that the proposed peripatetic demonstration parties should operate in the slaughter-houses also. Improved flaying knives should be introduced in the slaughter-houses. The local bodies can do a great deal in this matter through their slaughter-house superintendents, and by making suitable bye-laws. For instance, it should not be difficult for them to see that (a) all the flaying work is done in natural day light and that slaughtering and flaying is completed before darkness sets in, (b) that no person should flay an animal in such a way as to cause a cut in the skin through carelessness or haste, (c) the flayers do not get too much work, that is, they get enough time to do the allotted work reasonably well.

Steps should be taken by them to discourage selling of hides before the animals are slaughtered, because under this arrangement there is no inducement to do the flaying work carefully.

8. In 1919 the Deputy Controller of Hides, Indian Munitions Board, tried the bonus system at the Bandra (Bombay) slaughter-house. He paid a sum of As. 2 as a bonus per hide. Two men from his office attended the Bandra slaughter-house daily, one a clerk to keep account of the hides and the other an experienced hide selector to examine the hides of the slain animals after flaying. The latter was provided with a book of coupons each worth As. 2. As soon as each hide was passed by him as being flayed well, the flayer was given a coupon for which he was paid cash on presentation at the office of the Deputy Controller.

According to the opinion expressed by the Deputy Controller in a letter to this office in May 1919 the bonus of As. 2 per hide was a sufficient inducement to the flayer to do his work carefully at the slaughter-house. In this connection it should be borne in mind that steps were taken to see that the employer of the man who flayed the hide did not reduce the man's wages because of the bonus paid to him for his good workmanship, and that no fine was imposed for bad flaying as it was not always possible to avoid cuts in hides.

I have given above the opinion held by the Deputy Controller in 1919. It was, however, held by some in the trade that the good results obtained at the Bandra slaughter-house were due much more to the influence of the then Superintendent of the slaughter-house and his subordinates rather than the payment of As. 2 extra per hide.

In my opinion, the system of paying a small bonus for good workmanship in flaying is likely to be effective. The system, however, would involve considerable cost in connection with the bonus itself and staff for instruction and inspection and paying out the bonus.

The proposed Committee for the administration of cess may try out the system through the respective departments of industries in a few important slaughter-houses of the country.

Curing and preserving.

9. I have no information as to how the system of curing and preserving in India differs from that followed in other countries. I give below, however, methods followed in this presidency as reported by the Special Surveyor appointed in 1927 for surveying the village tanning industry of the Bombay Presidency.

In this presidency hides are mainly preserved in three ways:

1. Air-dried.
2. Wet-salted.
3. Arsenicated.

When a hide dealer who understands the value of proper drying buys a hide in the fresh state, he washes it in water and removes any dirt from it, then throws it on the ground in the morning, when the sun is not too hot. When the sun begins to get very hot he picks it up and throws it on a bamboo pole in the shade where the hide is dried gradually.

This he does when he is not able to send the hide to a big hide merchant within a short time, but when he can do the latter or when he wants to send it a short distance he spreads the hide on the ground and applies salt to it on the flesh side. It is then rolled up in a bundle and after allowing excess of brine to drain off, it is packed in a gunny bag and in this wet-salted condition it is sent to a big hide dealer or a tanner.

Sometimes when hides are to be kept for a considerable time before tanning they are given a coat of salt and are dried on the ground flesh side up. However, it is not usual in this presidency to preserve hides in dry-salted condition.

In Karachi some of the hides which are to be exported are turned into *farmas* (framed hides). For this they use fresh, wet-salted and dried hides, but free from butcher's cuts or any other damage. In Ahmedabad a few *farmas* are produced and in some other places only when the merchants get definite orders for such hides. The *farmas* are also called arsenicated.

Hides which are to be turned into *farmas* if they are in fresh or wet-salted condition, are washed properly and if in air-dried condition thoroughly soaked to bring them back to soft condition. All the dirt and flesh are removed. They are then stretched on bamboo frames and tied with strings; then a little arsenic solution is sprinkled over each hide and they are then dried, sorted, pressed and packed in bales for export. Some exporters after washing and cleaning the hides, dip them in a weak solution of arsenic (one hide at a time), then stretch and dry them as mentioned above. Every exporter has got his own formula for the arsenic solution.

Though hides preserved in the above-mentioned ways are satisfactory yet a great number of them which are preserved by village *subars* or *dheals* are carelessly treated; and especially those which are air-dried.

First, after flaying, the hide is not properly cleaned and the adhering flesh and fat are not removed. Then it is thrown on the rough ground in the hot sun with the result that the hide is badly damaged especially where it is folded and has adhering flesh and fat. The hide is sold by weight and hence in some places it is given a coat of earth, ash, etc., not only to give extra weight but to hide the butcher's cuts. Some dry it on a pole in the hot sun to avoid any damage caused by spreading it on the earth not thinking that even a hot pole damages the part of the hide which is laid on it during the drying. Now if the hide after removing the dirt and all the adhering flesh is spread on a level piece of ground in the morning sun and then put in the shade, where the ground is not so hot, it will be saved from much damage.

Better results could be obtained, if after careful flaying, all the dirt is washed off from the hide and then unnecessary flesh and fat are removed. It could then be dried slowly and uniformly by hanging it on a wall or some frame or on a pole in the shade.

Skins.—Skins are mainly preserved in the following three ways:—

1. Wet-salted.
2. Dry-salted.
3. Air-dried.

In some important villages, *taluka* and district towns, there are sub-agents of some big exporting firms or local petty skin merchants, who collect the skins.

These petty skin merchants or the sub-agents collect skins from neighbouring villages or buy from the local slaughter-houses and *khatiks* daily for cash or by monthly contracts or in the weekly bazaars in various places in the neighbourhood.

The skins which are thus collected are then sorted according to their size, weight and quality. They are then salted with common salt. When these petty merchants collect a sufficient number of skins they send them to the big collecting centres in wet-salted state. These centres are Karachi, Sukkur, Hyderabad, Ahmedabad, Bhusawal, Dhond, Bombay, Belgaum, and Ahmednagar.

The goat skins are sorted in two general classes (1) suitable for export in raw condition and (2) for tanning in India.

Those which are tanned in India are sent to the respective tanneries in wet-salted condition.

Some of the skins which are meant for export are cut along the bellies and are trimmed by removing tail, head, shanks, etc., to give a square pattern, according to the various standards for export in different countries.

They are then washed, the adhering flesh is removed, and they are folded along the ridge with the flesh side out. A mixture of salt and *khari* earth (which contains sodium sulphate) is applied and they are then dried on the ground in the morning sun and during the hot part of the day in the shade. When they are dry a coat of some saline solution is put on the flesh side, rubbing it in with the hand. They are now put on poles and allowed to dry again but during the hot part of the day they are kept in the shade.

When they are dry, the hair side is brushed and they are then packed in bundles and pressed in hales for export.

Some goat skins are exported in case state. Here the skins are not cut along the bellies, but the flesh side is turned out and they are folded along the ridge and then treated as above.

Some goat skins are exported in wet-salted condition in barrels.

A large number of sheep skins is tanned locally. Those which are exported are either exported in dry-salted condition or as *papas*. In the latter case the skins are washed and cleaned and allowed to sweat till the wool is loosened. After pulling off the wool they are pickled in a solution of alum and salt; after allowing the excess of the solution to drain off, the skins are packed in a barrel, when they are ready for export.

10. Reply to this question is under question 9 above.

11. Peripatetic demonstration parties should be organised by the various Departments of Industries to give demonstrations in improved methods of curing and preserving. Steps should also be taken so that the profit from the higher price realised goes to the primary producer. Unless this is achieved, there will be no inducement to follow the improved methods which may be suggested by the demonstration parties.

12. The question of curing and preserving will, in my opinion, form a suitable subject for investigation and research at the expense of the cess fund.

13. I have no suggestions to offer.

Adulteration.

14. I have no specific information as to the extent of adulteration or loading in this presidency, but from the general information available to me there is no doubt that considerable adulteration and loading does take place. During the war time the Indian Munitions Board had issued directions regarding adulteration of hides and skins, and the trade generally appreciated same. These directions were, however, cancelled in July 1919. Legislation in this matter would be very difficult and is not recommended. There is, however, little doubt that the curriers abroad are for clean leather and that everything should be done to discourage unnecessary loading. As mentioned before, however, legislation does not appear to be advisable. The proposed Cess Committee should carry out propaganda against adulteration and loading and should encourage the trade to protect itself by more stringent contract terms and rejection of such skins as are found not to comply with the conditions of contract.

15. As above.

Other defects.

16—17. I have no information to enable me to answer these questions.

(b) Collection, marketing, export, etc.

18. So far as the hides from the various villages are concerned, the stages from the time an animal dies to the time of shipment or entry into an Indian tannery as reported by the Special Village Tanning Surveyor referred to above, are as follows:—

When an animal dies in a village, the owner drags the dead animal away as far out of the village as possible. The village *mahar* when he gets inform-

ation drags it further along and flays it after which the hide is either purchased by a *chamar* or a petty hide merchant, from where it finds its way to the local market and then to the Indian tannery or to the exporting house in port towns. In many cases there are some 5 to 6 intermediaries between the ultimate purchaser and the local village *mahar*.

19. I have no information available.

20. In my opinion, it will be very difficult to organise co-operative marketing by the village *mahars*. In one or two places, such as Satara, in this presidency, co-operative credit societies amongst the *dhors* have been organised. These have not been successful. The society at Satara, I understand, had to be wound up. Owing to the very backward condition of the people in question as mentioned before, it will be most difficult to organise co-operative marketing amongst them.

21—22. I have not sufficient information available to be able to make any suggestions.

23. I think it should be feasible to introduce a system of standardisation and grading, for sale to tanners in India and for export.

The Tanning Surveyor mentioned before has suggested the establishment of local markets where hides should be inspected and sorted into different classification by a government agency. This government agency should make certain charge for each hide inspected and for so many skins from the owner of hides and skins and an equal charge from the purchaser.

IV. TANNING AND ALLIED INDUSTRIES.

24. In my opinion, the funds derived from the proposed cess should be expended for the following purposes:

- (1) Improvement in the methods of flaying and preserving raw hides and skins and prevention of adulteration.
- (2) Improvement in the methods of tanning including—
 - (a) Research work in tanning, dyeing and finishing.
 - (b) Training of tanners, tannery foremen and leather chemists.
 - (c) Developing the supply and quality of Indian tanstuffs.
 - (d) Encouragement of the various forms of leather-working industries.
- (3) Organisation of marketing and grading of raw hides and skins both for home use and export and standardisation of grading of tanned hides and skins.
- (4) Advertisement.

25. No facilities for research work in tanning, etc., are available in this presidency.

26. This does not arise.

27. The existing technological institutions in this country and any new ones which may be established should, as far as possible, do their work so that no overlapping takes place. Co-ordination should be effected through the Committee which may be set up for the administration of the cess fund.

28. No facilities are available for the training of tanners and tannery foremen, etc., in this presidency.

29. This does not arise.

30. I suggest that in those provinces in which there are no tanning schools their establishment should be encouraged. The aim of these tanning schools should be to train hereditary tanners in improved methods of tanning with

a view to making them skilled workers and some of them foremen. The cost of one such school will probably be something like the following:—

	Rs.
Establishment	7,920
Travelling allowance and house rent allowance	934
Supply and services	11,200
Contingencies	3,080
Rent of the building	1,800
	<hr/>
	24,934
	<hr/>

From the above sum, about Rs. 10,000 may be expected to be realised from the sales of tanned leather.

Assuming that the school is established in a suitable rented building, the non-recurring cost of equipment will be about Rs. 3,500. But this can only be a temporary measure. A building and good equipment must be provided for each school and this may be put down provisionally at Rs. 1 lakh.

There should also be a number of peripatetic tanning parties attached to the tanning section of the department of industries of each province for giving instructions to the village tanners. I understand that one such peripatetic party costs in the Punjab the following:

	Rs.
Establishment	4,080
Travelling allowance	2,000
Supply and services	5,400
Contingencies	1,140
	<hr/>
	12,620
	<hr/>

I also think that there ought to be in each province some peripatetic faying demonstration parties. I anticipate that the cost of each such party will be as follows:—

	Rs.
Establishment	1,200
Contingencies	240
Travelling allowance, etc	200
	<hr/>
	1,640
	<hr/>

It will of course be necessary for the Tanning Expert to inspect both the tanning and faying demonstration parties.

31. The various suggestions made about research, training of labour, etc., will all go to help the tanning industry and thereby improve the export trade of tanned hides and skins.

As regards grading, etc., of tanned hides and skins, I have not sufficient information available to be able to make any suggestions.

32. The following are the principal tanning materials produced in the Bombay Presidency:—

Barks—*Tarwar, babul, ain (matti), chilhar*. Fruits and pods—*Myrobalans, divi divi, ghatbor*. Leaves—*Aonla, dhavadi*.

Contractors collect the tanning materials from the various forests under lease from Government and sell same to tanners and others. Some tanners,

who were consulted in this connection in 1927, pointed out that contractors of *avaram* bark held up the supply unnecessarily and tried to force prices up. The suggestion was that Government should at the time of giving a lease stipulate that the contractors must not hold up their stocks but must sell them at reasonable prices. A further suggestion was that the forest department might collect the bark and sell it direct to the public. Neither of these suggestions would appear to be practicable. On the whole I think it would be difficult to effect any improvement in this connection.

33. In 1926 a complaint was received by Government from the Secretary of the Association of Factors, Merchants and Importers of Leather and Hides and Tanning Materials, etc., in London that the quality of tanned hides produced specially in the Madras Presidency was deteriorating and that they attributed same largely to the use of wattle bark instead of *avaram* bark. The Bombay Department of Industries went into this matter with various tanners and it was found that in this presidency the principal tanning bark used is *avaram* bark. The various tanners consulted seemed to agree that leather produced with wattle bark does deteriorate and that therefore it is not used to any extent in this presidency. The Bombay Department of Industries also went into the question in 1927 of making available larger quantities of *avaram* bark. It was found that neither the demand nor the revenue from *avaram* bark was then large enough to justify much expenditure being incurred in making available a larger supply.

V.

ADVERTISEMENT.

34. I agree that a portion of the cess fund should be used towards advertisement for the benefit of the industry as a whole. In India use of leather and leather articles is comparatively small. There is therefore a big scope for the use of leather articles and propaganda for increased use of leather articles in India is likely to be fruitful. In addition to this, advertisement of Indian hides and skins, both raw and tanned, should be carried out abroad.

35. In my answer to question 24 above, I have given additional heads under which expenditure may be incurred and met from the cess fund. Under question 36 below I will give further particulars and costs.

VI.

COST OF SCHEMES PROPOSED.

36. In my answer to question 24 I have suggested that the cess fund may be usefully spent on the following:—

- (1) Improvement in the methods of flaying and preserving raw hides and prevention of adulteration.
- (2) Improvement in the methods of tanning including—
 - (a) Research work in tanning, dyeing and finishing.
 - (b) Training of tanners, tannery foremen and leather chemists.
 - (c) Developing the supply and quality of Indian tanstuffs.
 - (d) Encouragement of the various forms of leather-working industries.
- (3) Organisation of marketing and grading of raw hides and skins both for home use and export and standardisation and grading of tanned hides and skins.
- (4) Advertisement.

Improvement in the methods of flaying and preserving raw hides and skins and prevention of adulteration can only be successfully carried out by the local departments of industries. For this purpose the Cess Committee proposed below should allot from the cess fund to each department of industries a sum in proportion to the cess collected from the provinces in question. I will give an idea of this allotment later.

As regards 2 (a), this will be partly done directly by the Committee and partly through the various departments of industries. So far as training

of skilled workers is concerned, this work should be done by the local department of industries in local schools. For these, money should be available from the cess fund. As regards training of foremen and managers, this should be carried out at a central model tannery institution which should be started and controlled by the Cess Committee. Costs in this connection are given below. As regards training of leather chemists, this work should be allotted to the existing research institutions in Bengal and elsewhere. The Committee should provide for scholarships to students from all over the country for attending the proposed central tannery institution or for training as leather chemists in the Bengal Tanning Institute, etc.

The central tanning institution should be equipped definitely to train practical tanners of a high order; whereas the existing institutions in Bengal and elsewhere should confine their activities to producing leather chemists. As regards developing the supply and quality of tanstuffs, this work should be carried out by the Cess Committee through the agency of the local departments of industries.

Technological investigations on behalf of tanners should be carried out either at the proposed central tanning institution or at the existing Bengal Research Tannery, etc., according to the nature of the problem.

Encouragement should be given to the various leather-working industries by the Cess Committee through the local departments of industries. The cess fund should, of course, bear the cost of this work.

As regards organisation of marketing and grading this should be carried out through the agency of the local department of industries. The cess fund should bear the cost.

Advertisement, both Indian and foreign, should be carried out directly by the Cess Committee.

For the work to be done through the agency of the local department of industries it will be necessary for the latter to maintain one or two tanning trade schools for the training of skilled workers, a number of peripatetic parties for teaching village tanners improved methods of tanning and a number of peripatetic parties for teaching the persons concerned improved methods of flaying, etc. It will also be necessary for the department to maintain some inspectors in connection with organisation of marketing and grading, etc. Approximate costs have been given in my answer to question 30. Actual grants to be made to the various provinces should be in proportion to the cess fund realised from those provinces.

I estimate that for this purpose about Rs. 9 lakhs will be required for the various departments of industries in the whole of India and Burma.

The cost of the central tanning institution as given in the Report on the Tanning Industry in India by Mr. J. D. Withinshaw in 1919 will be Rs. 1.1 lakhs recurring per annum and Rs. 10 lakhs non-recurring.

For the establishment of the Committee, travelling allowance to its members, etc., cost of special investigations that may be undertaken from time to time and scholarships, may be put down at Rs. 2 lakhs.

Similarly, advertisement both local and foreign, may be put down at about Rs. 3 lakhs.

The total recurring expenditure, therefore, comes to something like the following:—

	Rs. in lakhs
Contribution to the various Departments of Industries	9
Central Tanning Institution	1.1
Establishment of the Cess Committee and sundries	2
Advertisement, etc.	3
	—
	15.1
	—

Allowing for expansion in future years, the future expenditure may be put down at about Rs. 19 lakhs per annum and the non-recurring expenditure in connection with the proposed central tanning institution is Rs. 10 lakhs, plus say Rs. 9 lakhs for buildings and equipment for the various tanning schools, etc., in the provinces.

37—38. Have been answered above.

39. The proposed cess should be levied on all hides and skins exported. It should not be levied on hides and skins tanned and used in India. Indian tanning industry is yet comparatively in its infancy and it should not be taxed. Everything should be done to encourage it and for this reason hides and skins used in the country should not be subject to a cess.

40. The total revenue in 1927-28 from the export duty on hides and skins came to Rs. 37.33 lakhs. All this money is, however, not likely to be required for the various purposes indicated above. Ordinarily therefore a cess at the rate of half the present export duty would be sufficient for the purpose in view except for the first year or two when money will also be required for equipment and buildings, etc. It would appear, however, from the strong opinions expressed by the tanning trade from time to time that a reduction in the present export duty is likely to injure the interests of the tanning industry. From this point of view I would recommend that the cess may be at the same rate as the present export duty. Half the total sum realised may be expended by the Committee as indicated above except as mentioned before, for the first year or two when whole of the income will be required by the Committee. As regards the balance, as the Government of India no longer require this source of revenue it may be distributed less the cost of collection to the various local Governments in proportion to the cess collected from their respective territories. If this view is accepted, I suggest that these contributions should be definitely earmarked to be spent by the respective departments of industries for the development of industries.

Imposition of the cess on hides and skins for export at the rate of the present export duty is not likely to affect prejudicially India's position in the world's market for raw hides and skins.

41. I will not be in favour of the cess being levied for any specific period.

42. The cess should be in the same form as the present export duty. I suggest this because the trade has got used to it and it will not be advisable to make any changes.

VII.

CESS COMMITTEE.

43. I am in favour of the formation of a Committee to administer the proceeds of the proposed cess. The constitution of this Committee should be with the necessary modifications the same as that of the Indian Cotton Committee.

44. The following interests are, in my opinion, entitled to representation on this Committee:—

- 1 representative of the tanning industry of each province.
- 1 representative from each province representing the export trade of raw hides and skins.
- 1 representative of the Federation of Indian Chambers of Commerce.
- 1 representative of the Federation of Chambers of Commerce of the British Empire.
- 1 person from each province for watching the interests of the primary producers of raw hides and skins.
- 1 person from each province for watching the interests of the village tanners.
- 3 or 4 persons nominated by more important Indian States.
- 9 persons nominated jointly by the smaller Indian States

1 representative of the Industries Department of the Government of India.

1 the Director General of Commercial Intelligence.

1 person from each province representing respectively the industries department of the various local Governments and nominated respectively by those local Governments.

The nominations should be made by the Governor General in Council on the recommendation of the various interests.

In such cases where there are no organisations which can make recommendations, then in such cases the local Governments should make recommendation of suitable persons connected with the interests concerned to the Governor General in Council.

45. Representation on the Committee should be by statute as suggested in the previous paragraph.

46. Local Governments should be represented on the Committee through a representative of the local department of industries preferably the Director of Industries himself.

47. Important Indian States should be given representation on the Committee as suggested in question 44 above. The cess in the Indian States' ports should be collected by those States and the money utilised in the manner suggested in question 36 above.

48. I am not in favour of giving separate representation to institutions recognised for technological research.

At this stage, I am not in favour of separate representation to co-operative movement.

49. I would give the Committee the power to co-opt experts and others interested in the trade or industry. The co-option should be for particular meetings of the Committee when expert knowledge of a person or persons will be useful for the deliberations of the Committee.

50. The Committee should have an *ex-officio* Chairman. He should be a representative of the Industries Department of the Government of India. The Committee should have a full-time Secretary. He should be appointed by the Governor General in Council on the recommendation of the Committee and should be permanent and whole-time. The Secretary should be a technical man with considerable practical experience. He should also be an experienced administrator. It would probably be necessary to pay about Rs. 2,000 per month to such a man.

51. As regards the functions of the Committee, I have detailed them in my answer to question 36 above. The Committee's relations with the Central and Local Governments should be the same as those of the Central Cotton Committee. This Committee will, however, be in more direct touch with the local Governments through the work of the tanning section of the local departments of industries.

52. As mentioned under question 36, a good deal of the work which may be done at the expense of the cess fund will be done by the local department of industries. This work may be co-ordinated by the Committee. The Committee will directly control the proposed central tanning institution, conduct special technological problems and research, award scholarships and carry out advertisement. This work should be done by the whole-time Secretary with the help of the necessary assistants and clerical staff, etc.

53. The Committee should not have provincial and local sub-committees, because the work of local nature is proposed to be done under my scheme by the several departments of industries.

54. I have proposed the establishment of a central tanning institution. The staff of that institution will be available to the Committee for technical

advice. As regards technical advice in connection with leather chemistry, use may be made of the existing institutions at Calcutta and Cawnpore, etc.

55. The Committee's headquarters should be located in Bombay, because, in my opinion, it is central for the whole of India and Bombay and Karachi are very important exporting centres for hides and skins both raw and tanned. Bombay itself is an important tanning centre. In my opinion, it is not necessary for the Committee to have branches anywhere, because as indicated above, the work of local nature would be carried out by the respective departments of industries and the work of the several departments of industries would be co-ordinated by the Committee.

Oral Evidence of Mr. P. B. ADYANI, Director of Industries, Bombay.

(Bombay, the 4th December, 1929.)

Replying to Chairman:—The survey carried out was proposed in 1927. The idea was to assist the village tanner and the curer of hides and skins. Mr. Gaitonde was the expert surveyor. In his survey he has given us an idea of tanning materials in this presidency, the methods of tanning actually followed, defects in tanning as practised by the rural tanner and in tanneries, and defects in the manufactured leather. He has made suggestions for improvements. He has also suggested suitable centres for the development of the tanning industry. In his opinion, there is scope for instruction in flaying and in curing and preserving. The local agent or merchant has usually advance contracts with the village *mahars* at fixed prices for hides. There is thus no incentive to good flaying. The *mahars* are also ignorant. In his opinion, there is scope for instruction in tanning also. He recommends peripatetic parties for flaying, curing and tanning for teaching the villager better methods. As regards organised tanneries he holds that skilled labour for them comes mostly from Madras. Hence wages are high and there is not that guarantee of permanence about skilled tannery labour. He recommends that local labour should be trained up. He recommends a tanning school at Bombay for training skilled workers, foremen and managers.

I have been authorised to publish the surveyor's report. I think I can as desired supply ten proof copies for the members of this Committee.

Replying to Mr. Price:—The question as to whether there are any superfluous cattle and if so how many, is outside the scope of my department. Bombay has got a department of agriculture. The Surveyor's survey applies to the whole of the presidency including Sind. He has not pointed out any difference between conditions in Sind and elsewhere. He has not commented on any difference in wages between Sind and the rest of the presidency. I cannot say what the scale of wages in Bombay is.

There are many places where there is no employment to be had. Hence even a wage below the living wage is very often welcome.

Sind is within my jurisdiction. Although wages there are high there is still scope for a rise in the earning capacity of the people of Sind.

Replying to Mr. Wykes:—The letter which I circulated to various interests in the Bombay Presidency regarding improved flaying, etc., was not circulated in anticipation of the appointment of this Committee. On my tours I have consulted some tanners. Many of them think that peripatetic parties for teaching better methods of flaying, curing and tanning would prove useful. At the time when I circulated the letter there was no idea that any financial assistance could be had from anywhere else.

Replying to Mr. Rafique:—I have no personal experience of the raw hides and skins export trade. In Bombay in the year 1926-27, 40 lakhs rupees worth of leather and leather goods were imported. Boots and shoes alone were worth 9 to 10 lakhs. Pickers amounted to 7 lakhs. I cannot say how far Bombay products can at present replace imported articles. The expert's opinion is that it is possible to do so in several directions.

Replying to Mr. Ismail:—According to the Surveyor the practice in the villages is that dead cattle are thrown out. The owner notifies the local *mahar* who drags and skins the animals. After disposing of the flesh the *mahar* disposes of the skins or hides. The owner gets nothing. By custom the *mahar* gets the hides and the skins. In Bombay we have not got a State Aid to Industries Act.

Replying to Chairman:—Q. 39.—The cess should be on all raw hides and skins which are exported. I would not levy a cess on hides, etc., tanned in India. I would have no objection to the tanning industry offering to tax itself for its own improvement. But as regards the raw export trade as the primary producer is unorganised and cannot therefore be consulted, I cannot

agree to this condition. I hold that that trade can stand a certain amount of taxation, whether in the form of a duty or in that of a cess. I think that the proceeds of the cess should be utilised for the benefit of the tanning industry and the raw export trade. My views are based on what the people in the trade have told me and on the information given in the Surveyor's report mentioned before. My department's policy is to foster industry in every reasonable way. If tanners' statements regarding the raw export trade's capacity to bear a cess are challenged, I would investigate further. So far as the export trade is concerned, I hold that it belongs to the primary producer. Because of lack of organisation I cannot give to the primary producer the privilege of saying whether he should be called upon to pay the cess. The cess on raw hides and skins for export if imposed would be paid in respect of those items in which India has a monopoly by the importing countries, in respect of those items in which we have a partial monopoly partly by the importing countries and partly by the primary producer in this country, and in respect of those items in which we have no monopoly by the primary producer in this country. In the case of the cess on tanned goods exported from India, same remarks would apply provided that there is also an equal cess on raw hides exported.

By unorganised tanners I mean the village tanners who cater for the village consumption.

Wherever the trade is organised I would consult it as to whether a cess should be levied or not. Tanners would similarly be asked. Exporters of raw hides and skins would also be consulted. But in the case of primary producers of raw hides and skins it is not possible to consult them. I would give due weight to all opinions expressed in deciding on the question of the cess. I hold that a cess should be levied on raw hides and skins exported and that it should be spent as indicated, because it is in the interests of the country to improve the quality of the raw hides and skins and develop the tanning industry.

Q. 40.—After attending the meetings of this Committee I have changed my view and now think that the whole of the proceeds of the cess at the rate proposed by me can be usefully spent. Then nothing need be handed back to Government.

I cannot speak as an expert. My views are based on the information obtained by me from the trade, and the information supplied by the Surveyor in his report mentioned before.

Replying to Mr. Price:—(NOTE.—Mr. Price began with certain figures. He said 8 million hides at present will have about 17½ lakhs as duty. He said the total production of hides in India was estimated at about 20 millions. Mr. Price asked whether it was fair that the price of hides should be reduced all round in order that the tanners in India might benefit to the extent of 25½ lakhs. Witness replied that he would do that if it was necessary for developing the tanning industry in the country.)

If the raw cotton trade can stand a duty and if the money is required for its improvements I would impose it. If mills refuse to contribute the cotton-cess they cannot reasonably ask for representation but if I thought that their presence on the Committee was necessary for the most efficient administration of the cess fund I would give them representation. We must judge each industry on its own merits as conditions differ. I would not deduce that tanners should not get any representation unless they agree to contribute. I would take precedents into account but would consider each case on its own merit and would not be hide-bound by precedents in the matter of procedure to be followed. I would have no objection to a cess yielding 37½ lakhs provided there were other considerations in favour of such a rate. I would not rule it out because the cotton cess yields only 6 lakhs.

The breeder does not breed the cattle for the sake of the hide alone. In that sense the production of cotton is on a different footing from the production of hides. If the production of hides and skins could be varied at

will, the price obtainable for them would affect the supply materially. At present however the position is quite different.

Replying to Mr. Wykes:—*Q. 20.*—Ignorance is the reason why co-operative societies failed.

Q. 34.—What I mean by this is that the consumption per capita is small.

Q. 41.—If the department of industries has the money I would organise flaying, curing and tanning demonstration parties.

Q. 36.—Veterinary department can improve hides and skins by eliminating or reducing diseases. The Livestock Expert can also help in a similar manner.

Q. 50.—What I would desire in the Secretary is a combination of technical qualifications and organising capacity.

Replying to Mr. Rafique:—My department considered the question of flaying knives during the War. Some flaying knives were received. The department thought that they were good.

We do a good deal of work for the improvement of the hand weaving industry by persuasion. In my opinion, there is no reason why persuasion should not similarly succeed with the flayers. I am a great believer in technical instruction. I agree that there should be some municipal regulation as regards flaying. I am a believer in the piece work system as it provides a monetary incentive. Therefore I would rather not have flayers in the municipal employ on a fixed monthly wage system. I would give representation to all the interests concerned.

Q. 39.—Where we have no monopoly, prices in general would be determined by world prices. But I have no experience of countries which compete with India for hides.

I would consider carefully what the trade has to say about the proposed cess. If I found a small cess would have no great adverse effect I would impose it. In the interests of India as a whole I will impose a cess if it were advantageous to India as a whole. I would not break up trade and industry into separate bits. I would accept the general principle, namely, the general good of the community as a whole in imposing the cess. Even if more money could be got out of raw hides and skins I would still develop the tanning industry in India, and I would treat the cess as a means to the attaining of this end. I would however keep the amount at a figure which the trade can bear.

Replying to Mr. Ismail:—I would give representation on the Committee to all the interests concerned with the most advantageous expenditure of the funds. This and not contribution is the principle I would follow in the matter of representation. In my view the tanning industry should be represented on the Committee as many problems concerning the tanning industry and the benefit which can be conferred on the trade through the tanning industry would crop up.

Replying to Mr. Shah:—In cotton we have no monopoly. The cess is payable on export cotton as well as that consumed in Indian mills.

The cess in the end is paid by the primary producer.

I fixed the rate at 5 per cent. because I do not see why we should lose what we are now getting. Some of the unutilised money I said could go back to the general revenues, but since joining this Committee, I think that all of it can be usefully spent.

Before I withdraw I would state that I have expressed my views in my individual capacity.

**Written Statement, dated the 30th November 1929, of
Captain C. M. FLANDERS, Superintendent of
Markets and Slaughter-houses, Municipality
of Bombay, Bombay.**

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. Cattle suffering from diseases and pests are not allowed to be slaughtered in Bandra slaughter-houses.
2. The question does not arise.

Flaying.

3. The want of proper system and care required to be taken by the flayers employed by the owners.

4. The system of bonus for the production of perfect hide.

5. No. In the Bandra slaughter-houses the work of flaying is like a family trade. The son learns from his father and thus the trade has become a hereditary gift. The appointment of an instructor would involve unnecessary expense without yielding any good result unless the owners are convinced of the benefit by the tanner. The difference between the values of good and defective hides will be a proper instruction to a village flayer.

6. The Indian flayers would not reconcile themselves to the use of any knife different to the one they use. We had also tried to introduce English knives, etc., but no satisfactory result was achieved owing to the tendency of the butchers to stick to their own pattern of knife.

7. Please see answer to question 5. An expert may be employed by the tanners to show the difference between good and defective hides and their relative market values.

8. No.

Other defects.

16—17. These are questions to be answered by the hides and skins merchants or by their association, if any.

(b) Collection, marketing, export, etc.

22. Please see answer to questions 16 and 17.

Oral Evidence of Captain C. M. FLANDERS, Superintendent of
Markets and Slaughter-houses, Municipality of Bombay, Bombay.

(Bombay, the 5th December, 1929.)

Replying to Chairman:—I come officially as the Bombay Municipality's representative. I joined duty in 1920. I have no personal experience of the bonus system which was in force during the time of the War Control. My views as to how flaying can be improved will, to a certain extent, be somewhat theoretical. The actual rates paid for flaying in the Bombay Municipal slaughter-houses are As. 4 per cow hide, $\frac{1}{4}$ th of an anna per sheep or goat skin, and As. 12 per buffalo hide. In my view, the monetary incentive would prove effective for improving the quality of flaying. Flayers who work in the municipal slaughter-houses are the employees of the wholesale butchers and not of the municipality. The butcher does not pay any bonus to flayers for good flaying.

In our office we have no record now available of what happened during the days of the control as regards the improvement alleged to have been brought about in the flaying of hides by the payment of bonuses. I think butchers presumably do realise the damage done to hides and skins by bad flaying. If a hide is badly flayed, butchers sometimes—though rarely—deduct half the price of the hide. The numbers slaughtered at the Bandra slaughter-house are as below:—

100 to 110 cows and bullocks.	} Per day.
2,200 to 2,300 sheep and goats (viz., 1,000 or 1,100 sheep and the rest goats).	
33 buffaloes.	

At Bombay tanners do not buy the hides on the living animals. In my opinion, the standard of flaying at Bandra is fairly good. Tanners pay for the hides after inspection. The average price paid comes to Rs. 15 for a buffalo hide; for cow hides Rs. 7, Rs. 6-8 and Rs. 5-12 according to size. Similarly, for sheep Rs. 2-4, Rs. 1-12 and Rs. 1-6. Slaughtering is done between 4 and 9 or 10 p.m. according to pressure of work. Flaying is done in artificial light. We have got high compression gas light. I think the standard of flaying is now fairly high. In my opinion, the lighting arrangements are not capable of much improvement. I do not think that such defects as do exist are due to bad lighting.

I tried to introduce improved pattern flaying knives. They were distributed to flayers. But the flayers did not stick to them. With them tradition and precedent count a lot.

In my opinion, the *halali* system is the most cruel and inhuman system of butchering or slaughtering that I know of in the whole world. I tried to modify it. I succeeded for five years in getting the slaughtermen to break sheep and goat necks after the usual throat cutting of "halal" and so killing them at once. But now they have reverted to the traditional *halali* system.

I do not think there is any special advantage to be gained from hanging up the carcasses. If labour was not cheap—as it actually is—then there might be some advantage. Cattle here are much smaller and lighter than in those countries where hanging up is found necessary. I do not think electric flayers are as good as the present system. I saw such a machine in operation in Australia. I do not know much about compressed-air flaying.

In Bombay we are going to try the spraying of animals awaiting slaughter. They do this in Australia. In my opinion, it will improve the hide by keeping the temperature of the animal down and keeping its parasites off and giving it some comfort prior to slaughtering.

Replying to Mr. Price:—It is very rare to actually impose a fine for bad flaying. There is very keen competition among buyers of hides. Butchers

have a sort of trade union and are in a strong position. *Chamars* only skin dead animals. Most of our skimmers come from Central and Southern Mahratta country. They are Mussalmans. The trade is hereditary. A novice begins with legs and heads as is the practice in other countries. Then he goes on to the main portion of the body. In Bombay the head skins are not kept intact with the rest of the skin. They are skinned and sold separately. In my opinion, butchers form a close corporation.

Replying to Mr. Wykes:—Diseased cattle are not allowed to be slaughtered. Our cattle come mostly from South Deccan. We do not reject more than 25 or 30 a week. Of the rejected animals some come back to the slaughter-house after being fattened up and some die.

The full capacity of the Bandra slaughter-house is not utilised. It is greater than we need for our present requirements. There is plenty of room for more work, if necessary. During and soon after the War we used to slaughter many more animals than we do at present in the same slaughter-house.

I have no idea of the safety flaying knives. I never heard of a wooden knife.

I do not think it is much use giving monthly wages to flayers. In my opinion, they would then do loafing. Intensive supervision over their work would be needed. My experience of our *begaris* at the Crawford Market is that they do only a couple of hours' honest work per day. I think the butchers would not appreciate compressed-air flaying. I anticipate trouble mainly because the means of livelihood would be reduced. Municipal boards have at present no interest in flaying, as hides are and remain the private property of the butchers who can dispose of them as they like best. If hides were the property of the municipality, we could do something for improved flaying.

In Bombay only the blood belongs to the Municipal Corporation who make an income of Rs. 5,600 a year by selling the right to collect it. It is made into a fertiliser for the tea gardens.

Replying to Mr. Rafique:—In my opinion, the employment of flayers on a monthly salary basis would not only not improve flaying but would lead to less work quantitatively as well. What I mean is that the spare time would only be killed and not be well utilised by the flayers. As butchers are a trade union in the best sense of the term, it is not feasible to resort to the dismissal of bad workers. There would be plenty of trouble if this was resorted to. I think it is for the trade to improve flaying. This can be done if the clause which is already there is enforced by the trade.

Replying to Mr. Advani:—The improved pattern flaying knife is cheap enough. This particular skinning knife (witness showed one) costs only Rs. 1-8. But the flaying knife would not be so pointed as this one. There is a field for the introduction of improvements in flaying but the difficulty in India is to obtain reasonably quick results.

Replying to Mr. Shah:—When the animal is thrown for slaughter, all hides are not seriously damaged. In many of them blood clots are formed. Buffaloes being heavier, 60 per cent. of buffalo hides get such blood clots. The pelvis gets damaged more than other parts. In cows and bullocks the damage is not so great as in the case of buffaloes. Throwing cannot be eliminated so long as the *halali* system of slaughtering continues.

The Bandra slaughter-house is going to be shifted to another site. We propose to keep in view lighting and other facilities. It will probably take three, four or five years before the scheme materialises. A smart workman can flay the carcass of a cow in about half an hour. The average flayer would take about forty minutes. For flaying cattle, flayers put in about four hours per day. They practically work every day in the month. I cannot say what the flayer's average daily earning is, but flayers can and do get Rs. 1-8 day or about Rs. 45 per month. A smart man can get even Rs. 2 per day. All told, we have about 100 flayers at Bandra (60 for sheep

and goats and 40 for cattle and buffaloes). In Bombay flayers are licensed for working as flayers. The fee is low. Disciplinary action is taken only if they interfere with other people's work. The licence is however for working and not for good or bad work. In my opinion, licensing in such a way as to punish bad work is not feasible.

Replying to Mr. Rafique:—In connection with the flaying knives, I had in mind the flaying knives which we imported specially from England at wholesale rates. In my opinion, the knife does not make more than 5 per cent. difference to the value of a hide or skin. Good or bad flaying is a matter depending more on the skill of the flayer than on the type of knife used by him.

Throwing of an animal for purposes of shoeing it is totally different from throwing it down for slaughter. The ground on which it is thrown in a slaughter-house is hard and likely to cause damage to the hair side as well as the flesh side of the hide.

Replying to Mr. Ismail.—In my opinion, tanners should rigidly enforce the penalty clause against the butchers. Hides are sold by contract after inspection. Flayers live on the slaughter-house premises. Nominal rent is charged.

Replying to Mr. Advani:—Our flayers are unskilled compared with those in England, Australia, America, etc.

**Written Statement, dated the 28th November 1929, of the
Indian Merchants' Chamber, Bombay.**

III. 1. Hides.—Warbles and pox.

Skins:—Monsoon defects, pox, pori pori, sores, warbles, mery and anthrax.

2. Propaganda for educating public opinion appears to be the only remedy.

3. There are deep knife-cuts which penetrate as far as the grain side of hides and skins, mostly in hides.

4. Flayers must be given training in their work, and a bonus of 2 to 4 annas per hide can be given to butchers for well-flayed hides. Such a bonus is being already given by tanners in Bombay to people who flay hides in the Bandra and Kurla slaughter-houses. Municipal corporations may be perhaps induced to look to this and they may also adopt a system of licensing flayers.

5. The appointment of flaying instructors and supervisors is likely to yield good results. It will not be possible for the present to impart instruction to the village flayers.

6. The supply of flaying knives of an approved pattern is a step which may be recommended.

7—8. *Vide* reply to question 4.

9. There has to be some difference between the system of curing and preserving in India and that followed in other countries owing to climatic conditions. In India curing is generally done to preserve the skin or hide either by rubbing powdered salt on the flesh-side or by simply drying the pelts.

10. Defects in the method of curing and preserving are in the nature of improper salting, over-salting, using cheap salts, etc. Care should be taken while drying the hide and skin that they are not exposed to too much heat of the sun and are not placed on hot stones.

11. A plentiful supply of duty-free salt should be assured to all people dealing in hides and skins.

12. The question of curing and preserving is not so important as that of flaying. Money should however be spent from the proposed cess fund for propaganda and demonstrations in curing and preserving.

13. There should be public propaganda that hide and skin as soon as removed should be salted or framed, *i.e.*, preserved.

14—15. Adulteration is carried on to some extent and this may be left to be dealt with by the trade.

16. There are serious defects caused by branding of skins and hides and by the process called goading of animals by sharp nails fixed to sticks. The branding is done generally by people in the mofussil when cattle fall ill. There being no veterinary help, these poor and ignorant people use branding as the only means either through superstition or as a sort of a quack remedy for giving relief to their cattle. It is true that such branding affects hides and skins very adversely, but owners of cattle would like to preserve their cattle even though the remedy adopted may reduce the quality of the hide or skin. Municipalities or the Police may be given the power of dealing with such cases in towns and cities, though with regard to the mofussil it is doubtful how far it will be possible to take any steps with regard to branding looking to the absence of any veterinary help.

With regard to goading, steps should be taken everywhere, as besides running the quality of the hide or skin it is a very cruel practice and inflicts needless torture on the animals.

17. About 25 to 30 per cent.

19. There is a great scope for improvement in transport, railing, handling, etc. The question of freight for hides and skins is very important. The freight for the transport of hides and skins from Madras to Bombay was, before the War, Re. 0-11-9 per Bengal maund, while it is at present Rs. 2-9-4, showing thus a tremendous increase. These railway rates must be lowered from the producing centres to the tanneries. The wagons for the conveyance of hides and skins must be of a special type with wooden sides so as to be heat-proof.

20. Co-operative marketing is not feasible.

21. *Vide* reply to question 19.

22—23. There is a system of grading hides and skins which is in existence for a very long time. This system should be enforced, but my Committee do not think that any standardisation is possible in the case of hides and skins as it is in the case of cotton or other articles.

IV. 24. Cess funds should be utilised for all the work specified in this question.

25. There are no facilities for research work in this presidency.

27. There should be a centre for research work in this presidency. It should be self-contained. Research work should be carried out with regard to all the different processes regarding tanning of hides and skins at that place, as it would not be practicable to send out any particular research problems to different research institutes in the country.

28. There are no existing facilities for training tanners, tannery foremen, etc., in this presidency.

30. My Committee recommend the establishment of tanning demonstration parties but not of tanning schools for the present. There is not a sufficient scope for men trained in such tanning schools as has been found with regard to people who studied in foreign countries and who on return here had been obliged to take up some other line as they could not get any employment where their study could be utilised. Tanning demonstration parties, however, would prove suitable for Indian conditions and will, it is thought, prove useful.

31. The export trade in tanned hides and skins can be improved by encouraging the tanning industry which is only possible by making it easier for the tanners to get large supplies of the raw stocks. Availability of these raw stocks, however, is dependent upon restriction of exports of raw skins and hides by means of a higher export duty. As regards grading the trade has got its own grading system and as mentioned before no scheme of standardisation is feasible at present. Madras tanners send their hides and skins to foreign markets on a c.i.f. basis, but Bombay tanners send their goods through shippers for being sold at public auctions held in London. They do not realise a satisfactory price in these public auctions and it would be better if the Bombay tanners also send their consignments on a c.i.f. basis. If the goods are to be sent on a c.i.f. basis, it is necessary that there should be some arrangement made in London by which the interests of Indian tanners can be looked after in the way of arbitration, etc. Perhaps the Indian Chamber in Commerce in Great Britain, London, may with the assistance of one or two tanners set up such a Committee of Arbitration to look after the interests of Indian tanners. The High Commissioner for India may also be requested to try his best to popularise Indian hides and skins as he has been doing with regard to Indian rice and such other commodities.

32. *Avaram* or *tarwar* is the most important tanstuff utilised in this presidency.

33. Wattle bark is useful as tanning material for soles, while *avaram* is useful for uppers. Arrangements may be made with the forest department not to give leases with regard to *avaram* at the same time and they should be asked to give encouragement for the growing of *avaram* in the forest tracts.

V. 34. A portion of the cess fund should be applied to advertising for the benefit of the industry as a whole. Such a publicity for a particular industry cannot be carried on by a particular individual firm but can only be done by the industry as a whole. The tea industry has shown how such a publicity proved successful with regard to its development. In Western countries recently the leather industry has been carrying on propaganda and advertisement against rubber and rexine, for instance.

35. My Committee may be allowed to mention that in addition to the necessity of having good flayers, there is also a necessity for people who are experts at taking away fleshings. Glue is made from these fleshings in Europe and sent back to this country. Research work can be carried on in this direction also.

VI. 39—42. The principle of levying a cess should be to encourage the development of the tanning industry and improving the quality and selection of the raw stuff. My Committee suggest that the cess should be 10 per cent. *ad valorem* which should be levied in addition to the export duty which should be increased to 10 per cent. from its present basis.

VII. 43—55. My Committee are in favour of the formation of a Committee to administer the proceeds of any cess or cesses which may be imposed. The Committee should consist of 3 representatives of tanners, 1 representative of chrome tanners, 2 representatives of tanned hides exporters, 2 representatives of raw hides exporters. Bombay tanners should also have their representation on the Committee. Details regarding election, etc., will be considered by my Committee later on if Government accept the constitution of such a Committee as proposed here. All the representatives should be elected by the interests concerned. The Chairman of the Committee should be elected from among members by the Committee and the Secretary, who should be a whole-time man, should also be appointed by the Committee. No separate representation is necessary for technological research institutes nor for the co-operative movement. The Committee however may, whenever they deem necessary, co-opt experts and others interested in the trade and industry. The Committee may look after all the different items referred in question 24 and also in our reply to question 35. In fact it should be their function to look after the development of the tanning industry. The Committee should act through the agency of Government, the Customs Department being entrusted with the work of realising the cess. There should be provincial sub-committees at the following places:—Madras, Bombay, Calcutta, Karachi, Cawnpore and Lahore. These sub-committees should act as the agents of the Central Committee in the different centres and their constitution should be fully representative as in the case of the Central Committee. No special technologist is necessary for the present, as technological advice can well be obtained from technologists at Calcutta, Cawnpore, Madras, etc. The headquarters of the Central Committee should be in Madras which is the principal place for the tanning industry.

Oral Evidence of (1) Mr. L. R. TAIRSEE, (2) Mr. DAWAR H. KAZI, (3) HAJI OOSMAN, and (4) Mr. J. K. MEHTA, on behalf of the Indian Merchants' Chamber, Bombay.

(Bombay, the 5th December, 1929.)

Replying to Chairman:—Our evidence is official evidence for the Chamber. Besides merchants we have industrialists as members. Among our membership we have two tanners, viz., Mr. Kazi and Mr. Oosman. Mr. Kazi used to be a tanner, but no longer runs a tannery. Mr. Oosman runs three tanneries. The capacity of all the three is 500 hides per day. But they are not working full capacity. We have no raw exporters as members. We have two tanned exporters—viz., both Mr. Kazi and Mr. Oosman. Our tanner members and tanned exporter members have been consulted. They accept the memorandum. There is no organised association of tanners or of tanned exporters in Bombay; nor of raw exporters. We have consulted others in the tanning industry, e.g., Messrs. Manji Ladak, Salehmohamed, Dharamsi. Mr. P. Pandit though invited could not come. The Briskey Co. has an agency here. Messrs. Mohd. Din Qadir Baksh, Mohd. Ali & Co. are exporters. These were not consulted by us.

We have importers of leather and leather goods among our membership.

Mr. Tairsee will speak on questions of policy and Mr. Dawar Kazi on the rest.

Qs. 39—42.—As regards the principle of the cess, what we have stated is meant to apply to India and not to other countries, i.e., what we want is that the Indian tanning industry should be developed. Technical assistance is the form of assistance to the industry which we have in view. It must involve financial expenditure. We mean that this is the purpose for which money must be found. We consider that assistance should be given to the raw hide trade also. Our opinion is that a 10 per cent. cess is necessary for raising the necessary finance indicated above. (NOTE.—Here Mr. Mehta volunteered, "and also giving full protection".) The reason why we recommend the 10 per cent. rate is that it will be necessary to raise the required finance. The cess should be 10 per cent. *ad valorem* on raw exports only, viz., only on the exports of raw hides and skins. This should be in addition to the present export duty.

Replying to Mr. Price:—In proposing the rates we have done, our idea is to encourage the industry, help the trade and our policy of protecting the industries generally. If we had a free hand, we would treat all raw materials in the same way. Our Chamber has advocated this policy publicly. We would do so with regard to cotton also. On cotton we did not recommend 20 per cent. cess. We know that the cotton cess is As. 2 per bale. There is also a cess of Re. 1 levied by the Bombay Municipality. We cannot say what rates of cess we recommended in the case of cotton when the question of the cotton cess was raised. In our opinion, the cess serves the same purpose as a duty; so far as the protection of the indigenous industry is concerned. The cotton cess now is As. 2 per bale. This is a small rate. We have not recommended a wool cess, as there is no wool industry worth the name to be protected in India. There are two mills in Bombay. The firm of Currimbhoy had to return the capital collected for a woollen mill. If the wool industry asks for protection, we would recommend an export cess or duty on the export of wool if we thought it necessary. We know that the Fiscal Commission recommended protection in the form of import duties. (Mr. Tairsee said he did not know if they commented on export duties.) Export cesses or duties do not generally hit the primary producer. Whether they do or do not hit the primary producer depends on the conditions of each industry and on world prices. Our view is that what the country can consume, the country can and should keep, and the surplus should be disposed of profitably. The agricultural population is about 80 per cent. of the total. This population is

not very well off. We are advocates of reduction in taxation. We would not mind extra taxation on the products of land if such extra taxation were to benefit the country as a whole, e.g., to both agriculturists and the people engaged in the industries. High taxation, if well utilised, can be of benefit to the country.

We are a member of the Federation of Indian Chambers. We have not consulted the Karachi Indian Merchants' Association. It may be a fortuitous circumstance if that Association has recommended the same figure as ourselves. It may be the result of our looking at the problem from the same point of view and with the same purpose.

(NOTE.—From this point onwards Mr. Kasi replied.)

I have myself given up tanning. I used to supply both local and foreign markets. I used to make both crust and finished leather. Foreign tariffs did not stand in the way of my ingress into those countries. London was a free market. I consider the consignment system a bad one if goods have to go out of India. If I had my organisations abroad, I would go in for that system but not otherwise.

Q. 13.—Salting does not necessarily mean that the hides must be used in the country. Salting here means nothing more than preservation. I do not mean mere wet-salting. I did not mean to make the hides available only to the tanners. (Here the witness said that the words "or framed" should be added to the reply.) I am a practical tanner trained in the country. The confining of curing mostly to the tanning aspect is for the benefit, both of the primary producer and the tanner—half and half. The improvement of industry will react on the primary producer himself.

Q.—Is the market for Indian tannage unlimited?

A.—India can sell her entire products on profitable prices in all countries of the world. The market is not unlimited because there is not enough propaganda and the quality is not up to the standard demanded by certain countries.

I do not subscribe to the view that over-population of cattle leads to their starvation. We want better cattle, but elimination of cattle is not necessary, as Indian cattle are not born unfit.

Replying to Chairman:—I have no personal knowledge of cattle breeding or of veterinary work.

Replying to Mr. Price:—The quality of hides needed by the local tanners is not available in the local slaughter-houses. Hence Bombay tanners have to import from places like Gujarat, Sholapur, Akola, etc. We do not go as far as Calcutta.

For tanning we use *cassia auriculata*. We get it in abundance in Bombay. During the War we used wattle. We, of course, stick to the indigenous materials.

Q. 35.—The bye-products of the animals slaughtered are:—horns, bones, hoofs, guts, etc. These are exported. Local shippers purchase them and ship them.

(NOTE.—Mr. Mehta here said that on page 408, question 10, "stones" should be read for "stoves".)

Q. 19.—The Madras to Bombay freight has been given only as a mere example. We here refer to freight on tanned hides. Raw hides do not come from Madras to Bombay.

At 10 per cent. the cess would yield 80 lakhs. Cotton cess yields six to seven lakhs. Tea, lac and soft coke also have cesses. The yield of the cotton cess is the largest. If and when the tanning industry of India reaches the stage of development at present attained by the Bombay cotton industry, we shall reconsider the position.

In course of time the proceeds of the cess would grow gradually less. It would be a wasting asset. We would support the 10 per cent. cess if we

are going to develop the tanning industry. But as a matter of fact, we hold that it would benefit both the primary producer and the industry.

Chairman.—If it be disadvantageous to the primary producer, would you recommend the cess?

Mr. Kazi.—We do not agree that it would harm the primary producer. But if it would, we would consider whether the Cess Committee's conclusion that the cess was disadvantageous to the primary producer was justifiable.

Replying to Mr. Ismail:—The proceeds of the cess must be spent for the benefit of the industry and the producers from whom it is raised. The cess is primarily for the protection of the tanning industry and can therefore be spent for the primary producer's benefit. The tanning industry is bound to benefit by the improvement of the trade itself. We hold that a cess raised on the export of raw materials should and can be used for the benefit of the connected industry or industries. We are aware of the fact that against Indian raw hides there are tariff walls in America and Germany. America in fact is agitating for a higher duty. We can, however, meet the higher tariff walls by producing in India cheaper and better.

Even under the present circumstances I (*i.e.*, Mr. D. Kazi) do not consider the consignment system to be a sound one, but we may have to go on with it for the present.

Our markets are at present restricted because of the lack of propaganda on behalf of the Indian products.

In our opinion, the interests of the primary producer and of the tanning industry cannot be separated nor can those of the people engaged in the bye-products industries.

Replying to Mr. Advani:—*Q. 12.*—If funds are available, I agree that there is a field for research and propaganda work in curing, etc. The typographical error made by us in reply to this question should be corrected.

Q. 30.—The demonstration parties are meant for those engaged in the industry all over India.

Replying to Mr. Wykes:—Bonus should be paid to flayers. At present it is As. 2 per hide. This is in addition to the contract price of the hide.

Q. 20.—In our opinion, co-operative marketing is not feasible in the present circumstances.

Q. 28.—The Northern Indian trained tanners do not suit us. I myself am from Northern India. For Bombay tanning, I would rather have trained local (*i.e.*, Bombay) labour.

Replying to Mr Rafique:—During the War I (Mr. D. Kazi) was with the Munitions Board. I am still a stock-holder in the tannery referred to by me in the beginning. But I do not manage or run it. The bonus referred to by me goes to the flayer and not to the butcher. We do not get our hides from Calcutta. We get them from Cawnpore, etc. We get wet-salted, dry-salted and framed hides.

If adequate railway arrangements can be made, we can get wet-salted hides from Calcutta. The reason why we do not buy wet-salted hides from Calcutta is one principally connected with the question of quick, cheap and suitable railway transport.

We are not advocating the cause of the crust tannage of hides. Madras crust tanned hides cannot be put to all the uses to which raw ones can be put. But they can be put to about 80 per cent. of those uses.

Replying to Chairman:—Mr. Tairsee said:—We advocate the cess on the basis of protection. To the extent that the cess will yield revenue it can be spent for the benefit of industry. It is bound to affect the price paid by tanners in relation to that paid by exporters. (NOTE.—To this statement of Mr. Tairsee the tanner members did not agree.)

Replying to Mr. Rafique:—Madras tannage cannot be full-chromed, but it can be semi-chromed. The foreign tanner does not set the public demand

but only responds to it. Hence if the public only want chrome, the tanner would not buy tanned hides as such hides cannot be full-chromed. As to whether any other country does sheep skins, I know that France does them. There is a demand for Madras tanned hides as the prices are lower. Madras tanned sheep skins can fetch a price from the buyers.

Q.—Why should not they bear a cess?

A. The price obtained is not high enough. I did not mean to convey an impression that they can always fetch a good price.

I would not impose a cess on the Madras tanning industry even if it were flourishing.

Q.—If the Madras tanning industry was flourishing and it was admitted that there was scope for improvement and the trade was convinced that the rate would not affect its position in the world's markets, would you object to a nominal cess on the tanning industry?

A.—I would sooner have the cess on raw hides reduced than have a cess imposed on the tanning industry.

Chairman.—Suppose there was no export trade in raw hides and there was only the tanning industry in India with which there was something wrong, would you allow the tanning industry to cess itself?

Mr. Kazi.—I would not object to it under the circumstances detailed by you.

Replying to Mr. Rafique:—By the improvement of industry I mean the improvement of the indigenous tanning industry. Under the present circumstances, all hides produced in India cannot be tanned by the existing tanning industry in the country. Madras or rather Indian tanners cannot tan the stuff for which there would be no market whether in India or abroad.

As regards the hides and skins we are cheaper than any other country. We have larger production too. Price of leather in India would rise if the world price rises.

General education and different labour conditions enable shoes produced abroad to compete with the Indian shoe making industry. Foreign labour is comparatively cheap because it is more efficient.

(Asked as to whether the Chamber appreciated the idea of benefiting one trade at the expense of another, Mr. Kazi said:—) We do not hold that in this case we are benefiting one trade at the expense of another. I would not levy a cess on one branch of an industry for the benefit of another branch of the industry. But I would not object to a cess being levied on a trade for rendering benefit to the industrial branch of the same trade. This latter is the case in the case of hides and skins.

Provided that the import of foreign leather is forbidden I would not object to the export of raw material being rendered free.

(Questioned as to whether the tanning industry should be represented on the Committee without being made to contribute as a condition precedent to the representation, Mr. Kazi said:—) The money to be raised by a cess is, according to us, to be for the benefit of the tanning industry. Hence, *ex hypothesi*, it belongs to the tanning industry. Hence the industry should be represented on the Committee. If the cess is raised for the benefit of the industry as a whole, i.e., including the trade, even then tanners should be represented on the Committee because in that case also the cess funds will, after they are raised, be the trade's as a whole. Even if a cess is raised only for the benefit of the export trade in raw hides, even then I would secure representation for the tanning industry as the trade and the industry are closely allied.

I want representation for the exporter of tanned goods also, as he too holds the same position as tanners. He will contribute by helping in the right use of the cess particularly by making helpful suggestions in the administration of the cess fund. I shall have no objection to the elimination of both middlemen, viz., the exporters of the raw and of the tanned goods.

Replying to Mr. Shah:—Both Messrs. Kazi and Oosman are Mussalmans.

Ultimately the cotton cess comes out of the mill industry. The cess on the raw cotton exported from India comes from the shippers. (NOTE.—Witness added that the Cotton Textile Tariff Board's report has some remarks on this question which should be looked up.)

Replying to Mr. Ismail:—In course of time the full or finished tanning industry can and will grow up in India. I know that during the last ten years chrome tanning has made great strides in the country.

Tanstuffs in other countries have their merits and demerits. It is, therefore, difficult to compare them in the course of oral evidence.

In the present circumstances we do not advocate a cess on the export of tanned goods.

Replying to Mr. Advani:—We do not mean that the Central Committee should not allocate some work and money to the local Governments. In fact we want that the agency of the local Governments should be fully utilised. The normal system should be the grant-in-aid system. We would recommend the same system as has been proposed for the Road Cess Committee's work.

Replying to Mr. Price:—To a certain extent we would follow the procedure adopted by the Cotton Cess Committee. The Cotton Committee are not concerned solely with the primary producer.

Replying to Mr. Rafique:—I am not here to look after the interests of tanners in America. If the rate of cess be such as to affect the country's position in the world, we shall consider what we should do. If there was a proposal to fix the cess at 40 per cent., I would consider it rather excessive.

Replying to Chairman:—India can sell all her tannage at a profit. At present this is not so because of some reasons connected with the hides and skins trade.

Written Statement, dated the 10th November 1929, of
Messrs. M. MOHAMMAD ALI & CO., Bombay.

I. We are exporters of hides and skins, wool and hair, and have agencies in Amritsar, Delhi, Cawnpore, Bezwada, Madras, Dindigul, Bangalore, Hyderabad, Poona, etc. We have been in this business since 1919 and on an average export about a million skins a year.

II. In our opinion, it would be very difficult for the proceeds of the proposed cess to be spent profitably for the benefit of the industry as a whole, because (1) absence of co-operation between the exporters and local tanners, (2) the tanning industry is entirely at the mercy of demand in London and Indian tanners feel their position very unsafe on account of the speculative nature of their business, (3) the various factors in the industry are so disconnected and situated so far apart that effective co-operation of all of them by means of a Cess Committee would be very difficult. The only way the proceeds of the cess can be profitably applied is, in our opinion, (1) to have a central bureau to supervise sheep and cattle farming, their healthy multiplication and growth and (2) development of tanning industry on more scientific lines.

III. 1. The principal defects found in Indian hides are (a) *meru* or *pocca*, (b) brand, (c) small-pox, (d) mange, (e) tumour, (f) sour, (g) foot-and-mouth disease.

The principal defects in goat skins are (a) sour, (b) mange, (c) tumour, (d) *meru* or *pocca*, (e) brand, (f) smallpox, (g) ringworm.

2. It is very difficult to suggest actions for the removal of these defects because of the inaccessibility of the proper aid to cattle in far off districts. Proper action can only be taken if there are specially organised farms for breeding purposes where (a) immediate medical attendance in case of romantic and other diseases which villagers cure by brands, (b) cleanliness and living under sanitary conditions would eliminate *pocca*, smallpox and mange, (c) slaughter of animals before they are too old and of all unhealthy animals would eliminate lot of unhealthy offsprings and contribute a great deal towards a healthy breed of cattle, (d) cross breeding is in many cases helpful in eliminating family diseases of cattle.

3. The principal defects in the methods of flaying are (a) knife-cuts, (b) flaying laces which are principally found in plump fatty skins because of the difficulty in removing the skin or hide.

4. Employment of expert hands.

5. We do not think the appointment of flaying instructors and supervisors a practicable proposition; especially the instructions to the village flayer would be extremely difficult.

6. We do not think the supply of flaying knives of an approved pattern would be of any use because the flaying defects are not the outcome of defective knives but rather of defective flaying on the one hand and haste on the other.

7. Yes, we think that there is a lot of room for improvement in flaying in slaughter-houses. Appointment of flaying instructors and supervisors is likely to yield good results, but the most effective weapon, in our opinion, would be the action on the part of local hides and skins associations penalising the butcher who is guilty of careless flaying. That penalty should be somewhat on the lines of a reduction in price of a skin so flayed. This system is prevalent in Bombay, but it needs to be more vigorously enforced.

8. No such system exists.

9. Not in a position to answer.

10. The defects in the methods of curing and preserving hides and skins in India may be briefly summed up as follows:—(a) delay in attending after a hide or skin is flayed whereas immediate attention is needed to secure good curing and effective preservation, (b) use of bad and used salt, (c)

artificial soaking of skins and hides in water in wet state and spraying of hides and skins with cold water in dry state affects adversely their preservation, (d) non-removal of flesh and fat to avoid reduction in weight, (e) exposing the skins and hides in intense heat of the sun, (f) packing of imperfectly dried skins, (g) washing of hides and skins with too much water before drying is also bad.

11. Intensive propaganda and proper training of workers.

12. The question of curing and preserving should be investigated and proper attention should be paid to the relative merits of the various methods used in India.

13. We do not think it is practicable.

14. Adulteration or loading does exist in a serious form in the Punjab, Delhi, Cawnpore and Bengal. (a) It has seriously affected the export trade because there is a general dissatisfaction in foreign countries regarding deliveries from India and the trade is passing from the hands of Indians to Europeans. Further it affects the quality very adversely. (b) The tanning industry in India is also very hardly hit by this adulteration as two to three per cent. of their skins go to pieces in the lime pits and sometimes more cause a loss of weight and deterioration in quality.

15. The only way to combat such practices is the co-operation of exporters and tanners to effectively boycott such suppliers of goods.

16. The other defects in the quality of Indian hides and skins are old and thin skins. The only way to remove these defects is to kill stray and unhealthy animals before they can spread the contagion to other healthy animals.

17. Our estimate is 10 per cent. The way we arrive at this estimate is as follows:—In the last ten years our average percentage of rejections and of seconds has increased from 5 per cent. to about 12 per cent. If the average price of a skin is Rs. 2 that of a reject would be about As. 12. Hence there has been a depreciation of 10 per cent. owing to the presence of defects. Similarly the value of Indian hides is also reduced by about 10 per cent.

18. The various stages in the trade in hides and skins are as follows:—

(a) As soon as the animal dies or is killed and its skin is flayed it is washed. (b) Either salt is applied or it is dried. (c) Is packed and sent to various markets for sale. (d) It is sold in markets and bought by exporters or tanners. (e) The exporter makes assortments according to his needs and the tanner puts it into his tannery.

19. There is a lot of scope for improvement in transport, railing and handling. Grading, packing, shipping are governed by the standards of foreign buyers and therefore will not admit of any change without foreign co-operation.

20. No, we think it is indefeasible.

21. The transport of raw hides and skins is very defective: (a) the freight charged is very excessive—for instance, the freight from Amritsar to Bombay is about Rs. 10 per 100 skins and from Trichinopoly to Bombay is about Rs. 13 per 100 skins, whereas the freight from Bombay to Boston is only about Rs. 4 per 100 skins, (b) the time taken by the railway authorities is too long which results in rotting of at least 5 per cent. of hides and skins, (c) iron wagons are supplied instead of wooden wagons which become heated and cause the hides and skins to sweat and everybody knows that sweating is ruinous to them, (d) most of the station staff being Hindus they let consignments of raw hides and skins lie for several days in the sun or rain. Proper instructions should be issued to all Station Masters concerned to attend to perishable commodities like raw hides and skins immediately and ensure their expeditious despatch. Theft of skins and hides on the railways has now become quite scandalous, and there is a consensus of opinion amongst the dealers that the railway authorities are criminally neglecting to take care of their interests.

22 (a). There is no proper system of grading hides and skins for sale to tanners in India. Tanners generally buy in lots on weight or on selection. (b) For export the system of grading hides and skins is very elaborate and details can be furnished verbally.

23. (a) We do not consider the introduction of a system of standardisation and grading for sales to tanners in India feasible. (b) For export there is already a system in existence which, if honestly worked, would be quite sufficient.

35. In our opinion, it is necessary that wool industry should form a special subject of research and special facilities should be afforded for the improvement of the quality of wool.

39. We do not think that any cess or tax should be levied on hides and skins either on the tanning industry or on the export trade.

43. We do not think any special Cess Committee is required to demonstrate the proceeds of cess when we are against the imposition of cess as such.

Regarding detailed information on the question we have touched, or on other relative questions, our proprietor Mr. Mohammad Ali, M.A. (Cantab.), is prepared to appear before the Committee in Bombay provided a notice of at least one week is given.

Oral Evidence of Mr. MOHAMMAD ALI of Messrs. M. Mohammad Ali & Co., Bombay.

Bombay, the 31st December, 1925.

Replying to Mr. Price:—I am not a member of the Indian Merchants' Chamber, Bombay, or of any association affiliated to the Federation of Indian Chambers.

I do not support the 10 per cent. cess. In my opinion, it will kill the export trade. I am a shipper of raw and not of tanned hides and skins. The foreign buyer calculates his prices in relation to the world's prices. We are not in a position to force the foreign buyer to pay our prices. China is a large supplier of goat and sheep skins; also South Africa. If our prices go up by two or three per cent., the foreign firms would buy Chinese or South African skins. The export duty has depressed the trade in the export of raw hides and skins.

Q.—It has depressed it less when prices are high.

A.—Yes. In my view price difference does make much difference to arrivals. Supplies must be affected by a cess if it is a factor in the price. Cess would be of advantage if properly spent.

Q.—In question 39 you have said it should not be levied.

A.—This is because I do not think it will be properly spent.

Q.—Do you think tanners will get hold of it?

A.—Yes. My view is that the trade will be hampered and the benefit will be small. Hence I oppose all cess.

Q.—Calcutta shippers support a small cess. Would you?

A.—Yes, if that be so. I would put it on both raw as well as tanned hides and skins. I would put it on wool also for the benefit of sheep breeding. I do not think I would put it on bones, as they are a by-product that cannot be improved.

On the Committee tanners should be represented. If they do not contribute, they should not be.

I think 1 per cent. cess would not damage the trade. A cess equivalent to 1 per cent. is what I mean. It should be a simple cess.

Replying to Mr. Ismail:—The export duty has depressed the raw trade. I agree that tanned export has increased. From this I infer that the duty has contributed to the growth of the tanning industry, i.e., raw exporters have helped the tanning industry. I do not consider this desirable. My view is that only that industry can benefit the country of which the products are consumed in the country. The Madras tanning industry is only a speculative trade and benefits only the foreign buyer, as the stuff is not consumed in the country. We also employ labour just as the tanning industry does. I have no idea as to the exact number employed in the tanning industry in Madras. I only know that a business man like me employs 250 to 300 men and women in my factory for curing, baling, packing, etc. I have seen several tanneries in Bombay. A tannery tanning 20,000 to 30,000 skins a month would employ about seventy five men. I deal in a million skins a year. Hence I employ about the same number as a tanner would. I can speak with authority regarding the number of labourers needed by tanneries in Bombay.

In the case of skins exported abroad a considerable amount of work is done in Amritsar. In the case of those sent to Madras the work is left to be done in Madras. Only the commission is obtained, and then the bundles are sent away.

If the value of raw skins is Rs. 150, tanning adds about Rs. 35. This Rs. 35 is divided into Rs. 20 for tanning materials and Rs. 15 for labour, profit, rent, etc.

There is hardly a month when we do not hear of tanners going bankrupt. Madras tanners do not make much profit. Some Bombay tanners put a limit on their goods. I know this. Withdrawal of parcels is resorted to. They can do all this if they can hold out financially. I suggest that the tanned exporters should resort to the c.i.f. system. I consider consignment system bad. If tanners cannot sell on a better system than at present, i.e., on the c.i.f. system, then that industry should not be a charge on the raw skin exporter.

When skins do not come into the market, what happens is that there is less slaughtering.

The primary producer will pay the export duty or the cess. Internal market is governed by buyers and sellers. As soon as the duty of 15 per cent. was levied, prices went down and conversely as soon as it was reduced they went up. I do not think this was due to any panic in the markets.

Replying to Mr. Advani:—My statement regarding the 1 per cent. cess is mere guess work. I would have no objection to a higher or lower rate if it was found that the trade could bear it. My guess is based on my experience. An exporter cannot make more than 3 per cent. on his turnover. I must stick to 1 per cent. and not be guided by any scientific study of what can be borne by the trade. I would not object to the cess being spent on the tanning industry. I would levy the cess—if any—on the exports of raw and tanned hides and skins.

Replying to Mr. Rafique:—Excluding Karachi, the Bombay Presidency has three principal exporters. Bombay City has about twenty tanneries.

Customs authorities open our bales and casks. We cannot bring such bales and casks back to our places. For customs appraising we have to spend about Rs. 50 per shipment. Such cost never exceeds $\frac{1}{2}$ per cent. even on the smallest shipment. We would prefer a specific to the existing system.

I belong to the Punjab. I know the trade there. Madrasis buy sheep pelt with the wool pulled, i.e., *pāprā*. They generally buy through commission agents. They have no godowns in Amritsar.

The headquarters of the Committee should be located at a central place if the Cess Committee want an improvement of the trade. The headquarters should be at a place where the trade and tanning interests are represented.

Replying to Mr. Wykes:—I would not call any trade depressed which is increasing in volume.

I want export duty to be removed. If there should be a cess, it should be 1 per cent.

Replying to Mr. Shah:—I stick to the principle enunciated at X on page 419. Raw exporters have a stable business. Hence not so many bankruptcies in that trade.

Replying to Mr. Ismail:—Expenses of packing, etc., come off the primary producer.

Replying to Mr. Price:—Standard of wages in Madras is low.

Replying to Mr. Rafique:—Tanners in India cannot consume the entire production of hides and skins.

Notes.—The following statement was also made by the witness in the course of his oral evidence.

The remedy of the Indian tanner does not lie in enhancing the duty on the export of raw hides and skins but in the improvement of methods of sale. If instead of mere speculation they sell on a c.i.f. basis, they will not feel the competition of exporters of raw stock.

I think that the increase in the tanning industry since 1923, when the duty was reduced, is in no way proportionately less than the increase before 1923 when the duty was Rs. 15 per 100 skins. Hence the demand of tanners that any increased duty will give a fresh impetus to their industry is not supported by facts.

If half-tanning is an industry inasmuch as it employs Indian labour and Indian capital, export of raw stock is also an industry because it also employs Indian labour and capital. Both processes are essentially in the nature of cure for making the stuff ready for export.

Whereas the labour employed by exporters is very highly paid that employed by tanners in Madras is very low paid and ill-kept.

By killing the export of raw stock we cannot force the foreign consumer to buy our half-tanned stuff as it can be used only by the manufacturers of inferior leather and if India closes her doors to foreign consumers of her raw stock, China and South Africa will open their doors wider and ruin our market.

Written Statement, dated the 7th November 1929, of
Messrs. RALLI BROTHERS, Karachi.

I. Our firm (Ralli Brothers, Karachi) have been engaged in the export from Karachi, for many years, of unframed dry arsenicated cow hides and dry arsenicated buffalo hides including calf skins, and also for the last 11 years in dry framed arsenicated cow and buffalo hides. We do not export goat or sheep skins and therefore have no remarks to offer about these articles.

We have no interest in any associated trade or industry.

Our purchases of hides are made from markets in the Punjab, Sind and in Cawnpore.

II. We are of the opinion that a cess could be utilised with profit to the benefit of the industry as a whole, firstly by trying to introduce methods and propaganda for the better flaying of animals.

For better care in the preparation, handling and storing of hides.

More careful treatment of animals and the introduction of protective measures against the warble fly and other pests.

Attention to the above would produce hides with less defects and consequently improve the value of the hide, and thus the hides sellers in the various markets would get a better value for their products.

Tanning industry would benefit as above by securing better class hides. The cess could also be applied in research work.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The greatest pest is the warble fly. We have seen hides riddled with small holes due to the above pest. These warble holes are to be found on the most important part of the hide and it is generally a healthy animal which the fly selects in which to lay its egg. Such defects greatly reduce the value of a hide.

2. Many suggestions have been made to exterminate insect pests, which attack plant, as well as animal life and we think that the agricultural or the veterinary authorities are better able to answer this question.

Flaying.

3. Chiefly carelessness.

4. The better price paid for a hide free from knife-cuts ought to be a remedy in itself.

5. In large centres the results would probably be good, but in countless small villages, where the flaying might only be one or two animals per day, it would hardly be worth while.

6. No.

7. In large slaughter-houses an improvement might be brought about, but usually in such places the flayer is already alive to the benefit of good flaying, unless he is paid on the piece-work system in which case he will do the job hurriedly and carelessly.

8. We have no information.

NOTE.—It should be borne in mind that many of the hides do not come from slaughtered animals but from animals which die in the fields and in the desert tracts, and in such cases the herd owner does his own flaying.

Curing and preserving.

9. In other countries, with colder climates, hides are slightly salted and kept in a damp state until they reach the tanneries. This is a procedure which does not seem to be practicable in India for that portion which, in the ordinary course, is meant to be exported. These hides are salted and dried, or framed, dried and poisoned, or just sun-dried and poisoned. The poisoning is usually done by the exporting firms and not in the producing centres.

10. Not being properly arsenicated. Sometimes flesh is left on and worms breed in the flesh and eat through the hide.

Bad storage also results in deterioration.

11. More care in arsenicating or salting the hide. Proper drying and fleshing and reasonable storage.

12. No.

13. Consider unnecessary. Arsenic being the main preserving agent for dried hides we do not think its indiscriminate distribution to villagers advisable.

Adulteration.

14. Loading does exist, but usually not in a serious form. (This applies to Sind and the Punjab only.)

During periods of low values there is usually little reason for complaints. During periods of high values and keen competition loading is practised more extensively. Hides are smeared over with earth or with mixture of salt and earth; sometimes flaying is done badly on purpose so that hides are delivered to buyers in a very fleshy condition thus increasing their weight by many pounds.

Such loaded hides require special treatment, but in spite of additional attention at extra cost, they usually retain their bad appearance and thus lower the quality of a whole consignment.

Damping the hides is another favourite method of trying to increase the weight.

15. The only action to combat these practices is for the buyers to endeavour to recover adequate allowances for the loading and flesh.

Other defects.

16. Hides of Indian cattle suffer from numerous defects on the grain side. These defects are due to conditions peculiar to this country. Practically the whole year round the cattle remain in the open and are therefore liable to bruises, cuts, scratches and injuries. Cattle straying about in the jungle are particularly exposed. Such injuries all show particularly after tanning and lower the value of the leather.

We do not see any possibility of overcoming this peculiar difficulty. We believe that conditions will improve automatically with an improvement in agricultural conditions and methods.

17. We do not think that sufficient statistical material exists for the basis of an approximate estimate.

(b) Collection, marketing, export, etc.

18. Hides meant for export pass through one to two hands before they are being entrusted to an *arkatia* for sale to an exporting firm. It is the exporting firms who grade the hides and cure them with a suitable preservative.

19. We have no suggestions to make.

20. We consider that co-operative marketing by the producer is not feasible at the present time. We do not know if it has been tried in India.

21. We have no suggestions to make.

22. *Dry arsenicated unframed cow hides* are usually graded into Firsts, Seconds or Rejections, Thirds or Double Rejections and Fourths and the weight ranges are usually 2-8 lbs., 8-12 lbs., 13-25 lbs. and over 25 lbs.

Dry arsenicated unframed buffalo calf skins.—Grading the same but in weight ranges of 2-6 lbs. and 6-10 lbs.

Dry arsenicated unframed buffaloes.—Grading the same but in weight ranges of 10-20 lbs., 20-30 lbs., and 30-40 lbs.

Framed arsenicated cow hides are usually graded into the following classes:—

- (a) Superior Agra hides.
- (b) Agra hides.
- (c) North Western hides.

Each of the above classes is generally sub-divided according to defects as follows:—

- (1) Commissariat Slaughtered.
- (2) Slaughtered.
- (3) Slaughtered No. 2.
- (4) Deads.
- (5) Rejections.
- (6) Double Rejections

The hides are sold on average weights, with generally a narrower minimum maximum weight range than unframed Karachi hides.

Framed buffaloes.—Follow more or less the same lines as framed cow hides.

The preceding qualities of hides are also sold according to season, viz., winter hair or summer hair, winter hair as a rule fetching higher prices.

Each firm has its own standard selection but as a general rule there is not much difference between the standards.

23. We do not know if any such scheme has been tried in other countries.

IV. TANNING AND ALLIED INDUSTRIES.

24—33. As we have no knowledge of the tanning industry we have no suggestions to offer.

V. ADVERTISEMENT.

34. Do not think that advertising would be of much use.

35. Most of the objects already dealt with. We have no additional suggestions to make.

VI. COST OF SCHEMES PROPOSED.

36—38. We have no method of estimating the cost of the scheme and have no suggestions to make.

39. Suggest that the cess be levied on all exports both of tanned material and raw material and recovered at the time of export. To levy it on the tanning industry would entail difficulty in collecting it.

40. Say Rs. 2-8 per bale for all qualities of tanned and raw material. Any export duty or cess or anything which tends to make the hides dearer naturally influences India's position in world competition. Indian raw hides are of inferior quality and can only be sold when hides of other origin are dear in comparison.

We suggest that the cess be levied per bale. This will be easy to collect by the Customs authorities and entail the minimum clerical labour. The sizes of bales are not likely to be altered, as the present sizes are on a basis which gives the best results in freight measurement and also the weights are about the maximum consistent with efficient handling.

41. Yes, say for 5 years. A shorter period would hardly allow sufficient time to show results.

42. As above we suggest a cess per bale.

An *ad valorem* rate entails a lot of clerical work on all concerned as well as a lot of appraising by the Customs authorities. We consider a rate per bale, the easiest and simplest way to work a cess and it would be on a par with cotton.

VII.

CESS COMMITTEE.

43—55. We have no suggestions to make.

Written Statement, dated the 7th November 1929, of
Messrs. BEAUMONT & CO., Karachi.

- A { 1. When prices in the consuming overseas markets are high, supplies of hides are plentiful in Karachi, but low prices (made still lower by the export duty) reduce arrivals very considerably, many hides in the interior not being collected even, the return on them being unremunerative.

The result is economic waste.

Examples.—Total exports of hides (ox, cow and buffalo) from Karachi—

1923-23.—328,023, prices very low.

1923-24.—291,708, rather lower.

1924-25.—482,551, good early, low later.

1925-26.—559,257, fair average.

1926-27.—625,946, low early, improved later.

1927-28.—1,306,873, average early, very high later.

Details of exports as given in the Annual Trade Returns prepared by the Collector of Customs, Karachi.

Prices are from our own records.

2. Unknown.

3. Karachi tanning industry is small and not of sufficient importance to be regulated.

6. Locally babul bark is used.

7. No information.

(NOTE.—The above is in reply to para. 5 of the forwarding letter of the Questionnaire.)

I. We have been exporters of raw unframed dry hides, ox, cow and buffalo, for over 30 years. Our experience extends to Sind and the Punjab only. We are not interested in any associated trade.

II. Yes. (1) Instruction in improved methods of flaying and prevention of heavy branding, etc. (2) Training centres giving instruction in improved methods of tanning and tanning processes.

Existing organisations of the civil veterinary and agricultural departments to be utilised for these purposes wherever possible.

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. Warbles (*mundas*) and ticks.

2. Research work by civil veterinary and agricultural departments.

Flaying.

3. Numerous knife-cuts.

4. Improved methods of flaying.

5. Yes. Instruction might be undertaken by civil veterinary department and annual competitions with rewards for best work might be held at suitable district centres.

6. Yes.

7. Probably through the medium of trained supervisors.

8. We understand a bonus system is operative in Great Britain but we have no details nor do we know to what degree it has proved successful or otherwise.

Curing and preserving.

9. No information.

10. None that we know of or have experienced.

Adulteration.

14. Yes, loading (mud, blood and salt) exists particularly when prices are high.

(a) Exporters endeavour to equalise matters by deductions of allowances.

Other defects.

16. Heavy branding remedied by instruction.

17. Roughly 50 per cent. but we have no data on which we can rely to give any really accurate estimate.

(b) Collection, marketing, export, etc.

18. Raw hides purchased for export probably pass through one or two hands before they reach the dealer who sells to the export house, generally through commission agents at the various market centres and ports. The export house does the selecting, grading and preserving.

19. No suggestions.

20. No.

21. No remarks.

22. Selection as customary, well known in Karachi and up-country sources of supply to Karachi.

23. No.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a), (b) and (c) Yes.

25. None that we know of.

V. ADVERTISEMENT.

34. Yes.

35. No suggestions.

VI. COST OF SCHEMES PROPOSED.

36—38. No suggestions.

39. On all exported goods only, raw and tanned, on which the collection of cess can be made easily and cheaply through the Customs, and avoid what otherwise would necessitate very elaborate and costly machinery for its collection, thus using up cess funds which could be utilised more profitably elsewhere.

40. We suggest an all round levy of Rs. 2-8 per bale on all hides and skins, raw or tanned. Taken as a whole we consider this would work out equitably and would certainly simplify collection of cess through the Customs. In our opinion, India's position as regards raw hides exports would be improved materially if the present export duty was replaced by such a cess.

41. Five years at least.

42. Simplest possible, similar to cotton cess, as to give Customs and exporters minimum trouble.

Written Statement, dated the 7th November 1929, of
Messrs. YOLKART BROTHERS, Karachi.

1—2. We consider it practically impossible to give any near estimate. Only export figures are on record. There are no means at our disposal for estimating the quantity of hides and skins either used for local tanning or for other purposes in the country.

3—7. We have no information and have no suggestions to make.

(NOTE.—The above is in reply to para. 5 of the forwarding letter of the Questionnaire.)

I. Our firm is interested at Karachi in the export of hides and dry cow buffalo hides. We have been in this trade since many years. We are not interested in the export of framed hides. We have been interested for a time in the export of goat and sheep skins, but this branch has been given up by us and we do not feel competent to give evidence on any questions connected with skins. We are not interested, either in India or outside India, in any associated trade or industry. Our replies should be read as having reference to the dry cowhides-buffalohides trade, unless otherwise stated. We are buying our hides in Sind and the Punjab market centres. We are not familiar with conditions in the United Provinces or on the Calcutta side.

II. The proceeds of a cess could be spent profitably for the benefit of the industry:—

1. Export trade of hides and skins by trying to introduce improved methods of flaying, preparation and preservation; by studying means for stamping out some diseases; by encouraging improved breeding and also more careful treatment of animals.
2. Tanning industry for research work (tanning and tanning material) and tanning schools. Particularly for training of foremen and workers and introduction of improved methods suitable for small village tanneries.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. In Sind, and particularly in the Punjab, very important damage is done through the warble fly. We are not aware of any diseases or any other pests which are habitually prevalent in Sind and the Punjab, the effect of which would render hides useless for export, or would depreciate their quality.

2. A portion of the cess should be allotted to the veterinary and agricultural departments, particularly with a view to study and check the warble fly and to study and take measures in connection with any other diseases or pests that might from time to time threaten cattle.

Flaying.

3—8. Careless flaying undoubtedly exists and a badly flayed hide depreciates considerably in value. We can say, however, that we have noticed a definite improvement during the past 20, or even 10 years. We believe that people are beginning to realise that a hide is well worth of careful treatment.

We, therefor, consider that no particular action is necessary by way of appointing flaying instructors, supervisors or flaying parties. But we recommend that this subject should be handled by the agricultural department, or even more appropriately by the veterinary department and should

be the subject of instructions in veterinary and agricultural schools with a view to educate people as occasion arises.

Flaying, we understand, is best performed immediately after the slaughter of an animal. Flaying is difficult if the animal has been dead for some time and improved flaying methods would be of little value in these latter cases. Religious susceptibilities may definitely prevent an improvement in many cases.

It is perhaps not out of place to mention in this place that some 20 years ago a very large portion of hides was very badly damaged by branding marks which were inflicted against various illnesses. Such brand marks have now become comparatively seldom, which we attribute to a better understanding of the value of a hide and probably also to a greater trust in the veterinary service.

Curing and preserving.

9. In other countries, with colder climates, a large portion of hides are slightly salted and kept in a damp state until they reach the tanneries. This is a procedure which does not seem to be practicable in India, at least for that portion which, in the ordinary course, is meant to be exported. These hides are salted and dried, or framed, dried and poisoned, or just sun dried and poisoned. The poisoning is usually done by the exporting firms and not in the production centres.

10. If done in a proper way, these methods are quite adequate.

Serious damage may develop more particularly during the summer months, if the hides are dried by direct exposure to the sun, instead of in protected spots. Very serious damage is also fairly often noticeable through insects, caused by inadequate storage in the interior if hides are held for better values. This latter complaint is more particularly applicable to conditions in the Punjab. In Sind hides are brought in for sale fairly regularly under all market conditions, whether prices are high or low; but in the Punjab hides are kept away from the marketing centres whenever prices decline. Damage through inadequate storing accommodation is inevitable.

11. Hides should be properly cured (poisoned) before storage and should be stored in well ventilated and well covered godowns; even well preserved hides are subject to deterioration under bad storage conditions.

As regards damage by direct exposure to the sun, we think that here again the agricultural department, and, in particular, the veterinary department, could do a great deal in educating people to prepare hides in a proper manner. It is only fair to point out here again that sun-burnt hides are much less in evidence nowadays than they used to be some years ago. We further notice that hides, generally speaking, are better stretched and present, as a whole, a better appearance than they used to in past years.

12. No.

13. We do not think this is necessary. We believe that all the usual curing solutions contain arsenic as a preserving agent and it would not be convenient to distribute this poison indiscriminately. So far as we are aware, any merchants of standing can obtain, even now, a licence for a quantity of arsenic, but we believe this facility is rarely made use of, except at ports of shipment.

Adulteration.

14. Loading does exist, but usually not in a serious form. (This applies to Sind and the Punjab only.)

During periods of low values there is usually little reason for complaints. During periods of high values and keen competition loading is practised more extensively. Hides are smeared over with earth, or with a mixture of salt and earth; sometimes haying is done badly on purpose so that hides are contained in deliveries with flesh attached to them by the pound.

Such loaded hides require special treatment, but in spite of additional attention at extra cost, they usually retain their bad appearance and thus may lower the quality of a whole consignment.

15. We cannot suggest any effective action to combat such practices.

Other defects.

16. Hides of Indian cattle suffer from a number of minor or larger defects on the grain side. These are due to living conditions peculiar to this country. Practically the whole year round the cattle remain in the open and are more liable to bruises, cuts and minor injuries, than stable-bred cattle. Cattle straying about in the jungle are particularly exposed to minor hurts. Such injuries all show after tanning and lower the value of the leather. We do not see any possibility of overcoming this peculiar difficulty. We believe that conditions will improve automatically with an improvement in agricultural conditions and methods.

17. We do not think that sufficient statistical material exists for the basis of an approximate estimate.

(b) Collection, marketing, export, etc.

18. Hides meant for export pass through one to two hands before they are being entrusted to an *arhatia* for sale to an exporting firm. It is the exporting firms who grade the hides and cure them with a suitable preservative.

19. We have no suggestions to make.

20. We consider that co-operative marketing by the producer is not feasible at the present time. (*Vide* our answer to question 23, 2nd paragraph.)

21. We have no suggestions to make.

22. *Quality*.—Firsts, Rejections, Double Rejections, Fourths. Fourths are not exported as a rule.

Assortments.—Lights (2-8 lbs.), Medium (8-12 lbs.), Heavies (12-25 lbs.), Extra Heavies (over 25 lbs.). There is also a marked difference between summer hair and winter hair. Each exporting firm has its own quality standards, but the difference between the various standards is small.

23. We consider a system of standardisation not feasible at present.

Co-operative marketing and standardised grading have been tried out in Switzerland with success. The Butchers Federation in that country own efficient warehouses in various collecting centres which are under their own supervision. All hides, as they are produced, are sent immediately to the nearest collecting warehouse, where they are graded and stored until they are offered for sale by periodic auctions. Such a system presupposes a very close union of the interested parties. We believe neither the Sind nor the Punjab districts are ripe for such close co-operation.

IV. TANNING AND ALLIED INDUSTRIES.

24—33. We have no observations to make.

V. ADVERTISEMENT.

34. We have no observations to make.

35. We recommend that the proceeds of a cess should be applied as follows:—

50 per cent. to go to the tanning industry to be spent on specific lines in connection with.

- (a) Research on tanning methods and tanning materials,
- (b) superior tanning schools, one of which should be situated in the Punjab,
- (c) a number of small district tanning schools in every presidency for the purpose of training labour and foremen, having also special regard to the improvement of the village tanning industry within their particular needs.

40 per cent. to go to the agricultural department and the civil veterinary department with instructions to be utilised for special purposes in connection with,

- (a) improved methods of flaying, preparation and preservation;
- (b) for studying means for minimising the ravages of the warble fly and other pests;
- (c) for encouragement of improved breeding;
- (d) general propaganda work for improvement of general conditions, etc.

10 per cent. should be reserved for utilisation year by year or as occasion may arise at the discretion of a committee for any of the purposes already enumerated or for the encouragement of any deserving new scheme that may be suggested from time to time.

VI. COST OF SCHEMES PROPOSED.

36-38. We do not wish to make any suggestions.

39. We recommend that a cess be levied on all raw and tanned hides and skins, but only on exports. We would not recommend such cess to be levied on the tanning industry as we fear that its collection would be accompanied by unduly high charges. The application should take the simplest possible form, in order to minimise collecting charges.

40. We consider that a uniform charge of Rs. 2-8 per bale should be levied on all raw and tanned hides and skins exported.

A bale of raw hides and skins will weigh from about 1,000 lbs. to 1,200 lbs. Tanned hides and skins are shipped in bales of about 7/800 lbs. We do not expect there will be any large change in packing in the future, so that the bale may quite conveniently be taken as the unit, thus obviating any necessity for complicated calculations or any obligation on the Customs Department to check the weights declared by the exporting firms.

An appropriate charge on the same lines will also have to be fixed on wet-salted hides and skins packed in barrels.

Indian hides are considered to be of an inferior quality and trade is hampered by the imposition of an export duty or by any unnecessary charges. We believe, however, that it can stand a cess, as recommended by us, but such cess should be applied specifically for the benefit of the trade on which it is levied. The cess, as recommended by us, works out at one-fourth per cent. to half per cent. on the goods, according to quality and market value.

According to information obtained from Customs statistics, a cess of Rs. 2-8 per bale would approximately yield the following amounts:—

Average of raw and tanned hides and skins exported from India (including Burma) during the five years 1923 to 1928:—

	Bales.
Raw hides	about 61,600
Raw skins	,, 37,600
Tanned hides	,, 36,700
Tanned skins	,, 18,000
	<hr/>
TOTAL	. 153,900

which at Rs. 2-8 per bale equals the sum of Rs. 3,75,000.

41. We recommend that the cess should be levied in the first instance for a specified period of 10 Years. Any much shorter period would, in our opinion, not be sufficient to try out any scheme.

42. We recommend a specific rate, as helping to minimise charges for collection.

Oral Evidence of Mr. T. WADDELL of Messrs. RALLI BROTHERS, Karachi, on behalf of the Karachi Chamber of Commerce, Karachi.

(Karachi, the 10th December, 1929.)

Replying to Chairman:—I speak as a nominee of, and on behalf of, the Karachi Chamber of Commerce.

My Chamber has members who are shippers of raw hides and skins. No member is a tanner. In India's export trade in raw hides and skins Karachi holds an important position, viz., the second after Calcutta. Our trade is in dried arsenicated hides.

Messrs. Ralli Bros'. memo.—Q. II.—We support the cess.

Q. 4.—In my opinion, the better price of a well-flayed hide has proved to be a remedy. Karachi hides are 65 to 75 per cent. first class or sound. About 25 per cent. are seconds; the rest thirds and fourths. Percentages differ with the season, i.e., in the winter and the summer seasons. We make deductions for bad flaying; the hide falls into a lower category according to its flaying and other defects. We pay for the hides after our own selections. The trader does attend our selections. He often grumbles and grouses, but ultimately an adjustment takes place. The majority of the hides in Karachi are slaughtered hides.

At Cawnpore Ralli Bros. buy a special class of hides, viz., the Agra and North-Western well-flayed, clean-cured framed hides. Germany and Spain import these in large numbers. All hides that come to Karachi are air-dried arsenicated hides.

Q. 7.—There are not many large slaughter-houses in Sind. The producer and butcher seem to have a joint interest. In 1928 the price of hides was 12 annas per lb. and of meat 6 annas per lb. It then paid to slaughter animals. The trade itself makes ample allowances for loading and thus tries to discourage it.

Note.—Q. 8.—By this note I meant that there are not numerous large slaughter-houses.

The following are the proportions of hides of animals actually slaughtered for food to fallen hides. They are, however, proportions of hides arriving in those markets and not of those produced in the areas served by those markets. There should not, however, be any great difference between the two, i.e., between arrivals in the markets concerned and production in the areas served by those markets.

Name of slaughter-house.	Slaughtered, i.e., actually killed for food.	Fallen.
1. Amritsar	65	35
2. Lyallpur	85	15
3. Sukkur	97	3
4. Hyderabad and Multan	75	25

Q. 14.—At low prices it does not pay to load. The rail freight remains the same. Hence rail freight proportionately goes up. The trader soon realises that it does not pay. When prices are low, the buyer has the market under his control and not the seller.

Q. 15.—In the past we have always been able to do this, i.e., recover allowances for loading.

Q. 39.—Cess should be levied both on raw and on tanned hides and skins. Skins should not be left out.

Q. 40.—Bale.—The bale contains a certain number of pieces. Weights vary. Average price of a bale bought by us wholesale at Karachi is Rs. 500, i.e., we recommend about half per cent. cess on the average value of a bale.

The cess rate would vary from half per cent. to nearly one per cent. as the bale value varies from Rs. 300 to Rs. 500. We are not tanners and do not know much about it. We do not lay much stress on the figure of Rs. 2-8 for bales of tanned hides.

As regards skins we did not take casks into consideration. We did not think of wet-salted skins in casks. A bale of dry skins would be worth about Rs. 600 to Rs. 700.

Rs. 2-8 is for a bale of dried skins, *i.e.*, at the specific rate recommended by us the cess on skins would be a lower *ad valorem* figure than that on hides.

We have not said so but we recommend the cess on the assumption that it replaces the duty, *i.e.*, that the duty is removed.

Replying to Mr. Price:—Messrs. Beaumont & Co.'s memo.—Page 426—Mark A.—We agree that the export duty reduces prices lower still. India has to compete with the world. Low prices reduce arrivals in Karachi. I shall supply a copy of a statement showing values against arrivals for a certain number of years.

Conditions this side of India—predominantly Muslim—are fundamentally different from elsewhere in India. Hence the difference between the proportions of slaughtereds to fallens. Animals are looked after from the meat point of view. I agree that the meat and hide trades are intimately connected. With good hide prices meat tends to become cheap. Export duty undoubtedly comes off the price of the hide. It tends to raise the price of meat by making meat scarce.

I do not know whether cattle are in excess of fodder supply. Since 1919 I have not had any such experience. In the Karachi hinterland I think fodder supplies are ample. I have travelled up to Cawnpore. The Sind animal is not a big animal. You seldom get a hide weighing over 25 lbs. But it is a better class of animal giving a better hide. Perhaps it is due to slaughtering for food.

Old and decrepit animals are not maintained in Sind. No sentiment enters into the business.

Messrs. Ralli Bros'. memo.—Q. 1.—A framed cow hide undoubtedly involves much more labour. The motive is economic, *viz.*, to get as best a price as possible. As a merchant I consider these activities, *viz.*, stretching, cleaning, etc., beneficial to the country. But the primary producer has to pay a higher duty as the duty is *ad valorem*. The export tariff valuation of a framed cow hide is annas 10 per lb.; that of an unframed one is annas 6-9. The difference is annas 3-3 and is due to the fact that the hide is better and embodies labour and care. An *ad valorem* duty tends to tax the extra labour, etc., put into the work done in the country itself. An *ad valorem* rate increases the amount paid as duty by including in the tariff valuation the amount spent for improving the quality of the hides to be exported, *i.e.*, if an *ad valorem* method is followed any successful work of the Committee would tend to tax labour, etc., applied in India to the articles exported.

Q. II.—The prime producer should be the first man to be helped. We have not heard of bad flaying of skins. Skins are pulled off. This is usually done by Mussalman butchers, who are strong hefty fellows.

It is to the tanners' interest to bring about improvement in flaying.

I know India does import manufactured leather and leather goods.

I think tanners in India can command a good home market if they care to buy up the best hides rather than the worst ones as they do at present.

Q. 1.—There is room for investigation regarding the warble as there is difference of opinion as to how the warble gets in.

Q. 4.—Our system gives full value for good flaying. The economic incentive is and should be enough. I agree that the careless buyer harms India's real interests. But so far as I know there are no such buyers on this side of India.

Q. 9.—On this side of India salting is not done. This means saving on freight, etc. In skins salting is done; but not in hides.

Q. 34.—By this I mean the Karachi hinterland. The methods of marketing at Karachi penalise trade malpractices. Often a merchant does not allow enough time for complete drying. But he gets his lesson. We buy in up-country stations and do our own despatching from there. We do not buy on railway receipts.

Q. 35.—If India could improve and at the same time advertise the improvements, advertisement would be of use. The general opinion is that Indian hides are poor. Hence improvements have to be advertised.

Q. 40.—I mean cow hides and buffalo hides. India does not hold a monopoly in buffalo hides. A few years ago there was a demand from America for Indian buffaloes because they were cheap in comparison. But the position is totally different now.

Java alone exported a quarter of a million buffaloes in the first ten months. Java buffalo and cow hides are better than Indian ones. (Note.—Mr. Price said:—There is no export duty on Java hides.)

Q. 40.—As to the proposal for having a specific cess, viz., a cess per bale:—

We mean that we have to pay something in addition to the duty. Customs people have to be notified. They send their appraiser. 5 per cent. bales are weighed. Then duty payment certificate is issued. All this is bother. The system is faulty. We do not complain against Customs people. We have to pay the appraiser as below:—

Rs. 3-6-0 per hour.

Rs. 2-0-0 for carriage or conveyance.

Re. 0-8-0 a bale for sorting out, etc. (This, however, is not paid to the appraiser but is incurred by us.)

If there are only a few bales to ship the cost is proportionately larger. The small man is disproportionately handicapped.

Replying to Chairman:—Inspection at godowns is convenient to us. We prefer it to inspection elsewhere.

Replying to Mr. Price:—**Q. 41.**—I put down 5 years as the term for the cess. But I have since thought of the question in greater detail. No man would take a job for 5 years. I would therefore double the period. 10 years would be a better arrangement for the staff and for giving the cess fund a proper chance.

Replying to Chairman:—The reason why I would limit the cess to 10 years is the same as the one for which I first put down a 5 years' term. This 3 years' term was suggested because we did not wish to get committed to a cess for ever with all the vested interests which are bound to arise.

Replying to Mr. Price:—From Jodhpur and Bikaner we do not get hides though we get bones.

There is a market in Spain for very poor quality hides. They are used for orange basket thongs.

I think a good deal of the waste is due to religious sentiment. Everything practicable should be done to improve the cattle and the hide.

Q. 40.—The primary producer should be the first to benefit. The difference between the duty and the cess is bound to go to the primary producer. When cattle and hide improve, the benefit will again go to him. The tanner is bound to benefit by the improvement of hides. Hence the tanner should contribute a little towards the cess. He should not get representation if he does not contribute.

I have heard about the liaison between the Imperial Council of Agricultural Research and the Indian Cotton Committee.

Replying to Mr. Wykes:—A cess as proposed by Messrs. Volkart Bros. would yield 3½ lakhs. It is difficult to say that this will suffice for all our schemes. But we suggest small beginnings. The surplus would be left to accumulate. These should be built up. We realise that the improvements suggested amount to a tremendous undertaking.

If cess money were spent with profit to India and if experience showed that more cess would mean more profit to India, I would not object to the cess proposed by us, viz., Rs. 2-8 per bale being raised, e.g., doubled.

On bales of tanned leather, I agree that Rs. 2-8 specific would operate prejudicially on different qualities. We are against the present system of an *ad valorem* duty.

Our selection is a well-known standard. We ship framed hides on the Hamburg specification, and the rest on our own specification with the "R. B." mark.

We have tried often to sell combinations of seconds and thirds with firsts. But we did not succeed. We have to wait for disposing of our seconds and thirds. Madras tanners have now come in. They take the cream of the arrivals from the upcountry markets which supply Karachi market. There is no combine here at Karachi among the exporting firms. We are friendly but are keen competitors.

I can distinguish a sun-burnt hide from a sun-dried hide. We do not dry hides in the shade after tanking them. I do not know if hides are dried in the shade when taken off the animal.

Replying to Mr. Rafique:—The Karachi Indian Merchants' Association has some exporters as members. For example, last year we had Messrs. Nizamuddin & Co., who exported. Mr. Bundally Kassim used to export. He is also a tanner, and deals in skins. Haji Mir Bakhsh Maula Baksh is also a tanner and a big dealer in hides.

None of the European exporters except Messrs. Beaumont & Co., deals in skins.

The Indians do a much bigger business than the Europeans at Karachi.

Our firsts are not all flawless. Some of the very best hides are produced in the Punjab. Our 65 per cent. firsts do not mean that they are not flawless. But such flaws and defects as are there are small.

My statement that I would have no objection to the cess being raised or even doubled is subject to my trade remaining unaffected.

The Indian hide is cheap today, but even then inquiry is poor, because comparatively cheaper hides can be had today from elsewhere in abundance.

As to the headquarters of the Committee I thought at first it should be equidistant from the important centres. But as the Committee will be permanent, the headquarters should be where the Committee would be in touch with research, e.g., Calcutta.

Replying to Mr. Shah:—The figures of proportions of slaughtered to fallens were given by our own agents.

For purposes of the cess our use of the phrase tanned material does not include tanning materials or leather but only tanned hides and skins.

Arrival figures are figures of exports by sea from Karachi.

The *chamar* does exist in Sind. But he skins dead animals.

As to the charges levied by the Customs appraiser some may not be legal. We have not agitated directly or through the Chamber. We want peaceful and quiet trading.

It is difficult to secure the representation of the primary producer. But if feasible it should be secured. Representation on the Committee should be such as to secure all the interests concerned.

The Jodhpur-Bikaner phenomenon may be due to the system of contracts for fallen hides. Even when prices are good, hides do not come in large quantities from these States. But there may be a point at which they may come in.

Replying to Mr. Price:—India has not a monopoly in goat skins but has a good market. She has to compete with other countries, viz., North Africa,

Angora, etc. I cannot say how Indian sheep skins and wool compare with those in other countries.

I would not like a cess to be imposed on bones and hides cuttings, etc.

Statement subsequently sent by witness.

EXPORTS OF HIDES.

Karachi.

Year (January— December).	Quantity.	Value.	Average value per ton (2,240 lbs.)	Average value per 28 lbs.
	Tons (2,240 lbs.)	Rs.	Rs.	Rs.
1914	4,126	64,39,609	1560 5936	19 5074
1915	6,525	1,06,66,972	1634 5345	20 4317
1916	8,676	1,58,94 866	1831 0500	23 9006
1917	4,594	93,38,125	2032 6775	25 4065
1918	2,774	42,35,225	1526 7574	19 0615
1919	12,345	1,93,55,873	1567 9119	19 5869
1920	2,762	34,54,957	1259 8895	15 6361
1921	2,664	16,22,549	786 1187	9 8235
1922	1,798	14,76,953	821 4422	10 2660
1923	2,244	17,61,826	785 1275	9 8141
1924	1,614	16,03,453	998 4839	12 4185
1925	2,119	27,42,038	1294 0245	16 1753
1926	2,770	26,51,009	957 0430	11 9630
1927	4,482	45,18,926	1009 2367	12 6030
1928	7,592	1,05,49,639	1389 5732	17 2697

**Oral Evidence of Mr. C. S. G. HAJI, Veterinary Inspector,
Civil Veterinary Department, Lower Sind.**

(Karachi, the 11th December, 1929.)

I have been nominated by the Government of Bombay to give evidence. I have submitted no written evidence.

The cattle disease most prevalent in Sind is rinderpest. At present to combat it we use the "serum alone" method. But if funds be available, we could combat it by the "serum simultaneous" method. Other diseases affecting the hides and the skins of animals are due to internal worms, *e.g.*, the fluke disease (or liver rot) in buffaloes, cattle, sheep and goats, and parasitic gastritis in sheep and goats. Fluke disease can be treated but the treatment would be very costly. The treatment of parasitic gastritis is very cheap.

Pests.—The warble is common in certain parts of Sind but not everywhere. People are careless. They do not worry about the warble and consider it an unimportant matter. Ticks and lice come next, as pests.

Replying to Chairman:—As regards ticks we do not do dipping, etc. In some parts of Sind the warble is common. It is prevalent in June to August. The larva comes out in April. Squeezing out the larvæ is an efficacious method, but it is not easy to apply it.

Tick grease is a patented emulsion and is effective. But it is expensive.

Replying to Mr. Price:—Rinderpest is not the same as pox. Rinderpest is not always fatal. A certain percentage of cattle recover. It is contagious. The serum injecting method is the ordinary method for preventing it. I cannot say what the cost of immunizing 1,000 cattle would be. Ordinarily the cost would be about 4 to 5 rupees per animal.

The scrub bull is of no use to man and is even harmful. We would, however, carry out the owner's request to save the scrub bull. In Thar Parkar there are many scrub bulls. In a country like India rules cannot be applied hard and fast. Hence even scrub bulls would have to be kept alive by us, if so requested by the owners.

The warble settles on the skin and bores a hole through the hide. The eggs are laid on the animal's legs. The life history of the warble is obscure. It is possible there may be a stage in its career when it can be tackled. A scientifically trained entomologist would be needed.

Ticks are found on cattle more than on goats. Ticks can live a long time without food. They are difficult to destroy.

Government have got a cattle-breeding farm at Malir near Karachi. There are few ticks there. Cattle there are looked after well and the herd is small.

Fluke worms are internal parasites. A sheep is worth 10 to 15 rupees. Sheep in Sind are poor animals. They weigh about 40 lbs. The goats are good and give good milk. In some parts of Sind goat meat is cheaper than beef. The meat of sheep affected with the fluke is edible in the early stages. In the later stages it would not be passed by slaughter-house authorities. The life of sheep can be saved from the fluke worm for 2 to 4 annas.

Replying to Mr. Wykes:—The normal life of a goat has not been ascertained, as they are usually slaughtered. Even a month-old kid is slaughtered. Ordinarily young ones but sometimes goats older than 18 months are slaughtered.

I have not noticed any shortage of goats in Sind. They have kids twice a year. Each time one or two kids.

If I had more money I would first set up more dispensaries. Sind has 18 at present. Headquarter dispensaries cost Rs. 10,000 per annum. (This does not include the veterinary assistant surgeon's pay.) Mofussil dispensaries cost about Rs. 4,000 per annum. There are no travelling dispensaries in Sind.

Replying to Mr. Rafique:—The Sind Veterinary Department's annual budget is one lakh and odd. We have been spending the money on the prevention and cure of diseases. Formerly we used to issue instructions in the vernacular but now the department is better known and therefore we do not issue the instructions any more. Though sufficient propaganda has been done, there is still scope for more. The proportion of the cost of local boards to Government's grants-in-aid and other help in respect of dispensaries will be given by me in the form of a statement. At present we have dual control. Veterinary assistant surgeons are government servants.

I see no objection to cess money being spent on veterinary work though the latter is classified as provincial.

In Sind too we get brand marks. Branding is resorted to as a cure against disease and for identification. In lameness it amounts to fring and is 50 per cent. effective.

I cannot say how much money will be needed for research into the life history of the warble fly.

Dipping is not a practicable proposition for ticks. The advantage would not be proportionate to the cost.

Replying to Mr. Shah:—From the point of view of the work of the veterinary department the problems of Sind are no different from those facing the rest of the presidency.

Replying to Mr. Price:—Cattle of Karachi breed are better than elsewhere in the presidency.

I have never had to refuse assistance in Sind for want of medicine.

Statement subsequently sent by witness.

STATEMENT OF COST OF THE CIVIL VETERINARY DEPARTMENT, 1928-29.

	Veterinary Assistant Surgeons.		Veterinary Inspectors.		Superintendence.		Maintenance and equipment, etc.		
	Veterinary Assistant Surgeons.	Other establishment.	Veterinary Inspectors.	Other establishment.	Superintendent.	Other establishment.	Dispensaries.	Purchase of sera, etc.	Offices.
1	2	3	4	5	6	7	8	9	10
Total expenditure .	34,906	24,365	7,143	2,014	12,044	6,935	24,924	17,274	4,435
Government share	29,875	(A)	7,143	2,014	12,044	6,935	14,442	17,274	4,435
Share met with from Local Funds (including fees).	5,031	24,365	—	—	—	—	10,482	—	—

(A) Government grant-in-aid towards maintenance (establishment as well as equipment, etc.) is shown in column 3.

**Written Statement,* dated the 16th December 1929, of the
Karachi Hides and Skins Merchants' Association, Karachi.**

I. Our Association is an association of raw hides and skins shipped and *arhatias* (commission agents) as well as of tanners and shippers of tanned hides and skins.

II. Yes.

III.

EXPORT TRADE.

(a) Quality of hides and skins.

Cattle diseases, pests, etc.

1. Fox, itch, warble fly.
2. Research work by civil veterinary department and agricultural department. Method of foreign advanced countries enquired and worked.

Flaying.

3. Numerous cuts and careless removal leaving flesh on hide cause putrefaction.

4. The present system should be improved by importing latest knives and machinery from the Continent.

5. Yes. Veterinary inspectors with demonstrators should be appointed to tour the various districts. If proper methods are adopted a butcher or a *chamar* will fetch more for hide.

6. Yes.

7. With the help of trained supervisors.

8. We are not aware.

Curing and preserving.

9. No information.

10. No important defect.

Adulteration.

14. Yes. Heavy loading is done with mud, blood and salt, especially when prices are high and on advance.

15. Only the trade itself can deal with and efforts are being made to combat this practice.

Other defects.

16. Iron brands and marks seriously affect the value of hide. Effective propaganda should be made to stop this bad and cruel practice.

17. Roughly 25 per cent. as far as our districts are concerned.

(b) Collection, marketing, export, etc.

18. The hides change several hands. From a butcher (in case of slaughter) and from *chamar* (in case of dead) it goes to a village *bepari*, then to central market with an *arhatia* and finally to a shipper or a tanner. The shippers treat them with arsenic and after drying grade them into various weights and assortments and finally press them for export.

19. Nothing to suggest.

20. Not feasible.

21. Quick transport and reduced freight badly wanted. Much damage is done to consignments in transit and railway authorities be asked to take more care in handling and to expedite the transit of hides and skins.

* This was received after the oral examination of the Association was over.

22. Karachi has a standard selection, namely, firsts, seconds and thirds.
 23. Standardisation and grading for export only exists.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a), (b), (c), (d) Yes.
 25. Nothing available in Sind.
 30. Not so important because the existing institutes at Madras, Cawnpore and Calcutta are quite sufficient for the whole of India.
 32. No tanstuff except babul and mangrove is available in Sind. Efforts should be made with the help of forest department to grow *avaram* (*tarwar*) which is chiefly used in Karachi tanneries.

V. ADVERTISEMENT.

34. Yes.
 35. No suggestions.

VI. COST OF SCHEMES PROPOSED.

- 36—38. Let the amount of cess be first fixed and then we work up a scheme accordingly.
 39. On all hides and skins that are exported, whether raw, full tanned or half tanned.
 40. We suggest Rs. 2-8 per bale on raw hides and skins and As. 8 per bale on tanned hides and skins.
 41. Five years at least.
 42. Per bale (specific) which is simplest possible and which will avoid Customs delay and extra expenses as experienced *ad valorem*. A low cess will have the slightest effect on industry, we expect better results. We do not favour a cess unless the export duty tax is removed.

VII. CESS COMMITTEE.

43. Yes, we suggest three from Karachi. One from tanneries, one from raw hides shippers and one from raw hide commission merchants.
 44. Nomination by the Governor General in Council on the recommendation of the interests concerned.
 45. All by statute.
 46. Yes. Nomination to be left to Local Government.
 49. Yes. According to prevailing conditions.
 50. Yes. Chairman and paid permanent Secretary.
 51. To utilise the fund for the best possible improvements in raw and tanned hides and skins.
 52. Funds to be collected by Customs office attached to Commerce Department.
 53. Yes.
 54. Yes. One permanent specialist, all round efficient man, like Capt. A. Guthrie of the Leather Trades Institute at Madras, be appointed who can give advice to various provinces.
 55. Headquarters at Calcutta. Branches at Karachi, Madras and Cawnpore.

Oral Evidence of (1) Mr. BUNDALLY KASSIM (of Messrs. Gulam Halder Bundally), (2) Mr. ALIDINA ALI MOHAMED (of Messrs. Alidina Ali Mohamed), (3) Mr. NAZIR HUSSAIN (of Messrs. Mehrbux Moulabux), (4) Mr. MOHAMED ISMAIL (of Messrs. Mohd. Ismail Mohd. Ashraf), and (5) Mr. SHAMSUDDIN (of Messrs. Nizamuddin & Co.), on behalf of the Karachi Hides and Skins Merchants' Association.

(Karachi, the 12th December, 1929.)

Replying to Chairman:—Mr. Bundally Kassim will speak for the Association. We are here to give official evidence on behalf of the Association. We have not sent a written statement. We never got the questionnaire as an Association though some individual members got copies. Messrs. Shamsuddin and Nazir Husain are members of the Indian Merchants' Association, Karachi. Mr. Nazir Husain is a member of the Buyers' and Shippers' Chamber, Karachi.

We know that the Karachi Indian Merchants' Association has sent in a reply. We have seen it. There are no other members of that Association engaged in the export trade besides ourselves. No other member is in the tanning industry. We were both on that Association's sub-committee of five members which considered the questionnaire. The reply of the Chamber is based on that sub-committee's report. The other three members of the sub-committee were not connected with the hides-skins trade or the tanning industry. The whole sub-committee accepted the Association's replies to the questionnaire except that we two did not accept certain views of the Association about the *ad valorem* basis and the removal of the export duty.

(Mr. Nazir Husain said:—I have not seen the replies sent by the Buyers' and Shippers' Chamber. That Chamber has no other buyer, shipper or tanner member. Haji Ramzan Hashim is a *bepari*. He is also an exporter to the Persian Gulf.)

We, two members of the Karachi Indian Merchants' Association, differ from that Association's replies to the questionnaire on the following two points; otherwise we agree. The two points are (1) the Association's view that the cess and duty should both be on an *ad valorem* basis. We hold that the cess should be on a specific basis. (2) We are not against the removal of the present export duty. We do not agree that the present duty is good for the country. We are against the Association's proposal that the cess should be levied at 5 per cent. In our opinion, the proposal will hit the export trade heavily.

Replying to Mr. Price:—Mr. Bundally Kassim is the biggest tanner in Karachi. I have experience of the export of both raw and tanned. We have no trouble at present with the passing of the tanned stuff through the Customs, but as regards the passing of raw hides and skins, we experience trouble.

We think the cess should be levied on the specific basis per bale, and not *ad valorem*.

Our experience is that when hides and skins are dear, meat is cheap and *vice versa*. When the price of skins was forty five pence six weeks ago, mutton was selling at As. 8 per seer. Now that the skins market is thirty five pence, meat is As. 10 to As. 12 per seer. Same as regards hides and beef.

Mr. Bundally Kassim's firm ships framed hides. Framed hides are worth more money because they embody more labour. The labour so put in is

Indian. The present duty taxes labour also. The cess will be of benefit to the industry as a whole. The value of hides and skins will rise as a result of the expenditure of the cess. If the export duty remains at 5 per cent. *ad valorem*, the labour so put in will be taxed.

We two members are in favour of a cess but on a specific basis. Whether the duty remains or a cess takes its place, it should be on a specific basis. The cess should be Rs. 2-8 per bale of raw and As. 8 per bale of tanned hides or skins. As a tanner, I would like to be represented on the Committee. I would for that purpose make tanners contribute to the cess.

Apart from us, the Karachi Indian Merchants' Association and the Buyers' and Shippers' Chamber do not know anything about hides and skins. They are interested in grains, sugar, iron, seeds, etc., but not in hides and skins or in leather.

Replying to Mr. Wykes: *Qs. 16—17.*—We accept the figure of 25 per cent. That will cover all defects. We have not gone into detail as regards the amount of the loss to India, but we know it must be great. The cess as proposed by us will yield four to five lakhs a year. If the Cess Committee's opinion is that more money is needed for real improvement, we shall, at the end of five years, be prepared to consider whether the rate should be raised. For the present it should be no higher than proposed by us.

Karachi has five tanners. They ship on the consignment as well as the c.i.f. basis.

(NOTE.—Mr. Shamsuddin said it was his personal opinion that the system on which the export of half-tans is carried on is very injurious to India. This, he said, was due to the fact that the consignment system was followed. The market for half-tans should be established in India. Mr. Alidina Ali Mohamed said something should be done to protect the interests of the consignors of half-tans. Mr. Bundally Kassim did not agree with Mr. Shamsuddin.)

We do not want the cess to be raised beyond Rs. 2-3. If it is reduced to Re. 1-4 per bale on raw exports, that on tanned goods should be reduced from As. 8 to As. 4. But if the cess on raw hides and skins is raised, the cess on tanned goods should not be raised. The Association is not agreed about this. (Subsequently witnesses said that they were.)

Replying to Mr. Rafique:—We think the cess will do good to the trade as well as the tanning industry. Flaying will improve if instructors are employed. Butchers should be instructed. Flayers should be licensed. There should be a tanning school at Karachi for both half-tan and finished leather.

Half-tan is different from full-tanned. Half-tan means just pickled. This stuff is sold in casks. This goes only from Madras but not from Bombay.

Haji Ramzan Hashim is not a member of our Association. He has no permanent office in Karachi. (Subsequently it was stated that he did have one.) He is only a commission agent and has no regular business.

While considering whether the cess should be raised or not, we will keep in view the then condition of the trade in the foreign markets.

We suggest that the Cess Committee should have the following from Karachi:—

- One representative of tanners.
- One representative of commission agents or *arhatdars*.
- One representative of shippers of raw hides.

The *arhatdar* will represent the primary producer.

The Committee should have a representative of leather manufacturers from all over India.

(Mr. Shamsuddin:—The Committee should have representatives of five centres—Calcutta, Cawnpore, Bombay, Madras and Karachi, viz., three from each centre. I do not think there should be any other expert members. The trade members will themselves be sufficient and will provide the expert

knowledge necessary. Experts should be in the Committee's employ. An expert should be an all round man, *e.g.*, like Capt. Guthrie. I was his student at Madras for three years. The headquarters should be at Calcutta.)

The Secretary should be a paid one.

Replying to Chairman:—Our Association was formed a year ago. We found it desirable to form one for our special interests, *e.g.*, meeting trade disputes. All told we have fourteen members, out of whom five are tanners. Of these five, three are also shippers. Seven of the fourteen are *arhatdars*. A majority, *viz.*, nine out of the fourteen are shippers and *arhatdars*. We shall give a list specifying the interests.

We shall now submit a written memorandum in reply to the questionnaire.

Replying to Mr. Shah:—The *arhatdars* serve the five chief exporting firms at Karachi, *viz.*, Messrs. Ralli Brothers, Volkart Brothers, Beaumont & Co., Nizamuddin & Co. and Mr. Bundally Kassim's firm. A new firm (*viz.*, the Indo-Persian Trading Corporation) has just come into the market.

An *ad valorem* schedule so devised as not to tax the additional labour put into raw or tanned hides and skins would be complicated, whereas we desire a simple system. A specific one will be simple.

The cess proposed by us presupposes the removal of the present duty.

The proportion of Messrs. Gulam Haider Bundally's business in the export of raw hides and skins to their business in the export of tanned goods is 2:1. Messrs. Mehrbux Moulabux are only tanners. They have no trade in the export of raw hides and skins. The value of their tanned goods is two lakhs per annum.

None but the *arhatdar* can represent the primary producer on the Cess Committee. Veterinary officers can represent the primary producer. The veterinary officers will be better representatives of the primary producer on the Committee. The *arhatdar* will not be able to spare time and energy such as the veterinary officers will be able to do.

Replying to Mr. Price:—For hides the *arhatdar* charges only Re. 1-9 per cent. and does useful work. This is the net commission charged by him. For skins Rs. 2-4 per cent. is charged. They advance money and take the risk involved therein.

Karachi-made leather is not all exported. A portion—but not a great deal—is consumed locally, *i.e.*, in Karachi and Sind. 75 per cent. is exported to England, etc. Tanners are not helped by Government.

There is no difficulty about poor people buying sandals. There is no dearth of cheap footwear in Karachi.

Replying to Mr. Rafique:—*Arhatdars* should represent the primary producer on the Committee. Veterinary officers will look to the improvement of the cattle, etc., in the villages.

**Written Statement, dated the 18th November 1929, of
Mr. BALWANT SINGH, Industrial Surveyor and
Additional Inspector of Factories, Sialkot
Circle, Punjab.**

I. The undersigned has connection with the tanning industry for the last ten years. He was the owner and manager of a small tannery finishing ten hides a day at Sialkot, was later the factory assistant of Government Model Tannery, Shahdara, for two years and nine months, and lastly was a tanning demonstrator in charge of the tanning and flaying demonstration party for the whole of the Punjab for about a year-and-a-half.

II. (a), (b), (c) Yes.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The chief defects found in Indian hides due to cattle diseases and pests are:—

Warble fly holes, *pori pori* and small pox.

2. The veterinary assistants of the local areas should give wide publicity to the treatment and preventive measures for these defects.

Flaying.

3. There are several defects in the methods of flaying.

The flayers do not use the proper flaying knives and cut too close to the hide. They inflict several knife marks, scores and cuts in the hide.

No proper incisions are given to rip the hides in a regular shape. Even the bone of the tail is not removed and is left intact to make the weight. The legs are skinned right up to the hoofs. Flaying is generally done most carelessly.

4. To improve flaying, proper knives should be used. They must be well selected, sharpened, and bevel edged. The Tasker flaying knife recommended by the English Hide, Leather and Allied Trades Improvement Society is the best found so far. There is the least chance of making scores and cuts with this. Many hides are damaged at the root of the tail when taking off. At present nobody is using tail extractor. This should be used. If the butchers cannot afford, the municipal corporation should put them up at their own cost in their slaughter-houses. Proper incision should be given to be followed for ripping, for getting the hides as square as possible.

The flayer should see that he does not make cuts and scores. He should hold the hide portion to be flayed upwards and the knife should be worked from heel to point. Tail, flanks, ears, etc., should be trimmed off as they are useless to the tanner except for glue.

5. Yes. There should be itinerant flayers attached to the flaying supervisors for particular areas who should go about in the villages and explain things practically as is being done on a small scale by the present party run by the Punjab Government.

6. Yes. The flaying supervisor can have a stock with him and can sell on cost to the village flayers through the itinerant flayer.

7. Yes. The flaying supervisor should train a number of youngmen as flayers and the local bodies should allow only those men for flaying work in their slaughter-houses who hold the flaying supervisors certificates with them. This will greatly help matters and very effectively too. There are some private owned slaughter-houses also in the Punjab and hold the Deputy Commissioner's or Commissioner's licences to carry on their business. In those

cases such licensing officers should be asked to make it incumbent on the licence holders that they must employ a certified flayer for flaying purposes.

8. Yes. In Jullundur Cantonment slaughter-house, the writer found that the flaying was done very badly. The flayers complained that they were being paid very poorly. If they would be paid one anna more, they would do as directed by the writer. The employers of the flayers refused to pay anything more saying that the buying agents of the foreign companies would not mind much about faulty flaying when they hold big orders with them.

Curing and preserving.

9. Have no knowledge of foreign countries.

10. (a) The use of improper salt.

(b) Drying in the sun or over sun-burnt stones in hilly parts.

(c) Some use mud and mug to plaster the flesh side of the hide to increase weight.

11. (a) The use of good clean salt (free from iron impurities).

(b) Drying the skins and hides in shape, preferably in an airy place.

(c) No mud or mug should be used as they have no preservative property.

(d) Properly arsenicating the hides in case they have been dried without the use of salt.

12. Yes.

13. The flaying supervisor should hold a stock and the itinerant flayer when giving demonstrations to the country butchers, who generally flay the hides themselves can book orders from them and sent these on to the supervisor for supply.

Adulteration.

14. Yes. It increases with the demand of foreign buyers.

(a) The foreign buyers naturally begin to look suspicious about the Indian hides.

(b) The Indian tanners, too, have to suffer a loss.

15. The standard and rates of raw hides depend chiefly on foreign buyers, as most of the good hides are exported. At present when the foreign buyers buy in the market and see a lot of hides loaded, they generally deduct one to two seers only in one maund of the weight of hides as an allowance for loading. This encourages the sellers to load well. The writer on explaining the injurious effects of loading to country flayers was often told that it was a question of profits. They said that there was no reason why they should not adulterate and make more money when buyers did not hesitate to buy them. They are not educated enough to look to the future consequences but try to make in the present as much as they possibly can. All this may be mended easily, if the foreign buyers form an association and set up certain patterns of properly flayed, trimmed and cured hides and accordingly issue instructions to their brokers. The raw hide business is very well organised now and there can be no difficulty in getting all these instructions carried out. The buyers or brokers can ask the government flaying demonstrator in case of the Punjab to give a correct demonstration in flaying or curing.

Other defects.

16. The other defects found in the quality of Indian hides are pinpricks and brands.

It is a common practice amongst farmers of North-West Frontier Province to drive their animals by beating them on the butt portion by a stick with a pin or nail at one end. There the hides are generally strong but their best part is all spoilt in this way.

Branding.—It was a common practice formerly to brand an animal on the butt portion for recognition. In Southern India practically the whole of hide was spoilt. This practice is vanishing now but still in cattle lifting areas it exists.

In municipal slaughter-houses there is a practice to burn "P" on the butt of an animal or print it with coal tar. The veterinary assistants in charge of slaughter-houses do it to signify that the animal has been approved by them for slaughtering. This is a very bad practice as both the burning and the tar print remain on the finished leather and make the first quality hide into second class. It has often been brought to the notice of authorities concerned about their injurious effect and to mark the animals with bluish ink (naphthalene blue) rather than with tar. It is observed that this has only been partially brought into practice.

It is, therefore, suggested that a regular circular may be issued prohibiting branding on the hide of animals of all kinds. It may be done on horns or hooia. In case of prinpricks also instructions may be issued to the Deputy Commissioners to warn the farmers of their circles against this practice. Those who still persist in both the cases may be prosecuted for cruelty against animals. This will serve both the purposes.

17. Yes, the value goes down at least by 12½ per cent. according to the present rates of fresh raw hides.

The present rate for first quality cow hides is As. 8 per seer for fresh hides. If there is a slight score, a cut or a brand, it goes for 7 annas per seer. A hide weighing 12 seers or 24 lbs. as first quality costs Rs. 6 whereas second costs only Rs. 5-4, thus losing 12½ per cent. for carelessness.

(b) Collection, marketing, export, etc.

13. Generally it is the fourth stage when hides or skins reach at a shipment place or a tannery in India.

There is only a small number of tanners who get their hides direct from the slaughter-house.

Generally, butchers are the owners of the hides who sell them to different buyers or a contractor who has contracted to buy all their hides at a certain rate throughout the year. The buyers or contractors after salting or drying send them to a broker's godown where the tanners or the agents of foreign buyers buy and send them to ports or tanneries whatever the case may be.

20. Not at present.

23. It is practically the same.

IV.

TANNING AND ALLIED INDUSTRIES.

24. (a)—(d) Yes.

25. None at present in the Punjab.

There was a Model Tannery finishing both bark and chrome leathers equipped with a small laboratory run by the Punjab Government for a couple of years at Shahdara, near Lahore, but it has been closed since the beginning of 1928.

26. Madras has already a well-furnished Government Leather Trades Institute managed by one of the ablest and experienced tanners and chemists in India, Mr. A. Guthrie.

27. Yes. The present Madras institute should become an all-India training ground for leather chemists.

The defunct Model Tannery at Shahdara should be restarted and should become an all-India training ground for tanners and tannery foremen. It is the largest and has the greatest equipment in machinery than any other institute in India. Lahore which is only at a distance of 5 miles from this place is one of the biggest hide markets in India and Amritsar, the chief market for skins in India is only at a distance of about 20 miles.

23. None in the Punjab, except that there is one rural tanning and flaying travelling demonstration party, which helps the country tanners, who number about 53,000 in the province, in learning how to use their present plant and equipment to make a leather of better quality from the hides and materials they are already using. They are also taught the skilful manipulations of English type hand tools. There is also an expert itinerant flayer attached to the party who goes about the important villages where cattle are slaughtered and demonstrates under the supervision of the demonstrator the right method of flaying the hides and their preservation.

29. The Punjab Government is already contemplating to restart their defunct tannery at Shahdara, if funds permit, on much simpler lines than they were working before and for the benefit of country tanners.

30. Yes.

In the Punjab there is at present only one travelling tanning demonstration party working. It is proposed that at least two more parties be formed on similar lines. The present way of the working of the party is that it chooses an important tanning district and then a village in its each *tahsil* for a demonstration. It either hires the pits, etc., needed to conduct the demonstration or builds its own according to the local requirement. The men are explained each process and encouraged to bring their own hides and do as directed. The resultant leather of the demonstration is far superior both in colour and weight to that produced by the country tanners themselves. They would hesitate to learn the use of different hand tools on their own goods lest they are spoilt but would be very anxious to learn on the goods of the party.

It generally takes from 1½ to 2 months to complete a demonstration. They cannot be made experts within such a period. Neither one party can cover up all the province at this rate within a few years. It is, therefore, proposed that at least three parties in all be started and a central place as a tanning institute for those who become keenly interested by seeing the demonstrations be opened up where they may thoroughly master some processes by putting in a year or two.

31. There is at present no export trade of tanned hides or skins from the Punjab. The tanning demonstration party is at present preparing some skins for export to see whether the foreign customers approve them or not.

32. *Babul* bark and myrobalans.

There is enough of *babul* bark and the farmers are putting up a lot of trees of their own accord as they find it profitable. Myrobalans come from Jammu and Kangra side. It is desired that forest department should pay more attention to the growth of myrobalans.

33. Neither of these grow in the Punjab and it is very costly to import them from the south.

It is desired that the forest people should try wattle as it is cheaper than *araram* and is greatly replacing the *araram* bark in tanning.

V.

ADVERTISEMENT.

34. Yes.

VI.

COST OF SCHEMES PROPOSED.

36. Each travelling tanning and flaying demonstration party would cost Rs. 12,396 in the first year inclusive of initial capital. In the subsequent years it will cost only about Rs. 10,000. To run a central institute for tanning as referred to above will cost Rs. 49,000 annually. There will be no initial expenses on the outlay as the Punjab Government has already a well-equipped tannery with them.

The estimates in detail are given below for both the items.

Details of the estimate of the cost of one rural travelling tanning and flaying demonstration party is as under:—

	Ra.
1 Village demonstrator	200—10—250 per mensem.
1 Line yardman	40—2—50 "
1 Tan yardman	40—2—50 "
1 Flayer	40—2—50 "
1 Watchman	13 "
Travelling allowance	2,000
Supplies and Services—	
Variable labour	1,000
Purchase of raw hides and material	2,000
Purchase of tools and implements	400
Purchase of tents and tarpaulin	500
Provision of temporary pits, etc.	1,500
Contingencies, carriage charges, miscellaneous	1,000
Total	12,896

A rough detail of an estimate of the cost of central tanning institute to supplement the work of travelling demonstration party is as under:—

	Ra.
One leather expert	600—40—800 per mensem.
One supervisor	200—10—250 "
One mechanic	100 "
One clerk	75 "
One storekeeper	40 "
Peons, night watchmen, sweepers, gardeners	150 "
Variable labour	500 "
Raw hides and tanning materials	20,000 yearly.
30 scholarships at	15 per mensem.
Power	3,000 yearly.
Unforeseen charges	1,720 "
TOTAL	49,000 "

Out of this sum a return of Rs. 20,000 at least is expected from the sales of tanned goods finished by the apprentices.

37. A sum of Rs. 1,00,000 annually will be required to develop the different branches of the industry in the Punjab.

38. A margin of about Rs. 10,000 has already been left.

39. The foremost point in levying a cess is to see that it should not affect the export trade in an appreciable way. The cess should be levied only on the export trade, both skins and hides. The ports are the best places for collection.

40. The cess should be 2½ per cent. on the cost of goods. It would not have any effect on export trade of India. The world has a special demand for Indian cow hides known as East India kips, with the advent of chrome tannage. The collections made by the cess and spent on the improvement of flaying and curing will all the more enhance the value of Indian hides in the world market and will also help the Indian tanning industry.

41. Yes. It should be levied in the first instance for five years only.

42. I prefer a specific rate.

Different goods have different rates and an *ad valorem* rate may be resented by some shippers.

VII.

CESSE COMMITTEE.

43. Yes.

There should be three representatives from each province:—

- (a) Director of Industries;
- (b) A representative representing tanning interests, and
- (c) one representing raw hides and skins business.

This Committee should be presided over by a representative of Central Government. The Committee should have powers to co-opt members, e.g., specialists.

46. Through the Director of Industries.

53. Yes. At the headquarters of the local Governments.

54. Yes. It will be better to have a special technologist.

55. The headquarters should be at Calcutta and branches at the headquarters of local Governments.

**Oral Evidance of Mr. BALWANT SINGH, Industrial Surveyor and
Additional Inspector of Factories, Sialkot Circle, Punjab.**

(Karachi, the 11th December, 1929.)

Replying to Chairman:—I am in the employ of the Punjab Government as Industrial Surveyor and Additional Inspector of Factories.

Industrial Surveyors receive certain inquiries from the head office and supply information. My jurisdiction now is only six districts. There are four other Industrial Surveyors in the Punjab. I have been in Punjab service since 1925. In 1919-20 I was trained at Madras under Mr. Guthrie. In the beginning I had my own small-scale tannery. Later on I was in the Government Model Tannery, Lahore. This was a failure as a commercial proposition. The machinery is still lying idle. It was meant chiefly for chrome-tanning. The machinery was driven by electric power. We generated our own power at about Re. 1-2 per unit. I was only a factory assistant. I was not in charge of the factory. We trained up about 14 boys.

I have not been nominated by the Punjab Government. I represent only the department of industries. I do not know whether the Director of Industries got Government's sanction for my appearance here for oral evidence.

Q. 1.—*Pori pori* is a small insect which spoils the grain side of a hide. I have not seen it. The mark it makes is a groove or dip—the size of a pock mark. The effect is the same as that of a tick.

Q. 4.—The word is "Tasker" and not "Tesker".

Q. 5.—In the Punjab we have a tanning and flaying demonstrator. He is in charge of a party of three men, one of whom is a flaying demonstrator. Where tanning is extensively carried on, we select a suitable centre for demonstrating tanning. The demonstrator goes and shows how to do flaying. We have finished three of the most important cattle-slaughtering districts. Our reports are in the Director of Industries' office. I do not know if the trade, i.e., the exporter, has appreciated the actual results of our work.

Q. 7.—We do not at present issue flaying certificates. I hold that the department of industries should issue them.

Q. 13.—By stock I mean stock of curing materials. The department should keep the stock. The demonstration parties would act as distributing agencies.

Q. 15.—I hold that most of the good hides are exported.

The deduction for loading is very small. Tanners deduct the same amount. The trade thus do not deduct enough.

Q. 27.—The reasons for this proposal are that it has the largest machinery, equipment and building (3½ lakhs), and thus no initial expenditure would be needed and that Lahore is an important centre of the trade. It would not be run as a commercial concern.

Q. 40.—By cost of goods I mean value of goods when exported.

The reason why I think that a cess of 2½ per cent. would not affect the trade is that 2½ per cent. will give just about enough to finance my scheme for the Punjab which will cost about a lakh a year. 2½ per cent. is not a big enough figure to affect the trade.

Replying to Mr. Price:—In the Punjab cattle are fairly well fed if they are agricultural cattle. *Pinjrapole* cattle are not properly fed, nor are non-agricultural cattle not in milk, properly fed. Punjab has 15 million cattle.

Country flayers cannot afford the cost of the Tasker knife, which is a patented article. It is durable. I have a note of the cost. The knife can be adjusted for use.

I have noted that the price of meat rises when that of the hide falls. In 1921 when skins were dear, mutton was cheap, viz., As. 3 a seer. At present mutton is As. 8 a seer.

The Jullundur meat butchers are careless about flaying. Beef in the Punjab is much cheaper than mutton.

To get good flaying the monetary incentive is necessary.

I found that in a certain place plastering was being resorted to in sundried hides. The tanner in the Punjab is more careful about buying than the exporter. A representative of the Delta Hide Company of Calcutta bought at Lahore overloaded stuff without making full allowance for the loading. He is not buying much now.

Q. 39.—I think the cess or the duty falls on the ultimate consumer.

During the last two years European buyers have been buying a lot. Hence they pay the cess or the duty. My view is that 2½ per cent. cess would not affect the trade. (Replying to Chairman:—I actually worked out the figures in my note by going backwards from the amount of money needed by me.)

The owners of cattle should be represented on the Cess Committee.

By East India kips I mean Indian cow hides, which are not heavy. Up to 13 lbs. are kips. When I refer to the special demand for Indian hides I mean a demand for light weights.

Qs. 39—40.—I think the cess should be imposed only on the export of raw hides and skins. I do not think tanners can bear any cess. India has a dearth of real trained tanners. In the Punjab there are 53,000 tanners. Most of them are starving. The public want chrome and imported leathers, and there is nobody to train up the village tanners to turn out the leathers which are in demand.

Replying to Mr. Wykes: Q. 4.—Municipal boards would hesitate to buy the implements for use by others.

The proper method for flaying is to suspend the carcass.

Flaying of a dead animal is even worse as *chamars* are not expert flayers. They get little practice.

I do hold that a bonus system under proper supervision would lead to improvement of flaying.

Jullundur exports dried meat to Burma.

Q. 16.—Sialkot slaughter-house authorities accepted my proposal for the use of naphthalene blue in place of coaltar for the identificatory branding of cattle intended for slaughter.

The present institutes lay stress on theory and not on practice. Students hardly get a hide or two to work upon per week.

Q. 25.—I think all the 15 students turned out by us have found jobs, some in the Punjab, some elsewhere. Some have set up on their own.

The Cawnpore Technological Institute is too small a show for proper training.

Q. 36.—The cost of my schemes for the Punjab is about 1 lakh. The 2½% cess would still leave Rs. 50,000 for the Central Committee from the proceeds of the cess on the exports from the Punjab.

Q. 40.—Madras tanned goods are semi-chromed abroad. I have done semi-chroming in India from Madras-tanned goods.

Replying to Mr. Rafique:—The Calcutta institute can, I think, become the Central Research Institute for the whole of India.

Mahomedans who are agriculturists are not keen on slaughtering useless cattle.

If there be 8 or 10 demonstration parties in the Punjab, flaying improvement can be effected in about 5 to 10 years.

Q. If you are convinced that a nominal cess would not affect a trade which is making a profit, would you levy a cess on it?

A. The cess would handicap it. The price of a bale of 700 lbs. of tanned skins would be about Rs. 1,900. Supposing the cess were Re. 1 per bale it

would not affect the trade. I would not then object to a cess of Rs. 1 per bale valued at Rs. 1,900.

Tanned hides cannot be put to all the uses to which raw ones can be put. Lighter hides are used for uppers. Heavier Madras-tanned hides are not useful for uppers.

The price of Indian hides is governed by the world price for hides. But Indian light-weight hides are in a special class as the demand for them is special.

By specific rate I meant a definite settled rate.

I would recommend a system which would give the Committee the largest income for any particular rate.

Replying to Mr. Shah:—We are not demonstrating chrome tannage, as it involves a knowledge of chemistry. It is too technical.

We teach the flaying only in slaughter-houses whether big or small.

The figures on which I have relied are the figures of exports from the Punjab to the four ports in India.

My memorandum has been seen by the department but I do not know if it has been approved by the department.

Replying to Mr. Price:—The figure of 53,000 tanners was taken from the latest census report.

Punjab tanneries are all small. They do not do chrome. I do not think chrome-tanning will do as a cottage industry on small lines. I think these tanneries should confine themselves to bark tanning.

Replying to Mr. Rafique:—If my figures are not correct, I would not mind modifying my rate accordingly.

**Written Statement, dated the 4th December 1929, of
HAJI OOSMAN HAJI SALEHMOHAMED,
Bombay.**

I. The tanning industry has been our family business and we have been doing it for the past 40 years. We have had our tanneries at Bombay, Madras, Bangalore and Hyderabad (Deccan). At present we are doing our business in Bombay only. We have experience of all kinds of raw hides, having purchased from Calcutta, Cawnpore, Malabar, Bangalore, Rangoon, United Provinces, Central Provinces and Berar, Khandesh, Poona, Sholapur, Gulbarg, Hyderabad, Bombay, Ahmedabad, Broach, Surat, and various other places.

II. The proceeds of the cess to be imposed on the exports of raw hides may be spent on the tanning and allied industries and also on the improvement of raw hides as detailed below. But it must be clearly understood that the cess should be only on the exported raw hides and skins and that it should be levied in addition to the existing export duty. It cannot be said that the export trade in raw hides and skins is an industry like the tanning industry. The tanning industry is itself an industry which tans the hides completely whereas the preserving of the hides for export is only an export trade. The raw hides which are entering the tanneries are fully tanned and exported and the importing countries have simply to colour or emboss them according to the requirements of the trade and fashion, which often changes. In the case of raw hides for export these are preserved by salting or by drying, after arsenicating according to the climatic conditions. Then these are exported and the importing countries tan and finish them. Thus it is quite clear that the hides tanned in our tanneries are fully tanned and as such these come under the category of tanning industry, whereas the hides preserved for export come under the category of export trade.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

As we are mostly dealing in tanned hides we will take up the question of hides and deal with this subject.

1. Warbles, sores, pox.

2. We cannot make any useful suggestions for the removal of these defects, and this matter may be dealt with by the Cess Committee when formed.

Flaying.

3. Bad flaying which results in deep cuts to the hides which even penetrate as far as the grain side. These are more prevalent in slaughter-house pelts. Bad flaying might be due to many causes, i.e., unskilled flayers insufficient time, insufficient light, indifference of the butchers who have no interest in the hides, as the hides in practically all the slaughter-houses are sold previously on contract to the tanners and by the use of knives which are prepared from the hoop iron.

4. (a) By issuing licences to skilled flayers by the municipalities, or union boards, allowing margin of 5 per cent. for bad flaying and if this limit exceeds then the licences to be cancelled. This procedure will create a fear in the hearts of flayers and thus debar unskilled flayers and careless flayers from the slaughter-houses.

(b) By making the butchers to supervise the flaying of the hides of the animals slaughtered in the slaughter-houses.

(c) By keeping open throughout the day as the time now allowed is very insufficient.

(d) By installation of electric flayers in big slaughter-houses where electric energy is available. The slaughtering has to be done as at present and the flaying has to be done by electric flayers. We have no knowledge of the electric flaying, but we understand that good results are obtained in Chicago where animals which are slaughtered for meat are flayed by electric flayers.

5. The flaying instructors might be appointed to instruct the village flayers and each instructor might be given a group of villages and they might be asked to visit the villages under their charge in rotation. Supervisors might be attached to the slaughter-houses who should supervise and pass the hides out of the slaughter-houses. Supervisors and instructors might be under the control of the agricultural or veterinary department.

6. Suitable knives might be made, sealed and sold to the flayers in the slaughter-houses at cost and also supplied to the villagers and sold either through the *patels* or instructors.

7. *Vide* answer to question 4 above.

8. In Bombay slaughter-houses the bonus system was tried and found successful during the War and is even at present continued. In our opinion, paying of bonus to the flayers will not bring much good results, as in course of time it will become a practice and bad flaying will be the result. Instead we suggest that some force be brought upon the flayers by Government or municipalities or union boards by appointing supervisors to check the flaying at the slaughter-houses.

Curing and preserving.

9. We have no knowledge of other countries. In our parts of the country curing is done to preserve the hides by either salting or drying in the shade or sun according to the seasons. During winter no matter where the hides are dried, but in the summer the hides should be dried in the shade and care should be taken that these should not rest on hot ground or stones, to avoid putrefaction in the lime pits in the tannery.

10. The defects chiefly are insufficient salting, over-salting, using cheap salts which contain minerals, drying in the sun during summer, leaving more flesh and meat on the hides, by pasting with dung, etc.

11. By making available duty-free salt easily to the butchers. There are some difficulties in getting duty-free salt by one and all and as such to minimise the salting expenses the butchers and others use dirty and used salt which might result in salt stains to the hides. To avoid misuse of this concession some chemicals may be mixed before the salt leaves the factory. When a chemical is mixed it will not be used for human consumption and as such without any restrictions the salt might be issued.

12. Yes.

13. As each village has either a *patel* or village munsiff who is the head of the village, denatured salt might be distributed through him to the villagers.

Adulteration.

14—15. There does exist adulteration or loading. The trade has to look to this and it is not possible for any outside interference. The tanners know the qualities of the different places and when purchasing such hides they take into consideration the yield which these hides are going to give after tanning and as such quote their own price.

Other defects.

16. Goadng and branding: Goadng of animals with iron nail which affects the hide near the butt and thus reduces its value considerably. If the farmers are made to understand that they will get more money for their sides if the hide is clean they may not poke the animal when either ploughing or pulling loads, etc. We suggest that this practice should be made a criminal offence.

Branding is done for following reasons:—

- (a) to safeguard against diseases amongst cattle,
- (b) to identify the ownership of the animals,
- (c) to lessen the value of the hides of animals to avoid poisoning by parties concerned which are entitled to get the hides free when the animal dies in a village,
- (d) identify the animal passed by the Military Department as suitable for slaughter for meat to the Military.

(a) By propaganda by the veterinary and agricultural departments, by educating the villagers and making available to them suitable medicines for combating such of the diseases which, in the opinion of the villagers, are being cured by branding. Pamphlets in the vernaculars of the districts might be distributed to the villagers through the village officers and *patels* and also patent medicines with the necessary instructions for using them in the vernaculars of the places.

(b) If the people are educated by propaganda they might brand the hides on the neck or some other portion which may not lessen the cost and value of the hide.

(c) by inflicting heavy sentences on such people when found guilty. If heavy punishments are inflicted the parties will be afraid to resort to such practices.

(d) Instead of branding on the butt the Military can brand on the neck. Another procedure might be adopted by marketing the animals with colours which might not fade for a week or fortnight. This procedure will relieve the animal of much pain.

17. As a result of bad flaying, bad feeding, branding, goading, bad curing, the value of the hides is reduced by 20 to 30 per cent.

(b) Collection, marketing, export, etc.

18. As soon as the animal dies or is killed, it is skinned. In slaughter-houses the hides after skinning are delivered to the tanner as in most cases the hides are under contract to the tanner. If the tanner has his tannery nearby he will soak the hides immediately, otherwise he will preserve the hides by salting until these reach the tannery. In villages after the hide is skinned it is salted or dried or sold unsalted to petty collectors who in turn sells in *shandies* or sends to big centres for sale in a commission *mandi* turn sells in *shandies* or sends to big centres for sale in a commission *mandi* or sends to a tanner if he has got direct orders from tanners.

19. Chief thing which strikes us is quick transportation both roadway and railway. The railway transport question could be tackled by the Railway Board in minimising the delays in handling the consignments. There are abnormal delays in transit and the railway freight is also very high which in turn increases the cost price. There have been difficulties in getting wagons and sometimes leaky wagons are supplied which causes great damage to the tanned, raw and dried goods. We understand that some concession rates are allowed by the railway companies for wagon loads between certain stations. This concession should be made available from all stations and both for wagons as well as small consignments of raw as well as tanned hides. For wet-salted hides the transport should be very quick as these are perishable and special wooden wagons should be made available to avoid the stuff coming in contact with the iron which may result in stains.

As in Madras there is no local market for the purchase and grading of the hides, and the stuff is shipped to London for assortment and sale by the brokers in public auctions. But our method of trading is quite different and we follow the system that is adopted by the Madras tanned hides exporters. As soon as the hides come out of the process we assort into qualities such as primes and best and then assort both the qualities into seconds, thirds, fourths, fifths and rejections and pack against orders such of the stuff which

can go against contracts and the excesses are shipped on consignment, if we have no outstanding contracts, to be sold in London either in the auctions or privately. Since we pack in different assortments our stuff is sold even in auctions in original bales and thus minimise our charges. The rejections and heavies are sold in the local market.

20. Not feasible. We have no knowledge of the trial of the co-operative marketing in India.

21. Low, reduced and uniform railway rates might be charged with a view to help and develop the industry in India. That is to say, the railway rates for the transport of raw materials to manufacturing centres and of manufactured articles to the market centres should be reduced and made uniform without taking into consideration whether small quantity or wagon loads are booked. This will encourage the use and manufacture of the raw materials within the country. It might be interesting to note that railway freight is more for Madras from Bombay than steamer freight from Bombay to London.

22. There are different systems of grading adopted in different parts of the country according to the requirements of the buyers either tanners or exporters of raw hides.

23. We do not think this is possible. If it can be managed it can be tried by educating the exporters of tanned hides where there is no system of grading prevalent.

IV. TANNING AND ALLIED INDUSTRIES.

31. The export trade in tanned hides can be improved by helping the tanning industry. The tanning industry is suffering very much from the commencement of the War. The tanning industry has stood by the Government during the War by tanning only hides. After the War there was a set-back owing to the surplus war-stocks having been thrown over the market and also the exchange. This has resulted in serious loss to the tanners and also collapse of a number of them. The Government recognising the importance of this industry and the necessity for supporting and protecting it for the sake of the country and the Empire, levied in 1919 an export duty of 15 per cent. on the exportation of raw hides and skins. This course was not liked by the foreign interests who wanted to take away our raw materials and an agitation was engineered and set up against the duty. The Government who only a few years ago recognised this important and much useful industry to the Empire during the war time have reduced this duty of 5 per cent. by the influence of this agitation. The said agitation still goes on and in spite of protests from the commercial bodies interested in this industry the Government tried to abolish even this small 5 per cent. duty. But the Legislative Assembly having the interests of the country at heart has allowed the duty to continue. The agitation is still going on and the present enquiry we are told is the result of this agitation. From the above it is quite clear that the Government have done nothing to help and protect this important industry. They can help this industry by restricting the exports of raw hides by means of a higher export duty. Tanning is a munitions industry very necessary during times of war and as such any Government will be expected to help and encourage such an industry.

We cannot give any suggestions in respect of grading, etc. But we do not think any scheme of certificate for export might be feasible as each foreign country has got its own standards.

33. *Cassia auriculata* is no doubt a superior tanning material to wattle bark, but, in our opinion, it is not necessary for tanning of hides, if the tanners can use wattle bark efficiently as the Madras tanners do it. *Avaram* bark is a superior tanning material to wattle bark because in tannage it will give mellow feel and good colour. The *avaram* bark can be made available in large quantities by cultivating them by the agricultural or forest department in all government waste lands. The railway freight is high and if the railway freight is very much reduced and charged at reduced rates for the

actual weight this will lessen the cost price of the araram bark. There should also be reduction in the railway freight for other materials such as myrobalans, lime and oils for industrial purposes. Another item which adds extra to the tanning charges is water tax and the water tax by the Bombay Municipality has also to be reduced considerably to help the industry.

V. ADVERTISEMENT.

34. There is no necessity for advertisement for Indian tanned hides as the same have been well advertised by the Government during the War when almost all the countries have used Indian tanned stuff.

VI. COST OF SCHEMES PROPOSED.

36—38. It is for the Cess Committee, if at all formed or brought about, to formulate schemes.

39—40. The principle of levying a cess should be to encourage and develop the tanning industry. We want protection to the tanning industry and therefore instead of any cess we want the present duty of 5 per cent. to be increased to 15 per cent. We want the cess to be fixed at 10 per cent. *ad valorem* only on the export of raw hides and should be collected by the Customs Department at the port of export. The Customs authorities should be empowered to verify the prices either from the contracts or from the telegrams shown in the Customs declarations. If a protective duty or cess is levied the exports of raw stuff will be gradually reduced and will be diverted to the tanneries. This is what is desired in the interests of the country.

The questions may arise as to whether the Indian tanning industry can consume the whole produce of Indian raw hides, whether there is proper equipment in the tanneries to tan the whole quantity of raw hides available in the country and whether there is sufficient capital with the tanners to finance the industry. The answers are very simple. During the War the outturn of the tanneries had been increased 200 to 300 per cent. more and as such the tanneries can manage to consume in course of time all raw hides. With regard to finance the tanners can certainly arrange for sufficient capital and more capital will be forthcoming if there are good facilities for expanding the industry. 20 to 25 millions of raw hides are produced in India. When Indian tanneries can tan about 17 millions of hides these can consume 7 millions more which is now going out of India in raw condition. The world cannot do away with our hides and Italy and Germany who are now taking away our hides in raw state will surely take our tanned hides if they find their purchase of raw stuff is restricted. Besides in course of time India herself will consume her tanned hides as the civilisation advances.

We understand that there is a charge levelled against the tanners that they do not require framed raw hides like *farma* and when they do not want *farma* hides why should they insist upon prohibiting duty on the exportation of *farma* hides. This charge is without foundation. If we take the percentage of *farma* hides produced in India it will be 5 to 6 per cent. and the *farma* hides are available only during certain periods of the year and a portion of these hides are also purchased by the tanneries. Most of the slaughtered hides that come into the Cawnpore market are purchased by the tanners, and it cannot be said that the Indian tanning industry does not require better class of stuff.

If the tanning industry expands still further there will be employment to a lot of workmen, consumption of more tanning materials and taxes to the Government on the profits earned. These facts should not be forgotten when considering the question of protection to the tanning industry.

A question may arise as to what about the labour which is now employed in the export trade of raw hides. These labourers will not be disturbed as the hides have to be preserved even for consumption in the Indian tanneries.

41. You may call it a duty or a cess. We want it to be a protective one and it should be permanent at least up to such period as the industry requires for improving itself.

42. The duty or cess should be *ad valorem*. In the case of goods sold on forward contracts, but should be market rate for the stuff consigned. The market rate should be the rate prevalent in the different ports of shipment. The Collector of Customs should have the power to verify the rates (declared in the customs application for forward contracts) from the original buyers contracts or telegrams exchanged in the case of such contracts.

VII. CESS COMMITTEE.

If the Government decides to impose a cess as suggested above over and above the duty we have no objection to the formation of a Cess Committee which should be a statutory body. The following interests, in our opinion, are entitled to representation on the Committee:—

- Tanners.
- Exporters of tanned hides.
- Exporters of raw hides.
- Government.
- Primary producer.

The representatives to be elected by the interests, and the representative of the Government to be nominated by the Governor General in Council. It might be argued why the tanners and exporters of tanned hides should be given representation. The answer is as follows:—

This cess is to be levied in the place of an increased export duty which the tanners have been asking. The duty or the cess is for the interest of the tanning industry and therefore when the proceeds of such a duty is set apart for expenditure the tanners must have effective voice on the Committee. Further, the tanners represent the greatest interests of the country amongst the leather industrialists and traders. Therefore, it is necessary and just that they should be given representation as above.

It is really a pity that the tanning industry of this province is not given a representation on this Committee and it is hoped that this province will be allotted two representatives on the proposed Cess Committee, one for tanners and the other for tanned hide exporters.

**Written Statement, dated the 6th November 1929, of the
Leather Expert to Government, Central Provinces,
Nagpur.**

I. The persons consulted are about half a dozen leading hide and leather merchants of the province who have been doing business in this line for over 20 years, one of them having as much as 50 years experience behind him. Practically all of them have got interest in associated trades, such as, horns, guts, hoofs, bones, etc. The only experience of the export trade they have is that of export from the province to other parts of India, namely, Calcutta, Bombay, Madras and Cawnpore.

II. They are of opinion that the proceeds of the cess can quite profitably be spent for the benefit of the industry as a whole.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The defects observed in this province are:—

- (1) thin and flimsy hides, due to the comparatively poorer breed of the cattle in the province;
- (2) rib marks commonly known as *phasalia*;
- (3) goading marks which are caused with a stick having a sharp-pointed iron nail fixed at one end thereof, used for driving bullocks in the cart. These marks are generally found on the butt portion of the hide;
- (4) small pox spots which spoil the grain to a certain extent; and
- (5) branding marks caused by agriculturists with a view to effect cure for certain cattle diseases.

2. Agricultural and veterinary departments are the proper agencies to suggest some action for the removal of such defects. The quality and price of the hides are not a matter of much moment to the owners of the cattle at present; and it is difficult to suggest any action for putting a stop to the practices which cause the defects.

Flaying.

3. The defects in the methods of flaying are (a) butcher's cuts, i.e., gashes made with the knife on the flesh side which penetrate the substance of the hide; (b) the large amount of flesh left on the hides, the result being that notwithstanding the cure putrefaction is liable to take place in the thick portion of the flesh and then to extend to the hide; and (c) bad trimmings, i.e., allowing the cheeks, horns, tail and even hoofs to adhere to the skin.

4. The disadvantages of these defects and their effect on the value of the hide should be brought home to the people concerned through the agency of demonstrators and instructors appointed for the purpose.

5. Yes. Touring instructors and supervisors should be appointed for the instructions of the village flayers.

6. In this province the hides coming from villages are mostly of dead animals and as the flaying of dead carcasses is comparatively much easier than that of a slaughtered one it does not seem to be absolutely necessary to supply flaying knives of an approved pattern to a village flayer. All that he requires is to be told constantly that defective flaying results in the value of his hide being proportionately reduced. There is, however, no doubt that the use of knives of improved pattern even in villages would be to the advantage of all concerned, but it is feared that village flayers

would not easily take to them partly through merely a vague prejudice against anything new and partly on account of its price.

7. The existing slaughter-houses in this province are not of a very improved type having no special facilities for lifting up the carcass and for hanging it at the time of flaying. The flaying is usually done in these slaughter-houses on the ground and this practice not only soils the hide by bringing it into contact with filth, blood, etc., but is also one of the causes of multiplying butchers' cuts. In many slaughter-houses some untrained hands (such as the butcher's young relatives) sometimes do the flaying without any supervision and guidance in place of the more experienced butchers themselves. The practice should, in our opinion, be stopped and we think that local bodies can easily do it by making some provision in their bye-laws.

8. We have no information on the success or otherwise of any tried system of bonuses paid to slaughter-house flayers for good flaying but we are of opinion that such system, if introduced, would be very effective.

Curing and preserving.

9—10. In other advanced countries the preserving of hides is done by chemicals having antiseptic or disinfective properties while in India only three methods are followed, viz., (1) wet salting, (2) dry salting and (3) simple drying. The first two are, no doubt, quite effective like the modern methods, but the third is rather defective, particularly in the case of the dead hides for which it is usually used. The drying, if carried out in the shade on frames, after soaking the hides in a solution of arsenic before storing them in the godown would not be so defective, as proved in the case of drying slaughtered hides during the dry season. But unfortunately very little care is taken in the drying of dead hides and it is often done in the hot rays of the sun which causes a good deal of damage to the hides.

11. The only remedy we can think of is the education of the village producer through instructors and demonstrators.

12. In our opinion the question of preserving is not such as needs any special investigation or research.

13. To our mind there can only be two means for the supply of suitable curing or preserving materials in the villages, viz., (1) the formation of co-operative societies for such supply and (2) persuading the hide merchants to stock these materials and supply them to those village producers with whom they have business connections.

Adulteration.

14. Adulteration and loading do exist but not on a large scale. Outside purchasers and even local tanners generally detect this and reduce the price of such hides. No serious effect of this either on the export trade or on the tanning industry in India is reported.

15. The exporters as well as the tanners should make it a point to purchase always by selection paying the price according to the quality of each hide and must give up the habit of purchasing by job lots. This will open the eyes of those given to these practices and will discourage this bad practice.

Other defects.

16. No other in slaughtered hides. But in the dead hides there is one more defect which is of a rather serious nature. According to custom the hide of an animal that dies from natural causes is the perquisite of the village *kotwar* or *chamar*. The carcasses of the animal dying naturally are often removed by dragging them from the owners' house to an open ground at the extreme end of the village for skinning, etc. This dragging causes a good deal of damage to the grain of the hide and sometimes completely ruins half of it, thereby reducing its price by at least 30 to

40 per cent. This defect can be removed by explaining the disadvantages of dragging to the *chamars* and *mahars*. Some hide merchants even suggest legislation for stopping this practice.

17. The value of Indian hides taken as a whole is, in our opinion, reduced owing to the existing defects by about 15 per cent. in the case of slaughtered hides and by nearly 40 per cent. in that of dead hides. No serious defects exist in the skins and hence they realise their full price according to their quality and size. In the average selection of the Central Provinces wet-salted slaughtered hides, 40 per cent. are "firsts", 50 per cent. "seconds", and 10 per cent. "thirds" or "rejections". Taking 20 lbs. as an average of each hide and fixing the price roughly at As. 5, As. 4 and As. 3 for each of the three grades of hides, respectively, the value of 100 hides works out as under:—

	Rs. A. P.
40 firsts at Rs. 6-4 each	250 0 0
50 seconds at Rs. 5 each	250 0 0
10 thirds at Rs. 3-12 each	37 8 0
100	537 8 0

If all the hides were of the first quality, 100 hides would fetch Rs. 625 instead of Rs. 537-8-0 as above. This works out to a loss of 14 per cent. in price.

The Central Provinces slaughtered hides preserved by simple drying on frames are realising Rs. 60 to 65 per maund. On the other hand, the dead hides are fetching only Rs. 30 to Rs. 35 per maund, *i.e.*, 50 per cent. less. But making allowance for the superior quality of slaughtered hides, the percentage reduction in price can fairly be said to be 40.

(b) *Collection, marketing, export, etc.*

18. The owner of the hide or skin sells it to the nearest hide and skin dealer. Some dealers collect the hides and skins from village to village either personally or through agents. The dealers often pay advances to *chamars* and *mahars* on a clear understanding that the latter would sell their hides and skins to them only till the advances are repaid. In the slaughter-houses purchasers often make an agreement with the butchers by paying them some advances, for the supply of hides and skins to them at a fixed price per 20 pieces in the case of hides and per 100 pieces in the case of skins, for the whole year. Such contract sales are in vogue in almost all the slaughter-houses of the province. The hides of the commissariat slaughter-houses are also purchased by contractors, the contract running for a definite period. If the hides and skins collected are in the green condition and have to be kept for a time before they can reach the tanner or an exporter they are cured by wet salting in the rainy season. More hides are kept after only drying on frames in the dry season. The hides and skins received in dry condition and thus preserved are sold either to local tanners or to exporters outside the province for sale through the sale rooms of such cities as Calcutta, Bombay, Cawnpore, Madras, etc. These sale rooms are called *arhats* and the owners of these rooms are only commission agents. They advance about 75 per cent. of the value of consignments to the dealers against railway receipts and the balance on sale, after deducting their commission. The buyers consisting of the representatives of hide and skin exporting firms and Indian tanneries go to these godowns, inspect the lots and make their purchases. Thereafter these goods are taken to the tanneries if they are to be tanned locally or to the shippers godown if meant for foreign export.

19. So far as this province is concerned, the hide merchants are experiencing difficulties of railing facilities for export within the province as well

as outside the province and have often to suffer losses on account of them. Their complaints are:—

(1) At very few stations proper sheds are provided for loading and unloading purposes with the result that their goods are not safe from the effects of the weather. There is no reason why a portion of the goods sheds at stations from where an appreciable quantity of hides is booked regularly should not be reserved for them and why at smaller stations tarpaulin covers should not be provided to protect their goods. In summer the hides get spoiled by the sun and in the rainy season if the goods happen to get wet the stray dogs damage them.

(2) In summer goods loaded in iron wagons often get spoiled by heat and in the rainy season the moths cause damage to the hides during detention. Hence period of detention of the goods at the station must be reduced to minimum.

(3) Another source of loss to them in railing is the booking of their goods to wrong destinations. This is chiefly due to the fact that some of the railway clerks with religious prejudices against hides of any kind do not personally go near such goods and rely on the information given to them by the illiterate coolies for the details regarding the destination of the consignments and the hide merchants have to suffer the consequences. This complaint can easily be removed if the railway authorities entrust the booking of hides to such of their clerks as are free from these prejudices.

We have no other useful suggestions to make under this head from our local experience.

20. Co-operative marketing by the producer is likely to be beneficial to him but we are unable to make any definite suggestion in this connection as no such co-operative institute exists in the province. It will be difficult to make it successful on account of the illiteracy and scattered nature of the producers.

21. The railway companies have fixed special rates for tanning materials and there is a case for extending this concession to raw and tanned hides and skins as well. There are two kinds of rates in the railways, one for petty consignments, and one for wagon loads. The latter is cheaper for practically every article except framed or flint dried raw hides as these require more room, though not so heavy in weight, on the basis of which the charge of a wagon is fixed. A wagon having a capacity of 300 maunds for practically all other kinds of goods does on no account take more than 175 to 200 maunds of flint-dried or framed hides. The consignor cannot therefore derive any benefit from the concession rates allowed for wagon loads. This may be looked into as it does not appear unreasonable to expect the railways to fix proportionate rates for wagon loads of such goods.

IV. TANNING AND ALLIED INDUSTRIES.

24. Yes.

25. The Government Leather Tanning School, Nagpur, has a small laboratory attached to it where analysis of tanning materials, waters, limes, etc., is carried out. The laboratory is a small one and cannot be claimed to be well equipped for the purposes of regular research.

26. The tanning industry in this province is still in its primitive stage and the people concerned are so backward that they would not easily take to modern methods. A more intensive propaganda is urgently necessary.

27. In this province there is scope for a more intensive technological investigation into tanning materials which abound in the local forests. Details can be given only after such investigation has made some progress.

28. The Government Leather Tanning School only admits students for the training of tannery foremen and is also attempting to turn out skilled labour to be employed in the tanneries as well as in the cottage industry.

29. The present institution is sufficient for supplying the needs of the province at least for some time to come. As, however, attempts to attract more tanners to this central institution have not been so successful hitherto, peripatetic demonstrations in the interior should be tried.

30. There already exists a tanning school in this province and the establishment of tanning demonstration parties is desirable. Such parties should go about in the mofussil for the purpose of giving demonstrations in such improved methods of tanning which a cottage tanner may have no difficulty in adopting in his cottage industry. The parties should consist of a demonstrator, four trained workmen and a *chowkidar*. The demonstration at each centre should continue for periods varying from three weeks to three months according to the method of tannage and the importance of the place selected for the purpose. *Chamars* and others likely to profit by the demonstrations should be attracted to the places where demonstrations are held by the distribution of hand bills and also general proclamations. Lectures sometimes illustrated with magic lantern slides should also form a part of the demonstrations to explain the theory and the use of local tanstuffs as well as of machines in connection with modern tanning. The various defects in raw hides, their causes and remedies can also be brought home to agriculturists and persons directly connected with the trade at the places of demonstrations by distributing leaflets and by popular lectures on the subject.

32. The tanstuffs locally available are:—(1) *Gothar (zizyphus xylopyra)*, (2) *Babul (acacia arabica)*, (3) *Amaltas (cassia fistula)*, (4) *Mahurain (bauhinia vahlii)*, (5) *Dhawa bark and leaves (anogeisus latifolia)* (6) *Kahua (terminalia, arjuna)*, (7) *Bahira (terminalia belerica)*, (8) *Myrobalan (terminalia chebula)*, (9) *Karunda (carissa spinarum)* and (10) *Aonla (thyllanthus)*.

Out of these *gothar*, *babul*, *dhawa* leaves and *myrobalan* are in common use throughout the province and are easily procurable in fairly large quantities. The necessity of the supply of *tarwar* bark at ordinary rates is being felt in the province as without it suitable crust leather for export purposes cannot be produced.

Attempts made by the forest department to cultivate *tarwar* in some parts of the province did not unfortunately prove successful. Naturally grown *tarwar* is found in some parts but being very scattered the collection of the bark cannot be economical.

Further experiments and attempts in this connection appear most desirable.

V.

ADVERTISEMENT.

34. Yes.

35. Apart from the improvement of the hides and skins trade and the tanning industry, the funds from the cess should partly be expended on the benefit of the boot and shoe industry and the manufacture of other leather goods, such as, bags, trunks, harnesses, saddles, bed straps. This may be done by the establishment of schools for the purpose.

VII.

CESS COMMITTEE.

Not having any direct experience of the export trade I am not in a position to offer any useful suggestion on the issues raised under this head. The merchants consulted are in favour of a Committee for the administration of the cess and they insist on a non-official majority in such a Committee. Personally, I think the Committee should be more or less on the lines of the Central Cotton Committee.

The local Government should be represented in the Committee through its Director of Industries.

**Written Statement, dated the 8th November 1929, of the
Veterinary Adviser to the Government, Central Provinces,
Nagpur.**

I. None at all.

II. Yes, by increasing the staff of the veterinary department throughout India.

III. (1) The usual defects, that I have found in Indian hides and skins, may be classified as under:—

- (a) The most usual are possibly those which arrive from the bites of ticks, or the results of arsenical or lysol washing which is necessary to remove the ticks.
- (b) Secondly, I should be inclined to place the general debility of the animals, which results in their being unable to grow a hide or skin which can compete with those coming from other countries.
- (c) There has been before the veterinary profession in India for many years the question of anthrax in hides.

May I refer to the Proceedings of the Second Meeting of Veterinary Officers in India, held at Calcutta from the 26th February to the 2nd March 1923 and the discussion on pages 45—58 with the consequent resolution of the sub-committee, pages 58 and 59. A copy of these proceedings can be had from the Manager, Government of India Central Publication Branch, Calcutta.

As anthrax is a disease communicable to man, as these proceedings show, I may suggest that these proceedings should be very carefully read by your Committee. Further may I direct the attention of your Committee to page 28 of Volume I of Hutyra and Marek's Special Pathology and Therapeutics of the Diseases of Domestic Animals as under.

Schattenfroh found the so-called "pickling" satisfactory for the destruction of spores. This consists of placing the skins for from 1 to 3 days in a solution of 1 per cent. hydrochloric acid and 10 per cent. salt solution. Horse hair is appropriately disinfected with dry heat of 110°C, and then by live steam at 100°C (De Rossi), hog bristles in live steam with the addition of 10 per cent. formaldehyde, and by placing them for 4 to 6 hours in a 1 per cent. formaldehyde solution (Schnurer).

It is unfortunate no investigations have been made in India as to what effect this "pickling" has upon the marketable value of a skin so treated. Your Committee may decide upon such investigation being made, as so far as I know this is the cheapest method by which to treat hides suspected for anthrax.

- (d) There is a variety of the warble fly which is fairly commonly met with in the scrub areas in the Central Provinces, whose attacks result in the formation of a chrysalis under the skin. The larva of this chrysalis pushes its way through the skin, thus making an opening about five pin points in diameter. It will be realised that if there is a sufficiency of these in any hide it renders it almost unmarketable. So far as I know such worm-eaten hides are usually purchased by small shoe makers to be used, with the assistance of card board or brown paper, for minor repairs.
- (e) I do not know whether I am right or not in mentioning in this paragraph the destruction done to hides by the local treatment given to the animal when alive by the village quack. As you are aware the most common form of treatment in a village is by firing. This firing is usually done in diagrams. When a hide so treated is removed the consequent flaying opens the weals in such a manner that holes or slits are formed. The damage may be anything from 6 to 9 inches in diameter and there may be more than one of these in each hide.

- (f) Cruelty may also be said to play a part in the destruction in hides and skins of Indian animals as compared with those of European countries. The use of nail pointed *lathies*, with which the animals are prodded, and the resulting sores cannot be imagined but must be seen to be believed. The result of skinning an animal treated in this way is the same, where the sores were, as the damage referred to in sub-paragraph (e).
- (g) Poisoning of cattle which is fairly common in Indian villages may also be responsible for the wholesale destruction of hides and skins. It may here be instanced the sloughing of large quantities of skin produced by an extreme dose of the common variety of arsenic which can be readily bought in most bazars.

(2) See II above together with a recommendation that the police and magistrate's powers in regard to cruelty should be increased.

The other questions do not apply to this department except perchance No. 35 and in the event of a cess being levied I would suggest that a portion of it be given to the development of veterinary science in India.

**Written Statement, dated the 17th October 1929, of
Messrs. NIZAMUDDIN & CO., Karachi.**

(Letter to Mr. E. L. Price, C.I.E., O.B.E., Member, Hides Cess Enquiry
Committee by whom publication has been desired.)

As and if the Hides Cess Commission is not visiting Karachi, we beg to approach you with the request that you will submit our views before the Commission.

1. As you are aware Karachi serves the hinterlands of Sind, Punjab and Rajputana and is becoming an important overseas shipping market. Moreover, there are several local tanneries in this city itself besides those in surrounding districts named in this paragraph. Therefore, in our opinion, we beg to submit that the claims of Karachi producers, dealers and shippers should not be overlooked.

We are sending you this petition at very short notice and therefore have no time to express ourselves as fully as we would have liked to but the following are the main points which have struck us at the moment.

2. A large proportion of hides and skins are seriously damaged if not ruined owing to the animals contracting disease from the warble fly and there should be medical research for its prevention if not elimination. To give you an example, ranchers in Texas found that hides were similarly affected by the deadly tick and they imported cattle from India to cross with theirs so as to get a thicker pelt which would resist the attack.

3. Experts should be appointed to train butchers at important slaughter-house centres how to flay hides so as to avoid damage by cuts as the present is only a primitive and crude method.

4. Indian hides are considered poorer than those of other foreign countries and steps should be taken to import foreign better-breed livestock so that by cross-breeding the quality of the hide may gradually improve in course of time.

5. As Karachi and provinces will contribute to the cess it should be devoted *pro rata* to this province also for improvement of cattle and development of the export trade as outlined in the foregoing paragraphs.

6. The Commission should visit Karachi, which is the chief centre, hundreds of miles in all the four directions of the compass but if it is not included in the itinerary owing to its geographical situation we beg to suggest that the Commission should depute you to obtain evidence in Karachi of those interested in the various branches of the profession and trade with liberty to you to co-opt other members if necessary to enable you to submit a separate memorandum to the Commission expressing the views and recommendations of this port and neighbouring provinces.

**Written Statement, dated the 26th November 1929, of the
Karachi Indian Merchants' Association, Karachi.**

With reference to your letter No. 46-H. C. III-E. Q., dated 23rd October, 1929, I am directed by the Committee of my Association to reply as follows:—

Before replying to the questionnaire my Committee would like to make it emphatically clear that the hides and skins trade (it is at present not an industry but largely export of raw material) has suffered like all other export in raw produce from India owing to the inequitable ratio of 1s. 6d., now set up by the statute. My Committee would urge your Committee to emphasise this point in their report to Government, how this adverse ratio has ruined the fair prospects of all export trade and the industries in this country.

Another point my Committee would draw your attention to is that while agreeing to the levying of a cess of 5 per cent. *ad valorem*, they are strongly opposed to the removal or reduction of the present export duty.

The export duty on raw hides and skins is good in the economic interests of the country, and ought to be retained. If the export of raw hides and skins is discouraged the indigenous tanning and leather industry will get an impetus. At present the export of raw hides and skins (about 50,000 tons a year) is nearly three times that of tanned and dressed leather. India can develop a good many leather industries which must be fostered by all possible means.

My Committee feel that the proper perspective from which Government ought to look at the question of duty on raw hides is not the encouragement of export of raw hides in larger quantities but that of developing the tanning and leather industries for which India has such unique facilities.

From this point of view the present duty of 5 per cent. is entirely inadequate. At present while India's raw produce in hides is freely admitted into foreign countries, leather from Indian tanneries cannot be admitted to those countries without paying high protective duties. To a certain extent, specially in the supply of goat skins, India occupies a unique position, somewhat akin to monopoly. Under such circumstances a higher export duty would bring revenue to the Indian exchequer without reducing our exports.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1—2. The defects are mainly due to cattle diseases, particularly those due to the warble fly and pox. For these medical research is necessary. The owners of cattle should be enabled to treat their cattle against skin diseases in a cheap, effective manner without leaving their homes.

Flaying.

3—8. There are a good many defects prevalent among flayers at the slaughter-yards and elsewhere. Deep knife-cuts considerably depreciate the value of hides and skins. The best way to remove them is to open schools in principal centres, say, the big towns like Bombay, Calcutta, Karachi, etc., to teach all the necessary things in connection with the skin and hide trade, tanning industry, flaying, etc. Flayers may be licensed by municipalities.

Curing and preserving.

9—13. At present skins and hides are preserved by use of salt and arsenic. These are considered cheap and adequate for the present. But salt for curing hides and skins should be of good quality and duty-free at all places.

Adulteration.

14—15. This is a serious evil which hits the Indian trade in hides and skins badly, specially those producing good skins and hides. There is thus serious loss in the value of Indian exports. The remedy suggested is close examination at the time of pressing. The pressing bales may be marked like the cotton bales at present at the pressing factories.

Other defects.

16—17. There are other defects too. An example is hot iron branding of animals for certain diseases owing to certain superstitious belief in branding as a method of cure, or to have marks for identification for safety against theft. Hot iron branding is a cruel practice and deteriorates the value of hides and skins considerably. The experience of the local trade is that in the aggregate about 25 per cent. of the normal value of hides and skins is lost by adulteration and other defects. Most of this loss is preventible.

(b) Collection, marketing, export, etc.

18—23. Better road and railway facilities, lower freights, adjusted to the requirements of the trade and co-operative marketing will bring a better price to the producer. Speedy transit in railway wagons free from rust is essential. Standardisation will help towards improvement in quality of hides and skins and fair price to the producer of better quality.

IV.

TANNING AND ALLIED INDUSTRIES.

24—33. A cess can very usefully be spent on developing the hides and skins trade on sound lines, and in helping the tanning and leather industry. For this purpose scientific research is very essential. A well-equipped laboratory may usefully be established at Karachi and three or four other big centres of the trade in India. At present there are no facilities for the training of tanners, tannery foremen or leather chemists in Sind and Baluchistan. Some capable instructors will have to be employed for this purpose in the schools to be opened. The *avaram* is at present imported from Rajputana and is a very useful matter for tanning. Its supply should be made plentiful in the interests of the industry. Efforts should be made to produce it in Sind in large quantities and the task should be handed over to the forest departments in Sind and the Punjab.

V.

ADVERTISEMENT.

34. Yes. Indian Trade Commissioners in foreign countries, by free advertisement in the Indian Trade Journal, etc.

VI.

COST OF SCHEMES PROPOSED.

40—41. The cess may be levied at 5 per cent. *ad valorem* in addition to the export duty. This will not hit the export trade. In the first instance, it may be levied for five years as an experiment.

VII.

CESS COMMITTEE.

43—55. Yes, if the cess is imposed it should be administered for the purposes indicated by a representative Committee constituted as follows:—Chairman to be a government official—nominated, five representatives of the trade, one representative of co-operative societies and one head of the technical research institute, one industrial chemist, in all 9 members. The representatives of the trade may be elected by their associations regularly formed. There may be a Central Committee at Madras and provincial committees at Bombay, Karachi, Calcutta, Rangoon, Lahore and Cawnpore. The Committees may have the power to co-opt more members for specific technical purposes. The functions of the Committee should be, more or less, on the lines of the Indian Central Cotton Committee at Bombay. The Committee may therefore function independently like the Indian Central Cotton Committee. My Committee consider that a special technologist would be necessary for each centre and their work may be co-ordinated by the central technological office at Madras.

**Written Statement, dated the 9th December 1929, of the
Buyers and Shippers Chamber, Karachi.**

With reference to your letter No. 46-H. C./III-E. Q., dated the 23rd October, 1929, I have the honour to submit my Chamber's replies to the questionnaire issued by your Committee as under:—

II. The proceeds of a cess to be levied on exports of raw hides and skins in addition to the export duty, in our opinion, can be profitably spent for the benefit of the tanning industry. By no stretch of imagination can the export trade in hides and skins be included in the word 'industry'.

III. EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1—2. Veterinary department is the right party to deal with these. Such defects as are due to climatic conditions are perhaps irradicable.

Flaying.

3—8. Certainly flaying is not perfect. All that would result in better flaying may be tried. Municipalities and such other organisations as control slaughter-houses can do a lot in this direction.

Curing and preserving.

12. Yes.

13. By making salt available.

Adulteration.

14—15. The buyers are competent to deal with it. No outside agency can improve matters in this respect.

Other defects.

16. Branding is another great defect. It could be effectively stopped, if Government took active steps to stop cattle lifting. Branding as a cure is now less in practice. With the extension of the veterinary department, it would die a natural death.

17. 50 per cent. of the loss owing to various defects may be checked by systematic efforts.

(b) *Collection, marketing, export, etc.*

18. Where there are tanneries, hides and skins go direct to tanneries from slaughter-houses. Where no tanneries exist, these are preserved and sent to tanneries. In most cases these are salted and dried.

The raw goods exporter simply ships dried material often assorting and packing.

19 & 21. The chief difficulties are in railway transport—high fare, stringent conditions of packing, delays, short supply of wagons are the chief among them.

The Committee can examine into facilities given in other countries for the advancement of industries by way of low rates for transport of raw material to manufacturing centres and manufactured articles to market centres and ports of shipment so that the manufacture of the raw material may remain with the country.

IV. TANNING AND ALLIED INDUSTRIES.

24. (a) to (d). Yes.

31. By protection, so that the foreign buyers may buy tanned goods in place of raw goods.

There is no need of fresh standardization scheme as one is already in use.

32. All necessary tanstuffs are available locally. All that is required is the reduction in railway fares.

V.

ADVERTISEMENT.

33. Advertisement can be done by exhibiting the Indian tanned articles and leather goods in foreign countries through the Indian Trade Commissioner or other agencies.

VI.

COSY OF SKINS PROCESS.

39. The fundamental principle of levying a cess should only be to encourage and develop the indigenous tanning industry and improve the quality and selection of the raw stuff. Hence the cess should be levied only on the exports of raw skins and hides in addition to the existing export duty.

40. The rate of cess may be fixed at 10 per cent. *ad valorem*. The exports of raw stuff may gradually be reduced by diverting the same to the tanneries. This is exactly what is required in the interests of the country. It should be remembered that not long ago, before the foreign countries—Germany, Italy and America—began to import raw goods in their countries, they used tanned skins and hides to a very large extent. They would, if the above is given effect to, again commence buying our tanned goods both because our raw stuff would be dearer and because our tanning methods would have improved.

41. The cess, as proposed above, should be permanent or at least until such time as the tanning industry may not require it any longer.

VII.

CESSE COMMITTEE.

42. This Chamber is in favour of the formation of a Cess Committee which should be a statutory body.

43. The following interests are entitled to representation on the Committee:—

1. Tanners.
2. Finished leather manufacturers.
3. Exporters of tanned hides and skins.
4. Exporters of raw hides and skins.
5. Government.

The non-official representatives are to be elected by the interests concerned and the government representative to be nominated directly by the Governor-General in Council.

44. The above interests should be given representation by statute, representatives being elected by the interests concerned.

Extent.—The Committee should consist of:—

- 3 representatives of tanners.
- 1 representative of finished leather manufacturers.
- 2 representatives of exporters of tanned hides and skins.
- 2 representatives of exporters of raw hides and skins.
- 1 Chairman, to be nominated by Government.

45. The Chairman should be *ex-officio*. There should be a mere (non-Member) Secretary, permanent and technically qualified. His selection, qualifications, and terms to be settled by the Committee.

46. The Committee should administer the proceeds of the cess as best advised. It should be independent in exercising its functions but responsible to Government for proper appropriation of the funds. The details of work to be settled by the Committee itself.

**Written Statement, dated the 11th November 1929, of
Messrs. FLEMING, SHAW & CO., LTD.,
Amritsar.**

I. Fifteen years tanning and dressing E. I. hides and skins in London. Ten years exporting tanned hides and skins from Madras. Two years exporting raw hides and skins from the Punjab. Two years examiner in practical tanning to Leather Trades School, Madras. Medalist, London College of Tanning. Interested in export of wool, hair and tanning materials.

II. My experience in India, which embraces both sides of the question, i.e., (a) Madras tanners, (b) exporters of raw skins and hides, coupled with the failures during the last few years of a number of concerns who have endeavoured to manufacture leather on modern lines, goes to show that a cess would be cumbersome, costly, and the results obtained from its application would neither warrant the expense nor tend in any measure to benefit individuals.

(i) It is not mentioned whether a cess is to be collected from all exports, i.e., both tanned and raw, and if one why not the other. In either case the consumer has to pay which penalises Indian products as compared with other world's products.

(ii) It is obvious that the present system which imposes a tax on the export of raw skins and hides, affords a measure of protection to the export of tanned, thereby benefiting the Home market, inasmuch as we would say that roughly 85 to 90 per cent. of tanned hides and skins are marketed in England, whereas the bulk of raw is consumed by the Continent and America, who are penalised 5 per cent. on a specified valuation, which incidentally has recently been raised.

(iii) Madras is not concerned but little in the export of wool and hair, which in turn is an important industry in the North (by North we draw a line from Calcutta through, say, Delhi to Bombay). With a duty on raw skins this reflects itself on the selling price of wool and hair.

III. 1. The defects are too well known but as animals in India are primarily reared for their (1) manurial value, (2) transport, (3) food, including milk, there is not the slightest inducement to owners to apply remedies to remove defects which may arise in the skins due to disease or other causes.

2. Until such time as good strains of cattle can be imported into India on a large scale to counteract the present system of in-breeding, no tinkering with the problem will show any material results. Many suggestions, ideas, and minor experiments have been made which have only resulted in scratching the surface of effects whilst leaving causation entirely neglected.

3. The average butcher in India is paid by the number of beasts he flays, and we ourselves have in the past offered two to four annas per hide as bonus to butchers to avoid flesh cuts. As obtains with a certain grade of labour mentality, so long as they can obtain Rs. 20 per month for their needs, they will not take more care and trouble to make that 20 into 30 by the exercise of a greater measure of care and patience.

4—6. If committees were appointed to travel the country demonstrating that shoes were more hygienic than sandals, every one would wear shoes provided you supplied them gratis. When these were worn out they would revert to sandals.

7—8. See 1 above. Visualise the composition of the average "local bodies" and how many would enter a slaughter-house.

9. Salt is the primary and most effective cure. Pure salt in India is expensive and to be effective as an ideal cure must be clean and free from impurities.

10—13. The average villager's idea of cleanliness chiefly runs in the direction of economy, i.e., what is the maximum amount of impurities

he can combine with the minimum amount of salt to make the result look the same. Other cures are of a chemical nature and require expert supervision.

14. Adulteration undoubtedly exists wherever and whenever it is possible to gain a pie by its adoption. The effect it has on the export trade is that (a) it permits unscrupulous operators to offer at lower prices than their competitors, which in turn has the effect of disturbing market conditions, lowering the basis of selling prices, and giving rise to a general distrust of the quality of Indian products on the part of the buyer.

15. The appointment of a permanent and expert authority at, say, London, Hamburg and New York to examine at the request of buyers any arrival which he has reason to believe is either adulterated or loaded. The expert's decision to be final and his award binding.

16—17. These are too numerous to detail, but the outstanding ones from a practical standpoint arise from the difficulty of transport, delays on railways, the uncertainty in securing freight accommodation, and the fact that the handling of raw hides in particular, in any stage, is confined to a certain communities only.

18. This varies considerably with conditions. (a) Where a tannery consumes local hides only, it has its own local arrangements. (b) If a Madras tannery is buying its hides in a dry-salted condition from, say, Calcutta they probably arrive at his tannery some three weeks after purchase. From then onwards about a further six weeks to complete tanning processes and rail them to market centre.

19. Better transport facilities: (a) direct fast freight trains from one important centre to another, (b) the linking up by motor lorry service of branch lines.

20. Hitherto any attempt at combination has failed on account of the industry as a whole being split up into a number of subsidiary industries and as each tries to obtain a profit from the other attempts at co-operative marketing are not feasible. Where co-operative marketing has been tried on a small scale in India the "big fish" always wins, and the only survival as regards the "little fishes" has been when in some remote way they were related to the "big fish".

22—23. If you reduce everything to a formula, where is the scope for individual effort, or individual requirements? The system of grading depends entirely upon the particular standard an individual concern agrees to sell on, which necessarily may not be the same standard as his competitors. All contracts specify fair average quality and description of (shipper's) mark. If, as we have already stated you reduce grading standards, sizes, weights, etc., to a formula, then you might as well hand the whole trade over to the Government and work it by "Blue Book". America has recently set up a Hides Exchange to stabilise forward buying of hides. This was recently described in a trade periodical "as a legalised gambling hell to induce an element who did not know a hide from a shoe-heel in which to speculate their money".

IV. 24—33. Experience goes to show that your present technical institutions are passing out students at a rate which the trade is unable to absorb.

Research work is admittedly very valuable but is useless unless it can be applied. How do you propose reaching, say the villager, with a treatise on "The method and application of salting hides and skins" and in what language does the Cess Committee propose to publish it?

Certainly institutions should be available where the analysis of any particular tanning material and the percentage of tannin contained therein could be determined. The same remarks apply to different classes of water, their analysis and determination of impurities, economic means of removing such impurities, the prevention of contamination of water by sillage, drainage, etc. Lime analysis, etc.

The one outstanding feature of the whole of this section IV is one of fundamentals. Indian tanned hides and skins are termed by Western tanners "half tanned", and it is this half-tanned condition which by reason of the nature of its tannage, lends itself to being re-tanned by the Western tanner for a variety of purposes, i.e., sole leather, bag and case leather, strapping leather, and a host of others. Hence the demand for Indian half-tanned leather.

This peculiarity of Indian leather is chiefly due to the nature of a particular tanning material used, i.e., *avaram* bark, to which the Madras tannage owes its chief success. This is not now obtainable in sufficient quantities to meet tanners' demands. Why? Firstly, the ownership and care of the trees has hitherto been for the most part in the hands of private individuals whose wasteful methods and lack of knowledge of re-forestation has gradually brought about a shortage in supply, so that prices in consequence have risen to such a degree that the tanner has been forced to seek other and cheaper tanning materials in order to make his tanned product saleable. Hence the considerable amount of wattle bark which is now being imported into Madras.

The forest department should seriously undertake the cultivation of *avaram*, at whatever first cost, or ultimately the very factor which has made Indian tanned hides and skins so peculiarly adaptable to the needs of the overseas purchaser is gradually going to disappear, in fact is disappearing. The English, American and Continental tanner can tan far better and cheaper than the Indian tanner with wattle and allied tannages, and if the particular merit of Indian tannages disappears, the Western tanner can and would prefer to buy the raw skins and tan himself. A study of the statistics of the gradual increase in raw hides and skins going to countries other than England, makes the matter assume a serious aspect for the Madras tanner. The remedy is with the Government as they are the chief holders of land.

V. Hides and skins are not a patent medicine to cure imaginary complaints; they depend for their sale upon the law of supply and demand, and being an unfinished product are saleable only in well-known channels.

VI. Briefly: any man who has an intimate and practical working knowledge of the ramifications of the raw hides and leather industries, particularly in a vast country like India, knows full well that the cost and upkeep of initiating a tithe of the suggestions contained in this questionnaire would necessitate the outlay of large sums of money. Who is going to benefit is a problem; certainly not the raw hides and skins exporter. Who then? The Madras tanner, generally speaking, is not concerned primarily in being taught his business, as in his own particular line he is an expert. What he wants is cheaper raw materials, i.e., hides, skins and tanning barks.

Questions 39, 40 and 41 touch the crux of the whole problem of a cess. What is the problem primarily.

(a) Madras tanners want the export duty on raw hides and skins increased in order that a measure of protection is afforded to the sale overseas of their products.

(b) Raw hides and skins exporters demand the abolition of the duty in order to enable them to compete against Africa, China, Russia, Australia and American raw products. Any one with a first-hand knowledge of London, Hamburg, or New York buying knows full well that Cape and China skins are coming more and more to the forefront owing to the demand by manufacturers for cheaper materials.

Russia has set up huge warehouses in Hamburg where she sells raw sheep on spot, and usually meets the market in the question of prices.

America has its raw hides sales organised to the last hair.

We seriously ask if this is the time for India to indulge in schemes—which do not touch the crux of the problem.

(c) We venture to say that 70 per cent. of the hides and calf skins tanned in the Madras Presidency are purchased in Calcutta, Cawnpore, and in a lesser degree Karachi. Today Madras tanners are buying largely in Amritsar for their sheep requirements. As regards goats, goats thrive in Southern India, but owing to climatic conditions the cattle are poor, and only in specified districts do sheep thrive.

(d) The Madras tanner being forced outside the presidency for fully 60 per cent. of his requirements, being notoriously financially embarrassed, has to pay "through the nose" for his raw material, as suppliers of raw stock know full well, (it is common knowledge) that they must have a margin in hand to cover the possibilities of failures.

What is the remedy? A remedy would be something in the nature of agricultural banks system whereby the tanner could buy his raw stock against advances by the bank at a reasonable interest, instead of what obtains at present whereby the tanner pays for the most part at least 12 per cent. in loans, etc. This in itself would relieve the Madras tanner of 80 per cent. of his present financial embarrassment and enable him to make a profit.

The question of raising the export duty on hides and skins in order to protect the Madras tanner is a vicious circle which condemns itself judged from a perfectly detached standpoint. If the Madras tanner was the prime consumer of India's products of raw hides and skins, then he should have the predominating voice in the matter. Statistics are easily available which show he is merely a factor and not a predominating influence in the question as a whole.

As regards how, why or where a cess should be levied or on whom and on what basis, we would ask whether Madras has preferential treatment in the duty on motor cars. If Calcutta buys a Ford and Karachi a Chevrolet and Bombay a Buick does the particular locality or type of car have anything to do with the duty imposed; and further as we have mentioned American cars do America benefit by the imposition of a tax in India.

VII. 43. If a cess is necessary its administration and constitution should be such as to command the respect and confidence of those communities or interests to which it would be brought into contact. Men of recognised experience and standing should be sought preferably by advertisement and (a) Madras, (b) Calcutta, (c) Cawnpore, (d) Bombay, (e) Karachi, (f) Punjab, all of divergent customs, conditions, and degrees, should have their own committee. A central authority or Central Committee should be constituted to receive and adjudge reports and recommendations from various centres.

44—46. Local Governments and other interests, should be invited *ex-officio* to become members, but primarily should not be a deciding factor in matters concerning a specialised industry.

47. The Indian States, for example, Mysore, Hyderabad, Kashmir, etc., are directly concerned in the problem. This question is involved. We take it a cess applies only to exports and should be collected at ports in exactly the same manner as the export duty on raw hides and skins is at present collected. The exporter would be mulcted and it is immaterial what the origin of the product exported is.

48. Technological experts attached to recognised institutions should be co-opted if and when necessary for their advice. Primarily they are not concerned in commercial problems which are outside their sphere of activity.

49. See No. 48.

50. We should suggest as Chairman one outside the trade, who would bring to bear a judicial temperament on the various suggestions put forward.

51. The functions of the various Committees would necessarily be administrative, or how apply the cess. As to what directions in which the cess should be applied this would be in the nature of their considered report submitted to the central authority.

52. The central authority would consider reports from district committees, *i.e.*, Madras, Calcutta, Bombay, Cawnpore, Karachi and Punjab and would act in the capacity of umpire of determining factor in their consideration of the problem as a whole.

53. Covered by No. 52.

54. As the technologists named are government officials and the central authority Cess Committee would have government status the question is merely one of procedure. The central authority should visit and spend at the various sub-centres at least 50 per cent. of its working time.

55. As regards the location of headquarters we would suggest an entirely central locality. This would tend to remove suspicion of undue influence being exerted by a particular centre.

Gentlemen, this statement is entirely voluntary, as it is only by chance we obtained a sight of your questionnaire. We have not perhaps disguised the fact that we are in favour of the abolition of the present export duty on raw hides and skins, but we have endeavoured to give a considered reply without undue bias to the question asked.

**Written Statement, dated the 14th November 1929, of the
Indian Chamber of Commerce, Lahore.**

I am directed to acknowledge the receipt of your No. 46—H.C./III—E. Q., dated 23rd October, 1929, forwarding a questionnaire issued by the Hides Cess Enquiry Committee, appointed by the Government of India, under their Resolution No. 75—T. (29), dated 28th September 1929, with the following terms of reference:—

“ To enquire and report on—

- (1) the articles on which a cess might suitably be imposed and the rate of the cess on each article;
- (2) the constitution and personnel of the committee which would administer such a cess; and
- (3) the function of the committee and the objects on which the cess might be expended.”

2. My Committee consider that the appointment of this Committee by the Government of India with the above objects is avowedly against the interests of all concerned in the industry in India. To make their position clear, it will be necessary to take you through the history of the export duty.

3. Immediately after the Great War, the feelings of the allied countries engaged in War were very warm towards India as Indian tanning trade to a great extent rendered useful prosecution of the War and the Government thought that this industry should have some measure of support so as to enable it to bring it to the same level of efficiency as in other countries. Unluckily for this experiment, the period during which this duty was in force coincided with the time when all the tanneries in the world including those of India were passing through a very acute depression owing to the fact that the markets were flooded by releasing the accumulated war stock of leather goods in the allied countries. During this period, even long established tanneries in Europe were obliged to close down and consequently the prices of the raw hides went down greatly. As the demand for raw hides and skins was very poor and therefore the exporters in this country started an artificial agitation for the removal of export duty on the ground that it was only on the levying of this duty, the foreign tanneries were prevented from their purchases from the Indian markets.

4. As far as my Committee can guess that this Committee owe their existence through this artificial agitation started some years ago and invoked the authority of the deliberations of the World Economic Conference to initiate a policy which is calculated to go against the most important and vital interests of the country. My Committee consider that the appointment of the Hides Cess Committee with presupposed notions for levying of cess and its administration through a committee, will work against the tanning industry of the country. By levying of the export duty, the foreign manufactures can not be placed in a position of unfair inferiority as in their opinion there is no question of unfairness to the foreign countries who have been enjoying immense advantage at India's expense in the past. Even at the present moment the export trade is enjoying unfair superiority by giving an indirect protection by means of virtual bounty of 12½ per cent. by fixing the exchange ratio at an artificial rate of 1s. 6d. instead of 1s. 4d. at the cost, and to the detriment, of the interests of this country.

5. From the preceding paras. your Committee will observe that my Committee is against the levying of a cess and if at all it is to be levied, my Committee opines it is to be profitably spent for the benefit of the tanning industry of the country so that the Indian manufactured articles may find market in the foreign countries. It is the interest of the Government and the people alike that India should occupy the position of a manufacturing country and not of a supplier of raw materials for ever.

6. My Committee have decided not to nominate any representative for oral evidence as they have refrained from replying the questionnaire which is, more or less, of a technical nature and therefore they contended to invite your special attention to the economic aspect of the case from the Indian point of view.

**Written Statement, dated the 14th December 1929, of the
Honorary Secretary, Gow Rakshani Sabha, Ludhiana.**

I am directed to acknowledge the receipt of your letter No. 46—H. C./111—E. Q., dated 23rd October, 1929, forwarding a questionnaire issued by the Hides Cess Enquiry Committee.

My Committee consider that the appointment of this Committee by the Government of India is avowedly against the interests of all concerned in the welfare of cattle in India. Levying cess on hides and skins will encourage cattle slaughter in India. It is an admitted fact that the prosperity of India depends mainly upon improvements in agriculture, which in its turn depends on good cattle breeding. The poverty of an Indian agriculturist stands in his way to use improved instruments and machinery and his main stay is cattle. The cow gives him whatever he needs, bullocks to plough his fields and do all other works, milk and butter for his children and so on. In fact cow is to an agriculturist in India as air is to all human beings. On agriculture depends almost all Indian industries.

Now it is an open secret that the cattle, specially kine, in India are deteriorating in quality and quantity and the substitution of a cess to export duty on hides will further work havoc in this direction. The causes of deterioration in cattle are too many and there appears to be no necessity to mention them here. I cannot however but point out that the main reason is the slaughter of healthy cows in thousands daily for the hides and skins and beef. My Committee as already submitted are of opinion that the cess will encourage the slaughter of cattle and this is sure to adversely affect agriculture and all allied as well as other industries in India.

Now the revival in the overseas demand for Indian hides so impressed the Government of India that in the 1927 budget, they included a proposal to abolish the 5 per cent. export duty. The Legislative Assembly however defeated the above mentioned official proposal in 1927 taking into consideration the points mentioned above. The Government of India, in our opinion, hesitate again to press upon the Legislature a proposal to remove the export duty on hides but instead thereof they now suggest that the export duty on hides be replaced by a nominal cess which will be utilised in advertising, popularising and encouraging the leather products thus consequently encourage slaughter of cattle of this country but in reality encouraging export of hides and skins. We are of opinion that for the sake of tanning industry of foreign countries, cattle of India and consequently industries should not be sacrificed.

From the preceding paras. your Committee will observe that my Committee is strongly against the appointment of the Hides Cess Committee and is also against the levying of a cess. If however, the Government is bent upon levying a cess, my Committee opines that it should be profitably spent for the benefit of Indian cattle, i.e., for the feeding, breeding, acquisition and maintenance of pastures, education in cattle-keeping and dairy farming, etc., so that the cattle wealth of India may improve both in quality and quantity. It is in the interest of the Government and the people alike that they should recognise the obligation under which this country stands to the cow and to her offspring, the trusty ox.

My Committee have decided not to nominate any representative for oral evidence as they have refrained from replying the questionnaire which is more or less of a technical nature. They have deemed it expedient and proper to invite your special attention to the welfare of cow and the country and to the other economic aspect of the case from the Indian point of view.

**Written Statement, dated the 30th December 1929, from the
Revenue Secretary to Government, Punjab, Lahore.**

I am directed to acknowledge the receipt of your letter No. 46-H. C./III-E. Q., dated the 23rd October, 1929, forwarding a copy of the questionnaire issued by the Hides Cess Enquiry Committee.

2. In reply I am to refer to the views of this Government submitted in my letter No. 12502-Rev., dated the 10th April, 1928, to the address of the Secretary to the Government of India, Department of Commerce (a copy of which is enclosed for facility of reference) and to add that the Punjab Government (Ministry of Education) adheres to the views expressed therein and does not desire to attempt to arrive at more definite conclusions until the Hides Cess Enquiry Committee issues its report.

3. A Government Model Tannery was set up at Shahdara, close to Lahore, in the Punjab for the purpose of giving instruction and demonstration in modern methods of tanning but it was run on commercial lines and the heavy losses incurred eventually led to its being shut down in the beginning of 1928. To meet, however, the primary needs of village tanners and to demonstrate in the villages improved methods of **flaying and curing** hides, a village travelling tanning demonstration party was sanctioned for two years with effect from 1st April, 1928. This party started work in the Sialkot district and has given demonstration at four centres there. It has now moved on to the Jullundur district in which it has given demonstration at three centres. These demonstrations cover the following processes: (a) building of pits, etc., (b) soaking and liming, (c) unhairing and fleshing, (d) tanning, (e) scouring, (f) retanning in myrobalans, (g) oiling, (h) setting and greasing, (i) drying and (j) staking and finishing. This itinerating party is reported to be doing useful work and the interest it has evoked can be gauged by the large number of applications which have been received by the Director of Industries for the grant of loans for the purchase of improved flaying tools and the like. This party is for the present being continued for another year.

4. As regards the tanning industry generally and the application of modern methods and machinery, this province is in a backward state. The plant and buildings of the tannery which was closed in the beginning of 1928 are still lying idle. No reasonable offers for its purchase have so far been received by this Government, nor have any reasonable offers been received for its lease. The hope was entertained that arrangements could be made to lease the tannery on very easy terms and to provide in the lease for some measure of instruction to a small class of apprentices or tanners: but in the absence of any firm offer from any source, Government is now considering the question of starting a simple course for village *chamars* at Shahdara as an experiment with a view to opening classes at other suitable centres if the Shahdara class proves to be useful.

5. The Ministry of Education has requested the Ministry of Local Self Government in this province to consider the possibility of laying it down as a rule for local bodies that no kine slaughter-house should be licensed unless a trained flayer is employed. It is hoped that the act and practice of flaying which is low in the Punjab will be improved by the work of the travelling party.

6. Coming now to the question of the replacement of the export duty by a cess, the Punjab Government (Ministry of Education) considers that as already stated in paragraph 2 of this Government's letter to the Government of India the existing duty of 5 per cent. on the export of hides and skins is in favour of the consumer and its removal would not benefit the primary producer, welcome though it would be to the hide exporters. On the other hand, its replacement by a cess the proceeds of which should be utilised in improving not only the tanning industry in general but in the flaying, curing and preservation of hides has the approval of the Ministry. According to

the latest figures available for the internal trade of the province by rail and river (1921-22), the position in the province in the matter of export and import is far from satisfactory.

	Quantity.	Value.
	Mds.	Rs.
Hides exported	127,761	26,73,395
Leather unwrought imported	6,295	5,37,616
Leather wrought imported	2,840	6,91,788

The Punjab hides are notoriously poor not intrinsically but owing to defective processes, and the price fetched by them is correspondingly low. On the other hand, the demand for boots and shoes is an expanding demand and while a cess may help to keep hides in India its proceeds can indubitably and profitably be utilised in promoting efficiency and reducing costs in the production of leather.

7. If a cess is approved the Punjab Government (Ministry of Education) considers that the cess should be collected at the ports by the Government of India, but that its proceeds after deducting the charges for collection should either be handed over to the provinces for use as a provincial source of revenue to be expended on the improvement of the tanning industry in general, or assigned to a Committee to administer the proceeds with due regard to the provincial source from which they spring. Local Governments should be represented on any Committee that may be formed in order to represent that the measure of assistance to the provinces respectively should be largely determined by the provincial contribution of the essential material for any cess.

Written Statement, dated the 9th November 1929, from the Secretary to the Agent to the Governor General in Baluchistan, Quetta.

I am directed to acknowledge the receipt of your letters Nos. 46-H. C./III-E. Q. and 50-H.C./III-E. of 23rd and 24th October, 1929, respectively, asking for certain information regarding the export trade in raw hides, their curing and preserving, etc.

2. In reply, I am to inform you that this Administration does not issue any certificates for, or control the export of, hides, their flaying, etc., and is not, therefore, in a position to express any opinion of value on the quality thereof and their flaying, etc., or in connection with the traffic in hides. The following are, however, the diseases commonly prevalent among the cattle in Baluchistan:—

- | | |
|----------------------------|--------------------------------|
| 1. Anthrax. | 6. Black quarter. |
| 2. Foot-and-mouth disease. | 7. Mange. |
| 3. Rinderpest. | 8. Parasitic gastro enteritis. |
| 4. Liver fluk. | 9. Piroplasmosis. |
| 5. Cow pox. | |

3. There are no industries worth the name in Baluchistan and agricultural developments are yet in their infancy, while, with regard to forests, I am to say that there is no special research work in progress, there being no tanning schools of any kind in this Agency. But it is reported that there are some plants available in this country for preparing tannin and they are as under:—

- Uma (Ephedra).*
- Zirgah (Prunus eburnea).*
- Khanjak (Pistachia).*
- Yari-Lang (Onosma-echioides).*
- Ban (Solanum).*
- Jahu (Tamarix).*

4. I am to add that evidently no representative from this Administration is necessary for oral evidence which cannot carry much weight in view of the evidence, on matters under consideration, by the representatives from the far advanced provinces.

**Written Statement, dated the 10th December 1929, of
Mr. MEHTAB SINGH, Industrial Surveyor, Delhi.**

I. I have been connected with the leather tanning and leather working industries in Delhi Province in the official capacity during the past six years.

II. I am of opinion that the proceeds of a cess could be spent profitably for the benefit of the industry of the country as a whole.

III. EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

1. The defects found in hides and skins are caused by the following cattle diseases and pests apart from the internal defects due to mal-nutrition:—

- (a) Animal eczema and itches;
- (b) Small pox marks, sprains and boils;
- (c) Hair-slips;
- (d) Warble and flies;
- (e) Pan-pet, i.e., the appearance of marks as a result of improper drying of the cattle after being wet in rains.

2. The dissemination of knowledge relating to common cattle disease and their treatment through the medium of rural schools as well as distribution of free literature on the subject are expected to prove useful in this connection.

Flaying.

3. The numerous cuts, scores and gashes in the hide frequently caused by the inferior methods of flaying employed by the ignorant and illiterate flayer generally in the course of the operation interfere with its value. The flayer who is generally the butcher, *chamar* or sweeper has to flay a number of cattle at a time and often damages the hide with cuts and gashes to finish his work in haste. With a view to giving the flesh the look of rich meat, the butcher generally keeps all the fat on it in the process of flaying and consequently injures the hide with several gashes rendering the pelt weak. There is another serious defect tending to reduce the quality of the hide in flaying a considerable quantity of flesh along with it to increase its weight and to make it appear thicker in cases of poor and lean cattle. In addition, extraneous matters, such as, ears, loose membranes, tail-bone, knees, hoofs, etc., are sometimes left with the hide with the object to increase its weight. The putrefaction which sets in the portion of flesh left attached to the hide damages it to a great extent.

4. The flayer who is generally an unskilled operator needs to be educated in the art of flaying to improve matters. The neglect of precautions in the process of flaying robs the stuff of its value to an appreciable extent. The damages of faulty flaying may be known to the worker who may be encouraged by the payment of bonus for good work. The appointment of an inspector for purposes of supervision and the provision of well lighted slaughter-houses in important localities are also regarded to exercise a beneficial influence.

5. In the existing conditions, the appointment of flaying instructors and supervisors is likely to yield beneficial results. The unskilled flayer creates serious defects in the hide which is consequently often rendered worthless. The flayer needs to be impressed that a better-flayed hide would fetch a better value for his labour. The appointment of the peripatetic village demonstration party for the provision of suitable technical advice with commercial demonstrations of the processes of flaying, transporting and curing of hides and skins is considered not only an economic and efficient measure from the point of view of direct development but is expected to be a popular

medium for taking the required knowledge to the homes of the workers concerned.

6. The introduction of flaying knives of an approved pattern among the village flayer through the agency of the village demonstration party is viewed with favour.

7. The cattle is generally slaughtered either late in the evening or early in the morning under the light of an ordinary lamp. The flayer who has to flay a number of cattle at a time to finish the operation in haste damages the hide with several cuts and gashes. The desirability of providing for supervision to save the hide from ruin because of faulty flaying and issuing licence to the skilled flayer by the local body in charge of the slaughter-house deserves consideration. The branding of the cattle by the officer in charge of the slaughter-house should be restricted to hoofs or ham. The brand is usually made on the buttock, the useful part of the hide and is harmful.

8. The introduction of a system of bonus paid to the slaughter-house flayer for good flaying is expected to improve matters.

Curing and preserving.

9. The operation known as curing is performed in several ways, each one being more or less peculiar to the locality from which the hides are shipped. The cure exercises an important influence over the hide and largely determines the character of the leather. The forms of cure commonly employed are sun and wind drying, dry-salting and green-salting. The skilled labour and attention to details reduce the possible damage to a minimum.

10. The principles involved in the process of curing the hide or skin are the removal of natural moisture or the treatment with a substance to prevent the attack of bacteria. The methods commonly employed are (a) air or sun drying, flint drying, smoke or fire drying, and (b) wet salting, dry salting, arsenicating or pickling with acid and salt. The defects of the methods employed are:—

- (i) The hide is made to dry before being properly cleansed from dirt, blood and flesh causing subsequent putrefaction of raw portions.
- (ii) The improper stretching of the hide on the frame produces wrinkles which do not dry with the rest of the hide and consequently the process of putrefaction sets in damaging it.
- (iii) The drying on bamboos by exposure to sun sometimes burns the hide.
- (iv) The long exposure to hot sun or other source of heat and strong wind proves often disastrous to the raw hide or skin.

11. The economic education of the worker is expected to bring about beneficial results. He needs to be thoroughly acquainted with the principles and practice underlying the processes of curing and preserving, and, in particular, of the use of efficient and economical cures and devices employed for the purpose. The provision for imparting training to the worker in improved methods appears desirable.

12. The proceeds of the proposed cess may be usefully spent in the investigation and research connected with curing and preservation of hides with a view to securing a higher appreciation for them in foreign markets.

13. The problem of supply of suitable curing or preserving materials to the village worker may be solved by the co-operative movement.

Adulteration.

14. The practice of adulteration is known to cause a considerable inconvenience and unnecessary expenditure to the tanner resulting in bad effects and loss in the hide. In order to increase the weight of the hide as well as to attempt to conceal the cuts and scores, not only superfluous flesh and

membranes are left attached to it, but several foreign matters, such as dung, mud, saw dust, blood clots, small stones, etc., are often introduced into it.

15. The real remedy to combat the dishonest practice appears to lie in the hands of the dealer who is considered to be in a position to insist upon freedom from adulteration. Legislation on some convenient basis against adulteration of hides might also be taken into consideration, as it is expected to greatly facilitate the export trade.

Other defects.

16. (i) The hide of a dead animal is darker in colour owing to the retention of blood in the carcass and of a lower grade owing to putrefaction and rubs consequent on delayed and careless removal from the owner's house. A ban might be placed on dead hides.

(ii) The branding of cattle with hot irons for purposes of identification renders the hide weak and must be restricted to the hock or knee with narrow marks.

(iii) The live cattle are kept in a small room or are tied in the open with a common rope. As a consequence, they fight and the marks of injuries often appear on the hide causing depreciation in its value. The practice should be discouraged.

(iv) The contusions produced as a result of beating the animal by the attendant leave disfiguring marks on the hide affecting its value to a great extent.

(v) The animal is generally thrown violently on the *pucca* floor of the slaughter-house for slaughter and consequently injuring the hide. The animal should be carefully made to fall gradually on the floor to save its hide from injury.

(vi) The skinning should be done immediately after the slaughter as the loss of time results in heating the hide and consequently tending to reduce the quality.

(vii) The carcass is generally flayed on the floor particularly in villages instead of being hung from the pulleys and the hide is cut in several places owing to the uneasy position of the flayer.

(b) Collection, marketing, export, etc.

18. The bulk of supply in raw hides is mostly derived through the agency of the merchant-middleman, who generally purchases dry cattle and sends them to the slaughter-house to be slaughtered primarily for hides. A well-fed female in a healthy state is considered best for the purpose and yields the richest hide. The hides are gradually gathered by the small collector who passes them on to the large-scale dealer. The dealer in turn brings the hides to the market place where they are bought by the exporter who ships them to other countries.

The village tanner buys his requirements from the merchant-middleman, sometimes for cash but more often on a system of credit. A sum of rupees two to five is generally charged in excess of the cash prices for credit transactions in this province.

The most important country in the world for goat skins is India producing about thirty per cent. of the entire supply. The export trade in skins which are graded according to weights and selections in "Lights", "Medium" and "Heavies" is considerable.

19. The railway wagons provided for the transportation of hides and skins are regarded not suitable. The wagons with wooden bases and sides may be provided for the transportation of wet-salted hides while those with greater accommodation for arsenicated dry hides. The hides may further be classified as perishable articles with a provision of quicker transport. The hides are sometimes torn in the processes of loading and unloading from the railway and require careful handling.

20. The problem of supply of raw materials and marketing of finished products may be solved by the co-operative movement. The formation of industrial societies may not only promote the cottage industry but its conductors made to earn more by co-operation. As things stand at present, the worker prepares his articles singly and separately and sells them at almost unremunerative rates chiefly through the agency of merchant-middleman and is content with what little profit he can thus make. After the organisation of industrial societies, particular care can be taken of the products which when brought into the proper market will increase in value. In order to attain this end, it seems essential that a store for supply of raw material and sales of finished products be established at a suitable central locality. The primary object of this central store should be to provide sound raw materials to the society. Thus the supply of raw material and marketing of finished products may be facilitated. Each society may purchase raw material in cash out of its own capital which may from time to time, be advanced to its members through the provincial co-operative bank by way of loan. The members may sell their produce through the society to central stores which may purchase it for cash to sell it to the dealer. Each worker may further be encouraged by grant of a bonus or rebate on a convenient standard. This is perhaps the best form of co-operation for industrial societies. The central society may also serve an educative purpose by initiating the manufacture of articles of public tastes which have a great demand and thereby popularise the leather tanning and leather working industries of the province.

21. The alleged high railway freight on hides is stated to adversely affect the trade and the provision of special rates for hides transported from Delhi to ports is emphasised from the point of view of development of the local industry. The fundamental need for the transport of materials destined for industrial use at the minimum cost possible may be recognised from the point of view of development of the indigenous industry.

22. The hides are sorted and graded as first, second and third quality according to weights and selection by the expert employed by the local hide merchant, both for internal consumption and external trade. The goat skins are classified according to weight as "Light", "Medium", "Heavies", "Smalls", etc.

23. In the existing conditions of the industry in this province, the introduction of a system of a standardisation and grading for internal consumption or export is not viewed with favour.

IV. TANNING AND ALLIED INDUSTRIES.

24. The proceeds of the proposed cess may be expended with benefit to the tanning industry in this country on:—

- (a) Research work in tanning, dyeing and finishing;
- (b) The training of tanners, tannery foremen and leather chemists;
- (c) Developing the supply and quality of Indian tanstuffs;
- (d) Encouragement of various forms of the leather-working industry.

The cankers eating into the vitals of the industry are the ignorance of the tanner in respect of modern scientific methods of tanning, lack of facilities for the supply of raw materials and marketing of finished products, neglect of precautions in the processes of flaying, transporting and curing of hides and skins, inferior business capacity of the tanner, wastage of substances which could otherwise be rendered into useful bye-products and absence of organisation amongst the workers.

A study of the existing conditions obtaining in the province reveals the fact that the industry is capable of both improvement and extension to the benefit alike of the producer and consumer. There is room for small tanneries employing scientific methods and processes. The tanneries worked on demes-

tic system would have greater advantage over the larger establishments inasmuch as the two vital factors affecting every branch of industry are concerned. These are the preventable wastage in dealing with the raw material in all its phases and overhead charges.

The future of the industry depends on the adoption of scientific methods of manufacturing leather suitable for the production of articles of modern tastes. All the processes possess a chemical value which is not known to the village tanner who works entirely by rule of thumb and continues to employ the methods of his ancestors. The introduction of mechanically operated machinery and labour-saving appliances is likely to influence the tanning trade of the province. The economic education of the tanner is expected to bring about beneficial results. He needs to be thoroughly acquainted with the principles and practice of scientific tanning in all its phases, and, in particular of the use of efficient and economical tanning agents and devices. The water supply which is regarded to have an important bearing in tanning has never been subjected to analytical examination and the causes which produce often anomalous results are so far entirely unknown. A chemical and bacteriological examination of the water supply might yield valuable results in discovering remedies of the defects where they exist. At present, no attention is paid to the utilisation of waste products which would otherwise be made to add to the income of the worker. The provision for imparting training to the village tanner in improved methods and processes applicable to the cottage industry appears therefore to be urgently needed.

25. There is an industrial laboratory attached to the office of the Industrial Surveyor, Delhi, which aims at solving difficulties under which the small industrialist labours as well as providing economic and scientific data for various classes of undertakings which need technical advice and assistance. In addition, it performs the function in a limited sphere of a technological institute in conducting research work in relation to the development of provincial industries, particularly, cottage industries.

26. A scheme in connection with the development of the leather tanning industry in Delhi Province is under the consideration of the Delhi Administration. The scheme deals with the extent and importance of the industry, the raw material employed, the finished products, the outturn, the processes of manufacture, the economic and social conditions of the workers and the suggestions for improvements. It is proposed to appoint peripatetic demonstration staff for the organisation of demonstrations from centre to centre throughout the province. The technological investigation in relation to the development of the industry is proposed to be carried out in the industrial laboratory, Delhi.

28. There is no institution in existence in this province offering instructions for the training of tanners, tannery foremen and leather chemists. A scholarship of the value of Rs. 40 per mensem is, however, awarded by the Delhi Administration to a *bonâ fide* student of the Delhi Province taking a course of training in either (a) General Applied Chemistry and Chemical Research or (b) Oil Chemistry and Technology or (c) Leather Chemistry and Technology or (d) Sugar Chemistry and Technology at the Government Technological Institute Cawapore, in the United Provinces.

29. The supply of trained tanners may be secured from the technological institutes in the country. The leather tanning and leather working industries constitute an occupation of a considerable economic significance in the rural area of this province. A large community of workers known as *chamars* are engaged in and mainly depend on them for their livelihood. The appointment of the peripatetic demonstration staff is believed not only to prove economic and efficient from the point of view of direct development but it is hoped to serve a popular and successful medium for taking the required knowledge to the homes of the cottage workers concerned. The demonstrations and advice imparted through the village demonstration party are likely to be acceptable to the rural tanner who is known for his conservatism, in the existing conditions for the industry.

30. The starting of a class in connection with the existing Government Industrial Middle School, Delhi, is suggested as an experimental measure. The object of the class may be to afford a systematic training in the art of tanning and leather working on modern lines. The instruction may comprise practical training in the subjects which are fundamental in the technical education of the industry including its commercial side and other economic aspects of the trade. The local demand for leather and leather materials is considerable and with the development of the industries according to modern methods, the wealth of the province in hides and skins should record a substantial increase. The imports into Delhi during the nine months from January to September, 1928, stood at 373,246 maunds.

The establishment of the peripatetic tanning demonstration party to provide from centre to centre throughout the province suitable technical advice with commercial demonstrations of the processes involved in the preparation of leather in all its phases appears desirable in the existing conditions. What is urgently needed at the present moment is the education of the rural worker in the technique of his existing craft to organise and develop it on scientific lines and the demonstration party is expected to meet the situation.

31. From a commercial point of view, only inferior kind of leather is produced, the bark-tanned hides forming the bulk of the manufacture. These hides show lack of perfection and being devoid of the requisite softness and flexibility are only suitable for the production of country shoes, water buckets, crude harness and leather straps. There is apparently ample room for producing superior leather to be turned into articles of modern tastes, and if an improvement in this respect could be effected, the economic benefit likely to accrue to the cottage tanner is expected to be very great. The industry at present seems confined to supplying the needs of a particular locality which in some cases may be narrowed down to a small village with a few homes. The ignorance of scientific processes coupled with the defects and drawbacks existing in all the phases of the raw material employed is a necessary corollary of the technical backwardness of the village tanner. Although no reliable statistics relating to the production are available, the annual outturn is estimated at 2,28,000 to 2,60,000 rupees worth of tanned hides and skins. The local demand for leather is considerable and with the improvement in the quality, the wealth of the province in hides and skins could be augmented to a large extent. As regards the export trade in raw hides and skins, no statistics are available, but it may be observed that economically, the export of tanned hides and skins in place of the former can only be a material gain.

32. The raw materials used for tanning, such as, *babul* bark or *kas*, lime, *sajji*, myrobalans, common salt and mustard oil, employed in the treatment of hides and skins are available in Delhi. The province abounds in *babul* trees (*acacia arabica*) which yield the principal tanning agent. The village tanner buys his requirements from the merchant-middleman at Delhi, sometimes for cash but more often on a system of credit. The merchant-middleman is sometimes the purchaser of the finished products of the tanner at prices which leave a bare margin of profit to the latter. The small tanner is financed by a class of traders who not only lend money but lend, purchase and sell hides and other necessities. The rate of interest charged by the money-lender varies from 12 to 36 per cent., per annum. The tanner complains of the tyranny of the middleman through whom raw material is supplied to him and his finished products are disposed of. Some organisation for supplying raw material to the tanner and disposing of his finished goods at market rates seems urgently needed. The most satisfactory way of combating such evils is perhaps to organise co-operative societies of the workers.

33. In young plants of *cassia auriculata*, Hooper found the bark to contain only 11.92 of tannin and 22.35 extract, while in old plants the corresponding figures were 20.12 of the former and 29.0 of the latter. It is regarded to be as the fourth most valuable in a series of tanning materials. The *babul* bark, on the other hand, generally contains 18.95 per cent. of "catechol

tannin " which takes a beautiful cream colour when precipitated with gelatin. Three-fourths of a pound of the bark suffices for one maund of hides according to Martin.

V. **ADVERTISEMENT.**

34. A portion of the proceeds of the proposed cess may be applied to advertising for the benefit of the industry as a whole. The dissemination of knowledge by modern methods is regarded to create a favourable atmosphere for the healthy growth of the industries.

35. The growth of tanning materials may be encouraged by grants to the forest department. The Cess Committee may also assist the industry by means of cheaper supply of tanstuffs and low railway freight. The organisation of the workers together with the promotion of the study of the industry among them generally through dissemination of knowledge by modern educational methods, such as, cinema displays, demonstrations, etc., is also regarded to create a favourable atmosphere and environment for its healthy growth.

VI. **COST OF SCHEMES PROPOSED.**

36. The following are the statements showing expenditure involved in the opening of the proposed tanning class and the establishment of the peripatetic demonstration party:—

Statement showing expenditure involved in the opening of the proposed tanning class.

	Rs.
A. NON-RECURRING EXPENDITURE—	
Tools and implements	1,500
Furniture	250
Equipment—	
(a) Four lime pits, each 5'x5'x4'	200
(b) Four tan pits, each 6'x5'x4'	200
(c) Two suspension pits, each 8'x3'x3'	100
(d) Accessories	250
TOTAL	2,500
B. RECURRING ANNUAL EXPENDITURE—	
(a) Establishment—	
One Instructor @ Rs. 75—5—100 per mensem	900
One Demonstrator @ Rs. 40—2—50 per mensem	480
Two Assistants @ Rs. 25 each per mensem	600
TOTAL	1,980
(b) Contingencies—	
Allowances and honoraria—	
(i) Travelling allowance	300
(ii) Ten stipends @ Rs. 15 each	1,800
Raw materials and agents for purposes of teaching and demonstration	800
Books	60
Miscellaneous charges (including scientific examination of raw materials)	500
TOTAL	3,480

	Rs.
Gross recurring expenditure	5,440
Recovery from sales of finished products	500
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TOTAL NET ANNUAL EXPENDITURE	4,940
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Statement showing expenditure involved in the establishment of the proposed peripatetic demonstration party.

	Rs.
A. NON-RECURRING EXPENDITURE—	
Tools and implements, etc.	150
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TOTAL	150
	<hr/>
B. RECURRING ANNUAL EXPENDITURE—	
(a) Establishment—	
One Instructor @ Rs. 75—5—100 per mensem	900
One Demonstrator @ Rs. 40—2—50 per mensem	480
One Assistant @ Rs. 25—2—35 per mensem	300
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TOTAL	1,680
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(b) Contingencies—	
Travelling allowance	250
Re-agents and materials	150
Miscellaneous	50
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TOTAL	450
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TOTAL RECURRING EXPENDITURE	2,130
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39. The proposed cess may be levied on exports of raw skins and hides.

40. The imposition of a cess, about three rupees per bale of hides and three rupees per cask of skins, is suggested to improve the trade in raw hides and skins.

41. In the first instance, the proposed cess may be levied for a period of five years.

42. The specific rate of the proposed cess is considered preferable to the *ad valorem* duty. The *ad valorem* rate will involve the maintenance of extra staff both by the Government and the trade for the calculation and supervision of the imposition of the duty.

VII. CESS COMMITTEE.

43. The formation of a Cess Committee is viewed with favour for the administration of the proceeds of the proposed cess.

44. The local Governments may be represented on the Committee and the nomination of their representatives may be left to them.

Written Statements, dated the 22nd and the 25th November 1929, of Messrs. CULYERWELL, BROOKS & CO., London.

(Letter dated the 22nd November 1929, from Mr. S. H. Cotton to Mr. J. R. Furlong, of the Imperial Institute, London.)

I have received your favour of the 20th November and will look into the matter and write you in detail later.

I had a similar enquiry from some friends of ours, to which I replied as follows:—

Raw Hides.

"We are in receipt of your favour of 16th September.

"Our Senior, during the War, served upon the Committee which established the duty on raw hides, and it was at that time generally felt that this duty would help the English trade, but, unfortunately, very few of the English tanners continued to use East India raw hides in this country, and the whole of the trade has drifted into its former channels mostly to Germany and Italy.

"Our own feeling is that it will be a very great mistake if the Legislative Assembly abolish the export duty, as, at the present time, it is productive of income which must be of service to the State, whereas, if it is abolished, there will be more raw hides exported to the Continent. The Indian tanners both in Bombay and Madras would then have to pay more for the raw material, which would reduce the shipments of tanned hides to this country, and lead to a good deal of unemployment in the Indian tanning circles."

For the reasons given in this letter, you will understand that the matter is not, in my opinion, one which is, unfortunately, likely to be of any great importance to this country, as this trade has again gone to those countries in which it was specially transacted before the War.

(Letter dated the 25th November 1929, from Mr. S. H. Cotton to Mr. J. R. Furlong, of the Imperial Institute, London.)

I am much obliged for your favour of 23rd November. I am afraid there is very little to add to my previous letter, as I am confident that there is no prospect of re-opening the Indian raw hide business in this country; the tanners have all tried, and put it down. They prefer to have the hides tanned in India, and brought over here for currying purposes, and, in any case, they cannot use the inferior qualities here. Nevertheless, I am giving you a few answers to some of the questions which are included in the circular:—

III. 1. Scabs, taints, rubs, etc. We know of no means of remedying such defects.

2. No action can possibly remedy this matter.

3. Carelessness in the use of the knife. More care should be taken in the fleshing and trimming of the hides, so as to obtain more regularity.

4. Safety knives, or wooden knives, if possible.

8. We have no actual statistics, but think that such a system should prove effective.

The cure on some hides, especially "Daccas," is unnecessarily heavy, some hides being literally plastered on the flesh side. This might be considerably reduced, or avoided altogether, with a clean, dry-salted cure.

16. Is answered by the preceding answers.

17. It is impossible to give any estimate, but no doubt increased fleshing should result in increased value—possibly 20 per cent.

23. "A" is a matter which the Indian tanners alone can reply to. "B". As there is no possibility of doing business in these hides in this country, it is useless to give a reply. In both districts the hides are very well standardised.

IV. 31 "A". Madras. The business in tanned hides has been carried on for so many years upon the present lines, and the purchasers seem to be quite satisfied with the grading of the hides. It is correctly done and we do not recommend it to be altered.

"B". Regarding Bombay tanned hides, it is useless for any system of grading to be adopted in India, because they vary so considerably, that the trade prefer them to be sorted in this country. This was proved during the late War, when we, ourselves, did the whole of the sorting of Bombay tanned hides imported into this country.

33. The *tarwar* bark is preferred, as it gives an even tannage and suitable colour.

The wattle bark leather would not be suitable.

V. 34. A portion of the cess fund might certainly be applied to advertising, for the benefit of the goods, in this country.

Written Statement, dated the 5th December 1929, of the Association of Factors, Merchants and Importers of Leather, Hides and Tanning Materials (Incorporated), London.

(Letter dated the 5th December 1929, from Mr. H. W. Freshwater to Mr. J. R. Furlong, of the Imperial Institute, London.)

In reference to your circular letter of the 26th ultimo, and the questionnaire enclosed, I have had an opportunity of considering the same in conjunction with some of the members of this Association.

This Association is primarily interested in the importation of tanned hides and skins, and a large number of your enquiries refer more to local conditions in India in connection with the raw hide, and upon which it is difficult to offer much advice except on points which are reflected in the article as it arrives in this country.

This Association is not in favour of any cess being continued which has had the effect latterly of better raw hides being exported leaving the commoner kinds for local tanning by the native tanners, which has resulted in lowering the standard of tanned hides arriving in this country.

If, however, a cess has to be levied, it is thought that the proceeds might be utilised for the benefit of the tanning industry in India, and in the flaying and treatment of raw hides.

There has been an increase of defects due to insect pests. Slaughter-house hides are badly damaged by careless flaying, and too many brand marks deteriorate the value of tanned hides which might be more marketable by better grading.

The provision of local salt depôts for the preservation of raw hides, and efforts towards the cultivation of acarum bark so that larger supplies might be available, would be an advantage to the industry in India.

Written Statement, dated the 6th December 1929, of the Federation of Curriers, Light Leather Tanners and Dressers (Incorporated), London.

I. The Federation represents the manufacturers of leather from tanned hides and skins from India.

II. The Federation is not in favour of the proposed cess, as their experience of the export duty has been that it has placed obstacles in the way of the export of the commoner hides and skins and that, consequently, Indian tanners have had to draw their supplies from these, with the result that the consumer of the tanned hides and skins in this country has had a surfeit of common stock. If, however, it is decided to levy a cess, it is the opinion of the Federation that the money should be used for the benefit of the industry.

III. EXPORT TRADE.

Cattle diseases, pests, etc.

1. A noticeable increase in defects due to insect pests.

Flaying.

3. Hides from slaughter-houses badly cut in flaying.

Other defects.

16. Yes, brand marks.

IV. TANNING AND ALLIED INDUSTRIES.

31. By better grading.

33. The Federation considers *araram* eminently desirable as a tanning material, and that efforts should be made to increase the quantity available.

V. ADVERTISEMENT

35. The provision of adequate salt depôts.

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III.

EXPORT TRADE.

Cattle diseases, pests, etc.

1. A noticeable increase in defects due to insect pests.

Flaying.

3. Hides from slaughter-houses badly cut in flaying.

Other defects.

16. Yes, brand marks.

IV.

TANNING AND ALLIED INDUSTRIES.

31. By better grading.

33. The Federation considers *araram* eminently desirable as a tanning material, and that efforts should be made to increase the quantity available.

V.

ADVERTISEMENT

35. The provision of adequate salt depôts.

**Written Statement, dated the 14th December 1929, of the
Hide Shippers' and Agents' Association (Incorporated),
London.**

A copy of a questionnaire drawn up by the Hides Cess Enquiry Committee has been considered by the Council of this Association and I have been requested to put forward the following observations:—

III. 1—2. Tick and warble are the chief pests in connection with Indian hides. No remedy for tick can be suggested. Warble can be obviated by the application of certain solutions to the animals during the warble season, which treatment has been successfully carried out in parts of Europe.

3—8. Flaying of hides and skins in India is on the whole fairly good excepting Burma, where it is distinctly bad. It is also bad in a number of large slaughter-house centres such as Bombay and Hyderabad.

The use of flaying knives of approved pattern is commendable especially if instructors and supervisors travel the villages to show how improvement can be brought about.

The bonus system for well-flayed hides has not, as far as we know, been tried in India, but it has been successful in some parts of Europe, but not successful in others.

The adoption of Perco flaying machines in the largest slaughter-houses might be given consideration.

9—10. The cure of hides and skins in India is very good and far ahead of many other hide exporting countries, but a certain amount of investigation might be useful in maintaining the high standard of efficiency.

As the majority of the animals have died naturally, that is have not been slaughtered, a considerable amount of damage is done to the hide before it is removed from the carcass and propaganda could be usefully employed in advocating speedy treatment of hides.

14—15. Adulteration takes place chiefly in the Dacca and Meherpore hides and Amritsar goat skins, and it would be an advantage if this over-curing could be stopped. Efforts have been made from time to time to overcome this difficulty by buyers refusing to handle the over-cured stock, but in practice these have failed owing to a lack of cohesion amongst the interested parties.

16—17. The branding of cattle and the practice of goading causes great damage to the hide and, therefore, reduces its value. In our opinion, this is a very difficult matter to eradicate and we know of no means that could be employed to that end other than propaganda amongst the cattle owners. It is quite impossible to estimate the damage done in monetary terms.

18—23. So far as the grading, general preservation, packing and shipping of hides is concerned, India stands pre-eminent amongst the exporting centres, and taking into consideration the conditions prevailing, it shows a very high standard of organisation.

V. 34—35. Advertisement is not necessary as far as the distributing of hides and skins is concerned, as most Indian merchants of any importance are in direct communication with the more important buying centres of the world.

Advertisement would be of some use amongst the cattle owners and dealers and could be utilised to draw attention to the damage done by indiscriminate branding and the use of the goad stick, the damage due to inattention of the hide after removal from the animal, and to emphasise the advantages of speedy treatment.

Considerable damage is caused to goat skins by over-stretching when drying, resulting in broken grain which advertisement would go a long way in helping to eradicate.

VI & VII. 36—55. This Association of Hide Shippers' and Agents' with members resident in India, some of whom are giving evidence before the Hides Cess Committee, does not feel competent to express an opinion from London upon the advisability or otherwise of a cess, and considers that this is primarily a matter for the decision of the shippers in India.

**Written Statement, dated the 2nd January 1930, of the
United Tanners' Federation, London.**

As the Manager of the Federation of tanners in Great Britain I have to offer the following comments on those sections of the questionnaire issued by the Indian Hides Cess Enquiry Committee which are of direct interest to them as consumers of Indian hides and skins. The questionnaire contains a number of questions which involve matters affecting local conditions with which tanners in this country are not acquainted, and on these questions no comments are offered.

III.

EXPORT TRADE.

(a) *Quality of hides and skins.*

Cattle diseases, pests, etc.

The chief defects observed by tanners in this country in hides and skins coming from India arise from cattle ticks, warble flies and disease marks. Warble damage is particularly prevalent in hides and skins coming from between Cawnpore and Calcutta. In addition, a very prevalent defect, particularly in goat skins, is the presence of deep scratches along the flanks caused by thorns or by barbed wire. These are almost universal in skins from South India and greatly diminish the value of the skins. The elimination of these scratches from goat skins, it is considered, would increase the value of the skins by as much as 25 per cent.

With regard to possible action for the removal of these defects, a great deal of work has been done in Great Britain and other countries in an effort to combat the ravages of the warble fly, and remedies have been discovered which have proved to be effective in destroying the grubs of the fly. The wide dissemination of information among those engaged in raising cattle and goats in India regarding the remedies which can be applied for the elimination of the warble fly would undoubtedly lead to a marked diminution of the damage caused by this insect.

It is suggested that the improvement of hides and skins by the elimination of the defects mentioned above would form a useful subject for research under the aegis of the Hides Cess Committee.

Flaying.

In the opinion of tanners of both hides and goat skins in this country, it is considered that the flaying of native hides and skins is on the whole fairly good. In the case of goat skins of the "Patna" type, however, a substantial proportion of these skins are deeply gouged by the flaying instruments in a manner which is obviously preventable.

In cases where goat skins, shipped from Calcutta, are sold by measurement, serious damage is sometimes done by stretching in order to increase the length. This is particularly the case with kid skins and as a result the grain is seriously damaged.

Curing and preserving.

With regard to the questions under this heading, tanners in this country are on the whole satisfied with the present curing of Indian hides and skins, with the exception of the comments made in the next paragraph. The three principal methods used in the preservation of hides and skins are wet-salting, dry-salting and drying. Where hides and skins are wet-salted or dry-salted this gives unscrupulous dealers an opportunity for adulteration, and many tanners in this country prefer their hides and skins to be shade dried since, if they are properly preserved in this manner, it is easier to observe defects when they are sorted, and in addition it precludes the possibility of adulteration.

Adulteration.

One of the chief complaints made by tanners in this country against Indian hides and skins is that they are often adulterated. This is usually done by the addition of mud to the salt, leading to a corresponding increase in the weight. In the case of one class of goat skins this practice at one time became so bad that the more reputable shippers ceased to offer these skins on a weight basis and sold them on a basis of measurement. After a short time, however, the natives began to stretch the skins in the manner already indicated, and as a result the reputable shippers have now reverted to selling on a weight basis but have altered the method of cure in order to prevent the adulteration of the skins.

Other defects.

With regard to other defects, it is often found that hides from India are defective owing to callosities along the ribs arising from the animals being thin and lying on hard ground.

In the case of goat skins of the "Patna" type a gradual deterioration in the quality of these skins is becoming apparent, due to causes for which it is difficult to suggest a remedy. These skins come from small short-haired animals, and are one of the finest types of goat skin obtainable. The animals, however, are reared for their meat, the skins being merely a by-product. In order to increase the size of the animal and thus to obtain more meat, the natives have been importing males of a much larger type for breeding purposes. As a result of this crossing the quality of the skins is beginning to deteriorate, and it is feared that eventually goat skins of the "Patna" type will lose the pre-eminent position which they have hitherto held.

The only other matter covered by the questionnaire on which it is desired to comment is the question of packing, particularly of goat skins. At present, goat skins when baled are usually folded with the backbone on the outside of the bale. When this is done any accidental damage, *e.g.*, by hooks, moisture, rusty bands, the leaking of chemical liquids, etc., affects the most valuable part of the skin which is thus ruined for all practical purposes. If the skins are packed flat, such damage will affect only the outside edges and the most valuable portion of the skins will remain undamaged.

With regard to the suggestion that research work on certain subjects connected with the hide and leather trades should be undertaken at the expense of any cess fund that may be formed, it is desired to point out that a very useful subject for research work, if such is carried out, would be the means of reducing the incidence of anthrax and methods of sterilising hides and skins suspected of being infected with the disease. At present the subject of anthrax is one which is receiving the very serious attention of scientific workers in many countries. In Great Britain the British Leather Manufacturers' Research Association has been conducting research work on this subject for some years past, and in view of the very great importance of the subject the co-operation of one of the most important hide and skin producing countries of the world would be of very great value.

**Written Statement, dated the 4th January 1930, of
Messrs. BEYINGTONS & SONS, London.**

Below we give you our views on this subject:—

I. We are one of the largest importing houses of Indian tanned skins which are sold in the London public sales.

II. A cess or duty should be imposed on raw hides and skins exported from India as they go almost entirely to foreign countries, the hides to Germany and the skins to the United States of America.

The Indian tanner should not be deprived of his raw material of hides and skins and without an export duty he cannot afford to compete with the exporters.

The foreign importing countries can pay higher prices for the raw hides and skins than the Indian tanners as they are put to better purposes than the Indian tanned ones.

The foreign importing countries can afford to pay a duty as the hides and skins are so suitable for the particular purposes to which they are put.

A duty of, say, 10 or 15 per cent. would not stop them buying and India would benefit by it.

The Indian exporting houses are a stronger group of men than the Indian tanners, the former held the sway before the War, during the War this power was taken from them, a duty of 15 per cent. was levied on the exported raw hides and skins with a rebate of 10 per cent. to England and the Dominions.

England could not take up the tanning of Indian hides and skins as being a free country she had no protection from the foreigner who had already established this class of business.

The Indian exporting houses recovered their power again after the War and managed to get the export duty reduced to 5 per cent. which is not sufficient protection to the Indian tanner.

The Indian tanners of skins are in a bad way and if something is not done for them many will be closed down.

III. 14. The adulteration of tanned skins, more particularly sheep, has sprung up within the last few years but is on the decline again as skins sent to market in this condition have realised very low prices, and have sometimes been practically unsaleable.

IV. 24. The tanning of goat and sheep skins as regards leather can scarcely be improved on as the Indian tanner is very skilful and bad leather is almost unknown. Improvement could be made in dehairing, the knives should be carefully examined each day as so much damage can be done to the surface of the skin by scratching by defective knives.

Dyeing or finishing in India is not desirable as the article in the tanned state is the raw material of the countries to which it is imported. It is there dyed and finished according to the needs of the country.

**Written Statement, dated the 9th January 1930, of
Messrs. DYSTER, NALDER & CO., London.**

We give below our views on various headings of above, viz. :—

I. We are interested as brokers in the sale by auction of tanned East India goat and sheep skins, and tanned hides. The bulk of the production of tanned goat and sheep skins is disposed of at the London public sales, and we have since the foundation of the industry, handled a majority of the exports from Madras. Of late years, 90 per cent. of the supplies from this presidency have passed through our hands.

II. We think that in considering the interests of the Indian tanner, *vis-a-vis*, the exporters of raw skins and hides, the supply of raw material for the former should first be assured, and, particularly so, in view of the large body of labour employed in the tanning industry.

The intensity of export competition of late years, for raw skins especially, has produced a very difficult situation for the tanners, and unless some protection is afforded them, many, from all reports, are likely to be forced out of business.

We do not consider that the imposition of an export duty of, say, 15 per cent. on raw skins and hides, while giving assistance to the tanner, would prevent exporters of the raw material from securing a reasonable proportion of the available supplies.

III. 14. The adulteration of tanned skins, which is met with to some extent, usually in sheep, is most strongly to be deprecated. While this mal-practice generally receives its due reward in the shape of low and unremunerative prices, suspicion is at times directed, most unjustly, towards goods honestly prepared.

IV. 24. The tanning of goat and sheep skins in India reaches a very high degree of skill, and tanners as a whole have little to learn. A point, however, to which insufficient care is often given, is in the dehairing of skins. Serious and easily avoidable damage is frequently to be observed arising from the use of defective knives, which should be examined daily.

We think that the dyeing and finishing of leather should be left to the countries to which it is exported and consumed, and not attempted in India itself. Dressers in the consuming centres are able better to judge the trend of fashions, and more quickly to adapt themselves to changes of taste, which usually come about without much notice.

Enclosure to the statement.

Concerning the questionnaire issued by the Hides Cess Enquiry Committee, copy of which you were kind enough to send me, I think the views of my firm can be best expressed in a general letter, and I may remind you that we are interested as brokers who handle 90 per cent. of the East India tanned goat and sheep skins sold at the London auctions, received from the Madras Presidency.

We are distinctly in favour of the export duty on Indian raw hides and skins being maintained, or even increased, seeing that the great bulk of these go to foreign buyers. We heard a great deal, during the War, when anything in the shape of a hide was wanted in this country, about the English tanners resolving in future to tan East India hides and skins instead of letting them go to Germany, Austria, Italy and America, but it has all ended in smoke, and so we do not even consider that a rebate in favour of the United Kingdom need be clamoured for. But we are emphatically of opinion that the Indian tanning industry should be nursed to the fullest extent, both as regards hides and goat and sheep skins. As to the two latter, the tanning industry of India has undoubtedly experienced difficulty in securing raw skins at a price which will leave them a margin and to this effect we have received letters from Indian tanners month after month. India tanned hides have been and probably will continue to be,

a very useful commodity to the English currier and leather manufacturer, and everybody knows to what a vast number of uses India tanned goat and sheep skins are put by the home and foreign buyers.

We are of opinion that a cess, if it be imposed, should not remove the export duty. As to the uses of the fund derived from a cess we are in doubt. We do not consider that advertisement and propaganda are necessary. Possibly a little technical advice might be useful but we are not so sure; the art of tanning in India is no new thing, and we doubt if the Indian tanner has much to learn. We have never felt intensely enthusiastic about technical schools for trade purposes. One point which automatically comes before us is—flay, but that applies to hides and skins from every part of the world. Methods have been suggested and cautions sent year after year, but our experience is that the standard of flaying in India, Africa, Europe and elsewhere, does not change appreciably from one generation to another.

We are certainly not in favour of Indian leather being coloured or finished in any way beyond what has hitherto been the case, for the present production is eminently suitable to the infinite variety of colour and finish which manufacturers can adopt. We should like to add that we do not for a moment think that the duty has prejudiced the export from India of raw hides and skins; reduced exports have been common to all parts of the world as a consequence of bad trade in general.