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REPORT
OF THE
Hides Cess Enquiry
Committee

21st October 1929—18th February 1930

Volume I
THE REPORT.



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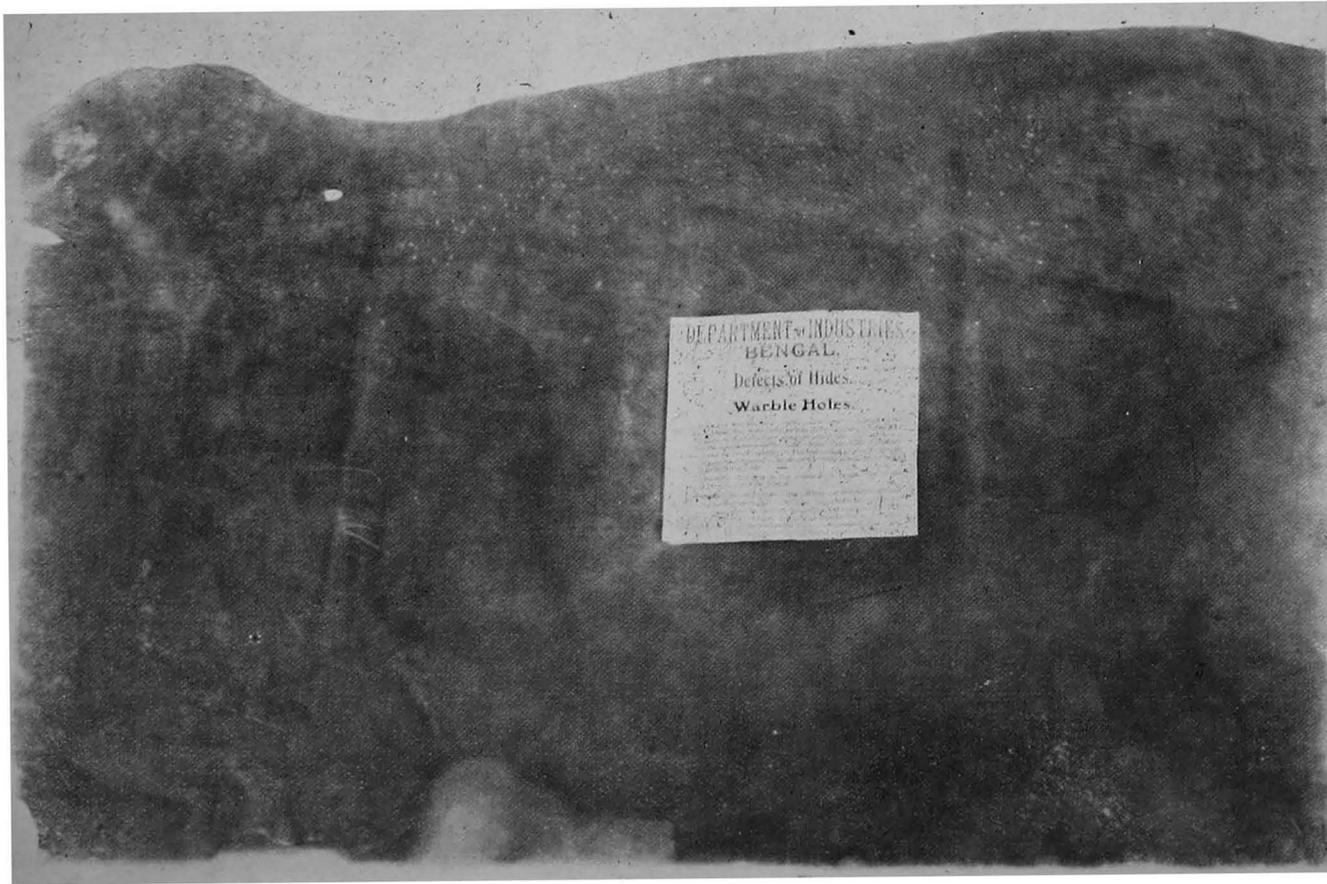
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A.



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Report of the Hides Cess Enquiry Committee.

CHAPTER I.

Introduction.

1. The Hides Cess Enquiry Committee was appointed by the Governor-General in Council under Commerce Department Resolution No. 75-T. (29), dated 28th September 1929, the important portions of which are reproduced below:—

“ The Indian Finance Bill of 1927 provided for the removal of the export duty of 5 per cent. *ad valorem* on raw hides, but when the proposal was put to the vote in the Legislative Assembly, the division resulted in a tie and the President gave his vote in favour of the *status quo*. The removal of the duty was, therefore, negatived. It appeared, however, to the Government of India that the voting in the Assembly reflected a definite well-balanced conflict of interests and that a satisfactory solution of the difficulty might be found in the replacement of the export duty by an export cess, which would be administered by a Committee on the lines of the Indian Central Cotton Committee representing all interests concerned and would be expended for the benefit of the industry as a whole. At the same time, it was considered that this Committee should not be set up without some preliminary investigation, and the Governor General in Council has accordingly decided, after consultation with Local Governments and the commercial and other interests concerned, to appoint an *ad hoc* committee including representatives of the export trade and of the tanning industry 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.’

The Committee will be composed as follows:—

Chairman.

Dr. D. B. Meek, O.B.E., D.Sc., M.A., Director-General of Commercial Intelligence and Statistics.

Members.

- Mr. John Bleeck of Messrs. Max Staub, Limited, representative of the European Shippers of Hides, Calcutta.
- Mr. M. Jamal Mahomed, President, Southern India Chamber of Commerce, Madras, representative of the Madras Tanners.
- Mr. M. Mahomed Ismail, Honorary Secretary, Southern India Skin and Hide Merchants' Association, Madras, representative of the Madras Tanned Hides Shippers.
- Mr. E. L. Price, C.I.E., O.B.E., M.L.A., representative of the Karachi Shippers of Hides.
- Mr. Mohamad Rafique, M.L.A., representative of the Indian Shippers of Hides, Calcutta.
- Mr. E. Wykes of Messrs. Cooper Allen and Company, representative of the Cawnpore Tanners.

Member-Secretary.

Mr. S. P. Shah, I.C.S., Director of Industries, United Provinces.

The Committee will assemble immediately at Calcutta to decide on its procedure. The Government of India consider that for the purpose of local enquiries at important centres of the industry sub-committees might be appointed, each sub-committee consisting of the Chairman, two non-officials, namely one representative of the tanners and one of the shippers, and the Member-Secretary. But this question will be left to the decision of the Committee itself. The Committee is required to report to the Government of India at the earliest possible date."

2. In a subsequent letter the Government of India explained that at their own request the Burma Government were not presented on the Committee and that in accordance with their views it was not intended to apply the cess to hides and skins exported from Burma. They added that there would be no need for our Committee to include Burma in its programme or in the scope of its inquiry. Hence we did not visit Burma and have excluded it from the scope of our Report. Our findings and proposals have reference only to the rest of India. (It has not always been possible to exclude Burma from the statistics etc.)

3. We were not asked specifically to go into the question of the resources and the needs of the raw stock trade and the tanning industry of the Indian States. It was, however, not practicable for us to exclude them from the scope of our inquiry. Hence except where there is a statement to the contrary or the context is repugnant, they should be understood to be included in, and treated along with, those of British India.

4. At the first sitting the scope of the Committee's work was defined, and the interpretation of certain portions of the above-mentioned Resolution was discussed. We accepted the Chairman's view that our Committee was a financial (ways and means) rather than a technical body, and was only charged with the duty of preliminary investigation as to the advisability of imposing a cess for the benefit of the hide and skin industry as a whole and some other connected matters. Constituted as it is, our Committee has not considered itself called upon to undertake an exhaustive survey of the problems or a detailed examination of the methods for attacking them. Though it has had the benefit of three representatives of the raw stock trade, two of the tanning industry and one of the export trade in the tanned hides of Madras, it has recognised that there are no technologists as such as members or formal advisers. It is true that in the course of its inquiry the Committee has collected a good deal of evidence bearing on the technical and commercial problems which the permanent Cess Committee proposed by us will find very useful. All the same, we wish to bring out the point that the objective we have kept before ourselves throughout our inquiry is that of mere preliminary investigation. On the connected subjects of the constitution and functions of a Committee to administer the cess (in case it be decided to impose it) and the objects on which the proceeds of the cess can be usefully spent our Committee has considered itself called upon to go beyond a mere preliminary inquiry. We have felt the weight of responsibility attaching to this important aspect of our work, and we desire that our findings and proposals on these subjects should be treated as our considered verdict.

The question as to whether we should examine the *pros* and *cons* of the question of protection to the Indian tanning and leather industries was also raised at our first meeting. The specific terms referred to us did not include this question, and we did not consider that we were called upon to examine it.

5. As regards the interpretation of the terms of reference the following three questions arose at the very start.

(i) The introductory part of the Resolution under which our Committee was constituted mentions the Government of India's view that a satisfactory solution of the difficulty in connection with the controversial question of the export duty on raw hides might be found in the replacement of that duty by an export cess. On the

other hand, the three terms specifically referred to us do not include this question. The issues we had to decide were whether we were entitled to examine this question and give our findings and recommendation on it, and if so whether we were required to confine it to hides or were entitled to include in it the question of the export duty on skins also.

On the second of these two issues all members now agree, that the use of the definite article preceding the words " export duty " in the following extract from the Resolution " a satisfactory solution of the difficulty might be found in the replacement of the export duty " shows that the question of replacement could only refer to the duty on hides, and that therefore the question of replacement of the export duty on raw skins must, in any case, be left out. As regards the first issue it was, and still is, contended by one member (*viz.*, Mr. Price) that it is within the Committee's purview. On this point all the other seven members hold a different view. It is true that the introductory portion of the Resolution mentions the Government of India's view that the imposition of a cess in replacement of the export duty on raw hides and the setting up of a Committee to administer the cess fund might prove a satisfactory solution of the difficulty over a controversial issue. But we all accept the Chairman's interpretation that this issue has not been specifically referred to us, and that if it was the Government's idea that we should give our finding and make a recommendation on this important issue, the terms of reference would have specifically included it. The view taken by the Government of India on this very issue in connection with the resignations sent in but subsequently withdrawn by the two members from Madras supports our interpretation. Mr. Price's contention that only a formal Resolution can amend an earlier Resolution is in our opinion beside the point, because the correspondence in which this position was made clear does not profess to *amend* but only to *clarify* the Government's definition of the scope of our reference.

(ii) On the connected question of the imposition of a cess on skins—raw or tanned or both—there was divergence of view. The first term of reference requires the Committee to suggest the " articles " on which a cess might be imposed. Apart from its context this word is wide enough to cover skins—both raw and tanned. The contention of the representatives of the raw stock trade interests was that it should be so interpreted—a view which Mr. Wykes also shared. The two members from Madras argued that the introductory portion of the Resolution had only raw hides in view, and that even the Government of India had only the interests representing the hide trade and the hide tanning industry in view when they set up the Committee. They contended that on these grounds the word " articles " should be interpreted in the narrow sense so as to preclude the consideration of the possibility of a cess being imposed on skins. The Chairman's ruling was that the word " articles " should be interpreted so as to include skins—both raw and tanned—also.

(iii) A third difficulty of interpretation arose in connection with the phrase "industry as a whole". It was argued by the two members from Madras that the use of the word "industry" precluded us from making any proposals for the benefit of the trade in raw stock as distinguished from the tanning industry. The Chairman, however, stated his opinion that the phrase was clearly intended by the Government of India to include the trade, and after a little discussion his opinion was unanimously accepted.

6. No clear-cut decision on the first issue had however been taken, when the Committee proceeded to examine the questionnaire

drafted by the Chairman and the Member-Secretary. A few alterations were made and a question relating to the advertisement of India's raw stock, tanned goods and leather and allied manufactures was added to the questionnaire. The Committee decided to issue the questionnaire and to take evidence at the important centres of the trade and the industry, *viz.*, at Cawnpore, Calcutta, Madras, Bombay and Karachi. The time at its disposal being short it had to leave out other centres, *e.g.*, Dacca, Agra, Delhi, Amritsar, Lahore, Bangalore, Trichinopoly. The Committee accepted the Chairman's suggestion that as a rule it would be desirable to invite bodies and organisations rather than persons engaged in the trade or the industry in their individual capacity to give oral evidence. It was also decided that sub-committees for local inquiries and for the purpose of taking evidence on the spot should be set up but that such sub-committees should, as a rule, have four non-official members, *viz.*, two representing the trade and two the tanning industry or the export of tanned stock, besides the Chairman and the Member-Secretary and that Mr. Bleek and Mr. Jamal Mahomed should also join the sub-committee at Calcutta and Madras respectively.

An important decision taken with regard to procedure was to invite (i) the Directors of Industries of the United Provinces, Bengal, Madras and Bombay to serve as co-opted members of the sub-committee when sitting at Cawnpore, Calcutta, Madras and Bombay respectively, and (ii) the heads of the three tanning institutes (*viz.*, Mr. Hudlikar, Head of the Leather Department of the Technological Institute, Cawnpore, Mr. Das of the Bengal Tanning Institute, Calcutta, and Mr. Guthrie of the Leather Trades Institute, Madras) to attend its meetings with permission to assist their respective Directors of Industries. The Local Governments concerned were addressed and readily acceded to the Committee's wishes in both these matters.

7. Before the Committee met as arranged at Cawnpore, the two members from Madras (Mr. Jamal Mahomed and Mr. Mahomed

Reference made clear. Ismail) were desired by the interests represented by them to resign their membership, as those interests thought that the constitution of the Committee was not satisfactory and the terms of reference to, and

the questionnaire issued by, our Committee did not include the question of protection. The Chairman and Mr. Mahomed Ismail proceeded to Delhi, where the matter was discussed with the Commerce Department. Mr. Mahomed Ismail received an assurance which was confirmed by the Government of India in their letters to the Southern India Chamber of Commerce and the Southern India Skin and Hide Merchants' Association that the appointment of our Committee did not pre-suppose the abolition of the export duty on raw hides and that by accepting the invitation to serve on the Committee the members representing the tanning industry would not be understood to be committed to any decision in regard to the future of the export duty. The resignations were withdrawn and Mr. Mahomed Ismail joined the sub-committee before it left Cawnpore.

8. In appendix 2, we have given detailed information about the various markets, tanneries, factories, slaughter-houses and educational institutions visited by the whole Committee or the sub-committee and the names of the witnesses who were examined orally. Wherever possible we elicited information informally also. In reply to our questionnaire we received a number of written memoranda from officials, public bodies, chambers of commerce, trade associations and individuals interested in our inquiry (*see* appendix 3). Being pressed for time we found it necessary to curtail the number of centres to be visited by us and therefore also the number of witnesses to be examined orally. But we think the important ground has been covered. The number of official witnesses orally examined was 24 and of non-official witnesses 38. Of the latter 30 represented 11 chambers of commerce or trade associations, the rest appearing in their personal capacity. Analysed on a different principle, 15 witnesses were examined on behalf of the trade and 23 on behalf of the tanning industry, the rest being official or neutral. No witness representing an Indian State as such was orally examined, though we received written memoranda from a few officials in some of the States. The evidence collected by us has been printed in a separate volume.

As our staff of stenographers was altogether inadequate for the purpose of recording oral evidence verbatim, the method adopted by us was that the Member-Secretary took down as full notes as possible and reconstructed the evidence in narrative form. After perusal and alteration (if any) by our Chairman the witness was supplied with a copy of it and was permitted to make verbal alterations. Alterations of substance desired by witnesses have been suitably indicated in the printed volume of Evidence.

We have had to work under pressure. We held our first meeting on the 21st of October 1929, and apart from the printing of our Report we finished our work on the 18th of February 1930. In all, the whole Committee sat on 15 and the sub-committee on 25 days.

9. The estimated cost on account of our Committee has amounted to Rs. 47,000, details of which have been given as appendix 5.

Cost.

10. The distinction between hides and skins as understood by the trade is based on size and thickness. The larger and heavier pelts are termed hides and the smaller and lighter are termed skins. In this Report the term "hides" will generally mean the hides of cows, bulls, oxen and buffaloes and also the skins of cow and buffalo calves. Generally speaking, it will not include the hides of other animals, e.g., the horse, the camel, the donkey, the mule etc. The term "skins" will generally mean not only the skins of goats and sheep but also of kids and lambs. Other skins, e.g., the skins of deer, *neelgai* (blue-bulls), panthers, leopards, tigers, crocodiles, lizards, reptiles, etc., will generally speaking be excluded.

Terms defined.

NOTE.—It has not been possible to maintain throughout the Report the distinction between hides and skins as defined above (for the purposes of this Report) and other hides and skins, particularly in relation to statistics. But the context will show in which sense the terms have been used in any particular place.

It is not to be supposed that no hides and skins other than those defined above are produced in India. On the contrary such other hides and skins form, absolutely speaking, a by no means negligible item in the country's wealth. But their relative importance *vis-à-vis* the hides and skins as defined above is very much smaller.

By the synonymous terms—"half-tan", "semi-tan", "rough-tan", "crust leather"—will be understood the tannage of hides and skins as practised in Madras, Mysore, Hyderabad and parts of the Bombay Presidency. The views of the trade and of leather experts as to the accuracy of the meaning conveyed by these terms, as to what this tannage really amounts to and the uses to which it can be put will be described in appendix 6.

A small glossary of technical terms has been given as appendix 12.

11. We wish to take this opportunity of placing on record our appreciation of the services rendered to the Committee by Mr. S. P.

Shah, I.C.S., who, besides being a Member of the Committee, was also the Secretary.

Appreciation of the services of—
(i) Secretary and staff. As our office staff was very limited, the work of noting down all oral evidence and preparing it in narrative form was undertaken by Mr. Shah and the excellent manner, in which this evidence was prepared and submitted to us expeditiously, lightened our labours considerably. All our tours and inspections were arranged for us with a thoroughness which left nothing to be desired. It would have been impossible for us to complete our work in the short time at our disposal but for Mr. Shah's assistance in drafting the Report and in sparing himself in nothing to help us. We are under a deep debt of obligation to him and are grateful for this opportunity of expressing our best thanks to him.

We wish also to thank our clerk, Mr. C. C. Chakravartty, and the two stenographers, Mr. V. J. Sane and Mr. V. S. Krishnaswami, for their assistance. They have worked arduously and well in keeping all office work up-to-date in spite of the difficulties arising from our extensive touring.

We take this opportunity of tendering our thanks to the large number of gentlemen—official and non-official—who took the trouble to prepare written evidence and, when invited by us, to give oral evidence as well, or showed us round or helped us in other ways. In particular, we must thank (i) the Calcutta Hides and Skins Shippers' Association, Calcutta, and (ii) Mr. Jamal Mahomed for the excellent photographs supplied to us at considerable cost to themselves. Many of them have been reproduced in this Report and will, we trust, help to a greater understanding of our proposals. Finally, we must leave on record our appreciation of the very valuable assistance rendered at various stages of our work by Messrs. Das, Guthrie and Hudlikar and of the association of the Directors of Industries of Bengal, Madras, Bombay and the United Provinces with the sub-committee's work.

CHAPTER II.

The Indian Hide and Skin Trade.

12. We have not considered ourselves to be a technical Committee, and a detailed consideration of the Indian hide and skin trade or of the Indian tanning industry is therefore somewhat outside the scope of our work. But a broad outline is in our opinion necessary for a correct understanding of our proposals, though we do not claim that it should be treated as authoritative in every respect. Hence we propose to sketch briefly the salient features of each.

13. Hides and skins were objects of trade and barter from very early times, and the industry of curing and dressing them may claim to be among the oldest practised by man. The *Rigveda* refers to tanners and skins of animals prepared by them.* This trade and industry became the special avocation of certain classes of Indian society and gave rise to a vocational caste (*viz.*, the *chamār*), which though one of the depressed classes of India is numerically one of the most important. It is true that in India the sentiment in favour of cows and oxen is very old, and the slaughter of cattle was, from at least *Paurāṇic* times downwards, unknown in the Hindu period of Indian history. But it must be remembered that in an agricultural country like India where the system of agriculture hinges on oxen while the domestic cow supplies some of the chief needs (milk, *ghee*, sour milk etc.) of the household, large herds of cattle used to be kept. Brahmanic, Buddhistic and Jain legends abound in references to individual wealth in this form. A certain number of the "fallen" hides must therefore have been available for internal needs and also where possible for the export trade. Owing however to the prejudice among orthodox Hindus against the use of leather it is probable that leather-making was not as highly developed an art in India as in those countries where there was no such prejudice. Hides are comparatively heavy and bulky and therefore could not in those days be an important article of trade. Marco Polo, the Venetian traveller, when visiting Hormous on the Persian Gulf between 1260 and 1270 A.D. noted that the covers over the Indian ships trading between India and the Gulf ports consisted

* Macdonell's History of Sanskrit Literature, 1925 reprint, pages 167 and 168.

of hides. This is one of the uses to which they are put even at the present day, *e.g.*, on the routes across the Himalayas and on the caravan routes in Persia. It may be safely assumed that during the Mahomedan period of her history India must have made progress in leather-making, as the use of leather for parchment and for book-binding was fairly common in those days.

The first systematic efforts to organise a trade in Indian skins with other countries seems to have been made by the Dutch. "In 1644 A.D. samples of skins from the Coromandal coast were reported on favourably by a Japanese merchant in Batavia and from this year onwards the Dutch exported this article regularly to Japan." (Moreland's "Akbar to Aurangzeb.") The records of the East India Company concerning trade of any kind being fragmentary, the origin of the trade at Calcutta cannot be traced. The earliest specific mention relates to the nine months from June 1829 to February 1830 and indicates that the export trade had been definitely established and was gradually developing. In September 1829 hides emerged from the heading "sundries" and were given a separate heading of their own. For the nine months ending September the figures of export (both quantities and values) were as follows. Total exports from Calcutta were 93,692 pieces, valued at 55,538 *sicca* rupees. Of these 59,391 were shipped to North America and 34,301 to Great Britain. The exports of goat skins in the same period amounted to 263,648 pieces valued at 48,787 *sicca* rupees. Of these 161,510 were shipped to North America, 88,938 to Great Britain, and 13,200 to France. Thus we have positive evidence that the trade with Europe and America was definitely established at Calcutta about a hundred years ago. From 1850 onwards complete records are available and show that a rapid expansion of this trade took place. For the two years 1850-51 and 1851-52 the official returns of exports of hides and skins from Bengal were 43·88 lakhs of pieces (valued at 30·82 lakhs of rupees) and 38·63 lakhs of pieces (valued at 27·62 lakhs of rupees) respectively. The export trade in hides and skins then occupied the eighth place in importance from the point of view of value.* The destination and value of hides and skins exported from Calcutta as given in the following table of figures relating to the year from 1st May 1851 to 30th April 1852, show (i) that the United Kingdom and North America were the largest buyers of Indian raw stock, (ii) that judging from the average value calf skins formed a larger proportion of the hides which were shipped to North America than of those which were shipped to the other countries and (iii) that

* The relative values of the principal exports from Calcutta in 1851 will provide interesting comparison with the change which has occurred since. (The figures in the following list are for lakhs of rupees). In 1850-51 opium (315), indigo (172), sugar (160), silk (63), grain (38), saltpetre (36) and silk piece-goods (36) took precedence over hides and skins (31); gunnies (22) and jute (20) ranked eleventh and twelfth, *i.e.*, a few places below hides and skins.

North America was as it still is, the largest buyer of Indian raw goat skins:—

—	Cow hides.		Buffalo hides.		Goat skins.	
	Quantity in pieces.	Value in rupees.	Quantity in pieces.	Value in rupees.	Quantity in pieces.	Value in rupees.
1. United Kingdom	1,857,681	16,29,739	2,731	2,731	9,524	18,869
2. North America . .	1,574,803	6,56,522	25,302	25,302	49,535	99,670
3. Genoa	155,653	1,37,574	...	...	...	...
4. France	116,486	91,065	...	...	...	...
5. Hamburg . . .	21,354	20,724	...	...	...	...
6. Antwerp . . .	11,303	11,303	...	...	...	...
7. Trieste . . . .	...	...	29,652	29,762	...	...
Total	3,737,280	25,77,527	60,715	60,795	59,359	1,18,539

Twenty five years later the figures (for the year 1876-77) were:—

—	Pieces.	Total value in lakhs of rupees.	Average value per piece.
			Rs. A. P.
Hides	5,191,762	134.66	About 2 8 0
Skins	2,313,298	15.95	About 0 12 0

The year 1872-73 saw a famine as a result of which the record figure of 8,779,054* pieces was reached. Only after nearly thirty years was this figure again recorded, viz., in the famine year 1900 when exports amounted to 10,528,237 hides. In 1906 the ten million figure was again exceeded, the total exports being 10,525,963 pieces. Normally the exports from Calcutta during some fifty years up to the outbreak of the Great War were at first between five and seven million and later between six and eight million. The War dislocated the trade to a considerable extent and in the few years following its termination the average export from Calcutta has been between $4\frac{1}{2}$ and $5\frac{1}{2}$ million pieces annually. It only remains to add that since the year 1920-21 the export trade has revived to an appreciable extent, the average for the three

* Ox and cow hides only. Buffalo hides not included.

years ending March 1929, being 5.5 million pieces of hides; the highest point was reached in 1927-28.

The development of an export trade in raw skins especially raw goat skins is comparatively more recent than in the case of hides and was caused largely by the adoption of chrome tanning for the production of glacé kid, for which the Indian goat skin was found to be a suitable raw material available in large quantities.

For a graphic representation of the vicissitudes of the export found to be a suitable raw material available in large quantities.

14. No statistics of the production of raw stock in India are available. All we can therefore do is to give the estimates formed by experts. In the case of hides these vary from 12 to 30 million; in the case of skins the estimated production is 26 million pieces a year. The following table abstracted from table 6 in Arnold's "Hides and Skins" (pages 262 and 263) estimates the gross post-war production of cattle-hides and kips in India at between 15.7 and 25.25 million pieces.

	High year of each period.	Low year of each period.
Pre-war	21,950,000	20,150,000
War-time	22,150,000	16,700,000
Post-war	25,250,000	15,700,000

Considering that the cattle population of India* as ascertained at the Cattle Census of 1924-25 was 183 million, whereas Arnold's estimate was based on a cattle population of between 157 and 161 million, his estimate would, if only proportionately altered, yield 29.124 and 18.07 million hides for the high and the low years respectively. Another estimate was given by Mr. Chari of the Calcutta Chrome Tanning Co., Ltd. He thinks the gross annual production is about 30 million. On the other hand the estimate formed by the Calcutta Hides and Skins Shipper's Association was 20 million. Another estimate was 12 million. The estimate made by the Indian Munitions Board was that 50 per cent. was exported and 50 per cent. was consumed by Indian tanneries. ("Review of the Trade in Indian Hides, Skins and Leather" by Mr. McWatters.) Various other estimates will be found in the volume of evidence which has been printed as a companion volume to our Report.

*At our request the Imperial Institute of Veterinary Research worked out an interesting estimate of the average lives of goats and sheep. The average life of cattle has been estimated variously at about four and six years. If these data are applied to India's

* i.e., (i) British India excluding Baluchistan, and (ii) forty of the Indian States. Figures for other States not available.

population of each of these three classes of animals, we get the following figures:—

	Population (in million).	Average life.	Hence production in million.
(i) Cattle	183	{ (i) 4 years (ii) 6 years	(i) 45 (ii) 30
(ii) Goats	49	3.6 years	13.6
(iii) Sheep	35	2.8 years	12.5

Another method of estimating is to assume that about two-thirds of the hides produced in India are now consumed by the local tanneries and the balance is available for export in the raw form. The assumption is based on estimates by experts which vary from each other and is therefore of hypothetical value. But, if the assumption can be made, the gross production of cattle-hides and kips in India would, in an average year, amount to 16.5 million.

For various reasons it is impossible to arrive at a figure which can be generally acceptable. In the present circumstances of the country it is impossible to work out a practicable system of obtaining accurate statistics. Secondly, the gross production is liable to vary within wide limits, as is indeed clear from the fact that the variation from 15.7 to 25.5 million as the gross production of cattle-hides in India between the "high" and the "low" years of each period as given by Arnold is out of all proportion to the variation from 161 to 157 million of the cattle population. The nature of rainfall in any particular year is the most important factor in causing the great difference liable to take place between production from year to year. Under these circumstances it would not be safe to give an estimate of India's annual production—even average annual production. But, we believe the figure of 25 million is not an overestimate.

As regards goat and sheep skins the position is even more difficult. All we can do is to quote some opinions. "It has been calculated that India accounts for nearly one-third of the world's production of goat skins." (Mr. McWatters' Review.) "The goat skin production of India is undoubtedly the largest in the world" (Arnold). Other important countries producing goat skins in excess of their own requirements are China, South Africa, Argentine, Brazil, Mexico, Russia, Morocco and Turkey. For obvious reasons India's position is low down in the list of the world's production of sheep skins. If the Indian Munitions Board's estimate that 90 per cent. of the goat and sheep skins produced in India are exported and only the small balance is finally consumed in the country, the gross annual average production in India would amount to 27 million goat and kid skins and $\frac{3}{4}$ million sheep and lamb skins. But these estimates are only approximate, and vary widely from those derived from the calculation based on average life. The combined total however fairly tallies with that yielded by that calculation.

The value of the total production of raw hides and skins in India has been estimated by us as 18 $\frac{3}{4}$ crores. (See paragraph 109). If the value of other raw stock produced be added, the total figure will be about twenty crores. We mention this in order to bring out the importance of the entire raw-stock trade in India.

15. Raw hides and skins are generally known by the area which produces them. Thus Daccas, Meherpores (or *Désis*), Patnas, Darbhargas, Purneahs, Ranchis, Sambhalpurs, Agras, North-Westerns etc., are territorial classes. Similarly hides produced in Southern India have territorial names. The classification based on the method of cure and preservation adopted happens to roughly coincide with the classification based on areas or groups of areas. Thus the area producing dry-salted hides is roughly co-terminous with the area supplying Daccas and Meherpores, and so on. Hides are further divided into "slaughtereds" and "deads" or "fallen," but it should be borne in mind that a slaughtered hide is not necessarily the hide of an animal killed in a slaughter-house; it may be the hide of an animal dying a natural death provided the hide is good and well-flayed. A further sub-division is based on the weight of the hide. For the export trade there is an elaborate grading and specification of hides fixed by mutual consent between the leading Calcutta shippers and the principal buyers not only at Hamburg but elsewhere. The grading into sizes and the assortment into selections have been as completely standardised as is possible with such raw material as hides. A uniform system of marking has also been adopted. The Hamburg grading and specification and marking (see appendix 8) are recognised as one of the bases for contracts relating to hides meant for shipment from Calcutta to the important European countries. In appendices 7, 8 and 12 we have described the chief technicalities of the raw hide export trade.

Goat and sheep skins are mostly dry-salted with the hair on, but flint-drying, wet-salting in the hair and pickling after unhairing are also practised. As with hides, goat skins are also classified according to the names of the areas producing them, the principal classes in Northern India being Daccas, Dinājpurs, Darbhargas, Muzaffarpurs, North-Westerns, Amritsars. In the raw skin export trade the standard for sorting varies almost from firm to firm, and there is no such generally accepted classification as the Hamburg classification for hides.

It should however be borne in mind that in either case, but especially in the case of hides, careful assortment is undertaken only after the raw stock reaches the chief markets—generally the ports. Thus, hides arrive in Calcutta in mixed lots and parcels of "arsenics" (*i.e.*, air-dried arsenicated hides) or of salted hides, and are put up for sale by the local commission agents. The lots vary in size from about 100 to 3,000 pieces or even more. Prospective buyers make a preliminary assortment as a basis for their

offers but final assortment is made only after purchase and removal to the shippers' godowns.

The internal trade follows almost the same lines as the export trade. Tanneries situated near slaughter-houses buy up the stock "green". In addition they consume almost the entire production of wet-salted hides and a proportion of arsenicated and dry-salted stock.

From the point of view of value the ratio of the relative importance of the two branches of the Indian raw hide and skin trade *viz.*, (i) internal and (ii) export is about 4:3. In absolute figures the total value of the trade (average of the triennium ending 31st March 1929) is $18\frac{3}{4}$ crores and that of the export trade about 8 crores. The difference between these two figures represents the value of the trade serving the entire Indian tanning industry. We should however repeat the warning that for reasons explained elsewhere the figure of $18\frac{3}{4}$ should be taken as only an approximate one. We might also mention that raw stock now is the sixth most important item in India's export trade, those of greater importance being jute, cotton, food-grains, tea and oilseeds. (See foot-note on page 10.)

16. The work done in the shippers' godowns might be described in brief. After arrivals are weighed in, air-dried hides are dipped in a weak solution of arsenic to kill destructive insects, especially the caterpillar of a small black beetle. They are then dried, assorted, trimmed (*i.e.*, the cheeks, leg-ends, ears, tails etc., are cut off), sized and stacked. At the time of baling they are reassorted and made up into parcels of the average weight and quality required. The parcels are then mechanically pressed and securely fastened with ropes. In Karachi iron hoops are used for baling. The bales are then given various marks, *viz.*, the port mark, the shippers' standard mark, assortment mark and the serial number. Salted hides undergo the same procedure except that they are not treated with arsenic, as the salting gives sufficient protection. But if the salted hide has any loading, the false weight is removed. The procedure for removing the loading is laborious and costly. If it is borne in mind that sometimes even up to 80 per cent. of the hides have to be put through such treatment, the delay and expense which recoil ultimately on the primary producer can be imagined. Attempts have been repeatedly made in the past by shippers to combat this evil, but the combination among buyers has always proved unequal to the opposition of the sellers, and has after a period broken down.

17. The important exporting ports are Calcutta and Karachi; in 1928-29 the former accounted for 54 per cent. and the latter 20 per cent. of the country's total export trade in raw stock. The pre-eminence of Calcutta in this respect is due to the fact that it not only serves the important raw-stock producing provinces of Bengal, Bihar-Orissa, the United Provinces and the Central Provinces but also because it came into the field earlier. Besides, Calcutta has en-

joyed the advantage of railway facilities for a far longer time than Karachi. Calcutta is the principal exporting port for all classes of raw hides, while Karachi exports only the air-dried arsenicated hides from the north-western parts of India. The share of Bombay and Madras in the export trade in raw stock is very small, being 10 per cent. and 6 per cent. respectively in the year 1928-29. In addition to these ports, there are many important centres (*e.g.*, Cawnpore, Agra, Delhi, Lahore, Amritsar) of the trade—mainly internal. Some of these also carry on a little direct business with foreign countries. Owing to the discontinuance of the collection and publication of statistics of internal rail-borne trade with effect from the year 1921 recent figures showing the bulk of the trade handled by each cannot be given.

The organisation for the handling of the trade is substantially the same at each centre though variations of detail there undoubtedly are. In Chapter V the organisation has been described in some detail.

18. A certain proportion of hides variously estimated at between 75 per cent. and 50 per cent. is consumed by the indigenous tanning industry which is practised all over the country. The important centres of consumption by organised tanneries—not necessarily on “factory lines”—are Calcutta, Cawnpore, Madras, Bangalore, Bombay and some of the smaller towns in the Madras and Bombay presidencies and in Hyderabad and Mysore States. These tanneries consume not only “green” hides from the local or neighbouring slaughter-houses but also almost the entire wet-salted stock produced in the country. In fact such stock is produced for use in the tanneries of India, the hides intended for export being either dry-salted or air-dried and arsenicated. An important fact to keep in mind is that the “tanning for export” industry of South India has to rely to a very considerable extent on the hides produced in Northern India and distributed largely through Calcutta.

As regards skins the proportion consumed by the indigenous tanning industry—both organised and of the cottage type—is much smaller. No precise information is available, but over a decade ago the Indian Munitions Board estimated that nine-tenths were exported. In the triennium ending 31st March 1929, the proportions of (i) raw skins exported to (ii) those tanned in the country and then exported and to (iii) those tanned and finally consumed in the country work out at 6: 4: 1.

Indian raw hides and skins go to many countries of the world (*see tables*). The pride of place as regards raw cow hides is held by Germany with Italy as second. (But *see note at the bottom of the table below.*) As regards raw goat skins the United States of America is India's chief customer.

The following tables abstracted from the tables appended to this Report show the relative importance of various countries in the

export trade in Indian raw stock. Only quantities are given in tons:—

	1926-27.	1927-28.	1928-29.
(1) Raw cow hides:			
Total	22,242	30,596	28,065
Germany	9,650	16,444	12,784
Italy	5,233	4,453	4,796
Spain	2,581	1,558	2,053
United Kingdom	1,032	2,845	1,183
Netherlands	369	555	1,587
Greece	355	279	1,047
Belgium	124	230	1,014
(2) Raw goat skins:			
Total	19,266	18,706	21,607
United States	15,582	15,689	18,619
France	1,507	712	880
United Kingdom	1,011	896	631
Netherlands	562	657	485
Germany	193	398	241
(3) Raw buffalo hides:			
Total	5,154	8,850	8,034
Germany	1,551	2,528	2,271
Bulgaria	624	649	1,036
United States	550	1,972	980
Turkey (European and Asiatic)	467	535	625
United Kingdom	384	879	498
(4) Raw calf skins:			
Total	483	1,168	1,165
Germany	111	493	326
Spain	221	233	278
Italy	108	211	282
United Kingdom	20	42	18
(5) Raw sheep skins:			
Total	153	379	340
Germany	33	123	830
Italy	40	111	118
France	7	74	168
United States	6	36	111
United Kingdom	66	22	52

NOTE.—These countries are not necessarily the final destinations of the quantities attributed to each. Hamburg is generally the port of entry for Central Europe so far as hides are concerned.

19. It is remarkable that the share of the United Kingdom in this trade as compared with other countries is relatively unimportant. Yet, this was not always so. During the last fifty years a gradual change in the direction of the Indian export trade in raw stock has taken place, the most noticeable feature being the replacement of London by Hamburg as the principal port of destination of raw hides. This is commonly referred to as the "capture of the Indian raw hide trade by Germany". Other minor changes have also taken place, in every instance at the expense of London. These changes are illustrated by the following figures for five year periods quoted from the Indian Munitions Board's Memorandum :

Percentages of total exports of Indian raw hides.

	1870 to 1884.	1889 to 1894.	1899 to 1904.	1909 to 1914.
United Kingdom	64.0	31.2	10.0	4.6
Italy	10.7	14.7	13.0	12.8
Austria	4.7	5.5	9.8	19.6
Germany . . . . .	...	29.6	35.4	37.0

Various reasons have been adduced to account for these changes, such as the development of chrome tanning in Germany, where Indian hides were mostly* chrome-treated, and of the leather-working industry in that part of Austria which is now Czechoslovakia, the inauguration of direct steamship services between India and various continental ports notably Hamburg, Bremen, Antwerp, Marseilles, Genoa, Trieste, special shipping advantages offered for direct shipment to German ports etc. All these may have contributed, but the following quotation from the official "Review of the Trade of British India with other Countries" by J. E. O'Connor, Assistant Secretary, Department of Finance and Commerce, for the year 1878-79 is worthy of attention as giving a point of view since often lost sight of.

"The proportion of the trade which is carried on directly with England in all articles is not increasing, but slowly declining. The connection of England with this country, the close commercial relations established between them for upwards of a century, the discouragement to trade with other countries imposed first by the East India Company's monopoly and then by customs and navigation laws in force until within a comparatively recent period, the accumulation of capital in London, and the unequalled convenience, until the opening of the Suez Canal, of that great commercial centre as a place for the reception and distribution of Eastern merchandise, all combine to account for the great pre-

* One member considers the term 'mostly' misleading; according to his experience not more than 25 per cent. of hides exported from India can be used for chrome tanning.

ponderance of England in the record of the trade of India. The Suez Canal, however, has effected a change which has a tendency to accentuate itself, trade showing a disposition gradually to return to the channel which was the only one used by the nations until the discovery of the passage round the Cape of Good Hope. Again are the cities on the Mediterranean receiving and profiting by that share of the Eastern trade which enriched them * * * *. London still retains, and no doubt long will retain, its supremacy as the vastest depôt in the world, as the centre of at least 60 per cent. of the trade of the Indian Empire; but, gradually, Trieste, Venice, Genoa, Marseilles, are beginning to take a not insignificant share in the account of traffic * * * *."

In many cases where a change in the direction of trade is recorded, the diversion probably had a direct connection with developments in shipping facilities. This for instance applies to the port of Hamburg. In 1890 Mr. George Watt (Dictionary of the Economic Products of India) wrote "Doubtless a great proportion of the immense consignments to the United Kingdom (Rs. 1,21,57,552 for 1887-88) is re-shipped to Continental ports". It is only natural that with the development of the German mercantile marine this re-export trade from London found its way into direct channels and, avoiding the expense of transshipment, went direct to such ports as Hamburg, in proportion as shipping, harbour and warehousing facilities were developed.

In the light of these facts it does not necessarily follow that the loss in trade by the United Kingdom, which is apparent from the figures, by any means represents a corresponding change in the location of the tanning industry utilising Indian hides. But the change of destination does indicate a loss to the United Kingdom in the services of transportation, warehousing and financing etc.; this is due to the natural tendency of all trade to find in time the most direct channel.

In estimating the "direction of trade" at the present day, it should still be borne in mind that the fact of a port lying within a certain country does not mean that the goods shipped to that port are meant for consumption within that particular country. This is obvious with the Italian port of Trieste; it is less obvious with the port of Hamburg, though the latter port is merely the doorway to a vast Continental hinterland which includes, as far as hides are concerned, that important consumer—Czechoslovakia.

Since the War Hamburg has also begun to experience, in a lesser degree, a change similar to that which fell to the lot of London at an earlier date and for the same reason, *viz.*, the tendency of trade to follow the most direct channel. With Hamburg it has in recent years been a question of direct shipment of hides to Scandinavia, a business which previously was very largely in the hands of Hamburg dealers and which to an increasing extent is now being done direct.

Conclusions from recent statistics. 20. Complete statistics have been given in the tables. Some abstracts and a few broad conclusions will be given below.

(i) Exports of raw cow hides from India in tons:—

Year.	United Kingdom.	Central Europe through Germany.	Spain.	Italy.	Austria.	United States of America.	Total.
1912-13 . .	1,754	18,294	2,890	5,805	5,681	3,472	41,560
1913-14 . .	764	17,810	2,093	4,633	7,077	1,841	37,152
1914-15 . .	3,896	6,883	2,095	3,311	1,943	3,694	24,026
1915-16 . .	2,315	...	1,407	17,936	...	9,583	34,456
1916-17 . .	5,305	...	1,717	8,186	...	10,430	29,082
1917-18 . .	7,403	...	...	7,627	...	537	15,679
1918-19 . .	8,560	...	86	4,691	...	420	14,200
1919-20 . .	10,965	64	2,445	4,964	29	15,236	39,427
1920-21 . .	2,106	3,157	1,383	2,957	91	1,978	14,063
1921-22 . .	1,052	10,862	2,912	4,600	12	17	22,255
1922-23 . .	513	9,461	2,283	4,894	46	90	19,902
1923-24 . .	276	11,618	924	5,386	10	145	23,290
1924-25 . .	333	12,379	1,804	5,692	10	275	24,310
1925-26 . .	2,150	8,857	2,137	5,299	...	53	23,286
1926-27 . .	1,032	9,650	2,581	5,233	...	1	23,242
1927-28 . .	2,845	16,444	1,558	4,453	...	855	30,596
1928-29 . .	1,183	12,784	2,053	4,793	37	353	23,065

From the above table the following conclusions emerge:—

- (1) The export trade in raw cow hides has been recovering gradually from the low level of 1920-21.
- (2) The trade during the last two years is still only 73 per cent. of the trade during the two pre-war years.
- (3) As compared with the two pre-war years the trade of the last two years is higher for the United Kingdom and down by 20 per cent. for Germany, 28 per cent. for Spain, 11 per cent. for Italy and 77 per cent. for the United States of America. Austria has been broken up and comparison is not possible.
- (4) As against (2) and (3) there has been an increase of exports in the form of tanned hides. It has not been found

possible, during the time available to us, to measure in precise terms the proportion (in weight) of the average raw hide to the average tanned hide. Otherwise it would have been possible to get a better idea of the movement of the real entire export trade in both its branches.

It should also be noted that the year 1927-28 was a boom year and 1928-29 was very good in the hide trade. Also the increase in the case of Italy is really dependent on the transit trade which goes through Trieste, now an Italian port.

(ii) Export of raw buffalo hides from India in tons:—

Year.	United Kingdom.	Central Europe through Germany.	Netherlands.	Turkey European.	United States of America.	Total.
1912-13 . .	2,326	1,107	1,293	703	7,168	17,252
1913-14 . .	1,313	1,539	1,624	1,368	5,724	17,293
1914-15 . .	2,603	3,870	155	32	5,334	10,587
1915-16 . .	2,566	...	...	...	5,425	8,144
1916-17 . .	1,571	...	...	...	10,786	13,055
1917-18 . .	1,429	...	...	...	2,741	4,245
1918-19 . .	2,180	...	...	...	1,264	3,949
1919-20 . .	4,006	2	232	13	6,404	11,655
1920-21 . .	666	445	125	76	1,088	3,307
1921-22 . .	648	677	37	36	...	2,324
1922-23 . .	935	1,124	71	70	463	3,644
1923-24 . .	619	1,662	68	167	204	5,283
1924-25 . .	355	1,207	176	200	395	4,298
1925-26 . .	690	587	140	332	590	4,395
1926-27 . .	334	1,551	115	210	550	5,154
1927-28 . .	879	2,526	140	295	1,972	6,850
1928-29 . .	496	2,271	201	535	980	8,034

From a study of this table a few conclusions are obvious:—

- (1) The export trade in raw buffalo hides like that in raw cow hides has been gradually recovering from the extremely low figures recorded in 1921-22.
- (2) The total trade during the last two years is still only 50 per cent. of the trade in the years immediately preceding the War.

- (3) While the total trade has only decreased by 50 per cent. of the pre-war figures, the trade with the United Kingdom, Netherlands and the United States of America has diminished by 60 per cent., 88 per cent. and 77 per cent. respectively while that with Germany has increased by 81 per cent. (As regards Germany, *vide* note at bottom of page 17.)
- (4) As against this there has been an increase in the exports of tanned buff hides, but for reasons explained in the case of cow hides it is not possible to give the relative weights of raw and tanned buffalo hides.

The countries of destination given in the table were India's largest customers for buffalo hides before the War and the variation in this trade with India requires examination in greater detail with the aid of the import statistics of these countries.

(iii) As regards raw goat skins the United States of America have always claimed a very large share of the Indian export trade. From 1905-06 onwards this share has been about 70 to 85 per cent., variations from year to year being generally confined to these limits.

(iv) The Indian export trade in raw sheep skins is a trifle compared with that in raw goat skins (*see* the respective charts). In this trade the United States of America occupy a low position. It appears that the German demand is growing, but it is too early yet to judge.

21. We have only to refer briefly to the restrictions imposed in certain countries on the imports of Indian hides and skins in order to keep out certain animal diseases—notably anthrax, foot-and-mouth disease and rinderpest. Such restrictions, where they are in force, apply to imports from all countries in which these diseases are generally prevalent—whether in an endemic or an epidemic form. The methods adopted by different countries vary, but where consular certificates are not accepted, some method of disinfection of the raw stock as soon as it arrives in the country is adopted. Whether the cost of such work has to be paid by the buying or the selling country is a point on which opinion is bound to be as sharply divided as on the similar question as to who pays the export duty, and we do not therefore propose to examine it. There can, however, be no doubt that the existence of the restrictions must normally prejudice the price which would otherwise be received by the seller. We think the problem of attacking such animal diseases is too vast for the Cess Committee. But the devising of a cheap and suitable procedure, whereby the delay and expense to which the export trade is at present liable can be reduced as far as possible, should be one of its important duties. To give only an illustration, the Cess Committee might try with the help of the Indian Government to secure from the countries where restrictions are in force the necessary authority in favour of itself and other specified bodies or persons for the issue of certificates that the stock

covered by the certificate is free from the specified diseases. At the important exporting ports (*viz.*, Calcutta and Madras) and at the important internal market of Cawnpore some machinery is already available and can be utilised for such work. The setting up of similar but cheaper machinery at Karachi and Bombay will have to be considered. Even there it may be possible to utilise the services of the local staff of the provincial veterinary departments.

22. In the absence of accurate statistical data for India and the various other countries concerned and also of a fair measure of agreement as to the qualities of Indian hides and the classes of work for which they are specially suitable it is impossible to define the nature and limits of the competition between hides produced in India and those produced in other countries. Hence we shall only bring together such information as is available to us. As the question itself is somewhat beyond our reference, we have not drawn any conclusions from the data available.

India's place in the world's markets for hides and skins.

The Indian Industrial Commission adopted the figures of 180 million as the cattle population and of 87 million as the total of goats and sheep in India. These almost correspond with the figures of 183 and 84 million respectively yielded by the latest census. (*See* the note at the bottom of page 12.) The world's stock of cattle is estimated to be about 600 million, while the numbers of goats and sheep are not known.

The world's production of hides and kips has been estimated to be between 102 and 73 millions. India holds nearly 30 per cent. of the world's cattle, and her estimated production of hides and kips, *viz.*, about 25 millions, amounts to between 25 per cent. and 33 per cent. of the world production. Thus one important point to be borne in mind as regards India's position in the world's markets is that quantitatively she is in the position of a large supplier to these markets.

Another important consideration is that among the chief stock raising and hide producing countries of the world India is in a position to spare a big surplus for export. Whereas India has on the average of the three years 1926-27 to 1928-29 exported 5.5 million hides, the exports from Argentine, Brazil, Australia, Russia and China have been estimated by Arnold at between 4.77 and 3.03, 3.04 and 2.16, .57 and .26, 3.2 and 1.6 (both pre-war figures) and 2.48 and 1.2 million respectively. (Figures except for India have been borrowed from Arnold's "Hides and Skins.")

Thirdly, it is claimed that the fact that a large proportion of cattle-hides produced in India are light-weight hides (*i.e.*, kips) enables India to influence the world's markets for kips to a greater extent than her share of the world's total production of hides and kips indicates.

It is further claimed that from the tanner's point of view Indian hides and kips possess certain qualities which hides produced in

other countries—even those whose circumstances are similar to India's—do not possess.

As against these facts and claims it has been alleged that Indian hides and kips have no special qualities entitling them to a preference from the tanner's point of view and that kips and heavy hides have, subject to certain limitations, to compete with each other just like any other primary product (*e.g.*, cotton) in spite of some special features possessed by one variety. One of our members informs us that on the German tanner's list the Indian hide occupies the fourth place. It has also been stated that the opening up of new areas by rail and road in various countries has developed the existing, and even created new, sources of supply, *e.g.*, in Africa and South America; the hides of the former and the calf skins of the latter are alleged to be competitors of Indian hides and kips. Table 14 shows that the Indian supply of dry-salted hides to Germany went down by 6·1 per cent. between the periods 1910-12 and 1926-28, whereas Abyssinia, South Africa, Argentine and Brazil increased their supplies by 1·1, 6·4, 11 and 3·4 per cent. respectively.

We do not know to what extent India's position has really deteriorated. It may be that her internal consumption is now much greater than it used to be before the War. It is also a fact that a much larger number is now being exported in the form of tanned hides. It is again possible that India's raw hide trade which was diverted to other countries during and after the War has not yet resumed its pre-war normal level, so far as Germany is concerned. It is unsafe to argue that the diminution of the trade with a particular country must necessarily mean diminution of the production of hides in India or of the total trade with other countries in the maximum available for export after home needs are satisfied.

As regards goat skins India's position is somewhat stronger. Her production is estimated to be about one-third of the world's, and even though her share of the world's production of goat skins is only a little higher than her share of the world's production of hides and kips, experts generally agree that her position in the world's markets is stronger in the case of goat skins than it is in the case of hides. It has been claimed that certain classes of goat-skins, especially those produced in the eastern provinces, possess unique qualities.

As all these controversial issues really hinge round the issue of protection to the Indian tanning industry, which we decided, *ab initio*, to keep outside the scope of our inquiry, we have not examined the question how far, if at all, the various factors mentioned above influence India's position in the world's market for hides and kips and skins. We have stated the facts and the claims made, as we think they will be of some use to those who may have occasion to study the question from this point of view. We have worked out charts (Nos. 13 and 14) showing the comparative movements of the price index of (i) pelts in general and (ii) (a) arseni-

cated Agra cow hides and (b) Dacca dry-salted cow hides, which show that the movements are approximately but not entirely parallel, but we refrain from drawing any inferences from the graphs.

On the other hand, even apart from the question of a monopoly, semi-monopoly or a privileged position, there can be no question about the benefit which would accrue to India, both as regards her internal consumption and her export trade in raw stock as well as in tanned and finished leathers, if the quality of her raw stock is improved; this is the main object which we have kept in view.

CHAPTER III.

The Indian Tanning Industry.

23. The Indian tanning industry is at least as old as the *Rigvedic* hymns (see para. 13). At the end of this chapter has been reprinted a passage quoted from "The

Description of the in- Travels of Marco Polo", which describes the
dustry. leather and leather-working industries as he
found them at certain centres in India.

Like all industries tanning also was in all countries a craft based on empirical methods. A revolution in its technique was inaugurated in the western countries, when the application of modern scientific methods to the tanning industry created a special branch of technology, viz., that of leather. Although India possesses some large tanneries run on modern lines, a large section of the tanning industry, especially that tanning for local needs in the rural areas or preparing tanned goods for export, still follows the old traditional and empirical methods. Chrome-tanning is an important though comparatively recent development, but even now bark tannage is practised over a much larger area, and from the point of view of the aggregate value of the production is much more important. According to the distinct needs served by each the industry may be divided into three types:—(i) the small tanneries tanning with the materials locally available (chiefly the barks of *babul*, *āvāram* etc.), for the local demand for simple leather articles (e.g., foot-wear, leather buckets for lifting water, leather straps and thongs and indigenous types of harness and saddlery) among a predominantly agricultural population, (ii) the tanneries which prepare goods (mainly for export) in a tanned but not finished state and (iii) the tanneries turning out finished leather for the requirements of the towns and to a limited extent for the export trade with foreign countries, chiefly those in the neighbourhood of India which are industrially undeveloped.

Tanyards of the first type are scattered all over the rural areas.

Tanneries of the second type are a special feature of the Madras and Bombay presidencies and the adjoining Indian States, especially Hyderabad and Mysore. Some other centres also have got such tanneries, e.g., Karachi. These areas produce a shrub—*cassia auriculata*—(called *āvāram* in the South and *āval* or *tarwar* in certain other parts of the country) the bark of which is even now the best material for a light tannage amenable, if need be, to partial "stripping" or washing out. The leather produced is soft, mellow, light-coloured and very suitable for subsequent treatment by the currier or dresser. In appendix 6 will be found a discussion of the question as to what the tannage represents and why the tanners leave it at that stage instead of proceeding to finish the tannage.



M. DODD & SONS,
PHOTOGRAPHERS

No. L-1.—REDRYING HIDES FROM NORTHERN INDIA.



No. L-2.—FLESHING HIDES.

This "tanning for export" industry is an important branch of India's total export trade in hides and skins; indeed from the point of view of value this trade is now a little bigger than the trade in raw stock. (For comparative figures *see* table at the bottom of para. 28.)

This industry is about a century old. In the early stages its development was slow, but a rapid expansion took place in the seventies of the last century. Various causes contributed to this development—the repeal in 1875 of the export duty of 3 per cent. on tanned hides and skins, the establishment of the system of public auctions in London, the increasing demand for Indian tanned skins in Germany, the completion of the principal trunk railway lines enabling the tanners in South India to obtain both raw stock and tanning materials from extended areas and to rail the tanned stock to Madras for shipment at greatly reduced cost etc.

Tanneries of the third type are few; only about half a dozen are of considerable dimensions. Two or three of these, however, are large factories equipped with modern machinery and doing not only internal but also some foreign business. One of them claims to be the largest unit in the world handling the raw stock through all the stages up to the manufacture of leather goods.

24. The existing organisation of the tanning industry might be briefly described. The organisation of the small tanyards in the villages is substantially the same as that of other cottage industries, except that the men engaged in them are socially and economically in a weaker position than, *e.g.*, the cottage weavers, the rural carpenters and smiths. The organisation of the tanneries worked on modern lines is, generally speaking, as good as that of similar factories engaged in the other industries. The tanneries producing tanned goods for export are of an intermediate type, but though some of them employ a large labour force—sometimes as many as four or five hundred men—they use very little machinery. Mr. Guthrie has told us that efforts were made in the past to introduce machinery but were in most cases given up after a while.

Purchase, cure and storage of raw materials.—The large tanneries generally have agencies, and sometimes even branches, at the important centres of production or collection of raw hides and skins and other raw materials. These are also purchased from commission agents acting on behalf of raw stock dealers. Direct purchase from small distant markets is unusual, but direct supply from a local slaughter-house, if there is one, is common; in such cases the system adopted is often that of buying on running contracts from dealers rather than from the butchers direct. The area drawn upon for the supply of raw materials is extensive. Madras tanners are regular buyers of raw stock at Calcutta and

Karachi and also at such important upcountry markets as Cawnpore, Delhi, Amritsar etc.

Tanneries have to keep some stock of raw material. To provide against deterioration during storage the raw stock is often cured afresh, for the original cure itself may be defective and in a few cases the raw stock may have arrived in a damaged condition. Owing to the difference between the technical treatment of heavy and that of light pieces the raw stock is sorted out according to the size and the weight. After sorting and curing, hides and skins are stacked, but they are handled frequently as a precaution against deterioration or damage by worms.

Tanning and finishing processes.—The various processes involved in tanning, (*viz.*, liming, dehairing, fleshing, deliming, scudding, re-fleshing, immersion in tan liquor, myrobalan bath, oiling, drying, staking and stuffing) and the processes of dyeing, glazing etc. need not be described in detail, as plenty of literature dealing with technical processes is available.

Marketing.—The system of marketing goods tanned for export is in some respects different from that of marketing finished leather. The latter supplies, in the main, the home needs, and the trade is somewhat like a semi-retail trade supplying relatively small lots against firm orders. But the former caters largely for foreign markets and pursues the methods of wholesale trading. As the system has an important bearing on the problems of this industry, it will be described briefly.

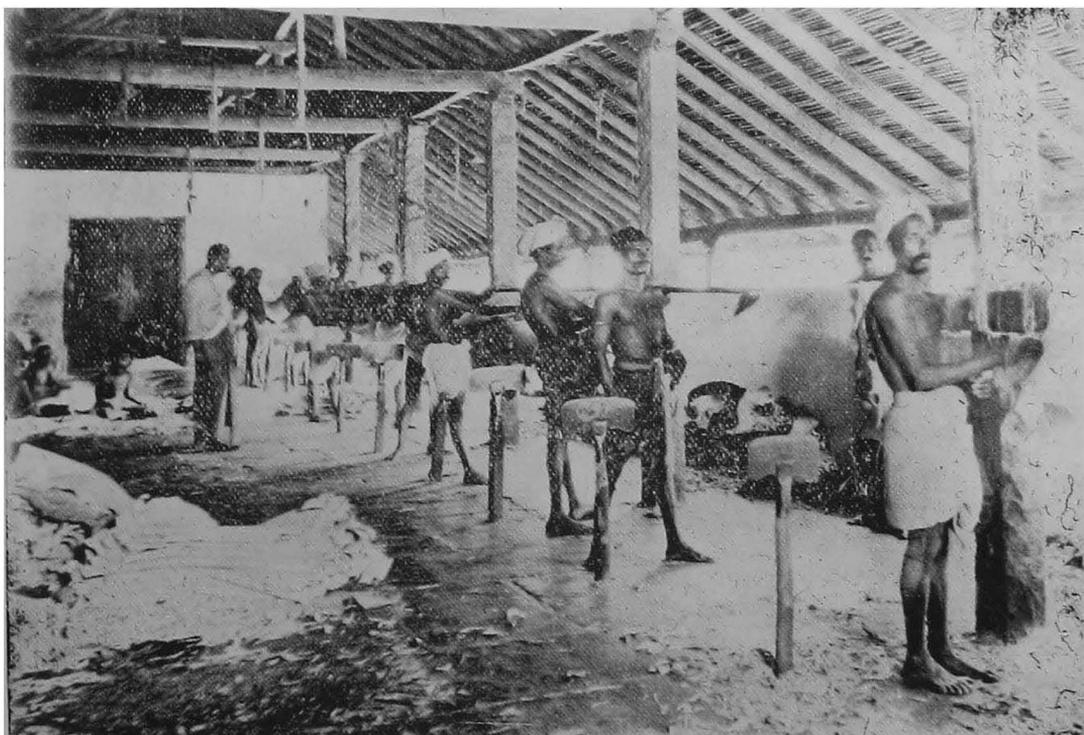
The outturn is sorted out by tanners and damaged pieces are separated. The main lot and the rejections are then sent to the exporting firms direct or through commission agents. The exporting firms carry out the final assortment, which closely follows the assortment for raw stock. They are then packed, pressed and shipped, generally to London. A few large tanners ship their goods direct to London or other places. The exporting firms have their own standards for sorting according to quality, tannage, weight and size.

As regards tanned hides the tanners usually sell the parcels outright. Odd pieces which cannot be packed to advantage for firm orders because of variations beyond the permitted limit in quality or in weight are made up into parcels and put up for public sales. The larger tanners often sell their output directly against firm orders. But some of them and many of the smaller ones send their goods to commission agents at Madras for sale outright. The commission agents assort and then sell to exporting firms who do their own assorting.

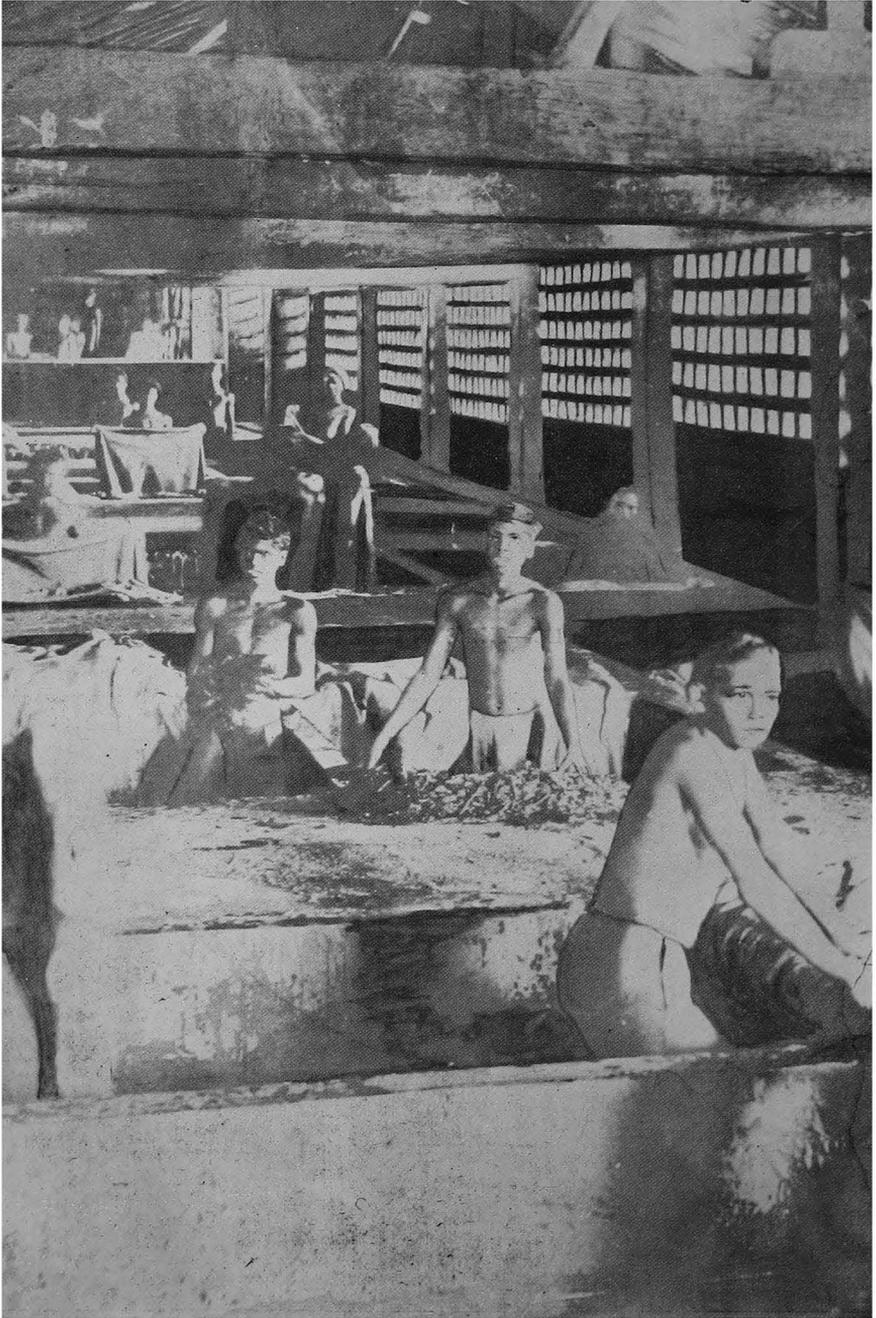
The system followed in respect of tanned skins is to sell a good portion against firm orders to England, America, Japan and other countries. Only special classes of skins (*e.g.*, primes) which are used for high class fancy work go to the public auctions at London and are redistributed from there to other countries.



No. L-3.—SKINS IN LIME PITS.



No. L-4.—FLUFFING SKINS (*i.e.*, cleaning the flesh side).



No. L-5.—HANDLING OF HIDES IN BARK.

25. Broadly speaking, tanned skins fall into three classes of tannage—prime, medium and common. In each class of tannage there are different varieties usually based on the centre or district of tanning, *e.g.*, Dindiguls, Trichies, Coimbatores, Cities etc. There is further classification depending upon the grain, the texture of the pelt etc., and further grading based on the nature and extent of freedom from defects like pox marks, scratches, stains etc. In the case of firm orders certain percentages of the various grades and the average weight are stipulated and supplied.

Technicalities of the export trade in tanned goods.

The chief varieties of tanned hides based on the names of the tanning centres or districts are Bangalores, Hyderabads, Coasts, Mutwadas, Ranipets, Trichies, Dindiguls and "Upcountries". They differ from one another in tannage and in the class of pelt used. Tanned hides are first sorted into "primes" and "bests," except that those named Coasts are generally sorted into "pure" and "ordinary" Coasts. The hides designated primes have closer grain, better substance, more uniform colour and a cleaner flesh side. In the case of Coast hides the terms pure and ordinary correspond to the terms primes and bests used for all the other varieties. All hides are sorted into different weights and also into several grades. The basis of grading is the extent of freedom from various defects. They are sold in lots of regular run, consisting usually of 25 per cent. seconds (note:—there are no "firsts" in tanned hides), 50 per cent. thirds, and 25 per cent. fourths or sometimes 20 per cent. seconds, 60 per cent. thirds and 20 per cent. fourths.

As regards trade marks both tanning and exporting firms have their own marks. Both in the direct order business and in the London public sales the quality, tannage and other factors affecting the value of the tanned stock are known by the marks under which the goods are offered or shipped.

26. Broadly speaking, the tanned stock export trade is carried on on lines similar to those adopted by the raw stock exporters. The technicalities are similar and almost equally complex. Selection and grading need trained and experienced labour and supervision as much in the one as in the other trade. But there are two important differences—one more so than the other.

Comparison of export trade in tanned and in raw stock.

Grading system.—In the raw stock export trade, grading and specification are governed to a large extent by the Hamburg classification. There is no such system in force in the case of tanned stock. In the absence of an authoritative or at least generally accepted written system of the grading and specification for the tanned stock export trade some of us think that the trade must labour under a handicap. Whether the trade needs such a system is a high-

ly technical question which we have not been able to examine. The present view of the trade appears to be that it is not needed. But we are not sure that this view should be accepted as final or unchallengeable. We indicate the existence of this lacuna in the organisation of this trade and are content to leave it to the Cess Committee to take suitable action after thorough investigation. Trade is naturally jealous of outside interference. Hence, our conclusion is that if and when an association on the lines of that described by us in para. 135 comes into being, it will perhaps be a more suitable agency for attacking this problem.

Consignment system.—Auctions.—A more important matter however is the system under which tanned stock is marketed abroad. Considering that there has been marked—sometimes even irreconcilable—divergence of opinion on the merits of this system and its effects on the industry, we think it desirable to describe it briefly and to indicate the problems arising from it.

Tanned stock, especially tanned hides and special classes of tanned skins, are sent chiefly to London, sometimes in execution of firm orders and under the special trade marks of the exporting firms and at others on consignment. The consignments are re-assorted or regrouped and sold by auction. It has been alleged that the consignment system is economically unsound as it involves an element of gambling. On the other hand, most of the witnesses representing the “tanning for export” industry and the two members of our Committee from Madras think the system is suited to the needs of the industry and offers little scope for improvement. This is a highly technical trade matter, and we do not consider ourselves competent to decide which of these views is sounder. But, *primâ facie*, improvement appears to be possible in two directions. If the system of grading or assortment followed at the auctions is known in detail, it should, in our opinion, be possible to do this work in India rather than to leave it to be done in London. Secondly, a portion of the Indian tanned goods, especially skins, disposed of at the London auctions is re-exported from there to other countries. The possibility of building up a direct trade between India and the ultimate consumers of Indian tanned stock should therefore engage the attention of the Cess Committee among others. To complete the above picture we should however add that some tanned goods—especially skins—are even now shipped direct from India to the United States of America, Japan and some other countries.

27. A few important features of the tanning industry need specific mention. The lowest-rung employees are, broadly speaking, drawn from the lower strata of the depressed classes of India, whose standard of education, intelligence and enterprise is not up to the average. Among Hindus there still is some caste prejudice against the industry, though we admit it is weakening. Tanning on modern factory lines was introduced over sixty years ago, but

An outline of some special features.



No. L-6.—SETTING OUT HIDES WITH BRASS SLICKERS.



No. L-7.—STAKING SKINS.



No. L-8.—SELECTION OF SKINS IN MERCHANTS' GODOWNS.



No. L-7.—STAKING SKINS.



No. L-8.—SELECTION OF SKINS IN MERCHANTS' GODOWNS.

the finished leather industry as a whole has not developed greatly in magnitude. Technological research by, and facilities for training in, institutes maintained at the public expense are comparatively new developments and the industry has so far had to carry on without much public assistance in these forms. It is true that foreign competition in supplying the Indian demand for finished leather is not a large factor, the total value of imported leather and leather goods being only 125 lakhs (1928-29 figures); some of the imports are specialities which cannot at present be produced in India. The chief direction in which this section of the tanning industry can expand is the development of the overseas markets for leather, especially in the countries in the neighbourhood of India which are undeveloped industrially.

These and connected problems have been discussed in some detail, and an attempt has been made to indicate remedial action and the cost of such action, in Part B of Chapter VI.

28. The value of the export trade in tanned hides was less than a crore of rupees per year till 1905-06. After 1905-06 the export trades in tanned hides and tanned goat skins were of about equal value, viz., about a crore and a half per year and the tanned sheep skin export trade was a little over a crore of rupees in value. But the entire tanned stock export trade was gradually growing in importance as will be seen from the following figures (in crores of rupees):—

—	1880-81.	1881-82.	1905-06.	1906-07.	1912-13.	1913-14.
Tanned hides . . .	.35	.45	1.55	1.73	2.04	1.59
Tanned goat skins . . .	} not separately available for these years. {		1.25	1.55	1.31	1.61
Tanned sheep skins . . .			1.31	1.61	1.17	.96

The War gave an unprecedented stimulus to the growth of this industry. During the first year the value of the Indian tanned hide for military purposes was not realised, but it was soon found that the *āvāram*-tanned hide was excellent material for the uppers of army boots. The table* below gives (in index numbers) the changes in quantity shipped and value since 1911-12 (which has been accepted as the basic year and given the index number 100):—

—	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.
Quantity shipped . . .	132	99	117	154	184	208
Value	138	107	163	206	303	331

* Reproduced from the Indian Munitions Board's Review.

This table shows that the quantity more than doubled, while the value rose more than three times the basic figure.

The quantity shipped and value of tanned goat and sheep skins also went on rising. Owing to a leather famine in the civil trade in the allied countries the prices of tanned skins reached extraordinary heights. Skin-tanning was proving more profitable than hide-tanning and became a serious competitor with hide-tanning as regards bark supplies. Besides, hides were far more important from the point of view of military requirements. Hence the tanning of skins and the export of tanned skins were prohibited in 1917, and the quantity shipped and value of tanned skins fell sharply in the year 1917-18.

Leaving aside the few years of slump and dislocation of trade after the close of the War the total tanned stock export trade has been gradually expanding as will be apparent from the following table* for the triennium 1926-27 to 1928-29. Quantities are shown in tons and values in crores of rupees. For the sake of comparison the figures relating to the year 1913-14 have also been given. (Note:—For the purpose of exhaustive treatment hides and skins other than those defined in the Introductory Chapter have also been shown in the table.)

	Quantity in tons.				Value in crores of rupees.			
	1913-14.	1926-27.	1927-28.	1928-29.	1913-14.	1926-27.	1927-28.	1928-29.
Tanned cow hides . . .	7,900	9,900	13,300	13,700	1.47	2.34	3.40	3.63
„ buffalo hides . . .	.800	500	1,100	1,400	.11	.10	.22	.20
„ other hides . . .	...	1,000	1,300	1,300	...	.34	.49	.47
Total of tanned hides . . .	8,700	11,400	15,700	16,400	1.58	2.78	4.11	4.40
Tanned goat skins . . .	3,700	3,700	3,900	3,700	1.61	2.45	2.62	2.54
„ sheep skins . . .	2,500	3,300	3,500	3,300	.96	2.10	2.15	2.04
„ other skins . . .	300	...	100	100	.07	.05	.19	.33
Total of tanned skins . . .	6,500	7,000	7,500	7,100	2.64	4.60	4.96	4.91
Total of tanned hides and skins.	15,200	18,400	23,200	23,500	4.22	7.38	9.07	9.31

* Reproduced from the "Review of the Trade of India in 1928-29."

It will be seen that, broadly speaking, the export trade in tanned stock now slightly exceeds in importance the raw export trade. The great change in their relative importance before the War and in the last triennium for which figures are available is apparent from the following table of values (in crores of rupees):—

	1913-14.	1926-27.	1927-28.	1928-29.
Export of raw stock (total)	11·69	7·13	8·74	9·47
„ „ tanned stock (total)	4·22	7·38	9·07	9·31
„ „ raw stock as defined in the Introductory Chapter.	11·40	6·78	8·16	8·97
„ „ tanned stock as defined in the Introductory Chapter.	4·15	6·99	8·99	8·57

(NOTE.—If the figures for Burma be excluded, the relative importance of the export trade in tanned stock for the rest of India will be even higher.)

The importance of Madras Presidency in this export trade is brought out by the facts that in 1928-29, 86 per cent. of the tanned skins and 94 per cent. of the tanned hides exported from India were exported from Madras Presidency, the shares of Bombay Presidency, Sindh and Bengal being 11 per cent., 3 per cent. and *nil* per cent. in the case of skins and 6 per cent., *nil* per cent. and *nil* per cent. in the case of hides respectively.

Extract from the "Travels of Marco Polo" translated and edited by Col. Sir Henry Yule, Volume II, pages 393-394.

* * * They dress in this country* great numbers of skins of various kinds, goat skins, ox skins, buffalo and wild ox skins, as well as those of unicorns and other animals. In fact so many are dressed every year as to load a number of ships for Arabia and other quarters. They also work here beautiful mats in red and blue leather, exquisitely inlaid with figures of birds and beasts, and skilfully embroidered with gold and silver wire. These are marvellously beautiful things; they are used by the Saracens to sleep upon, and capital they are for that purpose. They also work cushions embroidered with gold, so fine that they are worth six marks of silver a piece, whilst some of the sleeping-mats are worth ten marks. * * *

* The reference is to Gujarat.

CHAPTER IV.

Defects in Indian Hides and Skins. Remedies.

We have been able to collect considerable material on the defects arising from various sources and in this chapter we propose to discuss them.

29. At the very commencement of our work we were faced with the question as to whether subjects relating to the breeding, feeding and keeping of livestock, especially cattle, would be germane to our inquiry. We were aware of the fact that the hides and skins of adequately nourished and properly kept animals are superior to those of animals not cared-for or left to semi-starvation—conditions which fairly describe the state of affairs obtaining today over the greater part of the country. But we were not so sure that the bearing of these problems on the improvement (which would undoubtedly result) of hides and skins was so close and proximate as to justify us in proposing that a part of the funds to be raised by means of a cess should be made available for such work. The extent of the task and the large amount of money which would be needed if these problems were to be seriously attacked also impressed us. We therefore decided to eliminate from our questionnaire the questions relating to cattle-breeding and feeding. But we have had occasion to examine a number of experts on the breeding, feeding and keeping of animals. Their evidence convinces us, that appreciable improvement in hides and skins can be brought about if a portion of the funds is devoted to carefully thought out schemes of research and development in these fields. Hence we have decided to discuss some such schemes and indicate the lines and the limitations of such work.

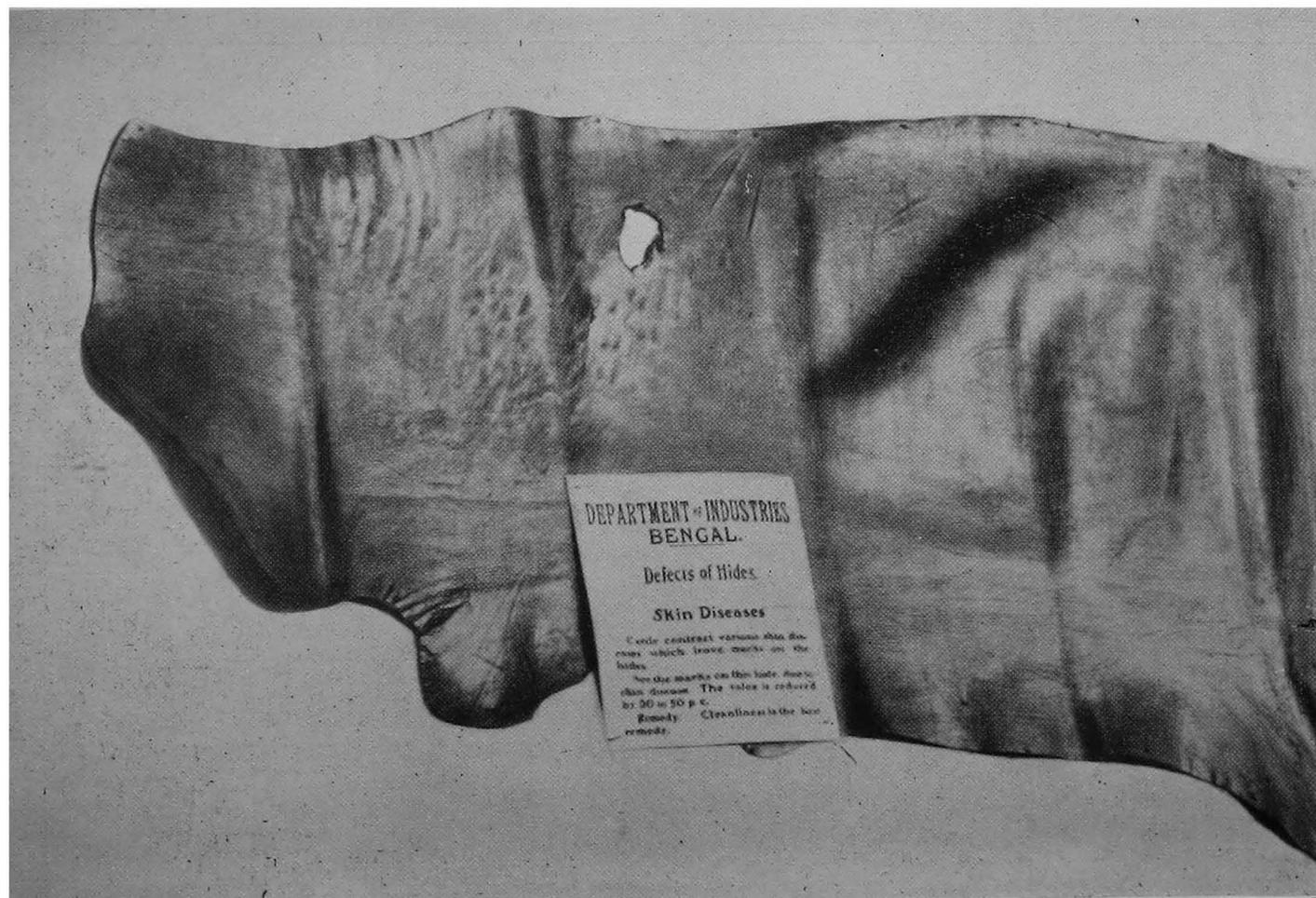
Different animals are at present bred in India for different purposes. Cattle are bred mainly for draft and milk and in a few cases for breeding. In general, buffaloes are reared for milk with draft as a subsidiary function. In their case too meat is, generally speaking, not even a secondary consideration, the only possible exception being the male buffalo calf. Sheep are raised for both wool and meat, the exact relative value of each product varying in the different provinces according to local habits and according to the proximity to, or the distance away from, large centres of mutton-consumption. Goats are reared almost entirely for meat, milk being in the northern and western provinces an important subsidiary factor. Among all these animals, however, one factor is common, *viz.*, that the hide or the skin is invariably treated as a bye-product. This is indeed true of all countries whether economically advanced or backward. But where



No. R-1.—Ill-feeding. Thin flimsy hide without substance.



No. R-3.—Sore marks.



No. R-2.—Skin diseases.

cattle are bred for meat, the hide becomes an important by-product and therefore enters into the stock-raiser's calculation when breeding the animal. In India however except in the case of the goat and to a certain extent the sheep, the value of the hide or skin hardly ever does so. It no doubt is an important consideration with the butcher—perhaps proportionately more so than in other countries. But from the breeder's point of view it is of little consequence. No wonder then that the quality of the hide or the skin has not so far been a great factor influencing the breeding of the animal. On the other hand, we have been assured by experts that there is no reason why it cannot be kept in view when breeding. We have been told that it is possible to improve the hide and the skin from the tanner's point of view without sacrificing the other characteristics—actual or desired, *e.g.*, capacity for draft, hardihood, yield of milk, weight of meat, quality of wool and so on.

The improvement of a hide or skin resulting from the adequate and suitable nourishment and proper care of the animals has been variously described. (See photograph numbered R-1). The substance improves both in quality and quantity. The hide has a silky, mellow and supple feel about it. The texture is more compact. The tensile strength increases, and the surface is even and smooth. The extent to which improvement can in the actual conditions of India be effected is a matter on which some of us are sceptical. The experts emphasised the need for research along these lines, and alluded to their present difficulties mostly due to the inadequacy of funds at their disposal. We accept this advice and hold unani- mously that funds can be usefully spent on research and develop- ment in this direction, and that apart from the general benefit to the rural folks some direct improvement of hides and skins will also result. Hence we recommend that a portion of the funds be devoted to research and development work on these lines.

30. While breeding, feeding and keeping determine the innate quality and characteristics of hides and skins, and thus their

Factors determining the "classification" and the "selection" of raw stock.

"classification," diseases and pests on the one hand and the handling of the raw stock whether on the carcass or after flaying make a far more material difference to them and determine their "grading" or "selection".

We now propose to discuss the latter under the following heads:—
(a) defects due to diseases, to the ravages of insects and vermin, and to old age, (b) defects due to wounds and injuries, *e.g.*, scars, brands, goad-marks, yoke-marks, tar-marks, horn-marks, punctures, scratches etc., (c) those connected with slaughter and with the flaying of slaughtered or of fallen stock, (d) those connected with the handling of the carcass after the flaying, *i.e.*, with the prepara- tion and the cure and preservation and (e) those due to loading and adulteration.

The difficulties and defects of the organisation of the trade will be dealt with in the succeeding chapter.

(a) DEFECTS DUE TO DISEASES AND PESTS AND OLD AGE.

31. Capt. Hickey, Director of the Civil Veterinary Department, United Provinces, has kindly supplied us with a list of the diseases and pests which affect hides and skins. Anthrax renders the hide or the skin unfit for use before it is thoroughly disinfected. Rinderpest, hæmorrhagic septicæmia, "red water" and cow and sheep pox rob the hide or the skin of some of its hide-substance and thus impoverish it. Rinderpest moreover causes pock marks which greatly damage the pelt. "Black-quarter," actinomycosis, multiple abscess, ulcerative lymphangitis, malignant tumours, filaria hæmorrhoidalis and all wounds, especially with maggots, cause holes, sores or breaches in the hide or the skin. Ring-worm, scabies, eczema, dermatitis and intestinal parasites (especially tœnia) impoverish the hide or skin and render it liable to show marks during or after tannage.

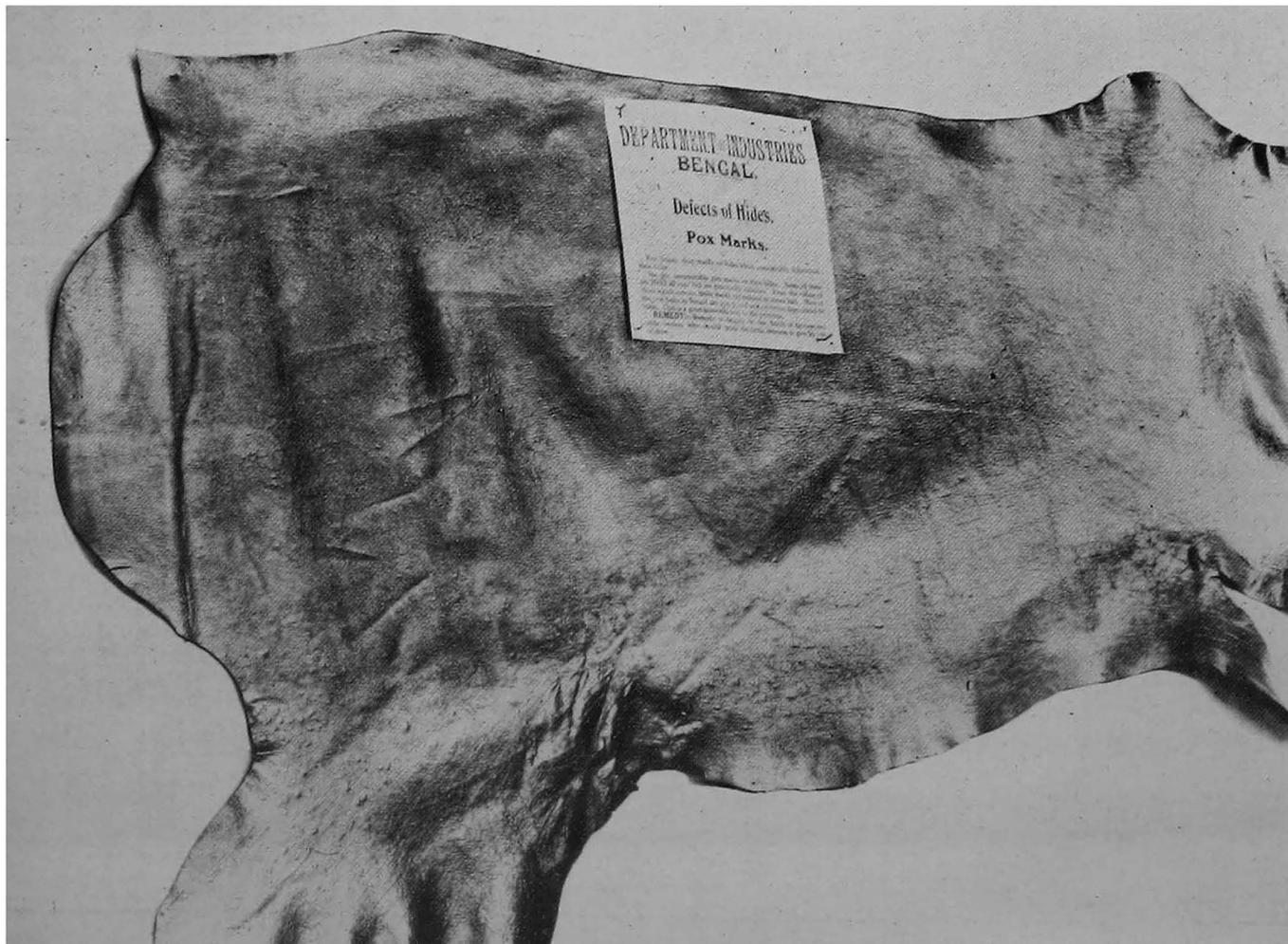
The various forms in which the damage to the hide or the skin occurs are holes, open sores, boils and pimples, scars fully or incompletely healed up, a mangy or scabby appearance, scratching or rubbing of the grain, splitting, thinning, crust-hardening, uneven surface and dents. (See photographs R-2 to R-4.)

32. The fighting of animal diseases is, however, a vast problem, in which the question of national gain through the improvement of hides and skins must play a subsidiary though intrinsically important part. One veterinary officer told us that in the eyes of the veterinary departments the prevention and treatment of the diseases of animals with a view to the improvement of hides and skins was hardly more important than the preservation intact of the brown paper wrapping or covering of a parcel. Were it not for the fact that the almost unanimous trend of the evidence taken by us has convinced us that both (i) the primary producers principally and (ii) the traders, shippers and the Indian tanners to a lesser degree stand to gain by the reduction of the incidence of disease among India's livestock, we would be inclined to treat the question of veterinary research and development work as being somewhat beyond the scope of our proposals. As it is however, we have no hesitation in recommending that such work should receive even greater attention from the Cess Committee than the question of breeding, feeding and maintenance of the livestock.

The present organisation for veterinary research and relief in India is based on the necessity of fighting epidemics. The altogether meagre veterinary staff employed in the provinces finds itself more than fully occupied with the work of preventing the spread of serious outbreaks of contagious diseases. Its strength, equipment and other resources have been admitted to be inadequate for the purpose of dealing even with important non-contagious diseases. Needless to say, the treatment of simple ailments and



No. R-3.—Sore marks.



No. R-4.—Pox marks.

diseases like boils, pimples, sores, cuts, itches, wounds, callouses etc., though not in itself difficult, is beyond their means. Rural folks in the country-side are not altogether devoid of rudimentary veterinary knowledge, but it is traditional and not progressive. It is unusual to find any attempt to spread among them further knowledge about animals, their diseases and the cures of such diseases; in fact even in the text-books intended for rural schools it is rare to come across a description of the common ailments and diseases of cattle and other livestock. We have been told that the practice in France is to impart elementary knowledge about such matters through school text-books. At one of the centres where we took evidence we were informed that veterinary assistant surgeons sometimes tend to be secretive and do not disclose the names of the drugs prescribed by them. Facilities for procuring supplies of drugs (except some indigenous ones) and medical equipment in the rural areas are almost non-existent. Looking at these problems from various points of view we have been thoroughly convinced of the immense work lying in front of the veterinary departments of the local governments and endorse the recommendations of the Royal Commission on Agriculture.

While we agree that a part of the funds at the Cess Committee's disposal can usefully be spent in the form of grants-in-aid for specific purposes to the various provincial veterinary departments, we hold that development work should be left to be financed, in the main, by the local governments concerned, and research should be financed principally by the Central Government. A portion of the funds at the disposal of the Cess Committee can, however, appropriately and usefully be devoted to these objects, specially the latter.

33. Coming to insects and vermin, we propose to deal at some length with only the most important, *viz.*, warble flies, ticks and mites. We have not discussed weevils, beetles, lice and other vermin (*see* photograph R-5), but they will, no doubt, engage the Cess Committee's attention.

34. Almost all the species of flies whose grubs cause warble holes belong to the family *cetridæ* or the bot-flies.

Practicability of remedial action.—This pest has been rightly called the bugbear of the hides and skins trade and the tanning industry. It is not peculiar to India but is found in many other countries, *e.g.*, Russia, Siberia, Northern China, Mongolia, Hawaii, North Africa, South-Western Asia, Brazil etc. Europe and America are not immune from it; even to-day the problem is serious enough in many of the European countries. The enormous extent of the recurring loss caused by it has been responsible for considerable research in various European and American countries. Some of the witnesses who appeared before us have informed us that the problem has been attacked in Europe and America

with varying degrees of success. One witness has stated that Denmark has almost eliminated the pest. Another witness has informed us that the experimental attempt to stamp it out in the case of a small island off the coast of Ireland proved completely successful though it took about six years. In the United Kingdom the pest has received, and is even now receiving, close attention. A representative Committee has just been appointed by the Leather Sellers' Company of the United Kingdom to enquire into the warble pest with the following terms of reference:—

“ To investigate the ravages caused by the warble fly in this and other countries, and to enquire 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.”

Life history.—Accurate and detailed information about the identity and the life history of the Indian warble flies is not yet available. The area where the “ warble ” occurs is, in the main, the dry northern and north-western parts of India, viz., the North-West Frontier Province, the Punjab, Sindh, Rajputana and the western parts of the United Provinces. The winter in this area is, generally speaking, very dry and cold. In Europe too the warble fly seems to find a dry climate favourable. So far as we have been able to ascertain, the parasite does not flourish in Assam, Bengal, Burma, Madras and Bombay (except Sindh), though the damage has been noticed in Bengal. In the Central Provinces and Bihar and Orissa the warble is occasionally found, but as an important pest its habitat is that defined above.

Indian species.—Expert opinion now seems to agree that the species responsible for the warble damage in Northern India are (1) the *hypoderma lineatum*, (2) the *hypoderma bovis*, and (3) the *hypoderma crossi*. It was Capt. Cross who drew attention to the existence of the *hypoderma lineatum* among the Punjab cattle. This species is the commonest among cattle; the other two are rare. Not only cattle but also goats are liable to attack by the two species—*lineatum* and *crossi*. There is a common belief that the warble fly is confined to cattle, but this is totally incorrect. We have seen numerous badly warbled goat skins in some of the godowns visited by us, and we have on record expert evidence as to the occurrence of the warble in goat skins. Deer and occasionally horses are also attacked by the warble fly but sheep seem to be exempt.

Although the warble problem has recently received considerable attention in America, Denmark, Ireland, the United Kingdom and certain other countries, it has not been systematically studied so far in India; nor is a great deal known about it. It has, however, begun to receive attention. A veterinary officer with entomological qualifications is at present engaged at Muktesar in this line of research.



No. R-5.—Insect bites.

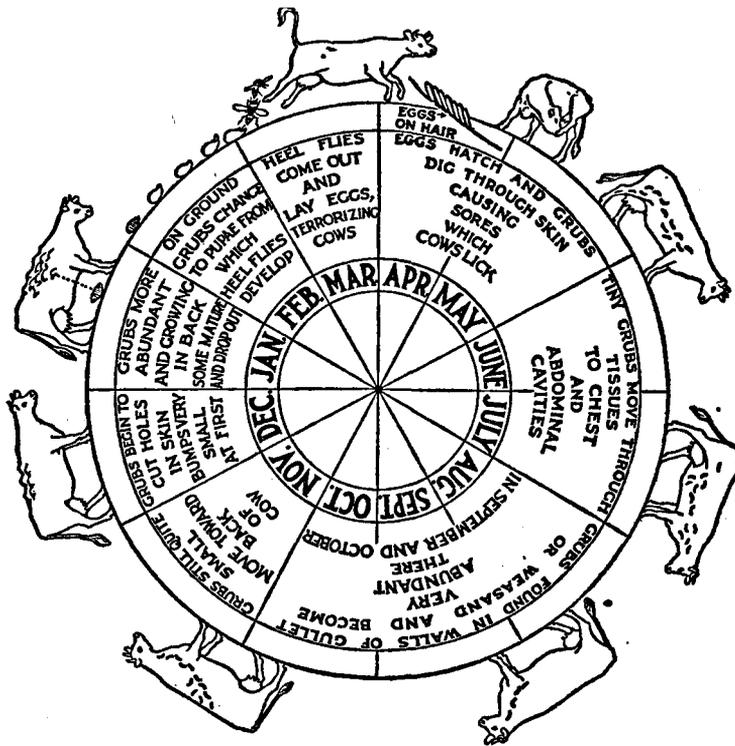


Illustration 1.—Graphic illustration of the life cycle of the common cattle grub. The seasonal development is shown approximately as it occurs at the latitude of central Kansas. The various stages are reached earlier south of this latitude and later north of it.

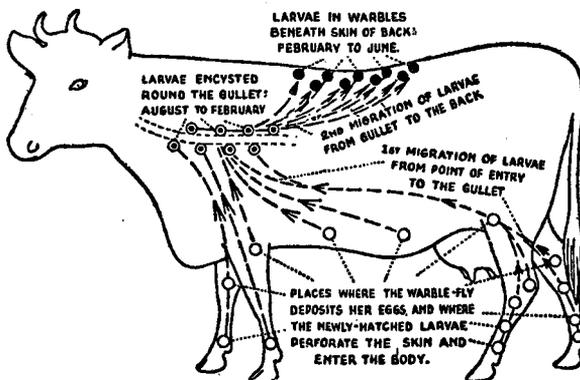


Illustration 2.—Diagram showing the life-history of the warble-maggot, or larva, within the body of the ox.

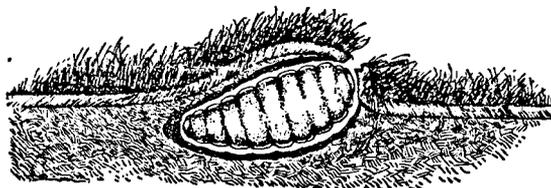


Illustration 3.—The position of a cattle grub beneath the skin. About natural size (For these illustrations see page xi of Table of Contents.)

An examination of the hitherto discovered larval stages seems to show that the common Indian warble fly is the same as the European, viz., the *lineatum* species. Its life-history appears to be definitely seasonal. The season for the different stages of the parasite's life-history differs slightly in different countries. Expert opinion is not agreed as to the real adult fly period in India. Some hold that it coincides with the rainy season from June to August, and some that it begins towards the close of April and ends towards the close of July. The warbles appear on the skin from September onwards, and it is between November and January-February that most of the warbled hides and skins come to the markets. The maggots or *larvæ* escape between November and May and after pupation appear as mature flies chiefly in the rainy season.

Entry into the animal's body.—Different theories have been put forward at various times to explain how the *larvæ* get into the animal's body. A view held sometime back, especially in America, was that as in the case of the horse bot-fly the eggs were laid among the hairs on the back of the animal and that the *larvæ* bored their way through. Another view was that the eggs were laid on the lower parts of the body, mostly on the legs, and were licked in. The theory endorsed by the Departmental Committee (1926) on the Warble Fly Pest in England and now commonly accepted is that the eggs are laid on the lower parts of the animal's body, especially among the coarse hair of the fetlock joint. Here they develop into *larvæ* and bore their way into the skin. How and when these first stage *larvæ* migrate through the animal's body and reach the *œsophagus* is not precisely known, nor have the intermediate stages yet been fully ascertained. The research staff at Muktesar claim to have discovered the second stage *larvæ* of what they believe to be the *hypoderma lineatum* occurring in the *sub-mucosa* of the *œsophagus* under the connective tissue overlying the *rumen*. Although the actual fly has not yet been found (it is said that even the British Museum has only two specimens of *hypoderma bovis*), the staff are experimenting in order to rear the adult fly by engrafting the *larvæ* into the subcutaneous tissue of some hill bulls.

As the *larvæ* develop in the animal's back they form swellings. In the centre of each there is a small breathing hole through which, when-enlarged, the grub emerges. This puncture may in course of time heal up unless the animal dies or is killed soon. But the damage is generally ineradicable.

Nature of damage to the pelt.—The nature of the damage to hides and skins caused by warbles is well known to the trade. Photographs R-6 to R-8 and illustration 4 show at a glance that a badly warbled hide looks as if it had been fired at with a shot-gun. An Indian kip exhibited in the Museum of the Leather Department of the University of Leeds has no less than 680 warble holes! (Some English hides too have almost as many warble holes).

Warbled hides are rendered useless for many of the purposes to which leather is put; whether they are rendered useless wholly or partly depends upon the location, the distribution and the extent of the damage. The strips along the spinal edges of some inferior cattle hides are peppered with warble perforations. Such parts are more or less waste.

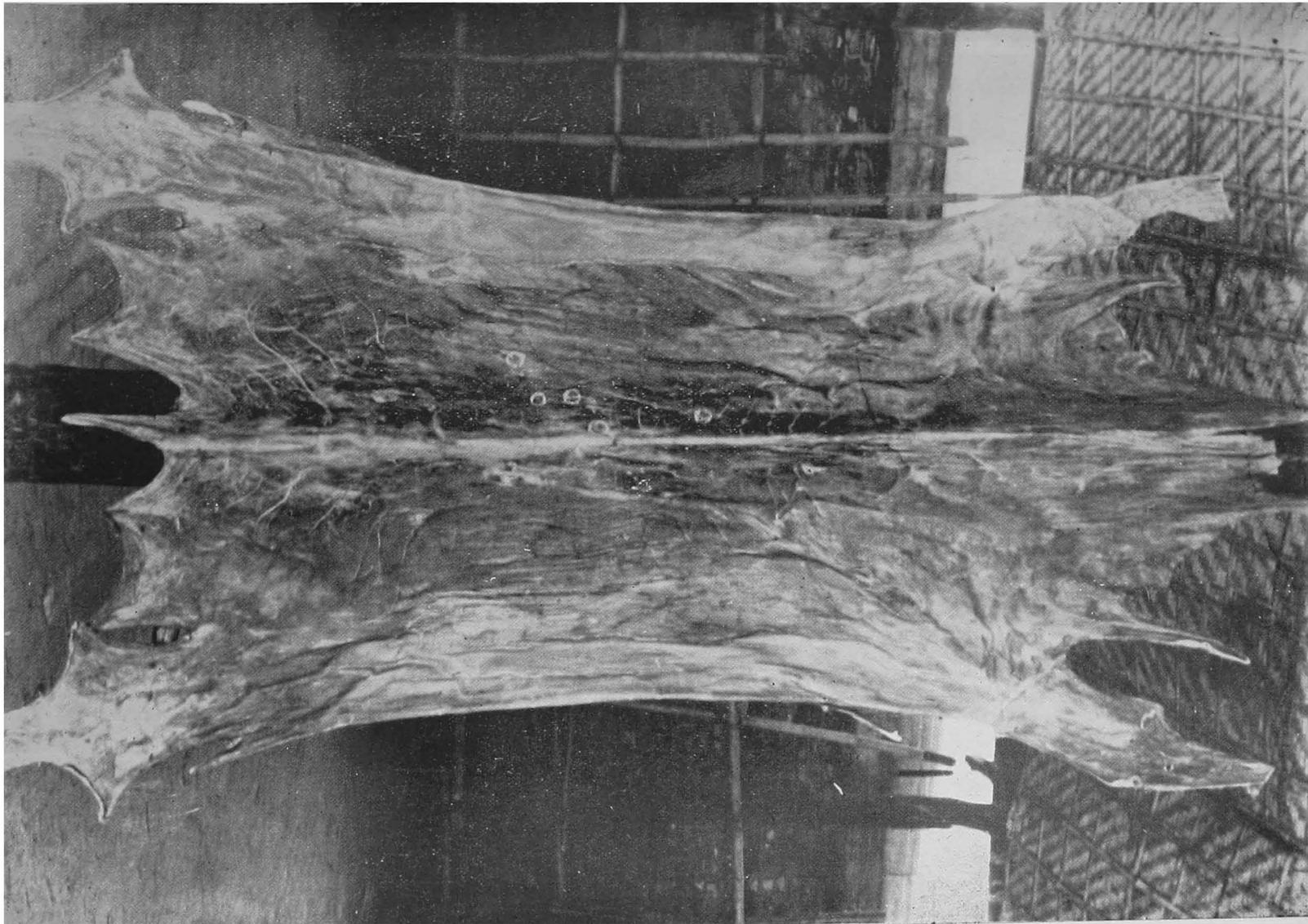
Estimate of loss.—The Report of the British Departmental Committee (1926) states that in the worst years the loss caused in Great Britain by this pest aggregates, even on a conservative estimate, £400,000 to £500,000 per annum. In Canada the percentage of hides affected annually by warbles was found to be between twenty-five and thirty, and the annual damage to hides nearly twenty per cent. of the value. It is believed by authorities that in the United States of America and in Europe the damage done is in excess of the Canadian figures. In 1923 the damage caused by the warble fly in France was estimated at 100,000,000 francs. (At the present rate of exchange a pound sterling is equivalent to a little under 125 francs.)

In India the extent of the damage to hides and skins caused by the warble has not been ascertained so far, but it is so serious that we feel we should give the estimates of various investigators. In 1891 Cotes stated that hides shipped from Calcutta, Bombay and Madras were depreciated on account of the warble to the extent of 50 per cent. on 10 per cent. of the hides, while one-fourth of the hides shipped from Karachi was damaged to the extent of 60 per cent. to 70 per cent. A Calcutta merchant (quoted by Cotes) held the view that 50 per cent. to 75 per cent. of the hides from the North-West Province and the Punjab were warbled hides. In 1921 Cross and Patel estimated that 25 per cent. of the goat skins exported lost 50 per cent. to 70 per cent. of their value. In 1923 Mr. B. Fletcher, Imperial Entomologist at Pusa, made special inquiries from veterinary officers in Sindh and the Punjab and arrived at the following conclusion:—

“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, Sindh and Rajputana.”

In 1926 Cross stated in his publication “Bot Flies of the Punjab” that it had been ascertained that cattle throughout the Punjab were infested with warbles, but that among goats the infestation was principally confined to those kept in hilly areas, *e.g.*, the Salt Range area. Out of about 42,000 cattle examined in one year in the Punjab nearly 12,000 were found to be infested with warbles. Flocks of goats kept in the Salt Range area were found to be infested to the extent of 40 per cent. to 90 per cent.

In connection with our enquiry attempts have been made by witnesses to estimate the depreciation due to various pests, *viz.*, the warble, the tick and certain other causes etc. To give an example, the Calcutta Hides and Skins Shippers' Association estimated the



No. R-7.—Air-dried Agra cow hide. Satisfactory flay and trim but with warble holes (in chalk-marked circles).



No. R-8.—Warble-holed portion of same hide.

depreciation due to the "warble, the tick, brands and other marks etc.," as below:—

"About Rs. 20,00,000 per annum in respect of Agra hides (estimated production two millions); about Rs. 9,00,000 in respect of ordinary arsenicated cow hides (estimated production six millions)."

We have not been able to examine these estimates, nor has any witness estimated the loss caused by warbles separately.

As regards skins the damage due to various defects including warble holes has been estimated at Rs. 45,00,000 per annum. Since we are not in a position to give a precise estimate of the loss due to the warble alone, we would like to quote the view of Mr. Meyer, an employee of Messrs. Briskey and Company of Cawnpore, who has twenty-five years' experience of the goat skins trade at Calcutta and Cawnpore. He says:—

"During the months of March and April and July to October the proportion of goat skins affected by the warble is larger than during the rest of the year. Even 80 per cent. of the goat skins may be warble affected during the worst part of the season. After this there is a gradual improvement in the cold season, when the proportion is reduced to 20 per cent. During the worst time of the year many skins are simply studded with warbles and consequently drop in selection to local sales realising only about four annas per piece.....The difference in value between primes and other classes is chiefly caused by the warble..... On the whole, defects due to the warble are worse, *i.e.*, lead to greater depreciation than flaying defects."

Health also is affected.—The damage to the pelt is not, however, the only loss for which the warble is responsible. In small numbers the warble appears to do no great injury to the animal's health. But Mr. B. M. Das has informed us that the warble fly is considered by some experts to affect the quality of the meat and that therefore there is an agitation in England for action being taken by the Department of Agriculture in connection with the warble. At the time of egg-laying the female fly sometimes creates terror and panic among herds of cattle and causes them to "gad" or gallop about aimlessly. Although the egg-laying causes no pain, the attack is very persistent and cattle are sensitive on the parts attacked. "Gadding" causes considerable loss of milk and of condition; growth too is stunted. The existence of the parasites in the system causes the animals great pain. *Hypodermal* rash (which resembles small-pox) is presumably due to the burrowing of the first stage *larvæ*. It passes off in a fortnight but renders the system weak. *Stenosis* of the gullet is often due to the second stage *larvæ* in the *œsophagus*. The condition of flesh commonly known as "jelly beef" is caused by the mature maggots under the skin. "Anaphylactic shock" has been

ascribed by Jensen and Hadwen to the accidental breaking down of the mature *larvæ* under the skin. Cases of fatal results from the inflammation caused by the attacks of the flies have come to light in other countries and in all probability occur in India also.

Vulnerable stage.—There seems to be no unanimity of opinion yet regarding the most vulnerable stage in the parasite's life-history. Experiments made with a view to preventing the fly from laying eggs or destroying the eggs after they have been laid have not yielded encouraging results. The view commonly held now appears to be that the *larvæ* must be destroyed in the body of the host by squeezing out or by extraction with forceps. (See illustrations 5 and 6 facing this page.) In Denmark and Germany special gangs were employed for squeezing out the ripe maggots. But the English Departmental Committees preferred the application of dressings for destroying the *larvæ*, and recommended the use of a dressing of tobacco powder, lime and water which, it was ascertained, kills 92 per cent. of the *larvæ* and produces no bad effects either on the health or on the hide of the animal treated. To destroy the intermediate larval stages arrhenal injections were tried, but did not prove satisfactory.

Need for research in India.—We have treated the life-history of the warble fly and the damage it causes in some detail, as we think it is one of the more important problems affecting hides and skins. It is true that some research has already been done in India and that research is still proceeding in other parts of the world. But we feel that the results of research undertaken in other countries will require to be adapted to the local conditions obtaining in this country before they can be utilised. Besides this adaptive research we hold that a certain amount of original research will also be necessary. (For finance, see Chapter VII and the synopsis of cost appended to Chapter VI.)

35. *Species.*—A large body of opinion holds that next to the warble flies the parasites which cause most damage, both direct

Ticks.

and indirect, to hides and skins are ticks. They are found both among cattle and sheep. They are not insects but belong to the same zoological class as spiders, scorpions and mites. Zoologists have discovered about sixty species of cattle ticks alone, and a witness who appeared before us admitted knowledge of thirty. Collectively they cover a wide geographical range. The species which is found in tropical countries probably is a variety of the *boophilus* or *margaropus annulatus*. Ticks are mainly inhabitants of low lands; hilly regions are largely free. Cattle ticks flourish most in tropical and in warm temperate countries. In India the southern provinces are particularly tick-infested; in Madras Presidency they are exceedingly common.

Life history.—Cattle ticks pass the greater part of their lives on the hide or the skin of the host animal. When the female tick is approaching the time of egg-laying, she drops to the ground and lays eggs there. The hatched *larvæ* ascend plants and other vegetation nearby and collect on leaves and on the stems and blades of

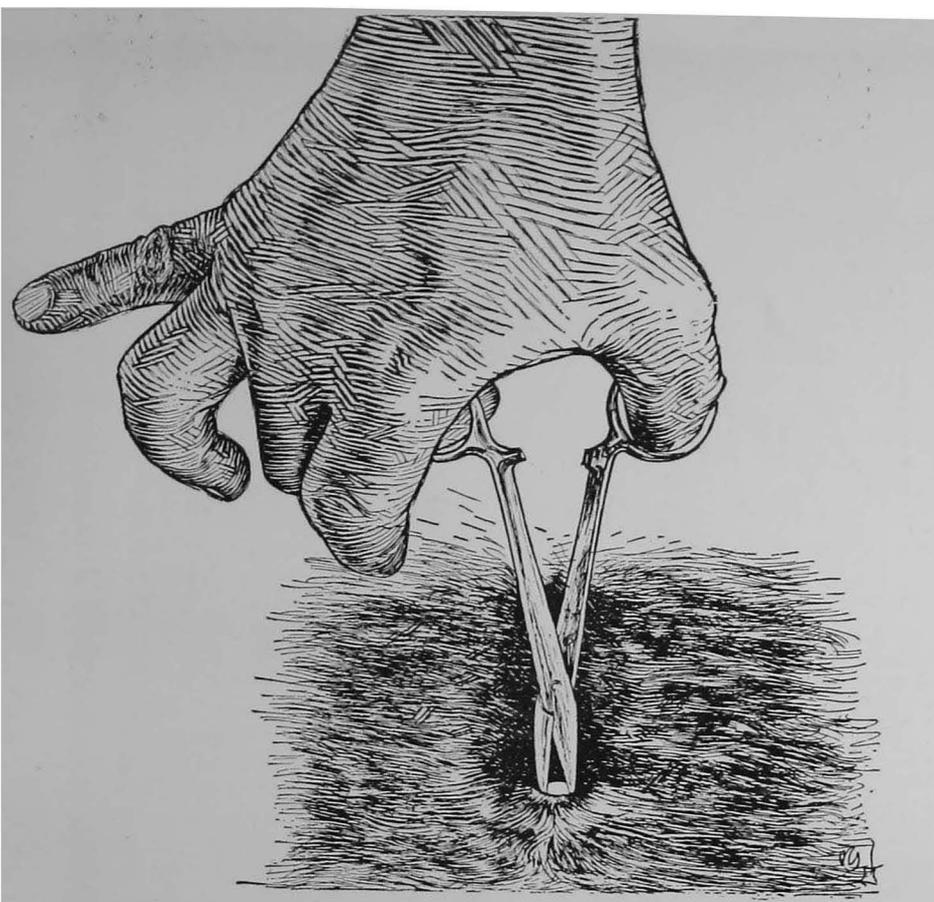


ILLUSTRATION 5.—(See page xi).—Using forceps to enlarge grub hole preparatory to extracting the grub. About one-half natural size.

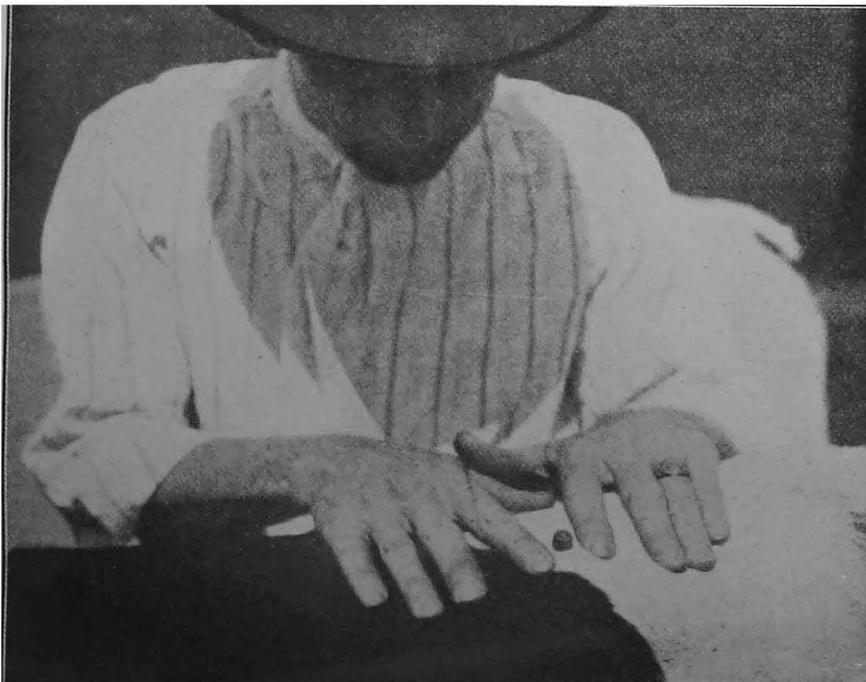


ILLUSTRATION 6.—(See page xi).—Extracting a cattle grub from the back of a cow by pressing down around the cyst.

grass. They take no food during this period. If a host animal is not found, they ultimately die of starvation. But their vitality during the cool season is extraordinary. Whenever the young ticks get an opportunity, they crawl up the hair of cattle or other animals. They are found all over the host-animal's body, but generally they prefer the parts where the skin is thin. Once firmly attached they begin to suck blood, change colour and increase in size. The ticks molt twice; after the second molting maturity is reached. The period during which the pests stay on their host is not accurately known, but it is probably three or four weeks. At certain seasons they are more numerous than at others.

Nature of damage to the pelt and of injury to the health.—

The damage done by ticks to hides and skins is, perhaps, not so serious as that done by warbles. Some ticks are continuous and some interrupted feeders. The sucking of blood, which is the tick's sole food, is of course of considerable detriment to the animal's health. Of greater importance, however, is the fact that the tick is certainly the carrier of one dangerous germ, *viz.*, that of *piroplasmosis* or the "red water" disease in cattle. In South Africa the tick also conveys "east coast fever", and the latter proves fatal; hence dipping has been undertaken on a large scale in that country. In Texas also the tick was found to be the cause of considerable loss. In India, however, the tick bite does not result in fatal fever. "Red water" does now and then appear, but it is considered an unimportant disease for Indian cattle, as a certain immunity seems to have been developed. Imported cattle contracting "red water fever" frequently die, but their number is small. Unfortunately the tick's life-history has been studied very little in India. It is very probable that reduction in the yield and the quality of meat and of milk and the shrinkage of the size and weight of the animal and the consequent damage to its hide or skin, which have been established to be the usual consequences of tick fever in other countries, occur in India also. Owing to the perforations which the tick makes in order to suck the blood, a ticky hide or skin looks as if it had numerous pin-holes. They look like tiny sores more or less healed and break the smoothness of the grain. The quality of the resulting tannage suffers, and the flexibility and the wear of the leathers made from such hides and skins are appreciably reduced. Although one expert witness who appeared before us stated that the tick did not damage the hide or skin very much, the trend of the evidence—both expert and lay—which we received at Madras, was that the tick not merely makes perforations but also eats away the surface grain. (See photograph R-5.)

Estimate of loss.—It has not been found possible to estimate the extent of the damage caused by ticks to hides and skins. The figures mentioned in para. 34 (page 40) include those of loss due to damage by ticks. We cannot give separate figures in respect of tick damage, but we are convinced that the total loss must be enormous, and even the damage to hides and skins perhaps amounts to several lakhs of rupees per annum.

Practicability of remedial action.—In Europe and America the problem of dealing with the tick has been found to be simpler and easier than the warble problem, though not inexpensive. The tick has no mobility of its own and one field is not often infected from another. Hence, wherever plenty of pasture is available, it is not a difficult matter to eradicate ticks by keeping cattle in one field till the females drop off to lay their eggs and then moving the animals to another enclosure. The cattle are not allowed to go back to the first field till the ticks have been starved out. The necessary period for the starving out varies from one to eight months according to the season and the latitude, but it is certain that they can be starved to death. In thickly populated countries and in unfenced areas the usual method of eradicating is to dip the affected animals in vats or tanks containing tick-destroying solutions. Of such solutions white arsenic, caustic soda, lye, soda ash, sal-soda, pine-tar, tobacco, lime and sulphur are some of the common ingredients. When correctly compounded and used these dips have been found very useful in destroying ticks. Other common methods are spraying, liming, paris-greening and burning of the ground on which ticks have dropped for egg-laying or been pulled off and let fall.

While we have had evidence that in many parts of the country the owners of cattle try to keep them free from the tick, we feel that far more organised and sustained work is called for than is possible for the average agriculturist. Better-bred and better-fed cattle tend to be cared for and protected from parasites better; the system of stall-feeding enables the owner and his family to devote more personal attention to the cattle. These are therefore some of the obvious lines along which the problem of eliminating the parasite can be tackled. But such a solution would be too slow. Something more than that is needed if the economic waste that is going on is to be checked even partially. Hence we think that this problem too should be one of the earliest to engage the attention of the Cess Committee.

36. Although buffaloes live in the company of cows, goats and sheep almost all over India, buffalo hides are rarely damaged by warble flies or by ticks. The relative immunity of buffaloes from the ravages of these parasites is, perhaps, due to their sensitiveness to heat and their habit of getting into pools and puddles, especially of muddy water. The mud-plastering seems to help them to keep the parasites off.

37. The sheep-tick, also called the "louse-fly" or the "ked", is believed to be a wingless parasitic fly and not a real tick. Its life-history is different from that of the cattle tick. The eggs of the sheep-tick unlike those of the cattle tick develop into *pupæ* in the body of the female. Birth takes place on the host's body. After that the *pupæ* remain inactive, the period depending on the temperature. After emergence from its shell-like covering the young tick develops rapidly, reaching sexual maturity in a few days. Unless it is dis-

lodged, it passes its whole life on the host's body, the thinner parts being preferred.

The species met with in India is the same as that found in Europe and America, *viz.*, the *melophagus ovinus*. In India its ravages on the animals and their skins are of considerable importance. The manner in which the damage is done—*viz.*, by perforating the skin in order to suck the host's blood—is similar to the cattle-tick's method.

38. The sheep-mite is a very small parasitic animal of the same zoological class as the cattle-tick. It lives on the sheep's skin.

Sheep-mite. It is barely visible to the naked eye. It occurs on any part of the body covered by wool, but is commonest where the wool is thickest. The eggs are deposited in clumps at the base of the wool fibres. The life period is very short (only twelve to fifteen days), but the rate of multiplication is very high. It propagates only on the host's body, but when dislodged can live on the ground. Trails and pastures can thus be mite-infested.

The mite also pricks the skin to suck the host's blood, but while doing so it introduces a poisonous saliva into the wound which causes a slight inflammation. As the mites multiply, many such wounds are made causing intense itching, inflammation and exudation of serum. The latter gets mixed with natural excretions, bacteria and particles of dirt, and hardens into crusts or scabs. With further multiplication they seek the healthier parts around the diseased ones and the lesions or scabs are continually enlarged. In course of time increasingly large areas become denuded of wool, the scabs become thicker and more adherent, and the skin swells and thickens and sometimes cracks and even bleeds.

There are several species of this mite. They all carry various contagious diseases which common parlance groups in the word "scab". One of the diseases causes a decrease in the quantity of wool, a loss in weight and general condition, and often even death. The scabby skin is far less valuable from the tanner's point of view than a normal skin.

39. Although goats are a more important factor than sheep in the aggregate national wealth of India, they are far less important than sheep in those countries where entomological research and veterinary work are advanced. Hence, the vermin infestation of goat skins has not yet been scientifically studied in detail. We have already referred to the warble holes in goat skins caused by the ravages of the grubs of the *hypoderma crossi* and *hypoderma lineatum*. Ticks too are found on the bodies of goats, but expert opinion is not unanimous that they cause very serious commercial damage to the skins.

40. There is a consensus of opinion that, *cæteris paribus*, the hide or skin of an old animal is, in every particular, inferior to that of a young one. It is thin, flimsy and papery and has little substance. Its tensi-

Old age.

lity is less. It lacks the supple silky feel. A good proportion of the "fallen" hides is derived from animals dying a natural death from age. One witness expressed himself in very emphatic terms against the economic waste resulting from animals being allowed to die a natural death. He suggested that slaughtering should be centralised in the cities and towns, and that by offering adequate economic incentive the owners of cattle in the villages should be encouraged to take them on hoof to slaughter in the nearest town. We do not consider this to be a practicable solution. Even if apathy and indifference can be overcome in the manner suggested, the sentiment toward cattle—not only among Hindus but, as a witness informed us, even among many Muslim agriculturists—is strong enough to resist the temptation of some extra gain by taking them to be slaughtered, even when they are past work and useless. Secondly, if any proposal or scheme for the slaughter of cattle emanates from the Cess Committee, the Committee's capacity for useful work will be seriously undermined. The head of the Veterinary Department, Madras Presidency, told us that he would object to his staff being called upon to look after flaying in the slaughterhouses, the ground advanced by him being that such a duty would create a prejudice against his department. We think there is substance in this argument. A similar consideration applies, *a fortiori*, to the suggested slaughtering of all cattle before they die a natural death.

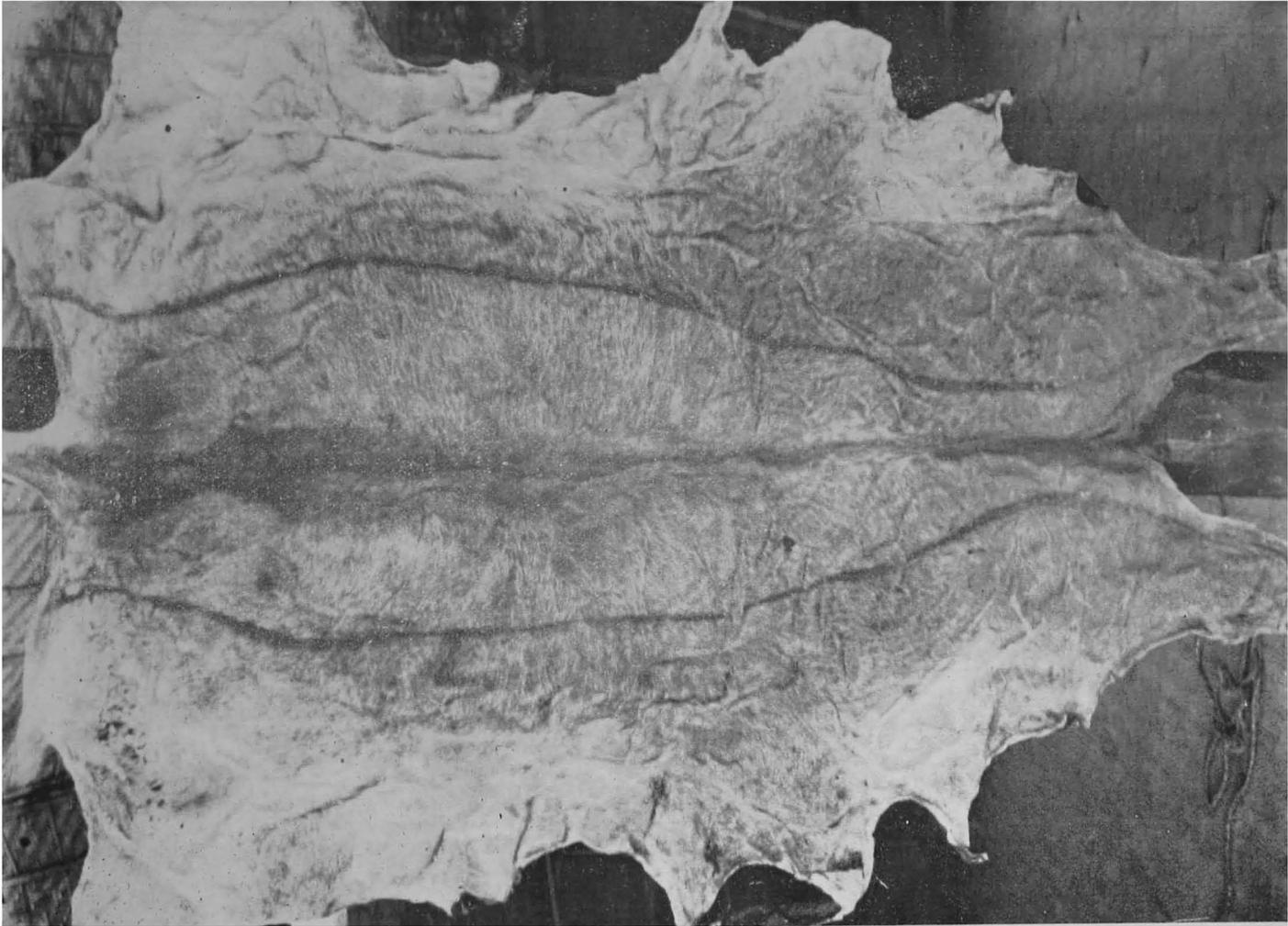
(b) DEFECTS DUE TO WOUNDS AND INJURIES.

41. Branding is confined to cattle and takes two forms—hot-iron branding and "acid" branding. In the former case a piece of iron or other metal is heated and, while still red hot, is applied to the hide or the skin. The latter form is applied by wetting an instrument, usually of wire, with a strong acid. Acid branding is naturally less painful and causes less damage to the hide or skin. A fire brand burns into and sometimes through the grain, and renders that part unsuitable for good leather, for which a smooth and unimpaired outer surface is necessary. Branded hides are usually sorted out for sole leather. Deep branding may weaken the whole structure of the *corium* and reduce the parts affected to waste. (See photographs R-9 and R-10.)

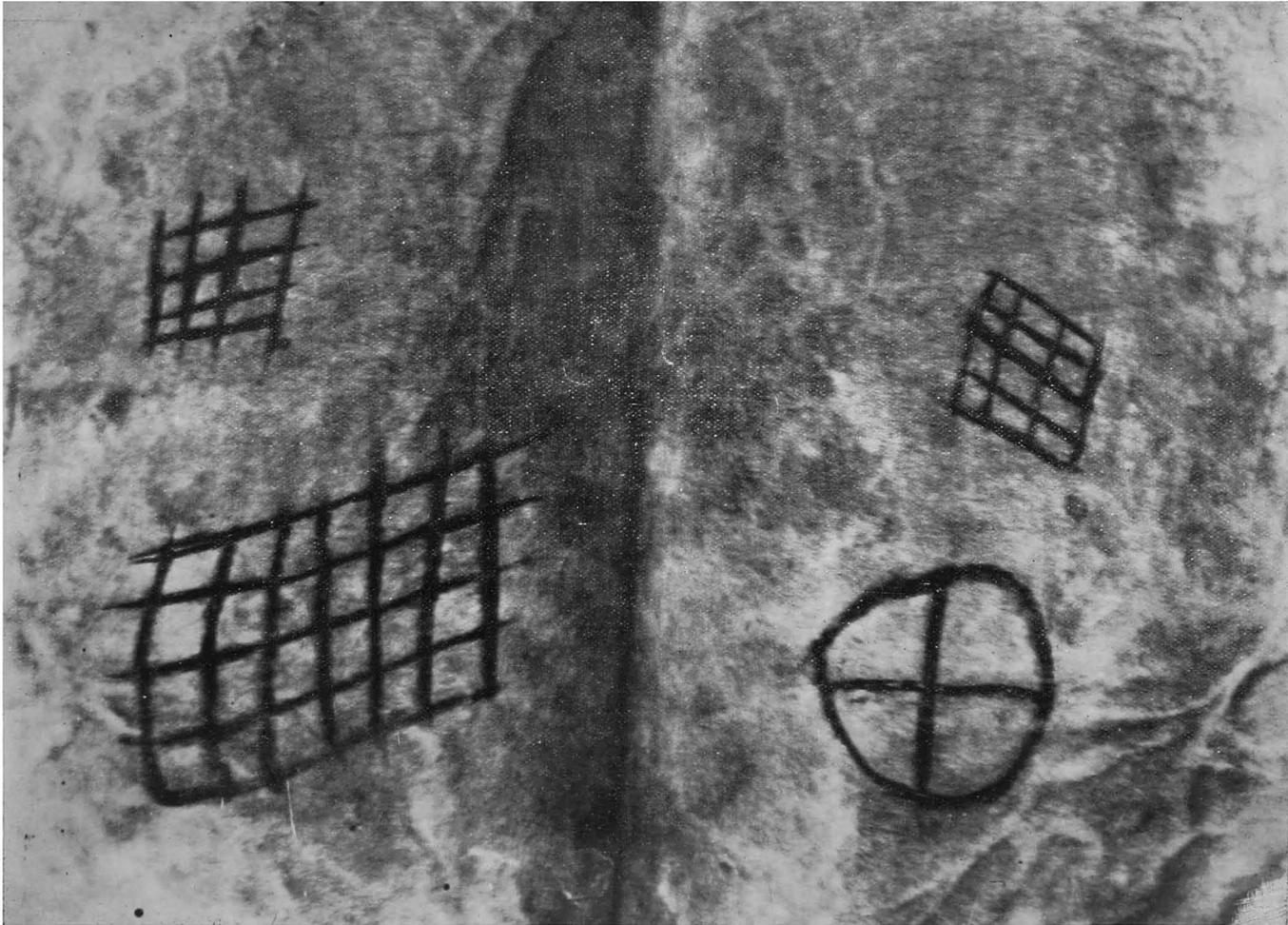
While we cannot give a precise estimate of the aggregate loss, we might quote a few opinions. The Hides and Skins Shippers' Association, Calcutta, have stated that branding not uncommonly reduces a hide from the first to the fifth class. Mr. Hudlikar, Head of the Leather Department, Technological Institute, Cawnpore, has stated that it depreciates the hide often by as much as 50 per cent.

Reasons for branding. Branding is resorted to with one or more of the following motives:—

- (i) In most rural parts of the country the superstitious belief seems to be prevalent that branding is an effective remedy



No. R-9.—The two black lines beginning at A and B show ironbrands.



No. R-10.—Portion of an ordinary air-dried hide showing ironbrands of fantastic shapes.

against certain diseases, especially colic. The owner sometimes believes that he is exercising the evil spirit from the body of his animal. Although a few witnesses told us that there is something more substantial than a mere superstition underlying this widely distributed practice, the unanimous opinion of veterinary officers and other experts was that except perhaps for certain forms of limping or lameness the belief in the curative property of branding is rank superstition. An explanation of the apparent relief which is often felt by the branded animal may, as has been suggested to us, lie in the counter-irritation which branding sets up and which makes the animal oblivious of, or insensitive to, the primary pain. In no country do superstitions die an early death. In India the position is complicated by the paucity of veterinary facilities, so that even if the owner is desirous of obtaining veterinary assistance, he has to resort to branding as the second best choice. We have had evidence that with the wider spread of facilities for veterinary relief branding is decreasing. We trust that veterinary work will go on expanding and that in course of time the system of private veterinary practice will develop, and that these will automatically solve the problem of branding for purposes of cure. It is hardly necessary to add that we rule out the suggestion that branding should be penalised by law. We are aware that in many countries it is so penalised, but we do not consider the conditions in India ripe for such action.

- (ii) Sometimes branding is resorted to for the easy identification of the animal. (See photograph R-10.) Cattle-lifting is still a common crime in many districts of India, especially those lying on the border of a province or of an adjoining Indian State. Giving of information to the police and recognition of the animal when recovered are both facilitated, if the animal bears some distinguishing marks. We have been told that cattle passed for the supply of beef to the army (called "commissariat cattle") are generally branded—usually on the best part of the hide, *viz.*, the butts—with the object of rendering the substitution of inferior and unpassed cattle impossible. Such animals are seldom kept alive for more than a few days after they are branded. Many witnesses have told us that heavy hot-iron branding is therefore altogether unnecessary in this case. Various suitable substitutes have been suggested, *viz.*, branding on horns and hoofs, marking with indelible dyes or coaltar that is not too hot, clipping of ears (*see* Appendix 9) and tattooing of the gums or inside the ears. Some witnesses stated that indelible dye-marks would last as long as the hair lasted. Very hot coaltar is apt to leave

undesirable marks on the hide, and if it is used it should be used when it is not too hot. The clipping and tattooing processes are ingenious, and we think their merits should be further examined.

(iii) In certain parts of the country, notably the eastern districts, the poisoning of cattle is still a somewhat common crime. The poisoner's object is to obtain the hide which, according to custom, would be his perquisite on the animal's death. Hence the owner of the cattle deliberately ruins the living hide (*see* photograph R-10). Branding in such cases is extravagant, the hide often looks like the skin of a zebra with all sorts of fantastic stripes. An analogous though far more cruel form of crime which, we were told, is still practised in the Madras Presidency, is the flaying alive of the animal for the sake of the hide. In this case it is a form of theft; the hide thief does not wish to take the risk of lifting the cattle and therefore administers a dose of some substance, which, it is said, paralyses the nervous system and enables the thief to flay the animal alive without the animal being able to resist or bellow or bleat. As these crimes indicate a low level of public security, we are unable to think of a suitable remedy. They are, however, on the decline, and with the increasing sense of security this form of branding will, we trust, steadily diminish.

(iv) Branding is occasionally inflicted for decorative purposes. So far, however, as we have been able to ascertain, such branding is rare. No specific remedy is possible, but with changing notions about what constitutes decoration we hope this form of branding will almost disappear in a few decades.

42. Another form of damage to hides is the scratchy and uneven grain of the best part of the hide (*viz.*, the butts) resulting from the

Goad marks.

marks left by the goad universally used in India for driving draft animals. The goad

has a pointed nail fixed to the centre of one end of a stick, and its use is sometimes so merciless that the nail punctures the butts (*see* photograph R-11) and causes bleeding. It is not unusual for sores to form round such parts. Goats and sheep and female cattle are never goaded, because they are not used for draft.

We cannot think of any practical remedy for eliminating or even materially reducing this form of damage. A few witnesses have suggested that the Society for the Prevention of Cruelty to Animals should be subsidised to carry on its work more vigorously. But, we do not consider this a suitable solution. The activities of the above mentioned organisation are confined to the chief cities of India, whose own contribution to the production of hides is but an infinitesimal fraction. To finance their extension to the rural areas would involve appreciable expenditure without a proportionate or even a reasonable return. Secondly the Society can only take up



No. R-11.—Goad marks (on the portion near A).

cases amounting to actual cruelty, whereas in most cases the use of the goad causes damage to the living hide without amounting to cruelty. A more serious objection, however, is that the result of extra vigilance on the part of the Society might tend to place a greater burden on the heads of cart drivers than they can bear. We rule out the suggestion that goading should be penalised by law. It has been suggested that further powers should be conferred on those who have to administer the Police Act and that other officials might be empowered to report cases of excessive use of the goad. We do not think the low-paid subordinate officials of the police, revenue or veterinary departments can, in this matter, be trusted to use such powers with justice and discrimination, and therefore we rule out this suggestion. A certain amount of propaganda is no doubt possible, and if the appeal to the humanitarian sentiment, to which the average man in this country is particularly susceptible, is reinforced with an appeal to the economic interests of the owner, some good might result. In particular, schemes of education for rural people—both young and adult—might include simple statements of fact relating to avoidable economic waste resulting from the present practices in the rural areas. Similar propaganda by the Society for the Prevention of Cruelty to Animals and other suitable organisations can, and in our opinion should, be assisted with small grants-in-aid for work on approved lines.

43. The problem of the damage resulting from yoke marks (called *handhā* in Hindustani) is in essence similar to that relating to goad marks, though the nature and extent of the damage are different. Yoke pressure and rubbing gradually result in the thickening of that part of the hide on which the yoke rests. Such thickened patches lose the grain, elasticity and tensility of the natural hide. The neck-portion is not, however, so valuable for leather as the butts which are damaged by goad marks, and in the case of slaughtered animals a part of the portion is sometimes not even flayed with the rest of the hide. Hence, the actual national loss from yoke marks is a much smaller amount than in the case of goad marks. Secondly, in the case of many classes of hides the yoke damage is reduced by the fact that the pressure of the yoke is borne by a fatty lump and the hump. So long as oxen and buffaloes are used for cart driving, it is impossible to provide a practical remedy. But the practice, prevalent in certain parts of the country, of providing some padding under the yoke, should be popularised in the same manner and through the same agency as in the case of goad marks.

44. The defects arising from miscellaneous sources—punctures and cuts due to thorns and barbed wire fencing, scratching of the grain owing to rubbing against hard rough surfaces (*e.g.*, the trunks of trees, boulders, stone or brick walls, rough posts and pillars etc.), sores and scars resulting from wounds received in panic or in fight with other animals—in the aggregate cause appreciable national loss. But, considering that except in some parts of the

country stall-feeding is hardly ever practised, that large stretches of the country support only coarse shrubby vegetation and that the ever-increasing pressure of cultivation on pasture lands drives cattle and especially goats and sheep to jungle-grazing, we do not see any practicable solution.

(c) DEFECTS ARISING FROM FAULTY HANDLING OF THE CARCASS IN THE VILLAGES AND IN THE SLAUGHTER-HOUSES.

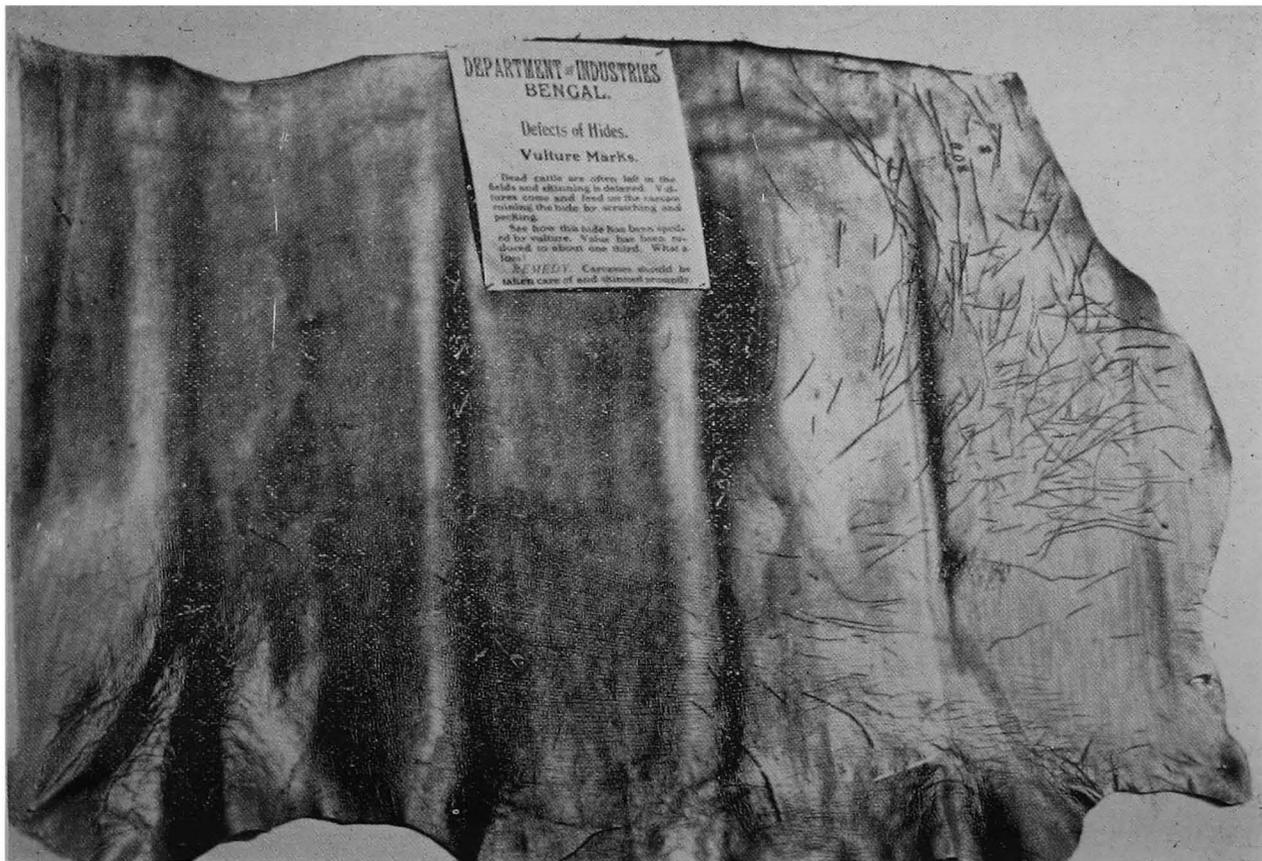
(i) *Handling of the carcass in the villages.*

45. *Causes.*—In India a very large proportion of hides is derived from “fallen” stock, *i.e.*, from animals which have died from causes other than slaughter. Owing to her light meat consumption and the sentiment against killing, especially of cattle, a very large proportion of cattle and a much smaller proportion of goats and sheep are left to die of old age. But cattle disease is rife and takes a heavy toll among animals whose conditions as regards feeding during the greater part of the year can only be described as semi-starvation. Their resistance against the outbreaks of contagious diseases is feeble, and when a serious outbreak takes place, large numbers of them succumb. During famines and seasons of drought which occur every few years over large areas in the country the toll of death is heavy. Then there are accidents—snakebites, fall from cliffs in broken-up and ravine country, injuries resulting from stones and sticks thrown at trespassing animals, the ravages of wild carnivorous animals, especially leopards—all these contribute their little shares to the production of “fallen” hides and skins.

The condition of semi-starvation, in which the animal population lives almost perennially, is aggravated in the case, and by the number, of animals which have ceased to be useful. They are generally neglected, and have to pick up for themselves such food as they can find over the scanty pasturage. In this connection we invite attention to the findings of the Royal Commission on Agriculture. “Fallen” pelts are naturally poor—thin, dry, papery and devoid of substance. (See photograph R-1 facing page 34.)

Estimate of proportions of “fallen” and “slaughtered” stock.—It is not possible to give statistics of the production of such hides and skins, as none are available. But the estimates of experts are almost unanimous that for India “fallen” hides form about 75 per cent. to 80 per cent. and “slaughtered” hides make up the balance. In the case of Sindh, the Punjab and the North-West Frontier Province, however, the percentage of “slaughtered” hides is much higher. It has been given to us in evidence at a figure as high as 80 per cent.

In the case of skins the proportion of “slaughtereds” is naturally very much higher all over India, and practically no “deads” come on the market. Non-vegetarian Hindus almost invariably take goat’s mutton; sheep’s meat is no doubt eaten, but the meat animal *par excellence* is the goat. The goat is also the usual sacri-



No. R-12.—Vulture marks on the portion rear A.

ficial animal among those Hindus who take only sacrificial meat. We have had no evidence about the relative proportions, but in the case of goats an overwhelmingly large, and in the case of sheep a smaller but still very large, proportion must be derived from animals killed for food.

Property rights in fallen stock.—The hides and skins of “fallen” animals are, by immemorial custom over the greater part of the country, the perquisite of the village *chamār*, *mahār* or sweeper. In this Report we shall refer to him as the *chamār*, as he is known by this name in most parts. The owner of the animal has no further interest in its hide or skin. The *chamār* removes the dead carcass, and the hide or skin is supposed to be his fee for this service. This custom interposes a barrier between the owner’s interest in the animal and his interest in its hide or skin on its death.

The dead body is dragged to a special spot—generally a customary assignment on the part of the local zamindar, community or Government—and skinned there. The dragging causes various injuries to the hide or the skin, usually the scratching and rubbing of the grain. Not infrequently a long interval takes place before the skinning begins. During this time the hide or skin is exposed to the ravages of vultures (see photograph R-12). The putrefying action of heat, damp and the surrounding filth causes what is technically known as “taint”—a form of incipient decay. Frequently the *chamār* is not an expert skinner. He has no interest in the dead animal’s flesh, and the skinning is therefore somewhat better as regards cuts or scores. But he tends to leave superfluous fat and flesh on the hide or the skin, especially the former. The origin of the flaw is, in essence, a form of “loading” resorted to with the object of artificial addition to the weight. To a certain extent, however, the occurrence of this flaw is favoured by, though it is not inherent in, the circumstances mentioned above.

46. We shall now consider whether and to what extent it is possible to take remedial action against the various defects. Many

of them are inherent and no remedy is practicable. We have ruled out a suggestion

that animals should be driven on hoof to centralised slaughter before they die of old age. There is no other practicable way of reducing the ratio of “fallen” hides and skins. As regards the ancient custom of the country—rooted deep in its soil—by which the village *chamār* is entitled to the dead hide or skin as his perquisite, we do not recommend that it should be disturbed. We believe it is slowly disappearing and we are content to leave its further loosening to the lapse of time. It would be very difficult to give the *chamār* training or more practice. His craft is hereditary, and considering the various handicaps under which he does his work he does it remarkably well. We do not think it is practicable or even necessary to supply him with special flaying knives or equipment for carrying the carcass rather than dragging it. We have been told by some witnesses that improved knives even if issued would be left to rust somewhere in his hovel or be put to other domestic uses. A simple equipment—a wooden or bamboo pole and

some ropes—is not beyond the means of the average *chamār*, terribly poor though he is. But we think it is possible to educate him by various forms of propaganda to realise his own economic loss caused by action which he can control. This work should be taken up by the Cess Committee. The *chamārs* are among the lowliest of the low, and we need not emphasise the importance of such educative work in the amelioration of the economic condition of a large proportion of the submerged population of the country.

(ii) *Handling in the slaughter-houses.*

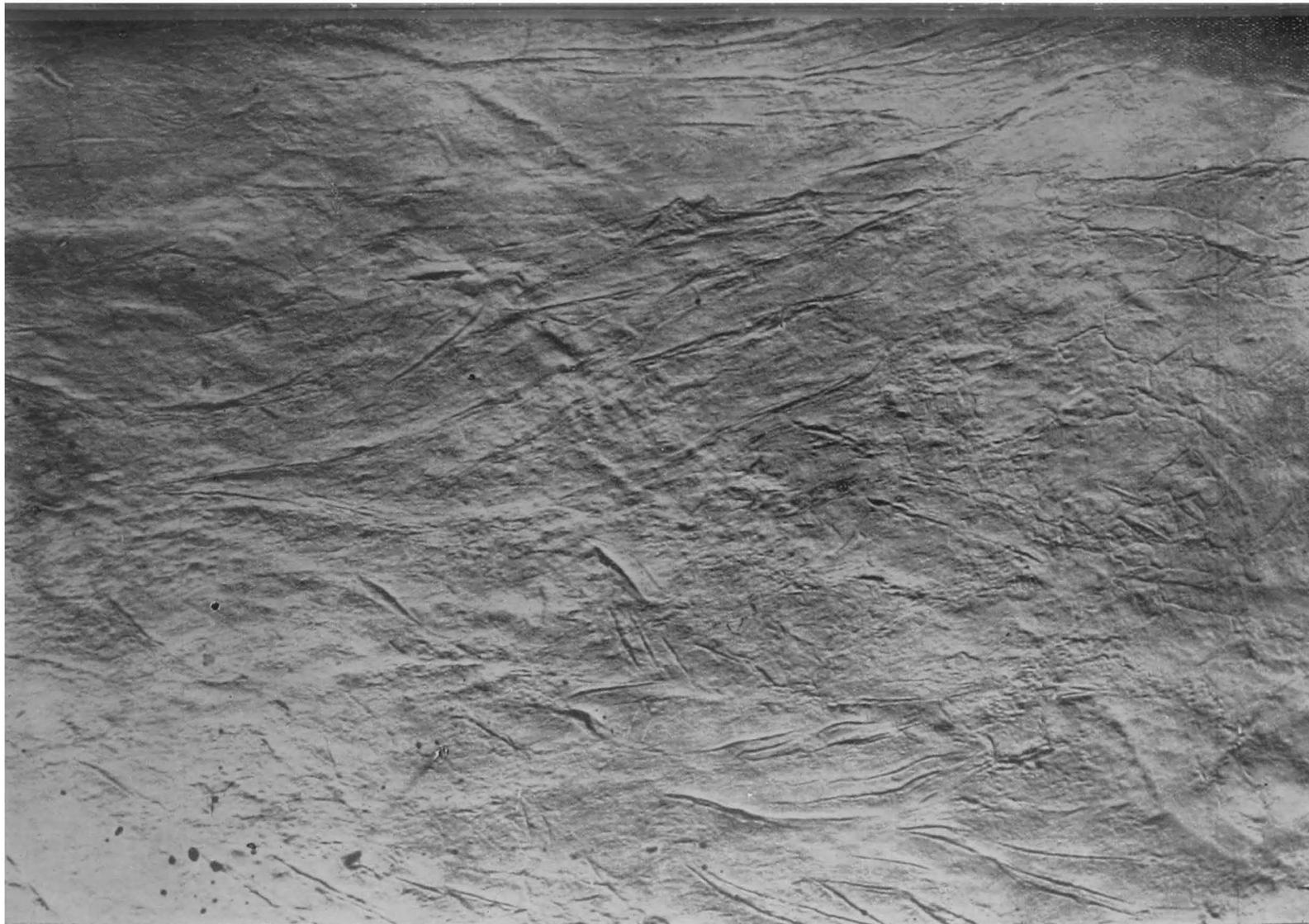
47. In order to obtain first-hand experience of the various processes followed in the slaughter-houses we visited the chief slaughter-house of Calcutta at Tangra and the cattle slaughter-house at Cawnpore. While we were not interested in the slaughtering processes so much as in flaying we were struck by certain facts which have some bearing on the questions before us. The general—perhaps the universal—practice in this country is to tie up the legs with ropes and then “throw” the animal. The floor is almost invariably hard. This process must damage the hide, especially in the case of heavy animals like buffaloes. In the Cawnpore slaughter-house some of us noticed such damage actually taking place. We think the Cess Committee might consider this matter.

48. It is, however, in connection with the handling of the carcass that some of the most serious defects of Indian hides and occasionally even of skins occur.

Flaying (also called “take-off”).

Standard of flaying in India.—It is true that compared with flaying in certain other tropical countries, *e.g.*, Nigeria, East Africa etc. flaying in India has been described as “almost perfect” and “excellent”. Such, *e.g.*, was the evidence recorded by the “Hides and Skins Sub-Committee” of the Imperial Economic Committee. But, generally speaking, the standard of hide-flaying in India is poor. The flesh side of the hide often gets scored and even cut by careless use of the flaying knife. The knife-cuts make long and sometimes deep dents into the substance of the hide and occasionally even slit the hide through and through. Photographs R-13 and R-14 show the results of careless flaying.

Effects.—The chief effect of butcher-cuts and scores is to reduce the tensile strength of the leather produced from a hide or skin so damaged. If the leather is finished on the flesh side its appearance is also marred. Such leather may not be rendered altogether useless. If it is split, the injury affects only the lower or the flesh layer. If it is cut into small pieces, the cutting can often be so managed as to neutralise to some extent the effect of the butcher-cuts and scores. But if it is intended for belts, straps and other purposes involving its subjection to sharp or sustained strains, the value of the leather is seriously reduced. On account of these facts the raw hide or skin goes down in the “grading” or “selection”.



No. R-13.—Portion of dry-salted Agra cow hide showing butcher-cuts.

49. The reasons for such poor work are numerous. The cumulative effect of the various factors is, however, so great and causes such heavy loss of national wealth that we think we should analyse the factors in some detail and try to suggest remedies where possible.

Reasons for faulty methods of flaying.

The reasons may be grouped and classified as below:—

- (i) *Personal, viz.*, the flayer's lack of skill and general carelessness,
- (ii) *Material and environmental, viz.*, unsuitable knives, insufficient space, dim light, lack of suitable arrangements for suspending the carcass etc., and
- (iii) Those connected with the conditions of meat supply, the system of buying the slaughtered hide and the system of employment of flayers and their work.

50. The evidence collected by us shows that as a rule flayers in the slaughter-houses are not unskilful. Some witnesses have no doubt maintained that additional training by itinerant trainers and demonstrators would yield good results, and a few have even suggested that expert flayers should be imported from abroad for this purpose. We have, however, come to the conclusion that this is unnecessary, although we are not prepared to rule out occasional instructions and demonstrations as being likely to lead to some improvement. It has been brought to our notice that juveniles and even women are sometimes employed as flayers, more often as help-mates to their own male relatives than independently. While we do not consider flaying a suitable occupation for women, we are not prepared to recommend that it should be prohibited or restricted. The employment of juveniles except as mere apprentices is usually a case of sheer necessity. Slaughtering for the Burma meat trade takes place on a large scale in many centres in Northern India (*e.g.*, Agra, Jullundur, Saugor etc.). The season varies but may be taken as approximately from November to March. The rush of work in this season is so great that even boys have to be employed. At Shahdara near Agra normally 2,000 cattle per week, but sometimes 2,000 in a single day, are dealt with. In this connection it should be remembered that the hide is almost invariably a bye-product in this trade, and flaying therefore becomes of secondary importance. On the other hand, we have had evidence that the training up of apprentices is generally on sound lines, essentially similar to those followed in other countries.

One witness brought to our notice that in certain important slaughter-houses (Rawalpindi, Peshawar etc.) flaying is left to be done by untrained soldiers. We have not been able to verify this statement. But, if it be a fact, we have no hesitation in recommending that the army authorities should be asked to review the position as we have received evidence that the flaying of hides in commissariat slaughter-houses is very imperfect. Flaying is a craft and long and sustained practice is a *sine qua non* of faultless work.

The savings effected by the employment of untrained men cannot be a large amount, and in all probability they are more than counter-balanced by the depreciation of the hides flayed by non-professionals.

Some witnesses have drawn our attention to the low standard of cleanliness and to general carelessness among the flayers as a class. The flayers are drawn from among the lower strata of society. The nature and the environment of their work are bound to react on their notions of cleanliness. Bearing these considerations in mind we have come to the conclusion that action toward improvement in this direction will be difficult.

A tendency to careless work is no doubt noticeable among flayers as a class, but it is very largely the result of the surroundings in, and the system under, which they have to work. We do not think this tendency is essentially racial or temperamental, and we hope that with the gradual amelioration of the conditions of work the quality of work will improve.

51. Coming to the "material" factors, we shall first allude to the fact that in some European countries the flayer rarely uses a

Flaying implements,
suspending tackle, lighting,
accommodation,
cold, time of slaughter,
need for hurried flaying
etc.

knife, except when he is dealing with a big animal, and even then he uses it sparingly. Most of the hide he separates from the meat and the white tissue covering it with his fist or elbow. The use of a wooden knife or a pounding hammer is not uncommon; the hammer "take-off" is regularly employed in the slaughter-houses of Paris. We have been informed that the use of the wooden knife or hammer requires a degree of strength and energy which the average Indian flayer over the greater part of India lacks. But, considering that the standard of physique in certain parts of the country is good and that wages are not very high we hold that the use of the fist and the elbow and the wooden knife or hammer should be encouraged by suitable propaganda including demonstrations.

There is no approved pattern of the flaying knife. So far as we have been able to ascertain, no local body or trade association has prescribed or recommended a particular pattern. In fact, however, the flaying knives used in the slaughter-houses do not vary very much. Broadly speaking, the pattern is that of the large table-knife, but it is pointed and has a very sharp edge. We have examined the question of its suitability. The Imperial Economic Committee drew the attention of the Indian Government to this question some time back, and recommended a knife with a rounded and not a pointed end. Some witnesses have suggested that knives with safety devices should be experimented with. After giving our careful consideration to this question we have come to the conclusion that while the pattern of the knife may have a slight effect on the standard of flaying, the chief flaws of flaying are due not to the knife but to the *tout ensemble* of other factors which will be discussed below. All we, therefore, at present recommend is that the

suitability of various patterns should be tested by the Cess Committee. In this connection we must point out that the cost of the knife—both initial and real—and the question of manufacturing it in India should not be lost sight of. If and when a particular pattern is found the most suitable, it will in all probability be possible for the authorities of the slaughter-house concerned to stock the knives and to issue them either free or at or below cost price.

Of far greater importance are the problems arising from cramped accommodation, bad flooring, insufficient lighting, lack of suitable and adequate arrangements for suspending the carcasses, insufficient time allowed for slaughtering and flaying and the need for working in what in Northern India would be one of the coldest parts of the day in the winter.

Although we saw only two slaughter-houses, we believe that the conditions we saw were fairly typical of the best and the average in Indian cities and towns. The space available for flaying is, broadly speaking, insufficient. The flaying has often to be done on the same spot where the animal's throat is cut. Apart from the defects arising from the lack of room for free movement when flaying, the hide must get stained with blood and dung and other filth. Uneven flooring must harbour filth and micro-organisms, both of which are injurious to the "green" hide. With the lighting arrangements which we saw we can easily imagine how it would often be impossible to avoid flaying flaws, especially when the time allowed by the slaughter-house authorities for slaughtering and flaying is, generally speaking, not regarded as being adequate for reasonably good work. The fact that, so far as we have been able to ascertain, slaughter-houses have no arrangements for heating is bound to affect the response of the flayer's hands and fingers in the cold weather in Northern India. Owing to the exigencies of the meat trade in India slaughtering and flaying, generally speaking, have to take place in the evenings in the big cities and in the early hours of the morning in the towns. In the winter this must be trying to the generally ill-clad and none too-well nourished flayer in Northern and Central India.

From the point of view of hide-flaying, however, the most important drawback is that few slaughter-houses have suitable arrangements for suspending the carcass. In Northern India the task of handling the carcass of the average cattle is a fairly exacting one owing to its weight. In the great American packing houses and some of the South American establishments run on similar lines the animal, immediately after it has been stunned, is suspended by its hind legs. The throat is then cut and the blood is allowed to drain off. The hanging carcass is then moved slowly along a trolley or conveyor. A team of flayers is employed, each doing a specific task, *e.g.*, the head, the shanks, the sides, the rump, the back, the tail, the final pull-off. In India this system of team work is, so far as we are aware, unknown. Nor, considering that there are no large enough slaughter-houses in the country is such team-work easy to introduce. But we see no reason why adequate

and efficient equipment for suspending the carcasses should not be provided in the slaughter-houses. The need for more pulleys for pulling up the carcass was one of the points mentioned in a petition which we received from the local butchers at one of the centres visited by us. On the question as to who should provide the necessary tackle there might conceivably arise some difference of opinion, but as to the need for the better equipment of slaughter-houses, especially where large animals are killed, and as to the resulting benefit to all concerned we are in no doubt whatever.

52. In respect of butcher cuts and scores the responsibility of the systems under which the slaughtering of animals and the flaying take place is far greater than that of the personal or the material factors described. We propose to analyse the systems in detail.

Conditions of meat supply. System of buying up slaughtered hides. System of employment of flayers.

Bye-product.—Although the hide is, proportionately, at least as valuable a part of the carcass in India as it is in the countries of Europe and America, yet, broadly speaking, the hide of a slaughtered animal is, in this as in other countries, a bye-product. The value of the meat is generally far in excess of that of the hide. This statement does not apply to aged and decrepit cattle, which, however, rarely find their way to the city abattoirs. The primary consideration being the meat, the hide not only tends to be ignored but is frequently sacrificed for the sake of the meat. In his attempt to scrape off the flesh and to give it a neat and trimmed appearance the flayer too often damages the hide. This is particularly so in the case of commissariat beef, as the preservation intact of the white tissue covering the flesh enables the butcher to obtain slightly better prices for the beef. We do not see how these relative values of the hide and the meat can be altered so as to focus greater attention on the hide.

Hide purchased before slaughter.—Of greater consequence however is the system, sanctioned by tradition, under which the hide is purchased while the animal to be killed is still alive. It is clear that the butcher can have no great incentive left for careful flaying when the hide, however it might be flayed, has already become someone else's property. We found this system to be almost universal, the only exceptions being some cases cited by a few tanners here and there who said that they bought after inspection. But as such tanners too often buy not from the owners of the cattle slaughtered but from hide dealers under a running contract or otherwise, the system described by us remains unaltered as between the owner of the cattle to be slaughtered and the hide dealer. To us it seems irrational. We tried to ascertain how it arose and why it still flourishes. We have not been able to find any reason for it except that it is based on a custom with a long tradition behind it. About its demerits we are all convinced. It takes away the monetary incentive from the butcher's and the flayer's mind, and gives rise to an unnatural relation between the flayer and the purchaser of the hide characterised by the absence

of a sense of responsibility on the part of the former towards the latter. Many witnesses have referred to the existence of this system and condemned its evil effects. One of the important problems which the Cess Committee will have to, and in our opinion should, take up is how far a more satisfactory system can be adopted.

Piece-wages.—Secondly, flayers are employees of the butchers who pay them by the piece. The piece-wage leads to hurried and even scamped work which the butcher, having no further interest in the hide, does not supervise.

Lack of supervision.—If flayers were in the employ of the purchaser of the hide on the living animal or in the employ of the slaughter-house authorities, some of the evil results of the system described above would be mitigated. But that is not so.

No licence for control over quality of work.—So far as we are aware, flayers are not registered. They are seldom required to take out a licence. Even though a licence is necessary at Bombay, the purpose of the licence is to insure against undue congestion or against flayers interfering with or hampering each other's work. The licence is not designed or intended to confer power on the licensing authority to compel the licensee to turn out satisfactory work. The net result is that even when the slaughter-house authorities insist on a licence being taken out, they do not hold themselves responsible for the quality of the flaying, the butcher feels no incentive in property which has ceased to be his own, and the flayer has to hurry through with his work as his earning depends on the quantity and not on the quality of that work. (*See Appendix 10 for the scale of wages for flaying and flayers' earnings in certain slaughter-houses.*)

Trade-union spirit.—In addition to these inherent defects, we have been informed that butchers and flayers, who in India are almost invariably Mahomedans, have a strongly developed "trade union" spirit. It is true that flayers are not known to have been organised formally on the lines of European or American trade unions. But as remarked by the Superintendent of Markets and Slaughter-houses, Bombay Municipality, butchers form a close corporation and flaying is like a family trade. Butchers and flayers are difficult men not easily amenable to control when innovations are forced on them. Hence, although we have evidence that in theory buyers of the hides are entitled to impose fines for bad flaying, yet in practice the right to fine remains almost a dead letter.

53. As regards skins, the flaying is, generally speaking, flawless. The skins of sheep and goats and lambs and kids can often after slitting be flayed without a knife; they can be loosened by "thrusting" with the fist. In some parts of India it is usual to pull or draw the skin off without splitting it down the belly; the skin so pulled or drawn off looks like the water-carrier's water-bag. Such skins are called "case" or "cased" skins. They have practically no butcher cuts. It is

said they can be given a better pattern in tanning than if they were slit for flaying. Owing to these two reasons efforts made in this country to bring about a discontinuance of this mode of flaying did not receive much support from consumers. Knife-flaying of skins is, however, resorted to in the other parts where the standard of physique is low, and what we have said about the knife-flaying of hides is generally applicable to the knife-flaying of skins too, though the damage is not as serious as in the case of hides.

(d) DEFECTS ARISING FROM HANDLING AFTER THE FLAYING.

54. The manner in which in India the hide or skin is handled after it is taken off the carcass leaves much to be desired. Instead of being immediately spread or pegged to dry in the shade above the ground, the hides or the skins are all thrown together on the ground. The cooling and drying take place unevenly. Harmful micro-organisms soon begin their insidious though deadly work on the substance of the hide or the skin. The stains due to blood, dung, dirt etc., get time to get fixed more firmly. We have had evidence that in one important Indian city the removal of hides and skins from the slaughter-house is done by a contractor and that it is not unusual in that city for a hide or a skin to be left on the floor for even twenty-four hours before it is removed. A green hide or skin is a perishable article, and the nature and extent of the damage which such delays in its removal must cause can be easily imagined.

(i) Preparation.

55. The methods followed in India for preparing hides and skins for curing and preservation, though somewhat in advance of those in some other Asiatic countries, are still, in the main, primitive. Considering that labour employed in foreign tanneries is costly, the primary producer of the hide or the skin in India stands to gain more than the money-equivalent of extra labour. We consider it both possible and desirable that as much as possible of preparatory work should be done by the primary producer and that only the irreducible minimum should be left to be done at the exporting ports or in the foreign tanneries. The primary producer and the members of his family usually have plenty of spare time which they should be trained to put into their goods. In the humid areas in particular the gain will be considerable. The removal of foreign matter, the shaving of the flesh side so as to reduce the matter in which bacterial action is liable to start early, the preparation of a smooth surface for applying preservatives and the stretching of hides on frames or, if that be not practicable, by pegging them out on the ground are among the important preparatory processes needing more attention than they receive at present.

56. We shall describe the chief defects under the heads (i) adherence of foreign matter and lack of general cleanliness, (ii) freezing, sun-blisters or burns and surface-drying, (iii) uneven cooling and drying and crumpling, (iv) over-drying and (v) dragging and scratching or rubbing of the grain.

(i) *Foreign matter*.—A minor form of damage is that caused by the presence of foreign matter like blood, flesh, dung, manure, farm and floor refuse (see photograph R-15). They give the hide or skin a dirty appearance, make the handling unpleasant, cause difficulties regarding the proper valuation of the article, and involve unnecessary labour in the tannery to cleanse it. Such defects are due to a lack of appreciation of the value of general cleanliness on the part of the producer. His notions of cleanliness are bound to be poor on account of the environment in which he is born and bred. It is true that over-washing or cleaning by a person who is not an expert is likely to cause irreparable damage, but there is no reason why suitable propaganda, designed to appeal to the economic interest of the producer, should not enable a much higher standard of general cleanliness to be attained. Few producers realise that hides and skins properly washed and cleaned, so that the hair side is neat and the flesh side becomes smooth and bright, can be preserved far better than unclean ones.

(ii) *Freezing, sun-blisters or burns and surface-drying*.—Owing to the climate which prevails over the greater part of India freezing does not take place except in the northern provinces and the high-lying mountainous regions. As dry cold retards or stops bacterial action, freezing does not by itself damage the hide-substance. But alternate exposure to bitter cold at night and a bright and warm sun at midday tends to cause damage, especially on account of undue expansion and contraction. In the present circumstances of the country the installation of complicated apparatus is beyond the range of practical politics; hence all we can propose is that the producer should be educated to realise the resulting waste.

Sun-blisters and burns are far more common. In districts with stony or gravelly soils and even in cities and towns hides and skins are often left to dry on boulders, stones and gravel and on stone or brick flooring. These get considerably heated up during the middle of the day in the hot weather, especially in Central India and the sub-montane districts. The parts resting over them are apt to get blistered and burnt. Sometimes the surface dries up so fast that a hard crust is formed which retards the drying of the interior substance. All these defects can be avoided with a little care and thought. The value of drying in the shade is not unknown to the average primary producer in India, but he is somewhat careless and indifferent. Systematic propaganda is needed to bring home to him the heavy price he has to pay.

(iii) *Uneven drying and cooling*.—These take place not only in the case of "fallen" hides and skins from the villages but also in hides and skins from the slaughter-houses. When exposed to

dry on a flat surface the "green" hide or skin is apt to crumple (see photograph R-16). When this occurs and unless it is put right, some portions cool down and dry up quicker than others. Such unevenly dried pieces depreciate considerably. Sometimes the hide is laid flat on the ground and secured by pegs, but though this helps considerably against crumpling, the contact with the ground even on the hair side is not desirable. In the north-western parts of India including parts of the United Provinces rough wooden frames called *farmā* are often used for drying hides. This arrangement is satisfactory and has the additional merit of not being a novelty. A drying frame need not be costly, as rough timber or bamboo can be had in most rural areas fairly cheap. The piecing together of the parts is a simple matter. If the frame has, besides the four outward pieces, the necessary number of intermediate strips both longitudinal and latitudinal, one frame can serve the purpose of hides and skins of varying dimensions, and both sides can be used. The work or designing such frames and popularising their use and of providing the necessary facilities for their supply or local manufacture should engage the attention of the Cess Committee. As the production of fallen hides and skins by each producer is casual and small, co-operative methods, which in such cases are already known to the rural folks, should be encouraged, so as to reduce the capital cost to individual producers.

(v) *Over-drying* is another common shortcoming during the preparatory stage, and gives the hide a stony feel. It renders difficult the "resoak" in a tannery.

(n) *Rubbing and scratching of the grain* often occur in the case of hides left on the ground to dry; the damage occurs chiefly when the hides are turned; heavy hides are particularly liable to it. With a little extra care and thought it can be altogether avoided.

(ii) *Cure and preservation.*

57. The cure of raw hides and skins is one of the most important factors determining the grading or selection by the tanner.

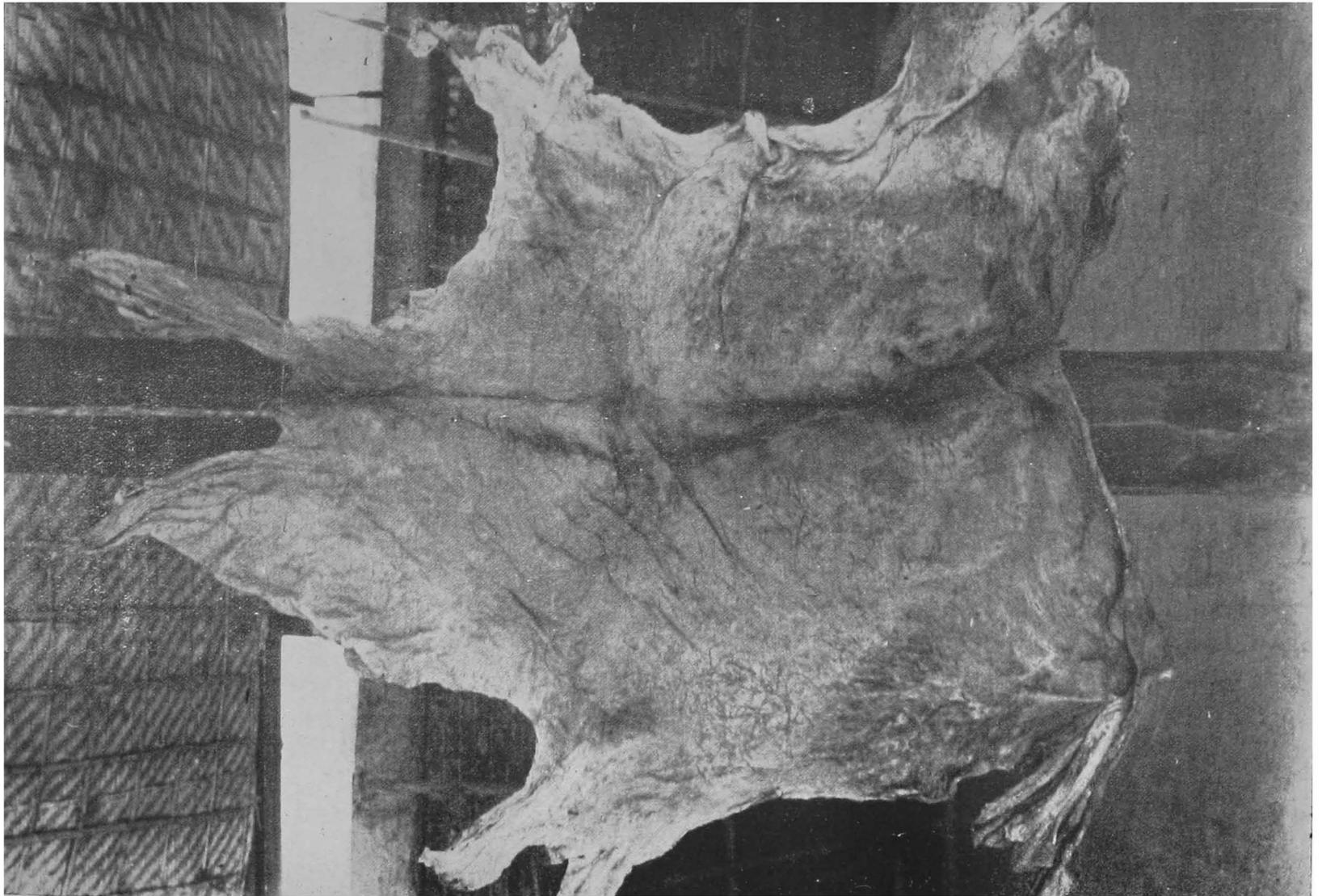
Recent researches have shown that the bacterial decay of raw stock begins soon after the animal dies—whether a natural death or in a slaughter-house. Hence

"cure" is necessary for preserving the raw stock from decay during the period of storage and transport. Not only should the putrefactive action of bacteria and other micro-organisms be checked, but also, if possible, the bacteria etc. should be killed. Non-putrefactive organisms such as those responsible for causing "red heat" or the spores of the anthrax *bacillus* should also be destroyed, and the autolysis or "self-digestion" of the stock should be arrested.

58. The curing methods in use vary according to the locality, the climate, the materials available for curing, the length of time

Methods in use.

for which cure is desired and the atmospheric conditions in which the tanning is



No. R-16.—The same as No. R-15, showing irregular shape through careless treatment.

to take place. They can however be broadly divided into two groups, viz., (A) Wet-curing and (B) Dry-curing.

A.—Wet Cures.

59. The chief wet process is green or wet salting. Common table salt is spread evenly on the flesh side and is rubbed in. The saline liquor into which the natural moisture is converted permeates the hide substance and draws out the blood which, if allowed to remain, would cause discoloration. Although in theory and under favourable conditions this cure lasts for some months, it cannot be relied upon for more than a few weeks in a hot country like India. It is, however, a cheap method which fairly serves the needs of Indian tanners whose evidence as recorded by us was almost unanimously favourable to it as compared with drying and dry-salting. But it requires considerable care and judgment. The cure should begin soon after but not much before the animal heat has been given out, the salting must be thorough and even and must not be disturbed too much, the brine must be properly drained out. Again the salt used must be pure and clean and fresh. Impure or unclean salt generally results in stains which are not always perceptible in the raw stock but come out indelibly during tannage. The use of "spent" salt is risky, and it is desirable to discourage its use by men who cannot possibly be expected to be specialists in wet-curing.

Apart from the general ignorance about the proper way to cure by this method there is, in the case of India, a specific and serious difficulty in applying it. Duty-paying salt is not cheap enough. For proper cure the quantity of salt should be about the same as the weight of the hide. We consider the existing rules about the industrial use of salt as generally sound in the case of the larger type of establishments, but as altogether unsuitable in the case of small producers. On the other hand, we cannot see how they can be adapted to the requirements of the latter class. The members of this class are, however, so numerous that we cannot recommend that matters should be left as they are. Many witnesses have urged before us that technological research should be undertaken in order to find out a cheap but efficacious substitute, e.g., a mixture or compound by which salt is denatured and rendered unfit for human consumption. Although various substitutes have been found in other countries, expert opinion is not yet unanimous about their merits. The remarks contained in the enclosure to Col. Larmour's memorandum (Volume of Evidence) show the need for a thorough investigation before a substitute can be recommended for general adoption. We endorse this view and hold that this problem should be one of the earliest to engage the attention of the Cess Committee. As regards the agency for the distribution of the material we accept the view of some witnesses that the hide dealers (*beoparis*) would be generally suitable. In our opinion the village official—whether of the revenue or of any other department—is not likely to render a good

account of himself as a distributing agent, even though he can and should be used for purposes of propaganda. In the beginning, at any rate, attempts should be made to supply the material at about cost price. The manufacture of the material on a commercial scale and its distribution should be left to private enterprise. We assume that simultaneously with technological investigation to find out a suitable substitute for salt the education of the men concerned would be taken up. This will have to begin in the important slaughter-houses and then be extended to the smaller ones. The problem of educating the village *chamār* is difficult, but as the small hide and skin dealer or his collecting agent is the only available link with the producer in the villages, a few such dealers and agents will have to be trained as a preliminary to the training of the *chamārs*. By offering suitable inducement it should, in our opinion, be possible to train up a few scores of such men in each province. Some witnesses have urged the appointment of demonstrators or demonstration parties. While we are not prepared to rule this out of consideration and are aware of the claims made by some provinces that they have found them suitable and useful, we are somewhat sceptical about their real utility.

60. Another wet-curing method is "pickling" the raw stock in wet brine. We found it in use for shipping skins, but as it adds considerably to the weight and therefore to the cost of transport, especially on the railways, we do not consider it suitable for general adoption. The wet-salting method appears to us to be better adapted to the local circumstances of this country. We do not, however, wish to be understood to condemn "pickling" in those cases in which experience has already established its superior utility.

B.—Dry Cures.

61. Dry-cure takes various forms. The simplest and also the cheapest is the method, generally in use in the dry north-western parts of India, of drying the hide or the skin in the air. It has the additional advantage of lightness in transport. If properly carried out, preferably in the shade, it undoubtedly enables the raw stock to be kept indefinitely, unless other conditions are unfavourable. But it pre-supposes a dry climate and weather, and is thus unsuitable for almost the whole of India during the rainy season and for many parts of India even in other seasons. It is therefore seldom practised in, *e.g.*, Eastern Bengal with its damp hot climate. Even if properly done under favourable conditions the transport of air-dried stock through areas with a humid climate or in which atmospheric humidity is, for the time being, somewhat high, presents difficult problems. It must be kept from being wetted or damped by contact with water, steam or vapour. The air-dried stock becomes almost as hard to the touch as stone; this is why air-drying is alternatively called flint-drying. The soaking opera-



No. R-17.—Dry-salted hide loaded with salt and mud.

tion is rendered difficult and often has to be assisted with chemical action. These facts expose it to the risk of being rendered unsuitable for plump moisture-proof leather. In spite of these disadvantages and risks air-drying is extensively resorted to, the chief reasons being its simplicity and cheapness.

In order to prevent insects and maggots from attacking air-dried stock it is usual to treat the surface with a solution of white arsenic, which "poisons" the surface. Arsenication or poisoning. Arsenication is not however a method of cure but rather of preservation.

62. The next important dry method is dry-salting. Salt is rubbed on the flesh side while the stock is still "green". In the eastern provinces of India a natural salt (*khāri*) which in all probability is an impure earthy sulphate of soda takes the place of common salt. The salting and drying processes are repeated—sometimes as often as six times. This method suits the damper regions far better than air-drying; hence it is extensively employed in the rainy season and in damp places, *e.g.*, Benagl. But it is more costly than air-drying and adds weight and therefore to the cost of transport. It also lends itself easily to "loading" and thus to fraudulent over-weighting, especially when, as is commonly done in India, the stock is plastered with mud with which cement and other materials are mixed. The plastering is often ingeniously done and gives a misleadingly neat appearance to the flesh side (*see* photograph R-17). The natural salt often contains iron salts which stain and discolour the stock before and during tannage. Besides there is the difficulty of obtaining the natural salt. At present it is obtained mainly from Bihar, but the supplies are not ample. Dry-salted stock is, however, less liable to putrefaction and damage by insects than merely air-dried stock. We should add that dry-salted stock is at present largely cleaned by exporters at Calcutta—the natural exporting port for those parts of India where this method is the most common.

63. The dry-brining process—curing in a pickle of salt and water and then drying for transport—is not in common use in India, but as it has the definite advantage of cheaper transport and eliminates the risk of false weighting, we think it should be tried and, if found suitable, popularised and encouraged.

64. In some parts of India dry-pickling—*i.e.*, pickling and then drying—is a fairly common method for curing dewooled sheep skins. Its merit compared with wet-pickling is the saving on the cost of transport.

65. Fire-drying or smoking is rarely resorted to except where the climate is very damp, *e.g.*, in the Terai, on the Eastern Bengal Coast and in Lower Burma. Such stock is of very low quality, but quantitatively its production is negligible.

Re-salting and re-drying is sometimes resorted to when the original cure was imperfect but bacterial action has done only superficial damage. Though this procedure

(ii) Re-salting and re-drying. is not indefensible *per se* and is sometimes necessary to preserve the hide, the trade discountenances it as it is usually done with the fraudulent intent of concealing the defective character of the original cure. We saw a case of this treatment at one of the centres visited by us. Considering that the reputation of raw stock from India is by no means as high as it can easily be if a little more care were taken, we think the problem of combating this practice when the intent is fraudulent should engage the attention of the Cess Committee.

66. While describing the curing processes we have indicated the defects and also the difficulties and other reasons which give rise to the defects. We propose to recapitulate them briefly and to suggest remedies where possible:—

(i) The scientific aspects of the use of "green" hides in the local tanneries without a suitable cure for keeping the stock from the initial stages of bacterial decay should be investigated.

(ii) The producers of raw stock should be trained in the scientific handling of the various stages of proper wet-salting. This work should begin in the important slaughter-houses and then be extended to other less important ones. Raw stock dealers and their collecting agents should be induced by suitable means to acquire some grasp of the proper stages and processes. We hope this knowledge will, in due course, filter down to the producers of "fallen" raw stock. A few demonstrators may be appointed as an experiment and the results watched before launching out on any ambitious schemes of "demonstration".

(iii) Technological research should be undertaken to find out cheap, easily applicable and efficacious substitutes for common salt. Their manufacture on a commercial scale and distribution should be left to private enterprise. We think small raw stock dealers and their collecting agents will probably be found to be the most suitable agency for both popularising and distributing the substitutes.

(iv) The use of arsenic should be encouraged, but as it is a deadly poison its use must be kept under control as at present. If arsenication could take place on the spot, the primary producer would benefit in the form of additional price on account of work done in his spare time. But in the present circumstances its widespread distribution in the rural areas is very risky. Hence arsenication should be left to be done at central curing houses—possibly on co-operative lines—where its use can be kept under control. Meanwhile research should be undertaken to find out efficacious substitutes which would not be poisonous to human beings and could not be mistaken by the rural folks for any edible article.

(v) The economic waste resulting from plastering with the object of loading (*see* photographs R-17, R-18 and R-19) and from

other forms of loading (*see* photograph R-15) and also from the various defects due to unscientific methods of dry-curing should be brought home to the primary producer and the dealer by means of suitable propaganda. Attempts should be made to ascertain whether and under what conditions the work done at the exporting centres can be done as near the place of production as possible.

(vi) Technological research should be undertaken with the object of finding suitable substitutes for *khāri* salt for dry-curing. Meanwhile a survey should be made of the existing resources of *khāri* and the connected problems of its purity, price and the organisation for its collection and distribution.

(vii) The suitability of the dry-brining process should be ascertained.

(viii) The Cess Committee should assist the trade in attacking the practice of re-salting and re-drying with the fraudulent intent of concealing the defects of the original cure.

67. Before concluding this section we might add that in the course of our inquiry we found a difference of opinion among tanners and shippers as to which is the

Discussion of "best" cure. best method of curing. The witnesses representing the Indian tanning industry were almost unanimous that next to "green" hides Indian tanners prefer wet-salted hides. Mr. Das puts them in the following descending order: (1) green, (2) wet-salted, (3) dry-salted, (4) air-dried and arsenicated, (5) merely air-dried. On the other hand, witnesses representing the export trade maintained that dry-salting was more durable and generally more satisfactory. Mere air-drying followed by poisoning also had a few champions. Not being a technical Committee we have not examined this question scientifically. So far as we can see, each system has its own merits and demerits, and the methods generally in use in a particular local area seem to us to be fairly well adapted to the climatic and other conditions of that area. We are aware of the room for improvement that undoubtedly exists, but *primâ facie* we think the improvements which are possible are generally those of detail rather than those of radical principles. While we should not be understood to express a considered opinion on a highly technical matter like this, we do hold that the relative merits and demerits of the various methods of cure followed in India and elsewhere should be investigated with reference to the climatic, economic and other conditions of the different local areas in this country.

(e) DEFECTS DUE TO LOADING AND ADULTERATION.

68. It is difficult to draw the line between "loading" and adulteration, but the trade recognises them as distinct from each other. While discussing the methods used in India for preparing and curing raw stock, we have already referred to various defects, some of which amount to deliberate

Distinction between "loading" and adulteration.

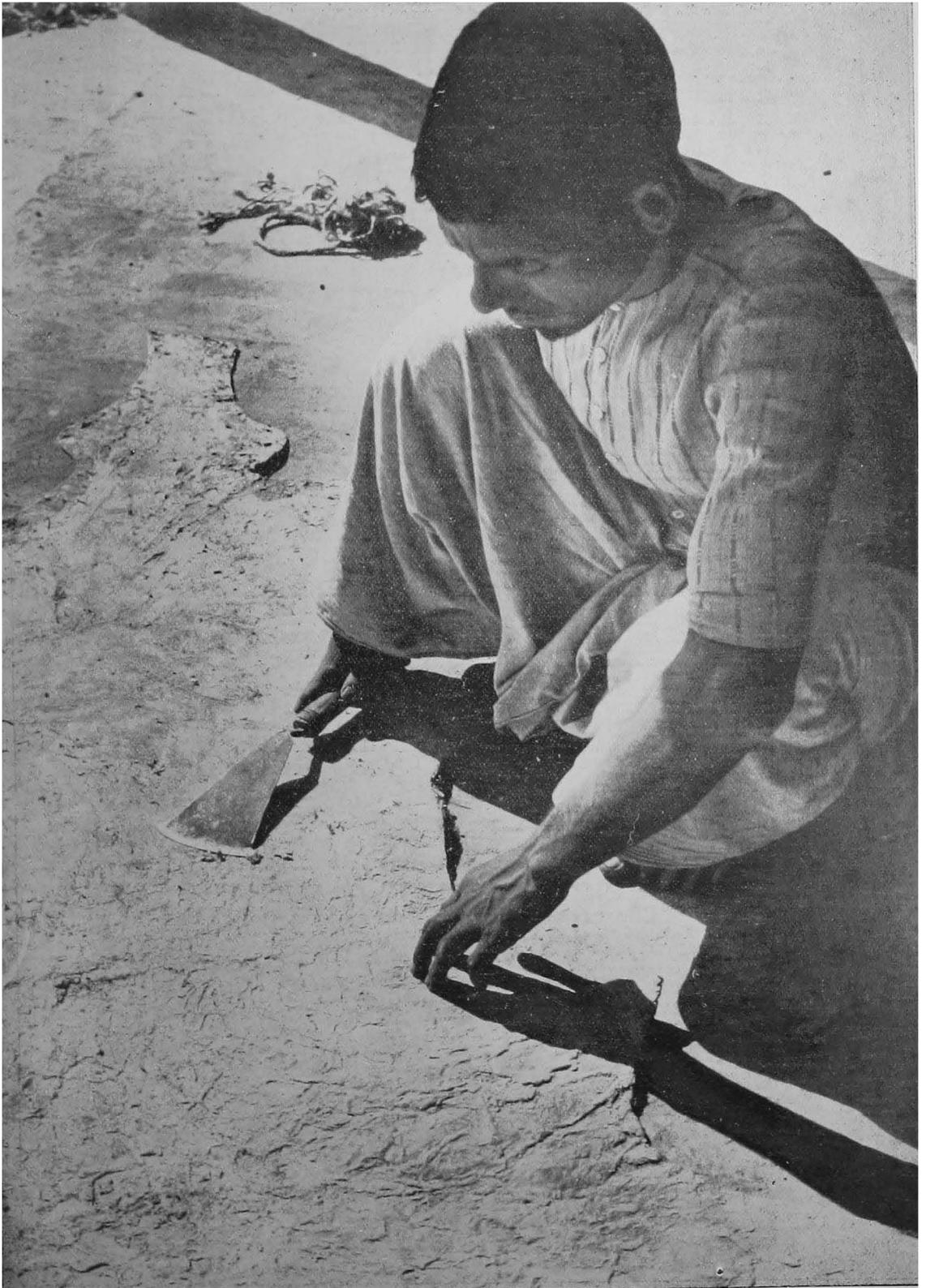
loading or adulteration. The former term is generally used to denote the foreign matter which should be, but is not, removed from the raw stock or which is brought in from outside and left on it. Such matter has one of two origins. It may be part of the animal's body removed along with the hide or the skin, *e.g.*, blood, flesh, fat, tail bones, pieces of horn or of the hoofs, cheeks and other trimmings. Satisfactory preparation and cure and trimming require that they should all be removed, but they are often left on the raw stock (*see* photograph R-15). It is, moreover, a very common practice in many parts of the country to aggravate the evil by bringing in genuine foreign matter and fixing or plastering it on the raw stock. The range and variety of such imported loading matter is amazing. Not only dung, blood and lumps of flesh and fat, but articles like lead, cement, mud, clay, sand, impure or spent salt, earth, flour, *kānji* and even steel shavings and filings have been pressed into service as loading materials (*see* photographs R-17, R-18 and R-19).

69. "Loading" is done with one of two objects, *viz.*, to conceal defects or to gain false weight. The defects which loading

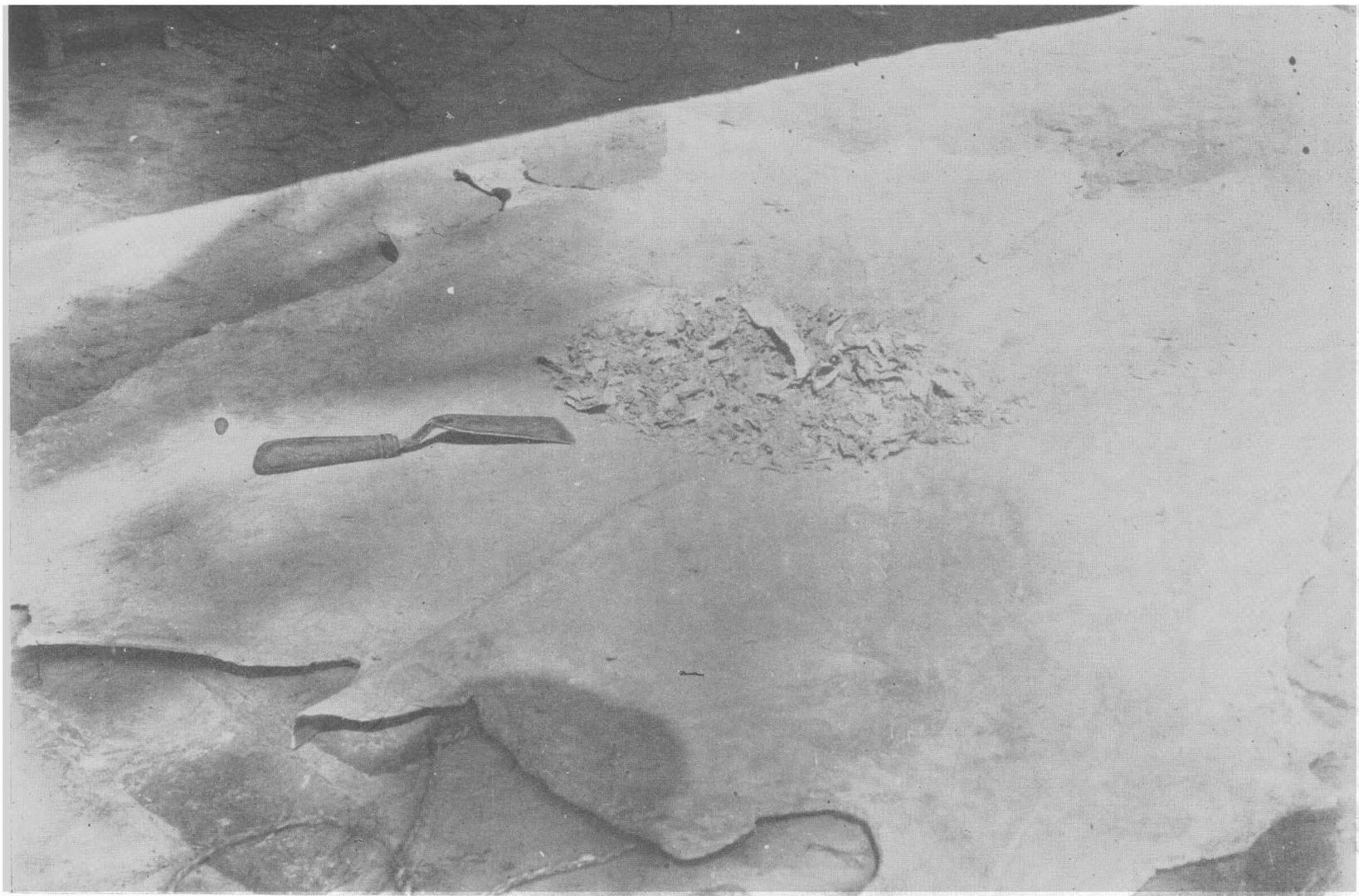
"Loading" can help to conceal are scores and butcher cuts, holes caused by warble flies, ticks and other vermin, vulture marks, stains, and many other defects on the flesh side. When the plastering is done by a practised hand, immediate detection is often rendered difficult. The more common motive of loading is, however, to gain false weight. Loading is therefore extensively practised in those parts of the country where hides are sold by weight and the "plaster-cure" is in common use, especially in the eastern districts of India (*see* photograph R-17). But even in those parts where wet-curing is practised, it is by no means uncommon. In their case excessive salt, usually spent salt, is used, and some of it is left on the hide for the purpose of adding weight. We have been told that loading sometimes amounts to even 100 per cent. of the weight of the unloaded hide! It is a remarkable fact that while hides, *e.g.*, from Eastern Bengal, are usually heavily loaded, skins are not, as the latter are sold by the piece. Air-dried arsenicated stock is generally free from loading matter, and the reason why air-dried stock is often preferred by the foreign tanner is, according to some witnesses, that the foreign tanner is surer of what he is buying.

70. The term "adulteration" is somewhat loosely used by the trade. As there is nothing which can be mixed with the substance

of the hide or the skin without being liable to easy detection, adulteration strictly so-called is difficult and uncommon. It is however practised in certain forms, the following being somewhat important. The stock is sometimes wetted just before railing or local shipment. We have had evidence, which some of our members do not accept, that the practice of accepting weight as recorded in the railway receipt at the station of despatch has encouraged this mode of adulteration. We consider it exists in a form serious enough to demand early attention on the part of the Cess Committee. The



No. R-18.—Same as No. R-17 being scraped, losing between 20 to 30 per cent. of total weight.



No. R-19.—Same as No. R-17 after scraping. In the middle is the heap of salt and mud that was scraped off.

checking of shrinkage or the replacement of lost weight by the use of excessive quantities of salt or pickle or chemicals are other similar modes of adulteration.

71. Apart from giving false weight, loading may cause damage—sometimes serious—not contemplated by the person responsible for the loading. Thus the use of impure salt and minerals causes stains and discoloration. Adulteration may seriously affect the hide or skin substance. Thus, *e.g.*, prolonged soaking may result in its partial dissolution. Damage is likely to result in numerous other forms too.

All these forms of loading and adulteration do not go undetected, and tanners and shippers endeavour to make ample allowance generally to cover themselves against damage to the stock or loss in its weight. But, even then the national loss remains. Apart from the education of the primary producer, so as to enable him to see how enormous the loss to the country as a whole is and how he too must bear his share of it, the remedy (if any) is, we think, in the hands of the trade.

CHAPTER V.

Organisation of the Raw Stock Trade. Its Difficulties and Defects. Remedies.

A.—ORGANISATION.

72. In the preceding chapter we have endeavoured to describe in some detail the conditions under which hides and skins are produced in India and the defects from which they suffer. In this chapter we propose to describe the organisation for the handling of the raw stock whether for export or for internal consumption and to show where it is defective and how far such defects can be put right. As the collection and distribution of slaughtered stock differ in some important respects from those of fallen stock, these two classes of stock will be dealt with separately.

73. "Fallen" stock is taken by the owner (generally the village *chamār*) to a neighbouring market. The periodical market held in a small township is typical of such markets. Existing organisation. If his own village happens to be close to an important collecting centre or a tannery, he naturally takes it straight there. Fallen stock is invariably treated as a bye-product; its production is small for any one village, casual and irregular. The producer is generally in need of immediate cash. Hence, he rarely accumulates it till it attains a size big enough to make it worth his while to go straight to the most important collecting centre within a reasonable distance. Small hide dealers or their collecting agents attend such markets and buy up the stock. The seller is seldom accurately acquainted with the prices ruling in the large centres of the trade, and in negotiating the sale he usually relies upon the price fetched for his own or a friend's or relation's goods on the last preceding occasion. He is severely handicapped not only by his poverty but also by the fact that even when he is being offered a price lower than what he thinks he should get, he cannot always afford to take the stock back to his home. At these small periodical markets there is sometimes little competition among buyers, and more often than not the producer is at the mercy of the buyer. Besides, it is a common practice for hide buyers to advance money to producers, whereby pressure can be brought to bear on the seller. Hence, even though there is some higgling and bargaining between the producer and the dealer, the former is under a handicap throughout the negotiations. It is true that the rise or fall of the world price for raw stock ultimately does influence the price obtained by the primary producer of "fallen" stock in the villages of India, but owing to a variety of reasons the adjustment between them takes much longer and is far less complete than it might be. It only remains to add that these features of the trade both in fallen and in slaughtered stock are not peculiar to India. In particular, the small producer's

dependence on the "primary collector" is a characteristic feature of the trade all over the world, especially where the exporting market or the consuming centre lies far away or the conditions under which the trade is carried on are complex.

The number of middlemen through whose hands the raw stock has to pass before it reaches the Indian tannery or the shipper at the port of export varies according to the distance of the producing centre from the ultimate destination in India. In the average case, however, there are three such middlemen, *viz.*, the primary collector, the dealer in "provincial" towns who buys up from them and the commission agent (*ārḥaldār* or *ārḥatī* or *ārḥatīā*) at centres like Calcutta, Karachi, Cawnpore and Madras. Usually the two former buy up on their own account and the latter of these two sends consignments to the ports for sale through commission agents. Direct trade between middlemen of this class and tanneries in India is generally of no great consequence. The typical *ārḥaldār* is not only a commission agent but also a store-keeper. He usually advances to the dealer a certain proportion of the market value; this is generally about 75 per cent., but when the market is keen it may be higher. The *ārḥaldār's* commission varies not only from centre to centre, but according to the species and even the class of the raw stock to be sold. The commission agent takes delivery, stores the stock, usually assorts it, negotiates the sale, realises the price and remits it to his principal. In fairness to this class of middlemen we should here add that considering the varied and important services rendered to the dealers we do not consider the commission agency charges as being by any means excessive. We have concrete evidence from the trade to this effect at one important centre of the trade and believe it is applicable to other centres as well. We do not think this middleman can be eliminated except by setting up an organisation—*e.g.*, a co-operative one—which, whoever pays for it, will be more expensive and perhaps also less satisfactory.

74. The handling of slaughtered stock is rendered much easier by a variety of reasons. If there is an organised local tannery, a good deal of the raw stock produced in the slaughter-house is taken up by the tannery, either direct or sometimes through dealers who buy up from the butchers. As the production of slaughtered stock is not so casual in character as the production of fallen stock, the producer is not so hopelessly at the mercy of the primary collector. Nor are there so many middlemen between the producer and the local tanner as there are between the producer of fallen stock and the exporter or the tanner in a distant part of the country. A large proportion of slaughtered stock is consumed in the country itself; even tanneries situated at some distance generally have their arrangements for the buying up of such stock in the important slaughter-houses. It should be added here that in most parts of the country the hide or skin of an animal intended

for slaughter in the chief slaughter-houses is generally bought while the animal is still alive. The ownership of the hide or skin is thus transferred before it is flayed. The manner in which this traditional and customary practice leads to defective flaying has already been described in para. 52. We consider this lacuna in the handling organisation far more serious and yet much easier of correction than attempts to eliminate the middlemen.

75. Casual fallen stock is carried by the producer generally on his head or his cart. When the weight to be carried is heavy, the bullock cart is generally used, though in Punjab the camel, and in the hilly tracts the pony often take its place. In most parts of India and almost all over the northern provinces, the railway is almost the sole mode of transport of raw stock from the collecting centres to the ports or the tanning centres.

Transport.

B.—DIFFICULTIES AND DEFECTS. REMEDIES.

76. In the present circumstances of the country we do not consider it practicable to devise any method of collection or distribution which can effectively and economically replace the existing ones. Most of the difficulties that stand in the way of the primary producer are inherent—the small, casual, scattered and unstandardised nature of the production, its comparative perishability, the producer's own ignorance and incapacity to accumulate his stock or wait for a better turn in the market etc. In addition there is the difficulty arising from the fact that in India the producer of fallen hides and skins almost invariably belongs to the depressed classes, and his ambition, energy and intelligence are generally of a low standard. The butcher, the flayer and the small hide dealer plying his trade in connection with slaughter-houses are also almost invariably drawn from the lower strata of the community. The problems which any serious attempt to improve these fundamental facts must face are so big that we think the Cess Committee cannot be expected to attack them. Essentially similar problems, though perhaps not so acute, face the producer of many classes of agricultural and dairy produce. There are, however, a few comparatively practicable remedies with which the Committee should experiment, and we propose to discuss them.

77. One method *prima facie* suitable for an experiment is the co-operative organisation of producers at the important centres.

Co-operative organisation.

From the evidence which Mr. Burt gave before us we gathered that the Indian Central Cotton Committee has, to a certain extent, succeeded in attacking some of the similar problems in the case of cotton growers. We recognise that there are many and important points of difference between the case of the cotton grower and that of the producer of raw hides and skins. The witnesses representing the hide and skin trade were, generally

speaking, not in favour of co-operative organisation or sanguine of its feasibility. We are, however, not disposed to rule it out as clearly unsuitable, and think there is scope for experiments in this direction. To be at all practicable, co-operation should only be attempted where there is something like social and economic equality among the would-be co-operators. We doubt if the producers of fallen stock and those of slaughtered stock could be brought together in a co-operative organisation. Important centres of the hide and skin trade usually have slaughter-houses sufficiently large to yield the necessary number of co-operators, but at such centres the co-operative organisation for *marketing* (as distinct from credit) is hardly felt. Hence, we are left with the smaller provincial towns and cities as the centres where co-operation for marketing should be tested. Some co-operative associations of cotton growers have, we have been told, successfully handled the marketing of the members' produce. Though we realise that the difficulties are greater in the case of the collecting, warehousing and marketing of raw hides and skins, we can see no reason why experiments under favourable conditions should not be undertaken. Similarly, we think co-operative "poisoning" of raw stock for preservation offers a suitable field for investigation. We feel that unless the producers are organised, it will be difficult—perhaps even impossible—to bring about much improvement in, *e.g.*, the flaying, preparing and curing of raw stock. Hence on this ground, as well as on that of reducing the waste and leakage inevitable when many middlemen have to be utilised, we think we should stress this recommendation. The work of organising, financing and guiding such societies and of supervising their work will, of course, not be undertaken direct by the Cess Committee; it can and should be left to the provincial co-operative departments. The Cess Committee should, however, be prepared to contribute towards the salary of the staff kept for the purpose of effecting improvements and also towards the organisation of the society and its maintenance in the early stages of its career. We have not gone into details, and we leave to the Cess Committee the selection of suitable fields for such experiments, which later might be extended to other provinces.

78. The evidence collected by us shows that in this trade grading for export is hardly even attempted before the raw stock reaches the *ārhatdār's* hands. The difficulties are undoubtedly great. Grading involves the passing of a personal judgment on each piece, and the factors affecting it are many. The age of the animal, the area where it was bred, the manner of its death, the weight of the hide or skin, the quality of the flaying or skinning, the nature and extent of the damage due to vermin, wounds, brands etc., these are some of the important factors which have to be assessed in relation to each other. Hence, the scope for difference of opinion on their aggregate effect is bound to be greater than in the case of many other classes of produce from the country-side. But the export trade has evolved a grading system with specifications. It is known as

the Hamburg classification. (See appendix 8.) This system is generally stipulated as the basis of arbitration in contracts relating to exports. Although one witness called it rough and gave us a concrete illustration in support of his view, yet we found on closer examination that the flaw in the case cited by him lay not in the system but in its application. We think it meets the needs of the trade passing through Calcutta, and with suitable modification might serve the needs of the trade in other parts of India as well. Although we are not in favour of forcing any system on the trade, and many witnesses representing the trade have expressed doubt as to the practicability of a uniform system of specification and grading, we think the Cess Committee should try to ascertain whether the trade in other parts of India can usefully accept it in its present or in a suitably modified form. We do not wish to be understood to intend that the Cess Committee should attempt this work directly; indeed we think there is a definite advantage in utilising the important trade associations for this work, and therefore propose that the Cess Committee should do so. We feel that once a generally accepted and suitable system is recognised as standard, it will before long supplant other systems of grading. We are convinced that a uniform system will, in course of time, help to remove some of the existing complexities of the trade, and will be an important factor in helping the producer and the small dealer to obtain better prices for their goods.

79. Another lacuna to which our attention has been drawn by some witnesses is the practice of some tanners to purchase raw stock on what is known as the "inspection" system. The buyer or his agent inspects the lot as a whole and does not "select" the individual pieces one by one. This system precludes exact valuation of the parcel and tends to encourage abuses. In the long run the buyer of such a parcel pays no higher price for it than is justified by the aggregate quality and weight of the component pieces, and while buying each lot he covers himself, probably more than is necessary, against the risk of finding the parcel below expectation. Hence in the long run the loss falls on the owner. If we did not feel that this practice goes beyond the limit which the intrinsic character of the trade renders inevitable, we would not be justified in proposing any interference with it. But we think it does. Hence, we propose that the Cess Committee should investigate the matter thoroughly and devise a suitable remedy if the practice appears remediable.

80. One witness claiming intimate knowledge of the trade has proposed that every fairly important centre of the hide and skin trade should have a "hide and skin exchange" with godowns for cool and dry storage and other paraphernalia. In the centres visited by us—
Markets. and these were among the most important ones in India—we found that the market though not altogether scattered was not as centralised as it can and might be. The advantage of such

centralised markets is too obvious to need any elaboration. In particular, the benefit which the cotton grower in Berar derives from the existence of cotton markets established under or regulated by the Berar Cotton and Grain Markets Law leads us to think that if the Cess Committee succeeds in establishing or regulating the hide and skin markets in some of the important centres (both at the ports and upcountry), a drawback of the present organisation will be corrected. We have no doubt that in pursuing this matter the claims of all vested interests will be duly respected and the changes proposed will be cautious and gradual.

81. Insufficient or unsuitable packing is undoubtedly liable to damage the contents, but the remedy is entirely in the consignor's hands. Apart from making an effort to educate consignors to appreciate their own loss we do not see what the Cess Committee can do to remedy this shortcoming.

82. We now propose to discuss some questions connected with the transport of the raw stock. We leave aside the bullock cart, the camel or the pony as we cannot see how the Cess Committee can usefully interfere with them. They are, besides, fairly well suited to the physical and the economic conditions of the country. But many witnesses have drawn our attention to various difficulties and drawbacks in the present system of transport by railway, and though a large number of these are inevitable, there are some which, in our opinion, can be remedied.

It was urged upon us by some that the type and design of the wagons generally available are not suitable for the transport of raw hides and skins. The all-iron wagon undoubtedly leads in some cases to damage of the stock. If it is wet-salted and not dry, the iron is liable to stain and heat parts of it; such stains are generally irremovable and cause considerable depreciation. The open wagon leaves the contents at the mercy of the elements, and the heat or moisture or, worse still, a combination of heat and humidity inevitably damage the contents. The ravages of stray dogs, weevils and insects on such stock have also been brought out in the evidence taken by us. A closed wagon if it happens to be leaky is also a cause of loss, as it exposes the stock to the risk of "hair-slip" in the parts which get wet or damp. Some witnesses have suggested that the railways should provide special wagons with wooden sides and floors, at least the latter. One of them informed us that one important railway system used to provide such special wagons, but has now discontinued them. Whether in view of the casual character of the trade and the country's need for general service wagons it is possible for the railways to provide special wagons we cannot say. But the matter needs further investigation, especially as we have been told that special wagons used to be provided on one railway. As an easier alternative the provision of special wooden planking at important despatching centres (*e.g.*, Madras, Cawnpore, Lahore, Amritsar,

Delhi, Dacca) needs investigation and should receive it at the hands of the Cess Committee. Opinion differs as to whether the spreading of mats would meet the needs of consignors. One witness thought it would; another with extensive experience has stated that he had tried them but had found the protection afforded by them inadequate. The alleged insufficiency of sheds at the goods booking offices and particularly of tarpaulins to cover the stock during transit, especially during the rainy season, has also been the subject of some complaint. We have not examined these allegations in detail, but we think they would be suitable subjects for investigation by the Cess Committee.

83. A more serious complaint made by many witnesses relates to the alleged slow transport and delays in transit. One witness told us that railway transport from Cawnpore to Madras sometimes takes as long as twenty five days. A suggestion has been made that hides and skins, particularly wet stock, should be treated as perishable goods, at least in the hot weather and the monsoons. We find ourselves unable to endorse this *in two*. Hides and skins are not as perishable as fruit, vegetables, fish, meat and similar articles. On the other hand, they are not as free from the risk of deterioration owing to delay in transit as (say) coal, sugar, grain, salt, piece-goods, etc. They occupy an intermediate position. The question of securing a recognition of this fact by railway authorities should, we think, be one of the problems to be attacked by the Cess Committee.

84. We have had some evidence to the effect that railway freights are excessive. We have not examined such evidence in detail and we could not, within the time at our disposal, ascertain what the railways might have had to say in reply. We are unable to make a detailed proposal on the general question; but judging from at least two of the specific cases cited before us we think the determination of the freight on the basis of the total mileage covered irrespectively of the number of railway administrations over whose lines the stock is transported will to an appreciable extent remove the difficulties of the raw stock trade at one centre in its competition with that at another. It will also benefit the primary producer on the one side and the exporters and Indian tanners on the other. Not having examined the question in detail we cannot say how far a practicable solution on these lines is possible. But at least so far as the state railways are concerned, we do not anticipate any serious difficulty. The most important producing area in India is the northern provinces from Sindh and the North-Western Frontier to Eastern Bengal. All the chief railways over this area are already state-managed. Although we cannot speak with authority, we feel that in pursuing this policy certain cardinal principles will have to be kept in view, *viz.*, (i) the recognition of hides and skins as being semi-perishable articles and their treatment in other respects on about the same footing as in the case of

other primary produce, *e.g.*, cotton, grains, oilseeds etc., (ii) the desirability of devising preferential freights when the raw stock is consigned from any of the chief producing or collecting centres to any of the chief consuming centres and (iii) the application of the principle that the freight charge should proportionately diminish when the total distance to be covered (irrespective of the number of railway administrations over whose lines the goods pass) increases. We should, however, add that what we have said here should, more than anywhere else in this Report, be treated merely as an indication of the problems which the Cess Committee will have to face and a suggestion of some of the lines along which they might possibly be attacked.

85. Before we leave this subject we might refer to a mal-practice in the trade to which our attention was drawn by a witness, *viz.*, watering before railing. We have not been able to verify his statements. If this practice exists, we consider it serious enough to engage the attention of the permanent Cess Committee.

86. As regards the export branch of the trade we draw attention to para. 21 in Chapter II about certificates in respect of the exported stock. No other problem has come to our notice, but the Cess Committee will no doubt survey this field also.

Before we conclude this chapter we might record two other matters of some importance as our attention has been drawn to them by some of the witnesses.

87. It has been alleged before us that in some *zamindāri* estates and Indian States the custom is for the estate or the State concerned to give out leases for the collection of fallen stock. The lessee pays a fee in consideration. The agency by which he gets the dead animal skinned and the raw stock collected is usually that of the village *chamār*. The defective character of this system lies in the fact that the proprietary interest in such stock remains, not with the *chamār* to whom a return of a few annas for work during his spare time is often a sufficient inducement to undertake the skinning, but with the lessee who may not find it profitable to get such work done by hired labour. Under conceivable circumstances the stock is therefore liable to remain uncollected, whereas under these same circumstances the *chamār* would, if he were the owner of the stock, take the trouble of skinning for sale or for local tanning generally by himself. We do not know the extent of the national loss from the operation of this custom. A solution of the problem is not an easy matter, as customary prescriptive rights cannot be lightly disturbed. We are, however, indicating the existence of the problem in order that the Cess Committee, when it is brought into being, may be aware of it and remain on the lookout for a practicable solution.

88. The existence of various combines among shippers of raw stock for the purpose of controlling prices has been alleged. We have not scrutinised these allegations.

Combines. Whatever the facts be, we think the operation of combines, whether of shippers or of tanners in India, for the purpose of controlling prices so as to keep them down, is not in the interests of the primary producers or the dealers, and it should be one of the important duties of the Cess Committee to be on constant lookout for their formation in India or abroad with the object, whether avowed or not, of acquiring control over the prices of Indian raw stock. We agree that concerted action can materially help to bring about improvements in a trade which, not only in this country but even in the advanced countries of the world, is characterised by some conservatism. But with the creation of a Cess Committee to handle such problems, not only in an impartial manner but in full collaboration with trade associations, the justification for combines whose motives may rouse suspicion will in future be even less than it has so far been.

CHAPTER VI.

Estimated Cost of Schemes.

89. In the preceding chapters we have discussed in detail many of the important problems with which the Cess Committee will have to deal. We wish to make it clear that we have by no means surveyed the whole field of the Cess Committee's work. The constitution of our Committee and the very short time during which we were expected to finish our work have both stood in the way of such work. Besides, we realise that the work expected of us is mere preliminary investigation and that we must leave the details to be worked out by the Cess Committee. Hence we are not in a position to give detailed estimates of the cost of such remedial action as we have suggested, much less the cost of such other lines of action as may later be found necessary. Our proposals on this subject should therefore be treated as tentative and suggestive, but in no case final or exhaustive. With a few years' actual experience the Cess Committee will, no doubt, see the path ahead more clearly than we have done, and it should feel no hesitation in rejecting, modifying or adding to our preliminary and broad outline of its work.

90. On one issue, *viz.*, the need for action by Government, our minds are clear. The Indian hide and skin trade is not a new development. It has in the past tried to attack some of the more urgent problems, *e.g.*, general improvements to meet the requirements of customers, the improvement of flaying, reduction of loading, bringing the special qualities of Indian raw stock to the notice of the important tanning centres. The building up of the export trade both in raw and in tanned stock is one of its solid achievements. But though it is not altogether an unorganised trade, organisation is almost entirely confined to purely commercial purposes. There is no department of Government or association charged with the duty of bringing about improvements in the raw stock and in the methods of handling it. Even though the need for technological investigation and the producers' education is perhaps more acute in India with her large proportion of fallen stock, we do not find any evidence that these problems have ever been seriously taken in hand. The trade as a whole has contributed handsomely to the general revenues of India, but has received little direct assistance in return. Owing to the poverty, ignorance and low standard of intelligence of a majority of the primary producers, we are inclined strongly to the view that if India is to maintain and improve her position in the world's markets for raw and tanned stock and leather and allied manufactures, the time is now ripe for organised work. We hold that the trade and the industry cannot undertake it without extraneous assistance,

especially financial. The problems are numerous and complex, and a part of the necessary organisation will have to be built up or radically adapted. These are our reasons for proposing that Government should step in and establish a statutory cess committee with adequate funds at its disposal.

Our views as to the amount needed are not unanimous. Some of us hold that about fifteen to twenty lakhs a year will be required before long for substantial work especially

Views as to the amount needed.

of development as distinct from mere research. Others think that about five to seven lakhs a year is likely to suffice for all the important practicable schemes. We are, however, all agreed that a reasonably good start can be made with about five to seven lakhs a year. *En passant* we might mention that the net annual yields of the cotton, tea and lac cesses were 5.55, 13.50 and 2.23 lakhs for the latest year for which figures were available to us. The cost of collection by the Customs Department was Rs. 8,810 in the case of the specific cess on tea.

Coming to a detailed consideration of the schemes and their cost we should make it clear initially that it is possible to devise

Only important schemes suggested.

numerous schemes for attacking the problems from the breeding and feeding of animals to the marketing of finished leather and leather goods. The particular schemes to be taken up will depend on their importance and urgency as well as on the funds available. It has been given to us in evidence at several places that an expenditure of even three lakhs gives only small sums for each line of work in a single province. We feel, however, that a proper perspective of general economic development must be maintained in the expenditure of funds. But for this fact some of us would have proposed the placing of a larger sum at the Cess Committee's disposal. Their acceptance of the figure of seven lakhs should therefore be read in the light of the preceding remarks.

91. Before proceeding we should explain the principles on which we have based our proposals for assistance to the trade.

Principles governing expenditure of cess fund.

(i) Producer's benefit the main consideration.

We are unanimous in our view that the primary producer's benefit should be the main consideration. Whatever the differences of opinion between the exporting and the tanning interests may be, the primary producer occupies a central position. The improvement of the raw stock and of the methods of handling it will benefit all the links in the chain including the exporters and the tanners.

Secondly, if the Indian leather industry has to progress—and we are agreed that there is enormous scope for its expansion—the

(ii) Leather and allied industries must also be assisted.

leather-making and allied industries should not be debarred from the benefit accruing from the Cess Committee's expenditure. Leaving aside the accepted policy of state-

encouragement to industry, we see other weighty reasons for our acceptance of this principle. To begin with, we look upon the Indian tanning industry as a key industry of considerable importance. This fact has been recognised, and we need not therefore dilate upon the point. Again, as we view the situation, the raw trade and the leather industry are mutually complementary. We do not recognise that their basic interests are hostile or divergent. The decay or stagnation of the industry will adversely affect the position of the primary producers and the dealers engaged in the trade. Even apart from the direct loss which is obvious and need not be elaborated, the Indian tanning industry and the export trade have kept up a keen competition for the raw stock produced in the country. The elimination or weakening of this competition in the country itself cannot but leave the primary producer at the mercy of the surviving section if that section is capable of organised combination for price control. Assistance to the allied industries follows as a corollary from the above principle. Thus we derive the second basic principle underlying the proposals we are going to make, *viz.*, that the Indian leather, leather-working and allied industries should also receive assistance from the Cess Committee.

The proportions in which the Cess Committee's funds should be expended for the direct benefit of the primary producer (by the improvement of the raw stock and of the conditions under which it is marketed) on the one hand, and for the benefit of the Indian leather and allied industries on the other, have been the subject of some discussion. The opinions and proposals of the witnesses who have appeared before us have differed widely. But our views and proposals are unanimous. We do not think it is possible to lay down a hard and fast ratio to be rigidly adhered to at all times; but, for the sake of rough guidance to the Cess Committee we might say that in our view the proportion should be about 75 to 80 per cent. for the improvement of raw stock and 25 to 20 per cent. for the tanning and leather-working and allied industries. In proposing our own schemes we have kept these percentages in view.

We shall now describe the nature of help to be rendered, the schemes which, in our opinion, are practicable and their approximate cost. We shall discuss these separately (A) for the raw stock trade and (B) for the leather and allied industries.

A.—THE RAW STOCK TRADE.

92. We have already stated our conclusion that a portion of the cess fund can be usefully spent on research and development work in connection with the breeding, feeding and keeping of animals from the point of view of the improvement of the animal's hide or skin. To this end, for research alone we propose that a sum of Rs. 25,000 rising to

Breeding, feeding and
keeping of animals—
(i) Research.

feeding and keeping of animals from the
point of view of the improvement of the
animal's hide or skin. To this end, for

Rs. 50,000 in the course of five years should be placed every year at the disposal of the Imperial Council of Agricultural Research. In para. 114 we have explained our reasons for utilising the agency of this Council for this work.

So far as the application of research is concerned, we think it can and should be left to the provincial governments, the local administration and the Indian States; it (ii) Application and will be automatically included in the work of animal-breeding in general. But as the development. breeding of animals other than cattle has, broadly speaking, not received the attention of the local governments, we think some inducement will have to be offered for the initiation of the scientific breeding of goats and sheep also. When the time for this comes, a larger amount may be needed. In saying this we take due note of the almost unanimous view of witnesses representing the provincial cattle-breeding departments or sections that their work is seriously hampered by the inadequacy of the funds allotted to them.

93. Passing on to the diseases of animals and the ravages of insects, we confine ourselves to only those which cause appreciable damage to the hide or the skin. The problems of attacking other diseases and pests should be left to the veterinary departments in the provinces and the States. Coming to those which the Cess Committee should attack we think a line should be drawn between diseases and vermin of minor importance on the one hand and, in view of their special importance, the warble flies and ticks on the other. For research work in connection with the former, we propose that a sum of Rs. 40,000 rising to Rs. 50,000 a year should be made over to the Imperial Institute of Veterinary Research, Muktesar. This sum is approximately sufficient to maintain two competent research assistants and the necessary staff with laboratories and other equipment. One of these will be engaged in research on diseases directly or indirectly affecting hides and skins and the other on similar work in connection with the ravages of vermin.

The problems in connection with warble flies and ticks are, however, far more important and urgent, and in our opinion must receive special treatment. (See synopsis at the end of this chapter.) Though the expenditure of one and a quarter lakh per year proposed by us there may appear to be a large proportion of the total, we think it is by no means excessive and further that the cutting down of any expenditure under that head and the transference of that portion to any other activity will not yield the same aggregate return to India.

Before going on to the next scheme we wish to add that we attach great importance to veterinary research as outlined by us. It appears to us to be one of the most promising fields for the Cess Committee's work. There undoubtedly are other important—par-

haps even more important—problems for the Committee to attack, but we doubt if such immediate and tangible results will be obtained from the Committee's work in those other directions.

The application of the results of such research will, as in the case of the breeding, feeding and keeping of animals, have to be largely left to the provincial governments and the States. But, owing to the essential

(ii) Application. difference between the direct bearing of the results of these two lines of research on the general agriculturist's welfare, there is likely to be a difference in the attitude of the provinces and the States towards them and in their willingness to bear the cost of applying the results. Hence, we anticipate that it will be necessary to offer suitable inducements to the provinces and the States, when the time comes for development on lines indicated by the Committee's research work. As this contingency is still remote, we have decided to leave it out of our immediate schemes.

94. As regards flaying we find that opinion as to the usefulness of the payment of a bonus or premium as an inducement to the flayer varies. It has been tried or is under trial at various times and in different places.

Flaying—
(i) Utility of bonus system. During the War the payment of the premium was one of the factors which enabled the Munitions Board to reduce the proportion of hides from the Bombay (Bandra) slaughter-house rendered unsuitable for army work from about 60 per cent. to less than 5 per cent. (*see* appendix 11). At Newcastle the proportion of first class hides was doubled in the course of twenty years (1895-1916), an organised system of paying a premium for good work being the most important part of the scheme put into operation (*see* appendix 11). The hide buyer of the largest tannery in one of the provinces has told us that he has succeeded in reducing the damage from flay cuts from 90 per cent. to 25 per cent. We have also been informed that certain Calcutta firms tried a bonus system some years ago and found it fairly successful, and that it is being tried at Aligarh at present. Another witness has stated that he has experience of the improvement resulting from the adoption of the system. The Calcutta Hides and Skins Shippers Association have stated that the system has been found successful in Europe. On behalf of the Indian Chamber of Commerce, Calcutta, it was stated that the system yielded satisfactory results at Rangoon and that a bonus of two to three annas per hide would yield satisfactory results. From the Leather Traders' Year Book, 1929 we learn that the payment of bonus is one of the methods adopted in a European country to bring about improved flaying. On the other hand, we gather that many of the firms in India which had adopted the system a few years back have discontinued it now. The Superintendent of the Bengal Tanning Institute, Calcutta, has said that he tried a bonus of four annas per hide, but it did not prove attractive enough. Many witnesses from the trade have expressed doubt regarding the effectiveness of the system and some have been frankly hostile.

But, the balance of evidence is in favour of the view that the payment of a bonus for a well-flayed hide would prove good economy not only for the nation as a whole but even for the individual buyer—whether a collector, dealer, shipper or tanner.

On the question as to who should pay the premium we find considerable divergence of view. Some witnesses have held that the trade itself should bear the burden, and others that as, in the long run, the gain to the country is bound to be many times in excess of the cost of the system, the Cess Committee should be prepared to find the cost. On the whole we are inclined to the former of these two views. The trade must, in the long run, pay for direct improvements, at any rate when the results are immediate and outweigh the cost of the improvement. But, we think the Cess Committee can and should undertake the work of preparing the ground for the introduction of such a system at suitable centres, and then leave it to the dealer, shipper or tanner concerned to actually make the payment.

It would be necessary to have flaying supervisors or similar staff to control the work and to indicate the flayer responsible for good or bad work as the case may be. In our opinion, the financing of such establishment would be a legitimate subject for expenditure from the cess fund. It will then be possible to make efforts to persuade the trade to utilise the agency of such staff for the payment of premia for good work. Unless there is some such agency it will be difficult to ensure that the reward for meritorious work really reaches the person to whom it is due. Accordingly we think that a few such supervisors should be properly trained for their work and then attached to the important slaughter-houses. In our opinion, a beginning could be made with some of the following and similar centres, *viz.*, Calcutta, Bombay, Madras, Karachi, Lahore, Delhi, Peshawar, Kalanaur, Jullundur, Agra (Shahdara), Saugor, Poona, Secunderabad, Bangalore, Darjeeling. But, we do not wish to limit the Cess Committee's freedom of action in this respect. The supervisors should, in addition to their duty of supervision, be capable of guiding and instructing the flayers. We think a monthly salary varying from about Rs. 75 to about Rs. 125 per mensem according to local circumstances will suffice to attract a suitable type. On our proposal the initial cost of such staff will be about Rs. 15,000 a year. Even when actual experience justifies an expansion and the scheme is extended to other centres, we anticipate that about Rs. 25,000 a year will probably be found sufficient for the Committee's work in this direction.

We think flayers should be required to take out licences, and the licensing authority should be empowered to impose penalties and even to cancel the licence for persistently bad work. It would be easier to introduce a system of licences in those cities and towns where we have proposed the appointment of flaying

(ii) Divergent views as to who should pay bonus.

(iii) Supervisor-instructors.

(iv) Licences to be prescribed.

supervisors. After the results are assessed, the system should, if then considered expedient, be extended to other centres.

In para. 52 we have described the evil effects of the present system of employment of flayers. An apparent solution is to convert flayers into employees of the slaughter-

(v) Municipal employment of flayers to be tried.

house authorities. On this question however there is considerable divergence of view. There are undoubtedly many points in favour of the suggestion. It will render control and supervision over the work of flayers easier. The tendency to scamp work with impunity will be held in check. If the fee charged is not higher than the aggregate of the slaughter-house fee and the average wage paid to the flayer at present, the cost to the butcher need not be increased. On the other hand, it is not clear that the local bodies and other authorities controlling slaughter-houses will be prepared to shoulder this additional responsibility. Communal questions may arise and lead to bitterness. The local authority in question may not like to take the risk—slight though it is—of being sued by butchers for the defective work of the flayers in their employ. On the whole therefore we conclude that this system should be tested by a few experiments, at first under favourable and then under average conditions. The Cess Committee should be prepared to bear the whole or a part of the additional cost on account of such experiments. We do not find it possible to give an estimate at present.

In connection with flaying the Cess Committee should also undertake some other experiments. Pneumatic flaying by which

(vi) Other experimental work.

the skin is separated from the carcass by means of compressed air is a method in use in certain countries on the continent of Europe, but the method may not be found suitable in India on account of certain religious customs. Electrical flaying machines are used in some other countries. The wooden hammer is popular in France. Flaying knives with safety devices are used in the smaller slaughtering establishments of some countries. All these provide suitable fields for investigation by the Cess Committee. For purposes of estimating the cost we have lumped such work with other work under the head "propaganda etc."

As regards better lighting, more room and adequate and suitable tackle in slaughter-houses we can only lay down the broad principles. Model plans for lighting and

(vii) Lighting. Room Tackle.

designs should be worked out, and local bodies should be encouraged to apply for advice and assistance when constructing or remodelling their slaughter-houses. As a general rule the Cess Committee should be prepared to offer some financial assistance as an inducement to adopt approved plans and designs, as the latter will probably be more costly than the simpler though less efficient ones. The Committee should collect, in advance, information about the existing

plans and designs of the important slaughter-houses all over India, study their defects and be ready with suggestions for remedying them. The proposed remedies should be worked out on alternative lines, the most suitable of which should carry the biggest and the least suitable the smallest grant-in-aid from the cess fund. The Committee will have to keep in touch with developments in other countries, especially those progressive ones where conditions are not altogether dissimilar to those in India. For purposes of estimating the total probable cost we have lumped this item also under "propaganda etc."

In certain countries flaying competitions have been held and prizes awarded for meritorious flaying. Although the proposal to institute such competitions and prizes has been countenanced by the Hides and Skins Shippers' Association, Calcutta, we do not attach great importance to it. To us its effectiveness is a doubtful proposition, but we see no harm in testing it. The Cess Committee should undoubtedly be prepared to find the cost—if necessary even the entire cost—of holding the competitions and awarding prizes. No precise estimate of cost can be given off-hand, but the cost need hardly exceed Rs. 1,000 a year.

95. From the evidence collected by us we are convinced that the allied subjects of preparation and cure need considerable research and propaganda. The nature of the problems has already been discussed in paras. 54 to 71. We consider the research institutes at Calcutta, Madras and Cawnpore eminently suitable for this purpose. The problems to be handled by them are also to a certain extent special in character. Calcutta is well suited to serve the needs of the tract which supplies dry-salted stock and the chief material used for this cure, *viz.*, the *khāri* salt. Madras has special problems to handle in connection with the tanning industry in that province and in the adjoining States of Mysore and Hyderabad and parts of the Presidency of Bombay. Cawnpore can serve the needs of the north-western provinces where air-drying and arsenication is the curing method in general use. Hence we propose that in the average a sum of Rs. 25,000 per year should be allotted to each of these institutes for research work. Besides this recurring Rs. 75,000 the Cess Committee should be prepared to find such non-recurring expenditure as might be necessary for the class of work proposed by us. We have only to add that the local governments concerned should not necessarily be expected to bear a portion of the cost of such work. Indeed we think that but for the fact that these institutes are already available, the Cess Committee would find it necessary to incur far greater expenditure in connection with the work proposed by us.

As the research work which we have in view is likely to take time, we do not propose to go into detail regarding the connected questions of applying the results and of training up men to utilise them and to

(viii) Competitions.
Prizes.

Preparation and cure—
(i) Research.

(ii) Application.

spread their knowledge and practice. All this work will undoubtedly make an additional demand on the Cess Committee's funds, but we are not in a position now to indicate its extent.

The only special problem with which we think a few experiments should be tried is that of co-operative curing. In para. 77 we have described the basic principles governing any attempt to organise the producers on a co-operative basis. They apply equally to the case of co-operative curing. We propose that the experiments should be undertaken in conjunction with the co-operative organisation suggested by us for the marketing of raw stock. The financial assistance to be rendered by the Cess Committee will be governed by the same conditions as have been outlined there; we are unable to prepare an estimate of the cost of such work, and therefore propose to lump it with "propaganda etc."

96. Most of the work to be done in connection with loading and adulteration will be propaganda to educate the producer and dealer against the waste and loss due to malpractices. There is, in addition, a little scope for training.

97. We have already expressed the view that the establishment of centralised hide and skin markets and exchanges will be of some benefit to the trade. We have however not been able to go into details. The problems involved are big enough to need cautious and careful action.

98. The questions connected with grading and specification of raw stock have been discussed in para. 78. We have carefully considered the views of the witnesses from the trade; they are mostly against any interference by Government or by the Cess Committee. But, we have had evidence that the position in respect of cotton was essentially similar. The chief classification of raw stock is largely based on the names of the local areas producing it with the result that even when the intrinsic value of stock collected in a particular area is higher, it generally fails to realise a higher price than the stock of average quality from that area, unless correctly assorted. Secondly, we think there is far more scope for a standard specification than has been admitted by the trade. When, as in the case with raw hides and skins, every piece is liable to differ from another, we concede that it is impossible to altogether eliminate differences of individual judgment. But this is a difficulty in the application of, but not inherent in, a specification.

Then again we found considerable variation as regards weights (see the last portion of the glossary, pages 199 and 200 for some details). This must render the understanding of local price quotations somewhat difficult.

(ii) Weights.

We have not had the time to explore this field in detail, but it is probable that there are some other local trade customs and practices materially divergent from those obtaining in the chief centres. We think this entire field offers the Cess Committee considerable scope for work.

(iii) Other matters. We do not however wish that it should undertake such work direct. If there were one trade association, the solution would be easier. But as in the case of cotton we find that there are many. In Calcutta alone there are at least three. Following the precedent adopted by the Indian Central Cotton Committee some of us think that a statutory body entitled "The Indian Hides, Skins and Leather Association" with headquarters at Calcutta might be found useful. The scheme put forward by them might be outlined in brief. The Association would assume general control over the trade in raw stock and leather. It would have a branch at Madras to look after the tanning industry and the tanned export trade, but if necessary even an independent body might be set up at Madras. In addition to general control over both branches of the trade and over the leather industry this body might be empowered to license brokers and commission agents and to establish and maintain exchanges or markets. Such a body or bodies would enable the Cess Committee to get into intimate touch with the trade in all its aspects and to secure quicker results from its own activities. These members think the Hides and Skins Shippers' Association, Calcutta, and the Southern India Skin and Hide Merchants' Association, Madras, offer nuclei which it might be possible to utilise for this purpose. Finally, they hold that the Cess Committee should be empowered to incur expenditure on suitable items for the organisation, maintenance and working of such a body.

They add that as we have been asked to advise on the functions of the Cess Committee, it should not be considered beyond our reference to advise on an agency likely to be suitable and helpful in enabling the Cess Committee to discharge some of them. But, for reasons stated in para. 135 we have finally decided to leave this matter, like many others, for the mature consideration of the Cess Committee.

B.—THE TANNING AND ALLIED INDUSTRIES.

99. If the principal raw material required by the Indian tanning industry is defective, its position in both the internal and the foreign markets is bound to be weak.

Improvement of raw stock must benefit the tanning industry.

Hence any action taken for the improvement of raw hides and skins will automatically benefit the industry as well. It is true that tanners will have to pay higher prices for the improved stock, but we think the aggregate benefit accruing to them from the use of better raw materials will be greater than the additional price paid

by them for the raw stock. We now propose to indicate in brief some of the special difficulties and defects of the industry to which the Cess Committee should, in our opinion, direct its attention.

100. The circumstances of the Indian tanning industry are peculiar. The outside assistance it needs is not so much against imports of foreign leather or leather goods into India as in the following and similar directions:—(i) technological research, (ii) technical advice, (iii) training for certain classes of work, (iv) expansion of the sources of supply of tanstuffs and accessories, especially of *āvāram* and wattle barks, (v) transport facilities, (vi) securing of markets outside India by trade representation, advertisement etc., (vii) elimination of certain malpractices, e.g., adulteration and loading, (viii) adoption by the Indian Government of the policy of buying Indian leather for public requirements as far as possible. It should, however, be remembered that we have not attempted to survey the field exhaustively, but rather to bring out those problems which, on the evidence given to us, appeared to us to be important. These will now be discussed *seriatim*.

101. Certain important directions in which results can be expected have been indicated to us, e.g., Technological research. the production of glacé kid, chrome, patent leather, belting leathers, pickers and lace leather, chamois, book-binding, upholstery and fancy leathers. Not being a technical Committee we cannot examine the merits of these suggestions, though *primā facie* they appear to hold some promise. In this connection we cannot do better than quote the example of the useful results from the work done at the Bengal Tanning Institute, especially in connection with the production of chrome, box-calf etc. The Cess Committee should investigate this question.

On our proposals a portion of the cess fund will be available for research and other work on the problems of not only the tanning but also some allied industries. We might indicate the trend of the evidence on the latter subject. Glue-making, gelatine production, the preparation of high class casings, guts for rackets etc., the manufacture of fertilisers from blood, the utilisation of bones, horns, hair, wool etc.—these are some of the directions in which research or experimental work still appears to be necessary.

Secondly, investigation and research on the tanstuff resources of India need considerable expansion. During the War a survey was undertaken, but so far as we are aware the investigation has not been actively and systematically pursued since the War terminated. The Indian jungles abound in tanstuffs and the field for technical research and for experiments for their commercial utilisation is vast. Though we cannot indicate the amount which might be spent on such work, we trust the Cess Committee will find it practicable to allocate some funds for it. Although one of the companies manufacturing a tanning extract has gone into liquidation, we do not consider the prospects of the tanning extract industry to be

hopeless. The problems presented by this industry should, therefore, not be lost sight of by the Cess Committee. In para. 104 will be discussed the question of *expanding* the resources of the Indian tanstuffs.

As regards the cost of research work, it was not possible for us to go into details. It might, however, help the Cess Committee if we leave on record our own estimate of the amount which will probably be needed for financing industrial research work. We think a sum of Rs. 75,000 per annum will suffice for the present. Although we do not wish to restrict that Committee's discretion as regards the distribution of the available funds, we hold strongly that it is desirable to avoid provincial jealousy and embitterment of feeling by seemingly favoured treatment of one institute as compared with that of another.

102. The policy generally accepted by local governments in the matter of making technological advice available to industry is to charge fees graduated according to the amount and complexity of the work involved. In the case of developed industries capable of standing on their own legs this policy may be a sound one. The great majority of the units engaged in the Indian tanning industry (especially in the "tanning for export" section) are, however, small tanneries following 'rule of thumb' methods and lacking equipment on modern lines for technological investigation, test and control. The men in charge of the average tannery of this type usually lack scientific technological training. The need for technological advice is felt by such tanneries rather than by the bigger ones, and considering their resources the system of charging fees is bound to prove more burdensome to them than to the larger ones. If our view that a portion of the cess fund can appropriately and usefully be spent for the development of the tanning industry is accepted, we think it follows as a corollary that the Cess Committee should, generally speaking, not charge for technological advice. Further it should be permitted to obtain at its own cost technological advice for the whole or any unit of the Indian tanning industry. Whether in any particular case it should or should not agree to bear the whole or a part of the cost should be left to the Committee's discretion.

103. As regards the training of artisans, foremen, technologists and chemists for tannery work, and the training of men for research, we have explained our views in some detail in para. 141. We think the Cess Committee should not entertain proposals for grants-in-aid except in respect of training of all-India as distinguished from mere provincial utility. Training for research should also be recognised as a legitimate responsibility of the Cess Committee. It is impossible to estimate the total probable expenditure under this head. Judging by the current budgets of the institutes at Calcutta, Madras and Cawnpore—these probably are the only ones which will be entitled

to receive grants-in-aid under our proposals—we doubt if the aggregate grants-in-aid need exceed Rs. 20,000 per annum. It should be noted that the training section of the Leather Trades Institute, Madras, has for the present been closed down. The position at the other institutes is not quite clear, as the expenditure on training of the type mentioned above is not known. Hence, for the present, we have excluded this item from the “ synopsis of cost ”. But it can be found out of the provision under item 6 of the synopsis.

104. In view of the special importance of the barks of *cassia auriculata* (*āvāram* or *tarwar*) and of wattle as tanstuffs a somewhat more detailed treatment is needed in their case. During the War there was such a keen demand for the former that the prices of *āvāram* bark rose considerably. (See chart 12.) In April 1917 the tanning of skins and the export of tanned skins had to be prohibited in the interest of hide tanning. A little experimental work on growing *āvāram* by cultivation was undertaken, but the work does not appear to have been seriously pursued. Expert opinion is almost unanimous that *āvāram* and wattle barks, especially the former, lie at the basis of the success of the “ tanning for export ” industry of Southern India. As to the comparative technical merits of *āvāram* and wattle as tanstuffs, almost all tanners agree that *āvāram* is easier to use, gives a lighter, *i.e.*, paler colour and adds less weight. Wattle tannage is richer and heavier and the colour it imparts is darker. On account of the greatly increased cost of *āvāram* bark it has now been largely superseded by wattle bark for hide tanning. In spite of the fact that it is imported and pays an import duty of 15 per cent., it is comparatively cheaper. The average annual value of such imported wattle bark is Rs. 17 lakhs (average of the last three years). At least one witness denounced the use of wattle bark in strong language, alleging that it has lowered the reputation of Indian tanned hides in the London market. On the other hand, we have had evidence that experienced dealers sometimes find it difficult to distinguish between the *āvāram* and the wattle tannages. All the same *āvāram* bark still continues to be the most important and coveted tanning material, especially for skins.

The *āvāram* shrub grows not only in South India, but also in many parts of peninsular India including the Central Provinces and Central India. It also grows in arid tracts like Rajputana and Sindh, and can grow in parts of the United Provinces. We saw a promising bush at the Technological Institute, Cawnpore. We were also told that at the suggestion of an important tannery in the United Provinces some experimental work had been done by the Forest Department of that province. A certain portion of the evidence taken by us at Madras relates to the various problems relating to the supplies of *āvāram* bark and will prove useful to the Cess Committee. In view of the importance of this bark and the promise which it holds out of enabling some other provinces of

India to share in the tanned stock export trade, we hold strongly that serious efforts should be made to expand the existing sources of supply of this bark.

The plantation of wattles in Madras, *e.g.*, in the Nilgiris, has been undertaken by private enterprise. This pioneer industry is still in an experimental stage and deserves such encouragement as the Cess Committee may be able to render. Experiments might also be undertaken in other provinces including those which comprise the Himalayan hills. We have not thought out any schemes in detail, but we believe that the forest departments of the provinces concerned would be willing to undertake such work if they are encouraged with suitable grants-in-aid. At present such experimental work tends to suffer owing to the policy of expecting the department to be run on commercial lines.

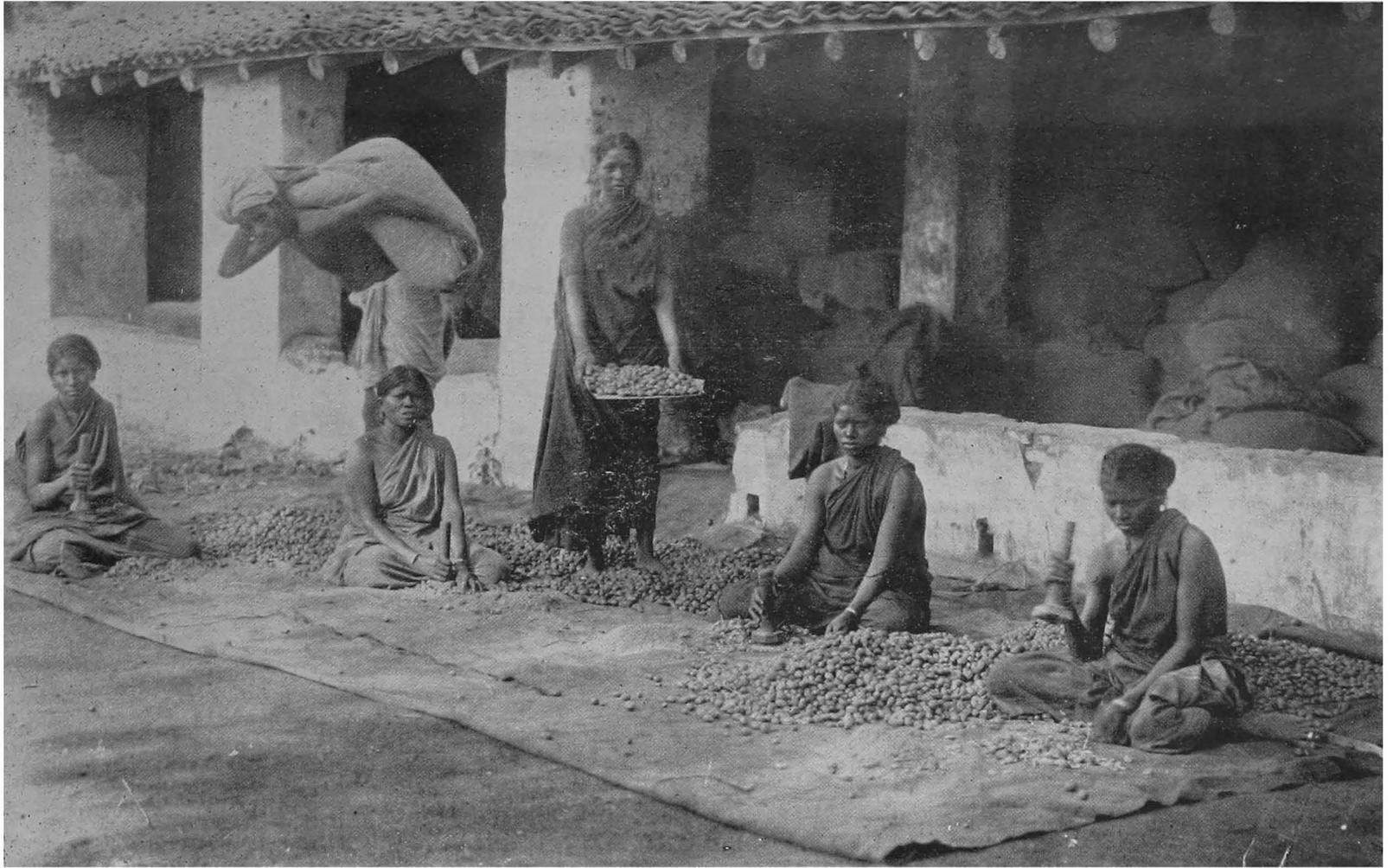
The wattle seems to require fairly high altitudes—about four to five thousand feet according to the latitude. We were told that in the Madras Presidency such area is limited. Apart from the Nilgiris and a few other hills very little area at such a high altitude is available in the other parts of peninsular India. Wattle plantation in the Himalayas may present difficult problems. All the same we think the question should be seriously investigated. We do not anticipate that large supplies will be forthcoming, but it may be possible to meet a considerable portion of the requirements of the tanning industry from wattles grown in India itself.

In the course of the evidence given to us some witnesses suggested that a portion of the cess fund should be utilised for the purpose of cheapening the supplies of wattle bark. In so far as the expenditure from the cess fund relates to experimental and research work, we think it would be quite legitimate.

Another problem to which our attention was drawn at Madras was the great difference between the prices of myrobalans produced in the Salem district and of those produced elsewhere. In view of this difference the question as to whether nuts equal in quality to the Salem ones can be produced elsewhere needs an inquiry.

We think the Forest Research Institute, Dehra Dun, and the provincial forest departments should, between them, get about Rs. 25,000 per annum from the cess fund for all such purposes.

105. As regards transport both by rail and by coastal ships, it should be remembered that green and wet-salted stock is consumed by Indian tanneries. One of the difficulties of the "tanning for export" industry in Southern India is that it has to rely largely on Northern and Central India for its requirements of raw stock and some tanstuffs. It was pointed out in one of the memoranda received by us that green and wet-salted stock is heavier than dry-salted or air-dried stock, and that the railway freight which Indian tanneries have to pay for the same number of pieces is therefore proportionately higher. We agree that there is substance in this claim. Some



No. L-9.—SELECTING AND CRUSHING MYROBALANS.

witnesses have similarly claimed that the transport of tanning materials and accessories should, on principle, receive favoured treatment when they are intended for consumption in Indian tanneries. In para. 84 we have enunciated the principles which, in our opinion, should govern the Cess Committee's action in this respect. The case of coastal transport would also be governed by the same principles.

106. The directions in which the Indian finished leather industry can expand are unfortunately limited by three main factors. Development of markets. Firstly, any considerable growth in the internal demand for leather will depend on the economic prosperity of, and on the change of ideas and habits among, the people. Secondly, India's internal demand for leather is already being met mainly by her own tanning industry. Though a little further substitution of imported by home-produced leather is possible, the scope for such expansion is narrow. Thirdly, the leather-making industry for export to undeveloped countries will have to face the competition of other manufacturing countries on level terms. Thus the only present hope of the Indian tanning industry being in a position to expand considerably lies in enabling it to face foreign competition in overseas markets. This indicates the need for action along two main lines:—(i) the improvement of its technique in India, and (ii) the improvement of the organisation for marketing its products overseas. As regards the former, paras. 101 to 104 may be seen. As regards the latter, one witness urged that a part of the cess fund should be utilised for the purpose of organising special trade representation for India's raw stock and leather. Both on principle and also in view of the Government of India's decision to appoint trade commissioners we have decided that the cess fund should not be so spent. In para. 140, however, we have agreed that action on certain special lines, some of which are indicated in that paragraph, could be financed by the Cess Committee.

The need for advertising Indian finished leathers is generally admitted. That for advertising the tanned leathers is emphasised by some but disputed by others. Considering, however, that at present Indian tanned stock goes mainly to one market, we think suitable advertisement should prove helpful to the export trade in tanned goods also. We do not anticipate any difficulty in the simultaneous advertisement and other propaganda in favour of all the three forms of India's produce, *viz.*, finished leather, tanned goods and raw stock.

107. Before we close our review of the main defects and difficulties of this industry we should refer to the complaint about Adulteration, loading etc. adulteration and loading of the tanned stock exported from Madras and Bombay.

Adulteration used to exist in a serious form before, and during the early stages of, the War. The materials used as adulterants were numerous, the chief being epsom salt and sugar. The manner of adulteration was ingenious and not easily detectable.

Though the reputation of Indian tanned stock was meanwhile going down, no action worth the name was taken either by the trade or by Government until the control assumed by the Indian Government in 1916 gave them the necessary power to deal with the evil. At first attempts were made to check the malpractice by penalising heavily adulterated hides presented to Government and by altogether refusing badly adulterated lots. But it is not easy to detect adulteration without chemical analysis. Eventually with the full approval of the industry at Madras, the adulteration of tanned hides was made a penal offence by an order under the Defence of India Rules. In no single case was it found necessary to proceed against a tanner for non-observance of the Rules.

In the case of certain tannages—notably “Bangalores”—it used to be a practice to add weight to the tanned hide by the application after tannage of chalk and plaster to the flesh side. Bombay tannages were not affected by this practice. Although such loading did not injure the leather in the same way as adulteration, it caused two-fold economic waste, *viz.*, the cost of putting on the loading and the cost of its removal. During the days of control this practice also was prohibited under the Defence of India Rules.

As a result of this action by Government several of the so-called distinguished tannages of Madras became in practice indistinguishable from each other, and instead of eight or nine separate tannages it became possible to classify all Madras tannages into four grades. This simplified classification and the prohibition of adulteration and loading were all appreciated by the curriers and dressers in the United Kingdom. The Indian Munitions Board had hoped that the measures successfully adopted during the War would, even after their abrogation, leave their mark permanently on the tanned stock export trade. This hope appears to have materialised to an appreciable extent. We have had plenty of evidence that adulteration, though not unknown, is not the serious evil now which it was before the War. The only direction in which any considerable expansion of the Indian tanning industry can at present be looked for is that of the development of the tanned stock export trade. Hence, we think the Cess Committee should in collaboration with the trade take suitable action to educate the men engaged in the trade to realise their own and the national loss caused by such malpractices. In this connection our remarks about a Central Association may be seen. (Paras. 26, 98 and 135.)

108. The policy of buying indigenous manufactures subject to certain conditions has already been adopted by the Indian Government, and the only function which the Cess Committee can perform in this connection is to keep the Indian and provincial stores purchase departments (including those of the Army and the Railways) in touch with the development of the Indian tanning industry and, *per contra*, to advise the industry as to the probable needs of these departments for leather and how they can be met.

State purchase of stores.
Liaison work.

Synopsis of the approximate estimated recurring cost of the schemes discussed in the Report.

Serial No.	Head or scheme.	Approximate cost per year.	Details or explanatory remarks.
1	General Administration of the Cess Committee (see paragraph 129).	Rs. 1,25,000 to 1,50,000	Rs. 25,000, Members' remuneration and allowances.
			Rs. 25,000, Secretary's emoluments and allowances. Rs. 50,000, Office establishment. Rs. 10,000, Rent. Rs. 15,000, Contingencies.
2	Grants-in-aid for research to:—		NOTE.—No estimate can be given of the cost of each of the sub-committees. But the balance of Rs. 25,000 will, in all probability, cover this expenditure.
	(i) Imperial Council of Agricultural Research.	25,000 rising to 50,000	For research on breeding, feeding and keeping of animals so as to improve their pelts.
	(ii) Imperial Institute of Veterinary Research.	40,000 rising to 50,000	For research on diseases and on minor insects affecting hides or skins.
	(iii) The Leather Institutes at Calcutta, Madras and Cawnpore.	75,000	For research on the problems of raw stock, especially preparation, cure and preservation.
	(iv) The Forest Research Institute, Dehra Dun.	10,000	} For research and experimental work on tanstuffs, tanning extracts etc.
	(v) The provincial Forest Departments.	15,000	
(vi) The Leather Institutes at Calcutta, Madras and Cawnpore.	75,000	Research on the problems of the leather industry and allied industries including the testing etc. of tanstuffs, extracts etc.	
3	Supervision over flayers and instruction in flaying:— Supervisor-instructors .	15,000 rising to 25,000	Appointment of flaying supervisor-instructors at some of the centres suggested in paragraph 94 (iii) and similar ones.
4	Special research:—		Cost of maintaining an entomologist (including his assistants, office and other establishment, his laboratory, materials, stores etc.) will be about Rs. 25,000 a year. Two such entomologists needed for research on warble-flies, viz., one for the North-West Frontier Province and northern and western Punjab and the other for Sindh, Rajputana, southern and eastern Punjab and western United Provinces. Three entomologists for research on ticks, viz., one for India north of the Vindhya, one for Southern India and one for Eastern India.
	(i) Warbles	50,000	
	(ii) Ticks	75,000	

Synopsis of the approximate estimated recurring cost of the schemes discussed in the Report—contd.

Serial No.	Head or scheme.	Approximate cost per year.	Details or explanatory remarks.
5	Minor investigation, experiment, intelligence, advertisement and propaganda.	Rs. 1,00,000	Many of the schemes outlined or suggestions made in the Report will be financed under this head.
6	Grants-in-aid for the application of research and other development work to Local Governments and Administrations including Indian States.	1,00,000	The work will be done in the following departments (arranged in order of importance), <i>viz.</i> , Veterinary, Industries, Forests, Agriculture and Co-operative. (Also see paragraph 103.)
	Total estimated annual recurring cost.	7,05,000 to 7,75,000	

We have already at various places in the body of the Report said that we do not in any way desire to restrict the Cess Committee's discretion. The above scheme itself is a bare outline and should be treated as merely tentative and suggestive.

ILLUSTRATION 4.—(See page xi.)



Portion of "grubby" hide of a cow after being tanned. Practically ruined by holes made by cattle grubs in the most valuable part.

CHAPTER VII.

Finance.

109. In support of our conclusion that any funds which can be released or otherwise made available for the improvement of raw stock will, within limits, prove to be a good national investment, we propose to give in some detail the various estimates which have been formed of India's national loss in connection with her production of raw stock.

Estimate of national loss.

Mr. Corbet who buys hides for Messrs. Cooper Allen & Co., Cawnpore, estimates this loss on exports alone at five crores. Considering that the total value of the export trade in raw stock is about eight crores and that the total value of the raw hides and skins which are exported in a tanned state can be assumed to be about seven crores (about two-thirds of the value of tanned stock being the value of the raw stock itself), we think Mr. Corbet's estimate of loss is high. Mr. Latif (a hide merchant and Honorary Secretary to the Hide Merchants' Association, Cawnpore) told us that defective flaying results, on the average, in depreciation to the extent of 25 per cent. and warble holes reduce the price of the average warbled hide by 30 per cent. The estimate made by Mr. Hudlikar (Head of the Leather Department of the Technological Institute, Cawnpore) of the depreciation of a branded hide is 50 per cent. Mr. de Noronha (a hide merchant and a tanner and President of the United Provinces Chamber of Commerce) told us that if the grain is lost even partially, the resulting depreciation is nearly one-third of the value of the undamaged raw stock. The view held by Mr. Das (Superintendent, Bengal Tanning Institute, Calcutta) is that the existing defects in Indian hides reduce the value of the leather by at least one-third. Mr. Mukherjee (Manager of the Bhagalpur Tannery, Ltd., Bhagalpur) has told us that during eight months of the year diseases and other causes reduce the value of goat skins by nearly 50 per cent. The view held by the Calcutta Hides and Skins Shippers' Association is that branding not uncommonly reduces a hide from the first to the fifth class. Their estimate of the total national loss on exports alone is 137 lakhs per year. (For the calculations on which this figure is based *vide* their reply to question 17 of the questionnaire.) They admit that this is a conservative estimate and that the actual extent of the loss may be higher. Messrs. Mousell & Co.'s estimate of the total loss is 140 lakhs, while Messrs. Amin Bros.' estimate (*viz.*, 15 to 20 per cent. of the total value) would amount to 2.80 to 3.75 crores. Both these firms are engaged in the raw export trade at Calcutta. The evidence from Madras is, as in the

case of the other evidence, divergent, and we set forth the views of various Madras tanners in the form of a statement.

Name.	Extent of depreciation.
Mr. Oosman	From 25 to 75 per cent.
Madras Coast Tanners	„ 40 to 50 per cent.
Trichinopoly Tanners Board	„ 40 to 50 per cent.
Bangalore Tanners	50 per cent.
Dindigul Tanners Board	Not less than 60 to 70 per cent.
Mr. Kaja Mean	30 per cent.

The Leather Expert to the Central Provinces Government has stated that the loss amounts to 15 per cent. in the case of slaughtered, and 40 per cent. in that of fallen, stock. Some other views and estimates will be found in the evidence printed in Volume II.

When experts and the men engaged in the trade differ as above, it is difficult to arrive at a fairly accurate estimate of the total national loss. We agree with the Calcutta Hides and Skins Shippers' Association that the figure of 137 lakhs mentioned in their written memorandum is a conservative estimate. But, it refers to the exports of raw stock valued at about eight crores. Even on the basis of these and other conservative data we arrive at an estimate of three to four crores as below :—

(1) Value of total production of raw stock in India :—

3½ crores worth of raw hides *exported*.

7* crores worth of raw hides *consumed* by Indian tanneries whether finally or for export as tanned kips. (The proportion accepted by us here is 1:2 as the internal consumption is much greater now than it was in 1918 when the Indian Industrial Commission estimated that it was over one-half.)

4½ crores worth of raw goat and sheep skins *exported*.

3 crores worth of raw goat and sheep skins *consumed* by the tanning industry *for export*. (*Viz.*, two-thirds of 4.50 crores worth of tanned sheep and goat skins exported.)

¾ crore worth of raw goat and sheep skins *consumed* by the Indian tanneries but *not exported*. (This is based on the Indian Munitions Board's estimate that nine-tenths of the goat and sheep skins are exported.)

18¾ crores.

NOTE.—These figures are an approximate average of the last *three* years. But the figures 7 and ¾ are necessarily conjectural, though believed to be the minimum.

* The number of raw hides exported is 5.5 millions. Production is probably 25 millions. The value of the raw hides consumed by Indian tanneries would, on this basis, be about 12 crores.

- (2) Assuming that the depreciation in the case of the stock consumed in the country whether finally or for export is the same as in the case of the stock exported in the raw form—in our opinion a safe assumption—the loss calculated on the Association's data would amount to $1.37 \times \frac{18\frac{1}{2}}{8}$, i.e., 3.20 crores.

A total national loss of between three and four crores works out at between 16 and about 21 per cent. of the value (as calculated above) of the country's production. It will be seen that while this percentage tallies fairly with some of the estimates given above, in no case does it exceed the basis of calculation of any person or body whose views we have quoted above. We are inclined to the view that while it is a reliable conservative estimate, the actual extent of the loss is probably in excess of the upper limit of our estimate.

It has further to be borne in mind that the loss falls entirely on what is perhaps the poorest section of the people of India, viz., the owner of cattle, goats, sheep, and other livestock and the *chamār* or other owner of the hide and skins. In para. 90 we have stated our reasons for holding that the trade cannot be expected to undertake, on their own, the measures needed for effecting improvement and that it is necessary for Government to step in.

110. Our views as to the size of the fund which can be usefully spent are somewhat divergent, and have been stated in detail in Chapter XI. But, we are all agreed that a good beginning can be made with a fund of about five to seven lakhs. A fund of this size would be but a small fraction of the total value of raw stock produced in the country, and would, if properly spent, yield a satisfactory return. We are convinced that it will be a profitable investment for India. We now propose to examine various alternative schemes for raising this amount.

111. We have now finally rejected the suggestion that the Government of India should set apart this sum from the proceeds of the existing export duty or even from the general revenues of the country. Our reasons for this decision were partly technical and partly substantive. Though we had before us some precedents, notably that of the Imperial Council of Agricultural Research, we did not think it would be easy to create one more exception to the rule that the general revenues of the country cannot be earmarked for a specific purpose for which a cess is a more appropriate mode of finance. Besides, our reference was confined to questions relating to a cess. Finally, we thought that a cess at a rate variable by the Government would provide for an expansion of the Committee's activities, if justified by experience, in a manner which would not be available if a part of the general revenues were to be earmarked.

Secondly, for reasons stated in para. 157 we have at last abandoned the idea of raising a part of the required fund from the indigenous tanning industry, and are now unanimous that that industry should not be called upon to make a contribution. In the case of raw stock produced and finally consumed in the country there was an additional difficulty, *viz.*, the administrative one of collecting the cess from small tanneries and tanyards scattered all over the rural parts of the country. The trend of evidence was distinctly against any discrimination between tanneries of the cottage or the small type and those working on organised or factory lines.

We have also rejected the view advanced by a few witnesses that local governments and States should be expected to finance the necessary schemes of improvement on the ground that since the inauguration of the Reforms provincial finance in the major provinces is separate from the Central Government's, and that Industries is a provincial subject. Our reasons for rejecting this view are that the improvement of the raw material cannot be confined to that portion of the raw stock which is ultimately used up by the provincial tanning industry. The benefit to the tanning industry would necessarily result in benefit to the trade as a whole (*i.e.*, both the internal and the export trade). Under the Devolution Rules Commerce as distinguished from Industries is a central subject. Secondly, the work of improving the raw stock should, in our opinion, be tackled for India as a whole. In the foreign markets the reputation of Indian raw stock is, broadly speaking, all-India and not provincial in character. Hence if one province attempts to do some work whereas the others lag behind, the progressive province stands the risk of being baulked of a good deal of the credit and of the reward for the improvement effected by it in its own raw stock. Thirdly, we have already stated elsewhere that a good proportion of the fund will, on our proposals, be spent on research of all-India character and utility. Central agencies for research are a central and not a provincial subject. Then again, so far as we are aware, no local government has yet found it possible to undertake work beyond the organisation of parties to demonstrate better methods of flaying and possibly curing. Judging by the financial stringency which, we believe, is being experienced by provincial governments in general, we rather doubt if for some years to come they would find themselves in a position to undertake the improvement of the raw stock. It is true that the application of the results yielded by research and other work of development could have been left by us to the local governments and that the development of the tanning and the allied industries is such governments' legitimate liability. But, we think it will stimulate the interest of the local governments in both these distinct types of work, if an inducement is held out to them in the form of grants-in-aid on a varying but suitable scale in respect of schemes desired or approved by the Committee. It will be noticed that we have not set apart large amounts for these classes of work.

112. Thus our conclusions on this subject are that a cess on the exports of raw stock at a rate which would yield about seven lakhs a year would be the most appropriate mode of financing the schemes which in our opinion are necessary for bringing about tangible improvement. Our proposal for finance. Taking the quinquennial average value of the exports of raw hides and raw skins as defined in para. 10 a rate of 1 per cent. would yield 7.33 lakhs per annum.

113. On the question as to whether the cess should be levied on a specific or an *ad valorem* system we have found opinion almost as sharply divided as on the question of the export duty. Witnesses representing the raw trade interests have denounced the *ad valorem* system and advocated the rival one. Those speaking on behalf of the tanning interests have held equally strong views in favour of the *ad valorem* and against the specific system. We have weighed the pros and cons of both. The incidence of the *ad valorem* system is more equitable, as it bears equally on all grades. When prices are high the yield increases, but the increase occurs at a time when the trade can bear the increase more easily. Conversely, when the trade is depressed, a certain amount of relief is afforded. Further, the specific system has a tendency to stimulate the export of the superior grades in preference to the inferior ones; an *ad valorem* rate helps to keep such a tendency under automatic control. On the other hand, the thorough-going application of the *ad valorem* system is not only a hinderance to trade but is impracticable. When the cess is small, the greater administrative convenience of the specific system may at least counterbalance the more equitable incidence of the *ad valorem* one. Among the non-official members of our Committee also there has existed the same division of opinion. But the final conclusion of all members excepting Mr. Price is that the existing schedule of tariff valuations for the export duty really amounts to a schedule of annual specific duties and is sufficiently detailed to remove some of the disadvantages of the specific method and that therefore the proposed export cess should be levied on the same system as the existing export duty, *i.e.*, on a system of tariff values revised annually by an independent authority as at present.

114. We now propose to discuss the relations which we think should exist between the Committee on the one hand and the local governments (including the Indian States) and certain public bodies and the local boards on the other, as these have an important bearing on the schemes proposed by us and the manner in which we think they should be financed. It is clearly desirable that there should be no unnecessary overlapping of work as between the Committee and the local governments including the States or local and public bodies.

Secondly, conflicts of jurisdiction must be avoided at all cost. Under the present constitution local governments and local and certain public bodies have definite spheres of work assigned to them, and any attempt on the Committee's part to trench on these, even when unintentional, is bound to create difficulties. Hence, we think we might indicate broadly the limits within which the Committee should confine its activities and the manner in which it should utilise the agency of other authorities for the furtherance of its own work.

We do not think it is necessary to have a central research institute, at any rate to start with. Indeed we think a comprehensive institute capable of dealing with research on the numerous problems which the Committee will have to attack is impracticable with a fund of the size proposed by us. We think research of an all-India character and utility can be undertaken through the Imperial Council of Agricultural Research, the Imperial Institute of Veterinary Research, the Forest Research Institute at Dehra Dun and the existing leather institutes at Calcutta, Madras and Cawnpore. In the course of our enquiry we gathered that the Imperial Council and the other two Imperial Institutes are well-suited for the sort of work which we propose for the Committee. Of the three leather institutes we have a somewhat personal experience. We think that as explained in para. 146 they can be utilised for research. For the purposes of such research suitable grants-in-aid in respect of schemes desired or approved by the Committee will be necessary. The Central Provinces have a Government Leather Tanning School, and the establishment of a model tannery with a laboratory for experimental purposes at Bombay is one of the proposals in the recently published survey of the village tanning industry in that Presidency. It may be possible to utilise the agency of these and similar institutions for the purposes of experiments and minor research mainly of a local as distinguished from adaptive nature. Similarly the Committee will, we think, find it both practicable and expedient, to utilise the veterinary, forests, industries, cattle-breeding and other departments of the local governments for experiments and local research. As regards the work of development and of the application of the results of research, the departments of the local governments and the States and the local bodies will have to bear the brunt; but here again a system of grants-in-aid, even though on a relatively smaller scale than in the case of research, will provide some of the necessary stimulus or encouragement. Propaganda as distinguished from "development" work will be almost entirely a responsibility of the Committee, but the agency through which such work will be undertaken, especially in the rural areas, will, in the main, be the staff of the local governments and bodies. In all these matters the Committee will no doubt derive guidance from the accumulated experience of other cess committees, especially the Indian Central Cotton Committee.

115. Our proposals regarding finance do not include a provision
Reserve fund. for any large non-recurring expenditure,
e.g., the establishment of a central
 research institute (if it ever be deemed desirable or necessary to have one), non-recurring grants-in-aid to the existing departments or institutes, construction of dipping tanks or grants-in-aid for their construction etc. As the whole position in respect of these possible items of non-recurring expenditure is at present nebulous, we cannot give any estimate. But, we think that in the first few years the Committee will be able to effect some savings. These should be allowed to accumulate and grow into a Reserve Fund. As far as possible, schemes involving non-recurring expenditure should be financed out of the interest, and important schemes out of the capital (if such course be found necessary), of such a fund.

CHAPTER VIII.

The Indian Hides and Skins Cess Committee.

116. We have described in some detail the waste going on all over the country and have, we hope, succeeded in showing that it is possible to reduce it. We have suggested some remedies and the probable cost of applying them. In para. 90 we have explained why we do not consider a policy of *laissez faire* to be in the best interests of the country, and why Government should now step in. In this chapter we propose to discuss the agency by which we think the best results can be obtained.

We invited evidence on the question whether it was desirable that a body should be formed to take charge of the work indicated by us in the earlier part of our questionnaire. The Resolution under which our Committee was constituted mentions the Indian Central Cotton Committee as an exemplar indicating the lines along which a cess, if imposed, might be administered. Two other alternative agencies for administering a cess were possible, *viz.*, (i) the creation of a Government department and (ii) an association of the trade itself. It is significant that neither of these found any support, even though the second alternative at any rate could claim a couple of precedents in its favour. The evidence collected by us is almost unanimously in favour of the establishment of a statutory Cess Committee. At one stage of our work it seemed necessary to consider whether a body like the Imperial Council of Agricultural Research in receipt of annual allocations from the Government of India out of the proceeds of the export duty on raw hides and skins would not be an equally suitable organisation. Our reference was however confined to questions relating to a cess.

We find that an authoritative and at the same time fully representative Committee can be formed, that it will be welcomed by the various branches of the industry and that it will be the best agency for administering the proposed cess. We accordingly propose that such a Committee be set up under the name of "The Indian Hides and Skins Cess Committee". For the sake of abbreviation it will be referred to in this Report as the Cess Committee or the Committee.

117. Before proceeding to discuss the interests which should be represented on the Committee we shall discuss a few other questions. We are unanimously of the opinion that the Cess Committee should be a permanent body incorporated by statute. It should have a common seal and be capable of suing and being sued in its own name. For the purpose of controlling

Should be (i) statutory, (ii) permanent and (iii) representative.

that the Cess Committee should be a permanent body incorporated by statute. It should have a common seal and be capable of suing

a fund of the size proposed by us we think that a statutory body is the most suitable. Secondly, we think it should be a permanent body, though its actual personnel may, as indeed it will, keep on changing gradually. Unless the Committee is made permanent *ab initio*, we fear that the uncertainty which must otherwise hang over its head will adversely affect its work to an appreciable extent. If after sufficient experience its work is proved to be unsatisfactory, it will always be open to the Government to propose a modification of its constitution or, if need be, even its dissolution. But, until such an occasion arises we see a tangible advantage in setting it up on a permanent footing. Thirdly, we think it should be fully representative of the various interests without however becoming unwieldy. We tried to see if we could confine the membership to about twenty-five but did not succeed. The difficulty in this case was that not only had we to provide seats for the representatives of many interests but had also to see that the interests were represented in proportion to their relative importance. We have however consistently kept the principle of a limited committee in view in order to reduce the cost of general administration as much as possible.

As a corollary from this we have accepted the suggestion that the Committee should have certain sub-committees, some of which

might well be statutory. The sub-committees need not all be headquarters committees; in fact we see definite advantage in having local committees at various important centres for the purpose of studying local needs, conditions and problems and advising the Central Committee on such matters. We think the following centres should have such territorial or local sub-committees: (1) Madras, (2) Bombay, (3) Karachi, (4) Cawnpore and (5) Lahore. One more at Hyderabad will not only serve the vast area between Bombay, Calcutta and Madras, but will probably be appreciated by the two Indian States—Hyderabad and Mysore—which have a considerable tanning industry. For obvious reasons, however, we are not in a position to make a proposal to this effect, and we leave it for the Cess Committee. Besides these sub-committees the Cess Committee will probably find it advantageous to have accredited trade Correspondents at other important centres of the trade and the industry. While we lay stress on the principle that a good deal of the Committee's work can and should be left to the sub-committees, we need not add that the other details should be treated as merely tentative suggestions.

118. On the issue as to which interests should be represented on the Committee, and the principle, character and extent of such representation the opinions expressed by

Discussion of views as to the principle etc., of representation. witnesses have been extremely divergent. The position taken by witnesses representing the trade in the narrower sense was that only the trade interests (*i.e.*, the primary producers, collectors,

dealers, commission agents and exporters) should be given representation, as they alone are prepared to bear the burden of a cess. They contended that no interest could justly ask for representation, unless it was prepared to contribute its due share to the common fund. On the other hand, some witnesses representing the tanning or the industrial interests maintained that none but tanners and those who could be expected to further the cause of industry should be admitted to a membership of the Cess Committee. In support of their contention they urged that like the existing export duty the cess should be looked upon as being intended for the benefit of the Indian tanning industry and therefore the entire proceeds of the cess should be treated as if they were contributed by or were at the disposal, and for the benefit, of this industry. They therefore demanded the complete exclusion of representatives from the trade. A variation of this view was that as the cess would be only another name for the existing export duty the trade interests were not in fact offering to bear any genuine burden. Hence their contention was that neither party should be regarded as contributing to the cess fund. Another principle put forward was that the most effective utilisation of the cess fund and not the contribution to it should be the consideration underlying the scheme of representation. This same argument was advanced in a slightly modified form by some witnesses who claimed that the indigenous tanning industry is a much bigger customer of the raw stock produced in the country than are shippers and that as tanners want the best possible raw stock they are in a good position to suggest improvements in the raw stock and how to bring it about. Some have even gone so far as to state that only tanners can suggest useful action for the benefit of the producer of raw stock. Further it has been claimed that the tanner has a deeper and a more abiding interest in the primary producer's welfare. Some witnesses did not go as far as to demand an exclusion of the raw stock interests but only insisted that the industrial interests should be given a *preponderating* voice in the Committee's affairs.

119. We have come to the conclusion that these divergent principles have some validity but they do not present or do justice to the whole case. We agree that normally our conclusions. the demand for a cess should proceed from a trade or an industry which feels the need for some concerted action, and that in such a case it is a sound general principle that only those who contribute should be entitled to representation. The circumstances of the cess we are now proposing are however so exceptional that we do not accept that general principle as the only one applicable to our case. We agree with those whose position is that the scheme of representation should be so devised as to secure the most effective expenditure of the cess fund, but hold that the primary collector, the dealer, the commission agent and exporter are as much in a position to assist the Cess Committee in the direction indicated as the Indian tanner is. Hence the consti-

tution which we have devised gives representation to all these links in the chain of the hide and skin industry. We have done our best to balance the interests properly, but as it is possible that some important interests may have been left out or that the need for giving representation to others may be felt in the future, we have provided for limited nomination by the Governor-General in Council and, in addition, for limited co-option by the Cess Committee.

120. The constitution which we propose includes both officials and non-officials; the former are however in a minority. In their case as well as in the case of the representatives of primary producers we find it necessary to stipulate nomination by the Governor-General in Council. Though we agree that in the present circumstances it is impossible to give the primary producer elective representation we could not contemplate his exclusion; we have not, however, been successful in finding any other equally simple way of securing his representation.

121. The Indian States cover nearly 41.6 of the area and hold nearly 23 per cent. of the population of India *minus* Burma. Even as regards the numbers of the various species of livestock per square mile of area they compare fairly in importance with the provinces of British India. Unlike the production of tea, lac, coke and even cotton that of hides and skins is generally scattered all over the country, and from this point of view also the importance of the States is proportionately just about the same as that of British India. Certain States, especially Hyderabad, Mysore and some in the south of India have a well-developed tanning industry. On all these grounds we have considered it necessary, even if this be regarded as being outside our terms of reference, to propose that the States as a whole should be represented on the Committee.

We have not deemed it expedient to propose that any State should be given special representation. We have merely provided that the Governor-General in Council should appoint three members to represent the Indian States. If it be possible to devise a system of nomination by the States—individually or collectively or by groups—such an arrangement would perhaps possess certain advantages; but these are details concerning ground with which we are not familiar, and we leave it to the Government of India to devise the most easily workable arrangement. We have evidence that under certain conditions Hyderabad State is prepared to co-operate with the Cess Committee. While we cannot speak about certain of the conditions stipulated by it, we think some of them are not likely to cause any difficulty and might be accepted.

While on this subject, we would refer to an important aspect of the question before us. There may possibly be a difficulty about

the collection of the cess as distinct from the customs duty at a port or ports situated within a State or States. We therefore propose that following the precedents of the legislation creating the tea and the lac cesses the cess we have proposed should also be called a sea customs duty. We believe this will obviate the difficulty likely to arise in case the Indian States concerned are not under a treaty obligation to levy or collect an impost like a cess, and will thus considerably reduce the risk of an unnatural diversion of trade from a port in British India to the State ports under the stimulus of the present or of a future rate at which the cess is to be levied.

Our proposals *re* the constitution of the Committee. 122. We propose that the Cess Committee should be constituted as below:—

A.—Six representatives of primary producers (a term which in this connection should be deemed to include the owners and breeders of animals, the producers of fallen stock, butchers, flayers and those who buy the hide or the skin while the animal is still alive). Of these six members four should be nominated, one each by the Local Governments of Bengal, the United Provinces, Bombay and Madras, and two should be appointed by the Governor-General in Council from among the nominees of the Local Governments of the other four major provinces (*viz.*, the Punjab, the Central Provinces, Bihar and Orissa and Assam). We think each of these four other provinces should have a nomination in rotation.

The nominating authority should, as far as possible, select a member belonging to the class of primary producers.

B.—Six representatives of the dealers, commission agents and shippers as below:—

- (i) Two, to represent the shippers of raw hides and skins at Calcutta. One of these should represent the Indian shippers. The nominating authority should be the Calcutta Hides and Skins Shippers' Association, Calcutta, in consultation with the Indian shippers.
- (ii) One, to represent the raw hides and skins dealers and commission agents at Calcutta. The nomination should be left to the Calcutta Skin and Hide Traders' Association, Calcutta.
- (iii) One, to represent similar dealers and commission agents at Cawnpore, the nominating authority being the Cawnpore Hide Merchants' Association, Cawnpore.
- (iv) One, to represent similar dealers and commission agents of the Presidency of Bombay, to be nominated by the Local Government of Bombay till such time as an association of dealers and commission agents

comes into being in the Bombay Presidency and is recognised by the Government of Bombay as representative of the interests concerned.

- (r) One, to represent the shippers of raw hides and skins at Karachi, the nominating authority being the Karachi Chamber of Commerce.

C.—Five representatives of the tanning industry as below :—

- (i) Two, to be nominated by the Southern India Skin and Hide Merchants' Association, Madras.
- (ii) One, to represent the tanning industry of Bengal. To be nominated by the Government of Bengal till such time as an association of tanners is formed at Calcutta and is recognised by the Government of Bengal as representative of the tanning interests in Bengal.
- (iii) One, to represent the tanning industry of the United Provinces. To be nominated by the Government of the United Provinces in consultation with the interests concerned.
- (iv) One, to represent the tanning industry of the Presidency of Bombay. To be nominated by the Government of Bombay till such time as an association of tanners is formed at Bombay and is recognised by the Government of Bombay as representative of the tanning interests of Bombay.

D.—Two representatives of the Madras shippers of tanned hides and skins, nominations to be made by the Government of Madras in consultation with the Madras Chamber of Commerce, the Southern India Chamber of Commerce and other interests concerned. The nominations should, as far as possible, be so arranged that one nominee should represent the exporters of tanned hides and the other those of tanned skins, and also that the nominating authority should nominate representatives of the exporters of tanned hides and skins by rotation.

E.—One representative of the Madras Presidency dealers in, or commission agents for, tanned hides and skins, to be nominated by the Government of Madras from among those engaged in what is known as the commission *mandi* of Madras.

F.—Seven members to be government officials as below :—

- (i) The Director, of the Imperial Institute of Veterinary Research, Muktesar, *ex officio*.
- (ii) The Cattle-breeding Expert to the Imperial Council of Agricultural Research, *ex officio*. If the appointment

of this expert is delayed or if the proposal is abandoned, then a representative (official or non-official) of the cattle-breeding interests in India. To be nominated by the Governor-General in Council.

(iii) Two representatives of the Agriculture, Cattle-breeding, Veterinary and Forests Departments of the Local Governments of the eight major provinces; to be appointed by the Governor-General in Council from among the nominees of the Local Governments. As far as practicable the appointments should be made in such a manner as to secure by rotation the representation of each of these four departments and to prevent an undue preponderance of any department. In this connection the departments represented by the two members *ex officio* should be kept in view, though the appointment of another veterinary or cattle-breeding official should not, *ipso facto*, be ruled out of consideration.

(iv) Three Directors of Industries or officers (though differently designated) in charge of the industrial interests in their respective areas; to be appointed by the Governor-General in Council from among the nominees of the Local Governments and Administrations. The appointments should be so arranged as to secure the representation, together with that specified under C, of the industrial interests of as wide an area as possible.

G.—One representative of the co-operative movement in India, to be nominated by the Governor-General in Council. As far as possible he should be a non-official with a good record of work in this field.

H.—Three representatives of the Indian States, one of whom should be a tanner, and as far as possible one a dealer or exporter, the third being a representative of the primary producers; to be nominated by the Governor-General in Council. If representation is earmarked for any State or States, it should be arranged that as far as possible the State or States should by rotation secure representation for the primary producers, the dealers and shippers (if any) and the tanners in the State or States.

I.—In addition to the above, the Governor-General in Council should be empowered to nominate additional members not exceeding three in number, for the purpose of giving representation to any important interest not already represented on the Committee. One of these might perhaps represent the leather-working and the allied industries all over the country, and the other might be

a representative of the Forests Departments of the Local Governments or of the tanning extract industry if no such representative has otherwise come in.

J.—The Committee itself to have the power of co-opting not more than three members at a time. This power is not to be exercised in such a manner as to disturb the general scheme of representation outlined above.

As regards experts, we think it is possible to utilise their services by inviting them as visitors without a vote. In practice it will be convenient to invite as a visitor the leather expert in charge of the institute at Calcutta, Cawnpore and Madras when the Committee is meeting in one of these cities.

In the event of any body or interest, entitled to nominate a representative failing to do so, the power of appointing a suitable representative should, by a specific provision in the cess legislation itself, be vested in the Governor-General in Council.

Nomination by Governor-General in Council in default.

123. The Committee should be empowered to set up sub-committees, both departmental and local or provincial, and to add members to the sub-committees up to one-third of the particular sub-committee's strength. In order to provide the necessary liaison the chairman of the provincial or local sub-committee should be a member of the Cess Committee; generally he would be a local member. There should be statutory sub-committees to deal with (i) finance, (ii) co-ordination and application of research in respect of raw stock and tanning and tanstuffs and (iii) work of a local character at Madras, Bombay, Karachi, Cawnpore and Lahore.

Sub-committees. Co-option to sub-committees.

124. The term of office of members other than those *ex officio* should be three years, but there should be no bar against the re-nomination or re-appointment of the retiring member. In order to secure continuity of policy and administration, the power of nomination and appointment should be so exercised by the Governor-General in Council and the Local Governments that not more than one-third of the personnel is renewed every three years. The members should be paid for attending the meetings of the Committee and of its sub-committees at the following rates:—

Term of office. Allowances and remuneration.

- (i) Railway, road and steamer allowances as admissible to first class officers under the Government of India, in respect of journeys performed on duty. In case the journey is undertaken from, or is completed at, a place other than the member's regular place of residence, the allowance claimable should be that claimable in respect of a journey from or to the place of residence or from

or to the actual place where it is commenced or completed, whichever of these two allowances is less.

- (ii) Rs. 20 per day as daily allowance in respect of absence from home from the time a member leaves his home or other place on duty up to the time of return from the Committee's work whether he returns home or to some other place. If the member commences his railway or road or steamer journey in the afternoon or if he completes it in the forenoon, the daily allowance should be reduced to one-half.
- (iii) Rs. 32 per day for actual attendance at a regular meeting. (Official members should not get this remuneration.)

In explanation of these proposals we would state that we understand that Rs. 32 is the remuneration paid to members of railway advisory committees, and is in our opinion just about what the members of the Cess Committee should also get. As regards the rate of daily allowance as well as the period for which it can be claimed our proposal differs a little from the general practice. But, while we think that our proposal is more suitable, we do not wish to lay stress on it. If for the sake of uniformity or any other reason it is considered expedient to revise the rates and conditions proposed by us, we shall have no objection.

125. The headquarters of the Committee should be at Calcutta, as it is the most important centre of the export trade in raw hides and skins, an important market for buying raw stock for the Indian tanning industry, an important centre of the tanning industry and has a well-equipped institute where a good deal of technological investigation can be made. The Committee should, however, meet at Calcutta, Madras, Cawnpore, Delhi and Bombay, as far as possible in rotation. Further, it should have the power to meet at any other place which in special circumstances may be the most suitable.

126. The Chairman of the Cess Committee should be an official selected by the Government of India. He need not and should not be a whole-time Chairman. If in the light of his other emoluments and status the grant of an allowance be considered necessary, it should be given.

127. We consider it necessary to describe in some detail the work which will be expected of the Secretary. The success of the Committee's work will depend to a very large extent on his capacity to organise, control and co-ordinate not only the administrative, scientific and technological work of the Committee's own staff but also the work for which the Committee must utilise the various other agencies indicated in our Report. He will have to keep in touch with the trade and to do all the necessary spade work for the Committee. He must therefore be a whole-time servant. We consider it desir-

able that he should not be a member of the Committee. We think he should be appointed by the Government of India who will undoubtedly take into consideration the views expressed by the Committee on this subject. To ensure reasonable security of tenure, we think he should be given an initial term of five years during which he should be irremovable except by a vote of three-fourths of the total number of members of the Committee whether in attendance or not, provided that the Government of India concur with such majority vote. Later on it may be possible to leave both his appointment and his removal to the Committee itself. We do not accept the view that he should be given the status of a head of a department of agriculture in a provincial government. Considering that the total expenditure of the Committee will be about seven lakhs a year, we think his status should be regarded as that of a senior deputy director of, *e.g.*, agriculture or industries. He need not be a technical man; indeed we think it would be difficult to secure the services of a person with adequate technical qualifications in so many branches of the trade and the industry. But, he must possess good scientific qualifications and organising capacity. Technical qualifications, if any, should be regarded as a ground for preference. We have decided not to state or suggest a suitable scale of remuneration, but we would add that whichever scale is ultimately adopted, it should be a consolidated figure, no house rent, local, overseas, passage, or other allowance except travelling and similar ones being thereafter claimable. We lay some stress on this view as we think that extra remuneration in the form of house rent, local and similar allowances are sometimes liable to fail to prove as attractive as a consolidated remuneration including these. If, however, an officer already in government service is appointed to this post, he should get the emoluments of the office together with such local and other allowances as may be admissible in respect of service under the Government of India.

128. While we think that besides the usual complement of clerical and superintending staff some scientific staff too will be needed, we think no special technologist will be necessary in the earlier stages. Technological advice and assistance should be obtained from the existing institutions and officers maintained by the Central and the Provincial Governments, and the situation can be reviewed by the Committee after its work gets into running order.

129. It only remains to give an estimate of the cost of general administration. We take Rs. 25,000 as the Secretary's initial emoluments including travelling and similar allowances, Rs. 10,000 as rent, and Rs. 15,000 as contingencies. We think Rs. 50,000 a year will suffice for office establishment. Travelling allowances and remuneration to members are likely to need between Rs. 20,000 and Rs. 25,000 per year. We thus think that about one and a quarter to one and a half lakh per annum in the beginning and

about one and a half lakh after five years will be required. The ratio of this estimate of the cost of general administration to the Committee's estimated income of about seven lakhs is undoubtedly high, but in the nature of things we think it is inevitable.

CHAPTER IX.

Functions of the Cess Committee.

130. As our work was merely a preliminary investigation, the nature and number of the problems discussed by us should be taken as merely illustrative but by no means exhaustive. It follows that our proposals on the subject of the functions to be assigned to the Cess Committee should similarly be treated as only a broad outline or framework, to be varied not merely in detail but even in fundamental respects, if after a few years' experience such variation appears necessary.

The Cess Committee proposed by us will be not merely an advisory but also, to some extent, an administrative body. It is true that our proposals as to the agencies by or through which it should work do not leave much direct administrative work for the Committee. We anticipate, however, that in course of time such work will grow both in volume and in complexity. We have not attempted to forecast what the nature and extent of such growth will be, and have contented ourselves with a discussion of the functions—administrative and advisory—which the Committee should discharge for the present.

131. The Committee should, in our opinion, be given complete control over the expenditure of the cess fund and other income, subject to the rules framed by the Government of India. Its accounts will, of course, be subject to periodical audit, but the framing of the budget and its revision and expenditure within the budget should be left to the Committee. We do not consider it necessary that the budget should be subjected to previous sanction by any external authority. The Government of India should only retain the power of offering criticism and of vetoing such parts of the budget as clearly go beyond the Committee's powers.

The financial powers of the Committee should include the power to give grants-in-aid to the Local Governments, local bodies and other public and private bodies or institutions in respect of approved schemes pertaining to the objects on which the cess fund can be spent. The field which can be covered with the grants-in-aid system is vast and a number of objects for the furtherance of which that system can legitimately and appropriately be utilised has been indicated by us elsewhere. In particular, we think, the Committee should be empowered to recognise trade associations and to assist them with grants-in-aid for, among others, the following purposes:—

- (i) regulation of markets,
- (ii) introduction of systems of grading and specification,

- (iii) arbitration,
- (iv) research,
- (v) intelligence work, *i.e.*, collection and dissemination of statistical and other information,
- (vi) publication of trade journals and price bulletins,
- (vii) demonstration, advertisement and propaganda on behalf of Indian raw stock, leather, leather goods and allied manufactures.

132. The Committee should similarly be given, *ab initio*, control over its own executive, the only exception being the case of the Secretary. (For this see para. 127.)

Control over staff. Determination of the staff necessary and of the terms and conditions of its employment, its recruitment and its punishment, removal or dismissal should all be left to the Committee's unfettered discretion. The Secretary should be the principal executive officer; he should be given suitable powers of control over the staff and be held responsible for their work. In these as in many other matters the Committee will, no doubt, utilise the accumulated experience of the different cess committees in the country, especially the Indian Central Cotton Committee.

133. As regards its meetings the Committee should have the same powers and duties as similar bodies. Although the Chairman is to be appointed by the Government of India, the election of one or more vice-chairmen and the delegation of specific powers and duties by the Committee or by its Chairman in favour of the Chairman, Vice-Chairman, Secretary and other staff should be left to the Committee. The only exception we would make in this respect is that in the interests of decentralisation of work the legislation creating the cess fund or the rules thereunder should prescribe certain sub-committees and should assign to them definite powers and duties. In paras. 117 and 123 we have indicated the character and number of such statutory sub-committees.

Meetings. Delegation of powers and duties. India, the election of one or more vice-chairmen and the delegation of specific powers and duties by the Committee or by its Chairman in favour of the Chairman, Vice-Chairman, Secretary and other staff should be left to the Committee. The only exception we would make in this respect is that in the interests of decentralisation of work the legislation creating the cess fund or the rules thereunder should prescribe certain sub-committees and should assign to them definite powers and duties. In paras. 117 and 123 we have indicated the character and number of such statutory sub-committees.

134. Although our proposals do not for the present contemplate a central institute for research, it is possible that in future the need may be felt for an institute of this type for the purpose of attacking problems which cannot appropriately be handled by the existing provincial institutes. If so, the organisation, finance and control of such an institute will naturally be undertaken by the Cess Committee. Meanwhile the organisation, direction and co-ordination of research as defined in para. 146 will be one of the most important functions of the Committee.

Control of central research institute (if any). the purpose of attacking problems which cannot appropriately be handled by the existing provincial institutes. If so, the organisation, finance and control of such an institute will naturally be undertaken by the Cess Committee. Meanwhile the organisation, direction and co-ordination of research as defined in para. 146 will be one of the most important functions of the Committee.

135. We have considered a proposal (*see* para. 98) to the effect that in respect of certain matters, *e.g.*, (i) the establishment and control of markets or exchanges, (ii) the working out and adoption of systems of grading and specification, (iii) arbitration and (iv) gene-

Markets, arbitration. grading,

ral control over the usages and practices of the trade in raw and tanned stock, it would be preferable to bring into being an all-India association with a branch at Madras, or, if necessary, two associations, one at Calcutta and the other at Madras. But we have no evidence in support of it, and none of the non-official members of our Committee have lent their support to this proposal. Hence, we have decided to keep it in abeyance for consideration by the Cess Committee in consultation with the trade or trades concerned. Meanwhile we think the Cess Committee should be empowered to undertake such work. We have no objection to the Committee utilising the agency of the important trade associations already in existence at various centres for work falling within these classes; but, as these associations are not federated or associated, we think it will be necessary for the Committee to initiate action if matters are not to drift. In these respects at any rate the local committees should prove particularly useful. We might here make a reference to a suggestion made in one of the technical journals for the acquisition by interests outside India of control over the Indian trade in tanned stock. We think organised attempts on these lines by foreign interests constitute a potential menace to the prosperity of the Indian trade, and the need for an organisation of all the three main branches in good time is therefore all the more urgent.

136. So far as we are aware, there is no place where an authoritative examination, test or analysis can at present be carried out and a certificate based on such test or analysis issued. The Government Test House, Alipore, is too general in character to carry the authority which would attach to the work and the certificate of a specialised organisation. The three institutes at Calcutta, Cawnpore and Madras being Government institutions are not given full scope in this direction. It is true that, so long as the Cess Committee has no central institute of its own, it will be necessary to rely largely on the agency of one or more of these institutes for such work, but the responsibility for the certificate will be the Cess Committee's, and we hold that it should be empowered and expected to assume this responsibility. Indeed we think this proposal follows as a corollary from our view that the Committee should, by the agency of a trade association or associations and pending such an agency coming into being, by itself, take up arbitration work.

In this connection we draw attention to our remarks in paras. 21 and 86 about the certification of stock intended for export to countries where restrictions on stock imported from India are, generally or for the time being, in force.

137. Apart from research the most important duty of the Committee will be propaganda in India and advertisement abroad. Many of the problems discussed by us are, in essence, problems of educating the men engaged in the trade and the industry to a realisation of their own individual and the national loss. The application of the results yielded by research is similarly a matter largely for propaganda and

grants-in-aid. We have considered this function of the Committee so important that we have proposed that about a lakh of rupees should be spent on this work annually. In the present state of general illiteracy we attach no great value to the distribution of printed matter when it is intended for the benefit of the primary producer or collector, or the labourer in tanneries or in factories engaged in the allied industries. Nor are we confident that the manner in which demonstrations are at present organised and managed leaves no scope for fair criticism. The field is vast and almost unexplored, and the difficulties in a polyglot country are bound to be enormous. The Cess Committee will undoubtedly have to proceed cautiously and gradually. But matters cannot be left as they are, and we are confident that the problems can be solved if the attack is planned with foresight and judgment.

138. One particular matter to which we would like to refer here is the absence of trade journals in India. If these were altogether premature, we would not be on safe ground in considering any proposal that they should be started. But we think there is need for a journal or journals dealing with Indian raw stock, tanned goods, and leather and leather articles. We are not sure that the Cess Committee can appropriately undertake this work, but we do hold that if and when the association referred to in para. 135 is brought into being, it should consider the question of publishing a journal. If necessary, its publication should be subsidised by the Cess Committee. The need for price bulletins is perhaps even greater, and their publication by the Association should be considered on the same lines as the trade journal.

139. Advertisement of Indian goods in foreign countries is, in our opinion, an important function which should be discharged by the Committee. Whether the hides and skins produced in India have such special qualities as to give them or either of them a semi-monopolistic character is an issue over which there is wide divergence of expert opinion. But it is fairly common ground among experts that Indian hides have some peculiarities which make them eminently suitable for certain classes of work and are prized as such. As regards goat skins, India produces nearly one-third of the world's supply and as such is in a somewhat favoured position in the world market. While the established markets know these facts and need little further enlightenment, we hold that India's position in the world's markets can be strengthened by suitable advertisement of her products and the development and encouragement of direct trade for her raw and tanned goods. With suitable advertisement and propaganda we think it should not be difficult to build up a direct trade between India and such markets. In the case of finished leather made in India the need for advertisement and propaganda is even greater. The leather industry is still, comparatively speaking, in its infancy, and though individual tanneries are doing a fair business with foreign countries, the potential scope

for further business is vast. The Cess Committee should undoubtedly devote great attention to this line of activity, especially as the ultimate objective which, we agree, should be before the country is that of manufacturing its raw products up to as finished a stage as is practicable and profitable to the country as a whole.

140. We have considered the suggestion made by a few witnesses to the effect that the Cess Committee should secure or even organise special trade representation in certain foreign countries, *e.g.*, Germany, Czechoslovakia, the Balkan States, Turkey, the United States of America, in respect of Indian raw and tanned stock. Were it not for the decision of the Government of India to appoint Trade Commissioners at Hamburg, New York, Milan, Alexandria, Durban and Mombasa, we might have considered it necessary to recommend some action in this direction. But, we think that as a rule it is desirable to have general rather than special trade representation. We also feel that the Trade Commissioners at Hamburg, New York, Milan and Durban can be left to look after the general interests of the Indian hide and skin and leather industry; indeed in the case of three of these it will be an important part of their work. It will be for the Cess Committee to remain in touch with them, utilise their agency for intelligence and propaganda and advise them as to what further or special action is needed. We should, however, add that the Cess Committee should be empowered to organise and finance special schemes (*e.g.*, the establishment of show rooms, participation in exhibitions etc.) to be executed by the Trade Commissioners or by the Committee's own staff under their general direction.

141. To the question whether there is further scope for imparting training in any branch of the industry and if so what part the Committee should play we have given considerable thought. Witnesses' opinions are by no means unanimous, and many of them have thrown out suggestions which on closer examination appear to us to take no account of the existing facts or of the principles which should govern the decision as to whether the Committee should undertake or subsidise a particular class of work or not. We accordingly propose to discuss the main suggestions and to enunciate the principles which we think should be followed.

Technical and industrial education is under the present constitution a provincial subject and the benefit of training up workers and even foremen for employment in tanneries and leather-working and similar establishments can safely be assumed to accrue to the province concerned. Hence we think this work should be left to the provinces. Bengal, Madras, the United Provinces, the Punjab, and the Central Provinces already maintain some schools or higher institutes where such training is provided. Bombay has recently taken a survey of the leather industry in that Presidency and a

proposal to set up a similar institution in order to avoid the need for importing workmen from Madras and thus to cheapen the cost of production, is one of the Surveyor's recommendations. We think these facilities are ample; indeed judging by the fact that the Madras Institute has not been attracting students and the training branch has therefore had to be closed down, and that in the United Provinces also similar difficulties are being experienced, we think there is little scope for expansion of work in this direction. Further, we do not think that the Cess Committee should entertain applications for grants-in-aid for this type of work, particularly because we are not at all sure that the trade always finds the men trained in some of these institutions useful. As regards the training of leather chemists and technologists the country's needs are, we think, being amply met by the institutes at Calcutta and Cawnpore. If and when necessary the Madras Institute can be expanded to meet further demand for such men. On the other hand, the men so trained are really of all-India utility. While most of the artisan tanners and many of the tannery foremen trained in the provincial schools and institutes can safely be assumed to stay in their own provinces, such an assumption cannot be made in the case of leather chemists and technologists. Such men can and do migrate to other provinces, if they see better prospects from such migration. We realise that a provincial government may consider itself justified and even compensated for its expenditure if some young men of the province are thereby enabled to secure fairly remunerative posts not only in their own but even in other provinces. But as the tanning industry of the other provinces does stand to profit by the migration of men trained at the cost of their home province, we think it would be a fair and legitimate charge on the cess fund if the Cess Committee entertains applications for grants-in-aid in respect of training work of all-India importance. Accordingly we propose that while the Committee need not undertake such work direct, it should be empowered to assist it with suitable grants-in-aid to the provincial governments concerned. The question of the cess fund being spent on the training up of research students is on still stronger ground, and in this case we think the Cess Committee would be justified in incurring expenditure up to the full cost of their training, and therefore propose that it should be empowered to do so.

There, however, remains the question of training up men for work in connection with raw stock. So far as we are aware, no provincial government has taken it up as yet. In the Punjab and Bengal demonstration parties have been organised, but though the work of such parties is directed to the training of flayers in the slaughter-houses and the villages, such training is not what we have in view, *viz.*, the training up of men for the purpose of educating the primary producers and collectors and the small dealers of raw stock. As provincial departments of industries hardly concern themselves with trade questions and are not, in our opinion, likely to be in a position to undertake such work for some years, we think

that this branch of training work should be undertaken by the Cess Committee or, better still, assisted by it with grants-in-aid.

142. In the absence of statistical information we experienced considerable difficulty in the matter of the production of raw stock and the proportions consumed in the country for different classes of work, and had to resort to various methods of hypothetical value for working out our estimates. Then again we found little precise information about India's position—both absolute and relative—in the world's markets for raw and tanned stock, and how it has varied from time to time. There is no organised system of obtaining intelligence for the use of those interested in any branch or phase of the trade and the industry—whether in India or abroad. The collection, publication and dissemination of information relating to the trade and the industry including the building up of detailed trade directories should be one of the important functions to be discharged by the Cess Committee. The agency of the Trade Commissioners and accredited correspondents both in India and abroad and of the trade associations in India will no doubt be utilised by the Committee. We have already referred to a trade journal and have only to add that we think it will be a suitable medium for the dissemination of the information collected.

143. The Committee will, of course publish an annual report of its administration. But, in addition to this we think it should publish a periodical—say, annual—review dealing with the technical and commercial aspects of India's position in the home and the foreign markets for raw and tanned stock and the products of allied industries.

144. Coming to the advisory functions which should be assigned to the Committee, we wish to draw attention to para. 157 in which we have given our reasons for excluding advice on the question of the necessity or otherwise of any protection to the tanning industry from the scope of the Committee's advisory functions.

The Committee should, however, be empowered, and indeed expected, to advise the governments—central or local (including such of the Indian States as seek its advice)—on technical and commercial questions relating to the hide, skin and leather trade and the tanning, leather and allied industries. It should similarly be entitled to be consulted by, and to advise, the central and the provincial governments on all questions of legislation or the framing of statutory rules relating to these matters. It will be expected to advise the trade and the industry concerned as regards the measures which can and should be taken for their improvement and for the maintenance or strengthening, as the case may be, of India's position in the world's markets. The Committee should be constantly prepared to offer (to those seeking its assistance) advice based on the Committee's intelligence work regarding prices ruling in India

and abroad, the terms and conditions of trade, tariffs, restrictions and prohibitions in India and abroad and the prospects of business connections. Indeed we think that the extent to which the Committee succeeds in assisting the trade with its advice will be one of the major tests by which its utility will be judged by the trade and its justification in the eyes of Government and the public be established.

CHAPTER X.

Objects.

In the preceding chapters we have already indicated many of the objects on which we think the cess fund can and should be spent. In this chapter we propose to briefly recapitulate the position, discuss those objects which have not been treated elsewhere and explain the grounds on which we have decided to accept or reject, with or without modification, the suggestions received from witnesses or made by the members on this subject.

145. We have found a lack of organisation among the primary producers and primary collectors, the small dealers and the village tanners. The larger dealers, tanners and commission agents cannot be said to be unorganised. Among the shippers and the large tanners organisation is much closer, but so far it has not been designed for the purpose of bringing about comprehensive improvement such as we have in view.

Between one association and another we have found little evidence of systematic and sustained collaboration for mutual good. The partial revival of the controversy over the question of the export duty, for which the work of our Committee provided an occasion, may have been responsible for the somewhat unfavourable light in which the relations between the raw stock exporting and the tanning interests in the country appeared to us. But it is perhaps no overstatement if we say that normally the relations between them are those of apathy rather than of amity. There is at present not much in common between the trade on the one side and the agriculture, veterinary, industries and forests departments of Government, central or local, on the other. Even between the provincial departments of industries and the tanning industry we did not always find that degree of co-operation which is necessary if India's leather industry is to take a higher place in the world markets. Finally, there is no one body which can be regarded as representative of the different raw stock trade and the leather interests respectively. The integration and "rationalisation" of the trade and of the industry by encouraging the formation of co-operative societies and trade associations, the organisation of markets, the co-ordination of trade usages and practices and in many other ways, are therefore among the major objects which the Cess Committee should pursue. We do not intend that this work can or should be undertaken indiscriminately, nor do we expect that quick results will be obtained. But we think it is time that this big problem were seriously taken in hand. Unless this is done, we feel the Cess Committee will find it very difficult to effect the all-round improvement which we think should be its objective.

146. As regards research, conditions are far more favourable. At Madras, Calcutta and Cawnpore the respective provincial gov-

ernments maintain institutions where re-
 Organisation, direction and co-ordination of research. search problems, largely of a local character, have been and are being attacked. We do not think it is necessary for India to undertake

fundamental as distinguished from local and adaptive research. For such a limited purpose we think these research institutes are suitably located. The strength of the staff is somewhat inadequate, particularly in the case of Cawnpore. But we take note of the fact that the Leather Department of the Cawnpore Institute is still in its infancy and that its expansion is in contemplation. In the matter of equipment the position is substantially the same as in the case of staff, Cawnpore and Madras having poorer equipment than Calcutta. But the personnel of the staff already employed at each of these centres is, in our opinion, suitable.

Without in any way desiring to limit the discretion of the Cess Committee we put forward the following tentative proposal. In

order to enable the provincial governments concerned to strengthen the staff and to provide the minimum equipment, stores etc. necessary for research we think the Cess Committee might give suitable grants-in-aid both non-recurring and recurring. In our opinion, such research should be treated as work of all-India importance and utility. We therefore suggest that the provincial governments be assisted in the manner indicated.

We have only to add that we think there is scope for all these three institutes. For the sake of comparison, though the condi-

Specialisation possible. tions are vastly different, we might add that Great Britain has four and Germany three institutions where tanning and connected research is being done. The institutes can, if properly directed, serve distinct needs. Cawnpore can take up the questions relating to (i) the preparation and cure and tanning (both bark and chrome) and finishing of air-dried and comparatively heavy stock, and (ii) the manufacture of leather for army and police boots, shoes, sandals, harness and saddlery, belting and travelling goods. Calcutta can undertake similar work in relation to dry-salted and light-weight stock. The Madras Institute is suited for studying the problems and meeting the needs of the bark-tanning and the chrome-tanning industries. Similar specialisation in the case of skins may be possible, and though we have not examined this question in detail, we think Madras and after it Calcutta are well-situated to attack the problems of research on skins. This outline of specialised work should, of course, be treated as rough and provisional. While we accept the general principle that unnecessary overlapping of work should be avoided, we are alive to the fact that to a certain extent such overlapping is inevitable. Again there are bound to be problems of a local character and our outline should not be taken to exclude the handling of these by each institute. Subject to these two main conditions, we

think it is possible to devise special lines of research work for each institute. Finally, we think there is little co-ordination of effort among these institutes. There is no agency to direct the work to be done by each, and we have evidence of some overlapping. The staff at one institute does not necessarily know what is going on at the other institutes. Though the practice of occasional visits has not been without benefit, it cannot be a substitute for direction and co-ordination by a central body. Thus we arrive at the second important object on which the cess funds should be spent, *viz.*, the organisation, direction and co-ordination of research and the allocation to each institute of such special lines of work as would be most appropriate to it.

By way of an explanation of the above we have only to add that the research we have in view includes research on vegetable and chrome tanning and tanning materials, on tanning extracts and allied industries, as also experiments and research on the problems of preparing and curing raw stock. The extraction of tanstuffs on a commercial scale is already an industry of some importance and some three factories are engaged in it. But in view of the large imports of tanning materials we think there is scope for research as a preparatory stage for the development not only of the country's resources of tanstuffs but also of the extracts and allied industries. In connection with the production of raw stock in as flawless a state as possible the scope for experiment and research is even wider. As this question has been treated in some detail in Chapters IV and VI we shall only recapitulate the salient directions in which they are needed. They may be grouped as below: (i) the breeding, feeding and keeping of animals, general veterinary work and particularly the problems relating to diseases and pests affecting the hide or the skin or to the infliction of wounds like brands and goad marks, (ii) flaying, (iii) preparation, (iv) cure and preservation, and (v) processes and materials with the object of reducing and if possible eliminating "loading" due to ignorance, negligence or other causes.

147. Besides research on the lines indicated above, we think the Cess Committee will have to undertake effective and well-directed Propaganda. propaganda to bring about improvement by the application of the results obtained from research, as also for the following objects:—

- (i) Organisation of the methods of marketing including the grading and specification of both raw and tanned stock.
- (ii) Popularising the methods found suitable for the utmost practicable reduction of individual loss and national waste.
- (iii) Bringing the peculiar qualities of India's produce and manufactures to the notice of the consuming markets and building up a direct trade between them and India in such a manner as may be practicable, and thus helping

India to maintain and improve her position in the world's markets.

The establishment of a hide, skin and leather museum or museums in conjunction with the Committee's office or at other convenient centre or centres has been suggested by two expert witnesses, and in our opinion is a suitable object on which to spend a small proportion of the Committee's funds.

Museum. Training. 148. Among work other than that of mere propaganda we think the following are suitable objects on which the cess fund should be spent:—

- (i) Training in the preparation and cure of raw stock and in the technicalities of handling and marketing it,
- (ii) Training in tanning, leather-making and the allied industries, *e.g.*:—
 - (a) the manufacture and use of chemical and other tanstuffs, tanning extracts etc.,
 - (b) the manufacture of glue, jelly, horn articles, gelatine etc., from the bye-products, many of which are at present wasted,
 - (c) the utilisation of tallow, of blood for the manufacture of fertilisers, and of horns, hoofs, guts etc.,
- (iii) Training in methods of research as defined in para. 146,
- (iv) Provision of suitable scholarships etc. for the purposes specified above.

Miscellaneous objects. 149. Among miscellaneous objects we consider the following to be of some importance:—

- (i) Assisting the trade to secure more suitable and quicker transport.
- (ii) Provision of facilities for examination, testing and analytical work and for the issue of authoritative certificates.
- (iii) Collection and dissemination of statistical and other information relating to the trade. Intelligence work. Publication of a trade journal or journals and price bulletins or subsidisation thereof.
- (iv) Provision of machinery for arbitration.
- (v) Publication of an authoritative annual review.
- (vi) Such other action as may be deemed necessary for effecting improvement in the raw stock produced in the country and in the organisation for handling it both in India and abroad, the improvement of the Indian tanning industry and the finding of foreign markets for Indian raw stock, leather, leather goods and allied manufactures.

Many of the detailed lines along which, and some of the important conditions subject to which, these objects might be pursued

by the Cess Committee have already been indicated by us in other portions of the Report.

150. Having recapitulated the objects on which the cess fund can usefully and should be spent, we shall recapitulate or discuss

Exclusion of certain objects. (as the case may be) some which we have decided to exclude from the scope of the Cess Committee's activities. The objects so excluded comprise the following:—

- (i) Payment from the cess fund of a bonus for good flaying, except when the object is to ascertain by experiments the conditions conducive to success.
- (ii) Free issue of flaying knives, subject to the same exception as above.
- (iii) Free issue of preparing or curing materials and apparatus, subject to the same exception as above.
- (iv) Payment of subsidies towards the cost of transport of raw stock or manufactured goods except for exhibition purposes.
- (v) Special trade representation in foreign countries.
- (vi) Payment of bounties or subsidies to enable the producers of raw stock or the manufacturers of leather in India to "dump" their goods in foreign markets.
- (vii) Loans to firms or individuals in the trade or in any of the industries.

Except in the case of (iv), (vi) and (vii) the reasons for excluding these objects have been discussed elsewhere. The recognition of subsidised transport as a legitimate

Reasons for exclusion. object with a view to encourage certain improvements was suggested by some witnesses. We entirely agree that general assistance to the trade or the industry to obtain special facilities or concessions for the transport by road, railway and ocean of better prepared, cured, tanned, finished or otherwise worked up articles would be a legitimate and an important field for the Cess Committee's work. But we are definitely of opinion that the actual manner in, and the extent to, which such facilities should be provided or the concessions granted is a broad issue which should be left to the Government. We do not consider it appropriate for the Cess Committee to attempt to interfere with it beyond the point indicated by us. The exclusion of (vi) and (vii) is determined by similar reasons. In particular, industrial loans should, as at present, continue to remain a responsibility of Government, generally provincial but, if need be, central.

CHAPTER XI.

Conclusion.

151. Although the introductory portion of the Resolution under which our Committee was constituted mentions the Government of India's view that a solution of the difficulty in connection with the question of the abolition of the existing duty on raw hides might be found in its replacement by an export cess, we have not considered the question of replacement as specifically referred to us. We have approached the problem set to us as an *ad hoc* committee for a preliminary investigation as to the desirability or otherwise of bringing a permanent Committee into being and charging it with the duty of administering a cess for the benefit of the industry as a whole.

Nevertheless we have tried to see whether any agreement among the tanning and the exporting interests in the matter of its replacement by a reasonable cess could be brought about despite the sharp difference of opinion which, we recognise, has always existed. Some of us had hoped that such an agreement might be possible, but we found that the divergent views were essentially irreconcilable. The question of the export duty is inextricably bound up with the question of protection to the tanning industry in India. Whether any protection is in fact derived and whether it is needed, and if so, to what extent and in what form it should be given, are questions beyond our reference and in fact beyond the power of a body, constituted as our Committee is, to solve impartially. The representatives of the tanning industry and those of the exporting interests cannot be expected to repudiate the policies so far consistently pursued by the various organised bodies of tanners on the one hand and of exporters on the other. It is noteworthy that all the bodies representing these two interests took up identically the same positions before our Committee as they had consistently done elsewhere. Hence, even if the representatives of those interests on the Committee had been induced to agree to a compromise, it by no means follows that the compromise would have been generally acceptable to these interests in the country. Such a compromise was an end to be desired, and in our opinion would have justified the Committee in proceeding beyond the specific terms of reference. But we have failed in this endeavour, and therefore make no recommendation on this question.

152. Although it is beyond our reference, the members representing various interests desire to make their respective positions perfectly clear. The fact that all the members have signed this Report, which in other respects is almost unanimous, should not be taken to mean or imply that the members representing the tanning interests agree to the abolition of the duty or to its

Question of export duty left alone.

Attempt to solve it.

Position of members signing the Report.

reduction or to the retention of the present rate of duty or that the members representing the exporting interests agree that it should be retained at all or at its present or at any lower rate. On these matters they all wish to retain complete liberty of action.

153. A possible solution of the difficulty was for us to recommend that a Committee should be set up on the lines of the Imperial Council of Agricultural Research and that the Government of India should every year place at its disposal such sums as they could spare from general revenues. This, however, would not be a cess in the true sense of the term. Indeed a recommendation to this effect might legitimately be criticised as one beyond the scope of our reference.

154. On the part of our reference which deals with articles and the rate of the cess the following are our considered conclusions.

Rejection of suggestion for a committee with allocated funds.

Proposals re articles and rate of cess.

We recommend that (i) the rate of cess be 1 per cent. *ad valorem*, (ii) the articles which will be cessed be raw hides and raw skins, (iii) the cess be an export cess, *i.e.*, levied on these articles when exported and (iv) the cess be levied according to the existing export duty schedule of tariff valuations revised annually as at present by an independent authority. In this connection para. 113 may be seen.

We further recommend that the rate of the cess proposed by us should be reviewed after sufficient experience has been gained of the working of the Cess Committee.

We consider it most desirable that our proposals for the establishment of a Cess Committee should be given effect to in an atmosphere of general good will of the trade and industry as a whole, and we hold that if our recommendations above mentioned are adopted in such a manner as to result in the total rate of taxation (including the proposed cess) on the export of raw hides and skins remaining what it is at present, pending a decision on the separate question of the export duty, such an atmosphere will be secured.

By way of an explanation we might add that the imposition of an export cess on raw skins will broaden the basis of the Committee's work *ab initio*. Even though the case of goat and sheep skins does not present so many or so important problems as that of hides, we agree that the work to be done in connection with skins will more than sufficiently justify the imposition of a cess on the export of raw skins also.

On another point also we wish to add an explanation. Although after weighing the pros and cons of the *ad valorem* and the specific systems for levying the cess, five of us (*viz.*, Dr. Meek, Mr. Jamal Mahomed, Mr. Mahomed Ismail, Mr. Wykes and Mr. Shah) prefer an *ad valorem* one, whereas the other two members (Mr. Rafique and Mr. Bleeck) prefer a specific one, we accept the view that the existing schedule of tariff valuations for the

export duty really amounts to a schedule of annual specific duties and is sufficiently detailed to remove some of the disadvantages of the specific method. Hence, all the seven of us agree that the export cess proposed by us should be levied on the same system as the existing export duty, *i.e.*, on a system of tariff values revised annually by an independent authority as at present.

155. Messrs. Jamal Mahomed, Mahomed Ismail, Wykes and Shah hold that the problems to be attacked are numerous and difficult enough to ultimately require

Members' reasons for accepting the rate of 1 per cent.

fifteen to twenty lakhs a year; on the other hand, Messrs. Rafique and Bleeck hold that five to seven lakhs is probably all that might be profitably spent. While agreeing that the economic loss is great and that the problems are many and important, the Chairman (Dr. Meek) is definitely of opinion that five to seven lakhs per annum will be a sufficient income for the proposed Cess Committee for the first five years of its existence. He does not consider that the Committee will be able, during this period, to spend a larger sum effectively. He further holds that though the problem may be large, it is only one of many such large problems of economic construction in India in the tackling of which a well-balanced idea of proportion must be maintained as regards the expenditure of available funds. We are, however, all agreed that a sum of five to seven lakhs a year will enable the Cess Committee to make a good start. We have only to add that at the rate proposed by us the export cess on raw hides and raw skins will yield this amount.

The Chairman is of opinion that after some time the yield of the cess may probably be found inadequate. Messrs. Jamal Mahomed, Mahomed Ismail, Wykes and Shah think that for an effective attack all along the line the yield of the cess will prove inadequate after the Committee's organisation gets into full working order. Messrs. Rafique and Bleeck think that five to seven lakhs a year is probably all that might be profitably spent. We all, however, agree that if additional funds are required, and are justified by a review of the Committee's work as proposed by us in the preceding paragraph, they should be found by raising the rate of the cess, provided that the interests concerned are consulted as to the value of the results achieved and express their willingness to accept an enhancement of the rate. *Per contra*, if the review proves the need for a reduction of the rate of the cess, we agree that it should be so reduced. As it is undesirable to resort to legislation every time there is a proposal to change the rate, we think this power should be vested in the Governor-General in Council, subject to the previous assent of the Indian Legislature.

156. Mr. Price proposes to enunciate and explain his proposals in a minute of dissent.

Special importance of our proposals on three other matters. 157. To certain other aspects of our work we all attach importance.

We have devoted considerable thought to the important questions relating to the constitution of the Cess Committee, the scope

(i) Constitution of the Committee. of its work and the objects on which the proceeds of the cess fund should be spent. The conclusions reached by us on these questions embody a measure of adjustment to which we attach the greatest importance. The constitution recommended by us for the Cess Committee is a delicate balance of the various claims put forward and of the principles underlying these claims. This adjustment should be treated as an organic whole. We trust, the constitution proposed by us deals justice to all the interests concerned—the primary producer, the hide and skin dealer and the commission agent, the exporter, the tanner, the shipper of tanned goods, the departments of the Central and the Local Governments which will be concerned with the Cess Committee's activities and the Indian States. To disturb this delicately poised structure in one part is bound to lead to a demand for compensatory changes in another, and we think it necessary to utter our warning against any such endeavour.

We attach equal importance to our recommendation that the Cess Committee as proposed by us should have nothing to do with

(ii) Committee not to concern itself with the export duty question. the question of the export duty on raw hides and skins. Otherwise its work will be liable to suffer from internal strife and mutual suspicion of motives. The Committee should therefore be restricted to the problems of improvement of the raw stock and of the organisation for handling it both in India and abroad, the improvement of the Indian tanning industry and the finding of foreign markets for Indian raw stock, leather, leather goods and allied manufactures. The limitations subject to which the Committee should carry on its work in these directions have already been explained elsewhere. Here we only wish to emphasise our view that our recommendations on these matters should also be treated as an organic whole.

Thirdly, we considered the question of applying a cess to tanned goods. But our proposals are based on the assumption

(iii) No cess on tanned goods. that there will be no cess on the export of the tanned goods of Madras, Bombay, Karachi etc. None of the witnesses from the tanning industry gave evidence in favour of any such cess. In general it is held that a cess should not be imposed except at the request of the trade or the industry concerned. Besides, the representatives of the tanning industry have throughout urged another principle, viz., that the products of an indigenous industry should not be burdened with any imposition.

158. In point of importance this entire industry (the hide and skin trade and the Indian leather-making, leather-working and allied industries) is one of the most important phases of India's economic life. Its annual gross value runs into many—as many as forty to fifty—

crores of rupees. It not only gives employment to large numbers of men (*see* table 23 where the numbers of tanners and leather-workers are given), but—and this is an important fact to be kept in view—is a factor in the economic well-being of millions of India's depressed classes. Any action taken for its improvement will automatically, though perhaps gradually, help to better their lot. They are among the unorganised and silent submerged strata of the population of India, and have a legitimate claim on Government's active sympathy. The hide and skin trade and the tanning industry have in the past rendered inestimable service to the Government and the country, and it is only right that they should claim that organised efforts should be made to improve their condition. We hope we have succeeded in proving that there is vast scope for work for the betterment of all branches of the industry and that any improvement effected in them will react favourably on the improvement of the economic conditions of the peasantry of India. Appalling waste is at present undoubtedly going on; we have endeavoured to indicate the extent of the amount of loss, and the directions in which attempts can and should be made to reduce it. While we fully appreciate the valuable work done by the various interests concerned, we have found little evidence of an organised effort to visualise and attack the various problems as being organically connected with each other. We are convinced that action more or less on the lines set out in our Report will be in the best interests of India as a whole, including the Indian States. Every link in the chain—the cattle owner, the *chamār*, the owner of the slaughtered hide or skin, the trader, the commission agent, the tanner, the tanner for export, the shipper both of raw and of tanned stock will, and indeed must, benefit. We have therefore recommended the creation of a permanent Cess Committee and are confident that such a Committee with adequate funds at its disposal will be in a position to make a genuine beginning in one of the important directions of India's economic development.

D. B. MEEK (*Chairman*).

JOHN BLEECK.

M. JAMAL MAHOMED.

M. MD. ISMAIL.

E. L. PRICE.*

MOHAMAD RAFIQUE.

E. WYKES.

S. P. SHAH (*Member-Secretary*).

} (*Members*).

Dated the 4th February, 1930.

* Subject to a minute of dissent.

Minute of Dissent by Mr. E. L. Price.

I have followed the convention, usual in such matters, by signing a Report I do not agree with, in order to put on record my real views and substantive recommendations.

I am driven by circumstances to criticise my colleagues, "Introduction" vs. especially in the opening and concluding "Conclusion". chapters of their Report.

The arguments, the threatened non-co-operation of the Madras Members on the Terms of Reference, were all concerned with this essential point,—Whether the question of the *replacement* of the Export Duty on Hides by a Cess was within the Terms of Reference or not.

The majority seem to have decided that the Terms of Reference are inclusive of the following passage only:—

“ 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.”

My colleagues have stultified their own logic by recommending what is substantially a *partial* replacement of the Export Duty both on Hides and on Skins (the latter certainly not referred to us!) by a Cess to the extent of 1/5th of the amount.

I hold that the Resolution of the Government of India appointing the Committee must be read as a unitary whole.

I hold that the expression “ a satisfactory solution of the difficulty might be found in the replacement of the export duty by an export cess ” is not an isolated suggestion afterwards abandoned by its non-repetition after the words “ with the following terms of reference ”, but that when the term “ cess ” is there used it bears the coherent sense of “ an export cess in replacement of the export duty on raw hides ”.

My substantive recommendations are in consonance with that interpretation.

The original Resolution of the Government of India does not
Burmah. exclude Burmah.

The Chairman’s interpretation of the letter he later received from the Government of India is to the effect that “ Burmah is to be excluded ”.

I hold that a Resolution of the Government of India can be altered only by an amending Resolution. No such amending Resolution has been issued. While the original Resolution stands, Burmah is included in the Reference.

The Report signed by my colleagues does in effect include Burmah, and saddles her with a cess replacing 1/5th of the existing Export Duties, without making provision for giving Burmah any share, interest or benefit in the Cess Fund resulting, or any representation on the Committee.

My recommendations are infinitely more just and in accordance with Burmah's known wishes and demands.

The contention that has been rife both in and out of the Legislature on the subject of the Hides and Skins Export Duties of 1919 and 1923 is often represented as a mere dispute between "Shippers" and "Tanners".

Tax Incidence.

That idea is due to a serious misunderstanding.

The Shippers of Raw Hides and Skins are in their economic function only Agents to bring to the service of the Primary Producers against remuneration then capital, skill and organization in order to obtain for the Primary Producers the best prices that the markets of the world can provide.

Seeing that this is their sole economic function, the shippers can be left out of the quarrel, which then resolves itself into a struggle *between Primary Producers*, who demand untrammelled access to world markets, *and Indian Tanners*, who demand a "preserved market" in which to buy their raw materials.

Stated in this fashion, which is the true one, the Tanners are non-plussed. They realise that if the same export duty principles were applied to any other raw material, say Cotton, much as it might benefit Cotton Mill Owners, it would be grossly unfair to the Primary Producers of Cotton.

As a second line of defence of the Tanners' existing privilege over the Primary Producers, the Tanners then, while admitting the advantage which the existing Export Duties give them, contend that as to the Hides and Skins actually exported "the Foreign Buyer pays the duty". I must therefore again introduce the "Shippers" (of Raw Hides and Skins) into the picture, always remembering their sole economic function already stated.

It is clear from the evidence recorded that these Shippers from India are struggling to place in the markets of the world Hides and Skins for the most part of low quality and poor condition. Were it otherwise the necessity for a Cess Fund would not arise.

Shippers' difficulties are increased lately by improved transport in Africa, which tends to bring to the coast and so into the world markets quantities of *rough* hides that compete particularly with the Indian lower qualities.

India has no monopoly of Ox and Cow Hides. Every cattle country in the world is her competitor.

In the matter of Buffalo Hides, the Malay Straits and China compete with slightly better qualities and condition, and the Dutch East Indies with overwhelmingly better qualities and condition.

The Punjab Goat is a fine animal for milk and meat, but has a coarse pelts. The finer pelts come from animals on the Eastern side, breeds of less value for milk and meat.

Taken over all, the Indian Sheepskin is the scraggiest and poorest in the world.

I want it thus to be clearly understood that so far from the Shipper in India having any sort of a monopoly and being able to dictate terms and prices, as is sometimes supposed, the prices he can obtain are in competition with every continent in the world outside Europe.

If the Shipper in India can secure a price of say 9*d.* per lb. for a parcel of Hides c.i.f. Hamburg, he accepts it because it is the utmost he can get *there or anywhere*. He is not such a commercial idiot as to accept 9*d.* from Hamburg if London will pay him 9½*d.* for the same goods.

It is a recognised economic fact that when a country produces any commodity in excess of her own internal requirements, the price of the whole production tends to be fixed by the prices of the world markets into which she must enter.

The price of 9*d.* obtained therefore tends to fix the value at origin not only of the Hides actually exported, *but of the whole production*.

Against the price of 9*d.* obtained c.i.f. Hamburg, the Shipper has to calculate from his port:—

- (1) Interest (for use of capital) and Insurance; (2) Labour, Godown, baling and shipping charges; (3) Bill Stamps and exchange; (4) Ocean Freight; (5) Marine Insurance; (6) Hamburg brokerage; (7) Export Duty; (8) Profit; and (9) Cost of the Hides. Total 9*d.*

It must be clear that a reduction in any of the first eight items enlarges the last item, *i.e.*, the amount he can afford to pay the Aruthdar or Bepari for the goods. The elimination of item (7) (Export Duty) would in the same way add to (9), *i.e.*, to the amount he can afford to pay for the goods.

Thus *while the Export Duty stands*, the cost of it must come off the price which the Shipper can pay for the goods. The net balance that filters back, through the Aruthdar and his up-country client, to the Primary Producers of the goods is obviously shorn by the amount of the Export Duty.

What I have above set forth is not a matter of economic theory, but of plain, cold, commercial fact, within the cognizance and daily practice of every exporting Merchant.

I say advisedly "Merchant", the man whose useful economic function it is to take surplus production from where it is produced

in order to lay it down where it is most required for consumption; the man who brings producers and consumers together from the ends of the earth to the benefit of both.

There seems, however, so much confusion of thought on this so simple matter of commercial fact that I consider it necessary to look into that confusion of thought and if possible find its origin.

Government of India,
Letter No. 75-T (17),
dated 17th August 1927.

Is it to be found in the common belief that the "Speculator" is also a Merchant?

I have described the economic functions of the Merchant.

Let me now describe the Speculator. He is the man that buys on expectation of a rise in value, or sells in expectation of a fall. He does not aim at bringing producer and consumer together, but rather at standing between them in an effort to loot both. His expected profit is not a mere margin for services rendered in bringing producers and consumers together, but a capital appreciation on the amount he puts at risk.

So far from the Speculator being a Merchant, he is the Merchant's worst enemy. The Merchant is always striving to do as near as possible "simultaneous business", to buy in the producing market against his sales in consuming markets, to sell in consuming markets against his purchases in the producing market, as near as possible simultaneously.

And that the two markets sometimes get out of *parity*, causing an absolute hold up of all real trade transactions till *parity* is again reached, is due to the Speculator buying *bull* or selling *bear* without regard to the current prices and calculations which influence the Merchant.

In the Speculator's ultimate "get-out", whether with profit or loss, it is true the items of the Merchant's calculations given *supra* may find small place as factors, but at the same time it is the Merchant's calculations that are the true factors in the parities in the long run. The Speculator's operations are merely in the nature of a temporary disturbance of the true parities, and tend to frustrate real business transactions between the producing and consuming markets rather than to facilitate them.

I hold, therefore, that the Merchant's calculations, which of sheer necessity cut the cost of the Export Duties from the net price which the Primary Producer receives, must be held to prevail, and that the Export Duties fall as a deprivative not merely on the Hides and Skins which are exported raw, *but on India's whole production*, to the great loss of Primary Producers whether in India itself (including the Native States) or in Burmah.

And it is at all events not in Burmah that anybody will be found to dispute this!

The question then arises, "Who is the Primary Producer of Hides and Skins"? I cannot accept the definition of my colleagues.

In the case of Cotton, the cultivator who sows and picks the crop is undoubtedly the Primary Producer, not the ginner!

And in the same way, the man who breeds and rears the animals is the Primary Producer of Hides and Skins.

But confusion is caused by the fact that the carcasses of "fallen" animals (deads) often, especially among Hindu owners, become the Chamar's perquisite. The Chamar it is that flays the hide and sells it.

The Chamar does not thereby himself become the Primary Producer, but by Hindu custom he takes the Primary Producer's place in marketing the product.

In the case of all Slaughtered animals, the owner who bred, reared and now disposes of them is as clearly the Primary Producer with unsundered rights as is the cultivator of Cotton.

There are no "deads" among goats and sheep. The Primary Producer is directly interested in the value of the skins as forming a valuable proportion of the market value of the animal.

As to neat cattle and buffaloes, the evidence is to the effect that in the Mahomedan hinterland of Karachi, where meat of all kinds is a general article of daily diet, about 80 per cent. of the Hides arrivals into the local markets are those of animals slaughtered for food, only 20 per cent. are those of "deads".

In the rest of India the evidence is that the position is reversed, only 20 per cent. are of slaughtered animals and 80 per cent. are "deads".

Not all "dead" hides are marketed by Chamars.

Mohammedan owners of fallen animals sometimes pay the Chamar a flaying fee and market the hides themselves.

In various Native Indian States there are "contract" systems which employ the Chamar, but do not fee him with the hide.

One witness gave me as his reason for being admittedly indifferent to the interests of Primary Producers, as compared with those of Tanners, "because people do not breed cattle for the sake of hides alone"!

Like all such witnesses he had not read Mr. H. Calvert's "Wealth and Welfare of the Punjab". The *motif* of the celebrated Chapter III "Why does the Cultivator Cultivate?" was in fact outside the conceptions of all our urban and industrial witnesses, with a few honourable exceptions.

This particular witness would not have gone so far as to say that because the cultivator does not cultivate cotton for the sake of cotton-seed alone, therefore it does not matter if he is robbed of a portion of the value of the seed.

But he was prepared to take up that inconsistent attitude regarding the products of Animal Husbandry because, as it finally appeared, he considered the Chamar (Mahar) as the primary producer of Hides, a poor fellow who would not produce and market any fewer Hides however low their price and scanty his reward, having no alternative career!

This attitude reflects the mentality of so many urban and industrial witnesses that it is worth dealing with.

Of all the poor people in this teeming land, who is poorer than the Chamar? Because his poverty is so extreme he has the greatest claim on our consideration, not the least.

My recommendations *do* stand to take something from him, yet something notably less than the Export Duties take. But I have the assurance that on my whole proposals what I propose to be taken from the poor fellow will be eventually refunded to him fourfold in terms of money, and many times more in the moral and educative influences brought to bear upon him in his so humble avocation by the "Hides Cess Committee" if formed. For that proposed body, it is obvious, cannot improve the Chamar's work without improving the Chamar too.

So much for the question of free and untrammelled markets for *deads*.

But when we come to the question of *slaughtereds*, that is to the whole production of the country in Goatskins and Sheepskins, and to about 80 per cent. of its production of Hides in the hinterland of Karachi; though only to about 20 per cent. average over the rest of India, we come upon a new economic combination which was first brought to public notice by Mr. Chaudri Shahab-ud-din, M. L. A. (now Khan Bahadur the Hon'ble Sir Chaudhri Shahab-ud-din, President of the Punjab Legislative Council) in the first Legislative Assembly The Voice of the Punjab. on 18th March, 1921. Because the Punjab has been rather neglected in this Report, I am giving that important speech in full:

"CHAUDRI SHAHAB-UD-DIN: Sir, the question is an important one. It is rather too late now and I mean to address the House for about half an hour.

It is an important question, and touches the Muslim commercial community throughout India. I have received complaints and representations. Therefore, I would request the Chair to give me time to-morrow, unless, of course, the House is prepared to sit now. I shall try to be brief.

THE HONOURABLE THE PRESIDENT: I may say for the Honourable Member's information that I did not accept the motion for closure moved on my left, because he had been specifically mentioned by name by the Honourable Member from Karachi. It is a well-known Parliamentary practice that, when a member has

been particularly mentioned by name by a previous speaker and that Member rises to speak, he is called by the Chair. He has a kind of prescriptive,—not an absolute—right owing to the mention of his name in debate. Otherwise I should have accepted the closure.

CHAUDRI SHAHAB-UD-DIN: Sir, it was on the 11th September, 1919 that the export duty of 15 per cent. was imposed on hides and skins. The reason which was then assigned by the Government, and I believe the reason which is yet maintained, is that tanning in India is to be encouraged, that the tanning industry has to be improved; we are told that it is in our interests that this export duty was imposed and that it is in our interests that it has been continued. Let us see what are the facts, and whether the purpose which was in view of the Government has been achieved or whether it has failed. In reply to a question which was answered by the Government on the first of this month, Government stated as follows. I shall only read relevant portions. The question was No. 340—“What quantity of raw and tanned hides and skins was exported in the 12 months preceding the 11th September, 1919, when an export duty of 15 per cent. was imposed on raw skins and hides, and what quantity has been exported since then?” The reply was “that during the 12 months preceding the imposition of export duty 32,960 tons of raw and 29,577 tons of tanned hides and 33,006 tons of raw and 5,033 tons of tanned skins were exported”. As against these figures let me quote the figures of exports during the year 1920. From January 1920 to the end of December 1920, the figures are:—Raw Hides—24,952 tons; Tanned hides—7,178 tons; Raw skins—16,186 tons and Tanned skins—3,135 tons. A comparison of these figures clearly shows that the export of raw hides and skins has gone down considerably; and that the export of tanned hides and skins, as compared with the figures for the 12 months preceding the imposition of the export duty is ridiculously small—as against 30,000 tons before we had only 7,000 tons of hides and as against 5,033 tons we had only 3,135 tons last year. These figures speak for themselves. Do they show that the tanning industry in India has received a stimulus by the imposition of this taxation, or that, on the other hand, it has received a set back? Sir, this much on facts. There are some other considerations, very weighty and important considerations, bearing on the point. I would like to refer the House to the book called the Handbook of Commercial Information for India by C. W. E. Cotton, 1919 edition. A reference to this book will show that in 1917 when skins and hides were not needed on the

Continent, an embargo was placed on the trade of Indian skins and hides. Those who deal in skins and hides not only suspect but believe and say, they have said so in newspapers, that they have been treated harshly. I have got cuttings from some newspapers, to this effect, but as I did not expect this matter to come up to-day, I have not brought them with me. They say that as the market was over-flooded in Europe, the Indian interests were ignored and this customs duty of 15 per cent. was imposed upon the export of hides and skins. That is what they say. Of course, I do not do business in hides and skins. Therefore I cannot vouch for the accuracy of this assertion, but the assertion is there. Now, this Handbook on page 207 says:—"Gradually, however, the capacity of the English tanners has been extended to deal with the increased supplies of raw hides from India." On the one hand tanneries have been opened in England and their capacity has been extended. It has been increased,—for what purpose? For the purpose of tanning *Indian* hides and skins or the hides and skins of other countries. On the other hand, we are told that tanning in India is to be developed and that this taxation has been imposed accordingly. Sir, this duty, as was very rightly pointed out by Mr. Pickford, has ruined many a Moslem trader in India. Trade in hides and skins is perhaps the only trade in the hands of the Mussulmans of India, and it has received a rude shock and a severe blow by this taxation. Sir, it is said that when Indian skins were exported to the United States of America, they were sent back as chrome leather, very well tanned and fit for uppers of gentlemen's boots. It was intended that this should be stopped, and that India should tan her own skins for her own use. Does not the same argument apply to Cotton? Why is it that Cotton is not subjected to any export duty? Is not Cotton wanted in India? Is it not a fact that the very Cotton which is exported from this Country in enormous quantities, is returned to this country in the shape of fine manufactured goods? Does not the same argument apply in the case of hides and skins? Sir, I may tell the Assembly that all people, especially the Mussulmans, are suspicious, and I for one would say that they are fully justified in their suspicions.

The Honourable Members of the Assembly, I hope, will agree with me that the climate of India is not so suitable for tanning as the cool climate of England, America or Germany. Tanned hides of India can never compete with the tanned hides and skins of the Continent or the United States of America. Therefore, however

good the intentions of the Government may be in imposing an export duty with the object of developing and promoting the tanning industry in India, it is yet a question, whether Indian tanneries will ever be able to hold their own against the English, Continental and other foreign tanneries. Therefore, the argument advanced by Government has no force. Sir, one very important result of this taxation is that the price of hides and skins has fallen. With the fall in the price

of hides and skins, the price of mutton and beef has gone up.

Where we used to buy mutton at 4 or 6 annas a seer at Lahore, now we can get good mutton at Re. 1 a seer. If the skin *plus* mutton is worth Rs. 5, and if the skin sells for Re. 1 only, the seller must try to get Rs. 4 out of the mutton. But if, on the other hand, the price of skin were Rs. 4, the price of mutton be naturally Re. 1.

THE HONOURABLE THE PRESIDENT: Order, Order. I do not think we are considering anything but the outside of these animals.

CHAUDRI SHAHAB-UD-DIN: It is, Sir, a notorious fact and within my personal experience, that when the price of skins was high the price of mutton was low, and *vice versa*. There can be no two opinions on this point.

Then, Sir, those who are very anxious in this House to reduce cow-killing in India, must remember that if the price of mutton goes up every day, those who eat meat must perforce resort to beef. Those who want to protect cows from being killed, must help the noble cause. It has been already alluded to by one of the speakers that had this duty not been imposed upon the export of hides and skins, their export value might have, to a certain extent, turned the balance of trade in favour of India and thus ameliorated the condition of exchange to some extent. These, Sir, are some of the considerations which I wished to place before this Honourable House.

I request the House to vote in favour of the abolition of this tax. When one community—one of the most important communities in India—is, as a body, suffering and many of its members have been ruined already and many others are on the brink of ruin, I think this House should take some notice of its grievance. They have sent memorials to Government, they have appealed to Government, they have requested their representatives in this Assembly to represent their case to Government, and it is in compliance with their wishes that I have said all I have said on this subject

to-day. As I said at the outset this is a very important matter and I am very sorry that my Mussulman colleagues who were present in the morning, are not now present* to give me their support. But I hope that my Indian as well as my European colleagues will lend their support to Mr. Pickford's amendment and get this objectionable tax removed."

Mr. Chaudri Shahab-ud-din's point has been re-stated by many witnesses, including all the witnesses heard in Karachi, where a sudden drop in the price of Goatskins, just before our arrival, had put up the price of goat-mutton by 2 annas per seer.

The appeal of Mr. Chaudri was at the time turned down by Government, on the grounds that they already had a deficit budget and could not therefore remit that or any taxation.

In the sequel on 23rd May, 1921, a petition was sent in to Government supporting Mr. Chaudri Shahab-ud-din's representations, signed by 1921. by no less than 53 of the leading Mahomedan Traders of Sind and the Punjab.

The more attention is due to so widely voiced an appeal if the words of Nawab Sir Zulfikar Ali Khan, Kt., C.S.I., and Dr. Abdullah Suhrawardy in their Minute of Dissent to the Report of the Indian Central Committee (Royal Statutory Commission) page 196, give anything like a true picture of the state of the great Indian Mahomedan Community:—

"The capitalist has already reduced him to poverty by usury, he is backward in education, he is deficient in organization, he has practically no share in the trade of the country, etc."

On the 20th March, 1923 when Government was proposing in 1923. the Assembly to amend (*i.e.*, reduce) the Hides and Skins Export Duties, Mr. Chaudri Shahab-ud-din again spoke as follows:—

"CHAUDRI SHAHAB-UD-DIN: While I thank whole-heartedly the liberal-minded Honourable Mr. Harchandrai Vishindas and other Hindu gentlemen who have opposed the vicious amendment of the Honourable Mr. Rangachariar, the head of the Hindu orthodox community in this House, I venture to give one or two more reasons why this tax should be reduced and the Government proposal accepted by this House. (Cries of "we are all agreed".) I am very thankful to all of you who are now agreeable. (A voice: "Sit down".) Let me finish my sentence. In 1921 when Mr. Pricet†, the then Karachi Member of the Assembly, moved the

* The day was Friday.

† This is an error of fact. The Member concerned was Mr. (now Sir) Donald Pickford.

removal of this export duty I put it to the House that it should be altogether removed. The Government was neutral and it was left practically to the elected Members of the Assembly whether they would continue the tax or not. (A Voice: "Government opposed it.") No, Government did not oppose. But unfortunately for me and for the Community to which I belong, we were in a minority and therefore lost. This time I am thankful to Government and also to the liberal-minded Hindu Members of this Assembly who have supported the Government. The fact of the matter is, if salt is a necessary of life, mutton also is a necessary of life for Mussulmans. They take mutton day and night, though orthodox Brahmins and many other Hindus do not touch it. It is common knowledge that the higher the price of skin the lower the price of mutton. If the skin sells at a higher price, the price of mutton goes down. Therefore, even on grounds other than those advanced by the Honourable Mr. Innes, it is reasonable that the duty should be lowered if not altogether removed."

Some Madras Members of course opposed this reduction of taxation on the country, then as now. It is not without interest to recall some of the remarks the then Commerce Member (now H. E. Sir Charles Innes, K.C.S.I., Governor of Burmah) made in reply to the Madras Members on Government's behalf:—

"THE HONOURABLE MR. C. A. INNES: Sir, this morning the House determined to do justice to the poor man. This afternoon I hope that they will do justice to a poor trade. Let me remind the House of the history of this unfortunate export duty. **It is one of the worst mistakes that the Government of India ever made.* At the end of 1919 at the height of the post-war boom, *when neither the Government of India nor the trade were in a condition, I think, of real sanity,* the Government of India arrived at the conclusion that they were in a position to dictate the form in which their raw materials, these Raw Hides, should leave the country. Consequently they put on this extremely heavy export duty, an export duty of 15 per cent. *ad valorem*; and they put it on raw hides and skins with two objects; one of their objects was, as Mr. Rangachariar has rightly said, to encourage the tanning industry in India, and the other object was to try to retain within the Empire a key industry. That was the reason why this proviso to which Mr. Rangachariar has just drawn attention was inserted in the Schedule—the proviso which allows a rebate of $\frac{2}{3}$ rds

* The italics are all mine.

of the duty on all hides and skins exported from India provided that they are tanned within the Empire. Now, Sir, these are the two objects with which the Government of India imposed this duty. And I say without fear of contradiction that both those two objects have *not* been attained. We have not by this very questionable means of an export duty succeeded in encouraging the tanning industry in India or other leather industries, nor have we succeeded in keeping this key industry in the Empire. On the contrary, as before the War, so now, England has almost dropped now from the market in regard to raw hides. We discovered our mistake not very long ago, etc.”

* * * * *

“ Now, Sir, I come from Madras. I used to take a very great interest in that industry, in fact I used to run a School for the benefit of that industry. But, Sir, though I come from Madras, I protest most strongly against sectional interests like the interests of Madras and Cawnpore in a House like this, a House which is representative of all India, being allowed to override the general interests of the country. Sir, what is

Madras Tannage.

the Madras tanning industry? I do not wish to decry it, but is it an industry which makes things which are used in this country? No. The Madras tanned hide is merely a half-tanned hide. It is a very useful industry in that it employs a certain number of tanners, but the product is exported, just like the raw hides are exported, to England. It is not an industry which produces anything for use in India. And if you want protection for industries of that kind, take protection by all means after you go to your Tariff Board, but protect them by means of an import duty, do not go protecting them by means of an export duty of this kind. Mr. Rangachariar says we have done nothing in the way of protecting these tanning industries. We have. I do not say that we did it intentionally, but Mr. Rangachariar knows, as well as I do, that the import duty on leather goods since this export tax was put on has been raised from $7\frac{1}{2}$ per cent. to 15 per cent. . . .”

* * * * *

“ Remember Burmah too. In Burmah the effect of this export duty has been—I say it with sorrow—very disastrous indeed. All efforts to encourage tanning in Burmah have failed, the trade has been gravely injured. Let me end on the note with which I began. The House this morning did justice, as they thought, to the poor man. Let me appeal to the House again to do justice to a poor trade.”

The reduction of the Tax was of course carried, despite the opposition of Madras.

In 1927 it is notorious that Government's generous intention of reducing taxation by the abolition of the Hides Export Duty, in accordance with the unanimous recommendations of the Indian Fiscal Commission, was frustrated only by the absenteeism of some of their nominal supporters, who found the pleasures of the afternoon tea-table and feminine society more attractive than attention to their Legislative duties. But if it had not been for the "tie" resulting, the valuable economic information within these two covers might not have been available for Government, the Legislature and the Public for another generation. So it is an ill-wind indeed that blows no good at all!

The Honourable Mr. C. A. Innes' description of the Madras tanners given *supra* seems to make it desirable to explain what Tanning there is in India.

Indian tanning is essentially of two kinds, finished tannage for consumption in the country, half-tannage for export.

The first-class must again be sub-divided into simple village tanners who provide leather for local requirements in harness and foot-wear, and the great Power Tanners in Cawnpore and Calcutta (there is one other also near Madras), who turn out not only highly finished leather but also leather manufactures of all kinds of the highest standards.

The village tanners are all over the country. The last Census showed 53,000 of them in the Punjab alone. Their work may be rough, but they are catering for masses whose essential demands are for *cheap* goods. They make goods of a quality that is not competed against by foreign imports. They perform most useful economic functions in their communities. Their supplies of raw materials and tanstuffs are all severely local. There is nothing in my proposals that would tend to hamper their main function, that of providing *cheap* sandals, slippers and shoes for their neighbours. There is every chance that my proposals might lead to helping them to improve their outturn in quantity and quality *without raising their prices*, for I recognise that *cheapness* is essential if our country folk are to be shod.

Our great Power Tanners and manufacturers are in quite another category, supplying high-class goods in competition with foreign imports, against which they are protected by an import duty of 15 per cent. *ad valorem* at the Ports.

It is a matter of common commercial knowledge that import duties paid at the ports go into the "costing" of the goods each time as they change hands for profit and work their way through retailers into actual consumption. In my opinion this 15 per cent. paid at the ports means fully 20 per cent. in the retailers' shops.

Despite this protection our Power Tanners and Manufacturers have not yet captured the whole Indian trade, and foreign imports continue to arrive in the variable quantities shown by the statistics given in tables 16, 17 and 18 and charts 16 and 17.

My proposals tend slightly to increase the first cost of raw hides, though probably not to the full extent of the difference between the proposed Cess and the existing Export Duties.

On the other hand, the improvement in the *quality* and *condition* of their raw material aimed at should be of tremendous advantage to them as they all admit. No longer should they be wasting their materials and labour on poor-quality and ill-conditioned goods as at present. As a result they may well look forward to capturing the whole of the protected Indian Trade and even of extending their operations into the Export markets, especially those wherein *quality* counts for more than *price*.

In the matter of surmounting hostile tariff-walls abroad (many of them lower than India's, while the United Kingdom is still a *free market*) all experience shows that *quality* alone can succeed.

When we come to the Madras and Bombay "half-tanning" (to use the trade term described by Mr. Innes *supra*), we enter a different world. This tannage is in no way designed for Indian consumption in any shape or form. It is a partial, unfinished tannage designed wholly for export, chiefly to London, because the U. K. is almost the only free import market for wholly or partly tanned goods left in the world.

Its chief merit is its "flexibility". Made from Avaram Bark and Myrabolams it gives a white tan peculiarly suitable for finishing and dyeing in any colour.

Moreover, the chemical union between the Avaram tannin and the pelt fibres being very loose, it can be to a great extent washed out if required, and the article finished even by a different tannage, such as a chemical one.

Unfortunately, the cost of Avaram Bark having risen in South India, Madras tanners have been lately utilising Wattle-Bark imported chiefly from South Africa.

Wattle gives a redder and stronger tan, and though the process is quicker, that advantage is more than discounted by the loss of "flexibility" in the finishing.

On the evidence I consider it essential that half-tanners for export should stick to Avaram Bark on which their reputation has been made, and avoid the use of Wattle-Bark whether imported or locally grown.

Efforts to increase the propagation of Avaram would be legitimately within the scope of the proposed Hides Cess Committee.

As regards the Hides used by Madras tanners, local supplies (the best from Malabar) only meet about 25 per cent. of their requirements.

The balance of 75 per cent. has to be imported from Burmah and Central and North Eastern India.

It is represented to me that this half-tannage trade is in a very bad way; that if the present advantage of the Export Duties were lost to the industry, and especially its "pull" in buying from Burmah, the industry might be ruined.

I consider it monstrous to suggest that this industry can only continue at the expense of the Primary Producers of all India and Burmah.

I have a far higher opinion of it, because properly conducted it no doubt does what is required by India's customers. It undertakes the operations which involve most *time* and most *labour* in the places where *time* counts for least and this particular *labour* is cheapest.

In buying its raw materials it has the natural advantage in any circumstances of propinquity, for the cost of bringing hides to Madras from Burmah and other centres can be barely one-third of the cost of sending them to European ports from those centres.

Further, I consider it a wholly mistaken view to think that the Export Duties *really* assist this industry.

Evidence both from this side and from London shows that the existing Export Duties, making inevitably no distinction as to the qualities (Firsts, Seconds, Rejections or Double Rejections) shipped, put a premium on the export of the best hides and the retention of the lower grades in India.

The direct reflection of this fact may perhaps be seen in the large proportion of Thirds and Fourths shipped half-tanned.

In fact all Madras could not show us an absolutely Prime half-tanned! The nearest they could do was that contradiction in terms a "Prime Second". And even of "Prime Seconds" the proportion appears to be only about 30 per cent. of the whole.

These low standards are obviously not due in the main to any bad work in the Tanneries, but to the inherent defects and bad curing of the original pelts.

My proposals would have as their first object the improving of the quality and condition of raw pelts, till Madras could produce not only a far larger proportion of "Prime Seconds" but real "Primes" accepted as such by every market in the world.

Whether in Tea, in Cotton, in Hides and Skins or any other product of India, my belief is that *quality* must be our chief weapon in the world-wide commercial struggle for existence.

It may be objected that my specific Cess proposals would have the same effect as the existing Hides Export Duties.

I admit it, *but to a less degree*. And I only put this specific Cess forward because there is no other practicable alternative.

Take it that my proposed Cess were varied on Commissariat Slaughtered Primes, Slaughtered Primes, Firsts, Seconds, Rejec-

tions and Double Rejections. In every case the Customs would have to satisfy themselves that the Double Rejections tendered for export were not really Rejections, that the Rejections were not "allowance" Seconds, that the Seconds were not "allowance" Firsts, and that the Firsts were not Commissariat Slaughtereds.

Hides and Skins, like Cotton, can only be entered for export in fully pressed bales, which make "selection and grading" by the Customs impossible. Inspection of a bale can no doubt enable the Customs to see whether the goods are salted or dry arsenicated, framed or unframed. But nothing more than that is possible unless the bales are opened and the pieces selected and graded by special Customs Experts, *one by one*. And then of course the loose goods resulting could not be shipped!

Moreover if "selection and grading" could practically be undertaken by the Customs, their object would be to *penalise* quality while my object is to encourage it. And again, in the cases of dispute between Customs' Selectors and Shippers' Selectors which would inevitably arise, an impartial outside Expert would have to be engaged and paid to arbitrate the dispute! The trade could not be carried on under such conditions.

Both on the evidence and on things I have seen being done in Hides godowns, I have a strong-suspicion that the Export Duty "pull" of the Madras tanner has resulted not only to his disadvantage, but to the disadvantage of the whole of India in another way; and that in this overweening in his "pull" he buys on "inspection" of lots and not on "selection" of the goods piece by piece.

At a dinner Mr. Jamal Mahomed kindly gave to the Committee and the Trade in Madras, I made an after-dinner speech in which I touched on that aspect of affairs. My remarks were well received by the company, and after dinner several of the leading Tanners informed me in conversation that I had hit the nail on the head, and that the Madras buying *was* badly managed and conducted.

That this is to the grave disadvantage of the Madras Tanner needs no explanation.

How it is to the detriment of the whole country is perhaps not so clear.

There are undoubtedly realms of effort in which good work, the best of which the doers are capable, is done without any hope or desire for material compensation, for instance the writing of this Minute of Dissent.

But the Hide and Skin Trade is certainly not on such a plane.

There the necessity of rupee incentive is overwhelming.

It has to be brought home to all concerned, the monetary profit in good work, the monetary loss in bad work.

If in any way Tanners buy carelessly, relying on their "pull", and so minimise the rupee incentive to good work, careful flay-

ing, sound curing without loading or adulteration, they are undoubtedly injuring the trade by reducing the quality and condition factors,—factors on which I lay so great stress in the interests of the economic welfare of the whole country, and especially of India's 700,000 villages *all* producing Hides and Skins.

Further defects in the Madras *bandobast* appear to me to be the *finance*, which is over-costly to such a degree that the capitalists annex nearly all the profits, and the selling arrangements. The Madras market for Half-tans is not the final one, not the consumers' market, but only the local intermediary one. The bulk of the goods cannot be sold on c.i.f., contracts "to arrive", like raw hides and skins, under good marks, but are merely consigned to London for disposal at the Sales, with or without limits. Even in the case of those consignors who have the financial strength to impose limits, their limits are not often effective, for the re-selection in London and the storage charges there involve expenses which the goods cannot bear over an extended period.

All these are matters in which the Madras Tanners could naturally look for help and practical advice to the Hides Cess Committee I propose.

Perhaps for this very reason there are signs of opposition to the formation of any such Committee from London. No doubt it would *not* pay London for the final consumers' market to move out to Madras. But that is its natural location, and the present market's being in London involves a market risk of anything upto full 6 months from the time when the Madras tanner lays in his raw material till when he finally realises on his products consigned to the London Sales. The remedy for this is an established final market in Madras which would operate on c.i.f. contracts, "sold to arrive", and not by shipping mere consignments on all the risks of "unsold terms".

To sum up the results of my proposals as regards half-tans for Export, they would have the following effect:—

1. (a) Deprive Half-tanners of their present "pull" on Burmah, and of part of their "pull" in India over Primary Producers but probably not to the extent of the full difference between the proposed Cess and the existing Export Duties;
- (b) Thereby bringing them into line with the more careful buying practices of the general trade in raws;
2. Improve the quality and condition of their raw material and thereby the quality of their output;
3. Increase the supplies of their essential tanning material, *Avaram Bark*; and
4. Provide advice and help towards better finance and marketing arrangements.

And all this without cost to them except to the small extent of remedying the existing injustice to the Primary Producer!

If the Madras Tanners will examine these remarks and proposals in the same spirit of good-will that I make them, and will try to realise the true position not from the selfishly narrow point of view to which they have hitherto clung, but from the point of view of their country's economic welfare as a whole, they may, as a result, discover in my efforts in India's behalf equally great efforts in their behalf also.

I have clearly demonstrated that Exporters do not pay the Export Duty out of their own pockets, but calculate it against the Primary Producer, as they will the Cess.

Exporters.

Why then have the Exporters led the cry against the Export Duties?

First I think it was natural they should do so. Owing to their "economic function" already described, it was natural and right that they should take the part of their inarticulate principals, the primary producers, and demand for them untrammelled access to world markets.

Secondly, the Export Duties being a constant charge, fixed by the year, were not elastic like some of the other chief items of their calculations, and their rigidity by the year though of little moment in a firm or rising market, became a serious factor to the would-be salesman in a falling one.

Thirdly, their *ad valorem* basis on an annual Schedule of Valuations meant substantially "appraisement on export by the Customs", always a slow and expensive business. There is no evidence that the Customs have caused shippers any unnecessary trouble and expense. On the contrary shippers have testified to the reasonableness of the Customs in making appraisement of goods which, once baled for shipment, can only be superficially examined. The Customs Appraisers on payment of the usual fee and *gharri* hire have constantly attended in Godowns and Presses to inspect and pass goods on or before pressing.

Nevertheless Shippers estimate the extra clerical work involved by putting in export entries for *dutiable goods*, the unloading and reloading of carts for Customs weightment of bales, and extra staff involved, as costing them in all about Rs. 2-4 per bale.

I look on this expenditure as sheer economic waste and seek to avoid it by making my proposed Cess *specific* at Rs. 10 per bale and Rs. 3 per cask, which would be as simple to pay, and to collect, as is the specific Export Cess on raw Cotton.

It has occurred to me that to reduce the burden of the Cess, shippers might be driven to ship larger bales.

The present sized bale of Hides runs up to about 1,250 lbs. maximum, and there are practical reasons against increasing it, *viz.* :—

- (a) Contract terms;
- (b) Difficulty of handling;

- (c) Capacity of Presses;
- (d) Steamship rules; and
- (e) Size of Railway wagons in Europe.

On all these grounds I do not think Shippers *could* increase the size of bales materially.

Should they prove to do so it would mean that the Cess of Rs. 10 was too burdensome, and this method of reducing its harshness would, in such case, not be detrimental to the public interest, while the economic waste of Rs. 2-4 per bale on the *ad valorem* system undoubtedly is.

It will have been noted *supra* how Sir Charles Innes admitted that facts had proved that India could not dictate to the world in what *form* foreign buyers must take her surplus products.

A parallel idea that the U. S. A. and India, the largest producers of Cotton, could refuse to allow foreign buyers to have any raw Cotton, insisting on such buyers taking only yarn or cloth, has only to be indicated to be discredited by all practical men.

But the evidence of many witnesses and the opinions of some of our Members evidently incline to the belief that the more and heavier obstacles that are placed in the way of the export of raws, the better it will be for the Indian half-tan and leather industries.

In the first place all such obstacles would be at the expense of the primary producers, the inhabitants of 700,000 villages which all produce and market the raw article and seem to me (taxed as they are) to have at least a natural right of untrammelled access to the best prices the markets of the world can afford them in return.

And in the second place the production of partly or wholly manufactured goods in excess of available market requirements can but result in loss and ruin to the producers.

The idea of forcing Indian Exports to consist wholly of half-tans or finished leather seems to me not only a foolish fancy of our industrial enthusiasts, but a dangerous scheme to work to from the point of view of the economic interests of the whole country.

There are hostile tariffs to be considered, tariffs of which India cannot reasonably complain in view of her own.

There are substitutes to be reckoned with, especially in these days of depreciated rubber.

For instance, there is a scattered hand-industry in Calcutta producing 6,000 pairs of cheap leather boots and shoes *daily*, exclusive of the power-manufacturers. That industry seems seldom working up to its maximum capacity except just before the *Pujas*.

Its keenest competition seems to come not from the bare-footed "do-without" brigade, but from very cheap shoes made from rubber and canvas.

The "mechanisation" of Armies everywhere reduces the demand for harness and saddlery and boots. Motor-transport does much the same in civil life in India as everywhere else.

The Hides, Skins and Leather industries are "up against it" under present conditions.

The wisest course towards making the best of our potential resources seems to me to be the effort to make sure that whatever India may consume herself or sell abroad is the *best quality and condition* of which she is capable.

I have heard the suggestion that the preparation and shipment of raws does not employ so much labour as does half-tanning. I beg leave to doubt that fact, as did several of our witnesses.

The daily wages paid by Exporters seem far higher than those paid by half-tanners in Madras.

The value of a framed-hide is rated by the current Customs Schedule as 44 per cent. above that of an ordinary dry-arsenicated piece.

The difference in value is mainly due to Indian skilled labour expended thereon. Incidentally my specific Cess avoids taxing that labour as the *ad valorem* Export Duties undoubtedly do tax it. The evidence taken at Karachi seems conclusive on that point.

There are a few points my colleagues were unwilling to include in the Report which I consider deserve to be brought to notice:—

Miscellaneous.

1. Sind is the only province in India in which the Buffalo is bred only for milk and meat and never used for draught.
2. Bengal has to buy its draught oxen from outside. Bengal cows frequently yield less milk than a Punjab goat.
3. Provinces which are trying to improve their stock nearly always have to go to Sind or the Punjab for stud-bulls.

The superiority of the cattle in Mahomedan Provinces is due to the fact that there cattle are treated as a "business proposition". Useless animals are eliminated, with the result that despite less rainfall and the comparative scarcity of fodder, the milking and working animals are not starved.

4. The starvation and in-breeding which make cattle small and feeble occur chiefly in Bengal, Madras and the Bombay Presidency proper (excluding Sind).

Recommendations. I now come to my conclusions and recommendations to Government:—

1. I agree the necessity of the Hides Cess Fund.
2. I agree the proposed composition of the Hides Cess Fund Committee, and have included it in my Draft-Bill.

I warmly support the linking of the Cess Committee with the Imperial Council of Agricultural Research.

3. I agree the proposed functions of the Hides Cess Fund Committee.

4. I consider there is a general desire in the Trade for a Cess in replacement of the existing Export Duties on raw Hides and Skins, but that Skins are not clearly referred to us.

I recommend therefore that the existing Hides Export Duties be replaced by a specific Cess of Rs. 10 per bale or Rs. 3 per cask of raw Hides exported from all British-India ports, *excluding ports in Burmah*. The funds arising from the collection of this Cess to be placed at the disposal of the Hides Cess Fund Committee for the purposes already indicated.

1. I recommend the exclusion of Burmah from the Cess because
 Explanations. at present obviously that Province does not desire to come into the scheme.

I consider the Export Duties in Burmah should be withdrawn, however, at once, so that if hereafter the Province proves to desire a Cess Fund of its own (its problems being much different from those of India proper) its request could be favourably and immediately considered by Government.

2. The Cess Fund proposed by me on the average shipments of the last five years should produce between Rs. 5,00,000 and Rs. 6,00,000 per annum, a substantial sum especially during the initial years of the Committee's work.

If in the light of experience in after years it appears that better results could be obtained from a larger expenditure, I venture to point out to Government that the Cess Fund can be adequately increased by the replacement also of the Skins Export Duties by a Cess.

3. The Cess Rate I have proposed is, I consider, the highest that can be imposed without any risk of diverting the Calcutta export trade to Burmah Ports or the Karachi and Bombay export trades to ports of Native States in Kathiawar.

All through my Minute, I have used the terms "Hides" and "Skins" in the sense of the definitions on page 7 of this Report.

The following Draft Bill would give Legislative sanction to
 Draft Bill. my proposals:—

INDIAN HIDES CESS ACT.

ACT No. OF 1930.

An Act to provide for the levy of customs-duty on certain Hides exported from British India, and to amend section of the Indian Tariff Act, 1923.

Whereas it is expedient to provide for the creation of a fund to be extended for the promotion of the interests of the Hides and allied industries in all India (excluding Aden and Burmah) by a Committee specially constituted in this behalf; and whereas for

this purpose it is expedient to levy customs-duty on certain Hides exported from British India, and to amend section of the Indian Tariff Act, 1923.

It is hereby enacted as follows:—

1. *Short title and extent.*—(i) This Act may be called the Indian Hides Cess Act, 1930; and

(ii) It extends as to levy to all the ports of British India except Aden and Burmah.

2. *Definitions.*—In this Act—

(a) “Hides” means the raw hides of Bulls, Oxen, Cows and Calves and of Buffaloes and Buffalo-calves;

(b) “Collector” means, in reference to Hides exported by Sea, a Customs-collector as defined in clause (c) of section 3 of the Sea Customs Act, 1878 (VIII of 1878);

(c) “Hides cess” means the customs-duty imposed by section 3 of this Act and by section of the Indian Tariff Act, 1923, as amended by this Act; and

(d) “Hides Cess Committee” means the Committee constituted under section 4, operating throughout all India excluding Aden and Burmah.

3. *Imposition of duty on Exports of Indian Hides.*—On and from the , 1930, a customs-duty shall be levied and collected on all Hides exported from any customs-port in British-India (excluding Aden and Burmah) to any port beyond the limits of British India at the rate of rupees ten per bale or rupees three per cask or at such lower rate or rates as the Governor-General in Council may, on the recommendation of the Hides Cess Committee, prescribe by notification in the *Gazette of India*.

4. *Constitution of Hides Cess Committee.*—(1) The Governor-General in Council shall constitute a Committee to receive and expend the proceeds of the Hides Cess constituted as follows:—

(as recommended by the “Hides Cess Enquiry Committee”).

(2) Whenever any member appointed either on the recommendation of any body or authority referred to in sub-sections , or in default of such recommendation, dies, resigns, ceases to reside in India or becomes incapable of acting as a member of the Committee, the Governor-General in Council may, in his discretion, on the recommendation of such body or authority or in default of such recommendation appoint another person to be a member in his stead.

(3) No act done by the Hides Cess Committee shall be questioned on the ground merely of the existence of any vacancy in, or any defect in the constitution of, the Committee.

5. *Application of proceeds of Hides Cess.*—(1) At the close of each month, or as soon thereafter as may be convenient, the Collector shall pay the proceeds of the Hides Cess after deducting the expenses of collection (if any), to the Hides Cess Committee.

(2) The said proceeds and any other moneys received by the Committee in this behalf shall be applied by the Committee towards meeting the cost of such measures as the Committee may consider it advisable to take for improving the quality and condition of Hides and Skins and/or leather produced in India, and for the better marketing thereof.

6. *Keeping and auditing of accounts.*—(1) The Hides Cess Committee shall keep accounts of all money received and expended under section 5.

(2) Such accounts shall be examined and audited annually by auditors appointed in this behalf by the Governor-General in Council; and such auditors may disallow any item which has, in their opinion, been expended out of any money so received otherwise than as directed by or under this Act.

(3) If any item is disallowed an appeal shall lie to the Governor-General in Council whose decision shall be final.

7. *Power to make Rules.*—(1) The Governor-General in Council, after consulting the Hides Cess Committee and after previous publication, may make rules to carry out the purposes of this Act.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for,

- (a) the nomination and appointment of members of the Committee, and the procedure of the Committee;
- (b) the levy and payment of the cess; and
- (c) the form of accounts to be kept and the publication of an abstract of such accounts with the report of auditors thereon.

(3) All such rules shall be published in the *Gazette of India*.

1. This Minute is submitted on my personal responsibility as a Member of the "Hides Cess Enquiry Committee" appointed by the Government of India, and not as a "Delegate".

2. Owing to the fact that the Member-Secretary as *Member* takes views opposed to mine, I did not care to seek from him as *Secretary* the professional drafting assistance I no doubt needed.

I gladly acknowledge that Mr. Shah in his capacity of *Secretary* treated me with the utmost consideration and afforded me all the information and assistance I cared to ask for, just as though as *Member* he were not at variance with me. My protest is against the system of "Member-Secretaryship" which I consider an inevitable handicap to Members of Government Committees who find themselves in my position.

This explanation must serve as apology for any blemishes that may appear in my Minute.

E. L. PRICE.

Karachi, the 8th February, 1930.

Summary of work, findings and proposals.

CHAPTER I.—INTRODUCTION.

PARA.	PAGE.	
2	2	Burma was not visited and has been excluded from the scope of the Report. Our findings and proposals have reference only to the rest of India. It has not, however, always been possible to exclude Burma from statistics etc.
3	3	It was impracticable to exclude the resources and the needs of the Indian States from consideration.
4	3	We have viewed our committee as a financial (ways and means) rather than a technical committee, and our duty as that of preliminary investigation as to the advisability of imposing a cess and some other connected matters. We have not considered the question of protection to the tanning industry.
5	3	Excepting Mr. Price, we all accept the Chairman's interpretation that the question of replacement of the export duty was not specifically referred to us. As regards the meaning of the word "articles" in the terms of reference, the Chairman's ruling was that it could include skins—both raw and tanned. As regards the phrase "industry as a whole" in the Resolution constituting our committee, the Chairman ruled that it was clearly intended to include the trade.
6	5	For local inquiries by the sub-committee certain Directors of Industries were co-opted as members of the sub-committee when sitting at their respective headquarters. Certain leather technologists were invited to attend.
8	6	An analysis of oral evidence and other local inquiries will be found in this para.
9	7	The total cost of the Committee has been given.
10	7	Definition of the terms "hides", "skins", "half-tans". Glossary of technical terms given at the end.

CHAPTER II.—THE INDIAN HIDE AND SKIN TRADE.

14	12	Only very rough estimates of production of hides and skins can be given. Hides produced about twenty-five million pieces. Goat skins about fourteen and
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PARA.	PAGE.	
14— <i>contd.</i>	—	sheep skins about twelve million pieces. Total present annual value about eighteen and three-fourths crores of rupees, but this is a rough conservative estimate.
15	14	Value of export trade in raw stock about eight crores. It is sixth in importance among India's exports.
17	15	Calcutta, Karachi, Bombay and Madras handle 54 per cent., 20 per cent., 10 per cent. and 6 per cent. respectively of India's raw export trade.
22	23	Indian production of cattle hides (mostly light-weight) and kips amounts to between 25 per cent. and 33 per cent. of the world's production of hides and kips. Her goat skin production is estimated to be one-third of the world's.

CHAPTER III.—THE INDIAN TANNING INDUSTRY.

23	26	At least as ancient as the <i>Rigveda</i> . Factories on modern lines are few. Apart from the village tanneries the industry is largely concentrated in South India, and caters in the main for the foreign markets.
27	30	Development of foreign markets is essential for its expansion in the near future.
28	31	Value of the tanned stock export trade is now about nine crores per annum.

CHAPTER IV.—DEFECTS IN INDIAN HIDES AND SKINS. REMEDIES.

29	34	Originally we decided to exclude questions relating to the breeding, feeding and keeping of livestock. We have, however, accepted the advice of experts that it is possible to improve the hide or the skin by scientific breeding etc., at no disproportionate cost. Hence a part of the cess fund should be spent on research and development work relating to these matters. The purposes for which various species of animals are at present bred have been discussed in this para.
30	35	Breeding, feeding and keeping determine the "classification" of hides and skins. The defects which affect their "grading" are those due to or connected with (a) diseases, the ravages of insects and vermin and old age, (b) wounds and injuries, (c) slaughter and flaying, (d) the handling of the carcass

PARA.	PAGE.	
30— <i>contd.</i>	—	after the flaying, (<i>i.e.</i> , the preparation, cure and preservation), and (<i>e</i>) loading and adulteration.
31	36	A list of the disease affecting hides and skins. The defects caused by them.
32	36	In the fighting of animal disease the question of national gain through the improvement of hides and skins must play a subsidiary though intrinsically important part. The present organisation for veterinary research and relief is designed for combating epidemics. We agree with the Agricultural Commission that considerable expansion is needed. A portion of the cess fund can be devoted to research and development, specially the former.
33	37	List of insects and vermin affecting hides and skins. Not to be treated as exhaustive.
34	37	The warble flies are the bug-bear of the raw stock trade and the tanning industry. Remedial action has been attempted, and to some extent found practicable, in other countries. The parasite's life history, its entry into and its passage through the host animal's body, the nature and the extent of the damage done by it, the adverse effect on the animal's health, the most vulnerable stage in the pest's life history and other connected matters have been described. Research has been and is being done in other countries and to some extent in India. But there is still room for some original and a good deal of adaptive research with reference to Indian conditions.
35	42	Ticks, their species, life history, the nature of the damage to the pelt and of injury to the health of animals have been described. In this case too there is room for research in India. The problem should be one of the earliest to engage attention.
36	44	Buffaloes are comparatively immune from warble flies and ticks, perhaps because they get into water—generally muddy—when it gets hot.
37	44	The species, the life history etc., of the sheep tick.
38	45	Same of the sheep mite.
39	45	Goats though important in the aggregate national wealth of India are not so important in Europe and America. Hence, their vermin infestation has not yet been scientifically studied in detail.
40	45	We reject the suggestion that cattle should be taken on hoof and slaughtered in centralised slaughter-houses before they die a natural death.
41	46	The various forms of, and some witnesses' estimates of the loss caused by branding have been described.

PARA. PAGE.

- 41— — The reasons for branding are—(i) a belief that it can
contd. cure disease, (ii) identification, (iii) protection against
the poisoning of the animal, and (iv) decoration.
Some remedies have also been suggested.
- 42 48 The nature of the damage done by goad marks has
been described. The only remedy suggested is pro-
paganda.
- 43 49 Same about yoke marks.
- 44 49 Same about jungle scratches, punctures, cuts, sores
etc.
- 45 50 The various causes contributing to the production
of "fallen" stock have been described. Over the
greater part of India the proportion of "fallen" and
slaughtered hides is said to be 75 per cent. to 80 per
cent. "fallen" and the rest "slaughtered". In
the north-western parts, however, the percentage of
slaughtered hides is much higher. It was given in
evidence at a figure as high as 80 per cent. The pro-
portion of slaughtered skins is very much higher all
over India, and practically no "deads" come on the
market. Over the greater part of India the *chamār*
becomes the owner of "fallen" stock. The merits
and demerits of his work have been described.
- 46 51 Considering his handicaps the *chamār* does his work
remarkably well. Generally speaking, only educative
work is needed in his case.
- 47 52 The "throw" method of slaughter must damage
the hide, especially in the case of heavy animals.
This matter should be considered.
- 48 52 Some of the most serious defects of Indian hides and
occasionally even skins arise in connection with the
handling of the carcasses. Compared with flaying in
certain other tropical countries, the standard of Indian
flaying has been well spoken of. But generally speak-
ing it is poor. The results of defective flaying and
their effects on the leather have been described.
- 49 53 The reasons for these defects may be classified as (i)
personal, (ii) material and environmental, and (iii)
those connected with the conditions of meat supply in
India, the system of buying the slaughtered hide and
the system under which flayers are employed and work.
- 50 53 Regular training is not needed, but occasional
instructions and demonstrations might prove useful.
Flaying is not a suitable occupation for women, but
need not in their case be prohibited or restricted. The
employment of juveniles except as mere apprentices is
usually a case of necessity; their training is generally

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- 50— — on sound lines. If, as was alleged by a witness, un-
contd. trained soldiers are employed in commissariat
slaughter-houses, the position should be examined.
The average flayer's standard of cleanliness is affected
by the social stratum from which he is drawn and by
the nature and environment of his work; improvement
is difficult.
- 51 54 In some European countries the flayer rarely uses a
knife. Even when dealing with a big animal he uses
it sparingly. He mostly relies on his fist or elbow.
The use of wooden knives or hammers is not un-
common.
- This can be popularised by propaganda.
Possibly there is no approved pattern for a flaying
knife; the suitability of various patterns should be
tested.
- Generally speaking, the flayer is cramped for room,
flooring is not satisfactory, lighting is insufficient,
adequate and suitable tackle for suspending carcasses
is not available, the time for flaying is insufficient,
and heating arrangements are lacking. All these
factors stand in the way of good work. These pro-
blems will have to be considered by the Cess Com-
mittee.
- 52 56 Compared with meat the hide is a bye-product. The
general practice of purchasing the hide of an animal
before it is slaughtered, the piece-wage system, lack
of supervision inherent in the system itself, the absence
of a system of licensing designed to give slaughter-
house authorities control over the standard of work,
the strong trade union spirit among the flayers etc.—
these factors conduce to defective flaying.
- 53 57 The flaying of skins is, generally speaking, flawless.
- 54 58 The handling of raw stock after flaying leaves much
to be desired.
- 55 58 The preparatory methods in India are still, in the
main, primitive.
- 56 59 The chief defects of preparation are—(i) lack of gene-
ral cleanliness and the leaving of foreign matter, (ii)
careless exposure causing blisters or burns, (iii) un-
even cooling or drying, (iv) over-drying, and (v)
scratching of grain etc. Propaganda needed to edu-
cate those concerned to realise their loss.
- 57 60 Cure and preservation are very important factors
determining grading or selection by tanners.
- 58 60 Methods vary according to climatic and other condi-
64 63 tions. Those in common use in India are wet-curing,

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- 58-64— — pickling, air-drying (generally followed by arsenication or "poisoning"), dry-salting, dry-brining, dry-pickling. Some defects have been indicated and should receive attention.
- 65 63 The practice of re-salting and re-drying is generally fraudulent, but sometimes necessary to preserve the hide.
- 66 64 Some defects of curing and preserving methods indicated and remedies suggested.
- 67 65 *Primâ facie* there is no "best" cure for India in the absolute sense. Each cure has its own merits and demerits. Generally speaking, the methods in use are fairly well-adapted to the local climatic and other conditions. The scope for improvement is mostly in matters of detail. This view, however, is only tentative.
- 68 65 The trade often draws a distinction between "loading" and "adulteration".
- 69 66 "Loading" is resorted to with a view to conceal defects or to gain false weight, and sometimes amounts to even 100 per cent. of the genuine part of the hide.
- 70 66 The wetting of stock before raling and some other forms of "adulteration" are recognised by the trade.
- 71 67 The damage done by "loading" and "adulteration" has been described in this para. Even though the tanner or the shipper endeavours to make ample allowance to cover himself against the loss of weight, the practice causes national loss. Apart from propaganda by the Cess Committee the remedy is in the hands of the trade, *e.g.*, concerted action by buyers.

CHAPTER V.—ORGANISATION OF THE RAW STOCK TRADE. ITS DIFFICULTIES AND DEFECTS. REMEDIES.

- 73 68 In many parts of India the village *chamâr* (though designated differently in some provinces) is the owner of "fallen" stock. He sells in most cases to primary collectors on whom his economic dependance is often great. In the average case three middlemen intervene before the stock reaches the exporter or the tanner.
- 74 69 The handling of slaughtered stock is easier and passes through fewer middlemen. But the system of buying up the hide while the animal is still alive leads to bad flaying and should be improved by propaganda, etc.

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- 75 70 In most parts of India the railway is almost the sole mode of transport to the ports or the tanneries.
- 76 70 Primary producer's difficulties are inherent—the production is small, casual, scattered and unstandardisable; the produce is comparatively perishable; the producer is ignorant and cannot hold his goods back.
- 77 70 But co-operative marketing can be tried. Co-operative "poisoning" of raw stock offers a suitable field for investigation.
- 78 71 Some authoritative system of grading and specification would be useful. The Hamburg one appears to serve the needs of Calcutta and with suitable modification might serve those of the raw stock trade at other centres.
- 79 72 The Cess Committee should investigate the merits and demerits of the "inspection" and the "selection" systems and devise a suitable remedy, if practicable, for the defects of the former.
- 80 72 The raw stock markets, though not altogether scattered, are not as centralised as they might be. The Committee should see if it is possible to centralise and/or regulate them on the lines of the Berar cotton and grain markets.
- 81 73 The damage resulting from insufficient or unsuitable packing should be brought home to consignors by educative propaganda.
- 82 73 The suggestion that the railways should provide special wagons, or at least wooden planking for the floors of wagons should be investigated.
- 83 74 The Committee should also try to secure a recognition of raw stock, especially wet-salted stock, as semi-perishable goods for the purpose of quicker transport by railway.
- 84 74 The Committee should investigate whether and to what extent it can advocate the introduction of (i) preferential freights, and (ii) "telescopic" freight charges irrespectively of the number of railway administrations over whose lines the goods pass, and similar transport problems.
- 85 75 The malpractice of watering the stock before railing it should, if it exists, receive attention.
- 86 75 Also the question of certificates of freedom of the stock from disease.
- 87 75 The Committee should ascertain whether and how far national waste is caused by the practice of leasing out the right to collect "fallen" hides.

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- 88 76 It should remain on the lookout for the formation of combines whether in India or abroad with the object (avowed or not) of securing control over the prices of Indian raw stock.

CHAPTER VI.—ESTIMATED COST OF SCHEMES.

- 89 77 Schemes only tentatively suggested. Only important ones have been considered.
- 90 77 But need for action by Government has been clearly proved.
- 91 78 Main object should be improvement of raw stock. But tanning and allied industries should also be assisted. Reasons for this proposal have been discussed. Ratio of expenditure should be three-fourths to four-fifths for the former and the balance for the latter.

A.—THE RAW STOCK TRADE.

- 92 79 For research on the breeding, feeding and keeping of animals Rs. 25,000 rising to Rs. 50,000 per annum. should be given to the Imperial Council of Agricultural Research. Development work should, in the main, be left to local administrations; grants-in-aid should be made as an inducement.
- 93 80 Research on diseases and minor insects affecting hides and skins should be undertaken through the Imperial Institute of Veterinary Research, Muktesar, which should get Rs. 40,000 rising to Rs. 50,000 per annum. Research on warbles and ticks more important. Special staff needed. Total cost about one and a quarter lakh per year. (*See synopsis at the end of this chapter.*)
Application should be left, in the main, to local administrations, grants-in-aid being made as an inducement.
- 94 81 As regards flaying, bonus system is useful. But, the trade should pay bonus. Cess fund can be spent on experimental or pioneering work. Supervisor-instructors should be appointed at certain slaughter-houses. Initial cost about Rs. 15,000 per annum. Ultimate probably below Rs. 25,000 per annum. Flayers should be licensed. Trial should be given to employment of flayers by local bodies. Modern implements and appliances should be tested with reference to Indian conditions. Provision of more light, room for work, and suitable tackle should be subsidised.

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94— <i>contd.</i>	—	Competitions may be organised and prizes awarded; cost not likely to exceed Rs. 1,000 per annum.
95	84	For research on preparation and cure the leather institutes at Calcutta, Madras and Cawnpore should be utilised. Besides the necessary non-recurring grants, recurring grants of upto Rs. 25,000 per annum should be given to each. Cost of application cannot be estimated at present.
		Co-operative curing should be tried; allotment under head "propaganda etc."
96	85	"Loading" and "adulteration" should be discouraged by propaganda and by educating the producer and the dealer.
97	85	Establishment of centralised markets would be beneficial, but care and caution are needed.
98	85	The usages and practices of the trade regarding grading and specification, weights and similar matters should be investigated in collaboration with the trade. The question of a central association or associations for general control over the raw and the tanned stock should be investigated by the Cess Committee.

B.—THE TANNING AND ALLIED INDUSTRIES.

99	86	Improvement of raw stock must benefit the tanning industry.
100	87	Besides this indirect though automatic benefit, the tanning industry and allied industries should be assisted with technological research, advice and training.
101— 103	87— 88	Grants-in-aid to the three existing institutes should be about Rs. 75,000 per annum for research and Rs. 20,000 per annum for training.
104	89	Efforts should be made to expand the sources of supply of <i>avāram</i> and wattle barks and other tanstuffs. Suitable grants-in-aid should be offered to the Forest Research Institute, Dehra Dun, and the provincial forests departments for experimental or pioneering work; about Rs. 25,000 per annum will be needed for such grants-in-aid.
105.	90	The Committee should assist the industry to obtain transport facilities but should not give subsidy towards freights etc.

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- 106 91 Special trade representation is not now likely to be needed, but cess fund can be spent on maintaining show rooms, participation in exhibitions and other similar work of advertisement and propaganda.
- 107 91 Committee should educate tanners and dealers to a realisation of their own and the national loss resulting from loading, adulteration and similar malpractices.
- 108 92 It should also provide the necessary liaison between the industry and the departments of the State requiring leather.
- 93 Synopsis of approximate estimated recurring cost.

CHAPTER VII.—FINANCE.

- 109 95 The national loss owing to the various defects in the raw stock is nearly four crores per year. This estimate is however rough.
- 110 97 A cess fund of about five to seven lakhs would enable a good start to be made for the improvement of raw stock and of the tanning and allied industries.
- 111 97 Allocation of funds from general revenues would not be as appropriate a method of finance as a cess fund. Tanned goods should not be cessed. Local governments cannot finance most of the schemes as a very large portion of the expenditure concerns central research, and the resultant benefit would, in the main, be enjoyed by the trade within India.
- 112 99 Cess should be 1 per cent. on the exports of raw hides and raw skins as defined in para. 10; this would yield about seven lakhs per annum.
- 113 99 It should be levied on the existing system of tariff values revised annually.
- 114 99 Central research institute not needed at present. The existing imperial and provincial institutes can undertake the Committee's research and experimental work. Suitable grants-in-aid should be made to them. Provincial departments can, if assisted, take up experimental work and local research. These and local bodies can be assigned specific portions of the work of development including the application of research.
- 115 101 Savings should be left to accumulate into a reserve fund of which the interest, and if need be, part of the capital itself can be utilised for non-recurring expenditure.

CHAPTER VIII.—THE INDIAN HIDES AND SKINS CESS COMMITTEE.

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116	102	“ Laissez faire ” must be abandoned. Without outside assistance the trade cannot undertake the work outlined by us. Reasons why certain suggestions regarding the appropriate agency for such work were rejected.
117	102	The most appropriate agency to be charged with such work is a statutory and permanent body representative of all interests. Hence our proposal for the Cess Committee. It should have sub-committees (some being statutory), both departmental and provincial and local.
118	103	Principles of representation discussed.
119	104	The principle should be—how can the cess fund be utilised most effectively? Hence our proposals giving proportionate representation to all the interests which can help as above.
120	105	Officials should be in a minority. Primary producer can at present be represented only by nomination.
121	105	Indian States should also be represented. Other methods of representation are possible, and some of these may have definite advantages. But, we have tentatively proposed that the Governor-General in Council should appoint three representatives of the States. Cess should be called a sea customs duty.
122	106	The Committee should have the following members, viz., six representatives of the “ primary producers ” in British India, (this term has been specially defined in this para. in this connection), six of the dealers, commission agents and shippers of raw stock, five of the tanning industry, two of Madras shippers of tanned goods, one of the Madras “ commission <i>mandi</i> ”, seven government officials, one representative of the co-operative movement, three of the Indian States. Governor-General in Council should be empowered to nominate in default and also to nominate upto three. The Committee to be empowered to co-opt upto three more. Experts can and should be utilised by inviting them as visitors.
123	109	The Committee should have sub-committees and should be empowered to co-opt to them. There should be statutory sub-committees to deal with (i) finance, (ii) research, and also (iii) at the five important provincial or local centres.

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- 124 109 Term of office should be three years. But continuity of policy and administration should be secured as far as possible through the Government's powers of nomination and appointment. Non-official members should get a remuneration of Rs. 32 for attendance.
- 125 110 The Committee's headquarters should be Calcutta, but it should meet at Madras, Cawnpore, Delhi and Bombay, as far as possible in rotation, and can meet elsewhere if this be more suitable.
- 126 110 Chairman should be an official but not whole-time.
- 127 110 Secretary's post important. In status he should rank with a deputy director of, *e.g.*, agriculture or industries. His emoluments should be a consolidated amount.
- 128 111 No technologist is at present needed. Situation to be reviewed later.
- 129 111 Cost of general administration of the Committee estimated at one and a quarter to one and a half lakh.

CHAPTER IX.—FUNCTIONS OF THE CESS COMMITTEE.

- 130 113 Outline of functions is only a broad indication with reference to present conditions. Variations—even in fundamental matters—may later become necessary.
- 131 113 The Committee should, subject to statutory rules and to audit, control its own expenditure; it should be empowered to give grants-in-aid for specified purposes.
- 132 114 It should control its own staff; Secretary should be the head of the executive.
- 133 114 It should have same powers as regards meetings and the delegation of powers and duties as other similar bodies.
- 134 114 If a central research institute is established, its control should vest in the Committee.
- 135 114 The suggestion that an all-India association at Calcutta with a branch at Madras, or two associations one at Calcutta and the other at Madras, should be set up for the purpose of general control, arbitration, authoritative specification and grading and certain connected matters should be considered by the Cess Committee in consultation with the trade. Meanwhile the Committee should be empowered to take up such work.

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136	115	The Committee should be empowered to carry out tests—analytical and other—and issue certificates.
137	115	It should also carry on propaganda.
138	116	It should publish (or subsidise the publication of) trade journals and price bulletins, preferably through the agency of the all-India association or associations, if and when set up.
139	116	Advertisement of India's raw stock, leather etc., can and should be financed.
140	117	But special trade representation not now needed and should not be financed from the cess fund. The Committee should be prepared to finance special schemes (<i>e.g.</i> , show-rooms, exhibitions etc.).
141	117	As regards training, the only types which the Committee should assist with grants-in-aid are the training of (i) leather technologists, leather chemists and research chemists of all-India utility and (ii) supervisors, instructors and propaganda agents for the improvement of the raw stock—both "fallen" and "slaughtered".
142	119	The Committee should collect and disseminate statistical and other information relating to its work. It should build up directories relating to the raw stock and leather and allied trades and industries.
143	119	Besides the usual annual report it should publish a periodical review of the technical and commercial sides of India's position in the home and the foreign markets for raw stock, leather and the products of allied industries.
144	119	Advice on the question of protection to the tanning industry should be excluded from the Committee's scope. But on technical and commercial matters including legislation on such matters it should be consulted by, and empowered to advise, the Central and the local governments and such Indian States as apply to it for advice. It should also advise the trade regarding ameliorative measures and prices, terms and conditions of the trade in India and abroad etc.

CHAPTER X.—OBJECTS.

145	121	Primary producers and collectors, the small dealers and the village tanners are unorganised. In the middle and the upper strata organisation is not such as to enable the trade or the industry as a whole to effect comprehensive improvement. The contact
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- 145— — between trade associations and the trade and the Government is not very close. Integration of the trade is necessary and the Committee should encourage it; this should be one of its major objects.
- 146 122 Organisation, direction and co-ordination of research and the allocation of such special work as may be feasible should be another major object; the need for this is established.
- 147 123 Propaganda, educative work and advertisement should be seriously undertaken on the lines indicated.
- 148 124 Imparting of training in specified classes of work is a suitable object on which the cess fund can be spent.
- 149 124 Assistance on certain lines with regard to transport, the provision of facilities for testing and certification and for arbitration, collection, publication and dissemination of statistical and other information and similar "intelligence" work should be among the miscellaneous objects on which the fund can be spent.
- Generally speaking, all action necessary for the improvement of the country's raw stock and leather and allied manufactures and of the organisation for handling them both in India and abroad should, subject to limitations indicated elsewhere, be the objective.
- 150 125 Certain matters should be excluded, *e.g.*, (i) the payment of bonus for good flaying, free issue of flaying knives or of preparing and curing materials or apparatus, except when the purpose is to experiment, (ii) subsidisation of transport, except when the purpose is to participate in an exhibition, (iii) special trade representation for raw or tanned stock or for finished leathers made in India, (iv) bounties for dumping and (v) loans. This list of excluded objects is not exhaustive.

CHAPTER XI.—CONCLUSION.

- 151 126 We found members' views irreconcilable on the question of the export duty (which, we hold, was not specifically referred to us), and have therefore left that question alone. (Mr. Price dissents from our view and our decision.)
- 152 126 The members signing the Report make it clear that on that question they retain complete liberty.
- 153 127 The suggestion to recommend a committee with allocated funds was considered and rejected.

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- 154 127 The cess should be levied at 1 per cent. *ad valorem* on the exports of raw cow and buffalo hides and calfskins and raw goat and kid and sheep and lamb skins, the existing system of annually revised tariff valuations being followed for its assessment and collection. We consider it most desirable that our proposals should be given effect to in an atmosphere of general good will. We hold that if, pending a decision on the separate question of the export duty, the total taxation (including the cess) on the export of raw stock remains as it is, such an atmosphere will be secured.
- Position should be reviewed after sufficient experience has been gained of the Committee's working.
- 155 128 Though the views of members regarding the funds needed or capable of profitable utilisation differ, all members agree that the yield of a cess at 1 per cent. will enable a good start to be made.
- If additional funds are needed and are justified, the rate should be raised after consulting the trade as to the results achieved and their willingness to accept an enhancement. *Per contra*, if the review proves the need for reduction, the rate should be reduced. The Governor-General in Council should be empowered to change the rate subject to the previous assent of the Legislature.
- 156 128 On many of these matters Mr. Price's minute of dissent explains his position.
- 157 128 We all (including Mr. Price) attach special importance to three matters, *viz.*, (i) constitution of the Committee, (ii) exclusion of the question of the export duty from the scope of its advisory or other work and (iii) our proposal that there should be no cess on tanned goods whether finished or not.
- 158 129 The value to India of this industry taken as a whole, (*i.e.*, the raw stock and leather trades and the leather, leather-working and allied industries) is about forty to fifty crores; it provides employment to large numbers of men, (tanners and leather workers being a little under three million) and is a factor in the economic well-being of millions of the depressed classes. There is scope for work in order to reduce the national waste. Improvement effected will not only benefit those directly engaged in the industry as a whole but will also react favourably on the peasantry of India. Our proposals have this objective in view, and are, in our opinion, so designed as to achieve it, as far as it is practicable.

APPENDIX 1.

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 cop 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	Circuit 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
- 29th to 30th November (both inclusive), Bangalore. } fixed yet.
- 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 *cassia auriculata* (*āṅṅāram* or *tarva*) 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?

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?

APPENDIX 2.

Statement showing details of the work done by the Committee and the sub-committee at different centres.

Serial Number.	Date.	Place.	Members present.	Names of co-opted members and visitors invited to be present.	Names of witnesses orally examined.	Remarks.
1	2	3	4	5	6	7
1	21st to 23rd October 1929.	Calcutta	<ol style="list-style-type: none"> 1. Dr. D. B. Meek, O.B.E. 2. Mr. J. Bleek. 3. Mr. M. Jamal Mahomed. 4. Mr. M. Mahomed Ismail. 5. Mr. E. L. Price, C.I.E., O.B.E., M.L.A. 6. Mr. Mohamad Rafique, M.L.A. 7. Mr. E. Wykes. 8. Mr. S. P. Shah, I.C.S.	..	...	<p>Preliminary meeting.</p> <p>Visits to:—</p> <ol style="list-style-type: none"> 1. Bengal Tanning Institute. 2. The National Tannery, Calcutta. 3. Bag-tanners' tan-yards. 4. The hide and skin godown of Messrs. Mousell & Co. 5. The hide and skin godown of Messrs. Max Staub Ltd.
2	4th to 9th November 1929.	Cawnpore	<ol style="list-style-type: none"> 1. Dr. D. B. Meek (except on the 5th). 2. Mr. M. Mahomed Ismail (joined on the 8th). 	<ol style="list-style-type: none"> 1. Rai Madan Mohan Sinha Bahadur, M.B.E., offg. Director of Industries, United Provinces, Cawnpore. 	<ol style="list-style-type: none"> 1. Director, Civil Veterinary Department, United Provinces, Lucknow. 2. Mr. A. C. Inakip, O.B.E. 	<p>Visits to:—</p> <ol style="list-style-type: none"> 1. Technological Institute. 2. Government Leather Working School.

APPENDIX 2—*contd.*

Serial Number.	Date.	Place.	Members present.	Names of co-opted members and visitors invited to be present.	Names of witnesses orally examined.	Remarks.
1	2	3	4	5	6	7
2	4th to 8th November 1929— <i>contd.</i>	Cawnpore— <i>contd.</i>	3. Mr. E. L. Price. 4. Mr. Mohamad Rafique. 5. Mr. E. Wykes. 6. Mr. S. P. Shah (did not go to Fatehpur.)	2. Mr. M. B. Hudlikar, Head of the Leather Department, Technological Institute, Cawnpore.	3. Superintendent, Government Harness & Saddlery Factory, Cawnpore. 4. Mr. A. E. Corbet. 5. Cawnpore Hide Merchants' Association. 6. Mr. M. S. Meyer. 7. Head of the Leather Department, Technological Institute, Cawnpore. 8. Deputy Director of Agriculture, i/c. Cattle Breeding Operations, United Provinces. 9. The United Provinces Chamber of Commerce, Cawnpore.	3. Government Harness and Saddlery Factory. 4. <i>Chamars'</i> quarters in Cawnpore city. 5. Municipal slaughterhouse. 6. Messrs Cooper Allen & Co.'s factory. 7. Hides and skins market and godowns. 8. Messrs. Briekey & Co.'s skin godown. 9. Government Tanning School, Fatehpur.
3	11th to 14th November 1929.	Calcutta	1. Dr. D. B. Meek. 2. Mr. J. Blesek. 3. Mr. M. Malomed Ismail. 4. Mr. E. L. Price (except on the 14th). 5. Mr. Mohamad Rafique (except on the 14th).	1. Mr. A. T. Weston, Director of Industries, Bengal, Calcutta. 2. Mr. B. M. Das, Superintendent, Bengal Tanning Institute, Calcutta.	1. Superintendent, Bengal Tanning Institute, and Manager, National Tannery Co., Ltd., Calcutta. 2. The Calcutta Hides and Skins Shippers' Association.	

4	19th to 22nd November 1929.	Madras	<p>6. Mr. E. Wykes. 7. Mr. S. P. Shah.</p> <p>1. Dr. D. B. Meek. 2. Mr. M. Jamal Mahomed. 3. Mr. M. Mahomed Ismail. 4. Mr. E. L. Price (except on the 19th). 5. Mr. Mohamad Rafique. 6. Mr. E. Wykes. 7. Mr. S. P. Shah.</p>	<p>1. Diwan Bahadur Appadurai Pillai, Director of Industries, Madras. 2. Mr. A. Guthrie, M B.E., V D., Leather Expert to the Government of Madras.</p>	<p>3. Mr. K. C. Mukherjee. 4. Dr. Sir Nil Ratan Sircar, Kt.</p> <p>1. Chief Conservator of Forests, Madras. 2. Deputy Forest Utilization Officer, Madras. 3. Director of Veterinary Services, Madras. 4. Leather Expert to the Government of Madras. 5. Madras Chamber of Commerce. 6. Southern India Chamber of Commerce, Madras. 7. Southern India Skin and Hide Merchants' Association, Madras. 8. Rao Sahib C. Sabapathy.</p>	<p>Visits to :—</p> <p>1. Messrs. Best and Co.'s tannery. 2. Messrs. Chambers and Co.'s tannery. 3. Messrs. Roshan and Co.'s tannery. 4. Messrs. Karim Baksh's tannery 5. Messrs. Jamal Moideen Saib and Co.'s godown. 6. Messrs. South Indian Export Co.'s godown. 7. Messrs. Roshan N. M. A. Carim Oomer & Co.'s godown. 8. Messrs. C. Abdul Hakim & Co.'s godown. 9. Messrs. B. S. Abdul Wahab Saib & Co.'s godown. 10. Messrs. P. Haji Batcha Saib & Co.'s godown.</p>
5	26th to 28th November 1929.	Calcutta	<p>1. Dr. D. B. Meek. 2. Mr. J. Bleock. 3. Mr. E. L. Price. 4. Mr. Mohamad Rafique. 5. Mr. E. Wykes. 6. Mr. S. P. Shah (except on the 26th).</p>	<p>1. Mr. A. T. Weston, Director of Industries, Bengal, Calcutta. 2. Mr. B. M. Das, Superintendent, Bengal Tanning Institute, Calcutta.</p>	<p>1. Calcutta Skins and Hides Traders' Association. 2. Veterinary Adviser to the Government of Bengal, Calcutta. 3. Chemist, Bengal Tanning Institute, Calcutta. 4. Agricultural Expert, Imperial Council of Agricultural Research. 5. Livestock Expert to the Government of Bengal.</p>	

APPENDIX 2—concl'd.

Serial Number.	Date.	Place.	Members present.	Names of co-opted members and visitors invited to be present.	Names of witnesses orally examined.	Remarks.
1	2	3	4	5	6	7
6	3rd to 5th December 1929.	Bombay	<ol style="list-style-type: none"> 1. Dr. D. B. Meek. 2. Mr. M. Mahomed Ismail (except on the 3rd). 3. Mr. E. L. Price. 4. Mr. Mohamad Rafique. 5. Mr. E. Wykes. 6. Mr. S. P. Shah. 	<ol style="list-style-type: none"> 1. Mr. P. B. Advani, Director of Industries, Bombay. 	<ol style="list-style-type: none"> 1. Secretary, Indian Central Cotton Committee. 2. Livestock Expert to the Government of Bombay. 3. Superintendent, Civil Veterinary Department, Poona. 4. Conservator of Forests, Central Circle, Bombay Presidency. 5. Forest Utilisation Officer, Central Provinces. 6. Mr. P. Pandit. 7. Director of Industries, Bombay. 8. Superintendent of Markets and Slaughterhouses, Bombay. 9. Indian Merchants' Chamber, Bombay. 10. Mr. Mohammad Ali. 	
7	10th to 12th December 1929.	Karachi	<ol style="list-style-type: none"> 1. Dr. D. B. Meek. 2. Mr. E. L. Price. 3. Mr. Mohamad Rafique. 4. Mr. E. Wykes. 		<ol style="list-style-type: none"> 1. Karachi Chamber of Commerce. 2. Veterinary Inspector, Lower Sind. 	Visit to hides and skins godowns.

			<p>6. Mr. S. P. Shah.</p>		<p>3. Karachi Hide and Skin Merchants' Association. 4. Industrial Surveyor and Inspector of Factories, Sialkot Circle, Punjab.</p>	
8	19th to 23rd December and 30th December 1929 to 2nd January 1930.	Calcutta	<p>1. Dr. D. B. Meek. 2. Mr. J. Bleock. 3. Mr. M. Jamal Mahomed. 4. Mr. M. Mahomed Ismail. 5. Mr. E. L. Price (except on the 19th December 1929 and the 2nd January 1930.) 6. Mr. Mohamad Rafique. 7. Mr. E. Wykes. 8. Mr. S. P. Shah.</p>	...	<p>1. Indian Chamber of Commerce, Calcutta. 2. Director, Imperial Institute of Veterinary Research, Muktesar. 3. Mr P. G. Malkani.</p>	Discussion of evidence etc.
9	1st to 4th February 1930.	New Delhi.	<p>1. Dr. D. B. Meek. 2. Mr. J. Bleock. 3. Mr. M. Jamal Mahomed. 4. Mr. M. Mahomed Ismail. 5. Mr. E. L. Price (except on the 4th). 6. Mr. Mohamad Rafique. 7. Mr. E. Wykes. 8. Mr. S. P. Shah.</p>	...	...	Discussion of draft Report.
10	17th and 18th February 1930.	Calcutta	<p>1. Dr. D. B. Meek. 2. Mr. J. Bleock. 3. Mr. M. Mahomed Ismail (was informally present on the 18th). 4. Mr. S. P. Shah.</p>	...	...	Approval of the remaining portions of the Report and of consequential and verbal alterations.

APPENDIX 3.

List of persons, private or public bodies and Governments or their departments or officers who supplied written memoranda.

1. Messrs. Cooper Allen & Co., Cawnpore.
2. Lt.-Col. L. C. Larmour, Superintendent, Government Harness and Saddlery Factory, Cawnpore.
3. Mr. A. E. Corbet, Cawnpore.
4. Mr. Mohamad Latif, Cawnpore.
5. Mr. M. B. Hudlikar, Head of the Leather Department, H. B. Technological Institute, Cawnpore.
6. Mr. W. C. deNoronha, Cawnpore.
7. Khan Bahadur Sheikh Niaz Mohamed, Officiating Superintendent, Civil Veterinary Department, U. P., Allahabad Circle, Allahabad.
8. Messrs. the Indian National Tannery, Cawnpore.
9. Messrs. W. B. Shewan & Co., Cawnpore.
10. Secretary to the Hon'ble the Chief Commissioner, Ajmer-Merwara.
11. Mr. B. M. Das, Superintendent, Bengal Tanning Institute, and Manager, the National Tannery Co., Ltd., Calcutta.
12. Calcutta Hides and Skins Shippers' Association, Calcutta.
13. Mr. K. C. Mukherjee, Manager, Bhagalpur Tannery Ltd., Bhagalpur.
14. Dr. Sir Nil Ratan Sircar, Kt., M.D., Director, the National Tannery Co., Ltd., Calcutta.
15. Calcutta Skins and Hides Traders' Association, Calcutta.
16. Mr. P. J. Kerr, Veterinary Adviser to the Government of Bengal, and Director, Civil Veterinary Department, Calcutta.
17. Mr. B. B. Dhavale, Chemist, Bengal Tanning Institute, Calcutta.
18. Mr. B. C. Burt, C.I.E., M.B.E., Agricultural Expert, Imperial Council of Agricultural Research.
19. Indian Chamber of Commerce, Calcutta.
20. Mr. F. Ware, Director, Imperial Institute of Veterinary Research, Muktesar.
21. Mr. M. M. Ispahani, Calcutta.
22. Indian Tea Cess Committee, Calcutta.
23. Messrs. Max Staub, Ltd., Calcutta.
24. Mr. S. B. Banerji, Calcutta.
25. Messrs. Ralli Bros., Calcutta.
26. Messrs. Mousell & Co., Ltd., Calcutta.
27. Mr. Haji Mahomed Din, Calcutta.
28. Indian Lac Association for Research, Calcutta.
29. Messrs. Mohamad Amin Bros., Calcutta.
30. Mr. D. C. Gupta, Director of Industries, Bihar & Orissa, Patna.
31. Mr. R. D. Richmond, Chief Conservator of Forests, Madras.
32. Mr. P. T. Saunders, O.B.E., Director of Veterinary Services, Madras.
33. Mr. A. Guthrie, M.B.E., V.D., Leather Expert to the Government of Madras, and Principal, Leather Trades Institute, Madras.
34. Madras Chamber of Commerce, Madras.
35. Southern India Chamber of Commerce, Madras.
36. Southern India Skin and Hide Merchants' Association, Madras.
37. Director of Agriculture, Madras.

38. Messrs. Walker & Co., Ltd., Madras.
39. Mr. R. W. Littlewood, Deputy Director of Agriculture, Livestock, Hosur (Madras Presidency).
40. Diwan Bahadur A. Appadurai Pillai, Director of Industries, Madras.
41. Tanners of Bangalore.
42. Coast Tanners of Southern India.
43. Mr. Haji Eisa Haji Oosman, Madras.
44. Ambur Tanners' Association.
45. Tanners' Union, Coimbatore.
46. Southern India Tanners' Board, Dindigul.
47. Bark Tanners of Pallavaram.
48. Mr. N. M. Kajamean Rowther, Trichinopoly.
49. The Southern India Tanners' Board, Trichinopoly.
50. Mr. B. A. Collins, C.I.E., I.C.S., Director-General and Secretary to Government, Commerce and Industry Department, H.E.H. the Nizam's Government, Hyderabad, Deccan.
51. Chief Conservator of Forests in Mysore, Bangalore.
52. Mr. J. H. Ritchie, Secretary, Indian Central Cotton Committee, Bombay.
53. Mr. Ali Mahomed Ulvi, Livestock Expert to the Government of Bombay, Poona.
54. Mr. H. L. Newman, Chief Conservator of Forests, Bombay Presidency, Poona.
55. Mr. C. A. Malcolm, Chief Conservator of Forests, Central Provinces, Nagpur.
56. Messrs. the Western India Tanneries Ltd., Bombay.
57. Mr. P. B. Advani, Director of Industries, Bombay.
58. Captain C. M. Flanders, Superintendent of Markets and Slaughter-houses, Municipality of Bombay, Bombay.
59. Indian Merchants' Chamber, Bombay.
60. Messrs. M. Mohammad Ali & Co., Bombay.
61. Messrs. Ralli Bros., Karachi.
62. Messrs. Beaumont & Co., Karachi.
63. Messrs. Volkart Bros., Karachi.
64. Karachi Hide and Skin Merchants' Association, Karachi.
65. Mr. Balwant Singh, Industrial Surveyor and Inspector of Factories, Sialkot.
66. Mr. Haji Oosman Haji Salehmohamad, Bombay.
67. Leather Expert to Government, Central Provinces, Nagpur.
68. Veterinary Adviser to Government, Central Provinces, Nagpur.
69. Messrs. Nizamuddin & Co., Karachi.
70. Karachi Indian Merchants' Association, Karachi.
71. Buyers and Shippers' Chamber, Karachi.
72. Messrs. Fleming, Shaw & Co., Ltd., Amritsar.
73. Indian Chamber of Commerce, Lahore.
74. Honorary Secretary, Gow-Rakshani Sabha, Ludhiana.
75. Revenue Secretary to the Government of the Punjab, Lahore.
76. Secretary to the Agent to the Governor-General in Baluchistan, Quetta.
77. Industrial Surveyor, Delhi.
78. Messrs. Culverwell, Brooks & Co., London.

79. Association of Factors, Merchants and Importers of Leather, Hides and Tanning Materials, London.
80. The Federation of Curriers, Light Leather Tanners and Dressers, Inc., London.
81. Hide Shippers' and Agents' Association, London.
82. The United Tanners' Federation, London.
83. Messrs. Bevingtons & Sons, London.
84. Messrs. Dyster, Nalder & Co., London.

APPENDIX 4.

Classified list of bodies, persons or officers examined orally.

Government servants.	Private individuals or firms.	Chambers of Commerce, Trade Associations, etc.
1. Captain S. G. M. Hickey, Director, Civil Veterinary Department, United Provinces, Lucknow.	1. Mr. A. C. Inskip, O.B.E., on behalf of Messrs. Cooper Allen & Co., Cawnpore.	1. Cawnpore Hide Merchants' Association, Cawnpore. (Represented by Mr. Mohamad Latif.)
2. Lieutenant-Colonel L. C. Larmour, Superintendent, Government Harness and Saddlery Factory, Cawnpore.	2. Mr. A. E. Corbet, Cawnpore.	2. United Provinces Chamber of Commerce, Cawnpore. (Represented by Mr. W. C. de Noronha.)
3. Mr. M. B. Hudlikar, Head of the Leather Department, Technological Institute, Cawnpore.	3. Mr. M. S. Meyer of Messrs. Briskey & Co., Cawnpore.	3. Calcutta Hides and Skins Shippers' Association, Calcutta. (Represented by 1. Mr. A. Sommerfeld, 2. Mr. D. Mitchell, 3. Mr. Mohamed Amin, 4. Mr. J. Leser.)
4. Mr. C. H. Parr, Deputy Director of Agriculture, i/c. Cattle Breeding Operations, United Provinces, Muttra.	4. Mr. K. C. Mukherjee, Manager, the Bhagalpur Tannery Ltd., Bhagalpur.	4. Madras Chamber of Commerce, Madras. (Represented by 1. Mr. G. A. Chambers, 2. Mr. C. A. Innes, 3. Mr. J. W. Macfarlane.)
5. Mr. B. M. Das, Superintendent, Bengal Tanning Institute, and Manager, National Tannery Co., Ltd., Calcutta.	5. Dr. Sir Nil Ratan Sircar, Kt., Director, the National Tannery Co., Ltd., Calcutta.	5. Southern India Chamber of Commerce, Madras. (Represented by 1. Mr. M. Subbiah, 2. Mr. C. Abdul Hakim, 3. Mr. Mahomed Ghouse, 4. Mr. Haji Abdul Quddus, 5. Mr. M. Jamal Moideen Sahib.)
6. Mr. R. D. Richmond, Chief Conservator of Forests, Madras.	6. Rao Sahib C. Sabapathy of Messrs. C. Sabapathy & Co., Madras.	6. Southern India Skin and Hide Merchants' Association, Madras. (Represented by 1. Mr. Ahmad Batcha, 2. Mr. Musthan Sheriff, 3. Mr. Ibrahim Sahib.)
7. Mr. Mohamed Abdul Hafiz, Deputy Forest Utilisation Officer, Madras.	7. Mr. P. Pandit, Western India Tanneries, Ltd., Bombay.	7. Calcutta Skins and Hides Traders' Association, Calcutta. (Represented by Mr. Khwaja Abdul Ghani.)
8. Mr. P. T. Saunders, O.B.E., Director of Veterinary Services, Madras.	8. Mr. Mohammad Ali of Messrs. M. Mohammad Ali & Co., Bombay.	8. Indian Merchants' Chamber, Bombay. (Represented by 1. Mr. L. E. Tairsee, 2. Mr. Dawar H. Kazi, 3. Mr. Haji Osman, 4. Mr. J. K. Mehta.)
9. Mr. A. Guthrie, M.B.E., V.D., Leather Expert to the Government of Madras, Madras.		
10. Mr. P. J. Kerr, Veterinary Adviser to the Government of Bengal, Calcutta.		
11. Mr. H. B. Dhavale, Chemist, Bengal Tanning Institute, Calcutta.		
12. Mr. B. C. Burt, C.I.E., M.B.E., Agricultural Expert, Imperial Council of Agricultural Research.		
13. Mr. F. J. Gossip, Livestock Expert to the Government of Bengal, Ramna, Dacca.		

Government servants.	Private individuals or firms.	Chambers of Commerce, Trade Associations, etc.
14. Mr. J. H. Ritchie, Secretary, Indian Central Cotton Committee, Bombay.		9. Karachi Chamber of Commerce, Karachi. (Represented by Mr. T. Waddell.)
15. Mr. Ali Mahomed Ulvi, Live-stock Expert to the Government of Bombay, Poona.		10. Karachi Hide and Skin Merchants' Association, Karachi. (Represented by 1. Mr. Bundally Kassim, 2. Khan Sahib Alidina Ali Mohamed, 3. Mr. Nazir Hussain, 4. Mr. Mohamed Ismail, 5. Mr. Shamsuddin.)
16. Khan Sahib J. D. Buxy, Superintendent, Civil Veterinary Department, Poona.		11. Indian Chamber of Commerce, Calcutta. (Represented by 1. Mr. N. S. T. Chari, 2. Mr. M. P. Gandhi.)
17. Mr. D. B. Sothers, Conservator of Forests, Central Circle, Poona.		
18. Mr. R. T. Jonkin, Forest Utilisation Officer, Central Provinces, Nagpur.		
19. Mr. P. B. Advani, Director of Industries, Bombay.		
20. Captain C. M. Flanders, Superintendent of Markets and Slaughter-houses, Municipality of Bombay, Bombay. (Treated as a government servant for the purposes of classification.)		
21. Mr. C. S. G. Haji, Veterinary Inspector, Lower Sind.		
22. Mr. Balwant Singh, Industrial Surveyor and Additional Inspector of Factories, Sialkot Circle, Sialkot.		
23. Mr. F. Ware, Offg. Director, Imperial Institute of Veterinary Research, Muktesar.		
24. Mr. P. G. Malkani, Veterinary Research Officer, Imperial Institute of Veterinary Research, Muktesar.		

APPENDIX 5.

The estimated cost of the Hides Cess Enquiry Committee including the cost of printing the Report and the Evidence is as follows:—

	Rs.
(1) Salaries of members and staff	23,950
(2) Travelling allowances (including daily allowances) .	16,750
(3) Printing	5,370
(4) Contingencies	930
TOTAL	<u>47,000</u>

APPENDIX 6.

A note on the term "half-tan" and its synonyms.

(See para. 10.)

The term "half-tan" for which other synonymous terms, *viz.*, rough-tan, semi-tan, semi-raw, primitive-tan and crust leather are also sometimes used, has been commonly used in the literature dealing with the hide and skin trade and the tanning industry. But the accuracy of these terms has been challenged not only by witnesses but also by our two colleagues from Madras. A portion of the evidence taken by us relates to this controversy, and we think it is desirable to reproduce its substance, as it is of an authoritative character and deserves to be collated. Whatever the meaning of these terms as applied to the products of other countries may be, expert opinion including the opinion of the official leather technologists and chemists who appeared before us is unanimous that these terms fail to do justice to the actual character and purpose of the "tanning for export" industry. Were it not for a considerable misunderstanding about the real meaning of this term a Committee with a reference like ours would perhaps not be justified in venturing into this field. But we found that such misunderstanding is widely prevalent. It used to be, and has again been argued that in essence "half-tanning" is little different from curing and preserving. One witness told us that this tanning process is "essentially in the nature of a cure for making the stuff ready for export". The layman is to a certain extent liable to be misled by the word "half" into a belief that the so-called half-tans are only partially tanned goods and that the tanning processes undergone by them are approximately, either as regards cost or the time taken, half of those necessary for full tanning. Both these views are wrong. We think we cannot do better than quote the views of various authorities. Mr. M. C. Lamb, a recognised authority on light leather, says "It is the common custom....., particularly when the goods have been tanned for some little time before being dressed, to remove part of the original tannage by an operation known as stripping". The fact that stripping is followed by such retannage as may be necessary for the particular purpose in view at the time appears to have given rise to the misconception that the original tannage is necessarily and always only partial tannage. Mr. Guthrie of the Leather Trades Institute, Madras, told us that "the methods employed by export tanners when carried out under the best conditions as regards water, bark, myrobalans and careful supervision turn out a class of leather which is of very high quality and very suitable for European and American leather-dressers". His evidence may be seen. Mr. Hudlikar, Head of the Leather Department of the Technological Institute, Cawnpore, stated in his memorandum that it is erroneous to use the term "half-tans". The leathers thus produced are in his opinion "in reality fully tanned and very suitable for subsequent treatment by curriers or dressers". He calls them "fully tanned crust leathers". Explaining the necessity for washing away some of the original tannage and putting on another, Mr. Das, Superintendent of the Bengal Tanning Institute, Calcutta, advised us as below:—"One of the most important properties required of the "half-tanned" leather exported from Madras and Bengal is that the tannin in it should be capable of being easily stripped off....." so that "curriers and finishers can apply any other tannage to it as they may consider proper to make leather suitable for different purposes". The average time taken for finishing such tanned goods has been estimated at two to five days, though one witness thought that the various processes take about a month. Sir Nil Ratan Sircar who pioneered the National Tannery, Calcutta, told us that in his opinion the goods so produced are "manufactured products though they are used as raw materials in other countries". Mr. Chari told us in the course of his

oral examination that such goods do not need further tanning but only colouring. He added that though the word "detanning" is current in the terminology of the Madras leather industry, it is used in a very loose sense, and that in England and America such goods are known as "East India tanned kips" and not as half-tans.

On the other hand, Mr. Dhavale, Chemist, Bengal Tanning Institute, Calcutta, told us that the capacity of the Madras tanned material for absorbing further tannage is to some extent retained. He said he would call the goods "leather, though up to a point". But he also agrees that the capacity for further absorption of tannin is small and that if any further tannage is undergone it is because a heavier or more suitable tannage is desired. In the course of their oral evidence the witnesses representing the Calcutta Hides and Skins Shippers' Association stated that in their opinion part-tanned meant that only finishing remained to be done.

The reason why the term "half-tan" came to be used cannot be ascertained. It may be that in the earlier stages of this century-old industry the tannage gone through was not complete, and that a term which accurately represented the facts then is still being used though it no longer represents the present position accurately. On the other hand, it is probable that a convenient term was borrowed from the general world trade in semi-raw stock to describe the Indian tannage without laying much stress on the literal meaning of the term. The occasional retanning necessitated by special classes of finishing may have created the impression that the original tannage was only a half-way stage to full tanning. It has further been suggested that the term perhaps owes its birth to the fact that the "tanning for export" industry used the old method of tanning, viz., the layer process which is alleged to leave tannage incomplete.

Whatever the origin of the term may have been and whatever its justification in respect of the products of other countries, the evidence collected by us proves that its application to the Indian "tanning for export" industry is misleading. We have therefore in our Report avoided it as far as possible. It was suggested to us that the phrase "Madras tannage" would be more accurate and that though not fully denotative it would convey the connotation. We think this is a satisfactory expression, and we have generally used it in the course of our inquiry. But, in the body of the Report we have used the more precise term "tanned stock". For the purpose of describing the stock which is both tanned and finished we have used the expression "finished leather". The term "leather" by itself would include the tanned but unfinished stock, unless the context explicitly or implicitly excludes it.

The reason why the "tanning for export" industry does not generally go beyond the stage of tanning needs a little explanation. The unanimous view of the witnesses representing the tanning industry, of the leather technologists who appeared before us and of the London dealers in East India tanned stock was that if finishing were also to be undertaken in India, the export trade in tanned stock would cease to be a wholesale and would become a retail trade. At present the tannage leaves the field free for the carrier and the dresser abroad to finish as he likes or needs. Secondly, a view generally held was that the finished product would experience greater difficulties in getting over the tariff barriers in certain countries. At present the import tariffs in many countries are lower for such goods than for finished ones. Not only are views somewhat divergent as to the actual tariff schedules in force but we found a certain amount of misunderstanding and even ignorance on this subject. The tariffs are generally believed to be higher than they really are. On the other hand, it must be conceded that there is no guarantee that the countries concerned would not raise them if they considered it necessary or expedient to do so either to keep out the Indian finished leathers or for other reasons.

APPENDIX 7.

A note on the technicalities of the raw hide export trade with special reference to Calcutta.

1. Originally hides were prepared for export entirely as dry salted. The ample supplies of an earthy salt called "*khāri namak*" (largely sodium sulphate) probably laid the foundation for the export trade by placing at the disposal of dealers and merchants a cheap and reliable natural product which could serve the purpose of an excellent preservative. Unfortunately, due to crude methods of extraction the salt is mixed with a considerable proportion of impurities, mainly earth or clay, so that hides prepared with the natural "salt earth" roughly applied in a wet state dry out with a crust of impurities. Moreover it is a common practice to increase this crust intentionally in order to add "false" weight to the hide. Partly with the intention of fighting this evil of "loading" but largely on account of cheapness preserving by air-drying was introduced, and in the eighties of the last century air-dried hides began to appear in increasing numbers for export purposes. Soon a large trade in these hides developed. They are commonly called "arsenics" from the fact that they are treated with an arsenic solution in order to preserve them from the attacks of vermin.

2. Salted hides however still continue to supply the major portion of hides for export, as in Bengal all the year round and in other parts of India during the monsoon, the high atmospheric humidity makes effective air-drying of hides impossible.

3. Hides arrive in Calcutta in mixed lots and parcels of either "arsenics" or "salted" and are put up by the local commission agents (called *ārhatdārs*). The lots vary in size from about one hundred pieces to thirty thousand or even more.

Prospective buyers make a preliminary assortment as a basis for their offers, but final assortment is only made after purchase when goods have been removed to shippers' warehouses.

The grading into sizes and assorting into selections has been as completely standardised as is possible with a raw material like hides. By mutual consent between the leading Calcutta shippers and the principal buyers in Hamburg a definite basis has been fixed and a uniform system of marking has been adopted.

4. From appendix 8 it will be seen that this assortment into classes and grading into sizes or "weights" is highly specialised.

5. In a shipper's warehouse there are, on the average, fifty "lots" of framed hides, i.e., fifteen classes of three average weights plus triple rejections and calf-skins (4 classes).

Of unframed hides there are about seventy lots and of salted hides fifty to seventy.

The usual minimum quantity sold is five bales, i.e., from 300 to 1,000 pieces cow hides.

The biggest single item that a shipper can get in an all-round lot of, e.g., Daccas, forms about 8 per cent. of the total, so that in order to ship five bales of 750 pieces he has to buy about 9,500 pieces. Some items occur only to the extent of $\frac{1}{4}$ per cent., in which case, to accumulate sufficient for five bales of 100 pieces each a shipper has to buy 100,000 pieces. As all weights and grades are not always saleable, the shipper frequently has to carry stocks which he has accumulated in buying saleable goods, and great skill, experience and care are required to so balance sales as to limit the quantities of unwanted stocks to a minimum.

Owing to the absolute necessity of carrying stocks, the capital required to do even a small business in hides is considerable. It can be safely stated that during the "season" the value of hides only in the Calcutta shippers' godowns frequently exceeds 50 lakhs of rupees. The "season" comprises roughly the dry months starting from December, but Daccas come in fairly regularly all the year round.

APPENDIX 8.

A note on the Hamburg "classifications" or "descriptions".

(1) The "Hamburg descriptions" of 1927 are now recognised as the basis for contracts in all European countries which purchase hides for shipment from Calcutta.

(2) The assortment of all classes of hides is made as follows:— Slaughtereds, Deads, Rejections, Double Rejections, and Triple Rejections. These terms (abbreviated S., D., R., R/D, R/T) signify grades of 'value'. Slaughtereds are hides practically free from visible defects (minor defects being permitted in second slaughtereds and no defects being allowed in commissariat slaughtereds). Deads have more defects etc. (*Note*:—The terms "deads" and "slaughtereds" do not refer to the manner of death of the animal.)

(3) I. Arsenicated hides are classed as follows:—

(i) "Framed" Agras and North-Westerns with the following mark of assortment:—

(a) AACCS/A, AACCS/A, AAS/A, AACD/A, AACR/A.

(Superior framed hides of the "Agra" class.)

(b) AACCS, AACCS, AAS, AACD, AACR, AACR/D.

(Framed hides of the "Agra" class.)

(c) AACCS/NW, AACD/NW, AACR/NW.

(Framed hides of the "North-Western Bengal" class.)

The difference between Superior Agras and Agras is defined officially as "assortment the same as in the superior assortments but somewhat darker and not as clean on the flesh side".

A somewhat similar distinction is made between Agras and North-Westerns.

In Agras and North-Westerns definite rules are laid down as to the number of warble holes a hide may contain in various grades; e.g., in "deads" a small proportion of hides with up to 10 visible warble holes is permitted.

Special mention is also made of "goad marks".

(ii) "Unframed":—

(a) *Purneahs*: PRACS, PRACD, PRACR, PRACR/D:—

Substantial, mostly broad hides, without warbles, clean on the flesh side etc.

(b) *Real Darbhanga's*: RDACS, RDACD, RDACR:—

Substantial, partly broad, partly long stretched, somewhat dark and with a certain amount of fibrous substance attached to the flesh side.

(c) *Darbhanga's*: DACS, DACD, DACR, DACR/D:—

Of a somewhat inferior preparation to Real Darbhanga's.

(d) DPS/A, DPD/A, DPR/A, DPR/D/A:—

Hides from various provinces, partly rather crumpled etc.

(e) DPS, DPD, DPR, DPR/D, DPR/T:—

Crumpled hides from various provinces etc.

N.B.—The difference between "district" classes are only indicated above but not given at length as in the Hamburg descriptions.

II. Salted hides are classed as follows:—

Daccas: BCS, BDS, MDS, MDD, DR/D, DR/T:—

May contain up to 25 per cent. hides with moderate excess of salt etc.

Real Meherpores: RMS, RMD, RMR, RMR/D:—
Mostly substantial hides of only light cure etc.

Meherpores: MS, MD, MR, MR/D:—
Hides of heavy cure.

Salted Agras: SACCS, SACS, SAAS, SACD, SACR, SACR/D:—
The same type and assortment as arsenicated Agras but prepared with salt.

III.—*Buffaloes*:—

Arsenic Agra Buffaloes (Framed):—
AABCS, AABS, AABD, AABR, AABR/D.

Arsenic Purneah Darbhanga Buffaloes (unframed):—
PRDABS, PRDABD, PRDABR, PRDABR/D.

Arsenic Common Buffaloes:—
ABS, ABD, ABR, ABR/D.

Dacca Buffaloes:—
DB I, DB II, DB III, DB IV.
The buffalo hide assortment corresponds generally to similar cow hide assortment.

(4) *Weight Ranges*:—

- (i) Light hides up to 9 lbs.; about 2 lbs. under and above the average of shipment.
- (ii) Hides over 9 lbs. up to 16 lbs.; about 3 lbs. under and above the average of shipment.
- (iii) Hides over 16 lbs.; about 4 lbs. under and above the average of shipment.

(5) *Contract*:—

Every contract for "arsenic" hides must stipulate winter or summer hides. Mixtures of the two have to be defined in percentages.

(6) *Number of pieces per bale*:—

(a) <i>Cow hides</i> :—	Pieces per bale.
Up to 2 lbs.	500
Over 2 lbs. up to 3½ lbs.	300
" 3½ " " 6 "	200
" 6 " " 9 "	150
" 9 " " 12 "	125
" 12 " " 18 "	100
" 18 " " 20 "	80
" 20 lbs.	60
 (b) <i>Buffalo hides</i> :—	
Up to 3½ lbs.	300
Over 3½ lbs. up to 6 lbs.	200
" 6 " " 9 "	150
" 9 " " 12 "	125
" 12 " " 16 "	100
" 16 " " 18 "	80
" 18 " " 22 "	60
" 22 lbs.	50

(7) Further "paragraphs" of the "Descriptions" lay down "time of shipment", procedure for arbitration etc.

APPENDIX 9.

MARKING OF ANIMALS BY CLIPPING THE EARS.

(1) *Extract from U. S. Department of Agriculture—Farmers' Bulletin No. 777, page 15.*

(Kindly supplied by Rai Madan Mohan Sinha Bahadur, M.B.E., Officiating Director of Industries, U. P.)

"Marking animals by means of holes and notches in the ear is practised in many herds, and a number of systems are in use for this purpose. Figure 5 illustrates such a marking system.

"The notches are made with a punch specially designed for the purpose. Care should be taken to make them so that they can be readily detected in running the fingers along the edge of the ear. Under no circumstance should they be made with a knife, as the outlines of a small cut made by such an instrument become obliterated or may be confused with the slight natural indentations of the ear as the animal grows older. It is also very difficult to make the cut of the right size with a knife, and if too large the animal is greatly disfigured. This system, while causing a slight disfigurement of the animal, is very simple, and if rightly done the notches are scarcely noticed. A serious disadvantage however is that mistakes in marking cannot be easily corrected. To illustrate the use of this method the following examples are given: No. 7—two notches on lower edge and one notch on upper edge of left ear; No. 46—one notch on lower edge of right ear, one notch on upper edge of right ear, and two notches on lower edge of left ear; No. 152—one notch in centre of left ear, one notch on lower edge of right ear, two notches on upper edge of right ear, and two notches on upper edge of left ear."

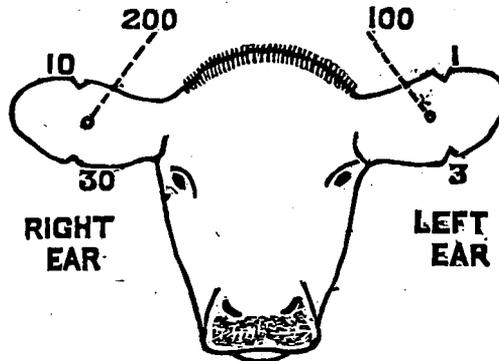


Figure 5.

(2) *Practice in the Military Dairies, Northern Circle.*

[Vide Circle Standing Order 745 (a).]

When a calf is about 2 days' old the ears should be clipped according to the number allotted.

Triangular pieces are clipped out of the edges and holes are made in the body of the ear by means of punches.

From Diagram I it can be seen what number each of these clips and holes stand for. By duplicating the numbers when necessary, any number up to about 1,000 can be denoted by clipping and holes.

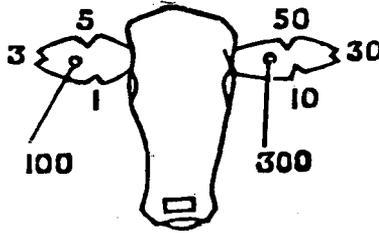


Diagram I.

For example, the head depicted below—Diagram II—denotes cow number 741.

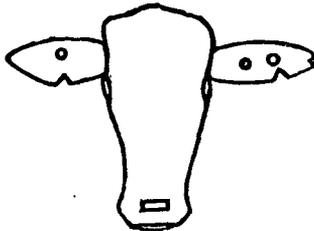


Diagram II.

APPENDIX 10.

Flaying wages and earnings.

- (1) Bombay Municipality slaughter-houses:—
 - (i) Four annas per cow or bullock hide.
 - (ii) Four-fifths of an anna per sheep or goat skin.
 - (iii) Twelve annas per buffalo hide.

The Superintendent of the markets and slaughter-houses, Bombay Municipality, estimates the average monthly earning of a flayer at Rs. 30 to 35 per month.
- (2) Calcutta Corporation slaughter-houses:—
 - (i) One rupee per hide of cows and bullocks.
 - (ii) One to one and a half anna per skin of goats and sheep.
 - (iii) One rupee per hide of buffaloes.
- (3) Madras Corporation slaughter-houses:—
 - (i) From six to twelve annas per hide of cows, bullocks and buffaloes.
 - (ii) From one and a half to two annas per skin of goats and sheep.
- (4) Jullundur Cantonment slaughter-house:—
 - (i) Three to four annas per hide of slaughtered cattle.
 - (ii) Eight annas to a rupee per hide of "fallen" cattle.
 - (iii) One anna per skin of sheep and goats.

Average monthly earning of a flayer has been reported to amount to Rs. 15 to Rs. 20.

APPENDIX 11.

BONUS FOR GOOD FLAYING. SYSTEMS TRIED.

Extracts from the Indian Munitions Board's Memorandum on the "Results of working the Government Tannery at Dharavi, Bombay" by Mr. J. W. Macfarlane, Deputy Controller (Hides), Bombay.

(Vide page 11, para. 26 and page 13 of the Memorandum.)

Flaying.—A few remarks on the flaying of hides may be made. Tanners complain that they have no control over butchers and others who take the hide from the animal. In the case of Bandra slaughter-house, a few Bombay tanners held contracts for the hides of all the animals slaughtered there. The attention of these tanners was drawn to the disgraceful condition, from a flaying point of view, in which the hides were received, and, before the Munitions Board took over the supplies from Bandra slaughter-house, the tanners had been recommended to offer some inducement to butchers to improve the flaying. When the Munitions Board took over the slaughter-house hides, the system was introduced of paying annas 2 per hide for well-flayed hides, and of inspecting hides at the slaughter-house in the presence of the butchers; this has resulted in a vast improvement in the flaying. The control of tanned leather necessitated by the War has taught tanners that a well-flayed hide is of much more value than one badly flayed, and tanners are recommended, in their own interests, to impress this point of view on their suppliers; tanners are also recommended to pay extra for good flaying. If this is done there is no reason to suppose that the standard of flaying in India generally should not be very much improved.

A communication has lately been received from the Indian Trade Commissioner, London, indicating what has been done at Newcastle, England, to effect an improvement in the flaying of hides.

Forty years ago the Newcastle Hide Market ranked, as regards flaying, amongst the poorest in the United Kingdom, with the result that the demand for Newcastle hides was limited to a few tanners, who dealt only in inferior leather. Consequently, the prices obtained by the butchers for their hides were lower than those obtained for the better-flayed hides purchasable elsewhere.

The local butchers, on whom the loss due to faulty flaying was falling, determined to face the problem. They formed themselves into a Society (called the Hide Inspection Society), the primary object of which was to effect improvement in the method of flaying. The local hide and skin brokers were also admitted to the Society, since they too were directly concerned in improving the flaying for the local markets.

Summarised, the objects of the Society are as follows:—

- (1) To adopt measures to improve the flaying of local hides.
- (2) To inspect and classify the hides exposed for sale in the local markets and levy charges for such inspection and classification.
- (3) To employ persons to superintend such inspection and classification.
- (4) To give prizes for excellence in the flaying of local hides.

Funds are provided as follows:—For every hide which is inspected (and stamped) by the Society's Inspector the butcher pays one penny (the equivalent of one anna) and the tanner, who buys it, one penny. These contri-

butions are paid to the *Society*, and from the money so obtained the *Society* pays the wages of its Inspector and a bonus of three pence (*3 annas*) per hide to the slaughter-men for every first class hide flayed by them. It is the payment of this bonus which incites the slaughter-men to take care over the flaying and to produce first class hides.

The result of the *Society's* working may be indicated as follows:—In 1895, the number of first class hides on the Newcastle market was only 31½ per cent.; the number in 1916 was 63½ per cent., or more than double.

The Chairman of the *Society* has consented to supply any further information on the subject to those who care to apply to him. His address is:—

The Chairman,
Hide Inspection Society,
90, St. Andrews Street,
Newcastle-on-Tyne, England.

Extracts from "Review of the Trade in Indian hides, skins and leather" by Mr. A. C. McWatters, Controller, Hides, Indian Munitions Board (page 42).

* * As an instance of what can be effected by proper management, reference may be made to the Bandra slaughter-house at Bombay where control has been exercised by the Deputy Controller, Hides, Bombay. By obtaining more time for the butchers to do their work properly and by paying a small premium for all well-flayed hides, the proportion of hides from this slaughter-house rendered unsuitable for army work by faulty flaying has been reduced from about 60 per cent. to less than 5 per cent.

APPENDIX 12.

Glossary of technical terms used and trade usages regarding baling, units of sale etc., current in the hide and skin trade and in the leather industry.*

A.—THE RAW HIDE AND SKIN TRADE.

(i) *General.*

AIR-DRYING:—The curing of hides by exposing the flesh sides to the sun for two days or more. Shade drying is a better process, but it is not so commonly practised as drying in the sun. Conditions in Northern India are particularly favourable in the cold season for sun-drying. The air-drying cure prevails in the north-western and some other dry parts of India.

ARHATDAR:—A Hindustani term for a commission agent, who is also a godown-keeper and finances the dealers in the *mufassal*.

ARSENICATION:—The dipping of air-dried hides into a dilute solution of white arsenic and soda. The solution may also be sprayed over the hide. It acts as an insecticide and a preventive against the ravages of vermin. Arsenicated hides come mostly from the dry regions of India, *viz.*, the Punjab, Sindh and parts of the United Provinces, the Central Provinces and Bombay Presidency.

BEOPĀRIS:—Dealers in raw stock in the *mufassal* who collect slaughtered or fallen stock direct from the slaughter-houses or *chamārs* and sometimes from smaller *beopāris*. (The term *chamār* has been described in para. 45 of the Report.)

EAST INDIA KIPS:—It is not easy to define kips, as the usage is not uniform. The distinction between hides and kips rests partly on age, partly on substance and partly on weight. In practice, however, weight is the chief basis of the classification.

The pelts of large and fully grown animals are termed hides, those of under-sized or semi-mature animals of these classes are termed kips. The general practice in the European and the American raw stock trade is to draw the distinction at about 25 pounds in the green and 12 pounds in the dry state.

Owing to the fact that in many parts of India cows and oxen are under-sized as compared with those in Europe and America the term kip has come to be widely used for Indian cattle hides in general. But as certain areas in India produce hides heavier than the standard kip as understood by the trade in the West, such hides are sometimes described as kip-weight hides.

The term East India Kips is applied equally to raw and dressed hides. But its use in connection with dressed hides is probably more general.

The weight of an East India Kip is about 20 to 22 pounds green.

FARMĀ:—A Hindustani term for the frame on which a hide is stretched out to dry in the air.

GREEN:—Same as "fresh" *i.e.*, pelts taken straight from the animal's body. The term "raw" is wider and includes "green" as well as "cured" stock.

KIPS:—See East India Kips.

RAW:—A term used to denote the hide or skin as it comes from the animal's body before it is subjected to processes other than those of preparation, cure or preservation. Thus raw stock includes pickled stock.

* Most, but not all, of these definitions or descriptions have been borrowed from the records in the Office of the Director General of Commercial Intelligence and Statistics.

(ii) *Hides.*

BUFF HIDES:—Same as buffalo hides. From the point of view of numbers of buffaloes the important provinces in order of such importance are (1) the United Provinces, (2) Madras, (3) the Punjab and (4) Bihar and Orissa.

CALF SKINS:—Includes cow hides below a certain weight.

COMMISSARIAT:—Name of the best kind of slaughtered hides. Generally speaking, they are the hides of animals slaughtered in the cantonment slaughter-houses for "army commissariat" purposes (whence the name).

COMMONS:—Hides which are not "killeds". They are mostly "unframed".

DAQIES OR DAISSIES:—*See Désis.*

DEADS:—Denote hides having minor defects, *e.g.*, one or two cuts, slight worm damage, small brand or yoke marks or scars or touches of hair-slips. (Note:—As in the case of "slaughtereds" or "killeds" the term "deads" does not refer to the manner of the death of the animal. Hence a "dead" hide does not necessarily imply that the animal died naturally.)

DÉSIS:—Cow hides obtainable from western and central Bengal.

DOUBLES:—An inferior class of hides worse than rejections. These hides are either very badly cut or marked or branded or tainted or rotten in places.

DOUBLE REJECTIONS:—Same as "Doubles".

FARMA.—*See Farmā* under "A—General".

FIRSTS:—Trade name for a grade of hides which includes "commissariats" and "slaughtereds".

FLINT-DRIED HIDES:—*See air-drying.*

FOURTHS:—Same as double rejections (*supra*).

FRAMED.—Same as *Farmā*.

HEAVIES:—Cow hides 12 to 16 pounds in weight. Hides over 16 pounds are called extra heavies.

"KILLEDs":—This term was formerly used to include "slaughtereds" and "commissariats", but it is now used to denote practically speaking all framed hides.

LIGHTS:—Cow hides from 2 to 7 lbs. in weight.

MEDIUMS:—Cow hides from 8 to 12 lbs. in weight.

ORDINARIES:—Same as "Commons".

REJECTIONS:—Hides which have more numerous or serious defects than deads.

SECONDS:—Synonym for "deads".

SLAUGHTEREDs:—Average first class hides practically without defects or blemishes. The term does not necessarily mean that the animal was slaughtered.

THIRDS:—Synonym for "rejections".

TREBLES:—A grade of hide below "double rejections". Also called "triple rejections".

(iii) *Skins.*

CALF SKINS:—*See* under hides.

CHAURI CHAURAS:—Chauri-Chaura is the name of a small town in the Gorakhpur district in the United Provinces.

DÉSIS OR DAQIES:—A class of goat skins from Central Bengal.

B.—LEATHER.

CURRYING:—A process in which hides or skins are treated with a fat liquor and some albuminous matter for the purpose of producing in them pliancy, impenetrability to water and smoothness of grain and colour.

DELMING:—The process of removing lime from hides or skins by chemical, bacterial or mechanical action.

DRESSING:—Same as currying.

FINISHING:—A collective name for the various processes by which the leather is finally produced for use after the tanning proper has been completed.

LIMING:—The process preparatory to tanning by which well-soaked hides or skins are treated with lime for the purpose of unhairing, plumping and saponifying the fat in the pelt.

MADRAS TANNAGE:—Synonym for the so-called "half-tan". See appendix 6.

SOAKING:—Dipping of hides and skins in water for the purpose of softening them and removing dirt, temporary preservatives etc.

C.—TRADE USAGES REGARDING BALING, UNITS OF SALE ETC.

(i) *Raw hides.***BALES**:—

(NOTE.—For Calcutta see appendix 7.)

Air-dried and arsenicated:—

Karachi:—1,150—1,200 lbs.

Bombay:—1,000—1,200 lbs.

UNIT OF SALE:—

Calcutta:—The "pound" of 20 lbs. or "corgé" of 20 pieces.

Karachi:—The "maund" of 28 lbs.

Cawnpore:—The "maund" of 80 lbs.

Bombay:—The lb. avoirdupois.

Rangoon:—The lb. avoirdupois.

(ii) *Raw skins.***BALES**:—

Calcutta:—About 500 pieces per bale on the average.

Bombay:—

(i) Dry-skins:—1,000—1,200 lbs.

(ii) Sun-dried and salted skins:—600—700 lbs.

Karachi:—950—1,400 lbs.

Madras:—756 lbs. nett.

CASES:—

Calcutta:—125—150 pieces.

Bombay:—560 lbs.

SCORES:—

Karachi:—22 pieces.

UNIT OF SALE:—

Bombay:—The lb. avoirdupois.

Calcutta:—100 skins.

Madras:—100 skins.

Karachi:—The lb. avoirdupois, or the score of 22 pieces.

(iii) *Tanned hides and skins.***BALES:—****Tanned hides, i.e., "East India Kips":—****Bombay:—500 lbs.****Madras:—600—675 lbs.****Tanned skins:—****Bombay:—500—550 lbs. nett.****Madras:—500—600 lbs. nett.****UNIT OF SALES:—****Madras:—The lb. avoirdupois.****Bombay:—The lb. avoirdupois.**

TABLES AND CHARTS.

TAF

Exports of

NOTE.— Separately rec

	1912-13.		1913-14		1914-15.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,754	20,55,765	764	9,42,285	3,896	55,42,451
Russia	17	28,260	..	..	4	5,111
Finland . . . . .	..	..	..	..	..	..
Sweden . . . . .	..	..	..	..	976	14,19,111
Norway	6	9,195	4	5,715	112	1,57,111
Germany	18,294	2,53,82,140	17,810	2,85,46,890	6,883	1,18,68,111
Netherlands	813	11,48,700	389	7,42,485	102	1,84,111
Belgium	943	13,45,485	1,022	13,67,535	328	4,35,111
France	892	10,83,060	714	8,78,250	343	4,25,111
Spain	2,890	46,38,330	2,093	38,21,370	2,095	33,93,111
Italy	5,805	90,66,315	4,633	75,20,280	3,311	53,43,111
Austria	5,681	81,39,510	7,077	1,14,51,450	1,943	32,96,111
Czechoslovakia . . . . .	..	..	..	..	..	..
Bulgaria	134	1,58,805	71	85,395	100	1,27,111
Greece	8	6,195	38	36,795	56	47,111
Turkey, European	345	3,50,160	27	31,485	5	7,111
Egypt	3	3,165	4	6,495	..	..
United States	3,472	54,73,365	1,841	25,79,865	3,694	46,17,111
Other Countries	503	6,75,860	665	10,38,810	178	2,90,111
Share of Bengal	32,314	4,76,52,345	28,247	4,70,46,960	17,525	2,78,03,111
" Bombay	738	9,85,770	676	9,70,695	570	7,77,111
" Sind	4,373	58,67,715	3,534	49,79,700	2,933	45,12,111
" Madras	2	1,365	10	14,190	3	3,111
" Burma	4,133	50,39,115	4,685	60,43,560	2,995	40,65,111
TOTAL	41,560	5,95,46,310	37,152	5,90,55,105	24,026	3,71,63,111
Declared value per ton . . . . .	..	1,432	..	1,590	..	1,111

	1920-21.		1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	2,106	26,68,790	1,052	7,92,705	513	5,82,389	276	2,54,111
Russia . . . . .	..	..	10	7,219	..	..	14	12,111
Finland . . . . .	..	..	6	2,437	373	3,26,869	648	5,85,111
Sweden	809	9,08,410	662	4,15,100	811	7,14,889	1,431	13,97,111
Norway	217	1,82,760	291	1,91,015	429	3,75,794	946	9,41,111
Germany	3,157	32,69,590	10,862	84,03,332	9,461	96,70,067	11,618	1,31,72,111
Netherlands	109	95,010	64	68,147	24	28,266	162	2,17,111
Belgium	94	90,870	203	1,31,183	17	17,471	54	70,111
France	118	1,71,700	122	84,534	133	86,259	125	1,32,111
Spain	1,383	16,28,010	2,912	21,46,848	2,283	23,10,132	924	9,17,111
Italy	2,957	28,17,550	4,600	31,31,829	4,894	44,53,441	5,386	56,64,111
Austria	91	95,300	12	8,122	46	46,230	10	11,111
Czechoslovakia . . . . .	..	..	..	..	..	..	81	92,111
Bulgaria . . . . .	..	..	46	30,835	74	60,142	108	1,01,111
Greece	9	8,710	100	66,191	2	4,255	43	36,111
Turkey, European	4	3,650	22	10,694	2	1,172	15	10,111
Egypt	1	1,430	26	14,813	26	14,018	97	70,111
United States	1,978	34,43,000	17	24,306	90	1,17,738	145	2,18,111
Other Countries	1,030	8,63,690	1,248	7,66,604	724	5,29,104	207	1,54,111
Share of Bengal	10,160	1,22,21,600	18,522	1,35,02,054	17,239	1,68,60,137	10,766	2,14,67,111
" Bombay	101	1,84,920	86	1,75,221	219	4,04,503	297	4,99,111
" Sind	1,683	18,62,570	1,841	13,59,426	1,033	9,99,434	995	11,55,111
" Madras	63	44,610	40	17,324	40	76,447	2	1,111
" Burma	2,056	19,32,770	1,766	12,31,889	1,371	9,97,715	1,230	9,39,111
TOTAL	14,063	1,62,48,470	22,255	1,62,85,914	19,902	1,93,38,236	22,290	2,40,62,111
Declared value per ton . . . . .	..	1,155	..	732	..	972	..	1,111

l.

ow hides.

from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
2,815	44,50,230	5,305	94,27,860	7,408	1,05,54,780	8,560	1,09,22,850	10,965	1,69,23,340
..
..
328	4,56,600	..	..	..	..	..	..	1,306	16,26,160
493	6,49,155	677	9,59,250	39	44,355	..	..	343	5,15,790
..	..	..	..	..	..	..	..	64	58,310
..	..	..	..	..	..	..	..	818	10,28,920
..	..	..	..	..	..	..	..	1,042	12,89,070
1,084	10,29,735	1,865	25,58,385	62	98,190	25	48,000	987	13,05,750
1,407	23,67,405	1,717	30,68,265	..	..	86	1,30,290	2,445	41,58,570
17,936	3,13,23,930	8,186	1,43,19,795	7,627	1,13,77,890	4,891	65,02,965	4,984	70,52,470
..	..	..	..	..	..	..	..	29	30,000
..
..
5	4,965	..	..	..	..	111	1,54,110	34	38,120
..
37	63,180	..	..	27	26,460	..	..	7	9,860
9,583	1,47,90,010	10,430	1,80,07,845	537	8,09,490	420	7,75,185	15,236	2,77,86,460
768	10,23,710	902	16,97,490	179	2,90,805	307	2,92,080	1,167	15,87,330
25,208	4,10,52,870	16,445	2,76,32,595	12,084	1,61,09,820	8,120	97,49,025	26,169	4,37,81,040
6	11,175	2,634	49,11,270	1,216	25,00,170	562	9,05,520	150	2,50,700
5,775	1,00,19,385	6,576	1,23,91,335	1,577	29,92,545	3,786	54,33,420	7,384	1,11,23,040
10	27,750	32	48,915	..	..	1	1,125	32	42,760
3,457	50,47,740	3,395	50,54,775	1,002	15,99,435	1,731	27,36,390	5,692	82,12,610
34,453	5,61,58,920	29,082	5,00,38,890	15,879	2,32,01,975	14,200	1,88,25,480	39,427	6,34,10,150
..	1,630	..	1,721	..	1,461	..	1,326	..	1,608
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
323	2,80,640	2,150	20,37,673	1,032	8,74,372	2,845	27,97,677	1,183	13,95,905
..	..	75	93,130	49	40,896	44	42,272	25	18,012
638	6,72,246	1,001	11,73,740	532	5,02,294	1,023	9,96,265	764	7,57,091
1,785	13,45,346	800	9,19,607	641	6,08,405	920	8,68,084	970	9,09,674
714	7,47,822	449	5,09,286	314	2,97,319	330	3,36,450	447	4,62,870
12,379	1,57,30,256	8,857	1,18,53,796	9,650	97,53,967	18,444	1,66,51,600	12,784	1,55,77,660
228	3,27,804	269	3,63,582	369	3,89,574	555	6,39,874	1,587	18,33,683
6	7,003	44	48,326	124	1,13,889	230	2,63,540	1,014	12,36,592
93	75,621	278	2,72,488	118	1,02,812	66	94,111	197	2,48,188
1,804	20,92,154	2,137	24,18,619	2,581	26,29,925	1,558	18,20,416	2,053	25,48,369
5,692	63,77,932	5,299	60,94,021	5,233	49,44,690	4,453	42,43,116	4,796	49,11,243
10	10,000	..	..	..	..	..	..	37	42,197
253	3,03,824	155	1,83,767	194	1,93,732	264	2,23,005	253	2,58,260
174	1,64,253	532	4,75,393	203	1,63,880	131	1,14,989	128	1,27,799
76	81,163	87	99,912	355	3,32,600	279	2,69,339	1,047	11,33,638
39	40,464	675	6,95,841	442	4,02,465	230	2,01,591	222	2,45,731
110	98,501	234	2,32,951	117	1,10,307	67	64,180	106	1,40,159
275	3,06,398	53	57,609	1	775	855	8,74,313	353	3,51,139
211	1,92,610	191	1,83,807	287	2,44,710	302	2,98,861	99	1,08,379
21,424	2,57,23,581	18,826	2,32,95,334	18,099	1,75,70,560	22,548	2,17,73,838	18,865	2,00,81,029
39	92,483	383	6,64,012	340	5,07,205	370	6,43,317	1,327	28,25,880
1,315	17,76,887	1,464	16,64,203	2,228	22,42,441	4,204	55,65,673	4,143	58,43,227
6	5,204	..	..	1	1,590	1	1,961	..	217
1,526	12,55,882	2,613	20,89,999	1,574	13,84,816	3,473	28,19,994	3,730	35,56,237
24,310	2,88,54,037	23,286	2,77,13,548	22,242	2,17,06,612	30,596	3,08,04,683	28,065	3,23,06,589
..	1,187	..	1,190	..	976	..	1,007	..	1,151

TAB
Exports of
NOTE.—Separately reco

	1912-13.		1913-14.		1914-15.	
	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
United Kingdom	2,328	23,10,390	1,313	14,63,955	2,603	28,39,0
Canada . . . . .	..	..	..	..	..	..
Finland . . . . .	..	..	..	..	..	..
Sweden . . . . .	..	..	..	..	..	..
Norway . . . . .	..	..	..	..	..	..
Germany	1,107	13,00,695	1,539	20,14,680	387	5,49,5
Netherlands	1,298	15,15,625	1,624	21,10,140	155	2,58,0
Belgium	123	1,57,740	71	85,755	14	22,8
France	332	3,11,025	162	1,44,105	68	80,0
Spain	186	2,13,075	33	37,875	55	75,0
Italy	546	6,13,350	358	4,25,325	66	94,8
Bulgaria	148	1,68,840	62	83,070	134	1,76,5
Greece	4	2,250	5	3,375	119	82,8
Turkey, European	81	32,145	119	79,605	32	28,8
" Asiatic	703	4,33,095	1,388	9,94,470	482	3,60,5
Smyrna . . . . .	..	..	..	..	..	..
Persia	6	5,850	2	1,515	5	5,5
Egypt	6	2,625	86	55,875	..	..
United States	7,188	82,04,775	5,724	77,11,275	5,354	75,52,2
Other Countries	3,196	37,19,685	4,807	68,25,675	1,113	17,03,2
Share of Bengal	14,303	1,65,94,305	14,188	1,94,27,955	8,348	1,16,71,4
" Bombay	88	1,02,960	148	2,44,215	38	68,5
" Sind	695	8,66,925	310	4,53,690	618	9,03,0
" Madras	202	1,09,710	182	89,055	44	25,1
" Burma	1,964	13,17,165	2,465	18,21,780	1,539	11,61,6
TOTAL	17,252	1,89,91,065	17,293	2,20,36,695	10,587	1,38,29,8
Declared value per ton . . . . .	..	1,101	..	1,274	..	1,3

	1920-21.		1921-22.		1922-23.		1923-24.	
	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
United Kingdom	866	6,16,290	848	4,66,461	935	5,12,196	619	4,36,0
Canada . . . . .	..	..	5	3,387	..	..	..	..
Finland . . . . .	..	..	..	..	2	1,687	5	3,2
Sweden . . . . .	..	..	..	..	..	..	9	5,0
Norway . . . . .	..	..	..	..	3	1,862	3	2,9
Germany	445	3,55,790	677	4,32,332	1,124	7,22,349	1,662	14,07,9
Netherlands	125	73,640	37	17,563	71	41,908	88	71,2
Belgium	19	18,900	..	..	..	..	25	25,0
France	57	24,030	8	4,000	33	17,572	52	29,3
Spain	42	20,720	30	15,271	11	6,375	32	33,7
Italy	173	1,09,630	49	21,912	182	1,25,693	1,358	13,52,4
Bulgaria . . . . .	..	..	18	5,742	76	42,355	240	1,50,3
Greece	76	40,490	54	24,881	62	22,146	124	71,1
Turkey, European	76	39,310	36	19,391	70	31,879	167	71,4
" Asiatic	155	1,03,540	..	..	..	..	..	..
Smyrna . . . . .	..	..	152	63,168	8	3,575	31	15,3
Persia . . . . .	..	..	..	..	18	10,225	30	20,6
Egypt	23	11,520	130	54,119	304	1,36,039	451	2,13,8
United States	1,088	11,52,310	..	..	468	3,09,721	204	1,71,3
Other Countries	162	71,900	280	85,453	277	1,19,723	183	95,3
Share of Bengal	1,774	15,96,590	985	5,43,235	2,288	14,50,206	3,770	32,07,8
" Bombay	29	52,600	10	10,299	9	11,717	286	3,43,3
" Sind	347	2,80,540	346	2,44,689	268	1,61,097	163	1,10,5
" Madras	27	11,140	54	11,336	24	5,512	8	2,5
" Burma	1,130	6,97,200	929	4,04,121	1,055	4,76,773	1,056	5,12,1
TOTAL	3,307	26,38,070	2,324	12,13,680	3,644	21,05,305	5,283	41,76,47
Declared value per ton . . . . .	..	798	..	522	..	578	..	78

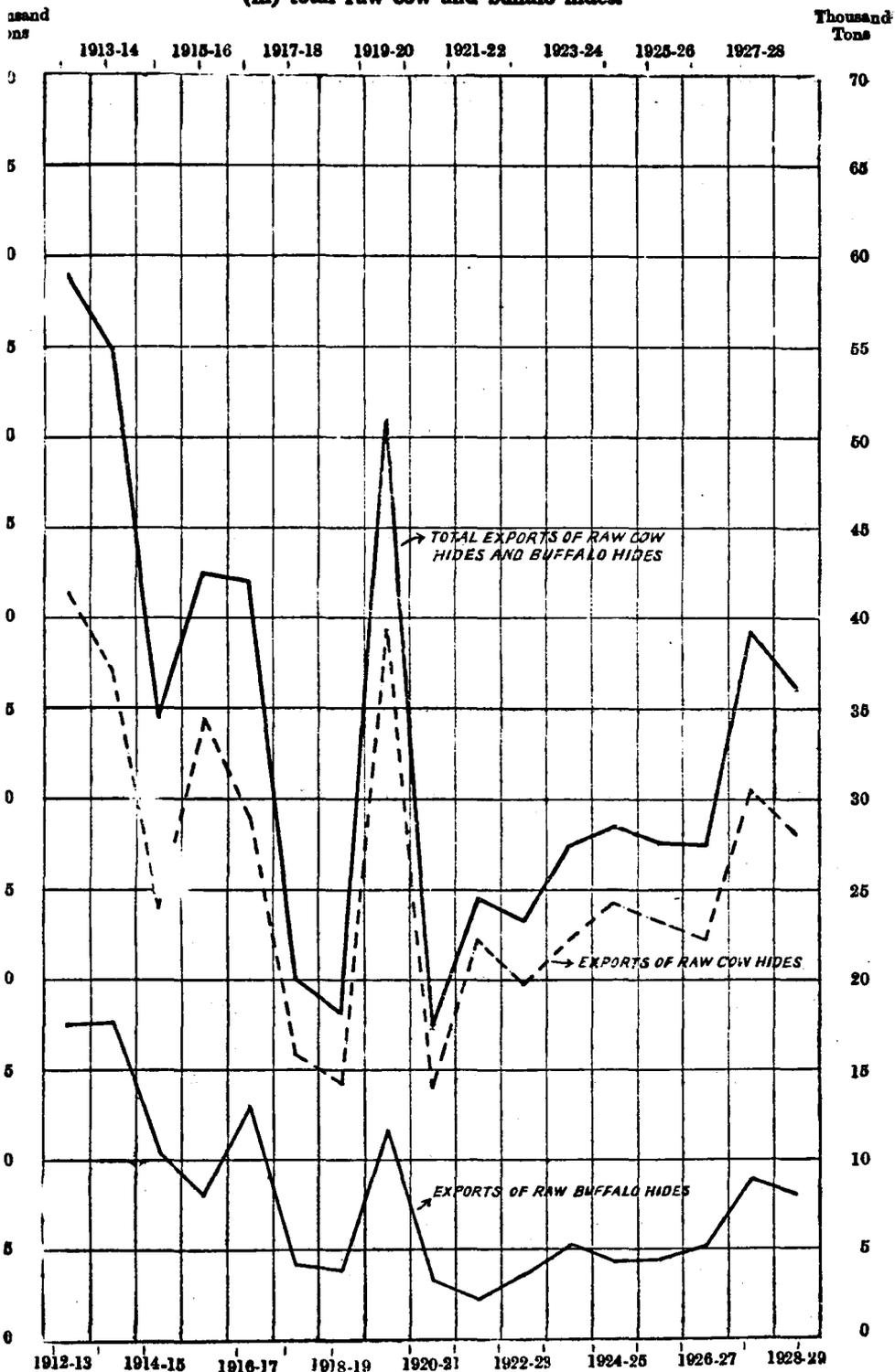
Buffalo hides.

from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
2,086	19,86,135	1,871	24,69,705	1,429	22,87,950	2,180	36,74,445	4,006	42,19,220
4	3,960	..	..	6	8,820	..	..	..	..
..
..
25	33,000	17	22,705	..	..	..	..	..	..
..	..	..	..	..	..	..	..	2	840
..	..	..	..	..	..	..	..	232	2,16,380
..	..	..	..	..	..	..	..	75	1,03,120
3	1,425	12	11,895	2	2,505	86	1,52,445	34	40,610
12	18,150	61	1,10,085	..	..	..	..	28	23,480
513	6,17,880	112	1,87,380	54	71,565	80	1,07,250	97	68,250
..
26	14,505	..	..	..	..	292	2,28,180	230	1,83,180
..	..	..	..	..	..	..	..	13	7,390
..	..	..	..	..	..	..	..	190	94,640
..
..	..	..	..	..	..	..	..	..	180
8	3,420	85	60,495	6	1,950	8	11,400	150	1,02,150
5,425	66,25,800	10,786	1,73,08,440	2,741	39,96,330	1,284	15,36,750	6,404	80,58,500
42	23,280	111	1,03,685	7	7,660	19	13,245	194	1,09,200
6,805	80,76,210	10,543	1,63,56,675	2,586	35,74,575	1,254	14,07,630	7,659	88,88,840
75	53,865	398	5,69,325	50	70,560	27	49,380	69	95,070
368	5,46,570	1,304	24,59,340	442	10,01,400	575	9,90,930	1,825	21,25,050
19	9,345	2	1,035	4	5,850	..	..	36	14,950
877	6,41,565	808	8,88,015	1,163	17,24,295	2,093	32,75,775	2,066	21,03,230
8,144	93,27,555	13,055	2,02,74,390	4,245	63,76,680	3,949	57,23,715	11,655	1,32,27,140
..	1,145	..	1,553	..	1,502	..	1,449	..	1,135

1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
355	2,45,788	600	3,01,808	334	1,61,611	879	5,42,747	498	2,80,676
..	..	..	..	..	..	89	1,12,449	134	1,68,535
4	5,879	17	19,936	5	2,316	9	6,666	23	22,175
28	30,082	..	..	3	2,400	44	30,839	82	75,882
54	62,452	4	2,025	11	8,186	33	20,331	40	26,014
1,207	12,03,268	587	6,16,100	1,551	12,04,364	2,528	19,80,718	2,271	22,35,181
176	1,28,177	140	1,58,353	118	62,654	140	82,251	201	1,43,541
8	9,616	47	51,109	35	22,899	42	33,582	20	19,363
12	8,790	126	62,858	44	30,393	85	80,103	128	1,07,810
42	43,349	23	22,913	18	11,632	142	1,28,812	378	3,61,579
690	5,36,290	625	5,11,957	497	3,63,024	286	1,96,677	313	2,41,369
930	1,49,227	471	4,25,074	624	4,58,046	649	4,28,206	1,036	8,31,806
45	30,582	89	69,279	257	1,54,087	624	4,44,739	499	3,46,630
200	1,25,216	332	1,79,770	210	1,04,738	295	2,07,232	535	3,55,298
60	23,869	136	77,694	257	1,15,667	240	1,31,246	90	45,481
98	57,233	44	27,194	12	4,641	74	54,615	201	1,00,890
36	27,691	34	27,172	54	39,092	39	26,991	25	18,051
377	1,91,202	368	1,91,851	406	1,98,544	611	3,60,493	501	3,27,313
395	4,61,116	590	6,56,397	550	4,96,143	1,972	13,36,395	980	8,40,307
291	1,84,197	162	1,49,501	208	1,26,080	69	39,937	79	8,56,111
2,830	26,67,582	2,759	26,61,331	3,610	27,76,979	6,376	42,72,977	5,043	39,85,007
16	21,318	28	34,021	58	64,496	202	2,95,770	346	5,39,453
141	1,16,139	115	1,00,510	210	1,47,756	1,112	10,66,400	1,448	14,58,710
62	25,043	3	1,092	..	..	3	1,531	..	..
1,249	6,76,842	1,490	7,44,037	1,276	5,77,286	1,157	6,08,351	1,197	6,20,840
4,298	35,06,924	4,395	35,40,991	5,154	35,66,517	8,850	62,45,029	8,034	66,04,012
..	816	..	806	..	692	..	706	..	822

CHART 1.
Quantities (in 1,000 tons) exported of (i) raw cow hides, (ii) raw buffalo hides and (iii) total raw cow and buffalo hides.



Exports of raw cotton

NOTE.—See

	1912-13.		1913-14.		1914-15.	
	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
United Kingdom	70	98,265	46	69,360	102	1,4
Germany	20	25,830	61	85,755	54	
Netherlands	20	26,910	65	1,02,705	19	
Belgium	5	8,160	2	2,520	..	..
Spain	215	3,14,340	342	5,86,845	201	3,
Italy	295	4,07,055	341	4,90,350	233	3,
United States	746	8,73,300	204	1,75,920	405	5,
Other Countries	111	1,45,920	245	3,17,130	44	
Share of Bengal	1,180	14,97,345	1,165	16,25,520	676	8,
" Bombay	37	43,785	9	8,955	7	
" Sind	265	3,58,365	132	1,96,110	375	5,
" Madras . . . . .	..	285	..	..	..	..
" Burma . . . . .	..	..	..	..	..	..
TOTAL	1,482	18,99,780	1,306	18,30,585	1,058	14,
Declared value per ton . . . . .	..	1,283	..	1,401	..	

	1920-21.		1921-22.		1922-23.	
	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
United Kingdom	167	1,82,170	155	62,005	47	
Germany	70	66,970	43	42,747	10	
Netherlands	1	420	..	..	..	..
Belgium	24	17,090	2	2,176	3	
Spain	372	4,90,040	312	3,10,602	115	1,
Italy	120	89,970	234	1,85,396	197	1,
United States	102	80,320	43	22,148	14	
Other Countries	216	2,01,040	22	10,863	10	
Share of Bengal	384	3,51,030	174	97,615	148	
" Bombay	16	24,620	10	15,613	4	
" Sind	672	7,51,680	627	5,22,670	244	2,
" Madras . . . . .	..	690	..	39	..	..
" Burma . . . . .	..	..	..	..	..	..
TOTAL	1,072	11,28,020	811	6,35,937	396	3,
Declared value per ton . . . . .	..	1,052	..	784	..	

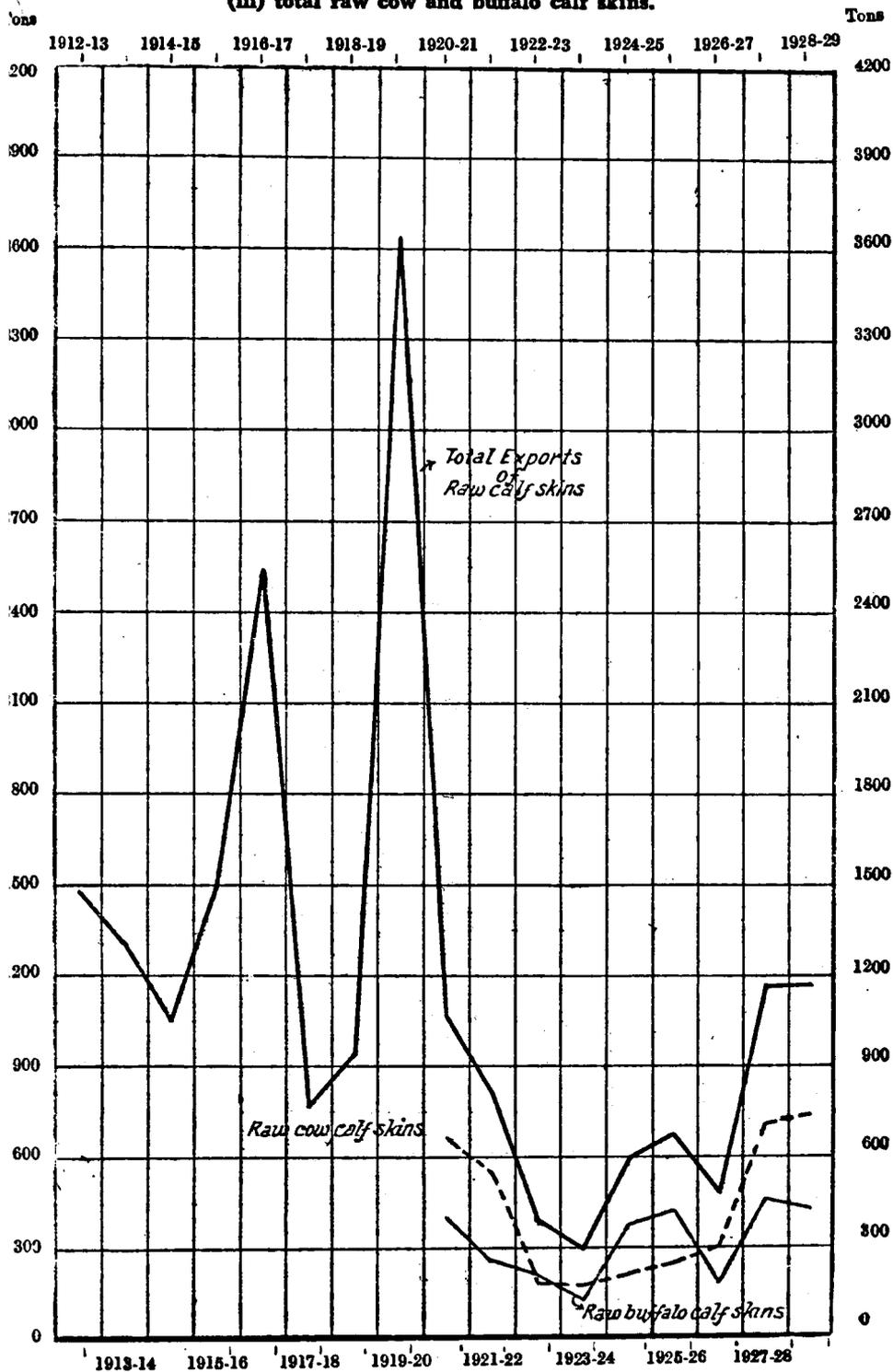
h cow and buffalo).

ded from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.			
ns.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.		
58	1,00,590	63	1,62,540	6	10,560	147	2,39,970	1,214	21,78,560		
.		
.	..	..	..	..	..	..	..	21	13,710		
.	..	..	..	..	..	..	..	18	33,970		
58	98,535	287	5,46,075	..	..	98	1,88,940	493	8,22,280		
20	10,51,890	346	6,16,395	130	2,02,695	268	4,29,120	631	8,38,280		
41	10,92,615	1,842	32,59,485	628	10,52,115	369	6,12,945	868	13,56,700		
11	16,875	8	11,520	6	12,360	66	1,20,870	395	6,17,260		
15	8,61,855	984	16,23,960	624	9,76,230	376	5,18,760	596	9,04,400		
.	..	30	49,035	15	42,150	42	51,495	42	71,500		
71	14,97,480	1,532	29,23,020	131	2,59,350	519	9,86,910	2,950	45,68,020		
2	1,170	..	..	..	..	11	34,680	52	3,16,840		
.		
98	23,60,505	2,546	45,96,015	770	12,77,730	948	15,91,845	3,640	58,60,760		
.	1,587	..	1,804	..	1,859	..	1,574	..	1,610		
1923-24.		1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
ns.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
51	36,039	13	6,621	46	50,816	20	13,485	42	47,727	18	23,702
53	69,240	99	1,36,589	64	1,02,191	111	1,30,099	493	6,29,344	326	4,46,824
.	..	..	187	..	..	2	995	13	15,373	77	1,39,509
1	2,580	..	..	12	13,624	..	142	2	4,256	54	77,172
72	80,457	111	1,66,893	138	1,74,940	221	2,39,656	233	2,86,617	278	3,36,212
96	97,331	345	3,85,127	405	4,45,328	108	89,442	211	2,42,591	282	3,38,009
18	17,132	..	436	1	978	..	..	30	28,738	66	62,110
4	1,753	20	16,702	6	6,445	21	23,045	144	1,50,733	64	68,070
40	35,256	74	70,826	66	82,555	12	13,206	2	4,820	40	46,762
3	3,709	..	..	6	12,250	..	1,110	..	5,570	1	3,220
52	2,67,567	514	6,41,293	600	6,99,517	471	4,62,548	1,162	13,94,471	1,123	14,41,197
.	..	..	436	..	..	..	..	..	518	1	428
.
95	3,06,532	588	7,12,555	672	7,94,322	483	4,96,864	1,168	14,05,379	1,165	14,91,607
..	1,039	..	1,212	..	1,182	..	1,029	..	1,203	..	1,280

CHART 2.

Quantities (in tons) exported of (i) raw cow calf skins, (ii) raw buffalo calf skins and (iii) total raw cow and buffalo calf skins.



TAB

Exports of

NOTE.—Separately recorded

	1905-06.		1906-07.		1907-08	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	2,144	37,13,344	2,506	46,53,015	1,509	23,80,7
Australia	79	1,04,351	185	3,41,251	272	4,48,6
Germany	1,047	10,30,882	424	5,36,862	62	1,42,8
Netherlands	127	2,76,342	80	1,62,682	331	6,34,9
Belgium	211	4,49,075	189	3,49,994	86	1,76,9
France	2,515	45,06,277	1,093	23,00,195	913	16,78,9
Spain	27	33,770	..	324	..	7
United States	18,439	3,49,03,449	14,703	2,97,50,215	10,859	1,91,48,9
Other Countries	447	8,23,008	143	3,40,315	29	91,8
Share of Bengal	16,040	3,07,79,686	10,119	2,11,98,700	8,996	1,59,08,4
" Bombay	1,971	21,36,009	2,508	30,58,548	1,473	12,69,6
" Sind	2,494	39,93,141	2,675	52,91,487	1,186	21,46,7
" Madras	4,514	89,16,793	4,022	88,79,765	2,400	53,74,4
" Burma	17	14,869	4	6,355	6	5,3
TOTAL	25,036	4,58,40,498	19,328	3,84,34,853	14,061	2,47,04,5
Declared value per ton . . . . .	..	1,831	..	1,989	..	1,7

	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	2,013	20,83,860	1,965	19,68,585	1,671	18,65,7
Australia	98	1,85,790	145	2,96,070	186	3,46,6
Germany	556	10,55,100	350	5,30,625	..	..
Netherlands	1,178	23,58,285	677	11,59,950	..	..
Belgium	447	7,12,920	488	6,35,430	..	..
France	1,136	18,49,620	233	7,76,055	379	6,48,0
Spain . . . . .	..	..	1	1,950	..	..
United States	17,123	2,27,53,875	15,034	1,80,22,155	17,700	2,45,48,0
Other Countries	117	2,77,530	211	24,450	62	1,39,6
Share of Bengal	10,263	1,62,08,670	7,965	1,12,49,235	8,004	1,22,97,8
" Bombay	6,835	55,78,530	6,384	49,79,580	6,254	61,12,8
" Sind	4,197	69,15,660	3,933	54,78,210	4,460	65,52,4
" Madras	1,348	25,30,620	817	17,00,895	1,280	25,85,0
" Burma	25	43,500	5	7,350	..	..
TOTAL	22,668	3,12,76,980	19,104	2,34,15,270	19,998	2,75,48,1
Declared value per ton . . . . .	..	1,380	..	1,226	..	1,3

	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,941	24,42,766	2,147	30,87,308	1,524	29,90,8
Australia	289	10,90,740	307	10,20,729	300	9,38,6
Germany	175	3,67,934	553	6,66,370	195	4,35,3
Netherlands	1,480	28,49,816	883	19,65,416	1,201	32,50,3
Belgium	73	1,18,302	47	79,227	227	3,77,2
France	631	14,00,739	725	17,66,174	882	29,61,9
Spain . . . . .	..	2,175	4	11,056	3	9,6
United States	16,672	3,20,07,269	15,456	2,52,33,813	14,411	2,85,77,3
Other Countries	428	6,80,020	509	7,08,455	330	4,87,3
Share of Bengal	9,795	2,39,05,229	7,514	1,59,34,354	7,324	2,15,24,3
" Bombay	5,552	68,04,806	7,482	92,77,836	5,928	74,92,7
" Sind	3,433	39,99,841	3,504	42,07,289	3,092	43,42,1
" Madras	2,897	62,37,161	2,108	51,00,017	2,718	66,58,1
" Burma	12	12,724	23	19,052	11	11,2
TOTAL	21,689	4,09,59,761	20,631	3,45,38,548	19,073	4,00,28,7
Declared value per ton . . . . .	..	1,889	..	1,674	..	2,0

4.

goat skins.

from 1905-06.

1908-09		1909-10.		1910-11.		1911-12.		1912-13.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
2,035	25,19,776	1,861	26,55,405	2,056	24,61,815	1,942	20,06,490	2,814	30,85,065
250	4,08,513	287	4,87,950	469	7,28,580	288	4,26,780	225	3,63,240
43	51,500	389	7,97,265	386	7,02,720	396	7,23,525	625	11,54,400
203	4,45,200	635	11,93,805	870	13,34,835	831	14,69,760	1,069	19,08,315
138	2,80,294	244	2,46,720	77	88,295	220	2,00,760	280	2,06,595
909	16,45,311	1,397	25,91,970	1,873	32,17,320	1,324	21,36,585	1,783	27,27,945
..	452	3	4,845	..	300	7	10,860	..	..
18,686	2,78,53,588	23,995	3,42,49,800	19,518	2,44,87,065	18,961	2,40,46,710	19,063	2,44,28,055
150	6,34,426	146	3,00,015	197	2,97,630	95	2,10,870	188	3,05,625
14,194	2,24,42,347	14,352	2,37,93,825	15,482	2,04,49,950	14,396	2,01,48,705	11,880	1,68,58,905
3,458	27,58,132	8,337	66,59,325	5,186	39,87,825	5,087	34,54,170	7,565	58,28,445
2,719	40,78,765	2,998	51,82,980	2,942	48,74,460	3,038	44,92,335	4,096	65,49,960
2,028	42,45,030	3,256	68,73,150	1,836	40,03,560	1,543	31,37,130	2,457	48,48,690
15	14,786	14	18,495	..	765	..	..	49	93,240
22,414	3,35,37,060	28,957	4,25,27,775	25,446	3,33,16,560	24,064	3,12,32,340	26,047	3,41,79,240
..	1,496	..	1,469	..	1,309	..	1,298	..	1,312
1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
2,082	42,55,125	2,478	53,63,460	1,029	26,75,220	1,947	75,90,210	2,306	63,62,000
303	9,46,560	866	24,27,945	855	23,05,065	296	21,43,280	149	9,19,450
..	..	..	..	..	..	..	..	60	1,09,850
..	..	..	..	..	..	26	1,32,210	383	6,14,280
..	..	..	..	..	..	21	1,34,680	86	2,34,840
1,085	32,77,543	342	11,45,115	1,382	47,15,175	1,054	63,03,580	291	12,20,490
..	..	..	..	..	..	4	13,920	37	1,69,440
22,608	5,55,98,220	16,228	3,58,11,600	17,360	4,75,17,120	27,723	12,66,91,590	6,902	1,99,19,790
57	1,58,102	513	7,35,300	719	19,36,495	179	7,33,780	168	5,67,710
7,219	2,21,82,225	7,255	1,75,57,065	8,856	2,62,96,665	14,418	8,02,69,760	3,583	1,32,48,720
9,473	1,63,24,845	7,664	1,42,00,545	6,624	1,54,22,580	6,602	2,03,87,330	4,162	92,40,690
7,959	2,11,26,750	4,297	1,02,11,280	3,070	83,01,570	6,722	2,52,10,020	1,291	34,39,060
1,494	46,01,730	1,211	35,14,530	2,712	89,49,765	3,337	1,75,09,950	1,305	40,65,880
..	..	..	..	83	1,77,495	171	5,66,190	41	1,32,500
26,145	6,42,35,550	20,427	4,54,83,420	12,345	5,91,48,075	31,250	14,39,43,250	10,382	3,01,26,850
..	2,457	..	2,227	..	2,771	..	4,606	..	2,902
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
1,501	33,36,219	834	18,82,406	1,011	22,22,638	896	23,90,563	631	18,25,323
227	6,82,364	226	7,02,018	309	9,42,269	266	9,92,597	215	9,56,464
88	1,84,488	154	2,56,660	193	6,93,358	398	11,00,707	241	9,13,609
1,211	37,83,146	606	15,95,262	562	21,38,991	657	25,36,278	485	17,35,272
143	3,06,287	358	5,42,831	81	1,45,466	14	34,750	196	9,06,662
1,204	33,99,203	1,493	33,60,143	1,507	35,54,572	712	21,10,287	880	30,97,427
2	3,400	1	5,050	4	20,000	65	1,40,390	163	3,78,987
10,623	2,12,30,153	15,568	3,03,76,156	15,582	3,25,82,695	15,689	3,46,04,218	18,619	3,94,11,851
14	43,985	9	2,963	17	40,609	9	23,411	177	3,39,993
6,508	1,94,66,972	8,563	2,19,08,928	8,365	2,55,49,486	9,144	2,84,53,633	9,826	2,98,21,945
3,268	42,38,591	3,961	54,48,221	4,560	64,99,422	4,093	63,25,766	4,790	81,57,240
3,608	49,73,579	4,982	69,76,418	5,075	70,91,87	4,321	61,52,776	5,537	78,39,662
1,706	42,54,371	1,734	44,00,284	1,264	31,97,216	1,146	29,99,151	1,430	37,32,976
23	35,732	9	10,537	2	3,187	2	1,875	24	12,765
15,013	3,29,60,245	19,249	3,87,43,388	19,266	4,23,40,598	18,706	4,39,33,201	21,607	4,95,64,688
..	2,196	..	2,013	..	2,198	..	2,349	..	2,294

Exports of raw

NOTE—Separately recorded

	1905-06.		1906-07.		1907-08.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	138	2,35,893	436	7,45,438	100	1,80,023
Germany	229	3,49,151	631	11,63,033	43	1,09,483
France	34	44,441	83	1,40,945	151	3,12,827
Italy	23	26,910	58	80,060	..	..
United States	262	4,80,056	425	8,07,591	428	7,08,819
Other Countries	62	1,27,905	135	2,18,942	28	47,453
Share of Bengal	335	6,49,782	758	14,02,651	315	5,35,972
" Bombay	20	33,827	16	17,044	4	7,549
" Sind	327	4,76,716	802	13,38,924	236	4,00,813
" Madras	65	1,01,231	192	3,97,074	195	4,12,161
" Burma	1	2,800	..	316	..	90
TOTAL	748	12,64,356	1,768	31,56,009	750	13,56,585
Declared value per ton . . . . .	..	1,690	..	1,785	..	1,809

	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	80	1,41,255	16	42,390	17	21,960
Germany	84	1,04,910	38	62,910	..	..
France	4	6,585	1	840	..	..
Italy	6	14,640	6	8,700	7	10,548
United States	1,441	22,69,155	1,234	18,18,360	1,570	22,09,668
Other Countries	38	73,440	20	52,125	32	74,400
Share of Bengal	84	1,15,170	150	1,92,630	220	3,18,888
" Bombay	43	46,455	46	51,705	370	5,04,510
" Sind	1,481	23,79,240	1,107	17,25,345	1,008	14,45,010
" Madras	45	69,120	12	15,645	28	48,168
" Burma . . . . .	..	..	..	..	..	..
TOTAL	1,653	26,09,985	1,315	19,85,325	1,626	23,16,570
Declared value per ton . . . . .	..	1,579	..	1,510	..	1,422

	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	46	1,27,088	21	2,41,838	42	2,48,82
Germany	7	6,035	1	1,550	3	3,40
France	60	60,762	69	91,493	89	95,52
Italy . . . . .	..	..	1	1,875	13	10,48
United States	291	3,41,061	24	28,652	4	9,73
Other Countries	10	11,673	8	11,485	20	16,28
Share of Bengal	28	32,271	9	13,510	30	21,05
" Bombay	19	1,23,737	14	2,41,280	17	2,34,64
" Sind	235	2,81,354	32	27,714	30	24,41
" Madras	132	1,09,151	69	94,389	94	1,04,13
" Burma . . . . .	..	106	..	..	..	..
TOTAL	414	5,46,619	124	3,76,893	171	3,84,25
Declared value per ton . . . . .	..	1,320	..	3,039	..	2,24

5

sheep skins.

from 1905-06.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
28	30,873	42	73,710	9	15,780	32	43,920	54	84,375
78	1,37,513	52	70,605	212	2,92,515	126	1,90,650	36	57,775
88	91,611	24	30,810	64	60,765	..	300	14	12,135
..	325	2	3,255	19	19,275	3	5,220	2	5,010
213	2,69,244	650	8,50,785	837	10,06,455	1,160	15,52,575	1,449	21,44,790
58	74,070	54	78,540	34	45,015	95	1,09,650	28	25,190
151	2,23,535	170	2,76,705	150	2,17,260	162	2,23,710	200	2,28,960
54	46,601	113	72,720	93	64,845	25	26,310	128	1,54,890
224	2,77,327	365	4,69,980	900	11,02,275	1,225	16,43,880	1,248	19,33,605
35	44,273	172	2,83,470	32	55,425	3	4,170	6	8,610
1	1,900	4	4,830	..	..	1	4,245	1	3,210
465	6,03,636	824	11,07,705	1,175	14,39,805	1,416	19,02,315	1,583	23,29,275
..	1,298	..	1,344	..	1,225	..	1,298	..	1,471

1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
3	2,640	170	4,33,740	973	26,63,070	611	13,90,910	360	4,32,770
..	..	..	..	..	..	..	..	8	8,190
..	..	5	17,340	124	3,55,005	102	2,57,720	49	51,820
3	3,000	..	..	..	..	..	..	2	6,650
2,194	47,50,800	1,497	30,74,595	1,466	33,25,860	2,432	54,29,540	827	14,26,030
66	1,18,080	258	3,52,215	1,080	13,20,090	42	71,740	73	1,06,660
108	1,96,920	239	3,60,120	608	11,01,780	639	15,34,290	91	1,27,310
471	10,76,040	315	7,70,220	1,092	28,46,730	188	4,79,040	160	4,08,750
1,686	38,00,360	1,161	24,69,705	841	19,44,555	1,638	33,71,930	597	7,56,690
1	1,200	214	2,76,645	1,080	20,66,370	721	17,63,160	471	7,39,370
..	..	1	1,200	2	4,590	1	1,490	..	..
2,266	48,74,520	1,930	38,77,890	3,623	79,64,025	3,187	71,49,910	1,319	20,32,120
..	2,151	..	2,009	..	2,198	..	2,243	..	1,541

1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
147	2,49,795	258	3,06,115	66	1,14,738	22	19,898	52	87,241
164	1,86,811	78	94,999	33	48,520	123	1,78,625	330	3,75,917
105	1,12,628	34	40,568	7	19,510	74	1,13,457	168	2,52,467
12	9,200	78	1,06,815	40	57,175	111	2,01,715	118	1,85,412
272	3,85,662	20	14,429	6	6,888	36	59,893	111	1,45,268
19	35,453	8	12,050	6	10,217	13	23,696	61	1,02,273
35	38,621	29	24,231	..	6,940	54	70,434	113	1,58,526
123	2,65,160	8	13,908	..	90	20	40,778	30	79,119
464	5,62,226	323	3,84,724	108	1,34,850	260	4,06,172	587	7,25,062
97	1,13,472	114	1,44,933	50	1,15,168	45	79,890	107	1,83,912
..	70	2	7,180	..	..	..	10	3	1,959
719	9,79,549	476	5,74,976	158	2,57,048	379	5,97,284	840	11,48,578
..	1,362	..	1,208	..	1,627	..	1,576	..	1,367

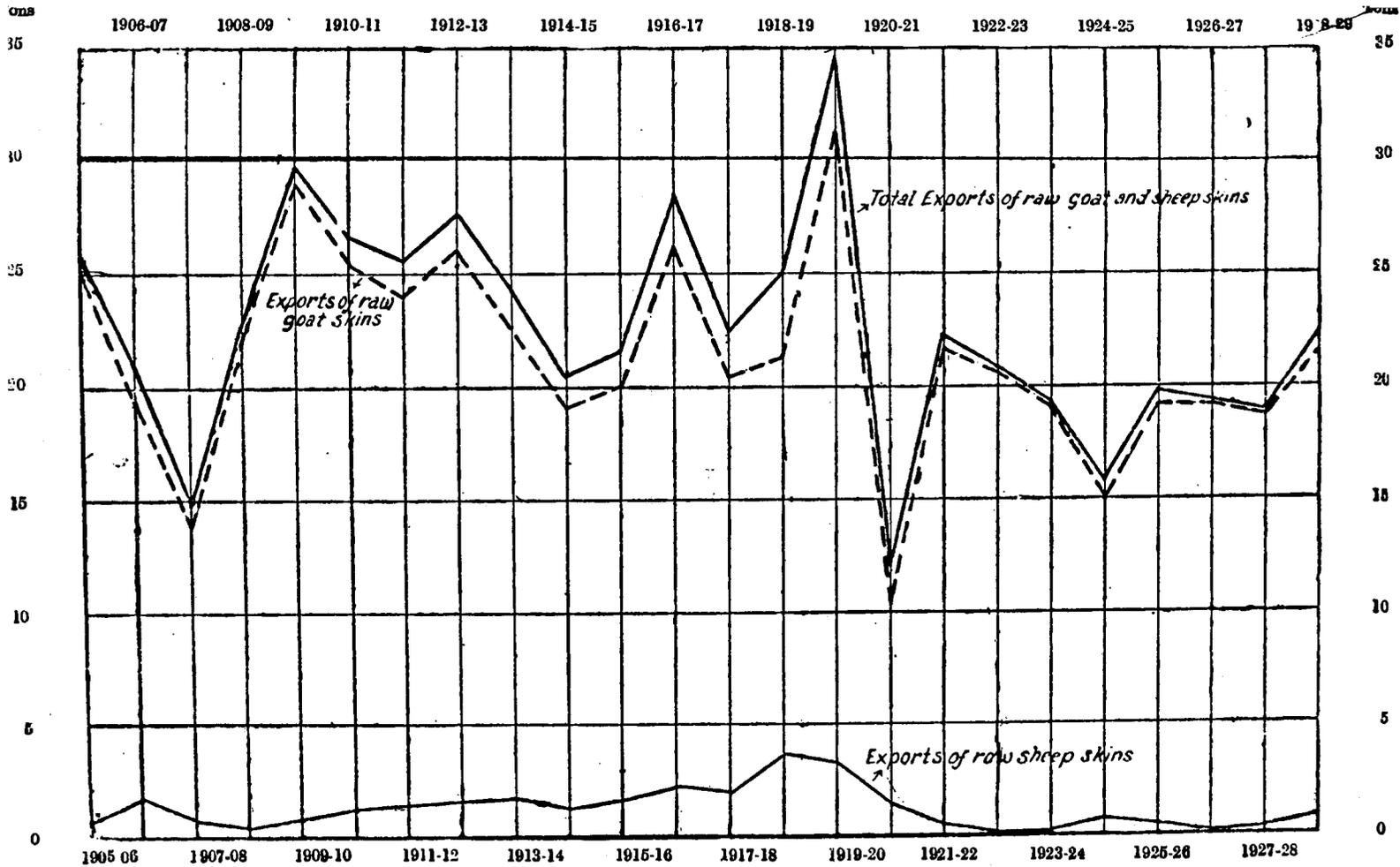


TABLE
Exports of oil
NOTE.—Separat

	1912-13.		1913-14.		1914-15.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	39	30,000	14	9,570	15	16,85
Germany	50	36,150	11	13,605	5	8,55
Other Countries	70	82,800	12	14,010	5	4,30
Share of Bengal	36	17,430	18	21,105	11	13,60
" Bombay . . . . .	..	..	3	4,005	..	..
" Sind	118	1,28,595	8	8,175	10	13,60
" Madras . . . . .	..	45	..	..	..	..
" Burma	5	2,880	8	3,900	4	2,50
TOTAL	159	1,48,950	37	37,185	25	29,70
Declared value per ton . . . . .	..	937	..	1,005	..	1,10
	1920-21.		1921-22.		1922-23.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1	880	..	20	..	..
Germany . . . . .	..	..	..	..	4	3,0
Other Countries . . . . .	..	..	..	..	2	7
Share of Bengal . . . . .	..	..	..	..	4	3,0
" Bombay . . . . .	..	..	..	20	..	..
" Sind . . . . .	..	..	..	..	2	7
" Madras . . . . .	..	..	..	..	..	..
" Burma	1	880	..	..	..	..
TOTAL	1	880	..	20	6	3,8
Declared value per ton . . . . .	..	880	..	..	..	6

bides.

rded from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.			
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.		
6	6,870	17	10,830	..	..	..	..	16	25,940		
..		
..		
..		
..	..	16	9,510	..	..	..	..	15	25,280		
5	5,595	1	1,320	..	..	..	..	..	..
..		
1	1,275	..	..	..	..	..	..	1	660		
6	6,870	17	10,830	..	..	..	..	16	25,940		
..	1,145	..	637	..	..	..	..	..	1,621		
1923-24.		1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
..	15	..	..	..	..	..	..	4	1,295	7	2,734
3	1,000	6	2,390	9	6,232	14	7,002	36	29,757	61	1,27,553
4	1,432	5	3,230	6	2,600	11	3,385	10	2,987	15	5,288
3	1,000	6	3,090	9	6,232	5	4,422	4	3,690	6	5,926
..
4	1,432	5	2,530	6	2,600	20	5,965	46	30,249	77	1,34,649
..	..	..	..	..	..	..	..	..	100	..	..
..	15	..	..	..	..	..	..	..	..	..	..
7	2,447	11	5,620	15	8,832	25	10,387	50	34,039	83	1,40,575
..	350	..	511	..	589	..	415	..	681	..	1,694

TAB

Exports of oil

NOTE.—Separately recorded

—	1905-06.		1906-07.		1907-08.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	84	1,27,416	279	4,09,935	52	94,7
Australia . . . . .	..	..	..	..	..	..
Germany	79	1,19,127	261	3,68,212	182	3,28,6
Netherlands	17	20,800	94	1,37,157	34	50,3
France	94	1,11,921	104	1,33,093	27	44,0
United States	580	6,61,348	487	6,56,675	29	49,3
Other Countries	303	5,03,412	893	15,53,561	373	6,91,7
Share of Bengal	987	13,32,745	1,801	29,13,857	654	11,98,8
" Bombay . . . . .	..	..	2	6,075	..	..
" Sind	136	1,38,532	293	2,99,615	31	39,3
" Madras	34	71,292	21	38,040	11	19,4
" Burma . . . . .	..	1,455	1	1,046	1	1,3
TOTAL	1,157	15,44,024	2,118	32,58,633	697	12,58,8
Declared value per ton . . . . .	..	1,335	..	1,539	..	1,3

—	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	7	16,155	4	31,910	11	63,0
Australia . . . . .	..	..	..	..	..	..
Germany . . . . .	..	135	..	..	..	..
Netherlands . . . . .	..	..	..	..	..	..
France . . . . .	..	..	..	..	..	..
United States . . . . .	..	..	..	..	..	..
Other Countries . . . . .	..	405	1	1,240	..	..
Share of Bengal . . . . .	..	..	..	..	5	3,0
" Bombay . . . . .	..	..	..	..	..	..
" Sind	3	9,285	3	29,790	6	59,1
" Madras	3	7,140	1	3,105	..	..
" Burma	1	270	1	255	..	..
TOTAL	7	16,695	5	33,150	11	63,0
Declared value per ton . . . . .	..	2,385	..	6,630	..	5,7

—	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1	7,290	9	1,25,969	3	52,4
Australia . . . . .	..	..	..	..	..	..
Germany	1	12,500	1	6,519	5	28,3
Netherlands . . . . .	..	..	..	..	..	..
France . . . . .	..	..	1	2,400	1	1,4
United States	1	22,185	..	2,974	1	27,5
Other Countries . . . . .	..	11,266	13	70,828	9	47,7
Share of Bengal	1	36,771	8	61,989	11	53,8
" Bombay	1	13,670	13	1,41,478	7	1,03,0
" Sind . . . . .	..	..	..	..	..	..
" Madras	1	1,250	1	1,498	..	3
" Burma . . . . .	..	1,550	2	3,725	1	3
TOTAL	3	53,241	24	2,08,690	19	1,57,5
Declared value per ton . . . . .	..	17,747	..	8,695	..	8,2

avo skins.

from 1905-06.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
16	24,527	53	60,015	59	71,310	44	55,980	12	22,095
..
54	73,619	8	8,565	49	58,665	34	33,810	4	3,525
11	16,302	3	3,645	8	11,250	2	1,875	..	..
39	56,115	7	9,990	24	42,990	17	17,520	..	150
200	2,75,814	594	8,65,755	298	3,88,615	636	8,26,440	58	82,410
483	9,51,190	371	6,62,655	434	8,45,345	448	5,85,960	59	96,945
756	13,42,001	987	15,41,970	819	11,48,295	1,088	14,04,150	119	1,81,260
..	..	..	..	..	..	..	..	..	30
37	38,770	43	58,185	47	59,130	69	80,235	9	16,500
9	14,024	5	7,410	5	9,435	22	34,635	4	6,585
1	2,772	1	3,060	1	1,215	..	120	1	750
803	13,97,567	1,036	16,10,625	872	12,18,075	1,181	15,21,585	133	2,05,125
..	1,740	..	1,555	..	1,397	..	1,288	..	1,542
1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
5	52,470	1	9,495	3	20,400	4	25,170	10	78,100
..	..	4	14,265	..	..	..	..	..	..
..
..
..	..	..	..	5	12,060	..	..	7	4,600
..	..	..	..	..	..	1	5,500	4	48,260
..	930	20	44,745	7	69,045	9	1,22,480	7	59,610
..	..	21	44,700	6	57,180	12	1,22,950	8	83,910
..	225	..	3,840	8	44,325	2	26,570	19	89,140
5	52,110	..	5,655	..	..	..	3,280	1	17,010
..	900	4	14,295	..	..	..	340	..	50
..	165	..	15	..	..	..	..	..	460
5	53,400	25	68,505	14	1,01,505	14	1,53,150	28	1,90,570
..	10,680	..	2,740	..	7,250	..	10,939	..	6,806
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
6	1,25,836	9	1,10,654	34	3,92,110	80	9,14,784	19	3,29,990
..	5,065	..	8,952	..	19,075	8	1,17,570	6	76,807
6	35,820	20	1,36,631	50	4,98,791	50	6,97,614	14	1,74,834
..	..	..	2,100	1	20,400	..	9,300	25	56,298
8	48,302	16	1,44,746	129	16,20,033	137	19,06,297	285	19,99,898
1	44,496	6	92,125	25	2,58,355	63	7,06,627	94	7,66,885
5	60,029	9	71,964	17	1,95,442	4	52,681	1	23,694
16	1,08,769	39	3,58,400	183	23,06,783	225	30,92,885	377	27,40,713
9	1,80,738	10	1,22,803	14	1,46,128	81	8,04,738	55	5,64,333
1	10,866	..	5,790	2	26,542	6	92,374	2	27,276
..	19,151	10	79,719	57	5,23,863	26	4,09,912	5	92,057
..	24	1	460	..	890	4	4,964	5	4,027
28	3,19,548	60	5,67,172	256	30,04,206	342	44,04,573	444	34,28,406
..	12,290	..	9,453	..	11,735	..	12,880	..	7,722

TABL

Exports of tanned

NOTE.—Separately recor

	1912-13.		1913-14.		1914-15.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	10,684	1,90,02,300	7,778	1,44,60,435	9,477	2,15,25,28
Hongkong	4	5,670	1	3,105	..	..
China.	3	5,895	14	26,670	6	13,80
United States	6	10,335	41	65,085	48	87,26
Other Countries	74	1,45,800	85	1,84,525	47	80,54
Share of Bengal	7	18,150	1	1,305	..	84
" Bombay	1,848	40,35,240	1,482	33,66,585	2,145	56,44,62
" Sind	11	24,945	..	720	9	29,65
" Madras	8,874	1,50,45,465	6,415	1,13,30,520	7,401	1,60,00,35
" Burma	31	46,200	21	40,680	23	31,42
TOTAL .	10,771	1,91,70,000	7,919	1,47,39,810	9,578	2,17,06,89
Declared value per ton .	..	1,780	..	1,861	..	2,266

	1920-21.		1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	3,034	88,06,970	4,563	1,06,93,576	7,775	1,80,42,820	10,639	2,56,93,40
Hongkong	104	1,78,860	655	16,17,712	488	12,52,048	461	11,56,28
China.	33	64,370	84	1,92,695	70	1,58,250	95	2,07,62
United States	120	2,59,620	10	28,029	113	2,41,837	176	4,04,46
Other Countries	222	5,01,280	185	4,91,188	84	2,28,712	95	2,35,19
Share of Bengal	31	1,44,320	11	27,076	32	43,725	204	3,90,50
" Bombay	431	20,43,920	897	37,45,068	973	38,56,287	1,044	43,45,60
" Sind	9	23,570	..	..	37	95,168	62	1,54,35
" Madras	2,778	71,39,000	3,784	72,67,265	6,792	1,41,69,579	9,570	2,13,81,48
" Burma	264	4,60,290	805	19,83,791	696	17,58,908	586	14,25,00
TOTAL .	3,513	98,11,100	5,497	1,30,23,200	8,530	1,99,23,667	11,466	2,76,96,95
Declared value per ton .	..	2,793	..	2,369	..	2,336	..	2,41

3.

Pressed cow hides.

from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
12,318	2,82,99,090	14,305	4,03,62,690	17,302	4,70,83,770	24,989	7,02,01,680	20,303	6,70,47,050
..	..	2	4,395	2	4,515	..	..	6	8,210
..	..	..	..	..	..	1	1,800	6	9,150
..	..	..	..	..	..	19	52,575	1,017	37,30,620
51	89,820	43	84,345	25	60,015	9	38,625	227	7,47,620
7	13,320	4	22,680	2	16,560	2	13,620	535	16,16,210
2,336	66,48,135	2,090	73,77,675	3,069	74,57,100	2,864	62,38,665	4,264	1,98,18,780
42	1,04,250	3	11,100	84	1,37,670	..	285	69	2,74,510
9,945	2,15,59,635	12,214	3,29,69,535	14,156	3,95,10,865	22,150	6,40,38,285	16,628	4,97,00,710
39	63,570	39	70,440	18	26,115	2	3,825	63	1,32,440
12,369	2,83,88,910	14,350	4,04,51,430	17,329	4,71,48,300	25,018	7,02,94,680	21,559	7,15,42,650
..	2,295	..	2,819	..	2,721	..	2,310	..	3,318
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
10,567	2,67,46,864	10,051	2,49,01,369	9,264	2,20,83,745	12,408	3,17,99,610	12,171	3,26,27,266
377	9,29,693	301	5,63,680	352	7,11,000	107	2,53,800	125	2,88,024
102	1,82,035	143	2,44,950	153	2,63,900	128	2,24,980	94	1,98,250
120	2,87,460	106	2,45,268	79	1,74,820	589	15,31,012	1,221	29,79,359
51	1,51,046	83	2,40,963	47	1,32,096	79	2,10,297	84	2,21,579
224	6,38,363	247	6,33,173	85	1,94,046	18	53,654	11	33,525
1,204	48,68,762	799	33,80,914	771	28,43,626	1,434	51,00,069	1,074	41,59,194
36	1,19,190	22	54,427	11	34,643	13	33,867	64	2,13,200
9,276	2,15,66,523	9,147	2,12,82,786	8,515	1,93,00,946	11,609	2,83,50,329	12,327	3,14,20,980
477	11,04,260	469	8,34,930	513	9,92,400	237	4,81,780	219	4,87,579
11,217	2,82,97,098	10,684	2,61,86,230	9,895	2,33,65,561	13,311	3,40,19,699	13,695	3,63,14,478
..	2,523	..	2,451	..	2,361	..	2,556	..	2,652

TABLE
Exports of tanned or

NOTE.—Separately

—	1912-13.		1913-14.		1914-15.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	735	9,83,730	702	9,92,370	1,218	22,80,390
Ceylon Colony	1	1,500	2	3,645	..	1,200
India . . . . .	..	..	..	..	..	..
United States	1	2,070	2	2,505	8	12,165
Other Countries	113	1,91,880	71	1,28,385	37	69,045
Province of Bengal	1	855	..	540	..	..
„ Bombay	111	1,91,355	74	1,33,845	150	3,71,160
„ Sind	2	4,890	..	..	1	4,005
„ Madras	735	9,80,130	703	9,92,520	1,112	19,87,635
„ Burma	1	2,010	..	..	..	..
TOTAL	850	11,79,180	777	11,26,905	1,263	23,62,800
Declared value per ton . . . . .	..	1,387	..	1,450	..	1,871

—	1920-21.		1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	206	4,03,420	358	4,69,540	588	9,48,310	746	11,99,186
Ceylon Colony	19	38,370	23	48,043	27	56,525	41	71,939
India . . . . .	..	..	57	1,20,540	23	48,594	24	75,904
United States	3	3,000	..	..	..	..	..	..
Other Countries	43	80,330	68	1,49,256	57	1,36,907	33	63,003
Province of Bengal	18	44,950	..	2,479	2	4,042	1	1,120
„ Bombay	35	86,030	131	2,97,400	78	1,70,805	97	2,06,846
„ Sind . . . . .	..	1,320	..	..	..	672	..	3,930
„ Madras	197	3,74,010	360	4,75,200	598	9,84,317	744	11,97,236
„ Burma	21	18,810	15	12,300	17	30,500	2	900
TOTAL	271	5,25,120	508	7,87,379	695	11,90,336	844	14,10,032
Declared value per ton . . . . .	..	1,938	..	1,556	..	1,713	..	1,671

9.

dressed buffalo hides.

recorded from 1912-13.

1915-16.		1916-17.		1917-18.		1918-19.		1919-20.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
1,199	21,43,395	1,595	35,68,740	904	18,37,845	320	5,28,180	1,491	34,09,620
10	23,415	17	35,835	10	22,320	13	28,095	14	34,200
..
..	..	..	..	..	..	35	65,805	107	2,55,080
3	9,720	5	12,690	14	34,920	23	43,005	178	3,97,600
1	2,010	..	15	..	..	..	165	64	1,03,370
24	51,975	91	1,98,900	38	1,00,965	17	41,355	220	7,46,460
9	21,975	1	2,580	1	1,365	..	420	..	..
1,175	20,97,780	1,518	33,93,690	889	17,92,755	374	6,23,145	1,477	32,02,800
3	2,790	7	22,080	..	..	..	..	29	43,870
1,212	21,76,530	1,617	36,17,265	928	18,95,085	391	6,65,085	1,790	40,96,500
..	1,796	..	2,237	..	2,042	..	1,701	..	2,289
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.	Tons.	Ra.
824	15,87,969	375	7,37,555	381	7,10,683	1,030	20,82,498	1,244	26,31,551
43	85,726	34	72,753	34	66,758	46	87,093	40	82,590
24	70,042	16	45,428	43	92,340	1	800	29	55,080
..	1,292	..	..	3	7,330	..	700	54	1,12,558
49	1,92,581	49	1,18,487	46	1,01,975	27	65,463	34	83,381
30	82,073	..	..	3	4,399	..	416	..	..
112	3,40,245	97	2,32,223	122	2,65,632	80	1,78,450	105	2,28,829
1	4,352	..	999	..	1,324	..	1,218	2	5,861
797	15,10,940	377	7,41,001	382	7,07,731	1,024	20,56,470	1,293	27,29,660
..	..	..	..	..	..	..	..	1	810
940	19,37,610	474	9,74,223	507	9,79,086	1,104	22,36,554	1,401	29,65,160
..	2,061	..	2,055	..	1,931	..	2,026	..	2,116

CHART 4.

Quantities (in 1,000 tons) exported of (i) tanned or dressed cow hides, (ii) tanned or dressed buffalo hides and (iii) total tanned or dressed cow and buffalo hides.

Thousand Tons

1912-13 1914-15 1916-17 1918-19 1920-21 1922-23 1924-25 1926-27 1928-29

1913-14 1915-16 1917-18 1919-20 1921-22 1923-24 1925-26 1927-28

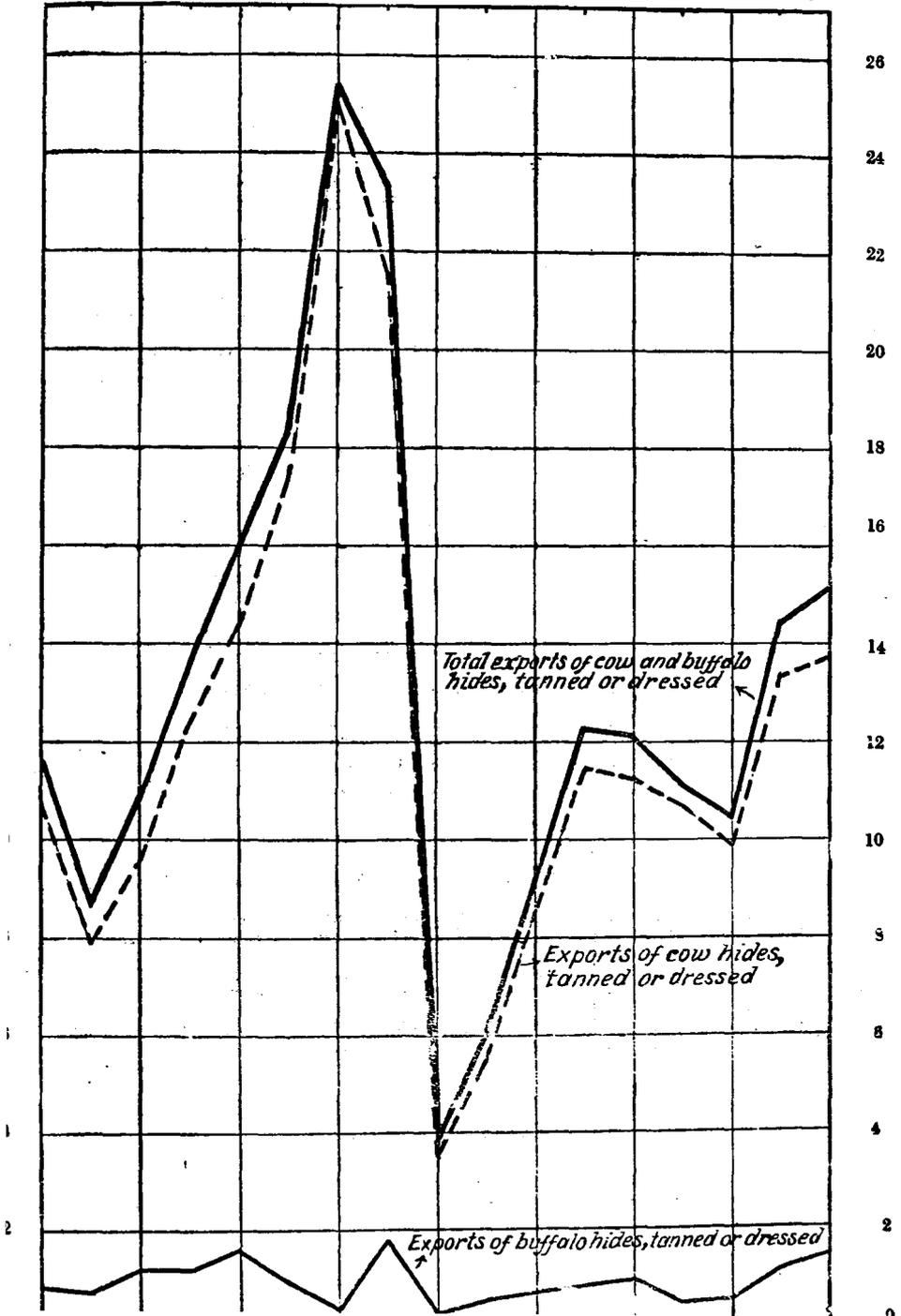


TABLE 10.

Exports of tanned or dressed cow calf skins.

NOTE.—Separately recorded from 1920-21.

	1920-21.		1921-22.		1922-23.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	221	9,01,380	256	6,63,902	531	16,00,068
Other Countries	7	20,300	5	10,202	4	15,785
Share of Bengal . . . . .	..	..	1	1,950	2	5,064
" Bombay	4	14,920	12	46,900	24	1,14,851
" Sind . . . . .	..	..	..	..	..	631
" Madras	222	9,02,760	248	6,25,254	509	14,95,296
" Burma	2	4,000	..	..	..	..
TOTAL	228	9,21,680	261	6,74,104	535	16,15,841
Declared value per ton . . . . .	..	4,042	..	2,583	..	3,021
	1923-24.		1924-25.		1925-26.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	662	20,68,869	626	24,81,564	655	24,53,333
Other Countries	27	69,345	8	21,630	2	13,633
Share of Bengal . . . . .	..	..	..	..	..	60
" Bombay	31	1,38,065	59	2,74,236	47	2,53,30
" Sind	4	7,991	5	12,029	10	21,98
" Madras	652	19,87,358	570	22,16,829	600	21,91,07
" Burma	2	4,800	..	..	..	..
TOTAL	689	21,38,214	634	25,03,094	657	24,66,96
Declared value per ton . . . . .	..	3,103	..	3,948	..	3,75
	1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	658	25,58,481	818	33,17,491	693	28,22,40
Other Countries	1	9,445	19	1,09,717	16	62,38
Share of Bengal . . . . .	..	..	..	2,745	..	1,70
" Bombay	37	2,10,742	79	4,02,242	28	1,71,36
" Sind	11	36,414	8	20,574	22	83,94
" Madras	611	23,20,770	750	30,01,647	659	26,27,76
" Burma . . . . .	..	..	..	..	..	..
TOTAL	659	25,67,926	837	34,27,208	709	28,84,76
Declared value per ton . . . . .	..	3,897	..	4,095	..	4,06

TABLE 11.

Exports of tanned or dressed buffalo calf skins.

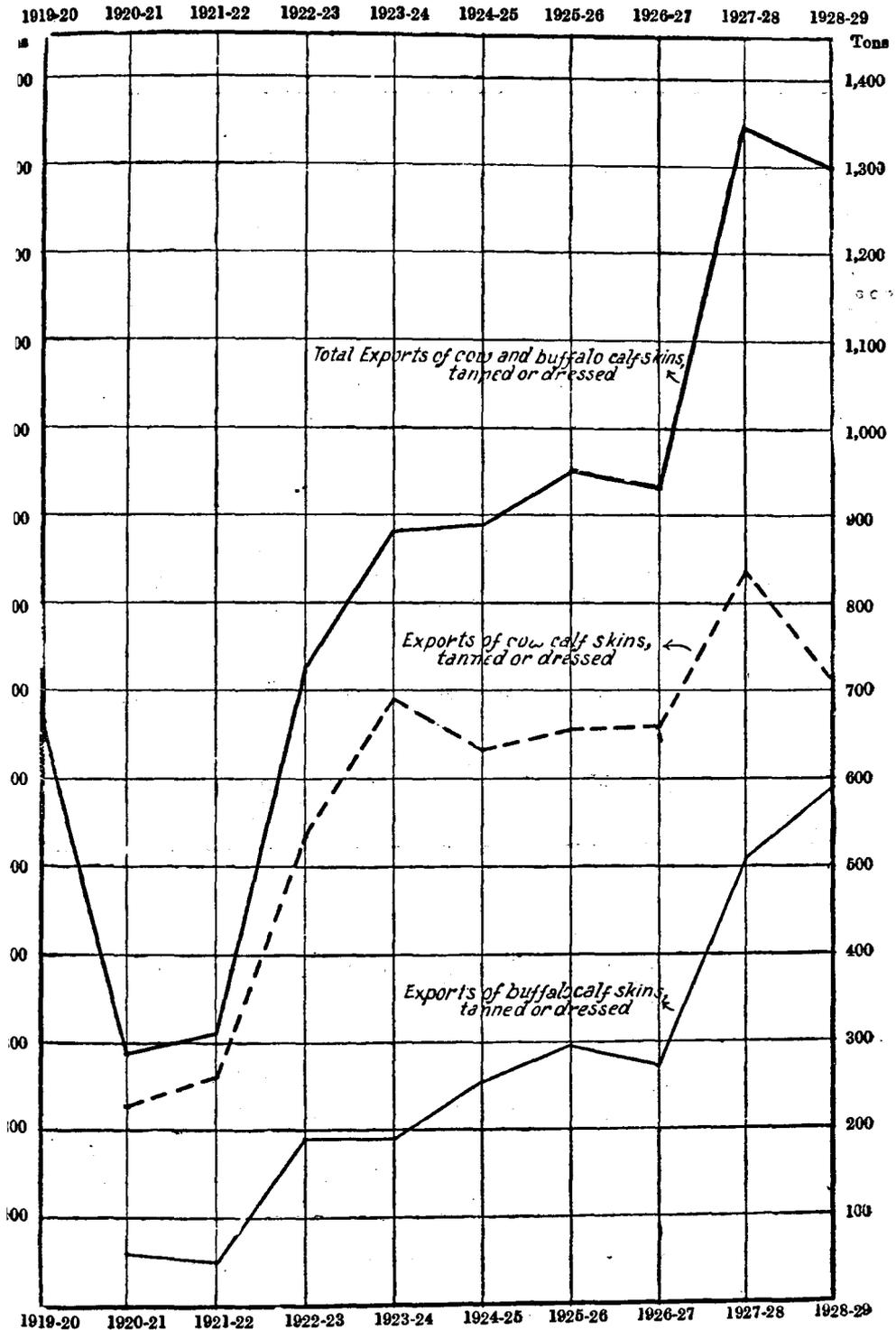
NOTE.—Separately recorded from 1920-21.

—	1920-21.		1921-22.		1922-23.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	58	2,08,730	47	88,950	190	4,15,990
United States	2	3,670	..	..	..	..
Other Countries . . . . .	..	2,120	2	5,475	..	356
Province of Bengal . . . . .	..	..	..	..	..	..
" Bombay . . . . .	..	..	..	..	15	64,552
" Sind . . . . .	..	..	..	..	..	178
" Madras	60	2,14,520	49	94,425	175	3,51,616
" Burma . . . . .	..	..	..	..	..	..
TOTAL	60	2,14,520	49	94,425	190	4,16,346
Declared value per ton . . . . .	..	3,575	..	1,927	..	2,191

—	1923-24.		1924-25.		1925-26.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	184	4,05,807	247	7,19,064	286	7,61,414
United States . . . . .	..	..	8	19,925	8	27,912
Other Countries	6	13,182	..	986	..	1,277
Province of Bengal . . . . .	..	..	..	..	..	..
" Bombay	14	57,450	36	1,93,011	5	24,200
" Sind	8	19,058	5	12,449	2	4,311
" Madras	162	3,29,481	214	5,34,515	287	7,62,092
" Burma	6	13,000	..	..	..	..
TOTAL	190	4,18,989	255	7,39,975	294	7,90,603
Declared value per ton . . . . .	..	2,205	..	2,902	..	2,689

—	1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	245	7,92,580	449	13,24,911	392	12,49,096
United States	27	72,814	59	1,65,461	199	5,81,455
Other Countries	1	4,475	..	2,882	..	561
Province of Bengal . . . . .	..	..	..	..	..	..
" Bombay	7	38,301	11	65,367	8	38,510
" Sind	3	8,131	3	9,974	10	25,330
" Madras	263	8,23,437	494	14,17,913	573	17,67,272
" Burma . . . . .	..	..	..	..	..	..
TOTAL	273	8,69,869	508	14,93,254	591	18,31,112
Declared value per ton . . . . .	..	3,186	..	2,939	..	3,098

Quantities (in tons) exported of (i) tanned or dressed cow calf skins, (ii) tanned or dressed buffalo calf skins and (iii) total tanned or dressed cow and buffalo calf skins.



Exports of tannin

NOTE.—Separately recorded

	1905-06.		1906-07.		1907-08.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	3,211	1,09,53,761	3,473	1,34,93,737	3,655	1,38,71,180
Netherlands . . . . .	..	..	6	21,060	5	18,450
United States	413	13,46,125	664	18,32,451	406	14,45,287
Other Countries	53	1,81,806	51	1,88,330	59	2,87,000
Share of Bengal . . . . .	..	948	147	3,08,183	1	6,000
" Bombay	1,094	36,77,402	1,158	36,21,121	1,469	44,43,000
" Sind	180	5,23,115	259	8,70,058	121	4,63,000
" Madras	2,407	82,79,377	2,630	1,07,35,166	2,532	1,07,02,000
" Burma	1	850	..	1,050	2	6,000
TOTAL	3,682	1,24,81,692	4,194	1,55,35,578	4,125	1,56,22,000
Declared value per ton.	..	3,390	..	3,704	..	3,000
	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	3,322	1,44,87,105	2,820	1,16,10,870	2,242	95,22,000
Netherlands . . . . .	..	..	..	..	..	..
United States	292	11,61,975	345	13,99,860	1,284	52,41,000
Other Countries	92	4,57,425	99	2,33,745	12	40,000
Share of Bengal . . . . .	..	..	..	..	1	4,000
" Bombay	647	26,24,460	602	26,63,085	563	21,07,000
" Sind	90	3,63,285	83	3,17,220	122	4,03,000
" Madras	2,969	1,31,18,760	2,379	1,02,64,170	2,852	1,21,99,000
" Burma . . . . .	..	..	..	..	..	..
TOTAL	3,706	1,61,06,505	3,064	1,32,44,475	3,538	1,48,04,000
Declared value per ton.	..	4,729	..	4,323	..	4,000
	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,078	75,62,364	1,399	98,83,202	1,279	79,88,000
Netherlands	16	1,08,150	1	12,027	..	..
United States	80	4,06,061	84	4,52,143	76	4,65,000
Other Countries	26	1,78,319	7	76,125	8	47,000
Share of Bengal . . . . .	..	1,800	..	..	1	5,000
" Bombay	119	7,36,238	228	11,12,303	265	15,44,000
" Sind	74	3,81,375	108	5,03,804	99	3,61,000
" Madras	1,007	71,32,981	1,155	88,06,390	997	65,86,000
" Burma . . . . .	..	2,500	..	1,000	1	3,000
TOTAL	1,200	82,54,894	1,491	1,04,23,497	1,363	85,01,000
Declared value per ton.	..	6,879	..	6,991	..	6,000

essed goat skins.

m 1905-06.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.	
ns.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
57	1,30,23,408	2,741	1,12,89,915	3,448	1,45,65,930	3,925	1,64,10,435	2,832	1,19,95,950
76	18,18,296	264	9,84,165	160	5,94,255	142	5,27,250	132	4,73,760
17	74,384	213	9,23,325	171	8,40,795	116	5,96,385	123	6,08,865
1	3,000	..	420	..	..	..	..	..	..
40	31,07,196	735	26,31,960	726	25,31,010	725	27,86,820	628	22,55,535
87	2,49,953	88	3,16,980	136	4,73,445	226	4,42,920	72	2,66,100
21	1,15,54,764	2,394	1,02,47,445	2,917	1,29,96,525	3,232	1,43,04,330	2,386	1,05,56,325
1	2,175	1	600	..	..	..	..	1	615
50	1,49,16,088	3,218	1,31,97,405	3,779	1,60,00,980	4,183	1,75,34,070	3,087	1,30,78,575
.	3,978	..	4,101	..	4,234	..	4,192	..	4,237
1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
ns.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
31	1,77,25,755	444	46,02,375	910	86,57,010	1,331	1,52,45,630	766	68,62,850
04	81,67,690	237	18,65,010	168	16,64,985	176	16,30,570	29	1,82,490
38	1,11,785	4	25,335	32	3,97,320	35	4,06,920	29	2,82,760
.	..	..	..	..	4,980	9	56,230	4	23,970
72	35,77,755	446	34,58,355	595	60,61,005	196	14,94,820	113	7,52,430
70	11,91,825	41	4,11,660	183	14,45,325	67	5,80,990	13	1,09,180
31	2,12,34,645	184	25,85,775	328	31,93,260	1,267	1,51,49,220	691	64,35,460
.	1,005	14	36,930	4	14,745	3	1,860	3	12,940
73	2,60,05,230	685	64,92,720	1,110	1,07,19,315	1,542	1,72,83,120	824	73,33,980
.	6,086	..	9,478	..	9,657	..	11,208	..	8,900
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
ns.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
75	1,92,01,930	2,733	1,82,00,715	3,366	2,25,17,652	3,667	2,44,87,357	3,259	2,27,41,893
25	1,86,918	21	1,22,750	19	1,26,566	33	2,18,902	24	1,63,959
08	8,89,074	132	6,83,030	259	15,39,305	193	12,69,797	347	23,20,604
26	1,50,092	57	2,21,766	42	2,93,617	31	2,34,159	29	2,00,810
.	..	..	..	..	6,856	..	4,510	..	11,922
44	26,73,162	362	19,54,231	541	30,93,420	649	34,82,182	527	33,72,098
86	7,50,733	91	3,95,623	91	3,97,522	75	3,41,162	60	2,66,095
04	1,70,04,119	2,490	1,68,78,407	3,054	2,09,79,342	3,200	2,23,82,361	3,072	2,17,75,401
.	..	..	..	..	..	..	..	..	1,750
34	2,04,28,014	2,943	1,92,28,261	3,686	2,44,77,140	3,924	2,62,10,215	3,659	2,54,27,266
..	6,317	..	6,534	..	6,641	..	6,679	..	6,949

TAB

Exports of tanned

NOTE.—Separa

	1905-06.		1906-07.		1907-08.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,995	57,26,511	2,122	81,97,037	2,347	91,54,6
Straits Settlements	275	6,22,468	144	4,76,831	270	8,68,1
Netherlands . . . . .	..	..	..	..	..	..
Java . . . . .	..	..	..	..	..	..
Japan	129	3,27,832	109	4,29,905	122	4,47,6
United States	619	14,49,874	695	20,79,663	559	19,68,0
Other Countries	32	91,709	25	80,739	34	1,31,2
Share of Bengal . . . . .	..	..	..	..	2	12,1
" Bombay	605	17,86,424	463	15,02,896	547	17,83,9
" Sind	29	83,397	24	75,533	17	67,8
" Madras	2,415	63,43,502	2,609	96,85,046	2,764	1,06,95,8
" Burma	1	5,071	..	700	2	10,1
TOTAL	3,050	82,18,394	3,096	1,12,64,175	3,332	1,25,69,8
Declared value per ton . . . . .	..	2,691	..	3,638	..	3,7

	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,460	58,85,760	1,459	56,35,425	1,578	63,18,5
Straits Settlements	86	3,37,800	88	3,42,780	89	3,72,6
Netherlands . . . . .	..	..	..	..	..	..
Java . . . . .	..	..	..	..	..	..
Japan	373	13,19,625	421	15,80,100	290	11,40,7
United States	518	18,83,640	310	11,98,830	488	19,67,0
Other Countries	46	1,58,175	2	68,340	22	78,1
Share of Bengal	7	17,835	56	2,34,990	36	1,52,8
" Bombay	228	8,98,695	234	9,96,210	335	13,95,2
" Sind	29	98,085	21	81,975	53	1,78,3
" Madras	2,219	85,69,830	1,988	75,20,850	2,042	81,47,5
" Burma . . . . .	..	555	..	450	1	3,2
TOTAL	2,483	95,85,000	2,299	78,34,475	2,467	98,77,1
Declared value per ton . . . . .	..	3,860	..	3,408	..	4,0

	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	1,422	87,67,184	1,755	94,94,548	1,946	1,06,43,8
Straits Settlements	318	14,87,289	216	10,31,441	264	12,37,5
Netherlands	31	1,49,034	17	95,921	22	1,49,8
Java	11	55,120	69	3,35,996	71	3,45,1
Japan	809	43,22,073	817	40,26,424	940	47,28,0
United States	130	7,47,621	163	9,40,941	272	14,88,3
Other Countries	38	2,07,518	75	3,41,054	39	1,41,5
Share of Bengal	2	16,326	..	8,422	..	1,6
" Bombay	161	11,43,332	145	6,78,181	174	8,64,9
" Sind	62	3,57,794	93	3,87,120	89	3,37,8
" Madras	2,516	1,42,09,989	2,860	1,51,22,872	3,291	1,75,30,0
" Burma	18	8,398	14	69,730	..	1
TOTAL	2,759	1,57,35,839	3,112	1,62,66,325	3,554	1,87,34,6
Declared value per ton . . . . .	..	5,703	..	5,227	..	5,2

13.

Dressed sheep skins.

recorded from 1905-06.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
2,176	83,72,547	2,032	78,58,875	2,020	77,38,230	1,915	74,79,645	1,747	70,25,160
198	6,69,906	207	6,78,000	176	5,85,615	129	4,48,410	123	4,33,305
..	..	..	..	3	11,295	2	6,195	1	3,570
..
108	6,88,790	228	7,70,925	373	12,32,955	237	14,24,325	456	15,34,170
537	20,97,464	574	20,69,070	497	20,01,645	582	23,04,030	669	25,92,600
50	1,78,405	88	2,89,560	71	2,04,760	239	1,23,120	21	64,590
..	150	1	1,245	..	660	..	..	..	105
389	11,57,017	396	12,77,865	372	12,13,050	331	11,31,330	324	11,68,215
16	47,112	46	1,19,970	46	1,36,635	40	1,42,725	50	1,93,275
2,773	1,08,01,197	2,685	1,02,66,285	2,721	1,04,24,160	2,733	1,05,10,815	2,641	1,02,87,075
1	1,636	1	1,065	1	1,995	..	855	2	4,725
3,159	1,20,07,112	3,129	1,16,66,430	3,140	1,17,76,500	3,104	1,17,85,725	3,017	1,16,53,395
..	3,801	..	3,728	..	3,750	..	3,797	..	3,863
1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
1,158	1,50,48,060	456	44,09,190	1,066	1,00,60,755	2,257	2,13,55,280	1,008	79,46,030
87	4,72,695	51	2,91,150	10	62,055	108	6,50,340	190	10,54,850
..	..	..	..	..	..	..	..	5	37,480
..	..	..	..	..	1,860	1	4,360	5	37,350
321	16,90,110	48	3,08,250	146	10,68,420	300	24,58,520	439	23,86,340
803	43,29,870	159	12,01,635	241	22,28,295	624	47,34,750	136	9,50,180
21	1,05,480	3	33,300	41	3,20,820	18	1,23,930	40	2,58,740
1	1,545	..	..	14	1,17,810	40	2,17,460	..	19,860
673	42,04,110	343	26,56,965	711	69,19,815	347	26,95,310	110	7,73,170
115	8,07,465	43	3,99,090	143	10,99,755	73	6,19,040	27	2,00,250
1,594	1,65,95,910	331	31,86,180	635	55,99,515	2,842	2,57,68,660	1,677	1,16,26,460
7	37,185	..	1,290	1	5,310	6	25,810	9	51,230
1,390	2,16,46,215	717	62,43,525	1,504	1,37,42,205	3,308	2,93,26,280	1,823	1,26,70,970
..	6,387	..	8,708	..	9,137	..	8,865	..	6,951
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
1,876	1,10,80,688	2,074	1,23,29,669	2,320	1,48,75,618	2,702	1,72,38,155	2,344	1,53,95,261
209	10,60,804	194	9,51,657	123	5,94,380	136	6,83,232	110	5,44,948
28	1,60,542	37	1,68,466	11	59,813	38	1,73,637	23	1,06,100
3	13,145	3	16,552	4	19,255	22	1,01,187	42	1,72,030
660	36,20,252	656	39,46,530	582	36,55,119	532	28,81,268	693	35,85,452
288	16,43,824	388	23,04,827	222	14,27,263	36	2,40,764	69	4,88,395
38	2,24,077	44	2,41,699	74	3,91,028	30	1,59,335	24	1,03,297
..	945	..	..	..	1,600	..	1,500	1	13,811
234	11,95,263	255	12,99,847	233	12,00,078	260	14,01,946	252	15,15,906
103	4,45,861	106	4,84,863	85	3,68,322	111	5,05,362	110	5,03,476
763	1,61,53,113	3,033	1,81,62,035	3,016	1,94,43,076	3,123	1,95,58,445	2,941	1,83,56,590
2	8,150	2	12,655	2	9,400	2	10,325	1	5,700
1,102	1,78,03,332	3,396	1,99,59,400	3,336	2,10,22,476	3,496	2,14,77,578	3,305	2,03,95,483
..	5,739	..	5,877	..	6,302	..	6,143	..	6,171

CHART 6.

Quantities (in 1,000 tons) exported of (i) tanned or dressed goat skins, (ii) tanned or dressed sheep skins and (iii) total tanned or dressed goat and sheep skins.

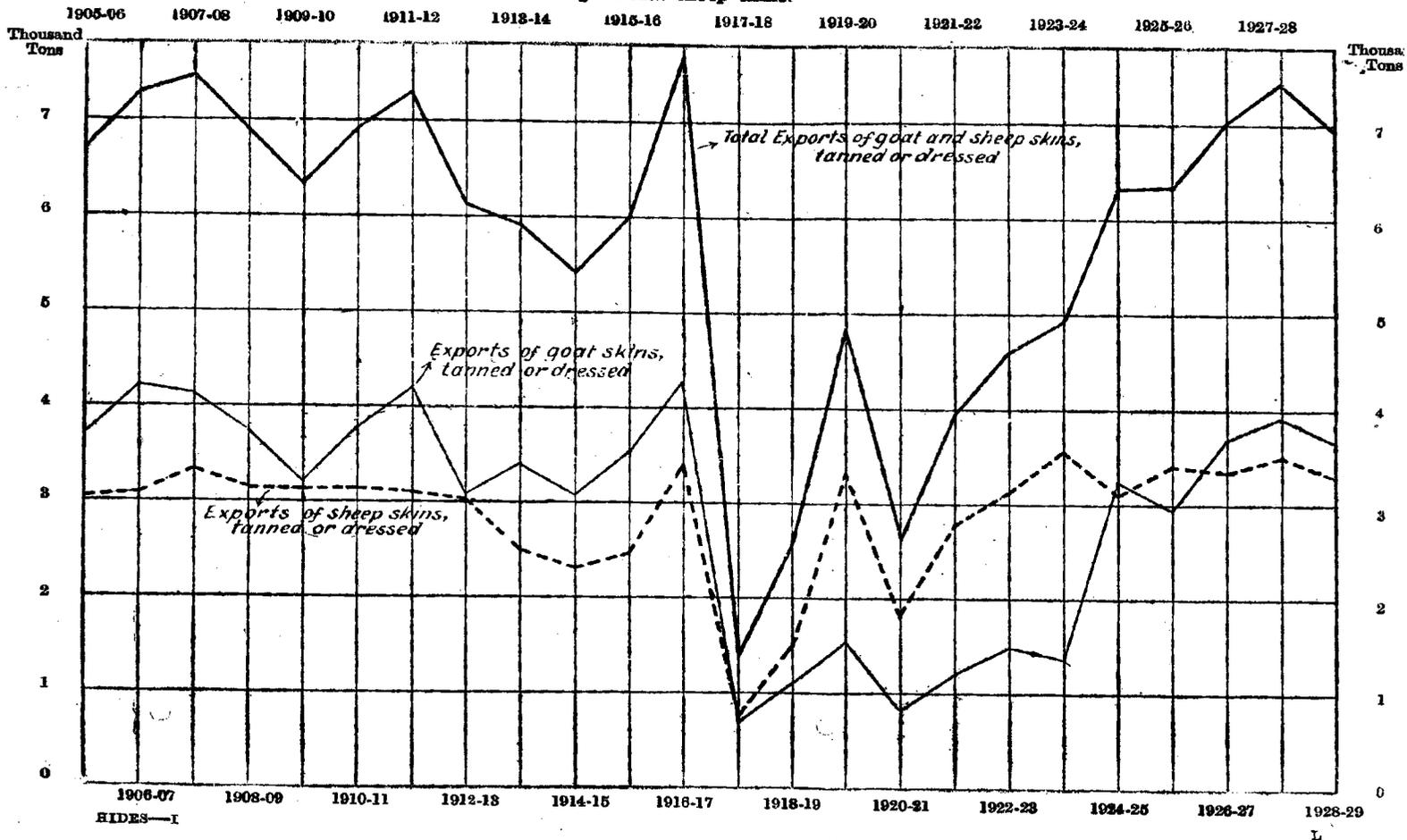


CHART 7.

Chart showing export of tanned hides (in numbers) from Madras.

EXPLANATION: 0—0 Total tanned hides including calf skins. X—X Tanned cow hides.
 0---0 Tanned calf skins. X---X Tanned buffalo hides.

MILKONS.
 8

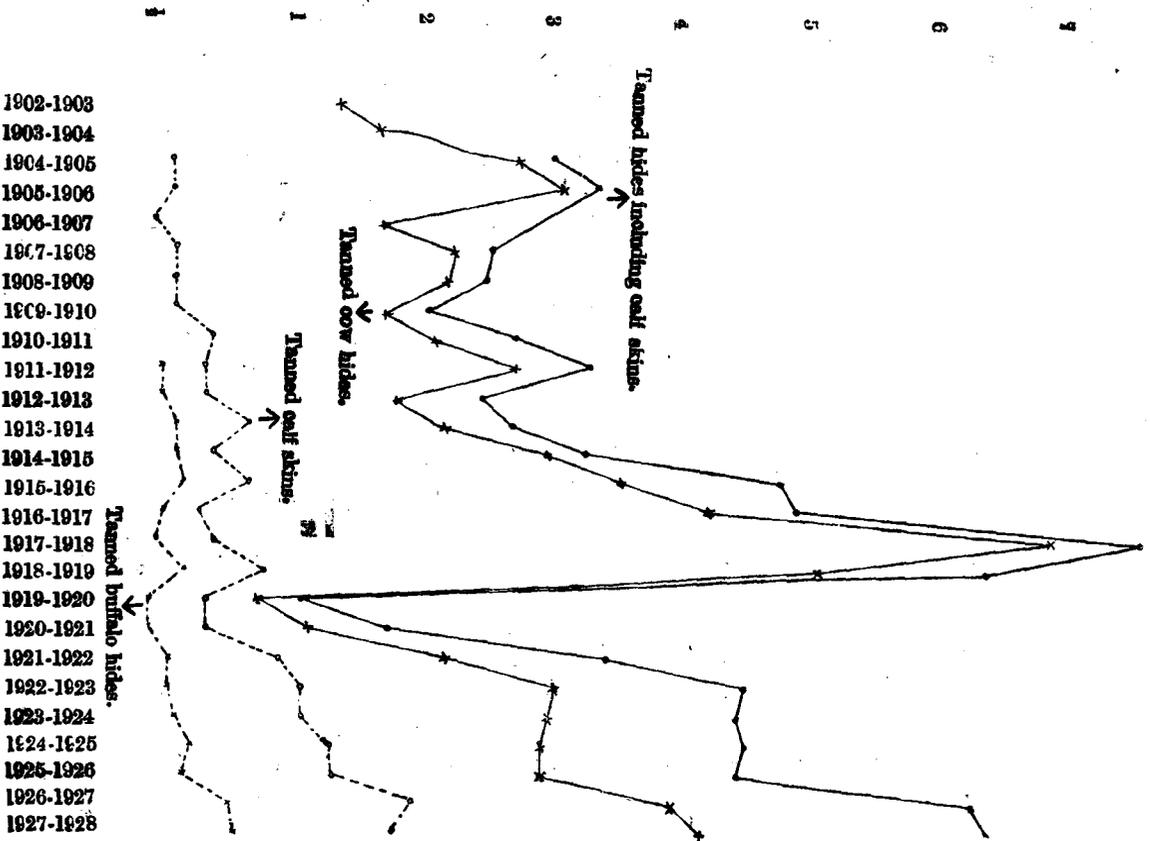


CHART 8.

Chart showing export of tanned skins (in numbers) from Madras.

REFERENCE: 0—0 Total, x—x Goat skins,
x - - - x Sheep skins.

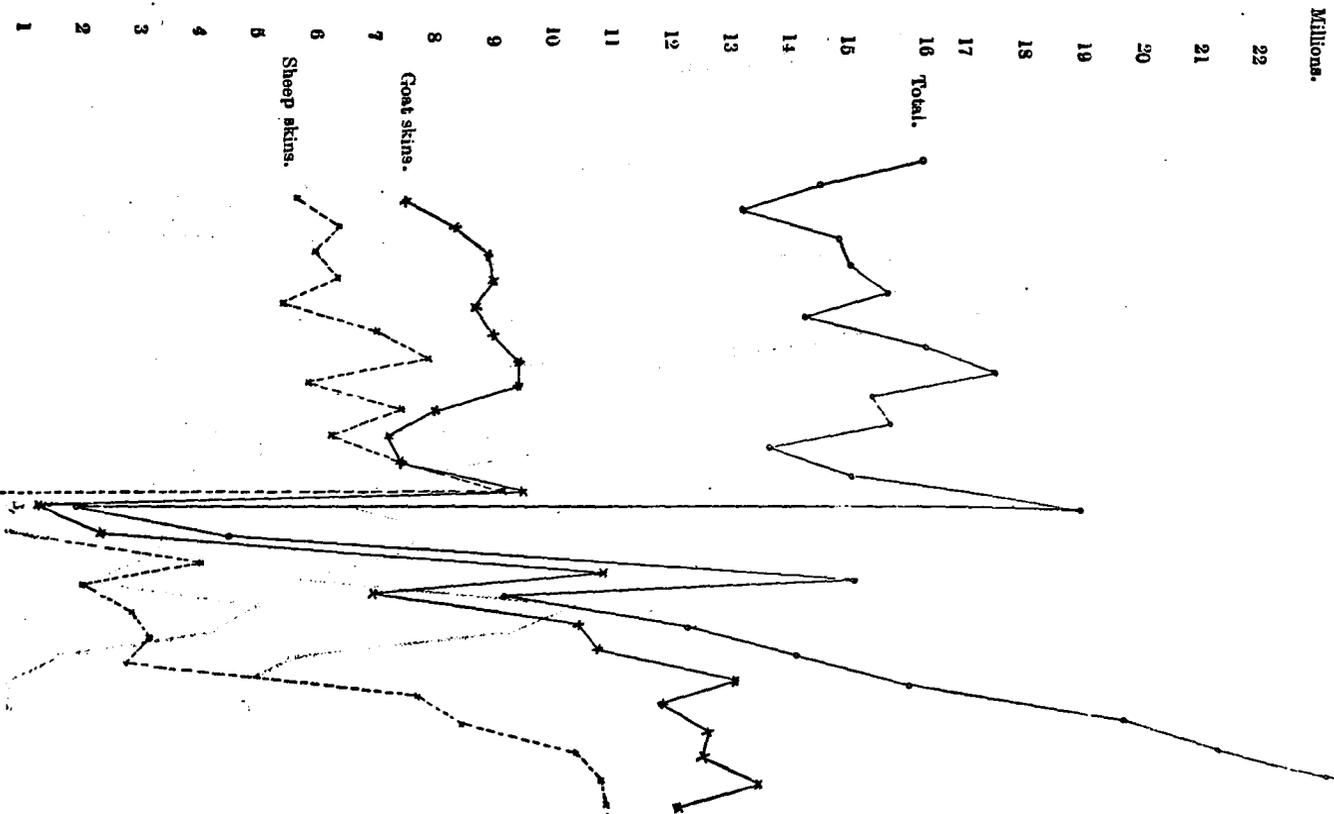


CHART 9.

Chart showing export of tanned hides (weight and value) from Madras.

REFERENCE: x - - - - x Value in rupees. 0—0 Weight in tons.

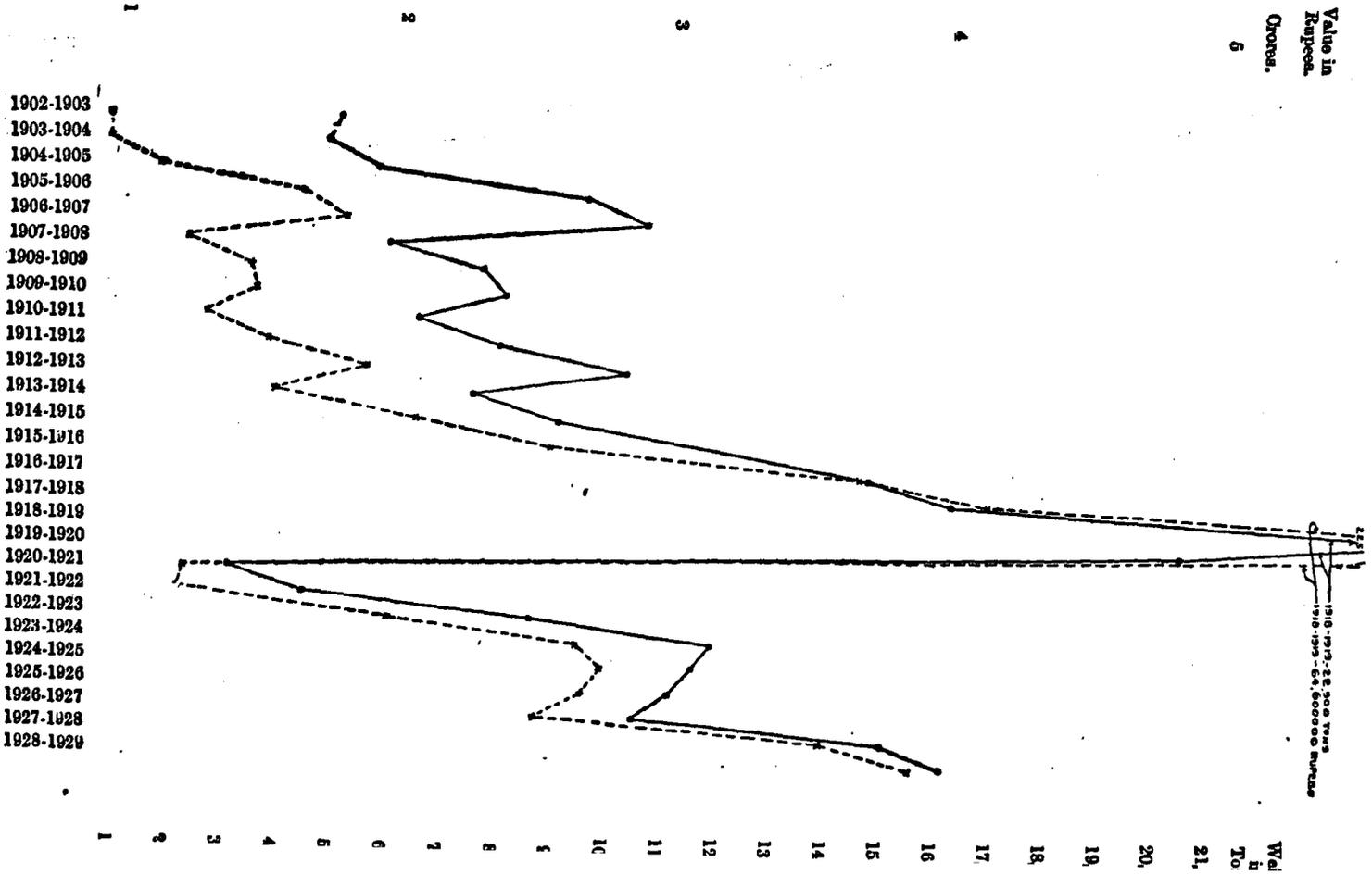


Chart showing export of tanned skins (in weight) from Madras.

REFERENCE: x - - - x Goat skins, x — x Sheep skins, 0—0 Total weight in tons.

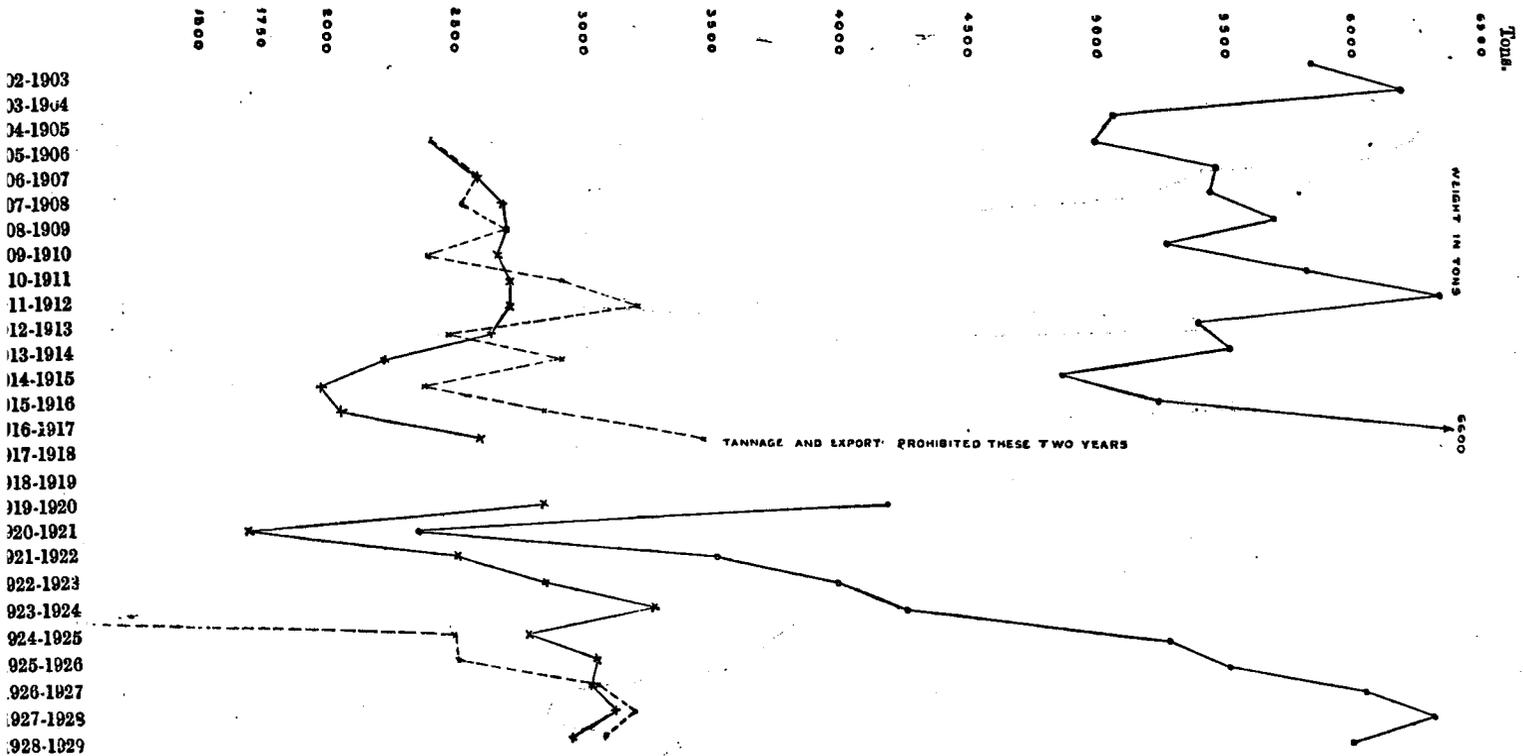
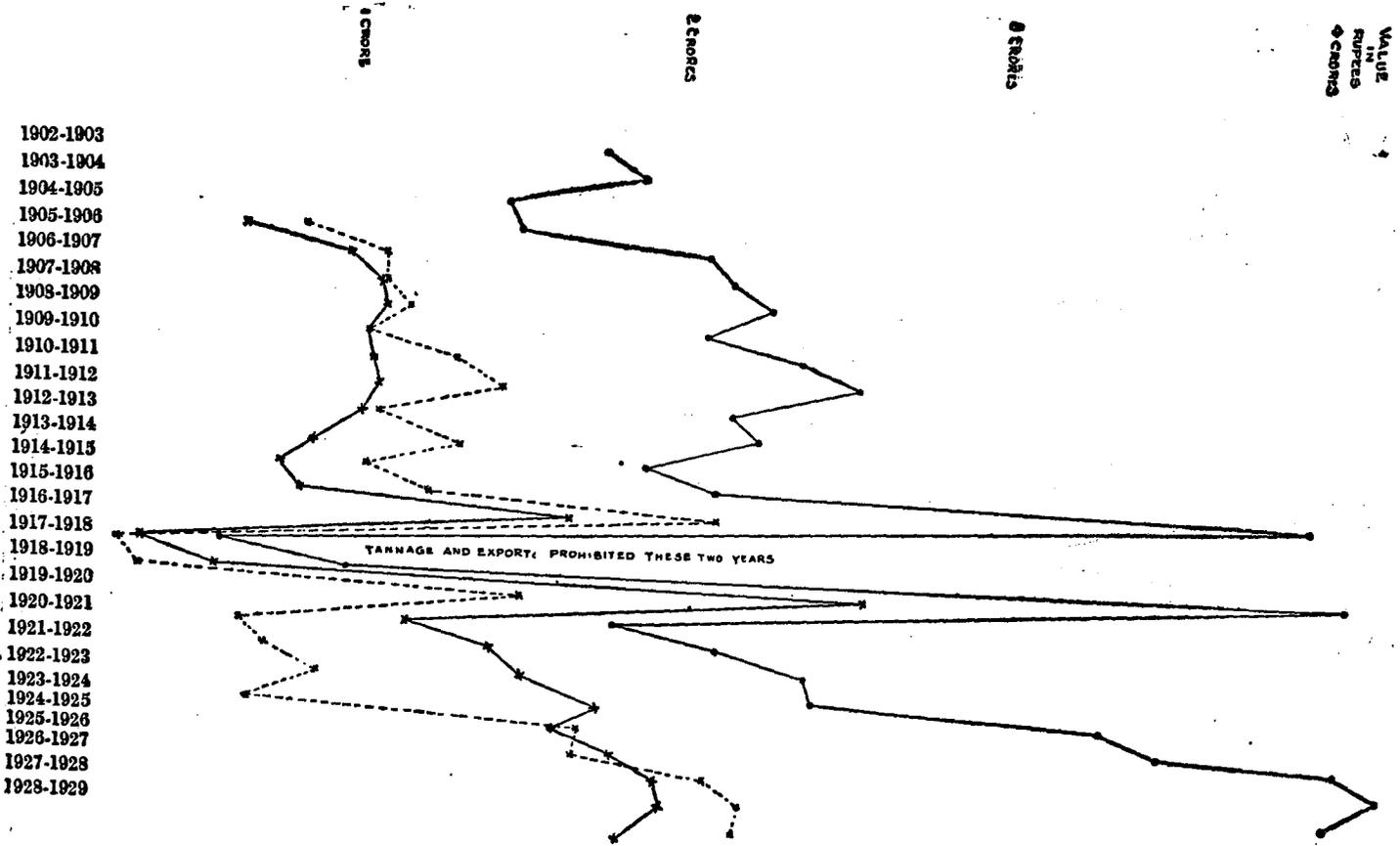
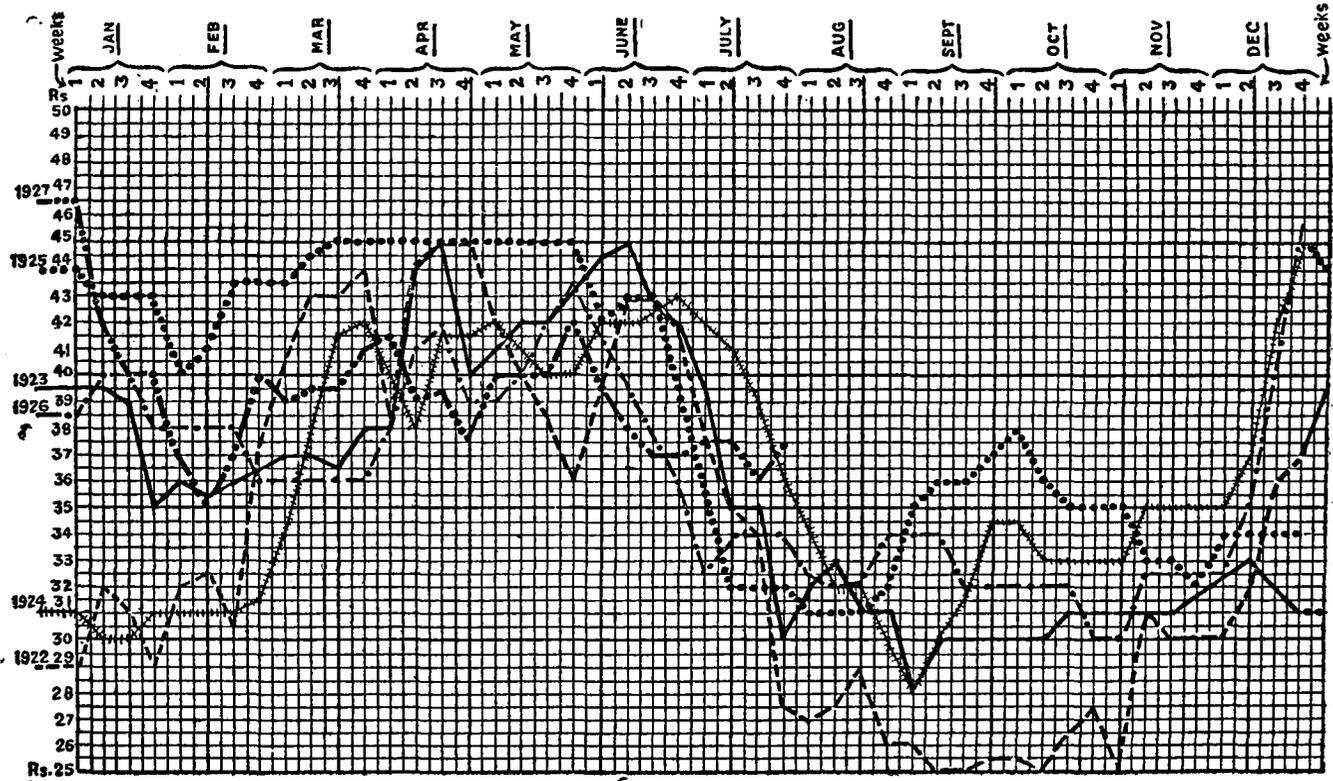
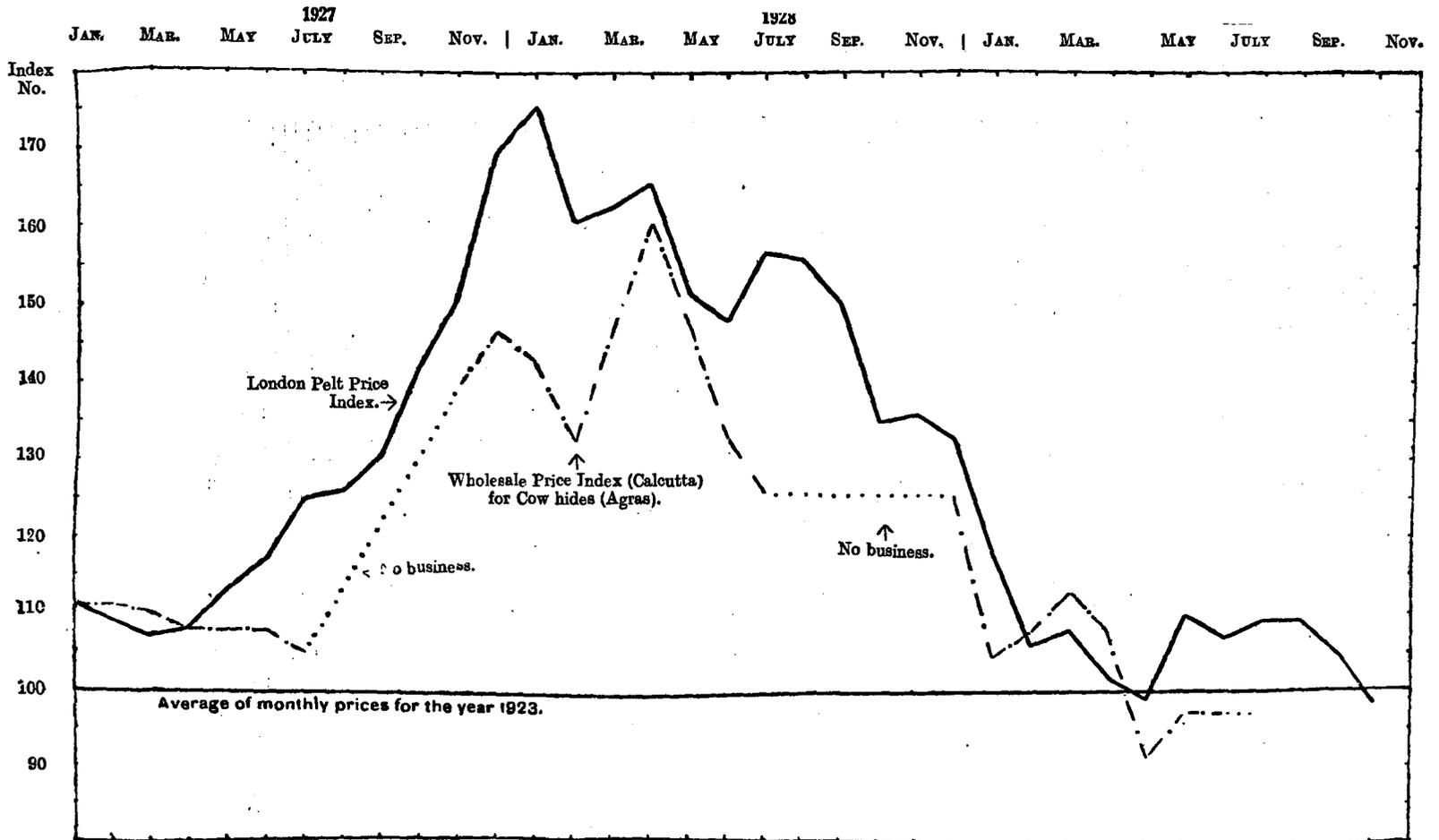


Chart showing export of tanned skins (in value) from Madras.
 BARBARIC —○—○— Total value in rupees. x - - - x Goat skins. X — X Sheep skins.



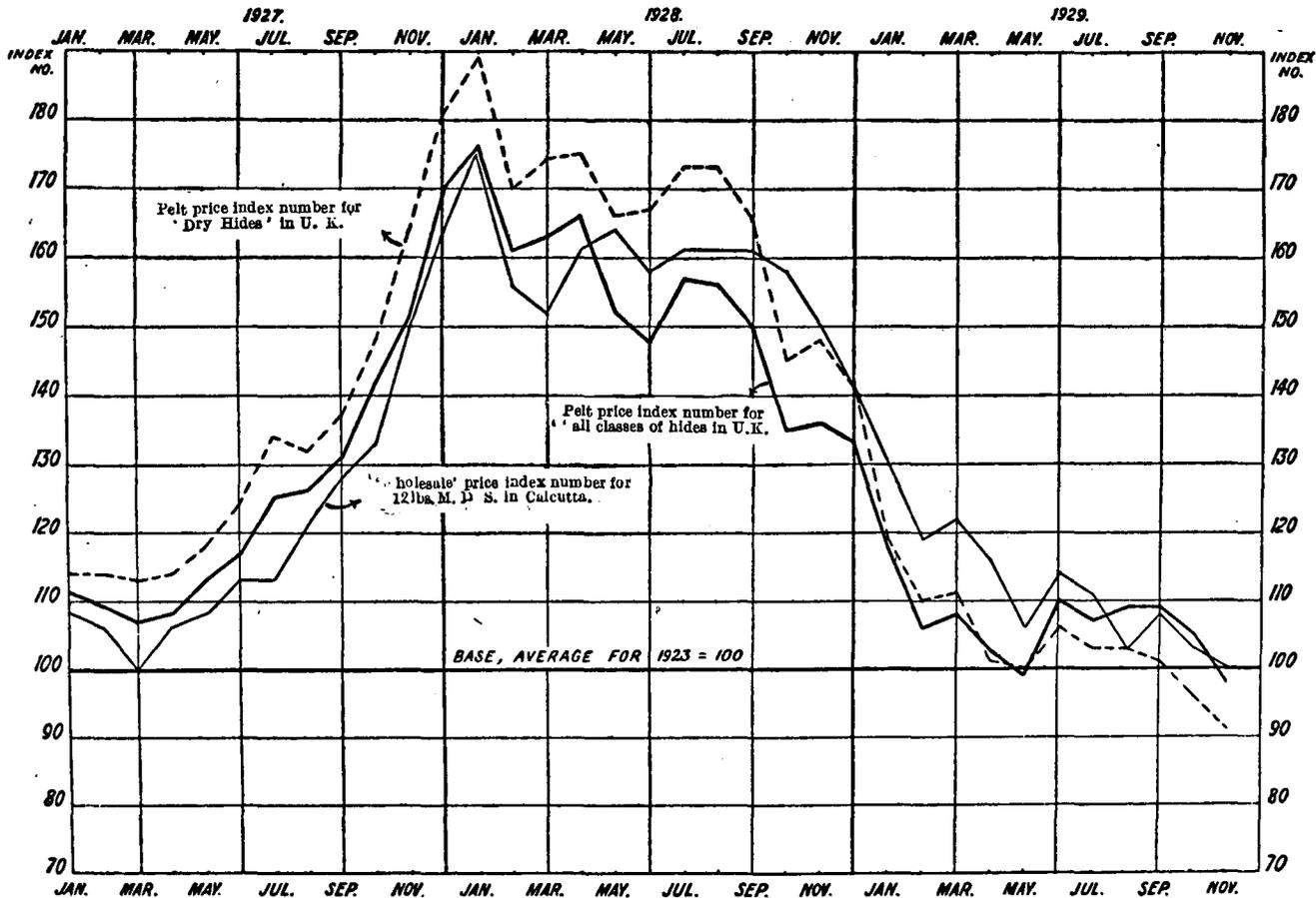
Avaram Bark Market, Madras, prices per candy.





(Average of monthly prices for 1923 is taken as 100 in each case.)

Chart showing the price index numbers for hides in the U. K. and Calcutta for the period 1927-29.*



*NOTE.—See explanatory memorandum on the back.

Memorandum explaining Chart 14.

The table below gives a "pelt price index number" for all classes of hides as prepared by the United Tanners' Federation, London. The price index is based on the annual average price for the year 1923 which has been taken as 100. The first column of figures gives the variations in the prices of all classes of hides on this basis. The second column gives the price variations of dry hides also prepared by the United Tanners' Federation, on the basis of the annual average of 1923. The third column gives a similar price index number of 12 lbs. M. D. S. as sold at Calcutta in wholesale quantities for export; this also is based on the annual average of 1923 taken as 100. The class of 12 lbs. M. D. S. has been selected as the most representative of the export trade and as the basis in relation to which the prices of all other classes of Indian hides can be calculated. Sales of 12 lbs. M. D. S. are also general throughout the year, and quotations are available for each month.

1923—Annual average	100	100	100
1927—January	111	114	108
February	109	114	106
March	107	113	100
April	108	114	106
May	113	118	108
June	117	124	113
July	125	134	113
August	126	132	121
September	131	137	128
October	142	148	133
November	151	164	150
December	170	181	164
1928—January	176	189	175
February	161	170	156
March	163	174	152
April	166	175	161
May	152	166	164
June	148	167	158
July	157	173	161
August	156	173	161
September	150	166	161
October	135	145	158
November	136	148	150
December	133	141	141
1929—January	118	119	130
February	106	110	119
March	108	111	122
April	102	101	116
May	99	100	106
June	110	106	114
July	107	103	111
August	109	103	103
September	109	101	108
October	105	96	103
November	98	91	100

TABLE 14.

Annual average imports of dry-salted hides into Germany in (i) the period 1910-1912, and (ii) the period 1926-1928.

The figures for the years 1910—1912 are available, and also for the three years 1926—1928. These give the imports into Germany of all dry-salted hides together with the countries of origin. As, however, the table is being reproduced in order to enable a study to be made of India's position in the world's markets relative to her competitors, only such countries of origin as are large suppliers of dry-salted hides to Germany have been shown in the table.

Country of origin.	Average of three years 1910-12 in 1,000 kilogs.	Percentage of total.	Average of three years 1926-28 in 1,000 kilogs.	Percentage of total.	Change in percentage.
India	12,477	32.0	7,709	25.9	−6.1
Brazil	4,387	11.3	4,381	14.7	+3.4
Argentine . . .	4,226	10.8	6,506	21.8	+11.0
China	3,435	8.8	2,427	8.1	−0.7
Abyssinia . . .	497	1.3	719	2.4	+1.1
South Africa . .	155	0.4	2,034	6.8	+6.4
TOTAL	38,990	..	29,757	..	..

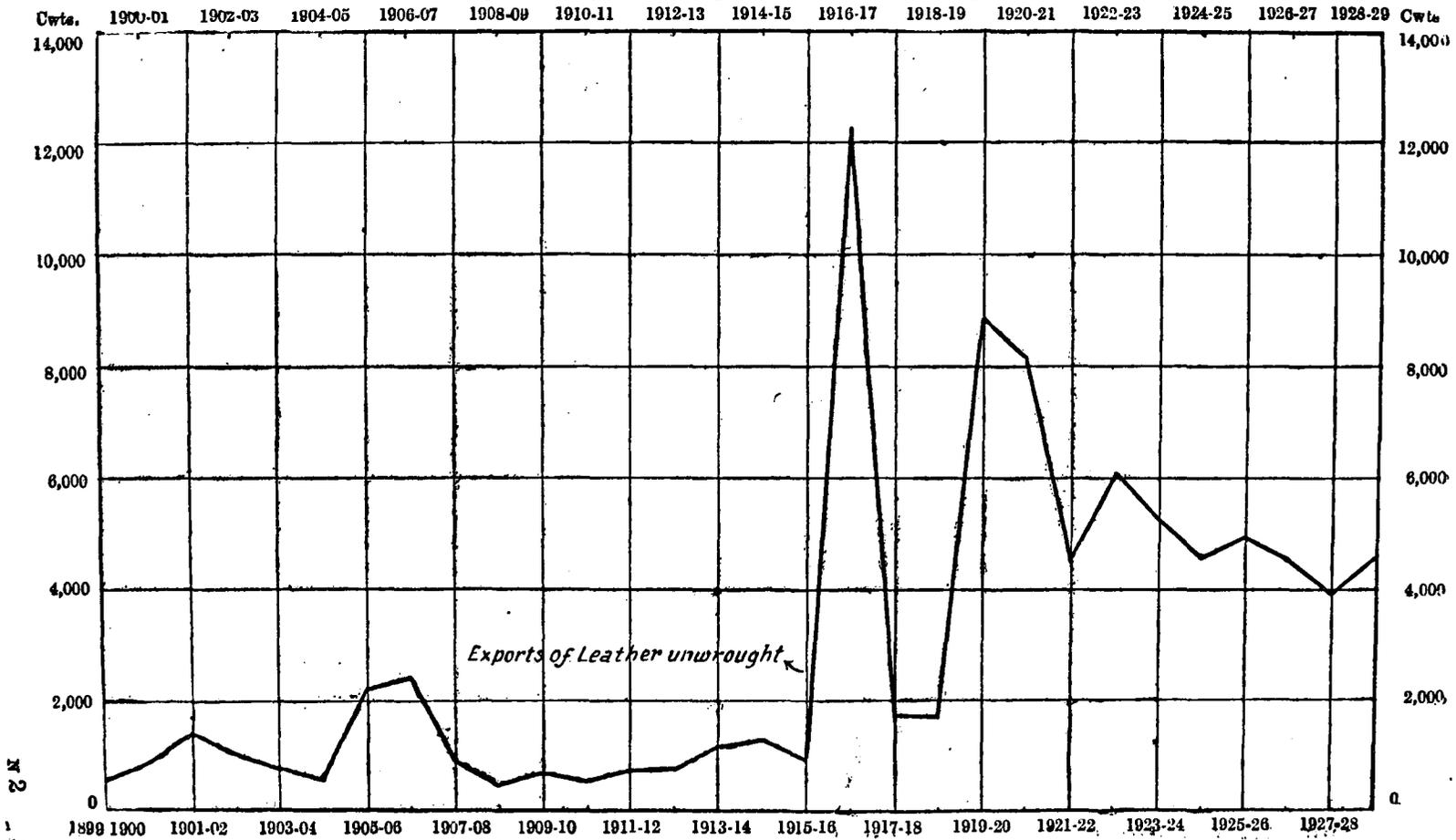
TABLE 15.
Exports of leather unwrought.

—	1911-12.		1912-13.		1913-14.		1920-21.	
	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
United Kingdom	4	865	27	2,115	131	24,915	407	1,31,140
Iraq	2	300	41	8,880	5	930	575	1,04,640
Java	23	7,410	32	9,000	8	3,165	822	43,400
Straits Settlements	217	59,895	176	57,570	229	84,945	2,553	3,37,930
Persia	67	9,756	191	31,020	140	23,670	124	22,590
Other Countries	414	44,495	309	36,870	676	49,680	3,663	4,23,550
Share of Bengal	341	80,670	277	77,985	218	92,685	1,953	3,16,590
" Bombay	303	36,420	473	64,290	439	57,135	851	1,77,150
" Sind	4	210	15	1,350	76	5,205	126	36,710
" Madras . . . . .	..	90	1	225	65	20,790	350	1,06,240
" Burma	79	5,325	10	1,605	391	11,490	4,864	4,26,470
TOTAL	727	1,22,715	776	1,45,455	1,189	1,87,305	8,144	10,63,160
Declared value per cwt. . . . .	..	169	..	187	..	158	..	131

—	1921-22.		1922-23.		1923-24.		1924-25.	
	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
United Kingdom	498	1,13,157	1,357	2,25,037	1,271	2,41,540	1,454	2,85,440
Iraq	1,330	1,78,662	1,635	2,21,825	1,617	2,10,290	1,213	1,59,538
Java	104	26,596	182	27,279	451	98,799	1,013	2,88,474
Straits Settlements	1,594	2,19,856	1,675	2,06,747	878	1,12,169	331	37,467
Persia	54	9,358	116	17,623	94	17,675	191	28,355
Other Countries	959	1,14,439	1,173	2,19,151	998	1,21,565	374	74,306
Share of Bengal	1,438	2,37,535	1,689	2,30,031	2,278	3,25,172	754	1,41,633
" Bombay	1,672	2,45,240	3,276	4,63,491	2,140	2,88,621	1,762	2,32,902
" Sind	58	9,480	119	14,122	16	2,908	33	4,910
" Madras	236	84,431	330	1,05,753	833	1,81,737	1,943	5,03,830
" Burma	1,135	1,18,412	724	1,04,285	12	3,700	84	10,305
TOTAL	4,539	6,95,098	6,138	9,17,682	5,279	8,02,038	4,576	8,93,580
Declared value per cwt. . . . .	..	153	..	149	..	152	..	195

—	1925-26.		1926-27.		1927-28.		1928-29.	
	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
United Kingdom	909	2,85,372	318	2,33,155	626	3,42,805	954	3,76,426
Iraq	1,765	2,93,243	1,702	2,88,968	1,408	2,45,296	1,636	3,03,427
Java	1,414	3,18,624	1,047	3,94,246	837	1,87,496	1,070	2,38,466
Straits Settlements	172	24,581	136	22,782	13	4,564	18	7,315
Persia	135	22,372	79	15,212	183	27,710	269	42,213
Other Countries	495	59,441	661	1,01,519	847	1,71,284	691	1,47,179
Share of Bengal	178	50,120	242	40,768	310	64,748	362	66,856
" Bombay	2,064	3,50,165	2,235	3,65,747	2,410	3,91,629	2,362	4,23,337
" Sind	41	5,876	13	2,250	20	2,605	157	18,181
" Madras	2,393	5,96,372	2,053	6,47,117	1,174	5,20,173	1,757	6,06,653
" Burma	274	1,600	..	..	..	..	..	..
TOTAL	4,930	10,04,133	4,543	10,55,882	3,914	9,78,155	4,638	11,13,026
Declared value per cwt. . . . .	..	203	..	232	..	250	..	240

Quantities (in cwts.) exported of leather unwrought.



TABLE

Imports of leather

—	1900-01.		1901-02.		1902-03.	
	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
United Kingdom	2,923	5,19,254	2,001	3,85,115	3,779	5,98,775
Germany	21	6,746	14	2,512	59	10,274
United States	43	7,919	30	9,594	37	9,198
Other Countries	161	21,992	186	21,127	478	43,233
Share of Bengal	1,163	1,89,640	1,484	2,27,909	1,957	2,66,775
„ Bombay	1,859	3,42,508	600	1,62,227	1,995	3,32,895
„ Sind	45	11,691	17	6,573	47	10,609
„ Madras	13	2,618	24	6,535	184	34,291
„ Burma	68	9,454	106	15,104	170	16,910
TOTAL	3,148	5,55,911	2,231	4,18,348	4,353	6,61,480
Declared value per cwt. . . . .	..	176	..	187	..	152
—	1920-21.		1921-22.		1922-23.	
	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
United Kingdom	2,074	8,20,090	663	2,74,647	686	2,21,588
Germany	4	19,320	..	5,952	15	24,185
United States	414	3,59,190	5	20,952	28	40,789
Other Countries	107	47,000	157	72,300	51	11,592
Share of Bengal	1,787	9,01,500	166	2,27,927	608	2,13,170
„ Bombay	555	1,43,540	455	49,216	79	25,811
„ Sind	107	81,600	30	24,441	4	10,048
„ Madras	68	52,630	150	53,710	55	34,675
„ Burma	82	66,330	24	18,558	34	14,450
TOTAL	2,599	12,45,600	825	3,73,852	780	2,98,154
Declared value per cwt. . . . .	..	479	..	453	..	382

16.

unwrought.

1911-12.		1912-13.		1913-14.		1918-19.		1919-20.			
Cwts.	Rs.										
2,298	4,33,020	2,740	6,77,220	2,857	4,87,605	1,285	3,83,025	1,400	3,22,120		
139	58,800	115	52,365	58	20,820	..	..	..	..
68	13,845	61	13,455	59	10,860	232	1,52,700	147	1,18,200		
340	41,850	265	50,745	328	58,050	179	73,605	143	55,040		
1,095	3,31,050	2,022	3,25,410	2,080	3,61,590	1,238	3,97,725	889	2,69,970		
430	1,02,630	746	3,61,770	747	94,890	355	1,58,640	628	1,26,310		
124	33,630	103	31,140	136	33,900	30	14,190	33	26,980		
165	50,895	112	27,660	120	32,925	12	15,465	22	15,930		
131	29,310	198	47,805	219	54,030	61	23,310	118	56,170		
2,845	5,47,515	3,181	7,93,785	3,302	5,77,335	1,696	6,09,330	1,690	4,95,360		
..	192	..	249	..	175	..	359	..	293		
1923-24.		1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
705	1,95,427	1,003	2,63,811	1,843	3,41,513	2,032	3,78,587	1,615	4,30,779	1,134	3,13,259
71	34,410	74	39,960	18	19,350	75	36,072	52	41,178	69	56,063
69	64,143	305	1,92,753	3,181	2,48,367	3,888	5,36,532	4,863	6,80,711	4,614	7,91,869
187	30,654	91	21,996	100	30,438	119	27,519	189	36,974	53	40,375
706	2,26,551	1,197	3,85,301	1,617	3,92,082	1,706	5,30,580	1,922	6,84,257	1,438	6,91,990
94	30,710	132	70,692	359	1,43,709	1,388	2,73,235	1,120	3,50,252	1,055	3,94,704
26	20,340	59	28,043	20	9,115	25	16,571	83	40,771	92	49,227
32	15,879	27	15,927	3,074	67,031	2,831	1,04,780	3,576	1,06,857	3,269	54,857
174	31,154	58	18,577	72	27,731	164	53,544	18	7,505	16	10,788
1,032	3,24,634	1,473	5,18,540	5,142	6,39,668	6,114	9,78,710	6,719	11,89,642	5,870	12,01,566
..	315	..	352	..	124	..	160	..	177	..	205

TABLE 17.

Imports of tanned or dressed hides.

	1900-01.		1901-02.		1911-12.		1912-13.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	7	34,937	18	79,078	74	2,45,640	66	3,00,600
Bylon	34	35,029	31	27,664	75	1,38,270	80	1,39,845
United States . . . . .	..	..	..	..	2	5,310	4	11,940
Other Countries	55	58,034	33	34,113	..	1,080	12	19,755
Share of Bengal	49	54,298	28	35,685	8	39,705	15	65,235
" Bombay	5	23,780	11	54,871	60	1,73,970	53	2,09,085
" Sind . . . . .	..	105	..	..	1	2,700	1	5,790
" Madras	36	44,598	37	45,624	82	1,72,590	90	1,84,470
" Burma	6	5,219	6	4,675	..	1,335	3	7,560
TOTAL	96	1,28,000	82	1,40,855	151	3,90,300	162	4,72,140
Declared value per ton . . . . .	..	1,333	..	1,718	..	2,585	..	2,914

	1913-14.		1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	43	2,30,145	30	1,57,377	15	1,58,503	25	2,07,309
Bylon	65	1,21,635	62	1,03,807	61	1,02,162	63	1,07,955
United States	2	6,615	..	2,485	..	4,790	1	30,152
Other Countries	1	2,775	3	21,397	18	55,255	4	22,748
Share of Bengal	10	48,120	1	11,752	15	54,776	7	51,517
" Bombay	23	1,26,840	9	96,024	17	1,46,343	21	1,74,437
" Sind	1	4,245	..	5,400	..	..	..	..
" Madras	72	1,67,415	84	1,69,424	62	1,15,160	63	1,23,002
" Burma	5	14,550	1	2,466	..	4,431	2	19,208
TOTAL	111	3,61,170	95	2,85,066	94	3,20,710	93	3,68,164
Declared value per ton . . . . .	..	3,254	..	3,001	..	3,412	..	3,959

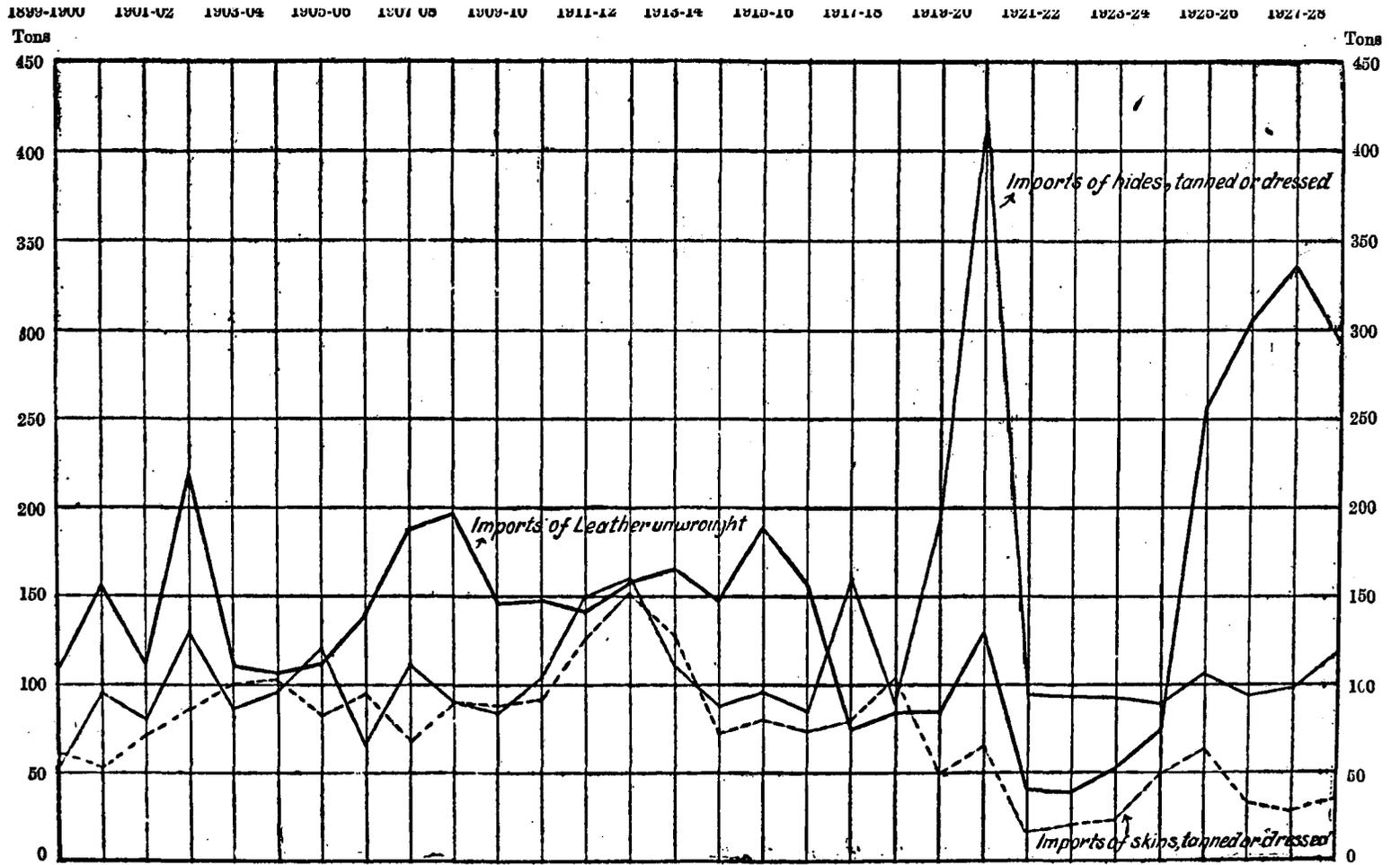
	1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	19	1,01,958	30	1,00,684	20	1,27,536	17	1,75,914	31	2,12,432
Bylon	66	1,09,752	71	1,23,127	69	1,16,037	73	1,21,981	83	1,25,386
United States	1	9,546	3	18,485	..	19,497	..	32,494	2	35,261
Other Countries	3	18,638	3	10,757	4	10,292	8	23,024	2	15,468
Share of Bengal	2	11,013	3	17,554	1	21,604	3	44,880	13	87,679
" Bombay	17	1,05,379	18	70,317	13	73,537	2	36,960	12	99,295
" Sind . . . . .	..	..	..	3,666	..	4,249	7	68,760	2	21,469
" Madras	67	1,17,447	82	1,48,755	71	1,27,097	77	1,47,203	87	1,55,415
" Burma	3	6,055	4	12,761	8	46,875	9	55,610	4	24,689
TOTAL	89	2,39,894	107	2,53,053	93	2,73,362	98	3,53,413	118	3,88,547
Declared value per ton . . . . .	..	2,695	..	2,365	..	2,939	..	3,606	..	3,293

TABLE 18.
Imports of tanned or dressed skins.

—	1900-01.		1901-02.		1912-13.		1913-14.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
ited Kingdom . . .	48	3,71,873	65	4,93,912	120	7,58,535	111	9,80,700
many . . .	1	5,997	1	6,150	27	1,35,525	10	1,27,860
herlands . . .	..	..	..	..	..	..	..	10,815
ited States . . .	..	687	..	1,555	2	10,095	2	18,135
er Countries . . .	4	18,473	6	44,455	3	16,800	5	38,670
re of Bengal . . .	21	1,42,145	25	1,57,181	27	2,11,065	31	2,53,650
„ Bombay . . .	20	1,79,090	34	3,22,138	102	5,48,895	63	7,33,335
„ Sind . . .	..	1,475	1	7,259	1	12,000	4	18,810
„ Madras . . .	5	34,728	4	29,951	11	96,960	9	89,700
„ Burma . . .	7	39,592	8	29,543	11	52,035	16	80,685
TOTAL . . .	53	3,97,030	72	5,46,072	152	9,20,955	128	11,76,180
Declared value per ton . . .	..	7,491	..	7,584	..	6,059	..	9,189

—	1922-23.		1923-24.		1924-25.		1925-26.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
ited Kingdom . . .	14	2,35,952	20	2,63,118	24	2,88,536	47	2,92,164
many . . .	..	35,459	..	23,587	..	19,635	..	35,916
herlands . . .	..	..	..	..	..	10,207	1	7,361
ited States . . .	..	11,188	..	15,427	7	75,084	13	1,60,304
er Countries . . .	6	60,170	3	75,001	18	47,004	3	18,333
re of Bengal . . .	1	60,779	2	48,001	1	46,403	16	1,01,895
„ Bombay . . .	14	2,23,351	12	2,18,235	19	2,64,288	28	2,80,247
„ Sind . . .	..	10,469	1	17,588	4	53,036	2	29,688
„ Madras . . .	1	14,485	..	5,927	16	11,525	6	16,900
„ Burma . . .	4	33,685	8	37,382	9	65,214	12	85,348
TOTAL . . .	20	3,42,769	23	3,27,133	49	4,40,466	64	5,14,078
Declared value per ton . . .	..	17,138	..	14,223	..	8,989	..	8,032

—	1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
ited Kingdom . . .	18	1,28,028	11	1,20,685	17	1,72,300
many . . .	..	25,567	..	24,172	2	49,712
herlands . . .	..	2,992	..	2,286	..	17,546
ited States . . .	14	1,69,968	11	1,96,408	13	2,40,513
er Countries . . .	1	11,624	6	30,444	3	27,137
re of Bengal . . .	4	53,375	4	53,196	..	26,811
„ Bombay . . .	18	2,51,170	15	2,16,978	25	3,46,134
„ Sind . . .	..	13,085	..	7,049	1	12,994
„ Madras . . .	..	6,586	1	19,556	8	79,709
„ Burma . . .	11	13,963	8	77,216	1	41,560
TOTAL . . .	33	3,38,179	28	3,73,995	35	5,07,208
Declared value per ton . . .	..	10,248	..	13,357	..	14,492



Values (in lakhs of rupees) of imports of (i) tanned or dressed hides, (ii) tanned or dressed skins and (iii) leather unwrought.

1900-01 1902-03 1904-05 1906-07 1908-09 1910-11 1912-13 1914-15 1916-17 1918-19 1920-21 1922-23 1924-25 1926-27 1928-29

Lakh Rs.

Lakh Rs.

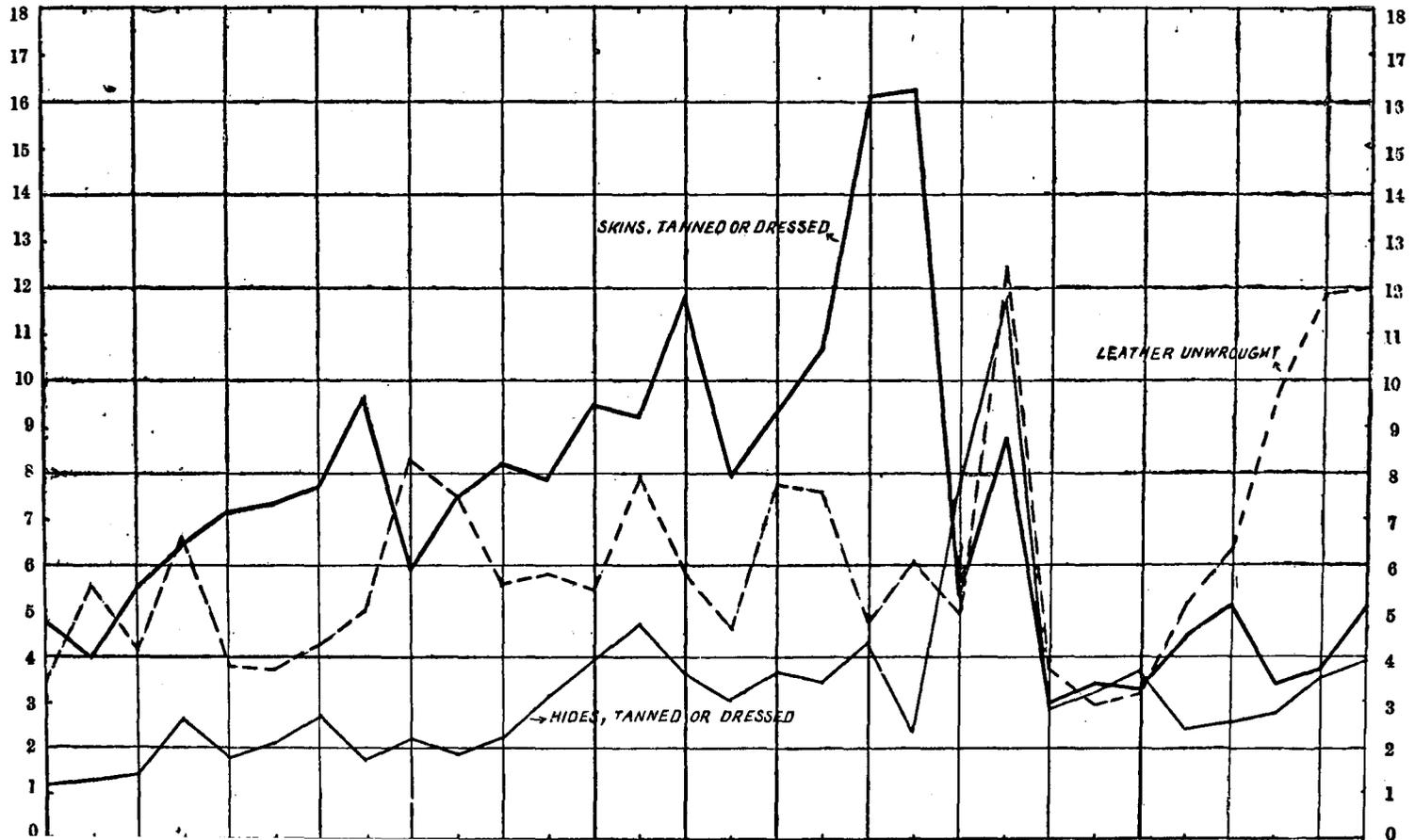


TABLE
Exports of other tanned
NOTE—Separately recorded

	1905-06.		1906-07.		1907-08.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom . . .	189	3,51,651	232	4,13,981	127	2,36,493
France . . .	..	..	..	..	..	..
United States . . .	..	..	..	..	..	..
Other Countries . . .	23	52,513	..	2,470	4	16,643
Share of Bengal . . .	1	5,240	..	1,800	..	..
" Bombay . . .	..	54	1	3,315	11	36,631
" Sind . . .	..	..	..	..	..	..
" Madras . . .	211	3,98,850	231	4,11,336	120	2,15,530
" Burma . . .	..	20	..	..	..	975
TOTAL . . .	212	4,04,164	232	4,16,451	131	2,53,136
Declared value per ton . . .	..	1,906	..	1,795	..	1,932
	1913-14.		1914-15.		1915-16.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom . . .	340	6,83,190	506	12,02,295	359	8,00,865
France . . .	..	..	..	..	..	..
United States . . .	..	..	1	1,125	..	..
Other Countries . . .	1	4,170	..	1,665	1	4,635
Share of Bengal . . .	..	..	..	..	..	..
" Bombay . . .	..	2,985	..	2,340	..	1,275
" Sind . . .	1	1,695	..	..	..	585
" Madras . . .	340	6,82,680	507	12,02,745	360	8,03,640
" Burma . . .	..	..	..	..	..	..
TOTAL . . .	341	6,87,360	507	12,05,085	360	8,05,500
Declared value per ton . . .	..	2,016	..	2,377	..	2,237
	1921-22.		1922-23.		1923-24.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom . . .	30	4,46,795	41	5,10,996	1	40,100
France . . .	..	52,695	..	15,720	..	4,495
United States . . .	3	85,080	5	1,42,531	..	2,880
Other Countries . . .	4	50,311	4	64,134	2	24,561
Share of Bengal . . .	..	2,600	..	..	..	10,993
" Bombay . . .	3	37,755	13	1,98,421	2	51,762
" Sind . . .	34	5,89,779	37	5,32,874	..	2,120
" Madras . . .	..	4,747	..	2,086	1	5,721
" Burma . . .	..	..	..	..	..	1,440
TOTAL . . .	37	6,34,881	50	7,33,361	3	72,036
Declared value per ton . . .	..	17,159	..	14,668	..	24,012

19.

or dressed skins.

from 1905-06.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
216	3,97,372	220	3,82,545	201	3,86,925	377	6,94,035	415	8,40,795
..
1	2,301	..	2,284	..	1,665	2	5,235	1	3,060
..	..	..	..	..	300	..	..	..	450
1	4,138	4	15,214	1	7,425	3	7,650	42	1,12,500
..	..	3	5,000	..	2,865	1	4,095	1	5,205
216	3,95,535	213	3,64,615	200	3,78,000	375	6,87,525	373	7,25,700
..
217	3,99,673	220	3,84,829	201	3,88,590	379	6,99,270	416	8,43,855
..	1,842	..	1,749	..	1,933	..	1,845	..	2,028
1916-17.		1917-18.		1918-19.		1919-20.		1920-21.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
640	19,87,710	305	8,16,495	318	9,00,045	12	86,700	10	71,150
..	..	..	..	..	..	..	..	..	17,000
..	900	1	13,110	49	1,53,030	..	40	3	1,40,000
..	..	..	..	1	6,845	..	140	..	7,410
..	840	..	2,280	..	450	..	..	..	4,060
16	69,780	5	36,735	3	18,705	4	29,460	4	20,320
..	1,950	..	..	..	..	8	56,890	9	2,08,630
624	19,16,040	301	7,90,590	365	10,40,760	..	530	..	2,550
..
640	19,88,610	306	8,29,605	368	10,59,915	12	86,880	13	2,35,560
..	3,107	..	2,711	..	2,880	..	7,240	..	18,120
1924-25.		1925-26.		1926-27.		1927-28.		1928-29.	
Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
3	76,627	5	1,39,485	14	2,90,654	53	12,89,692	50	10,80,413
..	..	..	3,625	2	65,076	1	24,819	2	71,643
..	..	..	540	5	1,18,317	17	4,10,668	87	20,76,301
..	6,184	1	4,343	1	12,631	5	1,37,001	2	24,514
..	29,216	..	20,590	1	1,30,923	20	4,28,647	24	6,33,206
3	43,323	6	1,16,769	4	63,968	10	1,89,730	20	2,66,083
..	6,156	..	750	10	79,751	7	1,62,809	14	2,62,335
..	4,116	..	9,884	7	2,12,036	39	10,80,994	83	20,91,247
..
3	82,811	6	1,47,993	22	4,86,678	76	18,62,180	141	32,52,871
..	27,603	..	24,666	..	22,122	..	24,502	..	23,070

TABLE 20.

Exports of raw hide and skin cuttings.

NOTE.—Separately recorded from 1912-13.

	1912-13.		1913-14.		1923-24.		1924-25.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	241	58,395	62	6,705	80	10,614	112	7,668
Australia	..	..	..	..	386	54,195	503	79,345
Germany	32	0,390	1	180	..	..	..	..
United States	1,295	2,99,985	1,315	3,10,920	1,032	1,00,673	1,900	2,82,113
Other Countries	75	17,745	96	39,105	259	40,999	92	24,762
Share of Bengal	1,402	3,25,560	1,312	3,14,130	869	1,03,961	889	1,50,766
" Bombay	..	..	..	..	..	..	..	..
" Sind	205	44,295	73	14,700	..	..	96	4,750
" Madras	..	..	..	..	865	93,571	1,094	2,32,273
" Burma	36	12,660	89	37,080	23	8,949	28	6,099
TOTAL	1,643	3,82,515	1,474	3,65,910	1,757	2,06,481	2,707	3,93,888
Declared value per ton	..	233	..	248	..	118	..	145

	1925-26.		1926-27.		1927-28.		1928-29.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
United Kingdom	412	64,042	221	46,542	597	1,04,827	924	1,51,518
Australia	775	1,29,000	577	82,887	656	94,012	396	71,010
Germany	17	1,941	5	910	935	1,41,301	1,587	2,17,626
United States	1,055	1,42,309	1,535	2,01,299	1,536	2,48,414	2,348	2,85,197
Other Countries	407	57,742	705	82,674	566	81,376	631	1,87,958
Share of Bengal	1,087	1,67,407	1,247	1,70,699	1,356	2,18,626	1,872	2,66,026
" Bombay	..	..	122	30,780	69	13,090	7	1,750
" Sind	157	22,181	72	17,350	356	63,675	482	1,02,498
" Madras	1,370	1,91,386	1,513	1,79,323	2,444	3,51,044	3,477	5,27,642
" Burma	52	14,060	89	16,160	65	23,495	68	13,393
TOTAL	2,666	3,95,034	3,043	4,14,312	4,290	6,69,930	5,906	9,13,309
Declared value per ton	..	148	..	136	..	156	..	155

TABLE 21.

Imports of raw hides and raw skins from Burma into the maritime provinces of the rest of India during the years 1923-24 to 1927-28.

Articles and Provinces importing them.	1923-24.		1924-25.		1925-26.		1926-27.		1927-28.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
Hides, raw—										
Buffalo hides—										
Bengal	63	37,807	24	18,947	1	1,360	1	505	19	22,360
Bombay . . . . .	..	..	1	426	..	416	..	..	..	..
Madras	66	24,086	190	91,232	133	49,671	276	87,662	166	79,894
TOTAL	129	61,893	215	1,10,605	134	51,447	277	88,167	185	1,02,254
Cow hides—										
Bengal	58	45,891	57	62,863	41	46,306	39	43,082	65	69,924
Bombay . . . . .	..	..	..	..	..	..	..	..	6	3,650
Madras	273	1,59,668	667	5,24,426	614	5,58,531	614	4,73,486	459	3,28,741
TOTAL	331	2,05,559	724	5,87,289	655	6,04,837	653	5,16,568	530	4,02,315
Other hides—										
Madras . . . . .	..	620	..	310	..	..	..	..	1	975
Other provinces . . . . .	..	600	..	..	3	4,050	..	..	1	1,000
TOTAL . . . . .	..	1,220	..	310	3	4,050	..	..	2	1,975
TOTAL HIDES, RAW	460	2,68,672	939	6,98,204	792	6,60,334	930	6,04,735	717	5,06,544
Skins, raw—										
Goat skins—										
Bengal	3	4,730	1	3,793	..	5,620	5	10,435	..	5,017
Madras	620	3,85,829	626	3,97,613	583	3,78,329	478	3,47,270	414	3,67,384
TOTAL	623	3,90,559	627	4,01,406	583	3,83,949	483	3,57,705	414	3,72,401
Sheep skins—										
Bengal	1	855	..	..	..	80	..	60	..	..
Madras	194	1,10,164	100	45,401	85	29,249	98	62,742	149	89,841
TOTAL	195	1,11,019	100	45,401	85	29,329	98	62,802	149	89,841
Other skins—										
All provinces	1	1,825	..	850	..	364	1	954	..	1,468
TOTAL SKINS, RAW	819	5,03,403	727	4,47,657	668	4,13,642	582	4,21,461	563	4,63,719

TABLE 22.

Comparative statement* of tanneries regulated by the Factories Act.

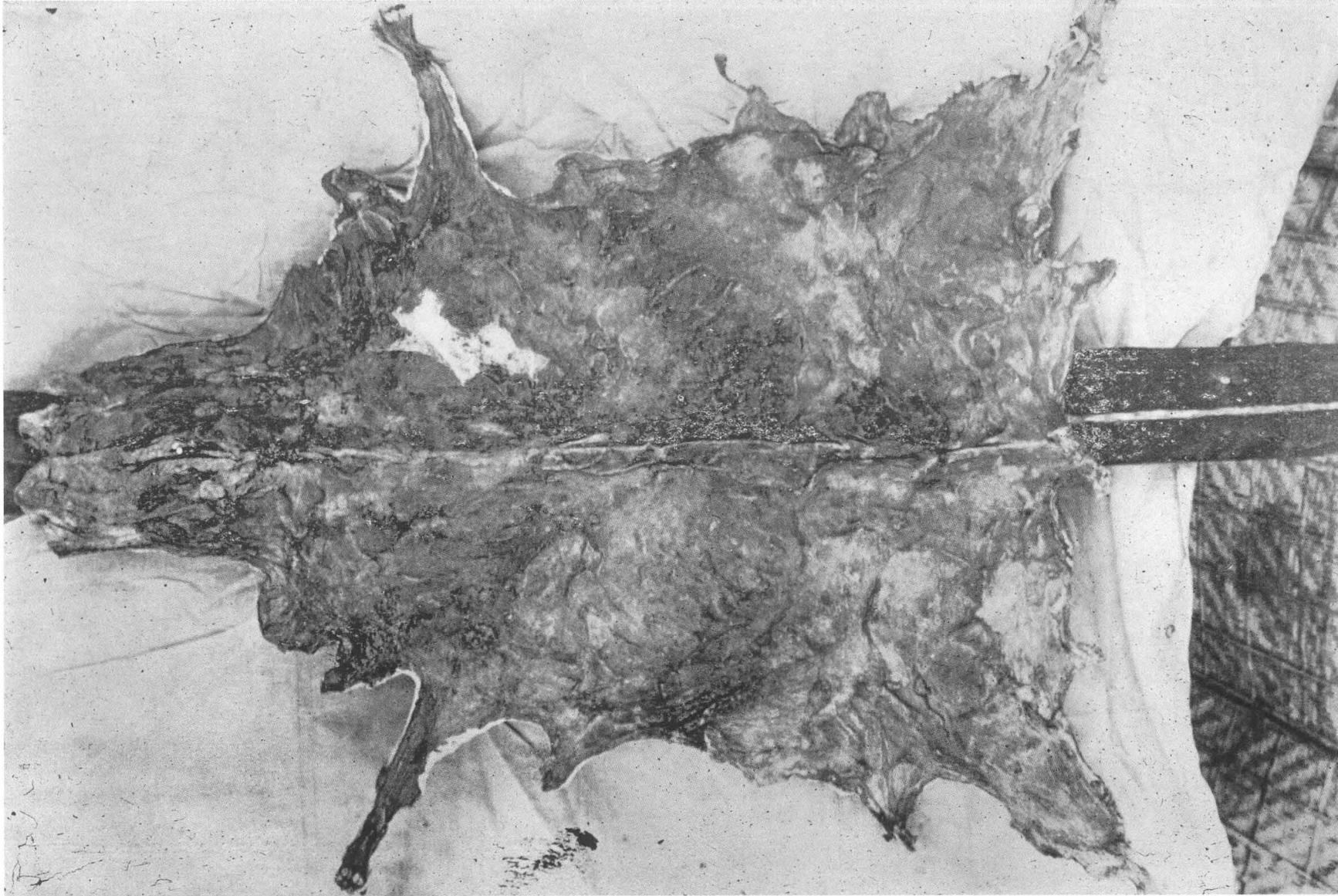
1927.				1928.					
Province.	District.	No.	Average daily number of persons employed.	REMARKS.	Province.	District.	No.	Average daily number of persons employed.	REMARKS.
Madras	Chingleput.	(a) 3	1,225	(a) In one shoes and fancy leather goods are also manufactured.	Madras	Chingleput	(a) 3	1,249	(a) In one shoes and fancy leather goods are also manufactured.
	Tanjore .	1	102			Tanjore .	1	112	
	Trichinopoly	2	271			Trichinopoly	2	275	
	TOTAL .	6	1,598			TOTAL .	6	1,636	
Bombay	Town and Island of Bombay.	1	139		Bombay	Town and Island of Bombay.	1	234	
Bengal	24-Perganas	(b) 5	463	(b) One is Government and local fund factory.	Bengal	24-Perganas	(b) 5	494	(b) One is Government and local fund factory.
	Murshidabad	1	26			Murshidabad	1	19	
	TOTAL .	6	489			TOTAL .	6	513	
United Provinces.	Agra .	1	53		United Provinces.	Agra .	1	40	
	Cawnpore	4	627	Cawnpore .		3	618		
	TOTAL .	5	680	TOTAL.		4	658		
Punjab	Gujranwalla	1	35	(c) Government and local fund factory.	Punjab .	Gujranwalla	1	38	
	Sheikhupura	(c) 1	40						
	TOTAL	2	75						
Bihar and Orissa.	Cuttack .	1	62		Bihar and Orissa.	Cuttack .	1	46	
	TOTAL BRITISH INDIA.	21	3,043			TOTAL BRITISH INDIA.	19	3,125	
Hyderabad	Raichur .	1	100		Hyderabad.	Hyderabad City.	8	1,100	
	Medak .	2	200						
	TOTAL .	3	300						
Mysore	Kolar .	1	120		Mysore.	Kolar .	1	120	
	GRAND TOTAL	25	3,463			GRAND TOTAL .	28	4,345	

* N.B.—Only those factories which come under the operation of Indian Factories Act in case British India and those establishments in Indian States which are considered to be of sufficient industrial importance have been shown in the statement.

TABLE 23.

Population of tanners and leather-workers in India at the 1901, 1911 and 1921 censuses.

	Census 1901.		Census 1911.	Census 1921.
<ul style="list-style-type: none"> a. Tanneries and leather factories: Operatives and other subordinates. b. Leather dyers c. Shoe, boot and sandal makers. d. Tanners and curriers . . . e. Water bag, well bag, bucket and <i>ghee</i>-pot makers. 	2,903,670	<ul style="list-style-type: none"> 1. Tanners, curriers, leather dressers and dyers etc. 2. Makers of leather articles, such as trunks, water bags etc. 3. Shoe, boot and sandal makers 	2,807,382	2,787,057



No. R-15.—Ordinary air-dried cow hide with flesh, showing head, claws etc. (Light spot shows flesh removed).