

Industries Information Series No. 3



GOVERNMENT OF MAHARASHTRA

**REPORT
OF THE
BOMBAY LEATHER SURVEY
COMMITTEE APPOINTED BY THE
GOVERNMENT OF BOMBAY**



31st MARCH, 1960

1961

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INTRODUCTION

The Sector of Cottage and Village individual artisans relying on here near this place of residence primarily for the purpose of meeting local needs, has been an important sector in the Indian Economy right from the days when men learnt to live in a society. A typical Indian Village would thus have the artisans like the weavers, the cobblers, the blacksmiths, all trying to satisfy the needs of local population and especially of the agriculturists with whom they exchange their services for proportionate share of crop. Apart from the primary needs of food and shelter, each villager's requirements are satisfied in regard to cloth from the local weavers and mats, chapples and shoes, leather straps, etc., from the local flayer, Tanner and Cobbler.

With the dawn of independence and with the acceptance of the idea of planning for raising the standard of the people, these Cottage Industries began to come in to their own and have received increased attention in the first and second Five Year Plan. From the point of view of employment potential agriculture is admittedly the main stay of Indian economy, which received, high priority in first Five Year Plan. Planning of the Agriculture sector alone would however, have laid unbalance in the rural economy unless efforts were made to develop other aspects of life of a village community by providing them opportunities for development. The Handloom Industry which was next in importance drew the attention of the Planners and has received the best support for development so as to enable it to meet increasing demand estimated during the Second Five-Year Plan period through liberal assistance afforded from out of the Cess Fund constituted by the Government of India. Now that the Handloom weaving Industry has been rejuvenated and expected to stand on its own, it becomes necessary that Government should concentrate its attention in the development of other industries which has considerable employment potentially, and the development of which would serve to ameliorate the conditions of people who are at disadvantageous position from the social, economic and cultural development points of view. The leather and tanning group of industries is one of such groups and having regard to its employment potentialities, easily ranks in priority for consideration as the next group of industries to be taken up for intensive development. This fact can be illustrated statistically by following figures:—

1. Total population of Bombay State in 1951....	4,82,65,300
2. Total Cattle population excluding Buffalo, sheep, goats, etc.	20,00,000
3. Estimated No. of persons engaged in Leather and Tanning Industry at present ...	80,000
4. Estimated No. of persons that can be absorbed in the Industry	15,000

Apart from the point of view of human welfare, there is the question of welfare of men's closest associates in his struggles of survival, who supply the draught power required for cultivation, for lifting water from wells, for the transport needs of the rural area, for the supply of milk and Ghee and variety of other purposes. Any development for Tanning and leather group of industries would naturally have preceded by measures for protection and improvement of cattle wealth of the country. This aspect however is not within the purview of this report and hence the point is not further elaborated.

Absence of reliable statistical data is a major handicap in drawing up of programme for the development of Cottage Industries and this is equally true of leather group of industries in cottage and small scale sector. The Bureau of Economics and statistics had conducted sample survey in 1956-57. Similar efforts were also made by the State Co-operative Union in the past. These efforts however were not complete and took into account only some aspects of the problem. On the eve of the III Five Year Plan the Government of Bombay felt the necessity of taking a comprehensive survey as would indicate the existing condition, of the industry and indicate the lines of future development.

The Government of Bombay, Industries and Co-operation Department under its Resolution No. CIM. 2159/34400-INCO-I, dated 28th May, 1959 appointed a committee under the Chairmanship of Shri G. R. Valunjkar, Director (Leather), Khadi and Village Industries Commission Bombay. This committee consists of the following persons.

- | | | |
|------------------------------|-----|-----------|
| (1) Shri G. R. Valunjkar | ... | Chairman. |
| (2) Shri T. D. Kamble, M.L.A | ... | Member. |
| (3) Shri P. D. Jadhav, | ... | Member. |
| (4) Shri Bhikku Bhai Dhru, | ... | Member. |
| (5) Shri M. K. Bhagwat, | ... | Member. |
| (6) Shri Saleem Siddiqui, | ... | Member. |

Shri P. S. Nadkarni, Deputy Director of Cottage Industries and Deputy Registrar for Industrial Co-operative Societies (C. D. P.), Poona, was appointed as the Secretary of this Committee, and Shri C. V. Gangal, Tanning and Leather Expert, was directed to look after the Committee's work and undertake tours with the Committee members.

The Committee was authorised to co-opt. suitable persons to assist it in the study of specific subject of this industry. The terms of reference to the survey Committee, as appended to the Government Resolution are given in the Appendix A

The Committee which was entrusted with the Survey of the Working of the Industry in various parts of this State in all its aspects, from availability of raw materials to the manufacture of finished goods, methods of production adopted at various centres and suggestions for improvement, visited various important centres and had discussions with persons connected with this industry.

The first inaugural meeting of the committee was held in the Sachivalaya, Bombay, on 25th June 1959 and was inaugurated under the Chairmanship of Shri Ratubhai Adani, Hon. Minister for Cottage Industries, Government of Bombay. The meeting was also attended by Shri Din Dalyalji Gupta, Chairman of the Bombay Village Industries Board, Bombay and Shri J. G. Shah, Director of Cottage Industries, and Additional Registrar for Industrial Co-operatives (Bombay State), Poona and other officials and non-officials connected with the industry. The Minister reviewed the present position of the industry in the State indicating the prospects for its development, and also expressed the intention of the Government in appointing this committee.

During the discussions, procedure of work was laid down and the outline programme of the committee work was considered. Each member of the committee was made responsible for one division and work in all divisions was proposed to be started simultaneously and completed in about six months. It was also decided to formulate the necessary sets of questionnaires for collecting the information from the Department Officers, non-Officials and institutions and establishments in the industry.

It was proposed to convene meetings at Divisional Head Quarters to have discussions with the Deputy Directors, Assistant Directors and District Officers, for Cottage Industries, District Organisers of the State Boards and selected Block Development Officers and to explain them the method and procedure for the information to be collected in the prescribed forms of questionnaires, and laying down the time schedule for submission of their reports. The information collected from villages and districts was to be received by the Divisional Deputy Director for Cottage Industries and compiled with the help of Committee member, in charge of the respective division. It was expected that the information would be studied by the committee member and he could visit some centres in his division and convene meetings of the officials and non-officials in the various Districts of the Division. It was suggested that the Committee may, if necessary visit the establishments in each division after the information is collected.

As per decision at the inaugural meeting a sub-committee, consisting of Sarwashri M. K. Bhagwat, P. D. Jadhav and C. V. Gangal, was appointed for preparation of the questionnaires. Shri C. V. Gangal

worked as convener of the sub-committee. The Sub-Committee was advised to co-opt the Technical Officer from the Bureau of Economics and Statistics, Bombay, to work on the Sub-Committee. This Sub-Committee held three meetings in the first week of July 1959 and submitted the draft questionnaires to the Chairman for approval.

The Second meeting of the Survey Committee was held in Bombay on 6th July, 1959. The draft questionnaires were studied in details and approved with necessary modification.

The sets of questionnaires in Form A, B, and C are given in Appendix B.

During the Third meeting of the committee held at Junagadh, the committee reconsidered the question of distribution of work in each division. It was observed that there was no member to represent Ahmedabad and in order to attend to the work in the area, Committee felt that it should have a suitable representative from this area. After the due consideration the committee unanimously resolved to Co-opt Shri Purushotambhai Chavan on the committee.

As regards the staff required for the survey committee work, the Chairman, Bombay Village Industries Board was kind enough to spare the services of one Upper Division Clerk for the committee's work and placing him at the disposal of the survey committee. The Tanning and Leather Expert for Cottage Industries assisted the Secretary in committee's day to day work and the necessary staff from the office of the Director of Cottage Industries and Additional Registrar for Industrial Co-operatives, was made available for compilation of the statistical information and other work connected with the reports received from the field officers in the respective divisions.

The Committee held meetings with the Tanners and Leather Workers at important centres in the State and paid visits to the number of Industrial Units, Co-operative Societies, Marketing Depots at various centres, to collect the first hand information about the industry in various parts of the State. The Committee was able to visualise the actual conditions in different regions of the State as also the measures that need be taken to establish the industry on sound footing during the Third Five-Year Plan period. The members also visited the Government Tanning Institute, and Government Leather Working School, Khar, Bombay.

During the Ninth meeting of the committee held at Bombay on 24th January 1960, the draft outline of the report was prepared and the time scheduled was laid down for preparation of the report.

Simultaneously, a sub-committee consisting of the following members was appointed to prepare draft report :—

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|--------------------------|-----|-----------|
| (1) Shri G. R. Walunjkar | ... | Chairman. |
| (2) Shri M. G. Bhagwat | ... | Member. |
| (3) Shri P. D. Jadhav | ... | Member. |
| (4) Shri C. V. Gangal | ... | Convener. |

The sub-committee had several meetings in Bombay during February and March, 1960. The notes on respective chapters prepared by the sub-committee members were considered for inclusion in the report. The draft report on the basis of information collected through the questionnaire and the first hand information that the committee had during its visits to centres was finalised on 25th March, 1960, and sent to the committee members for approval.

The tenth meeting of the survey committee was held in Bombay on 2nd April, 1960 when the draft report was considered and approved with certain additions and alterations.

In the chapters that follow, the committee has put forth its findings as well as the financial implication and recommendations, for consideration of Government.

CHAPTER II.

All ancient arts and crafts have taken shape out of the dire necessities of life for food, drink and clothing. Leather Industry could be traced back to one of such crafts. Even before the advent of agriculture and man developed pastoral tendencies he lived on flesh of animal which he killed, and later on hunted with crude implements and weapons. To gain access to the flesh he had to skin the animals which perhaps he might be doing in the beginning with his bare hands, but gradually he discovered aids and easy means in the form of simple tools and implements for the purpose. The flesh he consumed as food ; while he found the fine expansive outer covering material, i.e., the skin useful to wrap round his body to protect himself from sun, rain and cold. But the skin or hide when deprived of the living energy of the body tends to decay or dry out hard, causing inconvenience to the user. But he soon learnt to rub the fat he got from the animals body into the hide and skin to render it water-proof and somewhat pliable and soft. As a pastoral man he gathered large herds of useful animals and domesticated and used them for milking and draught purposes. When they died a natural death, he skinned them and utilised the skin and other remains of the carcass for his own use. Leather Industry, taken as a whole, beginning from the flaying of the carcass to the finished products in fact embraces a set of different industries followed by varied types of people and hereditary communities. An idea of these several industries can be had from the following classification :—

A. Pre-tanning :

1. Flaying.
2. Full economic exploitation of the dead bodies of animals.
3. Bone products.
4. Horn products.
5. Hoof products.
6. Gut making (muscle products).
7. Glue making.
8. Parchment leather articles.
9. Hair products.
10. Others.

B. Tanning :

11. Vegetable tanning.
12. Chrome and other mineral tanning
13. Combination tanning.
14. Oil tanning.

15. Fur Leather Tanning.
16. Leather finishing.

C. Leather Goods Manufacture :

17. Different types of footwears.
18. Military and Police equipment.
19. Suitcases, money purses, waist-belts and other requirements of the modern society (fancy leather articles).
20. Agricultural leather goods.
21. Saddlery and other horse equipments.
22. Manufacture of belting leather, pickers, buffers Roller skins and other industrial requirements (Industrial leather).
23. Sports goods—Tennis Rackets, Football, Volley ball, leather gloves, etc.
24. Taxidermy.

D. Allied Industries :

25. Manufacture of implements and tools for the different branches of industries.
26. Manufacture of machinery.
27. Collection and procurement of vegetable tanning materials.
28. Chemicals.
29. Oil and fat liquor.
30. Dyes and pigments and finishing materials.

Everyone of these industries is followed by different sets of people and hereditary communities, including both untouchables and touchables. Nobody has ever taken a comprehensive view of this set of industries as a whole. The raw hide, however, is the basic raw material on which the whole structure of the Leather Industry stands. We must, therefore, pay proper attention and a study more closely the procurement and preservation of the raw hide in the suitable form to serve as best a basic material as possible to the development of subsequent industries resting on it. The process of taking out the outer covering of the body, i.e., the skin from the carcass technically termed as "FLAYING". To procure good hide or skin, we must, therefore, begin our study from flaying.

FLAYING is perhaps the first art that man acquired and the first craft that he might have followed. In India hides and crude tanned leather have been in use from early times. The "Rigveda" refers to tanners and skins of animals prepared by them. This trade and industry became the special avocation of certain classes of people and gave rise to a vocational caste which though numerically one of the most important was considered depressed. It is true that in India

the sentiment in favour of cows and oxen is very old and the slaughter of cattle was forbidden from at least Pauranic times onwards. This is but natural because 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, Sourmilk, etc.) of the household, large herds of cattle were maintained and were not only looked after properly but were worshiped. The wealth of an individual was counted on the number of cows he possessed. Brahmanic, Buddhistic and Jain legends abound in references to individual wealth in this form. As time went on the rational and utilitarian view of cow-keeping was usurped by the blind cow worshipping sentiments. But in the early history, cow-keeping was a national problem because cow helped both agriculture and food. But when the sentimental degeneration started, the disposal of dead animals was considered a low work. That, however, was not the case in the early Indian social life. At that time every herdsman used to skin his dead animal and make use of the remains of the carcass. *Manu* enjoins this duty on the herdsman who milks the herds of his master and takes them for grazing to the pasture lands. This is seen from the following verses :—

कर्णो चर्मच बालाश्च वस्ति स्वायंच रोचनाम्
पशुषु स्वामिनां दद्यात् मृतेष्वं कानि दर्शयेत् ॥१॥

The period of the Manusmriti is placed, about the 1st century of the Christian Era कुल्लुकभट्ट wrote his commentary Mannsmritia about 1500A.D. While explaining the meaning of the word अकानि in the original text he says अन्यगनि च चिन्हानि शृंगखुरादीनि दर्शयत्. This means that till the time of कुल्लुकभट्ट this idea of high and low relation to this craft had not permeated Indian society.

Skinning and proper utilisation of the dead body of the animal was a domestic affair of the owner of the animal to be looked after by him personally or by his domestic servants, in the same manner as the dead body of kith and kin in the family was looked after. It is clear that the remains of the dead body of the animal had attained the status of property to be owned by somebody and not as waste and useless material to be despised and thrown away. We, therefore, do not find reference in our ancient literature to any special class of people engaging themselves for this purpose as we find today.

The most useful and valuable part of the carcass, of an animal besides edible parts such as meat, tallow, etc., is hide or skin. It covers the body of a living animal and protects it from sun, rain, and cold. It has also to give out the dirty matter from the body which comes to the surface through the sweat ducts. It possesses peculiar physical qualities, such as porosity, tensile strength, pliability, softness,

resistance to abrasion, and elasticity. The combination of all these different qualities has made this substance very useful to man for different functions in his day to day life.

Bone is one of the hardest substances in the structure of the animal body and possesses a certain degree of toughness and elasticity. They are formed from skeletal tissues which provide the stiffening essential for the formation of the general frame work of the body.

It is compact in structure and resistant to pressure. Its tensile strength is estimated to be nearby twice that of Oak. Its physical quality of toughness and hardness is very useful in preparing different useful and fancy articles, such as knife, handles, necklaces and small toys for children. Chemically it is an intricate compound of animal and earthy matter. The animal matter gives us glue and gelatine, while the earthy matter which consists mostly of phosphate of lime and magnesia, supplies a most useful mineral fertiliser to the soil.

The other remains of the carcass, such as tallow, non-edible meat, hair, horns, hoofs, etc., have also acquired industrial and commercial utility due to their organic constitutions.

The organic chemical constitution of raw hide is such that it can be preserved and finished by various types of vegetable and mineral substances. The collection and stocking of these materials have given rise to various small and big industries. Similarly the special types of implements required in flaying tanning, finishing and leather goods manufacturing processes are being made by several types of artisans. All these different manufacturing and processing units themselves form a separate group which may be classified as accessory industries.

The present State of Bombay is a composite State comprising of two main areas one speaking Gujrati dialect and the other Marathi. From the area and the population point of view the Gujrat area is half that of Maharashtra. So far as the tanning industry is concerned Maharashtra is rather advanced as compared to Gujrat area.

In Marathi speaking area there are three communities that are concerned with this industry :—

- (1) Mahars,
- (2) Dhors, and
- (3) Chambhars.

(1) *Mahars.*—Mahars were the persons who had the hereditary monopoly of flaying and disposing of the dead bodies of the cattle. They are thus hereditary flayers. But due to new awakening, they are now giving up this work as it is considered low. The problem of flaying in Maharashtra area has, therefore, become very difficult as this hereditary community is giving up the work and new set of people are not yet coming forward to take it up.

(2) *Dhors.*—They are mainly tanners and at times they supply the village leather needs such as water lifts, pakhals and other articles. They are mainly found in Poona—Bombay division and are best tanners in Maharashtra. As a class they thoroughly understand bag tanning processes. Some of them work on their own account while some work in tanneries on piece-meal or daily wages. Large colonies of these people are found in Poona, Satara, Kolhapur and other places.

(3) *Chambhars.*—They are mainly leather goods manufacturers although some of them also do tanning work. They are scattered all over Marathi-speaking areas but they are mainly found in Vidarbha and Maharashtra area doing tanning and leather goods work.

In Gujarat area the following communities are connected with this trade :—

- (1) Mochis.
- (2) Chamars or Chamadias.
- (3) Khatiks.
- (4) Dabgars. and
- (5) Khalpas.

(1) *Mochis.*—They are leather workers and prepare different types of leather goods. They are not untouchables in Gujarat.

(2) *Chamars or Chamadias.*—They are mainly tanners and they also do the work of flaying.

(3) *Khatiks.*—They are tanners of skins of sheep and goat.

(4) *Dabgars.*—They are makers of Drums, dabhas and other utility product from raw hides.

(5) *Khalpas.*—They are specially tanners of hides in Gujrat as Dhors in Maharashtra.

Raw hide is the basic raw material on which the whole structure of the leather industry stands. Raw hide or skin is the outer covering of the animal which is taken out after the animal is slaughtered for meat or dies in natural death. The quality of the hide,

therefore, depends upon the quality of the animal whose body they cover during the life time. 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. The experts think that appreciable improvement in hides and skins can be brought about if suitable schemes are chalked out for research and development in the field of breeding and maintenance of animals.

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. Goats are reared almost entirely for meat, milk being 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 the case everywhere whether the country is economically advanced or backward. But where cattle are bred for meat the hide becomes an important bye-product and therefore enters into the stock-raiser's calculation when breeding the animal. In our country however, except in the case of goat and sheep the value of the hide or skin is not generally taken into consideration by the stock raisers, no doubt, it is an important consideration with the butchers. But the cattle breeder has not so far turned his attention to this factor. For this reason the quality of the hide or the skin has not so far been a great factor influencing the breeding policy of the country. There are breeding experts who are of the view that this factor should also be taken into consideration while chalking out a breeding policy of different animals. It has been found that it is possible to improve the hide and the skin from the tanner's point of view without sacrificing the other characteristics—actually desired e.g., capacity for draft, handihood yield of milk, quantity 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 appreciated by experts. By proper nourishment and maintenance the substance improves both in quality and quantity; the hide gets a silky, mellow and supple feel about it; the texture becomes more compact; the tensile strength increases and the surface even and smooth. For the production of quality hide or skin in the interest of the tanning industry it is necessary to emphasis the need of better nourishment and maintenance and also to carry on suitable research on these lines.

Breeding, feeding and maintenance of animals determine the innate quality and characteristics of hides and skins. But this innate quality has not been taken into consideration while selecting and classifying the raw stock. At present the gradation of raw hides is made on the following points :—

(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 preparation and the cure and preservation; and

(e) Those due to loading and adulteration.

Diseases affecting the hides and skins.

There are several diseases and pests which affect hides and skins. Anthrax makes the hide or the skin unfit for use unless it is thoroughly disinfected. Renderpest, Haemorrhagic, Septicaemia, red water and cow and sheep pox rob the hide or the skin of some of its hide-substance and thus impoverish it. Renderpest causes pock marks which greatly damage the pelt. "Black quarter" actinomycosis multiple abscess, ulcerative lymphangitis, malignant tumours, filaria haemorrhoidalis 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 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 due to diseases and insects and vermins 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.

The fighting of animal diseases is a big problem of national importance. But deterioration of hides and skins by the disease is an intrinsically important part from the tanners point of view. It has been proved that the primary raw hide producer and also the tanner gains very much by the reduction of the incidence of disease among livestock. Veterinary Research and development institutions should, therefore, take the tanners' point of view in economising towards national waste while combating with the animal diseases. Defects under such circumstances are mostly due to pests, insects, vermin and germs of various kinds and species.

The most important insects and germs that deteriorate the quality of hides and skins are warble flies, ticks and mites, weevils, beetles, lice and other vermins, etc.

It is beyond the scope of this Committee to suggest any remedies against these insects and germs. In other countries Government and private limited organisations had appointed Committees to study these problems and suggest remedies against them. We only mention these defects here and suggest that the Veterinary Department be moved to tackle these problems. Besides improving the general life conditions of the living animals, control of these insects and vermins will tend to improve the quality and economic value of hides and skins.

Practically in all countries where the leather industry has advanced greatly, the basic raw material—the raw hide a comparatively low priced bye-product of meat industry, has become elevated into a commercial position which has brought about startling changes in the method of its collection, preservation and distribution and the present position is that there is a great scramble for all sorts of hides and skins and that tanners cannot afford to attempt to make low priced leather from costly raw material like hides or skins.

It will be interesting to note that the British Government had taken the question of the proper flaying and preservation of hides to legislation some centuries ago. England was then engaged in different types of wars with her neighbour and was in need of leather goods for her military purposes. The Government had, therefore, to intervene for the procurement of better types of raw hides for the military purposes and hence the legislation. It would not be out of place here to give the following quotations which we hope will encourage our administrators to think more seriously about the subject and take to legislation in the matter if found necessary :—

The King James Act.

In 1604, during the reign of King James, an Act was passed which included the following clause :

“Be it enacted by the King’s most Excellent Majesty, the Lords Spiritual and Temporal, and Commons of the present Parliament assembled, and by the authority of the same, that from and after the Feast of St. Bartholomev the Apostle, next coming, no butcher, by himself or by any other person, shall gash, slaughter or cut any hide of any deer, bull, steer or cow in slaying thereof, or otherwise, hereby the same shall be impaired or hurt, upon pain of forfeiture for every hide so gashed, slaughtered and cut, twenty pence ; and that no butcher shall water any hide except only in the months of June, July and August, nor shall offer or put to sale any hide being

putrefied and rotten, upon pain of forfeiture for every hide so watered and for every hide so putrefied and rotten, and offered or put to sale, three shillings and four pence."

The matter seems to have reached another stage during the reign of Queen Anne, as the Act of James was repealed and another act passed, from which the following extract is taken.

Penalty for Bad Flaying.—Penalty on gashing hides and skins and for the better preventing the gashing and cutting of any hides in slaying thereof, whereby the same shall be impaired or hurt, it is hereby enacted that from and after the four and twentieth day of June, one thousand seven hundred and eleven, if the raw hide or any ox, bull, steer or cow, or the skin of any calf, shall wilfully or negligently be gashed, slaughtered or cut in the slaying thereof, or being gashed, slaughtered or cut as aforesaid, shall be offered to sale by any butcher, or other person or persons whatsoever, then in every such case, the butcher or other person who impaired or hurt the said hide, by gashing, slaughtering or cutting as aforesaid, or the person offering the same to sale, shall, for every such offence, forfeit and pay the sum of two shillings and six pence for every such hide, and one shilling for every such calve-skin, to wit, one moiety thereof to the poor of the parish where the same shall be found or offered for sale, and the other moiety thereof to such persons as will seize, inform or sue for the same."

It is an accepted fact that the hide or skin of an old animal is in every detail inferior to that of a young one. It is comparatively thin, flimsy, papery and of poor substance. Its tensile strength is less. A good portion of the fallen hides are derived from the animals dying a natural death, due to old age and are, therefore, of a poor quality.

Defects due to wounds and injuries.—The defects coming under the categories are :—

- (1). Scars.
- (2) Branding.
- (3) Goad marks.
- (4) Yoke marks.
- (5) Punctures.
- (6) Horn marks.
- (7) Scratches, etc.

(1) *Scars.*—Natural wounds on the skin due to internal or external disorders though healed completely leave permanent scars which deteriorate the economic value of the skin.

(2) *Branding*.—The brand mark was one of the defects prominent in the hides a generation ago but due to improvement in the Veterinary science the practice of branding is coming in dis-use and at present the damage by branding is not very much found. We, however, suggest that Government should make some legislation prohibiting branding by private bodies.

(3) *Goad Marks*.—In many parts of Bombay especially Vidarbha there is a practice of using goads to drive the animals. Goad is a pointed nail fixed in the centre of the driving stick and its use is sometimes so merciless that the nail punctures the butt and causes bleeding. The butt portion of the animals that are driven by goading show a net work of such goad marks damaging the butt portion of the hides. According to the Cruelty to Animal Act, goading is prohibited. But there is no proper agency that would enforce this law and show kindness to the dumb millions. In the interest of the increase in the economic value of the raw hides, we would like to propose that the Police may be empowered to take notice of the goading while driving, under the Cruelty to Animal Act.

(4) *Yoke Marks*.—Damage resulting from yoke marks is not so dangerous in nature and extent as the goad marks. 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 of the neck is sometimes now even flayed with the rest of the hide. Hence, the actual national loss from yoke marks is much small in extent than in the case of goad marks. We propose that for minimising this damage, padding under the yoke should be popularised, which will show our kindness to the animals and at the same time save the hide damage resulting in economic loss.

(5), (6) and (7).—The other defects such as punctures, horn marks, scratches, etc., are though important from the tanners point of view, are unavoidable to a certain extent. They are listed here only to draw the attention of the general public so that they may know that in attention to such small things result in an appreciable national loss.

Punctures and scratches occur when the animals go out for grazing and rub their bodies against thorny shrubs or while forcing their way through barbed wire fencing. Horn marks are seen when the animals quarrel among themselves while they are free outside in the grazing land. It will be useful if the owners of the cattle warn the grazing boys that they should see that such damages do not occur.

Faulty Handling of Carcass.—So far we have dealt with the defects to the hides or skins from negligence or ignorance while the animals are living. Many serious defects occur to the hide if

the carcass is not properly handled after it is dead either in slaughter houses or outside. It is easy to avoid the damages occurring due to faulty handling in the case of slaughtered animals. Because the hide can be removed from the dead body soon after the death and blood is allowed to drain away immediately after slaughter. But in the case of animals dying a natural death it is not possible to take out hide from the dead body within a short period after the death. It is also not possible to drain out the blood from the body as the carcass is not opened soon after the death. This causes at times blood stains in the hide or skin.

Handling of the Fallen Stock.—The present system of disposing of the dead bodies of animals as found in several villages is that the body is dragged out of the village and skinned at any place. The dragging causes various injuries to the hide or the skin giving dragging marks which spoil the grain. Frequently a long interval takes place before the skinning begins. During this time the hide or skin is exposed to the ravages of vultures. The putrefying action of heat, damp and the surrounding filth causes what is technically known as taint—a form of incipient decay. In several cases the flayer does not know his art properly. He has no interest in the flesh. This leads to a tendency of leaving 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 adding to the weight of the hide.

From the stand point of the development of the leather industry in general and tanning industry in particular, it is necessary to change the present system by education, persuasion, propoganda and even in certain cases taking away the work from those who have been doing it for centuries. We feel that the hereditary right of the dead bodies collecting the village chammars or mahars should be discontinued. This right was given to him as a protection against competition. But this concessional right in course of time has degenerated into a sort of forced labour. The present village flayer, therefore, does his work very negligently. The work of flaying should, therefore, be taken away from the hands of such persons who consider it a forced labour. Enthusiastic and willing persons should be made interested in this work so that they may do this work more intelligently and more skillfully.

The system of dragging the dead body should be prohibited by some rule through the Gram Panchayats. Even though it may not be possible in all places to provide a cart for the transport of dead bodies—a simple equipment wooden or bamboo poles to carry the dead bodies may not be beyond the means of an average village flayer. He can tie the four legs of the animal and hang it on the wooden or bamboo poles and the dead body can be carried out by two persons to the place of flaying.

According to the Revenue Act, a place is to be marked out by the District Magistrate in every village for the work of flaying. But at present in several places these special areas are not marked out and the villager flays his animal anywhere he likes, thus creating unsanitary condition in the surroundings. We recommend that the Government should issue orders to all the District Magistrates to mark out flaying places in each village and see that the dead bodies of animals are flayed at those places only and at no other places.

In the case of fallen stock, hide is the principle commodity of economic value but the other remains of the dead body. i.e., flesh, bones and others may also add to the national wealth if properly handled and utilised. Arrangement should, therefore, be made through Gram Panchayat to see that the other parts of dead body of animal going waste at present are recovered. Although it is said that the carrion eating has been given up by the hereditary flayers, our enquiry shows that this is not correct. We can say with authority that at least 75 per cent. of the flayers do take to carrion eating. We, therefore, suggest that Government should study this problem more closely from the hygienic point of view. In this connection it may be pointed out that as early as 1937 or 1938 Mahatma Gandhi had written a letter to Dr. G. V. Deshmukh of Bombay asking him whether from the hygienic point of view the carrion eating is injurious. Dr. Deshmukh had replied to him that the flesh of animal is not bad simply because it is from the dead animal. Both these letters were published in the "Harijan". It has been observed that in several foreign countries the dead body of animal is examined by the Veterinary Officer and if he finds that the meat is not bad he allows it for human consumption. In our country it has become a sentimental thing. The village flayers deny eating of carrion because he is considered low on that account. This sentiment of lowness attached to carrion eating should be removed. We must take more rational view of the matter. If after careful study it has been found that the carrion eating is not injurious from the hygienic point of view the lowness attached to carrion eating on sentimental ground should be removed by propaganda and the flayers should be freely allowed to take carrion for food. If necessary the help of the Veterinary Assistant should be sought to test the meat. Even at present the carrion eating people take only the unputrefied good portion of the carcass for edible purposes while the rest is thrown away. When we give open permission on rational grounds the work can be organised in a better way. That part of the meat which is not edible can be turned into good manure. The Khadi and Village Industries Commission has prepared several schemes for flaying centres. We recommend that every flaying ground should at least be supplied with a compound

and a platform which will not cost more than a couple of hundred rupees. This amount can be had from the Gram Panchayats. In bigger places where large number of dead bodies can be made available flaying centres through the Khadi Commission should be opened so that the economic exploitation of different parts of the animal can be achieved. If the arrangement for fixing the flaying ground in each village is effected as suggested above, the animals dying in a village will be brought to that flaying ground, flayed, the skin can be taken out and preserved with proper preservatives while the remaining part of the dead body can be transported to a near about flaying centre for further exploitation. This will only be practicable if the flayers are openly allowed with dignity to take away the edible part of the meat from the dead body. The Khadi Commission has also prepared a scheme for bone digester. According to the present pattern every flaying centre is supplied with a bone digester. It has been observed that these bone digesters are not working properly. The reason is that these flaying centres do not give sufficient quantity of raw bones for working of bone digesters. We, therefore, propose that one or two bone digesting centres should be joined with some bigger flaying centres so that they may get sufficient quantity of bones for exploitation. It is not possible to purchase raw bones for the bone digester in competition with the organised bone crushing industry.

We would here like to draw the attention to the Government and the Veterinary Department of the very important item which has not been studied so far. Bile pigment in the form of a stone is formed in some cattle and is recovered during flaying. This bile stone is termed as "GOROCHAN". GoroChan is a very costly material and has got some medicinal value. It is mainly exported to China. The present value of GoroChan may be some Rs. 25 to Rs. 30 per tola. Flayers say that they get this GoroChan in every few animals. Every animal does not possess it. An experiment was tried once in one of the flaying centres to preserve the bile bags and it was found that the liquid bile in the bile bags which was not putrefied was turned into bile stone. This requires further study and research. We, therefore, recommend that the Veterinary Department should study this problem more closely so that the costly material is not wasted and be recovered fully.

Sinews on the back bone are preserved in some places. But as there is not much demand now a days for it for carding bows it has been found that these sinews are not properly looked after. There are several uses of this material called puttās. In upper India this is used as strings or rope to prepare winnowing pans from particular grass sticks.

We, therefore, suggest that the care should be taken to see that the puttās are properly preserved, collected and turned into ropes or strings which may be very strong, supple and pliable.

There are very few horn working centres in the State of Bombay. We know that there are some centres in Sawantwadi. We have come across a factory at Nagpur wherein the horns of wild animals, such as, Sambar, Chital and others are collected, cut into small pieces of requisite sizes, polished a little and exported to foreign countries to be used as knife handles or umbrella handles. Horn work is an organised industry in several part of India. Beautiful show articles are prepared from horns, and the State can easily afford to open few centres for encouraging this artistic craft. Fancy articles prepared from the horns have no utility value. They are only articles of show and beauty and as such it may not be possible to find full market if it is designed to use every piece of horn for such artistic thing. Horns are composed of protien matter called Keratine and thus possesses a high percentage of nitrogen. Horn, therefore, is a very good nitrogenous manner. But the horn is a very stiff substance and cannot be crushed into powder in the raw condition. They are, therefore, required to be steamed to render them soft and pulpy. When this soft pulpy substance dries, it can be crushed into powder. As far as we know in the State of Bombay only two factories prepare horn-meal—one at Bhavnagar and the other at Chembur in Bombay. We propose that efforts should be made to encourage two factories for the preparation of horn meal in Gujrat area and four in the Maharashtra area. They need not be independent separate factories but they can be joined with some of the existing bone crushing factories.

No proper attention has so far been given for the preservation of hair in the tails. Hairs are used for making brushes. We have not come across any dealer who deals with the hair of the animal during our tour. But there are dealers in hair in other parts of the country for instance Delhi, Calcutta and others. We, therefore, suggest that flaying centres should be advised to purchase the hairy tails from the village flayers on a fair price and transport them to a central place where they can be commercially exploited.

In Bombay city we have some people doing this work. Tails from slaughter house are sold directly to brush makers. Our enquiry shows that Bandra slaughter house alone gives as much as 2 Mds. of cow-tail hair per day which are mostly turned into finished product in the city.

Hair, from tail and mane of a horse are a very useful commercial commodity and was one of the most important trade in the city of Bombay. But due to gradual decrease in the Hakney Victories, the trade is naturally falling down. We, therefore, recommend that efforts should be made to encourage collection of this material through the hide and skin merchants and different types of flaying centres.

Bristles.—Hair from pigs called Bristles was a very valuable material for special brushes. With the invention of Nylon the rival material, it has lost its special utility in the market. Still even today it can fetch good money as a waste material and as such attempts should be made to save all this material from waste and collect it for industrial purposes.

Handling of carcasses in slaughter houses.—It has been found that the standard of hide flaying in the State is poor. The flesh side of the hide often gets scored and even cut by careless use of flaying knives. The knife cuts make long and sometimes deep dents into the substance of the hide and occasionally even slit the hide through and through. The chief effect of the 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 its appearance is also marred. Although such leather may not be rendered altogether useless it reduces its economic value to a great extent and the tanner or leather worker is required to use his skill to avoid the damaged part of the hide or skin. But such damaged hides become absolutely useless for high types of leather required for belting straps and others. On account of this such damaged raw hide or skin goes down in the gradation for selection. Reasons for such poor work in the slaughter houses are various and they may be classified as under :—

- (1) Flayers' lack of skill and general negligence.
- (2) Unsuitable implements, insufficient space and dim light, lack of suitable arrangement for skinning the animal
- (3) System of buying slaughtered hides before the animal is slaughtered.

Flaying is an art and requires a good practice. It is, therefore, necessary to make it obligatory on the part of the slaughter houses to employ only trained and properly qualified flayers. Every flayer should have some sort of licence for his work and the licence should be issued after testing the skill and the training of the flayers.

Proper implements should be devised for this work. At present the flayers are using sharp knives for this work. These sharp knives prove disadvantageous as there is always a risk of increasing flay-cuts.

In foreign countries Butchers rarely use such sharp knives 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 common. The hammer take off is regularly employed in the several foreign slaughter houses.

There is no approved pattern of the flaying knife. F. A. O. has recommended some standard patterns. Small Industries Service Institute in Bombay copied the standard pattern of a flaying knife as suggested by F. A. O. This was sent for trial to Bombay and Ahmedabad slaughter houses. First general complaint was that the knife was rather heavy to handle especially as there were no facilities for hanging up the carcasses. The size of the knife was, therefore, reduced considerably. These knives were found all right but the flayers did not continue to use them as they had to use two knives one for ripping and the other for flaying. It should also be noted that Indian craftsmen are too arthodox to take the new implement however, simple and useful they may be. We, however, feel that the Khadi and Village Industries Commission might have studied this problem more closely. It is, therefore, proposed that the State Government should approach the Khadi Commission for standardizing the flaying knives on scientific basis.

Conditions in many slaughter houses as regards accommodation, flooring and lighting are too bad. Government should make suitable rules and regulations for improving the conditions in the slaughter houses at least from the sanitary point of view. Cold storage arrangements for meat and hides should be made near the slaughter house. The present system of slaughtering animals and rushing the meat to the markets is most undesirable. If more time is made available to a flayer, he can do a careful job and avoid damage to the hides. Hides and dressed carcasses could be kept in the cold storage and removed as and when necessary.

System of buying slaughtering hides before the animal is slaughtered.—The present system of selling the hides and skins in the slaughter houses is by "forward contracts". The material to be produced during the course of next three months is sold out by auction in advance. This means that a butcher can supply anything during this period and expect to get the fixed price irrespective of the quality, selection and flaying. The forward contract method though assures quantity and rates for a specified period loses all incentive towards betterment.

In this regard the recommendations made by the slaughter house improvement committee appointed by Government are worth consideration. The suggestion in regard to abolition of forward contracts is.

"The only way to remedy this state of affairs in flaying is to sell hides and skins after they have been removed from the carcasses. If this is done it would be possible to give the dealers, skins and hides of their choice and selection and they would be paying for what they get. The butcher on the other hand would naturally look to the skins and hides being properly flayed to fetch

a better price at the sale. This indicated the paramount necessity of banning the sale of hides by forward contracts and effecting such sales in the open market by competition. We strongly recommend that this should be done. The objective can also be achieved if associations are encouraged to purchase hides and skins and distribute them among the members.

There is much need for the improvement in the manner in which the hide or skin is handled after it is taken off the carcass. At present they are thrown together on the ground thereby 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. A green hide or skin is a perishable article and the nature and extent of the damage occurring to the hide due to delays in its proper preservation is considerable. It should be considered the duty of the fayer himself to remove all the foreign matter, to shave off the flesh side so as to reduce the matter in which bacterial action is liable to start early, to prepare a smooth surface for applying preservatives and to stretch of hides on frames by pegging them out on the ground.

The defects on the hide or skin that are produced at this stage are as follows :—

- (a) adherence of foreign matter and lack of general cleanliness ;
- (b) sun-blisters or burns and surface-drying ;
- (c) Uneven cooling and drying and crumpling ;
- (d) Over-drying ; and
- (e) Dragging and scratching or rubbing of the grain.

(a) *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. They give the hide or skin a dirty appearance, make the handling un-pleasant involving 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 flesh side becomes smooth and bright, can be preserved far better than uncleaned ones.

(b) *Sun-blisters or burns and surface-drying.*—Owing to the climate which prevails over the greater part of India in general and in the State of Bombay in particular there is no danger from freezing due to cold weather. Dry cold does retard the bacterial action, but alternate exposure to bitter cold at night and a bright and warm sun at midday tends to cause damage.

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, and the part of the hide or skin resting over them are apt to get blistered and burnt. Many times 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 village flayer knows the value of drying in the shade, but he is somewhat careless and indifferent. Systematic propaganda is needed to bring home to him the heavy loss he sustains due to his negligence.

(c) *Uneven cooling and drying and crumpling.*—Uneven drying and cooling mostly take place in fallen hides. But this defect has also been observed in the hides and skins from the slaughter-houses. When exposed to dry whether on a flat surface the green hide or skin is apt to crumple. If these crumples are not put right some portions cool down and dry up quicker than others. Such unevenly dried pieces depreciate in value considerably. Sometimes the hide is laid flat on the ground and secured by pegs. This helps considerably against crumpling. But the contact with the ground even on the hair side is not desirable. To avoid this a drying frame should be utilized. It need not be costly as rough timber or bamboo can be had in almost all the villages at a very moderate price. These timber or bamboo pieces can be put together very easily to form a rectangular or triangular frame. The work of designing such frames and popularising their use should be encouraged by suitable propaganda.

(d) *Over-drying and.*—This is another common defect during the preparatory stage and gives the hide a stony feel and renders it difficult "resoaking" in a tannery.

(e) *Dragging and scratching or rubbing of the grain.*—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 avoided altogether.

Cure of raw hides and skins is very important from the stand point of grading or selection by the tanner. Research shows 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 of raw hides from decay during the period of storage and transport. It is not enough to check up the putrefactive action of bacteria and other micro-organisms, but these putrefactive elements should be killed. There are other non-putrefactive organisms which cause red heat and are required to be destroyed.

The curing methods will depend on the locality, the climate, the materials available for curing, and the length of time for which cure is desired. These curing methods can be broadly divided into two groups viz., (i) wet-curing and (ii) dry-curing.

(i) *Wet cures*.—The chief wet process is green or wet salting. Common salt of commercial quality 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 helps in preserving from the putrefying elements. In theory and under favourable conditions this type of cure is expected to last for some months. But in hot country like ours it cannot be relied upon for more than few weeks. The following precautions should however be taken in effecting this cure :—

(1) The cure should begin soon after but not much before the animal heat has been given out.

(2) Salting must be thorough and even and must not be far as possible.

(3) The brine must be properly drained out.

(4) The salt used must be pure, clean and fresh. Impure or unclean salt generally results in strains which are not always perceptible in the raw stock but come out indelibly during tanning.

(5) Use of "spent" salt is risky and should be discouraged as far as possible.

Apart from the general ignorance to adopt this method of curing, there is also difficulty in procuring sufficient quantity of salt at economic prices. For proper cure the quantity of salt should be about the same the weight as that of the hide. Some arrangement should be made to provide sufficient quantity of salt for the purpose at cheaper rates. We recommend that technological research should be undertaken to find out better efficacious substitute, e.g., mixture or compound by which salt is denatured and rendered unfit for human consumption.

Another wet-curing method is pickling the raw stock in wet brine. Hides are soaked for eight to ten hours in saturated brine (salt solution) and then horsed up to drain. After draining well they are folded in wet condition, bundled and sent to the market. These, however, contain a lot of moisture still which adds to the weight and the cost of transport increases. Although the pickling method is technically superior to that of wet salting from the practical point of view we think that wet salting is better adapted to the local circumstances prevailing in the countryside.

(ii) *Dry cures*.—The following methods come under this heading :—

- (i) Air drying ;
- (ii) Dry salting ;
- (iii) Dry brining.

(1) *Air drying*.—It is the simplest and also the cheapest method generally used in our country. If properly carried out preferably in the shade, it enables the raw stock to be kept indefinitely without damage. But it presupposes a dry climate and weather. This method is, therefore, unsuitable during rainy season and where the climate is damp.

Air dried stock becomes almost as hard to the touch as stone. This is, therefore, alternatively called flint drying. In tanning process the soaking operation of such dried flint hide is rendered difficult and the assistance of some chemical action is found necessary. This fact makes this type of raw hide unsuitable for plump moisture proof leather. In spite of these disadvantages, air drying is extensively resorted to in our country the chief reasons being its simplicity and cheapness and reduction of weight to the minimum. In order to prevent insects and maggots from attacking air dried stock it should be treated with some sort of insecticide such as gamaxine, D. D. T. powder or others.

(2) *Dry salting*.—Dry salting is the next important method. Salt is rubbed on the flesh side while the stock is still green. After salting the stock is horsed up, drained and again salted. In some cases this process of drying and salting is repeated as often as six times.

(3) *Dry brining*.—Hides pickled in brine are dried.

In the hide market we find several hides or skins loaded and adulterated. Loading is done with one of two objects viz., to conceal defects or to gain false weight. The defects which loading can help to conceal are scores and butcher cuts, holes caused by warble flies, ticks and other vermin, vulture marks, stains and such others on the flesh side.

In many places foreign matter is fixed or plastered on the raw stock. When the plastering is done by a practised hand immediate detection of the defects on the flesh side becomes difficult. The other object of loading is to gain false weight. The foreign matter—dung, blood and lumps of flesh and fat, mud, clay, sand, impure or spent salt, earth flour are plastered on the flesh side to put in more weight. In certain cases even steel shavings and filings have also been pasted on the flesh side to increase the weight.

It has been found that in certain cases, loading increases the weight by 100 per cent. Apart from giving false weight loading may cause damage sometimes serious. Thus the use of impure salt and minerals causes stains and discoloration. All these forms of loading do not go undetected and tanners and buyers make ample allowance to cover all the losses due to loss of weights. But even then national loss remains. It is, therefore, necessary to educate the primary producers and make them understand the enormous loss they bring to the country by these false methods of loading.

Supply and Demand.

Supply.—According to the cattle census of 1951, the livestock population of animals of the whole State of Bombay that mainly supply the hides and skins to the Leather Industry is given below :—

Cattle	...	...	...	1,94,31,000
Buffaloes	...	...	...	54,08,000
Sheep	...	...	...	88,50,000
Goat	...	...	...	69,63,000

Based on this livestock population we give below the potential production of raw hides and skins in the State of Bombay :—

Kips	...	19,43,000 @ 10 per cent. on population.
Buff hides	...	55,00,000 @ 10 per cent. on population.
Sheep	...	28,00,000 @ 33 per cent. on population.
Goat	...	31,15,000 @ 45 per cent. on population.

Besides some hides are also imported from the adjoining State of Madhya Pradesh. Bombay being one of the biggest hide market, hides are also imported from foreign countries such as Singapur, Burma, Aden and others.

Demand.—Tanning Industry in villages hinges round agriculture. During our tour, we have found that in areas where there are wells for irrigation and the water lifts are in use, tanning industry was

flourishing. Because the agriculturists require water lifts for their irrigation purposes. But due to the power pumps and Prussian wheels, the water lifts are coming into dis-use. The Village Tanning Industry has, therefore, suffered a great set back due to the dis-use of leather water lifts and the tanning population in the villages is decreasing. If we leave aside the advanced tanning areas like Satara, Kolhapur and Poona side the tanning industry in Khandesh and Marathwada and also some areas in Gujarat has suffered greatly due to this change in the irrigation medium.

Previously the footwear making was a bye-industry to the village tanner. His main work was to supply water lifts and its maintenance throughout the year. As the things stand today, we think that in Berar area there may be one village for every twenty villages where some type of tanning work might be going on while the same may be the case as regards Aurangabad Division including Khandesh areas. In Bombay-Poona, we may get one village for tanning for every ten villages.

Gujarat including Saurashtra and Kutch are also comparatively backward in tanning. Katiks in Saurashtra, however, tan light skins such as sheep and goat. Taking all these factors into consideration, we give below our estimate of number of villages where some sort of tanning might be going on :—

	Total No. of villages.	Tanning villages	Total No. of towns.	Tanning towns.
Nagpur	12,448	650	75	75
Aurangabad	8,730	450	90	90
Poona	6,460	646	114	114
Bombay Region	10,358	600	111	111
Ahmedabad	10,634	600	120	120
Rajkot	5,651	600	105	105
Total .. .. .	....	3,546	....	615

Taking a round figure we think some sort of tanning might be going on only in about 3,500 villages and in some 600 towns in the whole of State. We would like to calculate at the rate of five tanners on an average per village and ten tanners per town. We may add to this about 600 labourers working in the organised sector in the

State. Thus the total number of tanners in the State may come to about 25,000. Our enquiries during the tour show that a village-tanner gets something like 100 hides per year for tanning and his income from this source comes to about Rs. 500 per year. He supplements his meagre income from tanning by other labour say agriculture or any other.

The total raw hide consumption may thus come to about 25,00,000 of hides both kips and buffs. The total production as estimated above comes to the same number. But some tanners in Gujrat and Saurashtra tan sheep and goat skins instead of hides. Our calculated figures of consumption of raw hides would, therefore, be a couple of lakhs less than the calculated figure. This shows that if we desire to develop the tanning industry of the State, some arrangements to increase the production of raw hides will have to be found out or efforts will have to be made to import sufficient quantity of raw hides.

The bark tanned hide produced by the village tanners in the indigenous way are very inferior in quality. If efforts are made to improve the quality of raw hide in the villages and to improve the prevailing methods of tanning, better quality of tanned hides can be produced. If this improved quality of tanned hides are finished in the villages themselves the present employment can easily be doubled without in any way requiring larger quantity of raw hides.

Chrome Tanning for uppers requires hides of special quality and weight range. Our enquiry shows that there are only two factories worth the name in the whole State that produce quality type of chrome upper leathers. We learn that these factories find it very difficult to procure sufficient quantities of suitable raw hides for their production. We recommend that efforts should be made to produce chrome leather in the State, so that it may be self-sufficient so far as the chrome leather requirements are concerned.

We, therefore, feel that if the potential production of raw hides and skins that has been calculated above is properly organised and availed off, the State would not be required to import its basic raw material viz., hides and skins from outside the State. The organised factories, however, that might be producing high type of leather such as belting, saddlery may be required to import better quality of hides necessary for their industry.

CHAPTER III.

The Tanning Industry in the State can be divided into three groups :—

- (1) The small tan-yards tanning with the materials locally available (chiefly the barks, fruits, leaves and other) for the local demand for simple leather articles such as footwear, leather

buckets, leather lifts, straps, thongs and indigenous types of harness and saddlery ;

(2) The tanneries which prepare goods mainly for export in a tanned but not finished state ; and

(3) Tanneries turning out finished leather for the requirements of the towns and to a limited extent and for the export trade with foreign countries.

Tanning.

This industry as practised in our State is in the hands of hereditary tanners who have been looked down by the higher classes as untouchables and they are carrying out their business by age old methods on small establishments in remote corners of villages. In spite of two world wars which have given a great fillip to various industries this class of artisans has remained still in the last century. His processes, mode of living, educational standard and the economic status have not changed much. Except a few established large and small scale organised units in cities the whole industry is carried on by this sector. Artisans who conduct this business in villages are a poor class by themselves. They try to sell the leather produced to a local shoe-maker or make some types of leather goods themselves. Even then a fair portion of his production is left unsold and he has to resort to the agency of District Leather merchant, who generally exploits the situation in his personal favour.

A village tanner is expected to get his raw materials from the surrounding areas but in actual practice it has been observed that he is able to get only a very meagre portion of his requirements from this source and while for the major parts which come to about 70 per cent. of his requirements he has to depend on District merchants or other big hide markets. He has to pay cash for local purchases from the village flayers. But when he comes to District merchants or bigger hide markets he is tempted to take his stock on credit. The hide merchants are willing to give this credit because they hope to get the commission from the tanned leather, also. This means that the tanners have to depend on the middlemen both for the supply of raw materials and the sale of finished products, which involves payment of commission at every stage. This commission and other charges may go up to even 10 per cent. Other mal-practices like short weights, uneconomic rates of sale as well as purchases barely leaves the village artisan with wages for all his work. There is no margin left for him to stand the vagaries of market conditions. This has dwindled down the personal finances that were with the tanners and have reduced them to mere labourers. It is rather surprising to find that the village tanners has been able to continue his existence in the industry with his uneconomic unit, which means that he has to depend more and more on the income from other sources. It is, therefore, feared that if this trend continues the tanner may completely leave this trade and migrate to urban areas for his livelihood.

During the visits to various tanning centres the Committee found that the present agency—Adatdars carrying out the work of supply of raw materials and the sale of finished goods has got to be replaced by Government sponsored co-operative agency with adequate finances and resources. It is taken for granted that this agency will guard the interest of the village artisans, at the same time utilise the finance in the best possible way.

The processes followed in different regions of the State by Village tanners can be summarised as follows :—

(1) *Saurashtra and North Gujrath regions.*—Enzymetic Depillation by use of Akda juice and Jawasi (Dhamasa) leaves followed by usual tannage with tarwad or Babul bark and little myrabs. The speciality of this leather is that during drying salt solution in considerable quantity is applied to the leather ; no oiling is done. Tannage is only useful for agricultural purposes but is not suitable for the manufacture of footwear and the village tanners in the region have expressed to us defect in their tannage during our tour.

This tannage renders well to the stripping process. It is experienced that if proper stripping and re-tannage is carried out this leather yields to modern methods of finishing and gives a product that could be utilised for footwear of western type and various types of leather goods. Investigations to standardize a certain retanning process for different types of leather goods. Investigations to standardize a certain retanning process for different types of leathers produced in this region should be immediately undertaken. Departmental centres as well as established tanneries in places like Ahmedabad, Godhra, Rajkot and Chorwad etc., can take up this work. This step will considerably improve the village tanners lot by using his products fully.

Scarcity of soft water and non-availability of facilities to carry out modern methods of vegetable tanning has kept these artisans in their old practises. From the point of utilization of local products and suit the regional conditions this method need not be radically changed. Certain modifications in the size of pits, provision of wells and drainage and some tools is all that is necessary. This will not mean a very large expenditure on each establishment and a liability on individual tanner. Adequate facilities for drainage and hygienic industrial methods will have to be introduced. Especially as the processes carried out are of enzymetic nature need for these improvements is great. If proper work is done on investigation of these processes it will be possible to evolve a method by which all the un-hygienic part of this industry could be eliminated, solving the most troubled proposition of shifting the existing tanning units.

Other regions in the State like S. Gujrat, Maharashtra, Vdarbha and Marathawada, etc., carry out tanning processes more or less in a similar manner, differing from the method indicated above such as use of lime for depilation, etc. and use of tanning pits as well as bag tanning method. Separate methods for light and heavy leathers are practiced. There are however slight changes depending on the availability of local tanning materials. In Vidarbha area use of hot water for extraction of barks is being practiced which lowers the quality of finished leather.

The following varieties of leathers are generally produced by the Cottage tanning units in the above regions (1) Buffalo hides (bag tanned) for soles, (2) Cow hides bag or pit tanned for Mota, agricultural implements and footwear of country type, (3) Buffalo calves and cow calves for uppers, linings and miscellaneous leather goods, (4) Sheep and goat skins for uppers, linings and fancy leather goods. Bulk of this production is used in natural colour and no special attempt is made towards dyeing and finishing.

(1) *Bag tanned buffalo for sole leather.*—This method of tanning is the most practised in all the regions and can be made to yield fairly good quality of leather. But majority of the leather produced by these country tanners is of very poor quality and can be used for agricultural purposes or rural type footwear. In all regions, we come across better type of artisans who can produce leather which may satisfy the need of an urban shoe maker catering for his local market. In this connection we mention here artisans from Kampti and Amravati in Berar, Jalna and Udgir from Marathawada, Nagar, Nasik, Godhra and Surat from Maharashtra and Gujrat who have acquired skill in such type of leather. In Sholapur, Pona Satara and Kolhapur we come across best craftsmen in this industry who can produce leather by their old orthodox method which has been in good demand with the shoe makers in city like Bombay. They can also supply some leather for Belting industry also.

This Bag tanned country leather though suitable for chappals etc. does not give the same satisfaction as pit tanned leather in the manufacture of western style footwear. The wearing properties of this leather are good if only subjected to dry wear. But has poor dry and wet wear resistance. It also absorbs large quantities of water and thus tends to lose the shape of the article. This leather finds a good market with chapal makers and to a certain extent with industrial leather manufacturers who produce cheap type of belting etc. With increasing demand for western type footwear in urban market and for footwear required for export this variety of leather will not enjoy the same position as good pit tanned leather. If however this leather is suitably treated it can be used effectively in place of pit tanned leathers, ensuring a continuous demand for this type of leather. Bag tanning process has certain advantages of its own.

like short time taken for tanning, small initial investment in tannery building, etc., and ease of control. This makes this section very popular with village tanners. Improvements necessary in this sector are mainly concerning the working capital and stricter control of processing. Sizes of tanning and liming pits may have to be altered to suit the modern methods. Pits may have to be provided with platforms at certain centres.

With a view to give steady market for the bag tanned sole leather produced by small tanners in villages it will be desirable to organise facility centres for retanning and finishing these products. These centres can also take up the finishing work for other types of leather normally obtained from out sides markets.

Government departments are the biggest consumers of sole leather used in footwear for Police and other staff. If this retanned leather is encouraged by these departments it will earn steady market and further investigations and production technique could be carried out at length with a view to eliminate its defects. Introduction of retanning process on large scale deserves special consideration.

2. *Cow hides for mots and agricultural implements.*—Introduction of the use of Chrome salts to reduce the tanning period followed by stuffing with greases will improve the quality of leather. With these modifications selected pieces from these can also be used for certain types of industrial leathers. It may also help the tanners to use his production which was affected by the introduction of pumping sets.

It will also be beneficial if the experience of tanners and agriculturists from South is taken advantage of where the mots are made out of full chrome and stuffed leather. This mot is light in weight and also is not affected by alternate wetting and drying.

Facility centres in Districts can very well take up finishing work of these leather along with their activities in sole leather fields.

Sheep and goat skins for Uppers, Lining and Fancy leather goods. Traditional centres known for good quality tanned sheep and goat skins, situated in districts known for their skins and tanning materials have now been thrown out of the picture. Main cause of this is the international market for tanned sheep and goat skins which our tanners could not tackle. South Indian Tanners with their superior skill and established export business were able to purchase the skins in these localities at prices which a local tanner could not afford. Especially with the last world war the condition

has deteriorated further and these centres are now merely exporting tanning bark and raw skins to other States. Leather even for local use has got to be imported from south,

Question of rehabilitating tanners from these regions must be given priority. Supply of raw skins, tanning materials and skill to produce satisfactory goods is available. An agency to co-ordinate these potentialities is a necessity. This can be done by organising, at district level, apex bodies who can regulate the purchase, production and the sales of small units, Certain restriction on the movement of raw skins and tanning materials outside the State may have to be introduced at least for the first five years. It is felt that at least one such district centre for the manufacture of Vegetable tanned and finished goat and sheep skins be started in each region. The following centres may be worth consideration, Navgadh and Godhra, Sholapur, North Satara and Ahmednagar, Latur, Udgir and Jalna, Amraoti and Wardha :—

(1) Tanneries of the first type are scattered all over the rural areas, and as stated above our calculations are that the total number of villages possessing such type of tan-yards is about 3,500 in the whole State.

(2) Tanneries of the second type are mainly found in Rajkot, Godhra, Kolhapur, Satara, Poona and in the city of Bombay and Nagpur.

(3) Tanneries of the third type are found at the following places :—

- (1) Chorwad,
- (2) Rajkot in Saurashtra,
- (3) Bombay,
- (4) Ahmedabad and
- (5) Sholapur,
- (6) Ahmednagar,

All these factories come under factory Act and can be divided into 2 groups :—(1) using power, (ii) those not using power. The information as regards production, employment, capital invested etc. is given below as supplied by the Director of Industries, Bombay.

*Statement showing statistical information of Industry 'Tanning' for
the year 1957 in Reorganised Bombay State.*

Serial No.	Items.	Units.
1-0	<i>Number of factories :</i>	
1-1	Number of factories on register	Nos. 6
1-2	Number of factories reporting	" 6
2-0	<i>Capital :</i>	
2-1	Total fixed capital	Rs. 6,66,721
2-2	Total working capital	" 15,36,352
2-3	Total productive capital (2-1-1-2-2)	" 22,03,073
3-0	<i>Employment.</i>	
3-1	Number of workers employed	Nos. 382
3-2	Number of persons holding position of supervision or management or are employed in a confidential position £	" 15
3-3	Other persons employed.	" 29
3-4	Total persons employed (3-1-1-3-2-1-3-3)	" 426
4-0	Total salaries, wages and benefits etc. paid	" 7,05,740
5-0	Total fuels, electricity, lubricants etc. used	" 57,177
6-0	Raw materials.*	Rs. 50,42,985
7-0	Products.*	" 61,83,147
8-0	<i>Power used :</i>	
8-1	Mechanical Energy utilised.	B.H.P.Hrs. 3,87,352
8-2	Electrical energy utilised	K.W.H. 1,90,236

*For details of raw materials and production please see Appendix I and II.

N.B.—(Source—Census of Manufacturers, 1957).—The information compiled above relate to factories registered under Factories Act, 1948, which employ 20 or more workers on any day during the year and use power

APPENDIX I.

Materials actually consumed during the year ending 31st December 1957.

Materials consumed.		Unit.	Quantity.	Ex-factory purchase value*
1		2	3	4
I. Basic Materials—				
A. Hides and Skins—				
1.	Buffalo hides	Nos. ..	63,506	15,97,148
2.	Cow hides	Do.	1,11,052	13,78,103
3.	Other hides	Do.	....	....
4.	Cow calf skins	Do.	....	....
5.	Buffalo calf skins	Do.	....	....
6.	Goat skins	Do.	22,755	71,917
7.	Sheep skins	Do.	162	505
8.	Reptile skins	Do.	....	....
9.	Other skins	Do.	....	....
Total hides and skins ..			1,97,475	30,47,873
B. Other basic materials—				
1.	Wattle bark	Cwt. ..	806	6,448
2.	Other barks	Do.	38,864	3,05,139
3.	Myrobalan	Do.	18,746	1,11,171
4.	Bark extract	Do.	6,377	3,39,657
5.	Bran	Do.	....	....
6.	Vegetable Oil	Do.	1,324	1,17,564
7.	Other important basic materials .. ..		....	....
	(a) Tallow	Do.	673	41,062
	(b) Fish oil	Do.	409	38,674
	(c) Any other materials (value only) .. ..		....	1,14,82
Total basic materials : (value only) ..			....	41,22,217

*Means value at the reporting factory.

APPENDIX I—contd.

Materials consumed.	Unit.	Quantity.	Ex-factory purchasing value.*
1	2	3	4
II. Chemicals—			Rs.
1. Sodium Bichromate	Cwt. ..	786	56,030
2. Sulphuric acid	Do. ..	1,210	14,216
3. Lime	Ton ..	208	15,324
4. Chrome tanning salt	Cwt. ..	240	1,920
5. Dyes	Do. ..	93	87,331
6. Other chemicals (value only) .. ..	....	....	2,44,224
Total chemicals (value only) ..			3,79,045
III. Packing materials—			
1. Gunny cloth	Yard ..	7,740	8,296
2. Kraft paper	Cwt. ..	21	3,020
3. Other packing materials .. ..	....	....	18,334
Total packing materials (value only) ..			29,650
IV. Other materials including consumable stores (e.g. belts, spare parts, stationery, etc.) (value only).			2,90,989
Total (value only) ..			48,21,901
V. Cost of transport of materials to factory commission to purchasing agents, taxes or duties paid, etc. which are not included in the purchase value shown in column 4.			35,133
VI. Amount paid to other concerns for work for the factory ..			15,272
VII. Value of semi-finished products in stock or in process at the beginning of the year.			1,70,679
Net raw materials (total of I to VII) ..			50,42,985

*Means value at the reporting factory.

APPENDIX II.

Products and By-products made for sale during the year ending 31st December 1957.

Products and By-products made.	Unit.	Quantity.	Ex-factory net selling value.
1	2	3	4
I. Products—			Rs.
1. Sole leather	Lb.	16,29,947	25,96,900
2. Harness and saddlery leather	Do.	26,950	53,900
3. Belting leathers	Do.	82,200	3,13,682
4. Other heavy leathers	Do.	....	....
5. Upholstery leather	Sq. ft.	15,328	14,005
6. Upper leather, vegetable tanned (including tanned and tanned and dressed cow hides).	Lb.	....	....
7. Upper leather, chrome tanned (including tanned and tanned and dressed cow hides).	Sq. ft.	12,32,798	12,62,511
8. Sheep and Goat skins, chrome tanned	Do.	....	....
9. Sheep and Goat skins, vegetable tanned	Lb.	189	733
10. Sheep and Goat skins semi-Chrome tanned..	Sq. ft.	....	....
11. Reptile skins	Nos.	....	....
12. Others (Important products) :			
(a) Picking Bands	Lbs.	1,88,200	8,07,054
(b) Buffers	Do.	99,500	2,01,306
(c) Any other products (value only) .. .. .		....	6,82,119
Total products (value only) ..			59,32,210
II. By-Products (value only)			27,530
Total (I and II) ..			59,59,740
III. Cost of transport of products from factory premises commission to-selling agents etc., which are included in the ex factory net selling value shown in column 4.			988
IV. Value of work done by the factory for other concerns on materials supplied by them.			44,407
V. Value of semi-finished products in stock or in process at the close of the year			1,79,989
Net products (I & II, and IV & V minus III) ..			61,83,147

Notes 1—Ex-factory net selling values of products reported in column 4 are exclusive of excise or other duties paid.

Reliable information regarding the second group is not available we, however, give our conjecture of their production, employment, etc., from the personal talks that we had with some of them :—

TABLE A.

(i) Capital investment	...	...	Rs. 7.5 lakhs.
(ii) Working capital	...	...	Rs. 20.00 lakhs.
(iii) Workers employed	...	...	520 about
Production :	25,000 sheep and goat skins	...	weekly.
	840 buffalo hides	...	weekly.
	700 cow hides	...	weekly.

The third category consists of the following six large scale units governed by Industries Development and Regulation Act (1) Western India Tanneries Ltd., (2) Gold Filled Leather Works, (3) Beltex private Ltd., (4) Premier Leather Crafts, (5) Sholapur Tanneries, (6) Pickers Ltd. They employ about 1000 skilled and semi-skilled workers and produce the following types of leathers Buffalo sole and harness leather, chrome uppers, industrial leathers, fancy leathers, etc.

TABLE B.

Capital invested	...	25.00 lakhs.
Employment	...	1,000 men.
Production (weekly)	...	Cow hides ... 2040
		Buff hides ... 1200
		Sheep and Goat ... 6000

Production.

Most of these units are engaged in producing various types of leathers for local consumption or export. Sole leather, harness and industrial leathers are meant for local consumption mainly and as such are produce according to the local market conditions, while sheep and goat skins tanned for export market mainly to U. K. are processed for those markets. Some units are also engaged in the manufacture of semi-processed skins for export. These skins and hides are exported either in pickled or in chrome blue condition. This variety is a new item introduced and is now catching the markets abroad. In light of the present Government policy to reduce the export of raw skins and to export more of processed skins prospects for this type of work are bright in future and a very potential factor in increasing the employment of trained technicians. Industrial leathers such as Beltings, Pickers, picking bands etc., being specialised items are discussed in a separate chapter.

Rational use of Raw Materials.

Hides and skins as found in the nature are of varying thickness, structure, strength and grain pattern. It is the duty of a tanner to make the fullest use of this nature's product. For example a goat skin with fine grain and medium substance is very suitable for glaze kid for fashionable footwear, while a coarse grain goat skin of heavy substance will be suitable for leathers like clothing. Similarly in case of buffalo hides, hides with fine grain and tight structure weighing about 50 lbs. are very suitable for industrial leathers like belting, picking-bands, etc., while those with coarser grain and lighter weights can be used for sole leather. The same also can be said of other varieties of hides and skins that are available in our State.

During our visits, we found that raw hides and skins available locally were not put to the proper use where they could have fetched the maximum returns to the producer. Many a good calves skins were ruined because they were processed in a fashion which was not at all suitable for that type of raw materials.

Very often hides of varying weights and qualities are mixed in a lot and offered for sale by the merchants. A tanner while buying a lot of this nature is always left over with some hides that he cannot process for his regular work. For instance in case of the sole leather tanner who generally buys buffalo hides weighing between 35 to 60 lbs. for his sole leather requirements finds some hides weighing above these weight ranges unsuitable for sole leather, while a manufacturer of industrial leathers finds lighter hides mixed up in his lot which he has to process for sole leather.

It will be beneficial to the tanner as well as a producer of raw hides and skins if these are graded according to the use and then offered for sale in the market. It will be also the duty of the Commission agents to see the lots are graded and offered to the tanners. Tanner in his turn should buy only the requirements that suits his production and not others.

Educational propaganda to teach a tanner to buy the proper type of raw materials for his requirements and also to teach the producer of hides to sell his hides for proper use is necessary. At present the tanners especially in villages do not know exactly how best the hide can be utilised. We very often find that very heavy hide is used for making most (water lift) where a much thinner hide would have been more suitable. This is a sheer loss of our national wealth. Some kind of rules will have to be formed to regulate the use of raw hides and skins on rational basis keeping in mind the maximum utility of our precious raw material and avoid the national loss.

Tanning Materials.

Vegetable tanning industry which is practised from ages depends on various tanning materials available in our forest areas. Practically, every tree in nature bears tannins in some form or other but it is the actual percentage available to a tanner and its quality that counts. In our State the following tanning materials are mainly used by the tanners :—

- (1) Turwad (*Cassia auriculata*).
- (2) Babul (*Acacia Arabica*).
- (3) Myrabolan (*Terminalia Chebula*).
- (4) Ghatbhor (*Zizyphus Zylopyra*).
- (5) Ain bark (*Terminalia Tomentosa*).
- (6) Jambul (*Eugenia Jambolana*).
- (7) Avala Leaves (*Embelica Officianalis*).
- (8) Behara (*Terminalia Bebrica*).
- (9) Mangrove (*Rhizophora Candelaria DC*).
- (10) Dhavadi leaves (*Anogeissus lalifolia*).
- (11) Sanari (*Cassia Fistula*).

1. *Turwad*.—This is a very popular tanning material especially with the tanners of sheep and goat skins and light hides. The light colour and mellowness of this tannage is liked by all the buyers of this type of leather. The well-known East India tannage is carried out with the use of this bark along with myrabolan.

A good deal of research into the variations of tanning content of *Turwad* shrub has been done. Most agree in showing that the tanning increases with the age of the tree and that the non-tannins decrease with increasing age. However, in general the latest plants which are normally available for tan-barks i.e. 5 year plants or coppice shoots, have the highest tannin content. It has been stated that the maximum is in three year old plants and also that the increase after years, though it occurs is small.

Further the work shows that the size of the twigs from which the bark comes is of more importance than their age, Twigs of over led-pencil size but not so large as results in a corky kind of bark being the best.

It is chiefly collected between the months of November and May. The Chief centres where it is grown are as follows :—

Place.	District.
Alibag ... ..	.. Kolaba
Sawantwadi Sub-division ...	... Ratnagiri
Santrampur, Lunawada, Godhra, Baria .. ..	... Panch Mahal
Balasinor ... ..	... Kaira
Bhandara Division ... ..	... Bhandara
Nagpur-Wardha Division West, East, South and Central Chanda Division ... ..	.. Nagpur-Wardha ... Chanda
Vyara Division ... ..	... Surat
North Khandesh, Sakri Pimpal- ner, Dhulia ... ..	... West Khandesh.
Chandwad, Kalwan, Malegaon, Nandgaon, Baglan, Nasik ...	... Nasik
Rajun ... ..	.. Ahmednagar
Palanpur ... ..	... Banaskantha.
Dhanora .. ..	... Banaskantha
Wedgam ... ..	... Banaskantha
Danta .. ..	... Banaskantha
Desa ... ..	... Banaskantha
Poona Division ... ..	... Poona
Satara Division ... ..	... Satara
Kolhapur Division ... ..	.. Kolhapur
East, Khandesh Division ...	... East Khandesh
Junagadh Circle ... ..	... Junagadh

The average tannin content in the bark is 18 per cent. and soluble non-tans 14 per cent. The tannin in turwad bark is of catechol class. The principal characteristics of this bark are as follows :—

- (1) Quickness of penetration.
- (2) Light cream colour of the tanned leather.
- (3) Softness after tanning.
- (4) Simplicity and ease in use.
- (5) Ease of extraction.

If avaram sticks are cut and not stripped immediately they dry quite quickly especially during hot weather and when this takes place it becomes quite impossible to remove the bark as it then adheres tightly to the wood. This makes it practically impossible to work avaram bark at more than a short distance from the villages as, if the sticks have to be brought in too long distances in the sun they dry sufficiently to make the work of stripping impossible or exceedingly difficult. The normal way of working avaram is that the men-villagers cut headloads of sticks in the morning and bring them back to the village where the women strip off the bark during the day. This is done by placing the sticks on a flat stone and beating them with a piece of wood or stone so as to loosen the bark which is then removed by hand. During very dry weather the time sticks can be kept between being cut and stripped is very small indeed and hence little work can be done.

A considerable improvement in the methods of collection and packing could be made, and this would raise the price which tanners would be glad to pay for the improved quality. Probably grading would also be advantageous. These improvements would place avaram on a much sounder basis to compete with wattle. More research into the tanning factors and their relation to bark thickness and quality is necessary before a basis for grading can be elaborated; such work would be well worth doing and promises hope of success. As regards plantations, the result of recent work has been mainly to confirm the conclusions reached before. Owing to the straggling nature of the plant and its great light-demanding habit, it is not possible to increase the yield per acre enough to make collection cheap and thus compensate for the cost of labour and supervision, seed, land, etc. Moreover, plantations are only successful on better soils required more urgently for other uses. Collection from plantations is little better than from the wild plant where it grows densely. A great deal of scattered wild avaram is available which it is possible to collect if the price rises enough to make it economically worthwhile and this is still a cheaper source of supply than plantation material. If the price of avaram rose enough to cause the collection of this type of wild avaram, and still the supplies were insufficient, then the question of plantations could possibly be considered an economic proposition. This may help in minimising our demand for wattle. If it were considered essential for the interest of the skin tanners to increase supplies of avaram at the present price, the collection of scattered wild avaram could be subsidized, and this is likely to be less expensive than making plantations.

2. Babul (*Acacia Arabica*).—This is a tanning material comprising of namely the bark from Babul tree widely used by all the tanners for the manufacture of heavy leathers such as sole, harness and beltings etc. Though the bark alone is being used at present as

For tanning material the tannins are found in all the different parts of the babul trees. The tannin percentages in these different parts are indicated below :—

(as given by C. L. R. I).

	Tannins on 10 per cent. moisture basis.	
(1) Leaves	...	7.8 per cent.
(2) Pods	...	18.20 per cent.
(3) Flowers	...	10.12 per cent.
(4) Bark	...	14.16 per cent.
(5) Heartwood	...	8.10 per cent.

The proper age for the collection of samples for tanning extraction is about 10 years.

Taking that there would be 250 trees per acre at 10 years of age with an average volume of 2.2 cubic feet without bark, totalling 550 cubic feet at 56 lbs. per cubic feet this represents 30,800 lbs. It is found that proportion of the bark per acre would be 5,800 lbs. or 2.6 tons. The intermediate yield at 5 years was given at 250 trees of average volume 0.5 cubic feet, cubing 125 cubic feet and weighing 7,000 lbs. The total bark yield would be 3.2 or say 3½ tons.

In this respect experiments carried out by the Conservator of Forests, Berar, are as follows :—

22 acres of fairly mature crop-40 trees per acre-38 lbs. dry bark per tree-average per acre : 1,509 lbs.

3 acres of young crop-203 trees per acre-7¾ lbs. dry bark per tree-average per acre : 1,565 lbs.

3 acres of another crop-74 trees per acre-77 lbs. bark per tree-average per acre : 5,690 lbs.

Babul bark is collected by beating the logs with a wooden mallet after the tree has been felled and cut into logs or pieces about three feet long for firewood. Sometimes the bark is not removed until the wood have been removed to some central collecting place, e.g., town or railway station when it has dried on the tree and has probably deteriorated to some extent. In such cases none of the bark of the smaller stems is collected. The bark is then dried by laying it out on the ground.

As the bark is usually treated as a bye-product of timber of firewood, the bark is stripped whenever the timber or firewood is marketed, which may be any time in the open season, November to March or later.

Although some bark is stripped off by the local tanners for their use from the living trees babul bark is mainly a bye-product from the yearly fellings of trees for firewood purposes. Percentage of tannin is more in the trunk bark. But it contains more colouring matter and hence a tanner prefers the bark from branches, though this bark contains a smaller amount of tannins, it gives a lighter colour to the leather. This bark is found all over the state except Konkan. In the greater part of Gujarat it is the only tanning material available. The bark obtained from the trees three to ten years is considered the best.

Though babul bark is abundant only small portion of it is used for tanning, Where the trade is not organised the cost of the bark is rather high. Babul bark when used by itself gives a harsh and hard leather of a reddish dark colour. Myrabolan and Ghatbor are used in mixture with it to minimise these defects. This bark is available practically throughout the State.

Babul bark is one of the most used and best established tanning materials in India, because firstly it was a very common tree growing all over the plains in accessible places, and secondly the wood is valuable as timber and fuel and the tree is grown and marketed for that purpose, so that the bark is an easily available bye-product. These two reasons are such that they outweigh by far the lesser tannin content of babul as compared to many other tanning materials. But bark supplies are now short for the tree has been felled all over the country and it will not be available in future as easily as in the past. Unless action is taken it is likely that babul will be permanently supplanted by wattle, which, by reason of its high tannin content and the good organisation of wattle production by different State Governments where soil and climate conditions are suitable for its plantations, (i.e. Madras) may oust babul from the market. However, it is certain that babul will be grown for the sake of its timber, and thus some bark will still be available as a relatively cheap bye-product. If, however, the production of tanning bark were to be treated as an end in itself, and the bark properly stripped, collected, prepared and marketed then the bark would no longer be an unimportant by-product but would be comparable with wattle. Under such conditions there is little doubt that its lower tannin content would be offset by the higher transport charges which wattle has to bear, and babul could retain the market against wattle, at the same time repaying the cost of

proper collection, preparation and grading, and leaving a fair margin of profit. To secure this it would be necessary to re-organise the sale of babul timber and fuel to contractors who would guarantee not only to dispose off the wood in an approved manner, but also to dispose off the bark in an approved manner which would ensure its quality. Not only will babul then be able to retain its market but it may also be expected to provide to the Government a revenue which has not hitherto been collected and which will probably more than cover the cost of research and marketing.

It is evident that a complete and detailed field, laboratory and statistical investigation into all the tanning features of babul bark is required, attention being paid to the characteristics of the three varieties of *Acacia arabica*, the bark from the various parts of the tree, trees of various ages and sizes, from various localities and under various silvicultural treatments, collected in various ways, and probably (judging from the analogy of wattle) bark of various thicknesses. Possibly also the season of collection of the bark will be of importance.

It will be worth-while to attempt the manufacture of extracts from babul tree. As it is found that all the parts of this tree contain fair percentages of tannin, the whole tree could be crushed and extracted for its tannin content. The rest being used either for fuel or hard boards. The manufacture of extracts will also ensure the maximum extraction of tannins from the babul tree. The present method of tanning where babul bark is used is very wasteful and does not recover all the available tannins from the bark. The use of extracts, therefore, will have to be popularised if our sources of tannins from babul are to be exploited to the utmost advantages.

The pods of babul also contain tannin but their use is not common because their infusion ferments rapidly. In certain parts of Vidarbha these babul pods are used. It serves as a bate and delimiting agent as the tannin which it contains is not precipitated by lime and the fermentation helps delimiting action.

3. Myrabolan (*Terminalia Chebula*). Myrabolans are one of the principal Indian tanning materials, which in addition to their local use are largely exported. Myrabolans are entirely a forest produce and are one of the most valuable of the minor sources of forest revenue. The bulk of the production of myrabolans in the State comes from the forests of the following:—

Place.	District.
Kalyan	Thana.
Alibag, Roha, Dapoli, Mangaon, Murud.	Kolaba.
Sawantwadi sub-division	Ratnagiri.

Place.	District.
Santrampur, Lunawada, Godhra and Baria ..	Panchmals.
Balasinor	Kaira.
West, East, South and Central Chanda Divisions.	Chanda.
Poona Division	Poona.
Satara Division	Satara.
Kolhapur Division	Kolhapur.
East Khandesh Division	East Khandesh.
Aurangabad Division ..	Aurangabad.
Baglan, Chandwad, Kalwan ..	Nasik.
Junagadh Division ..	Junagadh.
Peint, Nasik, and Igatpuri ...	Nasik.
Nawapur, Nandurbar, Chinchpada	West Khandesh.
Nagpur-Wardha Division ..	Nagpur-Wardha.
Amravati Division ..	Amravati.
Buldana Division	Buldana.
Yeotmal Division	Yeotmal.
Akola Division	Akola.

Generally myrabolans are collected between the months of November and March. There are different varieties of myrabolans produced in the State and each variety though it contains the same class of tannin has got some peculiar properties of its own.

The fruit which is immediately collected after it is fully ripe is supposed to be the best. Half ripe or over ripe fruit contains less tannin than the ripe one. They are used by the local tanners in conjunction with other tanning materials such as babul bark, ain bark, jambul bark, etc. The tannin in myrabolans is of pyrogallic class, and hence the leather tanned does not become red when exposed to light.

Myrabolan extract is the only extract being made in India. It suffers from the usual disadvantages of extracts i. e., poorer colour, less acid and bloom-making capacity owing to sedimentation in manufacture, and the tannin content is not sufficiently greater than that of the fruit to appeal to tanners as strongly as might be expected. Nevertheless the extract has its uses and finds a market. No doubt a better extract could be made by a selection of the finest varieties of myrabolans but that has been found to be not worth the extra expense involved, and the present standard has been evolved after much practice and research as the best compromise possible between quality and expense. De-colored extract is also made available

now to the tanners. Still the chief users of this extract are not the tanners. Fairly large quantities are exported and the Railways also use a big quantity towards water softening.

A complete, detailed field work, laboratory, tannery and statistical investigation is required, namely, a study of the various factors that are or might be used in the assessment of the value of myrabolans i.e. the species, variety or form of the tree from which they come, the time of collection, the shape, size, colour, structure, proportion of kernel to seed, and others which the investigation may bring to light and their relation to the various tanning factors, viz., tanning and non-tanning content, colour, astringency, rate of penetration, fermentative or acid value and sedimentation relative solubility and ease of extraction, PH, yield of bloom and yield of leather and weight-forming capacity. At the same time a parallel investigation into the various botanical species, varieties or forms and the localities in which they grow must be made. The effect of different methods of collection should also be studied. This may seem a vast piece of work, but investigation would no doubt soon eliminate many of the variables leaving only the essentials for detailed work. On its results could be based improvements in marketing and also grading which would assist the myrabolan industry.

It is suggested that the stock of Myrabolan trees should be maintained. Since the trees take years to grow and any reduction in supplies of fruit will not become obvious until long after the time for replanting is past, an inquiry into the future prospects of myrabolan supplies is desirable to ensure that replanting is carried out now to supply the myrabolan in the future.

Myrabolan by itself is found not to give very satisfactory leather. Yet this is a tanning agent which is available in large quantities and at fairly cheap rate. Investigations regarding its suitability as a main tanning agent along with the san-tans or other vegetable tanning agents needs investigation. If myrabolan can be put to use as tanning agent by itself, our shortage of tanning materials could be solved to a large extent.

4. Ghatbor (*Zizyphus Zylopyra*).—It is a kind of fruit which looks like a small plum or a big ber. The dry fruit possesses a reddish brown colour. It contains a large hard stone covered with thin flesh. The chief sources of supply of this material are the forests in Panch Mahal, Khandesh, Nasik, Chanda, Bhandara, and Nagpur. The right of collection of ghatbor is included in the annual contract of collecting the minor products in the forests. It is generally collected between the months of November and May. It is one of the principal tanning material in Panch Mahal, Khandesh, and forests of Chanda districts but used as a preliminary tannage in many places.

Its infusions contain glutinous matter, but in its early stage the liquor penetrates the hide very rapidly. A very small portion of the available quantity of ghatbor is used at present. It is a very cheap material. Many of the contractors take out the matured fruit in green stage and allow them to dry on the ground. This is not the proper way of collection of the material because in this condition it is not properly dried and it gets fermented by heat when kept in a heap and turns into a useless slimy mass. It is, therefore, necessary to collect the matured fruit in green condition, to break them and then dry. The leather tanned with ghatbor alone appears good in colour but is very spongy and tender. The average tannin content of green dried flesh of ghatbor is about 30 per cent. Taking into consideration its penetrating power self-bating property, the light colour which it produces, it would make a very important tanning material in a mixture with others.

Ain (*Terminalia tomentosa*): Ain bark is produced from ain trees which are grown in abundance in the forests of some districts in the State. Formerly, tanners used to strip off the bark from the living trees for their own use. But this has now been prohibited as it is injurious to the growth of the tree. The ain tree is one of the important sources of timber. The bark of felled trees is therefore available in large quantities. Bark from the trunks of old trees contains very little tannin because it is covered by the growth of moss which contains no tannin. Tanners, therefore, prefer the bark from the branches. Ain bark is never used singly because it gives hard, cracky, dark coloured leather. It is, therefore, used in mixture with Myrabalan or Dhavadi leaves.

Leather produced by the use of Ain bark is especially suitable for insoles and rivetted type of footwear. As it is found that the rivets and nails hold much better in this type of leather.

Jambul : (*Eugenia Jambolana*).—The bark of jambul trees is only used in certain places in Ratnagiri and Colaba District. It contains less tannin than ain bark and has less affinity for hide fibre. But in the absence of ain bark that is the only easily procurable tanning material in those places. The colour of Jambul bark tanned leather is reddish. It is used in admixture with Behara or avala leaves.

6. **Avala leaves (*Phyllanthus emblica*).**—The leaves of Avala trees are used by tanners in certain districts along the coast line and in the Bhandara district of Vidarbha. They use this material in admixture with myrabolans ain or jambul. It is collected by the tanners from the avala trees grown in the villages and hence they find it very cheap. Its use as tanning material is however very limited.

7. Behara (*Treminalia bebrica*).—It is a fruit from behara tree. Its use is limited. Some Khatiks from Panch Mahal District use it for tanning goat and sheep skins for local use. Tanners in Ratnagiri District also use it with ain or jambul bark.

8. Mangrove (*Rhizophora Candelaria DC.*).—Very small quantity of this bark is used by tanners in the district of Kolaba and Ratnagiri in admixture with Avala leaves, Jambul bark and myrabolan.

9. Dhavadi leaves (*Anogeissus Lalifolia*).—Dhavadi leaves are used by certain tanners in Thana, Kolaba, Ratnagiri and Berar. The trees grow wild and give ample material. If they are used alone, the leather gives greenish pale colour but they are often used in admixture with ain or jambul bark and others. This compare favourably with sumach and can be used in its place. It is, however, essential to investigate the actual age and period of plucking these leaves to get the maximum benefit.

Sonari (*Cassia Fistula*) (*Amaltas*).

This bark contains fair amount of tannins about 12 per cent. It gives very light colour leather same as Turwad but the rate of penetration is rather slow. It does not give the necessary yield and as such is used only in combination with other barks. It is generally found all over the State of Bombay.

Manufacture of Vegetable tanning extracts.—Our state even though has sufficient number of hides and skins to provide our leather requirements lack miserably in the tanning materials necessary to produce all these leathers. Especially the traditional tanning materials like Turwad and Babul are getting scarcer day by day. A search for other tanning materials is on and even imports of large quantities of tanning materials are being made now-a-days. The last world war has shown us how difficult our position regarding the tanning materials could be. Our tanning industry at present has come to depend on the imported vegetable or synthetic tanning materials to supplement the indigeneous production. This is not a very happy state and attempts must be made towards self-sufficiency. In the new processes available to a tanner the use of extracts is essential. In our State we have one extract factory manufacturing myrabolan extract only. But other sources of vegetable tanning materials such as Babul, Ain, and others must be exploited towards this end. The Extract factories are willing to undertake this work provided regular supply of raw materials are assured to them. Statistical data regarding production of tanning barks etc., from forest areas is not available. And as such it is difficult to plan any definite output. However the work done in other States shows that more or less we get about 30,800 lbs. of babul bark

and wood per acre, which will mean and yield 3 tons of powered extract. Thus a plantation for about 1000 acres of babul may be taken as an experimental basic so that production of extracts could be started in about 5 years time.

Although all these tanning materials are forest products, statistical data regarding their production and disposal is not at all available.

We feel that forest departments should be requested to take this question immediately and carry out a survey of all the forest areas for the following :—

- (1) Tannins bearing trees available in each area.
- (2) Their properties regarding suitabilities for leather manufacture.
- (3) The best economic method of collection and disposal.

This has already been done by other States like Madras and U. P. where the Government of the States have taken expeditious steps to plant tannins bearing trees and even imported strain of wattle, mainly aiming at self-sufficiency of the tanning materials.

Although all these tanning materials are forest products, before the advent of independence, it was a customary right of the village tanners to take head-loads of tanning materials free of any royalty from the adjoining forests, whether Government or private. After independence, the forest rules have been made more strict and no forest products are allowed to be taken free by any person i.e. without any royalty. We have received representations from many village tanners to the effect that these strict rules should be made liberal and the village tanners be allowed to take away head-loads of tanning materials from the forest areas without any royalty. We do not think this proper because it will make the position of the tanners residing near the forest areas more favourable than those tanners who are not fortunate enough to have the proximity of the forest areas. Secondly, the Village tanner or anybody else is taking these materials for business and not for his own personal consumption. Any relief on this account would really be a relief for the final consumer and to intermediary producers such as tanners and shoe-makers.

We, however, feel that the village tanners as a class should be freed from the competition of the mercantile contractors. With greater financial resources, they can afford to take large contract of forest areas at a highest price and take the produce for sale at any distance where there is a highest market. This system of giving contracts for collecting forest products to the highest bidder really goes against the interest of tanners residing round about the forests and in villages.

We, therefore, recommend that the right to collect the tanning materials from forest areas should be given to the Tanners Co-operative Societies, if they are well-organised, not on auction basis to highest bidder but on a fair Royalty to the Government. For the present, this royalty can be calculated as an average for the last 3 years' income that the Government might have received from particular areas. This will give much relief to the tanners and will help in creating among them the spirit of co-operation and collective working.

For the achievement of self-sufficiency in tanning materials we feel that immediately the following steps should be taken :—

(1) Planting at least two saplings of the variety of tannin bearing tree per tree felled in forest area.

(2) Encouragement to the agriculturist to plant tanning bearing trees such as babul, turwad, etc., on the boundaries and bunds of the fields.

(3) Restriction through the Municipalities and Gram Panchayats in selling Babul logs without stripping the bark.

(4) Preference to Tanners Co-operative Societies and the District Industrial Co-operative Associations in giving tenders for the collection of Tarwad, Babul bark and Myrabs.

(5) Wherever tenders are given for collection of barks, etc. a condition to satisfy the requirements of the local tanners at reasonable rates should be stipulated.

(6) *Facilities for transport.*—Special rates as priorities on Railways.

Chrome and other tannages.—The only mineral tannage that has been practised in village is a sort of alum tannage for skins with hair on. The other type of mineral tannage like chrome are not at all practised in villages. In our States there are a few factories that produce chrome leather suitable for uppers and other miscellaneous leather goods. Chrome sole is not at all produced in our State. Industrial leathers like picking band, chrome laces and belting are produced only in large scale organised units. Chrome tanning even though one of the fastest tannages is very difficult to control without some knowledge of chemistry and hence the village tanner cannot take to it easily. It is also experienced that chrome tanned skins do not yield to any work like shaving, glazing, etc., easily and machines are essential to do this job. The advancement of the technique and the present day facilities available have solved this question to a great extent.

We feel that if this tannage is introduced in villages especially for production of sheep skins linings and chrome soles which do not need any machine, will help the village tanner immensely. The use

of chrome sole by our leather workers will have to be introduced. Tanning materials necessary for this type of tannage are all available in our State. The qualities of these materials available are comparable to any standard quality though the prices are rather on higher side. We feel that the chemical industry manufacturing tanning agents like sodium and potassium bichromate, sodium thio-sulphate, etc., are not utilising their raw materials to the fullest extent. Bye-products are not taken care off and hence the cost of manufactures goes up. More work on these lines should be carried out so as to cut down the prices of the tanning agents.

Leather Finishing.—One peculiarity of this industry in our State is that there is fairly large number of workers who do only dying and finishing of tanned skins. These are concentrated in places like Bombay, Sholapur, Kolhapur and others. Most of this work is done by manual labour. These units have no machines and depend for their machines job on other organised units. Various coloured lining both sheep and goat and calves skins for uppers and finish katais and hides for insoles. are produced by these finishing units. Most of them work on job basis.

Very few produce on their own account for sale in the market.

Materials necessary for these work such as fat liquors, bleaching agents, dyes, pigments, etc., even though not made locally are available in the Bombay market. Excepting dyes these are indigeneous products and not very difficult to obtain.

Some of these finishers prepare their own pigments by using coloured earth, or other suitable pigments and some binding agent. But the product is far from satisfactory.

Recent work on developing as glazing finish that has been carried out at C. L. R. I. is very encouraging in this regard. This finish can be put to leather very easily does not need any glazing machine to get gloss.

The output of these units has a very big scope and expansion in this line and will have to be planned. Shoe manufacturing centres like Agra and Delhi are regular customers for various types of these leather produced locally, and a fair part of their requirements is supplied by our State.

If it is decided to plan the development of leather industry on newer lines to supply the requirements of the modern society some sort of machine will have to be used. There is a difference of opinion as regards the use of machines in village or small units. In this connection we would like to submit that we should differentiate between different types of machine when we consider the problem

of their use. Machines which are meant for quality improvement, saving the material, and quickens the process, should be considered useful for adoption, while machines which are intended to save the labour adding to the unemployment problem may be considered injurious to national interest. Machines that are required for the leather industry are not labour saving machines at all.

Some of them are intended for saving the costly material as for instance splitting machine which gives us besides the grain finished upper leather of uniform thickness, splits for other uses, while others quicken the processes such as drums for chrome tanning. The third type may satisfy the aesthetic sense by giving lusture to the finish just as a glazing machine does.

We, therefore think that these types of machines in this industry are necessary if this industry is to be put on sound footing. We, therefore, recommend the following types of machines for general use :—

- (1) Splitting machine.
- (2) Drums.
- (3) Paddles.
- (4) Shaving machine.
- (5) Glazing machine.
- (6) Staking machine.
- (7) Buffing machine.
- (8) Spraying outfit.

Other machines for special type of work like embossing, etc. may be used wherever necessary.

CHAPTER IV.

LEATHER GOODS MANUFACTURE.

Raw hides and skins stripped of its extraneous materials and preserved with chemicals by tanning is called leather. This crust tanned leather to satisfy the requirements of the society is required to be finished to make it suppliable and attractive by giving various types of colours and finishes. This tanned and finished leather is the basic raw material for the leather goods manufacture.

Leather goods manufacture as compared to its previous sister industries flaying and tanning is more extensive, well-developed and fairly organised and offers bigger employment potential than them. The financial position of the workers of this class of industry is also

somewhat better than those of others. They are more educated and comparatively more advanced. In Gujarat region they are called mochis and are not considered untouchables.

This industry is also a comprehensive one producing various types of leather goods for the use of different requirements of the modern society. Every artisan prepares a particular type of article and may not be in a position to produce the other type. Thus the production of each group of these articles form separate industry in itself giving employment to particular set of people. We give below the classifications of these articles in accordance with their production :—

- 1 *Footwear*—
 - (a) Western type.
 - (b) Indian type.
- 2 *Miscellaneous Leather goods*—
 - (a) Suitcase, holdalls, folio cases, waist belts, purses-gents and ladies—wallets.
3. Requirements of army and police.
4. Industrial Leather goods.
5. Agricultural Leather goods.
6. Sports goods.
7. Taxidermy.

In the production of these articles other materials than leather are also used. We, however, think that leather by virtue of its own quality such as toughness in wear, porosity "Breathing" is a unique raw material especially for footwear. Other competitor materials like rubber, plastic, cloth etc., that go in production of various types of leather goods do not possess these qualities. In the manufacture the footwear where the health of the foot is better preserved by use of leather substitutes should not be encouraged. If it is desired to plan as the planners intend to provide at least one pair of footwear per persons the leather in the country may not be found sufficient. As maximum amount of leather must go in the production of footwear, and the first priority for the available quantity of leather should be given for this purpose.

FOOTWEAR.

Footwear is the chief item of leather goods manufacture. Bombay state is well known for the production of various types of footwear. It is also a big consumer centre and artisans from other States also

send their goods for sale to this State. The western type of footwear which is more popular in cities and bigger towns is practically manufactured by cottage scale workers there; while Indian type which is more popular in smaller towns and villages is manufactured practically all over the State. During recent years fancy designs and styles are also introduced in the Indian type of footwear, especially the ladies-wear is well-known for its patterns.

Variations in climatic conditions in our State have played a very influential part in the design of footwear for example Gujarat requires a closed type of footwear like country shoes while Marathi parts prefer open type of footwear like chappals. It must be borne in mind, that the use of footwear from hygienic point of the view is an essentiality and not a luxury.

Footwear training centre and the central Footwear technology in Madras should make efforts to evolve a pattern as a national type of footwear to satisfy the hygienic needs, aesthetic sense and economic conditions of the people. The close type of footwear like Western shoes which are made upon lasts have got to be studied more closely. Anatomical structure and foot pattern varies a great deal from north to south. Suitable lasts will have to be provided if most comfortable footwear is to be designed.

The leather goods industry in the State consists of small scale factory units and cottage units. There is only one large scale factory in the State. It is rather difficult to estimate the exact requirements of leather footwear in the State as there is no reliable information about the actual production and demand. Estimates, however, have been made from time to time by various authorities.

We make the following estimates for local demand of footwear in the State.

Marathi Area.—Marathi area comparatively is economically poor and therefore we estimate 2 pairs for 5 persons in the urban area and one pair for 6 persons in rural area as against 1 for 2 and 1 for 5 as suggested by the Planning Commission. According to this estimate the total requirements of the footwear for the Marathi area would come to 90 lakhs or 9 millions pairs.

These figures depend on the 1951 census. Taking into consideration the increase in the population during the last 10 years and also the increase in the *per capita* income during the second Five-Year Plan period which may increase buying capacity we estimate that at least 10 per cent. more footwear will be necessary. Thus the total requirements for Marathi area will be in the neighbourhood of 10 million pairs.

Gujarat Area.—Gujarat area being economically better off we take the all India average as given by the Planning Commission i.e., 1 pair for 2 persons in Urban area and 1 pair for five persons in Rural areas. The requirements for the Gujarat area would, therefore, come to 50 lakhs, including 10 per cent., increase stated above.

There is only one organised factory in the State whose installed capacity is 3 lakhs pairs per year. As the Central Government has already put a ban for opening new factories or for increasing the capacity of the existing ones, the present organised sector would thus be in a position to supply only 3,00,000 pairs. Of this, we may say that, 25 per cent. to 30 per cent. may be exported either outside the State or outside the country. Thus we may expect about 2,00,000 pairs from this source. The organised sector comes under Marathi area so the small scale and the village units in that area will have to supply 98,00,000 lakh pairs to make it self-supporting. In the same way Gujarat area will have to produce 50 lakhs pairs. Calculating at the rate of 250 pairs per artisan per year the Marathi area will give work to 40,000 persons and Gujarat area will give work to 20,000 persons.

To produce the above quantities of footwears we may require the following raw materials :—For basis of calculations we take that 80 per cent. of our production will be indigeneous type of footwear while 20 per cent. will be of western type :—

- (1) Leather for uppers (5·6 lacs cow hides).
- (2) Leather for soles (4·5 lacs buff hides)
- (3) Leather for puffs and stiffners (0·50 lacs Kattais).
- (4) Leather for linings (7·0 lacs skins).
- (5) Grindery items.

(1) *Leather uppers.*—Major portion of leather required for uppers of western type and to a certain extent even the Indian type of footwear is chrome leather generally known as chrome sides. For very high class and fashionable footwear especially for ladies upper leathers like calves skins suedes and glace kids are used. But the quantities of latter are very small. In our State we have only two factories producing chrome leather suitable for uppers. Their output may be sufficient only to satisfy a small part of our requirements. A bulk of our requirement of chrome uppers are made up by supplies from Kanpur and Calcutta. We have, therefore, recommended to open at least one factory for producing chrome upper leather in each Commissioner's Division.

(2) *Sole leather.*—In this regard we are better of than the upper leathers. Our big tanners especially from Poona, Satara, Kolhapur, Kampti, Godhra and Talua may be satisfying more than 60 per cent.

of our needs. The pit tanned and finished sole leather more commonly known in the Bazaar as compressed sole leather is produced by organized factories in the state and will be supplying 20 per cent. of our needs. Balanced quantities of this type of leather is being imported either from Kanpur or other markets. If our recommendations to start districtwise finishing centres are implemented, they will be in a position not only to supply to our local needs but may be in a position to export also.

(3) *Leather for puffs and stiffners.*—This is produced in our State to the fullest requirements as it comes mainly from cheap type of leather.

(4) *Lining-leather.*—Generally sheep skins are used as lining for shoes. At present this lining leather comes mostly from Madras side. The Madras tanning industry tans this type of leather for export purposes. The exporter exports the first four grades while the 5th, 6th grade and rejections are kept in the country for cheaper markets. It has, therefore, been found rather difficult to the local tanners in the interior to produce the lining leather at a price at which the Madras for Bombay lining leathers are supplied. But in Saurashtra area the Khatiks tan a good deal of sheep and goat skins which they sell comparatively at very cheap rate. But as they use salt, the quality of leather deteriorates and manufacturers of good quality footwear hesitate to use that leather for lining.

Leather finishing industry is developed in some places in the state such as Bombay, Sholapur, etc., to prepare some coloured lining from leather purchased from Bombay. Part of this is consumed locally while the rest is sent to all India Market.

Some of the Madrased tanners are settled down in Bombay for about last 40 years and have developed this industry to a certain extent, after exporting the first four grades to foreign countries. They supply part of their last qualities to the local consumers while the rest are sent to All India Markets.

The only lining leather which is not used in sufficient quantities in the state is chrome sheep, the importance of which as lining material has not been fully appreciated by the manufacturers in the interior. Some think that its use as lining is injurious to the skin if it is not fully neutralized in the process of tanning. This is a rather a controvertial point and needs further study from the Hygienic point of view. We however feel that the use of chrome tanned sheep skin for lining may prove more economic than vegetable tanned one. We have recommended the introduction of this chrome tanning in villages so that the State will be self-sufficient in this regard also. Production of Indian type of footwear in small towns and villages, satisfies its needs for leather mainly from as the local production, but in majority of the cases the leather used is rather

of very poor quality. The village shoe maker at times buys his stock of better type of leather from cities. With the introduction of the new schemes as we have suggested suitable types of leathers may be made available to him in his own area.

Grinderies.—Items other than leather and canvass used in the manufacture of footwear are termed as “Grinderies”.

The following items are mainly included under this heading :—

- (1) Hand tacks of various sizes and panel pins, nails and screwing wire.
- (2) Eyelets.
- (3) Threads for closing uppers and sole stitching.
- (4) Shanks.
- (5) Heel and toe plates.
- (6) Protective toes for safety Boots.
- (7) Laces. (Cotton, Silk and Leather).
- (8) Wooden heels, platforms, arches and other bottom fittings.
- (9) Waxes and polishes.
- (10) Lasts.

(1) *Hand tacks of various size and panel pins, nails and screwing wire.*—Recently some factories have started the manufacture of these in the country and Rajkot area in our state. Government of India has issued licences for manufacturing of these articles liberally. At present bulk of our supply is still from imported material. Our factories have not yet attained the capacity to manufacture the quantities and quality necessary for our industry. Even though a part of our requirements is met by local manufacture, there is a lot still to be desired in the quality produced by our factories. It is reported that proper guage and temper of steel wire necessary for manufacture of these tacks and panel pins is not easily available in the country. The manufacturing units have either to depend on imported materials or use local raw materials which vary from batch to batch. It is recommended that Metallurgical laboratories should study this problem carefully and evolve a process that will give suitable wires for our requirements.

(2) *Eyelets.*—Till lately we were completely dependant on the imported eyelets. Recently, however, some licences to manufacture this item have been issued and the necessary plant is allowed to be imported. Eyelets of the type, “Iron with Enamel” are now being manufactured in our country. Yet superior type with Brass as the basic raw material is not yet attempted. As it happens, in any new manufactured commodity this line also is trying hard to get satisfactory product, yet the difficulty in getting proper sheet brass and steel is hampering the progress.

(3) *Thread for closing uppers.*—As far as cotton thread both for upper closing and for sole stitching are concerned our country need not import any now. In Bombay State we have more than 4 factories of thread supplying the major portion. Still Linen, silk or nylon threads suitable for shoe industry are not manufactured locally.

Threads for sole stitching.—Number of workers, make their own thread by using un-twisted cotton yarn. But as this yarn is not properly cured does not last the same way as cured yarn. It is also found that linen or hemp wears much better than cotton thread and as such it is specified in good quality of footwear. These types of Hemp thread is produced in our country and can be had in sufficient quantity.

In certain Indian type of footwear leather thongs are used for stitching the soles. These leather thongs are required to be made from very strong and durable leather. In view of the scarcity of leather and its high cost, we feel that this use of leather for thongs should be discouraged and use of hemp thread should be encouraged.

(4) *Shanks.*—In most of the footwear of Western type shanks made of bamboo piece or steel are being used to give necessary support in the arch. There is no regular manufacturing unit for this purpose. Our shoes maker tries to make his own and thus there is a lot of variation in the comfort given by these products. It is desired that at least some of these requirements should be manufactured under the supervision of experts to assure proper and desired quality and finish.

(5) *Heel and toe plates.*—Quite a proportion of footwear used especially in small towns and villages is protected against abrasion by the use of heel and toe plates. These heel and toe plates are made of special cast mild steel alloy which wears more freely than just iron or steel. Most of our requirements were imported till lately. In some part of U. P. manufacturing of these items has started now but the standard of manufacture is rather poor. The temper thickness and the size vary to a very large extent, thus putting the shoe maker into lot of trouble before the plates are fixed on a shoe. It is most desirable that standard specifications are drawn for this item especially in light of its use in army and police footwear.

Bombay having efficient engineering workshops may be able to produce better type of this material if arrangements are made to procure optimum demand from the industry through encouragements of Government agencies. We learn that during last world war major portion of this fittings was produced in one of the workshops in Bombay.

(6) *Protective toes for safety Boots.*—With the industrialisation going fast, necessity of protective footwear is increasing. Especially in factories handling heavy metals the workers' toes must be protected against injuries. To do this special type of protective toe caps are necessary. In our State there is only one individual who makes these. Even though the quality is fairly comparable the cost is very high. Attempt should be made to encourage efficient factories to take up this work to minimize the cost so that the cost is reduced to its minimum.

(7) *Wooden heels and platforms, arches and other bottom fittings.*—In ladies wear of western type, plenty of use is made of cork and wooden heels and platforms for building up the bottom stock. We have in our State one or two factories manufacturing these components. But the quality is far from desirable. It is just because the imports of these materials are banned that they are able to carry on. The cause of this poor quality to our mind is non-availability of proper quality timber. It is recommended that special attention should be paid to improve the quality in this line of manufacture.

8. *Laces, (Cotton, Silk and Leather).*—Small units have come up to manufacture laces of various types both flat and round. The chief complaint is that they do not get suitable yarn to manufacture the quality desirable. There are lot of other things also that these manufacturers have to improve such as metal tips on the ends and dyeing and finishing of these laces etc.

9. *Waxes and polishes.*—Before footwear is offered for sale in the shop it undergoes a process known as finishing which mainly consists in dressing up its uppers and bottoms so that apart from satisfying the aesthetic sense some very essential properties like water proofing are incorporated in them.

To achieve these, different types of waxes and polishes are used. Now-a-days we are more or less self-sufficient in the polishes necessary for the upper leather. The deficiency of carnuba wax, an imported item, is now being made by the use of other waxes. The work done on sugarcane wax both at the National Chemical Laboratory, Poona and the C. L. R. I, Madras, are of very valuable nature and it is felt that a very suitable wax to substitute wholly the carnuba wax will be forthcoming in a shortwhile.

Waxes necessary for bottom stock are yet away from satisfaction. Attempts are being made to manufacture these locally and a fairly large quantity is being consumed also. Yet the results are not very satisfactory and quite a lot of complaints about its discoloration and fungus growth are always to be tackled.

(10) *Lasts*.—India is a vast country inhabiting people with feet of different shapes and anatomical structure. The lasts required to supply western type of footwear to all these different types of feet are at present prepared to particular shape and design. The shoe manufacturer therefore finds it difficult to prepare the exact type of shoe on these lasts to satisfy the customers. We, therefore, recommend that a scientific study of foot anatomy and physiology be conducted and arrangements be made to supply the lasts of the type required by a particular region. We also would like to bring out here that this should be closely followed when supplying foreign orders.

It is often complained that suitable timber is not available in our region. The forest department may be requested to study this problem and find a suitable material.

Miscellaneous (Leather Goods) requirements.—With the improvement of quality, leather has entered into other field of domestic utility of the modern advanced society. Formerly money purses were made of cloth or woven twisted thread but for the paper currency these type of purses have been found inconvenient. With the advancement of quicker transport facilities the travelling requirements are also increased. Leather has been found very useful for different types of travelling cases in the places of former wooden and metal ones.

This, therefore, forms a separate item of leather production required by the modern society. We have termed this item under general term of "Miscellaneous (Leather goods) requirements". The following items come under this heading :—

- (1) Purses.
- (2) Wallets.
- (3) Suit cases.
- (4) Attache cases.
- (5) Document cases and Folios.
- (6) Camera and cases for other instruments.
- (7) Dog collars and leads.

Raw materials for manufacture of these comprise mainly of finished leathers such as case hides kattais, coloured sheep and goat skins and suitable lining. The finish on hide or skin either plain or embossed glozy or matt, single or two tone is given according to the desire of the customer. Especially in case of articles meant for ladies, the variety in shades of colour and finishes is very large. A leather goods manufacturer thus has to store a fairly large quantity of various types of leather to cater for the demands of his customers. In Bombay State we have potentialities for getting most of our requirements for the manufacturer of this type of articles locally

manufactured. But so far we have not been able to be self-sufficient in quite a number of items. When the suggested finishing centres start working these difficulties will be solved to a great extent. Item of fittings used in the manufacture of these various articles such as buckles of various types and shapes, zip fasters, locks, frames and decorative fittings for ladies purses were imported from Europe and other foreign countries. With change of fashions these fittings also change from time to time. For example, at present fashionable looking large frames for ladies bags are outmoded. We have now some small units manufacturing some of these articles such as buckles locks, zip fasteners etc., working in our state, while some are found in other states also.

During last few years substitutes like rexine leather cloth, plastics, and rubber are coming in vogue. This is mainly due to the very high cost of leather articles. For example, now a days we find that bulk of suit cases are made out of materials like rexine, P. V. C. sheets, hard boards etc. The above being cheap a customer is attracted towards it, in spite of shorter life expected. The plastics have practically invaded our territory as far as purses and ladies hand bags are concerned. All the attempts by a leather finisher to give a more suitable finish and at the same time maintain other qualities of leather have so far not been able to stop this invasion. Very recently finishes have been developed in England and Germany that give all the necessary qualities of leather and the most attractive look of plastic material. These finishes are not yet available to us.

If properly developed there is a good deal that can be done in the export of this item. The big port and city like Bombay is already commanding a good market for these articles. Its unique position has immense potentialities to increase this line and give employment to a large number of craftsmen. It has been found that the quality of fittings such as press studs, zip fasteners and some kinds of buckles available in our country is not liked by foreign customers. We feel that at least for few more years special licences (on export performances) for these articles should be issued to the actual users. Gold and Silver foils and other colour-transfers which add to the decorative effect will also have to be imported. If foreign demand is to be catered for, the ever changing styles and designs may require close observation and deep study on the part of intelligent craftsmen who are capable to imbibe new ideas and designs.

As most of these skilled craftsmen work in their individual houses it is very difficult to control the standardised production of their goods to satisfy the markets of higher tastes and standard. It is, therefore, desirable to organise centres at least one in each Commissioner's division to guide the production of these craftsman and to improve their quality.

Requirements of Army and Police Departments.—Army and Police requirements should really form a part of the above two categories. But as they require the goods of greater durability for rough and strenuous use special type tanned leather is required in their manufacture. We have therefore classed them under a separate heading.

Till last World War Army and Police were very big consumers of leather articles such as Boots, Leggings straps and belts, pouches, slings, frogs etc. But owing to the shortage of hides and very lengthy processes that are followed in the manufacture of leather these requirements could not be planned and met easily. As a result Webbing, a material made out of cotton and jute, has come into vogue. Today, more than 95 per cent. of the articles excepting boots are made out of this material. i.e. Webbing. It is, however, gratifying to note that our State has not yet taken to webbing to the same extent. Till about 1949-50 this trade was completely in the hands of trades and craftsmen of North. With the efforts put in by the then Industrial Co-operative Societies of the Co-operative department, this new line of manufacture was introduced in our State and is now providing employment to a large number of craftsmen. The following are the main items manufactured for supplies to various government departments such as Police, Forest, Home guards and Jails :—

- (1) Ammunition boot, (Ankle boots).
- (2) Forest boots (Russet boots).
- (3) Police Chappals (Frontier Pattern) for I. G. Police.
- (4) Police Chappals (Frontier Pattern) for Commissioner of Police.
- (5) Police Chappals (Frontier Pattern) for lady Home-Guards.
- (6) Buckled shoes for Jamadars.
- (7) Same Browne Belt.
- (8) Leather Bandolier.
- (9) Sword Skabbard.
- (10) Skabbard Bayonette 18".
- (11) Skabbard Beownette 13".
- (12) Sam Belt black for officers.
- (13) Waist Belt for constables.
- (14) Leather frogs for unarmed Constables.
- (15) Leather leads black.
- (16) Rifles ling black.
- (17) Braces for traffic umbrellas.
- (18) Leather waist belt.
- (19) Leather Frog Bayonette.
- (20) Revolver holster large.
- (21) Revolver holster small.
- (22) Knot sword.
- (23) Great Coat Strap.
- (24) Leather pouch with tin container for 12 rounds of ammunition.

- (25) Leather pouch with tin container for 10 rounds.
- (26) Revolver holster large for officers (C. of P.).
- (27) Pouch for ammunition for officers (C. of P.).
- (28) Half soles (leather).
- (29) Heals pair (leather).
- (30) Leather lacs 36" long square cut.
- (31) Leather laces 36 round. "

Raw material for the above item is not yet fully manufactured in our state, for instance, Harness leather for various items of equipment is still to be imported from tanneries in the north. Leather goods of various types necessary for police etc. being manufactured in our province to a large extent both in the co-operative sector as well as in private sector. Yet there is a general feeling that a lot of improvement is necessary at least as far as zug-grained upper leather for boots, is concerned. Upper leather for chappals both zug-grained as well as plain chrome retanned leather are being manufactured to meet the necessities. Sole leather both pit tanned as well as bag tanned is available in our state to the necessary requirements. In this case we need not depend on others. The main feature that development of small scale units for the production of these requirements has got to be seen to and we feel that the district centre as recommended by us can take care of this. At present we have to depend solely on the manufacturers of the other provinces for grindery items such as heel plates, toe plates, nails of various sizes, buckles, buttons, etc. Factories in Rajkot region are starting the manufacture of some of these items and we hope that their production will come to a standard necessary for these articles very soon.

Use of Iron lasts has been introduced in the manufacture of the boots for various departments. Also the chain system of work which is followed by majority of craftsmen in Agra is now in vogue with our workers also. This method has a big advantage in getting the production at a much faster rate and save on labour costs also. There are at present seven co-operative societies working on these orders and more are being introduced as and when the circumstances permit. The volume of work from these orders does not keep the Artisans in these above centres busy throughout the year.

The chief drawback is that the orders are placed by the Government departments for the supplies to be completed in a short period of time. If these orders were spread over a longer period, continuity of employment could be ensured and rush of work avoided. We feel that at least for 5 years more, the present scheme of purchasing of the Government requirements through the agency of an organised co-operative body like State Industrial Co-operative Association should be continued. Special attention should be paid towards spreading these orders over a longer period. It will be beneficial for all concerned if a programme of manufacture say for 8 to 10 months in each year is chalked out properly.

Use of machines.—Boots necessary for the police have got to be screwed with screwing wire or alternatively rivetted. The upper leather used is also of very heavy type. The finishing necessary is of a high standard. Dressing of sole-edges is strenuous. To do these jobs, machines have been introduced in quite a number of production centres. We feel that machines which do not reduce the employment of skilled persons, at the same time help in getting a better product should be introduced. Machines such as sewing machines for uppers skiving machines for uppers and bottoms stock, screwing machines for bottoms and finishing machines should be introduced and popularised. Improved tools such as proper type of hammers, cutting knives of different shapes and sizes and small gadgets such as channel cutter, opener, etc. should be tried out. It will be worthwhile to note that the place of work where an artisan works in his village or even in cities needs lot of improvements. Sitting down on ground and manufacturing a pair of shoes or other leather article is conducive to much less production and also some physical handicaps. Work benches will solve this trouble to a good deal and will also not cost much.

The District Associations as proposed will be entrusted to introduce these improvements. It will be very beneficial if facility centres are attached to district places where concentration of leather workers producing these articles, is present. These facility centres will provide all the machines listed above so that the artisans can take the fullest advantage of the same.

Industrial Leathers.—These mainly comprise of leather goods used in various industrial establishments such as belting, laces, pickers, picking bands etc. Textile mills in Bombay State are the biggest consumers of these items. We have in our State 198 cotton textile mills, 173 composite and 25 spinning mills with an installed capacity of 6.94 million spindles and 1.38 lacs looms of which 6,724 are automatic looms.

In addition to the above we have 8 woollen spinning mills, 5 composite woollen mills and 3 woollen weaving mills. The installed capacities of these mills are 14,791 woollen spindles, worsted spindles 51,268 and 669 power looms. Besides these there are 47,030 non-cotton power looms in Bombay State.

The total requirements of major items of leather goods for these mills and power looms will be as follows :—

(1) Picking bands	...	...	14,139 Cwts.
(2) Leather belting	...	...	3,535 Cwts.
(3) Pickers	..	...	37,550 Gross.
(4) Buffers	..	...	28,278 Cwts.
(5) Roller skins	...	...	3,063 Gross

Raw material for the production of the above items especially picking bands, hand pickers has got to be imported from other countries like Europe, Java, Batavia etc. Units to manufacture these are mainly in cities and are mainly large scale works. Their annual production is far below the requirements of the industry in our State. Exact figures of production are not available, however, the talks that we had with manufacturers of these items have resulted in the following figures.

(1) Picking bands	...	...	1,779 Cwts.
(2) Leather belting	...	..	808 Cwts.
(3) Pickers	..	..	30,000 Gross.
(4) Buffers	...	...	4,800 Cwts.
(5) Roller skins	...	...	2,000 Gross.

(1) *Picking bands*.—There are two distinct classes of this product one (a) made from local bafaloe hides and the other (b) made from imported ox hides. The most popular picking bands at present are those manufactured by the process known as oil vegetable tannage (double oak tanned). In this process the hides after liming and deliming are usually impregnated with sulphur and a preliminary tannage with fish oil is given. The tannage is completed by using vegetable tanning extracts preferably quebracho and others. After stuffing with greases the hides are seasoned for long period and then cut into necessary lengths. The second method popularly known as "full chrome" is practised by even small manufacturers, but it has been found that even though this method is more easier to handle does not give the results as good as the double oak.

The production capacity as reported is sufficient to meet the requirements of India. There is already some protection given to the manufacturers by the Tariff Commission. With the introduction of new automatic looms consumption of picking bands is getting reduced day by day. It is estimated that within the next 15 to 20 years all the old looms will be replaced by new automatic ones and thus the demand for picking bands will get reduced. The committee therefore has no specific proposals regarding this item excepting the possibilities of developing export markets.

(2) *Leather belting*.—Leather belting once was a very important item in all the industries using Motive power. Leather belts of various sizes were used to transmit power from the prime mover to the various machines, either in a group drive or on individual machines. These days owing to the use of electricity power to greater extent, individual drives for all the machines are becoming more and more popular. This has caused a great set-back to the belting industry, in general and leather belting in particular. There are other types of belts like rubber, canvas hair, and V-drives which

has replaced leather belting in a number of cases. The future of this leather belting industry is not at all very attractive. The present demand may not remain the same for a very long period. Government of India has banned the import of beltings over 4" in width and this is keeping up our belting manufacturers busy to a certain extent.

(3) *Pickers*.—This industry has grown for the last few years along with the textile industry. Especially after the independence the Government gave it a protection under tariff act and also the import policy helped it a lot. In our State there are a few organised units where the production is carried out under controlled conditions, otherwise the major part of our out put is done on cottage or small scale basis where strict control of conditions is not possible. It is to be noted here that the conditions under which the hide is prepared and also the conditions during the manufacture of a picker count a lot. Any salts left in the hides do affect the drying of a picker and there by its quality. As they are not tanned but simply limed and delimed they are susceptible to putrefaction. The manufacturers have got to be very careful about this and any mistake here means lowering the strength. As it is known that a picker has got to work under very strenuous conditions and in a humid atmosphere of a weaving shed anything however small that goes against the quality has got to be scrupulously avoided. Small and cottage units are either ignorant of this or are not capable of carrying out operations under rigorous control. This has given a general impression that the quality of products of small and cottage units is lower. The price factor is also a big consideration. Some of the consumers do not seem to realise that all the above mentioned controls in production etc., cost. They are mainly concerned with the final price and if it is cheap a little variation in quality seems immaterial; Marketing of pickers in particular and mill stores in general is a vexing problem. The business is not at all straight in majority of cases and this leads to lot of unhealthy competition which a small manufacturer may not be able to face.

With the introduction of automatic looms raw hide pickers are getting out dated. These new looms use leather pickers. There are a number of small units who are engaged in the production of these pickers, but even here like in belting specially treated hides are not available to the manufacturers. Any kind of leather is used to make the pickers with the result that uniform quality is not maintained. Further the leather not being tanned with the special intention in view does not give the most that is expected and thus affects the quality. More and more of these automatic looms are coming in the silk and art silk weaving is also done on these special looms. We feel that demand for these pickers will be on increase and thus attempts should be made to study the exact requirements of this type of leather and efforts made to produce best from the

available materials. It will be advisable to tackle this problem both by tanners and the manufacturers of these pickers in collaboration with central institutes and laboratories.

Divisional Organisations at Ahmedabad and Bombay should try to organize model centres for producing leather as well as pickers under controlled conditions. This will serve to demonstrate to the small scale and cottage manufacturer the advantages of controlled productions and higher returns through sound business. Government should provide necessary funds out of lump sum provision marked for special schemes.

Note indicating the view and comments of all India Pickers and Textile Leather manufacturers Association are given in appendix.

(2A) *Belting*.—Even though the substitutes are coming in and other types of drives for machine are being introduced we feel that the leather belting got its own specialities and it may be that certain industrial machines where the belt is put to a great strain and stress suddenly may have to revert to leather belts. It is leather and leather only that can stand the rigorous conditions of this type of wear, and the elasticity of a well grown and properly tanned hide cannot be replaced. This is a very special line and the consumption may not be large, and as such this may be left to the organised sector.

Bulk of leather used for manufacture of leather belting is not specially prepared for that use. Excepting a few large scale units who tan their own leathers and also make belting. Others buy mainly good quality sole sides and get them carried for belting purposes. This is a serious draw back and thus gives an inferior product. The small scale belting manufacturer is always faced with this problem of getting the most suitable raw material at the most competitive prices. It has been noted that in number of cases the price counts and not the quality. Thus the whole industry is drifting towards cheapness at the cost of the quality.

(4) *Buffers*.—Buffers as the name indicates are actually springy cushions between the picker and the end of a loom. These days the majority of these buffers have been replaced by strips of leather specially prepared and known as pickers saver. There are various types and qualities of these buffers. And these are made mainly from the waste of belting manufacture. All sorts of odd pieces are cut up and assembled in a "U" spring. Picker savers on the other hand have got to be prepared out of specially treated hides. The tannage for picker savers is a combination of alum and formaldehyde.

(5) *Roller skins*.—All the spinning establishments were formerly depending on these skins for covering the final spinning rollers. The texture and fineness of the grain determine the count of yarn that

was being spun. Very high class and tight structured sheep skins (Red haired sheep from south) were valued most. With the introduction of high draft spinning for higher counts calf skins have replaced these sheep rollers. With the further changes in the spinning process today we find that cork and other plastic materials are replacing the roller skins.

Manufacture of these roller skins is a very highly technical job. It is, however, being carried out in our state on a cottage scale by individual craftsmen. The resulting leathers are far from satisfactory even though they do serve the purpose especially in low counts. The necessary removal of stretch from these skins cannot be achieved by small craftsmen without the use of machines, and this together with the fine finish that a machine made roller skin gets makes the cottage products difficult to sell an inferior quality. Some advancement in this respect are made from time to time but still they are far from satisfactory and now the whole roller skin trade is threatened with extinction due to the newer material like rubber, and synthetics coming in. We, however, feel that there still is some scope for the improvement in the quality of the roller skin produced. The District Centres may attempt these improvements especially in finishing the skins by giving them a coat of synthetic resin finish and hot plating.

“U” rings, hydraulic packings, washers for pumps etc. These form a small trade by itself. Manufacture of these articles even though carried out on small scale is concentrated in cities like Bombay and Ahmedabad. The makers of these articles are facing a serious problem of getting suitable raw materials. The total consumption of hides used in this line of manufacture is not sufficiently large for a tannery to take up this manufacture as a separate item and hence the difficulty. However, with the present speed of industrialisation and use “Hydraulics” in machines we feel a expanding field is available and attempts should be made to introduce special leathers for special jobs.

(6) *Industrial gloves.*—During recent years this has become a very expanding item of manufacture. It is mainly manufactured on cottage scale by small workers even in their houses. With the new engineering workshops and other industries coming up necessity of protecting workers hands is playing an important part.

Thus Gloves for handling sheet metals, heavy castings hot articles like rubber moulds etc., need special types of gloves; Welders of metals used different types of gloves and all these have got to be manufactured to suit the requirements. Our craftsmen however are still ignorant of the various properties of different types of leathers and also about the construction of a glove. We feel that a good deal of research work in this line is necessary and should be undertaken forthwith.

Apart from the above important items considered at length leather is used for diaphragms for various machines, oil seeds and other small items like footvalve washers for pumps, etc. The requirements of these items are comparatively very small and form a very special item of manufacture.

(7) *Agricultural Requirements.*—Mots (Water lifts) used to form an important item in this section. With the oil engines and pumps coming in vogue these mots are being discontinued day by day. There are a few villages still depending on this business of mots. Especially in the regions where scarcity of water is felt through out the year and the depth of the wells and quantity of water makes pumping operation difficult, mots are still the only means of drawing necessary supplies of water. It is however felt that the day is not very far away when we have got to provide these artisans engaged in the manufacture of mots with alternate employment. There are some Persian wheels being used. On these wheels either metal tins or mud pots are the carriers of the water. These are liable to get corroded and broken very easily. If leather buckets could be introduced for these wheels they might provide an alternate employment. It will also be worthwhile considering manufacture of ropes for agricultural bullocks purposes etc. These could be made out of rejection pieces of hides which are available in plenty in villages. Apart from making use of these unsalable hides we might be able to afford some employment to the family members of a tanner. District organisations should therefore make intensive propaganda in favour of these ropes. There are odd-straps and laces of leather used for tying some of the agricultural implements and decorating the bullocks. In some parts of the State "PAKHALS" (Carriers of water) are extensively used to carry water from rivers to the villages. Making these "Pakhals" is also getting out of fashion now but still provides employment to a small number of tanners and leather workers in villages. Mashaks—these are used by Railways as well as building contractors even in cities. This is a very convenient and labour saving method of carrying water. Mainly large scale goat skins and calf skins are used for this purpose. There is a special method of treating these skins which makes them leak proof. Villagers from North are well-versed in making these. There is no special scope for developing the manufacture of these on large scale. We however, feel that leather for these Mashaks if treated in slightly different way than the conventional, life of a mashak is increased.

(8) *Bellows.*—These are used by village iron smith intensively. Plenty of leather goes in production of a bellow. At present normal country tanned cow hide of rather light weight is used for this purpose. We feel that if this leather could be treated further by

agents like basic Aluminium sulphate it will stand higher temperatures, always found near the smith's ovens, better. The District Organisation may be able to go through this question deeply and demonstrate the processes.

(9) *Sports Goods*.—Main items under this heading are footballs and volleyballs, cricket and hockey balls leggings and gloves and strings for tennis and Badminton rackets made out of guts.

Manufacture of these items is a highly skilled job. During old days this was mainly carried out in North Punjab. But after partition of the country some workers have now migrated to Meerut, Agra and other places in U. P. Most of the production is carried out on small or cottage scale. In our State there are a few workers engaged in manufacture of guts only. Attempts were made by a few persons to manufacture footballs and volleyballs locally. But they were not able to stand competition from Northern markets and had to discontinue. On the whole this business is very small and we feel that efforts in introducing this in our villages or larger towns may not be very profitable. Leather for these articles especially footballs has got to be tanned and carried in a special way so that maximum amount of stretch is removed. This helps in keeping the shape of a ball and also makes it more water-proof. There has been a general complaint that suitable leather is not forthcoming very easily. It might be worth while trying to establish a small centre one in Gujarat and one in Maharashtra that will produce these special leathers for sports goods.

(10) *Taxi-dermy*.—This is a special art of stuffing the skins of dead animals to give them life-like appearance. It is a highly skilled job and the total amount of business done is rather small. With restrictions on shooting the number of skins available for mounting is reduced largely. There still are some possibilities of developing one or two centres in the whole of our State where artistic jobs of mounting Heads or even the whole animals could be done. We recommend that a centre for this purpose may be opened at Nagpur, Wardha or Chanda and place like Junagadh where there are deep forests inhabited by wild animals. There is a good field for work on skeletons alone. Skeletons of various birds and animals are necessary for Zoological studies. All the educational institutions and Museums need these models. At present most of these are imported from Europe. We feel that this specialised job should be introduced in the centres mentioned above.

Making leather toys is an art fastly developing. Models of various animals are now regularly marketed in cities. There is also a good export market for these articles. Raw material necessary to manufacture leather toys is kid and lamb skins tanned with hair on. No special tools etc., are necessary and with little training and practice a normal skilled artisan or even ladies can take up this work easily.

We feel that this line should be introduced at least in one centre in each division. Facilities to provide proper, artistic and life-like moulds and glass eyes should be made available at divisional levels.

(11) *Musical Instruments*.—Both western and Indian type of musical instruments used parchment in number of ways. Manufacture of these parchments is carried out by small manufacturers practically all over the State. The parchment necessary for western type of drums are however not made regularly. It has been found that to get the best quality of these parchments hides have got to be treated in a very different way than what a villager does at present. Evenness of substance through out is a most important aspect of these drum heads. This means that either the hide has got to be split on a machine or work very laboriously by hand tools. The liming and deliming has also got to be done under the controlled conditions. Drying the parchment is a very skilled job, all the unevenness can be reduced by properly stretching the hide during drying. Strings for musical instruments like Violin are made out of guts. These guts are specially prepared and tempered to give proper musical note. In Bombay there is only one unit which specialises in this line. As the field is rather narrow, we do not feel that special attempts should be made to develop these lines intensively.

Harness and Saddlery.

About 20 years ago when horse drawn vehicles were common and horses were used for riding etc. This item was a very important one in the leather goods manufacture. Specially tanned harness leather was used to make reins, stirrup straps, harness bags and other sundry items of a set of harness. Springy and hard wearing at the same time pliable kind sort of leather was prepared for riding saddles. Making all these was an art sometimes carried on for generations together by a craftsman and his family. But with the automobile era all this has practically disappeared. Only in small towns now we see some tonga where still this harness is used. But as these tonga owners are of a proper class they cannot afford to use top class material. Sometimes we come across instances where old ropes have taken place of a harness leather rein. There is very little that can be done about this change. We however, feel that the skill of a saddle maker can be used if cycle saddles are manufactured on a small-scale. There are organised factories in other States but Bombay has no factory. There are some cottage workers who attempt to produce something like a saddle, but at present it is far from satisfactory. They do not have proper tools and equipment and also lack technical know how. It will be worthwhile considering this item of manufacture especially in places where suitable type of leather can be produced with ease. Another item that these craftsmen can tackle is upholding of automobiles or household furniture. It may not be a big business as far as leather is concerned. But it

may help the craftsman to earn a living wage. With the manufacture of one instrument for various industries cases necessary for these instruments has become a specialised line. A harness maker can very easily lend himself to the manufacturer of these cases from harness leather. There still are some items used mainly by Railways like cash bags, tool bags and dust shields etc., where similar craftsmanship is necessary. It is, therefore, felt that the Divisional Organisation should study this problem and chalk out a scheme that will keep the harness makers in employment.

Byproducts

While planning any manufacture the processes should aim at utilising fully such quantities of materials as go into production. However there are instances when excess material has got to be used to achieve full economic results. These excess materials sometimes are left over unused and thus may form a nucleus of starting another manufacturing line. Bye products are such products that are manufactured out of remnants left over from a manufacturing programme. The best utilisation of these remnants leads to cutting down the cost of the main item of manufacture and thus increase the percentage of profits. Leather manufacture starting with its raw materials such as hide or skin and ending with the finished products like shoe or purse has got to go through various processes and at each stage there is something discarded or added to the original hide or skin. This discarded portions can be converted into useful things and will be classed as bye products of leather industry.

Actually raw hide or skin itself can be classed as a bye product of the meat industry. No animal is killed for its hide or skin. Thus the whole leather industry is based on utilisation of waste material. It should, therefore, be our motto "WASTE NOT WANT NOT". When the hide or skin is removed from the animal's body, either in a slaughter house or in a flaying yard, there are a number of portions of animals anatomy attached to these hides and skins but not useful in the manufacture of leather. These are cleaned and removed before the hide or skin is sent to a tannery.

Bye products from slaughter house and flaying yards may very considerably. In a slaughter house the chief object is getting the meat from the animal's body while in case of flaying yard for dead animals a hide or skin is the chief product. From this angle of view, we find that the bye products from the slaughter house and that from flaying yard should be classified differently. In a slaughter house the chief bye product apart from hide or skin is blood. In the present setup of slaughter houses this blood is not utilised fully. It is mainly converted into dry lumps to serve only as a manure. This method does not yield very valuable bye product like blood albumin. It may also be worthwhile considering the drying of blood after the recovery of albumin in a much more controlled and hygienic fashion

aimed at, the production of cattle feed which is a much more valuable bye product than manure. Of course for this purpose the blood will have to be collected in a cleaner way. Care will have to be taken to see that stomach content, dust from the slaughter house flour water etc., do not get mixed. If the slaughter houses are designed properly this will not at all be a difficult job. Other bye products like spleen, liver pancreas and other glands are of value from pharmaceutical industries point. Attempts in Bandra are being made to utilise these bye products usefully. A number of pharmaceutical concerns are at present using livers etc., for the production of liver extracts and other medicines.

Utility of these glands from dead animals is a question that may have to be studied by specialists in this line. Other bye products like horns, fat, hoofs, tails, bones, etc., are common both to the slaughter house as well as flaying yards. Elsewhere we have dealt fully with the recovery and utilisation of these bye products. After the hide or skin is removed from the animal's body the excess flesh that remains on the skin is shaved off. Looser portions of skin near the tails, ears, portions of nose, etc., are trimmed. All these portions form a valuable raw material for the manufacture of glue. Tail ends with tuft of hair is a bye product for brush industry. In organised slaughter houses all these are recovered fully. But in case of flaying yards and stray slaughter most of these are wasted. We should make reasonable propaganda to educate the flayers so that these very valuable bye products are not thrown away. The hide or skin is delivered to a tannery in a cured condition. In case of wet salted hides the first step that the tannery takes is to dust the adhering salt. This salt is found to be of good use as manure. Sometimes this salt is re-used for salting skins but this is not at all advisable. Sometimes it may prove dangerous as a lot of bacteria could be carried over from one hide to the other. During processing in a tannery the hide or skin is limed to remove the hair, excessive flesh and for other chemical changes. In case of hides hairs do not form a very important bye product. Yet it is noted that during winter season even the hair from a hide can be a valuable material. Attempts, therefore, should be made to recover as much of it as possible and thus save on the liming cost.

Hair from goat and sheep.—Hair from sheep or wool is a very valuable bye product and a lot of care is exercised to recover this from a skin. The goat hair however, is not as costly a material as wool but still is recovered properly has a marketable value. Recent researches in removal of hairs by use of Enzymes is worth while studying. The limed wool or goat hair always fetches a very much lesser price than pulled or clipped hair or wool. This is mainly because the lime that comes in contact with hair makes them brittle. If Enzymes can be used to avoid this difficulty the hair recovered will be of a bigger value. We, therefore, feel that all attempts should be made to recover this bye product as fully as possible.

After liming process is over lime from pits is drained out. There is always a considerable quantity of sludge formed at the bottom of these pits. This sludge can be worked with sand to be used as Mortar in building work. This forms a very valuable binding material as part of the hairs that is always found in the sludge leads to form a homogenous mass.

Quantities available in each tannery may not be sufficient to start a production programme for lime mortar. But if sludge from number of tanneries could be collected, it will be proposition worth studying.

Hide after liming undergoes a process called fleshing. All the fleshings that are recovered form a very valuable raw material for the manufacture of glue. Attempts therefore, must, be made to collect and dry whatever fleshings are available. When collected in quantities these fleshing could be sent to a glue factory. Sometimes hides after fleshings are split. These splits are usually a bye product and are as such tanned in cheap liquors. If however good portions of these splits could be treated properly very useful leather like imitation sambar could be made which will fetch a much better value. It is, therefore, up to a tanner to make the full use of these splits.

During vegetable tannage the chief waste material is the tanning bark and the waste liquor. In most cases the bark is wasted. In very few cases it is used as fuel in the houses of tanners. In cities like Bombay this bark is used on the tract in race-course. But we feel that if possibilities of making hard boards out of this spent barks are investigated it may be found that our spent barks will fetch good price. In places where drainage facilities are poor and the effluent from the tannery is considered a nuisance it will be a good idea to mix the waste liquors from the vegetable tanned yard and the waste liquors from lime yard in a shallow pit. This mixing forms a sludge which is a very good manure and supernatant water is generally from obnoxious smell. Generally all the water from washings etc., from the tannery always contain a certain amount of nitrogeneous material, and hence can safely be used as a good manure.

In villages it may be possible to have a channel carrying of this water to fields where some kind of gardening or agriculture may be attempted.

After a hide of a skin is fully tanned it is trimmed before it is sent to the market for sale. These trimming are small pieces of much less strength and form a good material for manufacture of leather boards. However, a tannery may produce a small quantity only. It is therefore, necessary to collect these small lots from

various tanneries and bring them down to a central place where the full economic use of this could be made. The waste product from leather goods industry can be classed in 2 different categories.

(a) In the manufacture of industrial leathers fairly large pieces and splits are always available. A number of shoe makers use these to serve as a packing material in the soles. Sometimes link belts are also prepared out of such small pieces.

(b) Trimmings from a leather goods shop or a shoe makers place are however not available in bulk in one place. Production of Leather goods is carried on a cottage scale practically all over the State. It is a problem of collecting these trimmings that has got to be solved.

If however our recommendations regarding manufacturing components are adopted these cuttings and trimmings could be had in bulk in one place and thus making leather boards etc., out of these will not be very difficult. Sometimes trimmings from skins are used to make leather ropes. Odd pieces of any shape and size can be used. Larger size pieces are sometimes used for making small toys endutility articles like cushions, paper weights etc.

In tanneries and shoe factories where machines are used we get a lot of shavings and dust from fluffing and finishing machines. These shavings and dusts also form a valuable supply of raw material for leather boards industry. The Central Leather Research Institute, Madras has evolved a process of making leather boards from these waste pieces by using some binding material. Production of this, however, can be attempted only in a place where sufficient quantities of raw materials are available. We, therefore, feel that 2 places one in Maharashtra and the other in Gujarat may be started to tackle this problem.

A word on manufacture of glue may not be out of place here. Cuttings and trimmings in each stage either limed or salted form the basic raw material for manufacture of "Hide-glue". Picker manufacturing industry which uses limed hides for the manufacture of pickers is a very valuable source of supply of these cuttings. It is also found that used pickers from textile mills are also used in the manufacture of inferior quality of glue.

Bones after proper digestion can be made to yield certain amount of glue which is a very valuable product. We, therefore, feel that one centre in Maharashtra one in Gujarat may be specially organised along with large flaying yards to investigate the possibilities of this process. Weather conditions are a stumbling block in the manufacture of glue as it is only during cold weather that the jelly sets. It is impossible to set this jelly during hot season unless resorted to air conditioning. It is, therefore, felt that raw material should be collected and one seasonable production programme chalked out.

Neat's foot oil.—Neat's oil foot is a bye-product worth consideration. In a large meat packing house in Europe or America the feet of the cattle are boiled to give this bye-product. Here, however we rarely do this. If bone glue is attempted we feel that neat's foot oil may come out as a very valuable bye-product.

Ancillary industries.—Flaying, tanning and Leather working industries need various items of tools and equipments. There are number of gadgets which are prepared specially to suit a special type of job. In a village we do not find skilled iron-smiths who can always tackle this problem. Even if tools are obtained from other places sharpening and tempering them is not possible in a village always. The Village black-smith may not be able to give the proper temper and thus ruin the tool completely. It is only in large towns and cities where tempering jobs for other industries are also available, as blacksmith can be entrusted with this type of job. This sometimes hampers the work of a village artisan considerably. It is, therefore, suggested that at least in District places some arrangement for servicing these tools should be made. Flayers' knives, Tanners' knives and leather workers' knives are of various shapes and designs. The shape and design also changes from place to place and worker to worker. It will be beneficial if some kind of standard patterns of these tools are prepared after studying the advantages and disadvantages of the types in vogue.

A centre for manufacturing and servicing these tools could be started if the demand from artisans is sufficient to work out a regular economic unit. As we have recommended use of some machines, it will also be beneficial to attach some workshop for the repairs. This workshop can form a part of the above mentioned centre. Apart from servicing these machines this workshop can also design and manufacture spare parts necessary or prepare a whole machine, by themselves. In cities like Ahmedabad and Bombay where picker industry is organised and also where fancy leather articles are manufactured on a large scale; this workshop could design the various dyes necessary for moulding these articles and embossing rollers or plates for fancy leather goods manufacture.

Necessary facilities may be made available to at least one workshop at Gujarat and one in Maharashtra Region from specially provided funds.

Small tools like fleshers and shaving beams, various types of slickers, staking blades, wooden heels, platform frames for hags, brushes etc., could be got manufactured from craftsmen in district places provided suitable raw materials and tools are made available to these artisans.

There are some leather finishing who make up their own pigment finishes with the necessary binders, colouring matter etc. This, however, being carried on a very small scale does not ensure quality

and uniformity of the shades produced. Sometimes the finished leather is so much below the standard that the leather worker refuses to touch it at any cause. In number of cases this could be avoided if proper finishes and auxiliaries are made available to the leather finishers.

Pigment finishes fat liquors, and other auxiliaries necessary in tanning and leather working are now being manufactured in India. The quantities consumed, however, are so small that it may not be a practical proposition to have an organisation for manufacturing these alone. Our depots at District Levels can keep stocks of these items and supply the wants of village craftsmen.

Marketing and quality control.

Marketing is an agency to bring the producer and consumer together and to safe-guard interests of both. In the true sense it is not a profiteering agency but a service to provide the requirements of the Society. In our Industry Marketing of hides and skins raw and tanned and marketing of finished products like shoes, bags etc. for the consumers form problems of different nature. While in the first case the quality weights and measures play a big part in the second the finish, the design and the outlook is of great importance.

Collection and distribution of raw hide stock is a very important aspect of the tanning industry. Expenses incurred in connection with these two services, time involved, and the profit made by the agencies mostly determine the share which the producer receives out of the price paid by the consumer. Due to small scale and much too scattered production and large number of intermediaries between the producer and consumer, the price received by the producer tends to reduce while that paid by the consumer tend to increase.

Marketing of raw hides and skins.—Hides and skins are not a product that is manufactured and made available in quantities in one place. Excepting very few organised slaughter houses practically each hide or skin has got to be individually collected cured, and brought to the market. These conditions have caused serious handicaps to the efficient collection and marketing of hides and skins. The quality of a hide or skin varies from district to district and the take-off and curing from individual to individual. It is, therefore, very essential for the District or Taluka Organisations as recommended by us to take all these points into consideration before trying to plan any marketing scheme. According to the present method a hatcher or a flayer sells his hide or skin to a collector in his village. Most often the village collector pays a very nominal price to these producers of hides or skins. The Village Collector in his turn take all his collections to weekly markets, in the neighbouring towns. Finally, either the Collector or agents for Tanneries and

Exporters buy these hides or skins from these Bazaars and send them to the Central places for further disposal. The town Collectors of hides and skins are bound to the agents of tanneries by special advances paid to them, and thus are in the clutches of these monied merchants. It is suggested that if proper marketing of hides and skins is to be undertaken this ring of monied middle men must be broken effectively. It is a very difficult task but the well being of the primary producer completely depends on how well we are able to achieve the same. In other Chapters we have suggested that the flaying centres be entrusted with this job. Another big difficulty that faces this marketing is that the tanners yet do not appreciate the value of graded material. At present hides and skins of all descriptions are put in to one lot and offered for sale. We feel that this is a most crude and wasteful method of selling the raw stock. The hides or skins must be properly graded according to the weights and sizes and also selected for the quality. Proper lots should afterwards be made and offered to the tanners or exporters. In this connection we would like to draw the attention to the practice of selling dry salted goat and sheep skins to the foreign buyers. Each individual exporter even though has his own method of assortment yet the sizes and weights for a particular quality are more or less standard. It is thus very easy for a buyer from foreign countries to estimate what the parcel would be like when he receives it in his tannery. On the other hand the Adatdars in Central Hide Market never attempt to do any grading of this type but offer the lots as they come from the smaller collection centres. Even in places where large number of slaughtered hides or skins are available this practice is not followed. Attempts made by Government to grade the hides and skins have proved a failure mainly because the tanners were not interested in the grading and the butchers were not affected by higher or lower grades. This is not a very happy position especially now when there is a scarcity of raw material. Elsewhere we have stated clearly how this situation could be improved.

In all marketing problems it should be our aim to cater for maximum benefits of a producer and a consumer. We feel sure that if proper prices are paid for the raw hides and skins even this small collector will take all the necessary care to improve his quality. As per the present practice this inducement towards the improvement of quality is totally absent. It might be worthwhile considering to bring in an act on the lines of "AGMARK" for agricultural produce that will regulate the marketing of hides and skins according to the grades. We feel it essential at least for the first 10 years or so, so that the industry gets used to the using the graded raw materials.

Tanning materials.—Vegetable tanning materials being a forest produce and collected from various parts of forests causes more or less the same problems as in case of raw hides and skins. Even here,

the primary collector of these barks, fruits etc., and the final consumer that is tanner are exploited to a maximum extent by the middlemen. It has been suggested that if these barks are collected and cured properly and graded according to the quality the proucer will get much better return for all his labour and the tanner will get better value for his money. This however, does not apply to the chemicals dyes etc., used in tanning industry as these are produced by organised factories with proper marketing arrangements.

Adulteration.—Adulteration both in raw hides and skins as well as tanning materials is abundant these days. This is mainly because of faulty marketing systems. It is felt that an act as strong as the adulteration of food stuff Act should be introduced. If our suggestions of having central depots for collection and distribution of raw materials are accepted the primary producer may be trained to avoid adulteration and offer proper raw material for the trade.

Marketing of leather.—We have given in detail elsewhere the organised trade channel with which the primary raw hide producer or his brother the Village Hide merchant has to deal with and how he gets the lowest price for his material while the village tanner has to pay highest price for the same. The organised trade channel for leather is also on the same line but the exploitation may not be so harsh as the former, because the tanner in many cases disposes of his leather in the local market or gives it to a local shoe or leather goods manufacturer. But in cases where he has to approach the leather merchant for disposal of his goods the exploitation is on the same line as that of the raw hide producer.

Most of the leather that the village tanner produces gets sold locally. A local shoe maker or a leather goods worker is his best client. But in certain cases the tanners' production is much more than the demand of the local leather worker. Thus the problem of marketing his excess production is to be solved. Most of the bag tanner buffalo hides are suitable for soles for different types of footwear, and as such it can be sold to the leather workers in towns and cities. At present this is done through the agency of Adatdars who quite often finance the production of a tanner. Main difficulty that is to be solved is that the product of a village tanner has got to be produced according to the demand or a demand to be created for whatever he produces. In our Chapter on Tanning we have clearly shown how the present method of sales has slowly dwindled the resources of a village tanner and has converted him into a better paid labourer. We feel that marketing of this leather will not be a difficult problem if a certain standard and uniformity in all the village product is brought in. This can be achieved by propaganda and regular demonstrations by the staff attached to District Organisations. In years past there was a definite export market in Africa

even for bag tanned sole leather. But with the supplies of raw hides getting more and more difficult the tanners are not in a position to cater for this demand. At present there is not much of excess production of quality material that needs special marketing efforts. It is the inferior type of leather that the village tanner produces, creates the marketing problems. The easiest method of solving these is to bring in quality control. It may take anything from 3 to 5 years before a village craftsman is trained to change his outlook and gets experience of the newer marketing technique.

The Indian Standard Institute has drawn specifications for most of the commonly used leathers. Sufficient intelligent persons who know tanning can follow these specifications very easily. Even a village tanner can be trained to produce goods according to these specifications even though he may not be able to follow the chemistry part of it. Very rough and ready methods of controls that can be followed by village tanners can be introduced. The chain of stores and depots proposed by us can employ suitable persons to check up this production occasionally so that the resulting leather will be within the limits of the variations allowed. These depots can thus produce material to the requirements of the market and thus avoid stock piling of unwanted goods.

Various Government departments such as Railways, Jails, etc. are big consumers of leathers of various types. Their demand could be satisfied if production according to the plan shown above is practiced. It will be very beneficial if these supplies are channelled through one organisation. This will avoid unnecessary competition and also will ensure proper quality of material to the consumer. The Divisional Organisations should tackle this problem through their agencies in District and other regions. Clear thinking on one point is most essential here. The marketing scheme as proposed by us is not meant for any unhealthy competition with the present organised units, but is based on the proper utilisation of the raw material at the source and full utilisation of the capacity of small units in villages. It is also based on the storing of raw materials during the season time, which a small manufacturer cannot do and also stocking of his finished products when the market conditions are unfavourable.

Marketing of leather goods.—As stated in the beginning marketing of these articles creates many more problems as this caters for individual demands of the population. Tastes vary from man to man and satisfying these is the first problem that this industry has to face. Marketing of footwear is an example in this regard. Footwear either western style or local design is a necessity and forms the major portion of the output of leather goods industry. Even organised institutions find it difficult to cater for the various types of demands. It is the experience of various marketing units that large

stock of different styles, shapes, and sizes, etc., has got to be maintained to have reasonable and regular sales. There are seasonal demands also to be met with. A small manufacturer cannot do this easily. According to the present system the small manufacturer in most cases is only a labourer for the shop-keepers in bigger centres. These shop-keepers do not run any risk of loss as they buy the ready made wear at certain costs which in majority of cases does not leave to the producer much more than just the labour. The exploitation here also is not much less than the other two. Where this type of trade is completely in the hands of the organised merchants as for instance in Agra it has been brought out how exploitation is very high and at times the producer finds it difficult to obtain his mere wages. In very many cases this induces the producer towards using cheaper raw materials and also economicising falsely on labour. Quality control and adhering to standard specifications if introduced in this line along with a chain of stores for marketing of these standard products will help a small manufacturer to a large extent. He can be completely relieved of the un-economic methods of production and thus can concentrate more on making his product more attractive.

Government departments are very big consumers of various types of footwear. It is estimated that our State Government purchases boots and chappals worth nearly Rs. 10 lakhs annually, for the use of various departments. During last few years more than 75 per cent. of these requirements were purchased through the agency of the State Industrial Co-operative Association who in their turn got these requirements through various co-operative producer societies. But these orders are not sufficient to keep all the members of these industrial co-operatives busy throughout the year. Only, a few societies can manufacture boots as required by the Government Department.

A bigger number of societies is in a position to manufacture chappals for the Police Department. In the beginning there were only a few societies doing this work. Now this number has considerably increased and it is felt that their capacity is not fully utilised. It is, therefore, necessary to find out alternative employment for the members of these societies so that a regular manufacturing programme is adhered to. The Government requirements are yearly feature and it is found that the orders are generally placed with fairly short time for completion of the same. It is, therefore, one rush job for all concerned and thus does not induce the quality work. If these orders are spread out for a longer period the Central Apex body will have sufficient time to collect the necessary raw material at proper rates and thus the whole working could be made economical. The leather workers society also can devote better attention to the quality control and thus economize on the use of raw material and reduce the rejections in final inspection.

Experience of past few years working shows that unless adequate finance is made available to the Central Apex body the working of the whole scheme collapses, sometimes with serious losses to the primary producing units. Difficulties in these financial accommodations are chiefly caused by delays in inspection, despatch of goods, issue of inspection notes, and passing of the final bills by the various authorities. Government has tried to remove number of these difficulties but still there is a lot to be desired. We feel that the Apex Organisation should concentrate more on quality control, procurement of raw materials, and production than do any trading themselves. If part of the responsibility of execution of these schemes is left to the District Organisations along with the financial implications the results will be quicker and better.

It will also help if Government could slightly change their policy of payment. We think that Pay and Accounts Officer, Bombay should be entrusted with this work. On production of Inspection notes duly attested by inspecting authorities and accompanied by proof of despatch of the material should be sufficient to pass 90 per cent. amount of the bills. The balance 10 per cent. being paid after the consignee certifies the correctness of the material received. In the present procedure where the consignee is authorised to pay 80 per cent. value of the bill on receipt of Railway Receipt etc., but in most cases this does not happen and the payment is delayed. Regarding footwear for general market, it may be said that the local organisations should be entrusted with the suitable production programme to cater for the demands. In case of centres where the production is more than the demand it should be channelised through the Divisional Organisations. Both indigenous and western type of footwear is commonly used throughout the State. There is a slight difference in the patterns popular in each region. It is only the western type of footwear that has a common pattern in all districts. Footwear for ladies and children even though more common in bigger towns and cities, forms a fairly large portions of the total trade. Craftsmen in the villages do not produce footwear that is generally liked by fashionable people staying in cities. It is, therefore, necessary to teach these craftsmen the fancy work that sells more easily. Thus we find the design is a chief stumbling block in marketing the products of the village craftsmen. The necessary arrangements should be made through the District Organisation to introduce newer designs that can attract the customers.

There is a possibility of developing export market for various types of leather goods produced in our State. Footwear of closed type like shoes, sandals etc., are being exported normally by some merchants. National Small Industries Corporation has also tried to export quantities of footwear to European countries. But our State has not received a fair quota of these orders. It is argued that local

craftsmen are not in a position to produce the necessary quality. This has got to be looked into and steps taken to train at least a few centres with this export business in view.

Leather Goods.—In our State—Bombay is specially known for the fancy and utility leather goods manufacture. Wallets, purses, travel goods, etc., are regularly exported to various states as well as to foreign countries. But this trade is concentrated particularly in Bombay city and is in the hands of few merchants. There is a good scope for developing production and sales of these materials. At present the workers engaged in this trade are mainly labourers working on rate contract for the middle man who exports these goods, to other states or to foreign countries. The margin of profit these traders earn is quite out of proportion to what a poor craftsman gets.

We feel that if the following suggestions are carried out the general standard of our production as well as the economic well-being of craftsmen in villages will improve. It will also deliver to the consumer a fair value for his money :—

(1) A chain of stores-*cum*-depots for the supply of raw materials and purchase of finished products should be organised on Taluka basis. These stores should cater for the needs of the villagers both in the raw materials and the finished goods. It is felt that in bigger cities where maintaining a retail shop is rather costly only wholesale depots should be organised. These depots can make bulk supplies through the various shops in the area. The depots at District levels should also be entrusted in the execution of any contracts, that may be procured through the efforts of the Central Apex body. They should also supervise the production and thus enforce a quality control which will be a salient feature in our sales propaganda.

(2) Feasibility of getting components of an article manufactured in most suitable centres and then getting the article assembled at a centre where finishing facilities and market is available should be studied. This step we hope will cut down the cost of manufacture as well as transport charges. Controlling the quality of production of these components is much easier when done in parts. This will thus ensure the quality and standard of the final product. The District or Taluka Organisations that are given sufficient staff for this purpose should be responsible to carry out this scheme.

(3) A complete liaison between the producer and the consumer either Government Departments or general public must be maintained by frequent visits to marketing and manufacturing centres by the Senior Staff of the Organisation.

(4) As there is a keen competition from substitutes like plastics, rubber etc., a propaganda and an Advertising Campaign will have

to be launched to popularise the use of leather footwear and articles. Central Organisations, at divisional level should entrust this job to a publicity expert. Wherever possible attempts should be made to participate in various exhibitions and Fairs so that articles of these craftsmen are given proper publicity.

Training and Research.

Tanning and Leather working Industries both are at present manned by hereditary workers to a great extent. There have been very little change in the antique methods followed by these craftsmen. Educated persons from these classes generally do not take up to this trade. In the present era of technical developments trained persons only can survive the circumstances and competitions created by other developed countries. It is, therefore, essential that adequate arrangements for imparting training in the newer technique of leather and leather goods manufacture are made.

At present we have more than one agency imparting this education in the tanning and leather working trade in this State. There are permanent established institutions as well as peripatetic schools. These are conducted by the (i) Department of Technical Education, (ii) Department of Cottage Industries, (iii) Community Development Organisation and (iv) other private institutions aided by Khadi and Village Industries Commission. Some institutions cater for the requirements of supervisory staff necessary in the industry as well as skilled workers; while others are intended to prepare good artisans. All the trainees in these centres receive some kind of stipend and no tuition fee is charged anywhere. The rate of stipend varies from Rs. 20 to Rs. 40 under various organisations and depends on the location of schools, whether in Urban or Rural areas.

There are various types of courses of instructions followed by different organisation in the State.

(A) *Department of Technical Education/Government Tanning Institute, Bombay.*—This institute provides training facilities for advanced and artisan courses in the manufacture of leather. The duration of the courses is one year for artisans, and two years for advanced course. It is reported that the proposals of changing the artisans course to two years for artisans and the advance to 3 years is under consideration of Government.

(B) *Government Leather working schools, Kherwadi, Bombay.*—This institution provides artisan courses in footwear and miscellaneous leather goods manufacture. The duration of the course is two years. They also provide a one years' course of instruction in the manufacture of Industrial Leather Goods. The advanced course in this institution is for 2 years duration and includes instructions in footwear as well as leather goods manufacture.

(C) *Department of Cottage Industries, Poona.*—This department conducts five peripatetic tanning and five leather working schools. In addition to these there are two permanent training centres in leather working and one in tanning. There are also 8 training-cum-production centres in Leather working and 2 in tanning. At these centres production facilities are provided to the trainees after the completion of the regular courses.

The duration of training at these centres varies from 6 months to 2 years and it is reported that this is due to the respective schemes of the former Saurashtra, Vidharbha, and Marathwada region merged with Bombay State. It is further reported that the question of bringing in uniformity in training is under the active consideration of the concerned department.

(D) Aided by Khadi and Village Industries Commission there are two T. C. P. Cs, where regular training in tanning and in flaying, is imparted. The duration of the course in tanning is for one year and that for flaying is four months. All the students working here get monthly stipend of Rs, 40 each. The courses, are aimed at training artisans and supervisory staffs for the village work.

(E) *Schools under Community Development Schemes.*—In addition to these mentioned above under the various departments there are a number of tanning and leather working schools organised in various blocks under the Community Development Schemes. The duration of the course is one year and stipends at the rate of Rs. 20 and Rs. 25 are paid in rural and urban areas.

The list of these centres and schools working as on 31st December 1959 is given in Appendix.

Training.—According to the suggestion of the Association of Principals of Technical Institute it has been recommended that the proportion of graduates to diploma holders and artisans may be fixed at 1 : 5 : 20 respectively. It is anticipated that if our recommendations are accepted we may need per year three to five graduates capable of teaching the subject as well as carrying out fundamental and applied research. We shall need 20 to 30 diploma holders to take charge of different organisations and their branches and about 300 to 400 artisans for manning various centres and satisfy the needs of the industry. We should, therefore, aim at getting these personnel trained suitably. Regarding graduates we feel that the Department of Technical Education may see the possibilities of introducing these courses in our State. Their capacity at present is 10 student every year for advance and 20 for artisan courses and we feel that this should not be increased as it may not be possible to absorb them in the industry.

From the point of view of training supervisory staff one central institution in the whole of State is sufficient. Government Tanning Institute and Leather Working School can be entrusted with these jobs. The facilities available at both these Institutions and the courses laid down for diplomas are well planned from this point of view.

Kora Gramodyog Kendra, Bombay and Gosewa Charmalaya, Wardha, are also conducting courses of training expected to turn out men of supervisory calibre. The minimum qualifications for admission is S. S. C. as in case of Government Institutes but the course is for one year. We feel that if proper type of supervisory staff is to be turned out these courses conducted at these institutions need revision.

The Committee feels that the practical training facilities at the abovementioned institutions are not adequate to give sufficient experience to the students in the commercial aspects of the trade and to acquaint him sufficiently with the modern technique of production. The passed out trainees are expected to be holding supervisory position in the industry and in Government departments. They should, therefore, have thorough knowledge of the economics of the industry and also commercial methods of production marketing, etc., besides theoretical and practical Technical knowledge of the subject. The Committee therefore, feels it very necessary to introduce semi-commercial production units at such institutions forthwith so that the trainees at sufficient knowledge of all the aspects of the trade and will also serve as proving ground for the industry.

Attempts should be made to persuade factories and production centres in the State to take up a few students at a time as apprentices. A regular scheme in consultation with the people in the industry should be drawn and supervised carefully by the staff of the institutions as well as the management of the places of work. No diplomas should be issued unless an apprenticeship of 6 months is served.

Taking the employment potential of this industry on all India basis we feel that some students from our institutions could get absorbed elsewhere if the standard of training is not inferior to that imparted by institutions in other States. We, therefore, feel that while proposing the changes of the existing diploma courses in this State due consideration should be given to the standard of such courses in other States. Efforts should be made to equip these institutions well enough to cater for this demand.

It may perhaps be necessary to have better staff atleast for specialised training. This is at the moment is feasible if proper persons are appointed at the key posts. Such persons from the

trade will be forthcoming only if adequate facilities and pay scales are offered. It may also be feasible to employ persons from trade on part-time basis so that the actual production technique and the difficulties faced in the factories are translated into work programme in the production section of these institutions.

Training of artisans is a two pronged problem. We have got to have institutions that will produce new artisans starting with young men either from the industry or from industrially biased persons and also must have some sort of arrangement for actual workers to undergo a short refresher course. In this connection we feel that there is a lot of duplication going about and requires co-ordination of activities by different agencies. It is felt that the Central Institution should not entertain these courses excepting specialised courses for special needs and there should be only one agency responsible for handling this issue. It is also felt that the department which is connected with the trade should take over management of the Central Institutions.

Looking to the results so far obtained by this training we have come to the conclusion that these different agencies have not fulfilled the purpose for which these training classes were started. We do not think that these classes have been able to provide necessary artisans to the industry. Students who have been trained as artisans have been appointed as instructors by the Community Development Blocks. Those who could not get the supervisory job have turned to other avocations. Leather industry is a growing industry and requires personnel to work as artisans for production of quality goods, under technically trained supervisory staff. For this we think that refresher courses of short durations for actual tanners and leather workers, may prove more useful, in addition to the regular full-time courses. We are dealing with this problem in some details in next paragraph so far as this matter of training artisans is concerned. We do not wish to suggest any drastic changes.

We have proposed to have one centre in each district to serve as a model tannery as well as a centre that can work as a link between the primary producer and consumer. We feel that this centre should serve as a good training ground for tanners and leather workers. Actual workers should be encouraged just come to this place, spend a few days learning whatever particular process they desire to learn and can go back to the their places of work. These centres will conduct such training courses as may be necessary. The main idea behind this is not to give any certificate or regular course of training, etc., to the trainee but help to him find a solution to his production problems. Being already a craftsman in the trade he is acquainted with the principles and his hand and eyes have learnt to know what

is good and bad. Basic training of this nature is not necessary for him. Thus just a short term to show the actual changes necessary is all that is wanted. This short trip to a place like Model Tannery will also bring to his notice various newer methods and products and may bring him in contact with people in the trade at a different level. All round education of this type will definitely help him to improve his business in general and his products in particular. We feel that if this scheme is worked out properly the artisans in the villages will not only become more skilled workers but will also shed out their inferiority complex and thus will grow in social stature also.

It may be necessary to provide for some kind of stipends to those who may come to take these facilities of training. We feel that the artisans who come for a refresher course and put in labour in the Training-cum-Production Centre can atleast earn sufficient to meet his own expenses. In certain cases it may be necessary to supplement with a small stipend not exceeding Rs. 25 p.m. The exact amount to be given to an individual artisan should be left to the description of the man in charge of the centre.

Research and Follow up Programme.

Government of India has planned to have extension service centres in various regions. These centres are supposed to translate research done at the Central Leather Research Institute, Madras. This is a welcome idea and the State Government should try to adopt it. To achieve this it is necessary to amplify the sphere of activities of the Government Tanning Institute and Government Leather Working School. In view of the division of the present State we feel that the Central Tannery at Rajkot should be developed to undertake this type of work.

The Central Institutions should also have a programme of research tailored to our requirements. Facilities for translating laboratory work into field and factory trials should be provided. There should also be a scheme to follow the results obtained in these various trials. Parties of trained persons should go round to the village workers explaining them the advantages and commercial utilisation of the researches carried out at the Central Institutions. It will also be necessary to follow this up from time to time to see that the necessary results are achieved and all the difficulties coming in the way of artisans are overcome. Intensive work on these lines at least for the first 5 to 10 years is very essential. Proper schemes should be drawn up and followed carefully, through District Organisations recommended by us.

CHAPTER V.

ORGANISATION.

Earlier economists described only three elements—land, labour and capital that are necessary for the production of wealth. But later they found that a fourth element, viz. organisation is also required for the purpose. A sound and efficient organisation is, therefore, essential to produce maximum possible wealth through any activity or the industry. A systematic organisation plans out its activities before embarking on them, chooses proper sites or locations for their development, keeps at hand the minimum capital required uses it most economically and rationally, and handles the labour efficiently so that their skill and energies may produce the maximum possible wealth. At present the leather industry in the State lacks such a strong systematic organisation. There is no planning, no sufficient capital and whatever little capital is there, is not efficiently and rationally utilised. The artisans and workers are neglected and their skill and energies are not fully utilised. It is, therefore, necessary to have a systematic and efficient organisation if the industry is to be put on sound footing.

For the successful organisation of an industry the three main items of (i) production and collection of raw materials, (ii) its processing, and (iii) the distribution of processed product are required to be co-ordinated. There is some system or arrangement at present : but it lacks this co-ordination. It is manned by a class of merchants who carry on trade in the different commodities both raw and finished coming under the industry, while the labouring class that produces raw materials and processes them are sparsely scattered in far off towns and villages. They are disorganised, poor and ignorant and are required to depend for the supply of raw materials and the disposal of their product on this merchant class. This patron class of the labouring workers and artisans is a blind one and has no long view to see higher gains by systematic development and proper organisation. It is based on naked personal profit motives without any scruple or business morality.

Under the heading marketing we have described in some detail how the present system of collection and distribution of raw stock and finished product organised by the merchants organization robbing the actual worker and thus indirectly obstructing the onward march of the industry. This mercantile trade channel has got its counter-part in other industries and trades, but the exploitation there is not so harsh as it is found here. The reason to our mind is that the higher type of tradesman possessing some business morals and border outlook do not come to this trade ;

because it is considered low and out-cast. The unscrupulous and narrow minded tradesmen who take up to this trade get their clientage as ignorant, depressed and neglected class of people. No person of public activity with some social influence will come to the help of these neglected people even though wronged and insulted by these traders. Cases have been reported where these traders treat their clients very harshly and cruelly. But there is no one to listen to their grievances and come to their rescue.

Our personal experience and our discussions with the persons in this industry have brought us to the conclusion that if the labourers and artisans of this industry were to reap the fruits of their own labour, this trade channel will have to be replaced by another which is based upon justice, mutual help, sympathy and efficient management. It is only possible if the co-operative organisation of these artisans is made strong enough to take up this industry and trade in all its branches forming a long chain. Although this is the only sure solution to this problem, we are aware of the difficulties that lie in the process of organising such a chain of co-operative organisations. The main reason to our mind is that the primary member link of this chain i.e. the labourer or artisan is not only illiterate but culturally undeveloped to conduct and handle the co-operative system based on democratic lines. It has been observed that these people at times keep more faith on their exploiters than their sympathisers and co-helpmates. There are reasons for this also. Because some of their advanced co-help-mates have exploited them severely in some cases than the members of the organised trade channel. The organised trade channels are clever enough to see that they must keep their primary clients alive for continuous exploitation. They therefore feed them sufficiently to keep their bone and flesh together for further exploitation. The new entrepreneurs however, have not learnt this shrewdness and perhaps due to their ignorance and at times over-enthusiasm, they become a party for the extinction of their clientage and thus lose the confidence of their co-brothers.

With the above mentioned danger we find no other alternative but the co-operative organisation to educate and help the members of this class. Sufficient spade work has been done in this direction during the First Five-Year Plan. For comparison's sake we give below the statement showing the number of Co-operative Societies with other data in 1951-52 and at the end of June, 1959 :—

	1951-52.	30th June 1959.
	Rs.	Rs.
1. Number of societies	189	551
2. Membership	4,936	12,582
3. Paid up share capital	2,80,742	6,45,209
4. Reserved funds	97,754	2,90,715
5. Working capital	10,89,753	31,77,310

These figures are encouraging ; but we could not get the details of the amount of business these societies have made. We could also not study the working of individual societies. It might be that some societies are working vigorously, some may be dormant, while others are working hand to mouth. The working of the Co-operative societies with whom we came in contact was not happy. The office-bearers of these societies complained that they do not get sufficient ready market for their produce and thus their capital is blocked up in the finished materials.

Our general impression is that except some few societies the working of the majority of them is not satisfactory while some of them are not working at all. It is not a small problem to revitalize all these societies and bring them into sound working order so that the organisation of the new societies may be encouraged.

There are at present some 551 societies with a total membership of 12582. This comes to 23 members per society. We think that this is rather a big number.

A society should enroll only such number of members to whom they can give work either as a labourer, a craftsman, a marketing man, a clerk or a Manager. Idle members should be discouraged as far as possible, but there should be a provision for a few sympathetic members who might be coming from the higher class of people with a view to help the labouring class.

Homogeneous small societies whose members can work in a team spirit may prove more efficient and active than big ones. For instance, there may be a separate society of flayers, another of taners, while a third of footwear manufacturers. We give below our suggestions for each types of such societies regarding their number and composition.

Flayers Societies.

Our information shows that there are no flayers societies in the State at present and organisation of such societies is quite a new problem to be handled. The work of flaying is carried on by a separate set of people in Marathi area while in Gujarat area it is carried on by the tanners. We think that it would be more beneficial from the organisation point of view if separate flayers societies are formed in Gujrat area also. The work of flaying of the fallen stock cannot be carried on in a compact area as that of tanning or leather goods manufacture. It is to be carried out practically in each village or in a central place in a group of villages not far away from each other. We do not think it would be possible to organise the whole of this work in a systematic way during the third plan period. A beginning

can however be made which may show a way for future development. We propose 3 cooperative societies of flayers in each taluka may be formed during the plan period and they should be entrusted with the work of full carcass recovery in a compact area, collection and preservation of raw hides and skins from the whole taluka. The membership of such societies should not be more than 12 and each share should be of Rs. 50. There will be in all 693 such societies in Maharashtra and 543 in Gujrat.

Tanners Societies.

Tanning is a centralised industry as compared to flaying or hand spinning. It is not possible to have tanning in each village. It is a complicated operation requiring greater skill and more capital. We therefore propose that one tanners' society may be formed in each taluka with a membership of 15 to 16 per each. Thus there would be some 231 such societies with a membership of 3696 in the Marathi area while 181 with 2896 members in Gujarati area. At present there are 97 societies in Marathi area and 247 in Gujarathi area. The following table shows the data of these societies :—

		Marathi Area.	Gujarati Area.	Total.
1. Number of societies		97	247	344
2. Number of members		2,069	5,227	7,296
3. Share capital	Rs.	1,54,544	2,61,950	4,16,494
4. Working capital	Rs.	7,39,286	11,57,761	18,97,047
5. Share capital per member ..		74·7	50·10	57·10
6. Working capital per member ..		357·31	221·5	246·3
7. Average membership per society ..		21·3	21	....

From the above table, it will be seen that the share capital per member in Maharashtra is Rs. 74·3 while that in Gujarath it is only Rs. 50·10 while average comes to Rs. 57·10. This shows that such a large number of tanners as 7296 can afford to pay a share capital ranging from Rs. 50 to 75. Tanning is a living industry though in a most neglected and dilapidated condition in the State and its members can afford to pay more amount of share capital than those of flayers. We have already said that this industry requires a large amount of working capital. But the above table shows that

the working capital per member is only Rs. 357.3 in Maharashtra and 221.5 in Gujrath with an average of 246.3 for the whole State. This is a too meagre capital for this industry. This shortage of capital is the main reason why the industry remained undeveloped in the State. We think that the working capital per worker should be between Rs. 500 to 750 besides capital investment in construction, implements and machines. We therefore think that the share capital of the tanners societies per member should be from 100 to 150, and the membership of each society should be near about 15 including managerial and sympathiser ones. No member other than actual workers should take more than 4 shares. A sympathetic member is expected to take 3 to 4 shares while managerial one 2 to 3. We give below the composition of a society of our conception with the share capital of each group :—

		No. of shares.	Share capital per number.	Total.
			Rs.	Rs.
Artisans and Labour workers	.. ..	10	100	1,000
Managerial ones	.. ..	3	150	450
Sympathiser	.. ..	2	200	400
				1,850

If the societies are organised on this basis their borrowing capacity may come Rs. 15,000 to Rs. 20,000. This much capital will enable them to carry on their work efficiently. From the table of the existing societies and their membership it will be seen that Gujrat area has already exceeded the number of societies we have proposed. But in this area some societies are doing the flaying work also. Under the heading "Flaying" we have proposed the establishment of some 543 such societies with a membership of over 6,000 for Gujarat area. When both these activities are combined there is scope for the establishment of about 500 more societies with some 2,000 additional members. We propose that the present societies with some 4000 additional members. We propose that the present societies should be re-organised and made smaller to make their work more homogeneous and efficient. In the following tables we give the existing tanning societies with details of membership and, the new to be started with and the total number to be put in working order during the third plan period separately for the two regions.

MAHARASHTRA.

	Existing.	Additional.	Total.
1. Number of societies	97	134	231
2. Membership	2,069	1,627	3,696
	Rs.	Rs.	Rs.
3. Share capital at Rs. 100 per share ..	1,54,544	2,15,056	3,69,600
4. Working capital at Rs. 500 per member.	7,39,286	11,08,714	18,48,000

Maharashtra has 26 districts under it and in our Chapter on "Financial Implication", we have provided Rs. 13 lakhs for the purpose at the rate of Rs. 50,000 per district.

GUJARAT.

Here we combine both the flaying and tanning societies.

	Existing.]	Additional	Total.
No. of societies	247	477	F-543 + 181-T <u>724</u>
Number of memberships	5,227	4,185	F-6,516 + 2,896-T <u>9,312</u>
	Rs.	Rs.	
Share capital at 100 per share for "T" and Rs. 50 for "F"	2,61,950	3,53,450	F-3,25,800 + 2,89,600-T <u>Rs. 6,15,400</u>
Working capital at Rs. 500 per member (for tanners only).	11,67,761	2,80,239	14,48,000

"F" indicates Flaying Societies.

"T" indicates Tanners Societies.

For the 17 districts of Gujarat we have provided additional working capital of Rs. 8,50,000 at the rate of Rs. 50,000 per district.

Under the heading "Leather working" we propose that each taluka should have two such societies. At this rate Maharashtra will have 412 societies while Gujarat 362 and the total for the whole State would be 824. They should be on the model of tanners societies so far as the membership is concerned. A days work with raw material the artisan can put his finished product for sale in the market. The working capital per artisan would therefore be less

as compared to tanning. We calculate this at the rate of Rs. 250 per artisan. To procure so much working capital a share capital of Rs. 50 per member may be found sufficient. We give below the present position of the final target to be achieved and the additional work to be done during the third plan period of the two regions.

Leather workers' societies.

MAHARASHTRA.

		Existing.	Additional.	Total.
Number of societies	.. ..	180	282	462
Membership	.. ..	4,449	2,923	7,372
		Rs.	Rs.	Rs.
Share capital	.. ..	1,99,495	1,09,105	3,08,600
Working capital	.. ..	12,42,039	6,00,961	18,43,000

GUJARAT.

		Existing	Additional	Total.
1. Number of societies	.. ..	27	335	362
2. Membership	.. ..	837	4,955	5,792
		Rs.	Rs.	Rs.
3. Share capital	.. ..	29,220	2,60,380	2,89,600
4. Working capital	.. ..	1,38,224	13,09,776	14,48,000

From the financial implication it will be seen that we have recommended the necessary funds for share capital and working capital loan.

As the members of this class are poor they may not be in a position to subscribe the necessary share capital to enable them to take advantage of the different facilities afforded by the Government. We, therefore, propose that the share capital loan at the rate of 87½ per cent. should be given to the Flayers' Societies while 80 per cent. to Tanners' Societies and 75 per cent. to Leather Working Societies, to enable them to entroll sufficient number of workers and

artisans. We think that it will not be found difficult to collect their share from these people. The organisers of the society should see that some portion of the wages that their members may earn from the work in the society should be deducted as share capital. It may be from 3 per cent. to 6 per cent. of the total earnings, so that this provision will enable the society to increase their share capital and borrowing capacity for their development.

These small societies should further be grouped into Taluka and a District Society which should be manned with efficient and service minded people knowing their job. We think that this District body should be taken as a basis for organising this composite industry with all its branches. It should be given due recognition and status required to create confidence in artisans and public in general so that they may be in a position to discharge their duties efficiently, faithfully and with public appreciation. There are several philanthropic organisations serving the cause of this down-trodden people such as Harijan Sewak Sangh, Depressed Class League and others. Their co-operation should be sought not only in organising this District Society with its various member societies but also in their proper conduct and management.

The District Organisation the basic unit of the whole structure must be active, alert and efficient. It should be manned with persons of high integrity and efficiency. Some grant from the Government in the initial stages to bear the administrative expenses to procure such types of persons may, therefore, be found necessary. In the chapter on "Financial implications" we have provided the requisite funds for this purpose.

Our idea is that all the funds for the development of Leather Industry in the District from whatever source they may come should pass through this organisation. To enable this organisation, to discharge its functions properly and efficiently we propose that a model tannery which should serve as a training ground to teach the technical as well as economic side of the subject, be established. It must be able to show to the village tanners the newer methods and processes that can improve the quality of their products and give them better return. We think that if this model tannery is conducted in true spirit it will be of much help to the scattered village tanners in improving their quality.

Under the Chapter "Tanning" we have given in detail how it is necessary to retain the village tanned leather to improve the defects in its tanning and also dress and carry to make them a finished product of higher value with greater utility and more attractive appearance. We, therefore, think that wherever condition demand, district should have one dressing and currying centre, which should retain and finish the country tanned hides and skins.

The abovementioned institutions alone may not serve the purpose for which they are intended unless the District Organisation is provided with sufficient trading capital to help in providing raw materials to the tanners in the District and also to help them in providing market for their products. We, therefore, like to provide sufficient funds as trading capital for the District Organisation.

The Leather Goods manufacturing sector of this composite industry so far as its manufacturing side is considered is fairly organised. We have sufficient number of artisans who can produce quality type of goods. Our anxiety is how to provide their work for them all. We, therefore, do not propose to have any Demonstration Model Centres for the purpose. The greatest need of this class of people is the outlet for their finished goods and procurement of the raw materials required for their work. We, therefore, think that if the District Organisation is provided with sufficient trading capital the Organisation can help much in relieving the present distress of this class of people. If properly conducted the responsible organisation of this type would be in a position to enforce the quality control and also approach the Government for the supply of leather requirements at least so far as the District demands are concerned.

As given in the chapter on "Financial implications" we have recommended a provision of the following funds under different heads for this District organisation :—

	Grant.	Loan.	Total.
1. Model Tannery	15,000	35,000	50,000
2. Finishing Centre	17,500	32,500	50,000
3. Trading Capital .. ..	.....	50,000	50,000
4. Leather goods working .. ..	....	50,000	50,000
Total : { Minimum : Rs. 2,00,000		to	to
{ Maximum : Rs. 3,50,000		2,00,000	2,00,000

The District Organisation would, therefore, have initial funds to the tune of over Rs. 2,00,000 to 3,50,000 for capital expenditure such as for construction, machinery, implements and also sufficient working capital.

Besides they will get funds for the organisation of flaying centres in their district as mentioned in the flaying scheme. As mentioned above we are also recommending a grant for administrative purposes. With these provisions in the initial stages we think that the District Organisation should be able to help and guide the tanners and leather workers in the district.

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It may be argued by some that the District Organisation may not be in a position to discharge its duties properly for want of necessary funds, if the work progresses. We think there is some force in this argument. But the fulfilled financial requirements of a big industry like this cannot be fulfilled unless it is brought under the regular financial channels which other industries are fortunate enough to utilise. These, our recommendations, are for the initial stages. We, would, however, suggest that additional funds for the conduct of the business should be made available according to the turnover of a particular centre. We learn that Khadi and Village Industries Commission is providing funds to the tune of 40 per cent. on the annual turnover. We wish that the Government should make necessary arrangements to provide working capital to progressive institutions on this line. This help, we think, will, satisfy the needs of the District Organisation. As for bringing the industry under the regular channels of financial supply we think Government should approach the State Bank and Reserve Bank of India to make available all the facilities that are being enjoyed by other industries.

We have so far dealt with the Organisation and financial requirements of the District Organisation. We feel that for closer supervision and guidance there should be a pooling of resources and personnel to form a Divisional Organisation. This Divisional Organisation should have bigger marketing depots to serve as raw material providing agencies and clearing houses for the financial products. We have already made a provision for a grant of Administrative expenses for this Divisional Office. It is not intended to have the Divisional Centre separate from the District one. In certain schemes we have provided higher funds for the biggest centre in a division. For instance under the heading "Shoe Departments" we have provided some 2 lakhs of rupees for a biggest marketing place in a division while smaller districts have been provided some Rs. 50,000 for the same purpose.

These Divisional Centres may approach the State Government for necessary trading capital for divisional work and the Administrative Department can arrange for the same to a limited extent from the funds of Rs. 12 lakhs kept at their disposal.

When these Divisional Centres are organised we would like to have apex federal bodies one for Marathi area and the other for Gujarati area. In the Financial implications, we have already provided a grant for the Administrative purposes of these apex bodies. These two apex bodies should also have a central marketing depot at their disposal for which a capital of Rs. 3,00,000 be provided for each apex body. (Therefore, for 2 apex bodies : Rs. 6,00,000).

It is the usual practice of the Government to establish Central Organisation first and get the Divisional and District Organisations

organised through this Central body. We propose that for better organisation the District bodies should be organised first and the divisional and apex organisations should be established with the representatives of these bodies with some nominations from the Government.

There are in all 551 Leather Co-operative Societies in the State. Although the number is not sufficient to build a huge structure to handle large business with the capital proposed we think that it should be taken as a base for further development. If it is found that in a particular District the primary number of Tanners and Leather Workers Societies are less than say 20, the development of this industry in the District should be entrusted to the District Industrial Co-operative Organisation. When the required minimum number of Societies has been formed a separate District Organisation for Leather Industry may be established. In the initial stages it may be found necessary to nominate the Executive of this Organisation by the Government to supply men of efficiency and integrity. We wish that the whole structure should be controlled for some years to come by the Government so that the association should be regulated on sound lines and under proper guidance.

The following table shows the Co-operative Organisation of the industry we have proposed :—

				Maharashtra	Gujarat	Total
Flayers	..	..	..	693	543	1,236
Tanners	..	..	..	231	181	412
Leather workers	..	..	..	462	362	824
Divisional Bodies	..	..	..	4	2	6
Apex Bodies	..	..	..	1	1	2
Total ..				1,391	1,089	2,480

We have given here the Organisational set up of the industry through the Co-operative net work. We think that Government will have to expand its departmental staff to face the increasing amount of work in organising and supervision of these Societies. We think that at least each Deputy Director of Cottage Industries should be given two additional Technical persons for the development of Tanning and Leather Industry in the Division.

Economic Position of the Societies.

Even though there are quite a number of tanning and leather working societies all over the State, their position both economically as well as socially is far from satisfactory. Quite a number of these societies are stagnant and those that are still working are having a lot of difficulties in maintaining day to day production and keeping the members fully employed. There are only a few societies which can be classed as working satisfactorily. Reasons of this state of affairs both in tanning and leather working societies are more or less common.

1. Lack of sufficient finance at the proper time.
2. Members of a society carry on their private work also.
3. No management control.
4. Disputes among members and
5. Marketing difficulties.

In other pages of this report, we have suggested ways and means to overcome these difficulties. But the chief thing, we feel is that each society or atleast a group of 2 or 3 societies should be given a trained technician who will be a paid servant of either Government or the Divisional organisation and responsible to them. He should be a sincere worker with full knowledge of the trade and technique of manufacture. This step with the other proposals that we have made in our recommendations we hope, will improve the present condition and put the societies on a much sounder footing.

Financial Implications.

Except agriculture, Leather Industry is perhaps the only industry which has maintained its original decentralised nature of production against the onslaught of centralisation coupled with labour saving devices. This special feature of the industry should be taken into consideration while providing funds for its development.

Another special feature of the industry is that its raw material contains putrecible protienous matter of animal origin which it wants to preserve and make it fit for human use to satisfy man's hygienic needs and aesthetic sense. Due to this putricible raw material this industry was considered nasty and then low during some enthusiast Brahmanic period. Intelligent people, therefore, did not take to it, due to the dammed low character. It was, therefore, left unaided in the hands of neglected and depressed class of people. The sanitary and hygienic conditions prevailing in the existing industry are, therefore, very horrible. We have expressed our views elsewhere that if this industry is to develop to its full stature it must get necessary social dignity and amenities which are available to all other industries. We have brought this point here again

simply to emphasize that this industry because of the two special features deserves closer attention and liberal financial assistance in comparison with other industries which are not suffering from such disabilities.

We give below our proposals about the financial assistance to different centres as guide. The executive department may make necessary changes in consultation with local responsible institutions and persons, according to local environments and conditions.

The suggested financial assistance to different centres comes under the following heads :—

I. *Grants.*

- (i) Grants for capital expenditure.
- (ii) Administration Grant.

II. *Loans.*

- (A) *Loans for capital expenditure.*
 - (i) Loan for Land and building construction.
 - (ii) Loan for tools and implements.
- (B) Loans for working capital.

I. *Grants.*—Grants are meant to lessen the burden of repayment on capital expenditure which a small artisan may not be in a position to pay fully due to his meagre profits. We have not recommended full grant for the capital expenditure incurred by the party and we think 50 per cent. grant of the expenditure may be a fair one. It is necessary to teach the artisans or their corporate body to calculate the proportionate rent of the building and the depreciation on the implements and machines while calculating the production expenditure. If they learn this aspect, they will find it easy to repay the loan in a scheduled time.

Experience has shown that many of the centres in the villages receive grants in the beginning and they credit the grant to their personal capital to help them to increase their borrowing capacity. We think, this is not a fair and proper procedure. The capital which they claim as their own should be the earning from their profits or savings from their wages. It has also been found that at times the institution or the party concerned after taking up the loans and grants for capital expenditure work the centre for some period and close it. They think that the Government is only entitled to recover the loan part of the financial assistance. This should be considered as wrong assumption. The money is given not to close the centre but to work permanently or atleast for a long period. We, therefore, think that the grant portion of the money paid should be

considered as grant after the loan portion is fully repaid according to the time schedule. The party that fails to return the loan in the scheduled period should not be considered entitled for the grant portion. It is, therefore, necessary that in the beginning the whole amount should be considered as loan and when the loan portion is fully paid in specific time the loanee will be entitled to earn the grant portion. If, however the centres are closed for any reason in the intermediate period the Government should be entitled to recover the full amount given including loan and grant.

II. *Loans*.—We have suggested three types of loans —

(a) Loan for building construction should be on long range basis say atleast 10 years so that the artisans may be able to repay it; as we are recommending 50 per cent. grant, the calculated rent may therefore be not too high for him.

(b) Loan for tools and implements should be based on the nature of the materials purchased, and should come into account as depreciation of those materials. Here also we are recommending 50 per cent. grant so that the artisans should not find difficulty to repay the necessary part of the loan from their yearly earnings or profits.

(c) *Loan for working capital*.—This loan should also be on long range term because if the artisans have to conduct their workshop permanently this loan for working capital can only be repaid from yearly profits earned. In the small industry the profit margin is very low. We, therefore, propose that the period for this type of loan should be 10 years and the party should have the choice of renewing the loan paid during five years so that they may be able to keep the continuity.

The basic scheme which we have adopted from the Bombay State Board is given below:—

	Grant.	As proposed under revised pattern.	
		Loan.	To.
	Rs.	Rs.	Rs.
<i>Non-recurring—</i>			
1. Plat-form and building shed	1,500	1,500	3,000
2. Bullock cart with bullocks	500	500	1,000
3. Water arrangements (sinking of well-installation of pipe line storage tank etc.)	750	750	1,500
4. Bone digester	875	875	1,750
5. Implements and accessories	250	250	500
	<u>3,875</u>	<u>3,875</u>	<u>7,750</u>

	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
<i>Recurring—</i>			
1. Salary of two flayers at Rs. 60 per month for one year.	1,440	....	1,440
2. Miscellaneous and contingencies	560	....	560
	<u>2,000</u>		<u>2,000</u>
Grants .. 5,875			9,750
Loans .. 3,875			

We take this as a basic scheme with necessary alterations in centres according to their size and work.

<i>Sub-Center.</i>	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
	600	600	1,200
<i>Non-recurring—</i>			
1. Construction of shed ..	1,000		
2. Implements ..	200		
	<u>1,200</u>		
<i>Recurring—</i>			
1. Salary of one flayer at Rs. 60 p.m.	720	....	1,280
2. Salary of one helper at Rs. 30 p.m.	360		
3. Miscellaneous and contingencies ..	200		
Total ..	<u>1,880</u>	<u>600</u>	<u>2,480</u>

Flaying is a most neglected item in the whole composite range of this industry. We have therefore, concentrated more on that item. It should be considered a special feature of the newly revitalised leather industry. Khadi and Village Industries Commission has so far proposed only one type of flaying centre. We think that taking into consideration the work and size of the centres the scheme should differ in their financial implications. We take as base the schemes prepared by the Sub-Committee of the Bombay V. I. Board with necessary changes which they were kind enough to submit to us. We accept the alterations that have been made by the Bombay V. I. Board in the schemes prepared by the Khadi Commission.

Taking these as basis we give the following categories of financial schemes :—

(a) For bigger towns or cities say with a population exceeding 1 lakh. The 1951 census has shown that there are only 12 such cities in the whole of Bombay State. We propose that Rs. 15,000 should be given for each such centre for the purchase of mechanical transport in addition to the financial assistance of Rs. 9,750.

(b) For towns and cities say with a population of 20,000 to 1 lakh. According to the census the number of such towns comes to about 98 (roughly 100). We propose that these centres should be given the basic amount of Rs. 10,000 each.

(c) For big villages having 10,000 to 20,000 population, there are about 125 under this category. We propose that Rs. 10,000 should be given for the main centres, and 2,480 rupees for 4 sub-centres which should be attached to the main centres. Thus each such centre with a group of five will have Rs. 20,000.

(d) For smaller villages we think that it is difficult to conduct full-fledged centres. We, therefore, propose that grant-in-aid up to 50 per cent. should be given to the Gram Panchayats to construct flaying platform and compound to demark flaying yard. Our estimates show that for fair work of this type a provision of Rs. 1,000 will be found sufficient and out of this 50 per cent. at the rate of Rs. 500 per centre should be given as grant. We think that this grant may be given to about 2,500 Villages.

We have given our recommendations on population basis. The executive department may change this population basis to suit the equitable distribution according to the Administrative units such as District and Talukas.

Flaying.

—	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
(A) 12 centres in towns having the population over 1 lakh.	1,60,500	1,36,500	2,97,000
<i>Break up—</i>			
Rs. 5,875 plus			
Rs. 7,500			
Rs. 13,375 × 12			
			} ... Grant.
Rs. 3,875			
Rs. 7,500			
Rs. 11,375 × 12			
			} ... Loan.
Rs. (24,750 × 12).			

much help to the scattered and sparsely distributed tanners. We have, therefore, made the following provisions for such a model tannery at each District place :—

	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
<i>Capital Expenditure.</i>			
1. Land and building	12,500	12,500	25,000
2. Implements and Water arrangements.	2,500	2,500	5,000
3. Working capital .. ..	.....	20,000	20,000
Total, Grant and Loan ..	15,000	35,000	50,000

The object of this model tannery should be to show to the Village tanners how the newer methods can improve the quality of the tanned leather and also give a better economic return. It is therefore, to be considered different from training centres where the economics of the trade is not taken into consideration. Here the village tanners will learn the technical as well as economic side of the subject.

Dressing and Currying.—To improve and finish the leather tanned by the villagers, we think that there should be a re-tanning and finishing centre attached to this District tannery. We give below provisions for such a centre :—

	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
<i>Capital Expenditure.</i>			
1. Workshop construction ..	5,000	5,000	10,000
2. Machinery	12,500	12,500	25,000
3. Working capital .. ..	.....	15,000	15,000
Total, Grant and Loan ..	17,500	32,500	50,000

Chrome Tanning.—Chrome tanning for uppers requires special type of good raw hide or skin which cannot be found in large

quantities. It would, therefore, not be proper to open many centres of this particular type of tanning. We would, however, like to recommend three such units in the following places —

- (1) Jalna.
- (2) Nagpur.
- (3) Rajkot.

We learn that Government is already organising two such centres— one at Amravati and the other at Sholapur. Bombay is already producing fairly good quantity of this leather and the new tannery at Rajkot will be in a position to produce some quantity from the next year. We think all these units will be in a position to supply the necessary quantity of chrome uppers for the shoe-makers in the whole State and Government requirements in Chrome and Retan Zug-arain leathers

Our proposal is that the Model tanneries at these places should be given additional Financial assistance for chrome units at the following rates :—

————	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
Working shed	5,000	5,000	10,000
Machinery	12,500	12,500	25,000
Working capital .. .. .	....	15,000	15,000
Total, Grant and Loan for one centre ..	17,500	32,500	50,000

Marketing Depots.—To serve the tanners in the Districts by providing them raw materials and helping them to find market for the tanned goods, we propose that the District tannery should be given loan for trading capital Rs. 50,000 to each district organisation.

Tanning Pits.—The village tanners in the interior are very much handicapped as they have not got sufficient number of tanning pits of the required sizes for improving their quality by newer improved processes and materials. The Khadi and Village Industries Commission is providing grant for such new pits. We think, it is a good scheme and should be encouraged. It is estimated that the pit of the size that may be required by the village tanner with

a small platform round about it may not cost more than Rs. 100. We would like to make a provision for 3,000 such pits in the interior during the Third Five-Year Plan. This comes to about Rs. 3,00,000. It is also necessary to repair the existing pits and build a small platform round about it for cleanliness. The Khadi Commission has made a provision of Rs. 50 for the repair of one pit. We think that a provision for 4000 pits should be made during the Third Five-Year Plan. This comes to Rs. 2,00,000.

			Grant.
			Rs.
(1) Construction of new pits	..	...	3,00,000
(2) Repairs to old pits	..	...	2,00,000
			5,00,000

These pits are necessary to improve the hygienic conditions in the tannery surroundings. We think this financial assistance should be in the form of grant only.

The Khadi and V. I. Commission so far have given funds for the construction of 1357 new pits and for repairs of 2179 old pits up to March 1960 in this state. But the results so far as the quality and quantity of production have not been made available to the Commission. The idea, perhaps, is that this item has no correlation with the amount and quality of production. We would like to stress here that the tanning pits should be given to those parties who would undertake to improve their production in quantity and quality and who would give reports to the District Organisation of their development.

Thus this District Tannery should get the following funds for various purposes :—

		Grant.	Loan.	Total.
		Rs.	Rs.	Rs.
1. Tannery	.. ..	15,000	35,000	50,000
2. Finishing Centre	.. ..	17,500	32,500	50,000
3. Trading capital for marketing Depot		....	50,000	50,000
Total	.. ..	32,500	1,17,500	1,50,000
Therefore for 43 District Centres		13,97,500	50,52,500	64,50,000
<hr/>				
Three Chrome Tanning Centres	.. ..	52,500	97,500	1,50,000
4000 new pits and 20000 Repairs to old pits.		5,00,000		
Total under Tanning head		19,50,000	51,50,000	71,00,000

Leather Goods Manufacture.—The next item under the composite industry is that of leather goods manufacture. We have already said before that leather goods manufactures are comparatively better organised and get better earnings as compared to the other two. They are good artisans and can prepare quality types of footwear and other goods. The number of skilled artisans is so much that at present it is a problem-how to provide work to all. We, therefore, think that there is no necessity of any model working centre or any other arrangements for training. Our discussions in the interior with these classes of people lead us to a conclusion that if the facilities are made to provide raw materials at a moderate rate and market for the finished articles, the leather goods manufacturer will be greatly benefited. We, therefore, propose that each District unit to whom the above two centres i.e. Tanning and Finishing are given, be given the trading capital loan of about Rs. 1,00,000 per District to help the leather goods manufacturer in that District. We however, feel that there are big and small districts and also there are districts where tanning industry is far advanced. We, therefore, propose that all the Districts in the area should be divided into four groups and the trading capital for the leather goods manufacturer should be given according to the size and trade of the District.

We give our proposals as under :—

	Loan.
	Rs.
<i>A—Group—</i>	
6 units at Rs. 2,60,000	12,00,000
1. Bombay, 2. Kolhapur, 3. Nagpur, 4. Auran- gabad, 5. Ahmedabad, 6. Rajkot.	
<i>B—Group—</i>	
9 units at Rs. 1,50,000	13,50,000
1. Nasik, 2. Sholapur, 3. Poona, 4. Amraoti, 5. Jalgaon, 6. Udgir, 7. Mehsana, 8. Surat, 9. Jamnagar.	
<i>C—Group—</i>	
12 Units at Rs. 1,00,000	12,00,000
1. Dhulia, 2. Thana, 3. Satara, 4. Ahmed- nagar, 5. Akola, 6. Khamgaon, 7. Nanded, 8. Parbhani, 9. Baroda, 10. Panch Mahal, 11. Junagadh, 12. Surendra Nagar.	

D—Group—	Loan Rs.
15 Units at Rs. 50,000	7,50,000
1. Kolaba, 2. Ratnagiri, 3. Miraj, 4. Bhandara, 5. Chanda, 6. Yotmal, 7. Wardha, 8. Bhir, 9. Bhavanagar, 10. Kutch, 11. Sabarkantha, - 12. Banaskanth, 13. Nadiad, 14. Broach.	
15. Amroli. 35,000 & 16. Dang. 15,000	| Grouped in one unit.
	45,00,000

Share Capital.—Under the heading Flaying, Tanning, we have provided a loan of Rs. 64,00,000. All these loans are intended for the primary societies. According to the present cooperative rules the Registrar can only recommend the borrowing capacity of the society at the rate of 8 times its share capital. This means that the share capital of all these societies put together should be about 8,00,000 to enable them to take advantage of the loan provided under different schemes. We do not think that it will be possible to the members of this industry to contribute so much amount. The Khadi and Village Industries Commission has a scheme to provide loan for share capital to increase their borrowing capacity. They give at the rate of 87½ per cent. share capital loan i.e. at the proportion of 7 : 1. We think that it is necessary to make provision for such a loan. We, therefore, propose that a sum of Rs. 7,00,000 should be set apart to provide such loans. Under the heading “leather goods manufacture” we have provided a loan of Rs. 45,00,000. This loan is to be given to the District organization. The District Organizations should be considered as more responsible bodies having as their members some influential persons with sufficient financial resources. But with all this, the District Organisations will not be in a position to take advantage of the full loan proposed if the Co-operative Department applies the rule of 8 times share capital to this loan also. We, therefore, propose that the share capital loan to these organisations may also be provided. To enable these organisations to earn the loan of Rs. 45,00,000 we think, their share capital should be about Rs. 5,60,000. Here due to their higher financial status the proportion should range 75 per cent. instead of 87½ per cent. to other societies. We, therefore, would like to earmark a sum of Rs. 4,20,000 for this purpose. Our total share capital loan

would thus come to Rs. 11,20,000. But for a round sum we take as Rs. 11,00,000.

Share capital loan : Rs. 11,00,000.

Under the heading "Leather Goods manufacture" we have recommended certain types of machines for the production of better quality of western type footwear. We are mainly concerned here for the development of the Village craftsmen. But in certain big cities like Nagpur, Aurangabad, Poona, Bombay, Rajkot, Ahmedabad and others there may be groups of craftsmen in sufficient number who may be in a position to prepare good quality of western type footwear not only for internal consumption but for export purposes also. We would like to encourage these craftsmen to enhance their skill and improve the quality of their goods. For this they may require the machines that we have recommended. We think that if sufficient number of craftsmen of this class are found in a compact area who can make full use of the set of machines recommended, the Divisional Offices of the State Apex Co-operative Organisation should try to open such facility centres in certain areas and the results of their utility are yet to be known. We do not want to encourage greater production of this type as it would tell upon the indigeneous type of footwear and would bring pressure in providing cheaper type of footwear to the poor and middle class people of the State. The Administrative Department can find funds for the purpose from the item called "Other special schemes".

Special Schemes.

As stated elsewhere the Leather Industry is a group of so many sub-industries. We have given the proposals for centres for main heads which can be opened practically in every District. Production centres for others such as horn work, utilisation of blood in slaughter houses where sufficient quantity of blood can be available to make an economic unit, glue making, drums and other musical instruments, special types of leathers such as chamois and others for leather have not been provided. It is not possible to have many centres under such item for want of sufficient quantity of raw material. We, therefore, think that a sum of about Rs. 10,00,000 should be left at the disposal of the Administrative Department to help in encouraging in the establishment of such centres where sufficient quantity of raw material can be made available and enthusiastic pioneers are coming forward.

Organisation Expenditure.—For the proper organisation of this industry we have taken District-wise unit and provided funds to the responsible institutions to enable to discharge their duties properly. We think that in the initial stages it will be necessary to provide

some funds for the establishment. We give below the staff necessary for each District centre :—

Establishment.	Rs.
One Manager at Rs. 160—10—320 plus allowances admissible p. m. for one year.	2,820
One Tanner at Rs. 100—8—140—10—200 plus allowances admissible p. m. for one year.	1,920
One Mistry (Leather goods) Rs. 100—8—140—10—200 plus allowances admissible p. m. for one year.	1,920
One Sales man Rs. 100—8—140—10—200 plus allowances admissible p. m. for one year.	1,920
One Accountant Rs. 80—5—220 plus allowances admissible p. m. for one year.	1,680
One Peon at Rs. 35— $\frac{1}{2}$ —40 plus allowances admissible for one year.	1,020
Total expenditure per year per District ..	11,280

Our proposals are that for the first year the full amount should be given as grant while in the second year 75 per cent., third year 50 per cent. and 4th year 25 per cent. We think at the end of the 4th year all these centres should be self-supporting.

It is not possible to organise all the Districts during one year. We have, therefore, given the following programme for organising District Institutions spread over five years :—

First year	...	...	...	...	12
Second year	...	...	...	...	9
Third year	...	...	...	...	9
Forth year	...	...	...	...	7
Fifth year	...	...	...	...	6

To provide funds for the establishment expenses as grant, our calculations come to Rs. 10,50,000.

Divisional Centres.—For closer supervision and guidance, we think that additional staff at the Divisional Headquarters Centres should be provided. We propose a grant of Rs. 10,000 per Divisional Office in the first year to be reduced 25 per cent. each year as mentioned above be provided, The total amount on this account comes to Rs. 1,50,000.

We would also suggest a grant of Rs. 12,000 per year for two Apex bodies at the State Headquarters one for Gujarat and the other for residual Bombay State. All these bodies should be business centres and should be able to be self-sufficient through their business. But in the initial stages it may be found difficult for them to organise, hence we propose that this Apex state body should be given a grant of Rs. 12,000 each per year for the first 2 years and to be reduced 25 per cent. in the third year and subsequent years. The total provision on this account comes to Rs. 84,000. Total Administrative grants thus come to :—

1. District Bodies	..	...	...	10,50,000
2. Divisional Bodies	..	...	...	1,50,000
3. Apex State Bodies	...	...	...	84,000
Total				.. 12,84,000

Organised units other than co-operatives.—It will be seen from the Finances provided under different schemes above that no provision has been made for the finances required by the organised sectors. Factories coming under this sector are governed by the Industrial Development Act of the Government of India. Special provision for their finances have already been made through the Industrial Finance Corporation. There are few units coming under the purview of the Factory Act. We feel that it should be the responsibility of the State Government to make suitable arrangements to meet their financial demands through the State Finance Corporation or any other agency which can do this work more expeditiously.

Summary.

Scheme.	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
1. Flying	36,60,625	13,00,625	49,61,250
2. Tanning	19,50,000	51,50,000	71,00,000
3. Leather Goods manufacture	....	45,00,000	45,00,000
4. Share capital	....	11,00,000	11,00,000
5. Administration	12,84,000	....	12,84,000
6. Other special scheme	2,50,000	7,50,000	10,00,000
7. Trading Loan for the Divisional and Apex bodies.	....	10,00,000	10,00,000
8. Training	5,00,000	....	5,00,000
Total	76,44,625	1,38,00,625	2,14,45,250

The total financial recommendations as stated above come to about Rs. 2,15 crores out of this nearly 138 crores is as loan and grant comes to about Rs. 77 lakhs. Government wants us to give our suggestions as to when to find funds required for the purpose. It is rather a difficult job for us as none of us is a financier and knows all the Government financial matters. Majority of us are social workers who have taken this industry as a social problem while others are technicians and businessmen. We can, therefore, say what this industry wants from the technical and business side. Unfortunately due to special circumstances this industry has got a social side also as it is considered low and socially neglected. We attach more importance to this aspect than any other and have put our moderate financial demands to enhance the social prestige of the industry and put it on modern technical lines so that it may be a healthy business proposition to those who are following it for ages. We, therefore, expect the Government to find out the funds without putting the burden upon us for suggestions in the matter. In a general way, we however give our views in the matter.

So far as the loan portion is concerned, Government may not find it difficult to obtain it from the Reserve Bank of India. The Khadi and Village Industries Commission also will help the State in providing certain funds. We expect that the Khadi and Village Industries Commission may be able to give about Rs. 35,00,000 as grant and some Rs. 50,00,000 as loan during the third Five-Year Plan. The Small Scale Industries Institution may also be in a position to provide certain funds. Our Expectations are that they should provide some Rs. 10,00,000 as grant and about Rs. 25,00,000 as loan.

We have gone through the schemes for leather Industry prepared by the State Government and their total provision for the Third Five-Year Plan is to the tune of Rs. 90 lakhs. Taking all these factors into consideration we think that Government may not find it difficult to find funds that we have recommended for the plan.

We give below a summary of the allotment of funds for Maharashtra and Gujarath area separately.

(This is based on 17 Districts for Gujarat and 26 for Maharashtra).

MAHARASHTRA.

	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
Flaying	24,40,415	8,66,625	33,07,040
Tanning	12,14,000	31,20,000	43,34,000
Leather Goods Manufacture .. .. .	....	30,00,000	30,00,000

MAHARASHTRA—contd.

	Grant.	Loan.	Total.
	Rs.	Rs.	Rs.
Share capital .. ..	....	7,17,000	7,17,000
Administration	8,56,000	....	8,56,000
Special schemes	1,66,000	5,00,000	6,66,000
Trading capital .. ..	....	6,60,000	6,60,000
Training	3,30,000	....	3,30,000
Total ..	50,06,415	88,63,625	1,38,70,040

GUJARAT.

	Grant	Loan.	Total.
	Rs.	Rs.	Rs.
Flaying	12,20,210	4,34,000	16,54,210
Tanning	7,36,000	20,30,000	27,66,000
Leather Goods manufacture ..	....	15,00,000	15,00,000
Share capital .. ..	....	3,83,000	3,83,000
Administration	4,28,000	....	4,28,000
Special schemes	84,000	2,50,000	3,34,000
Trading capital .. ..	....	3,40,000	3,40,000
Training	1,70,000	....	1,70,000
Total ..	26,38,210	49,37,000	75,75,210

Total Grant and Loan for Maharashtra 1,38,70,040

Total Grant and Loan for Gujarat 75,75,210

Total .. 2,14,45,250

Concluding Recommendations.

It has been said by a competent authority that there is a limit to the development of Leather Industry. Because according to him the raw material of this industry viz. hide or skin is the bye-product either of the meat industry or a waste material from the dead bodies of the animals. It is not possible atleast in India to breed animals only for hides or skins. All planners should, therefore, bear in mind this limitation of this industry while making schemes and plans about its development. We have already given in the beginning the wide range of activities that come under the broad nomenclature of the Leather Industry. We have also dealt with the wide range of problems that are required to be studied and faced in organising this industry. These problems start with making available sufficient quantity of its basic raw material i.e. raw hide or skin of a good quality. This depends upon proper flaying, Curing, Storage and Transport.

The second range of problems start with making available the proper type of tanning materials, chemicals, proper types of tools, implements, machines, rationalisation and higher productivity to improve the quality. The finish products industry has its own set of problems either financial resources or its marketing.

So far as the Bombay State is concerned this industry remains practically undeveloped as compared to other States such as Madras, Andhra, U. P. and Punjab. The city of Bombay, however, a cosmopolitan one has brought in some Madrased tanners some fifty years back who have developed this industry in the city. Later they were joined by some tanners from Satara, Sholapur and Kolhapur who mainly concentrated on finishing the bark tanned leather and preparing some textile industry requirements such as picking bands, Roller skins and others.

The indigeneous tanners in some parts of Marathi speaking area especially Sholapur, Satara, Poona, Jalna, Udgir and others have kept up the traditional skill and produce a fairly good quality of leather without taking to new process and methods. The leather produced in other areas is quite crude and can only be used mainly for local needs such as Village footwear and agricultural requirements.

Our discussions with the interior tanners and our observations lead us to conclude that although there is not much scope for higher production to a great extent, there is much scope of improving the quality and opening a new industry of leather finishing. We have said

in the body of the report that if these are effected, perhaps, the employment potential can be doubled. With these remarks, we give below our recommendations which we hope government would find quite easy to adopt :—

(1) The work of proper disposal of dead bodies of animals should be entrusted to the Municipality, Gram Panchayats or other local bodies by suitable legislation as a part of local sanitation.

(2) (a) While giving such contracts it should be made obligatory on the contractor to supply to the local tanners hides and skins necessary for his own industry at a fair price fixed by the District Association.

(2) (b) The Gram Panchayat or other local bodies may do this work departmentally by appointing paid staff or giving yearly contracts for the full and scientific exploitation of the dead bodies of animals while giving such contracts preference should be given to co-operatives of artisans.

(3) Every District Collector be asked to mark out a special plot of ground in every village for flaying purposes according to the revenue manual.

(4) It should be the duty of the Police to see that the dead bodies are flayed only at the places marked out for the purpose and not anywhere else.

(5) The work of flaying should be entrusted to licence holder or qualified flayers. The flayers besides knowing the scientific method of flaying should know the curing of raw hides and also proper exploitation of different parts of the dead bodies of animals.

(6) With a view to improve the conditions in the slaughter houses we support the recommendations made by the Directorate of Marketing and Inspection, Ministry of Food and Agriculture, Government of India in the report of Marketing of Hides as given below :—

The Government of Bombay should appoint a "Central Slaughter-house Committee" consisting of an engineer with experience of slaughter house designing, representatives of public Health, Agricultural Marketing and Veterinary Departments and of Municipalities, and at least three members from the Hides and Skins Trade to represent different interest. The Committee should—

(a) prepare plans and estimates of building, equipment etc. for slaughter houses of various sizes and types, suitable for Indian conditions :

(b) prepare model rules for the operation and control of the slaughter houses in their day to day working, on the lines of the

Model rules for meat inspection and the inspection of slaughter houses and their regulations, prepared and circulated by the Indian Council of Agricultural Research in 1959 :

(c) suggest a suitable type of organisation which should be set up by Municipalities to attend the matters connected with the management of the slaughter houses.

(d) prepare rules for the examination of flayers, conditions of licence, renewal of licence, etc. for flayers operating at the slaughter houses and.

(e) prepare a set of instructions on flaying and curing of hides and skins for the benefit of flayers, curers and demonstrators engaged on peripatetic demonstration work. These might be printed in as many local languages as possible in the form of pamphlets and also suitably illustrated.

(i) The recommendations made by the above committee together with the plans, estimates, model rules, etc. should be printed in the form of a report for the guidance of Municipalities and State Government.

(ii) The Municipalities and other bodies responsible for maintaining the slaughter houses should remodel and re-equip them, set up the necessary organisation for their control and licence of the flayers after a proper test and introduce a system of paying the flayers on a daily wage system rather than on a piece-wage basis, which prevails at present.

(iii) Improved methods of flaying e.g. use of flaying machines, should be introduced at the larger slaughter houses, on an experimental basis, in the first instance. In such experimental schemes, proper data should be maintained during the experimental stage, regarding comparative costs and benefits accruing from the improved methods. The State Marketing Officers should after proper investigation and consultation with the butchers, hide merchants and slaughter house authorities, prepare scheme for submission to those concerned.

(iv) A certain sum should be set apart by the State Government to encourage amongst other things, better flaying by payment of premiums to good slaughter house flayers.

(v) The State Veterinary Department should encourage the Veterinary Assistant Surgeons to pay greater attention to the hide improvement work as a part of their normal duties. Many of them tour the villages and can render useful service to the producers and the hide trade, through propoganda and demonstration of improved methods of flaying and of taking care of the hide of the animal whilt it is still alive etc. The Indian Council of Agricultural Research should prepare a suitable set of model instructions for the guidance of state departmen:s.

ments. For the future entrants, the authorities controlling the Veterinary Colleges should include the subject of hide improvement in the curriculum.

(vi) The State Government should take steps to improve the quality of dead hides. This could be done by organising intensive propaganda and demonstrating the improved methods of flaying and curing in the rural areas. It will be necessary for this purpose to organise peripatetic demonstration parties, for every district in the country, which would move from village to village and indicate the approximate financial gain that would accrue by the improved methods of flaying and curing. It may be better to take up all the areas of concentrated production simultaneously. It is also very important that the continuity of these demonstrations be maintained till definite results are achieved and producers are educated to such an extent as would enable them to carry on the work without any pressure from outside.

(vii) As the price of common salt has practically doubled during the last few years due to increased cost of production and of transport charges, etc. the salt department should put on the market suitable quality of salt to replace the Bittern and Papri salts which have been found injurious to hides and skins, when used for curing. These should definitely be cheaper than edible salt. Arrangements should also be made for making such salts available at the important curing centres in large quantities.

(viii) On the pattern of the Government Fish Curing Yard existing in the Maritime States the State Industries Department should explore the possibility of establishing Government Hides and Skins Curing yards, where curing salt should be made available to all curers and particularly, small producers, and necessary steps taken for the proper curing of raw hides and skins.

(ix) In order to prevent "Loading" of hides, the various Trade Association should resolve against the purchase of Khari cured hides on weight basis and instead induce their members to buy such hides on a per piece score basis only. The State Government should explore the possibilities of organising co-operative societies with a view to improve flaying curing and also marketing of hides cured specially by the village chammars.

(x) All the leather chemists in the State and Central Leather Research Institute, Madras, should take in hand the study of curing properties of different types of Indian salts and Saline deposits and also the methods of curing adopted at present. They should standardize the latter and advice the trade on the use of the former. The Council Industrial Scientific Research may favourably consider the financing of such schemes.

(7) The Veterinary Department be requested to study the GoroChan found in the bile bag of some cattle as it is of a great economic value. If by suitable method the bile liquid can be conglutated into a thick mass this material can be collected from every dead body of an animal, this will give not less than Rs. 10 as additional income per animal.

(8) The puttās i.e. Sinews in the back bone be collected and preserved by drying inferior quality of guts should be prepared from them. These guts can be used as strings for several purposes.

(9) All the attached to the tails should be collected and brought into a central place for preparing brushes. Atleast one work shop for preparing brushes should be opened immediatly in the Marathi area and the other in the Gujrat area of the State.

(10) Bigger type of bone digesters should be attached to one big flaying centre in each District to utilise fully every piece of bone that might be going waste at present.

(11) The question of carrion eating should be studied from sanitary and scientific point of view and if it is found that there is no harm in eating unputrified carrion on hygienical ground, sentimental prejudice against the eating of carrion should be removed and those persons who are accustomed to take such carrion should be allowed to take it with dignity and self-respect.

(12) The slaughter house waste and un-edible flesh from the dead bodies of animals should be turned into meat meal and be used either as a Poultry feed or manure.

(13) All the tallow or fact coming out of the dead bodies of animals should be collected by the flaying centres from the individual flayers and sent to the District Leather Association to be used for soap making.

(14) A small glue manufacturing centre should be attached to the District Leather Association to exploit fully the hide trimings from the slaughter houses and flaying centres and fleshings from the tanning sheds.

(15) Horn works for the preparation of utility articles like combs and artistic articles should be encouraged atleast in one place in each the Division. Horn shavings from these work shops and small pieces of horns should be turned into horn meal to be used as manure.

(16) One Central Work shed for the production of neats-foot-oil from the hoofts should be opened in each of the Marathi and Gujarat areas of the State.

(17) The leather industry in general and tanning industry in particular should be taken out of the list of obnoxious trades and be given the status enjoyed by other industries. The Village and city tanners should get protection from the Government against

the harassment from Municipalities and other local bodies for shifting their original working sites to other places on the ground that the habitation is increased and the newly increased habitation does not want the proximity of the leather work sheds. Where it is found necessary to shift the working sheds to some other places in the interest of the tanners themselves, it should be made obligatory on the local bodies or authorities to give them proper sites near the habitation with chemically good water for their industry.

(18) There should be sufficient facilities atleast in each Commissioner's division to test chemically the water to be used for tanning.

(19) (a) We recommend that the Forest Department be requested to give the right to collect the tanning materials from the forest areas to the tanners co-operative societies on a fair royalty. The present system of giving such right to highest bidder should be discontinued as it goes against the interest of the village craftsmen.

(19) (b) Where tenders for collection of all kinds of tanning materials are given to contractors it should be binding on them to sell the material to local tanners in the area at scheduled rate fixed by Government.

(20) It has been observed that Corporations, Municipalities and other local authorities are not paying sufficient attention towards sanitation and cleanliness of the tanning localities. We recommend that Government should impress upon these bodies to pay necessary attention to the cleanliness of these areas, which will not only help the tanners' colony but will help in improving the general sanitation of the whole locality.

(21) Slaughters house improvement committee has recommended the specification and gradation of slaughtered hides and skins. These recommendation should be implemented immediately. It should be made obligatory on the part of District Marketing agencies to grade and stamp their stock either fallen or slaughtered before it is despatched either by road or rail. Government should draw out suitable specification for the country side raw stock on the lines suggested by the slaughter house improvement committee.

(22) With a view to organise the scattered village sector of the tanning industry we recommend that at each District or any other suitable place a model tannery should be established, which should serve as a training centre for acquiring newer knowledge by actual tanners. This tannery should also serve as supply depot for the raw materials required by the village tanners in the District and clearance house for the disposal of their product.

(23) The present mode of issuing import licences for import of raw hides and skins is lengthy and complicated. The actual small user who is ignorant finds it very difficult to follow all these complicated procedures. We, therefore, recommend that the State Government should approach Government of India with a request

to simplify the procedure of issuing import licences so that any consumer small or big may be able to get licences without any difficulty. We further feel that it will be most beneficial if the Government of India can be persuaded to bring it under O.G.L. as it was some time back.

(24) With a view to save the local sheep and goat tanning industry which was at one time well organised in some parts of the State. We recommend that some restrictions on the movement of raw materials of this industry be imposed so that the local tanners get their fair share without much competition.

(25) Special Officer should be appointed to study the present mode of tanning of hides and skins and suggest necessary improvements for better quality. He should get help and facilities for his work from all the Government laboratories and guidance and instructions from C. L. R. I. Madras.

(26) It has been observed that Chrome Tanned Sheep for lining has proved more useful so far as its water absorption capacity, tensile strength and cost of production are concerned. We therefore recommend that this type of tanning should be introduced by establishing a model centre in each division.

(27) With a view to supply the necessary raw materials including the tanning and finishing materials we recommend that a central marketing depot at a central and prominent place in each division be opened which should supply all these materials including chemical, Dyes, extracts, fat liquors, oil etc. These divisional depots besides supplying the raw materials will also serve as clearance houses for unsold stock of District organisations.

(28) Different types of marketing depots from the District to the state level should adopt a new method for selling their leather and other requirements to suit the economic condition of the prospective individual footwear manufacturer. In this connection we would like to recommend a system which is in vogue at present in Kolhapur with some modifications. We think that the footwear manufacturer should be supplied with ready cut components of the footwear of different sizes and designs such as soles, uppers, heel, welts, etc. with necessary grindery and fittings.

(29) India is a vast country inhabiting people with feet of different shapes of anatomical structure. The lasts required to supply western type of footwear to all these different types of feet are of particular standard and design. The shoe manufacturer therefore finds it difficult to prepare the exact type of shoe on these lasts to satisfy the customers. We, therefore, recommend that a scientific study of foot anatomy and physiology be conducted and arrangements be made to supply the lasts of the type required by a particular region. We also would like to bring out here that this should be closely followed when supplying foreign orders.

(30) With a view to improve the quality of western type of footwear by individual craftsman we think that some sort of improved implements and machines will have to be used. We, therefore, recommend that efforts should be made to popularize the following machines and implements in districts where higher production of this type of footwear is likely to be achieved.

(1) Upper leather stitching machine, (2) Hand splitting machine
(3) Handrolling machine, (4) Ranging and sciving machine
(5) Out sole stitching machine, (6) Finisher.

(31) National Small Industries Corporation be requested to give proper share of the foreign orders received by them for the supply of leather goods. We do not think it advisable to cater for these orders directly as it is more beneficial to have one agency for such orders.

(32) There are in all 25 departmental centres and schools both paripatetic and stionary imparting in training tanning and leather working. After organisation of the Dist. Leather Industrial Co-operative Association, these schools and centres should be transferred and attached to these District Associations. The newly opened schools in different community blocks have not been found of much utility. We, therefore, think that the Development Commissioner be requested to reconsider the policy in regard to such schools and try to discontinue them. The newly organised District Association will help them in training the necessary number of artisans that they may require.

(33) The Government Training Institute and the Government Leather Working school situated at Kherwadi-Khar-Bombay are well organised and fairly equipped institutions. We would expect such institutions to pay more attention to research than training. We, therefore, recommend that problems of local tanning and leather goods research should be tackled by these institutions and advance course of training should only be conducted and artisan course be closed. We would further recommend to provide additional facilities as regards equipment and personnel for research in consultation with C. L. R. I. and C. F. T. I. Madras..

(34) Our observations have shown that even in the biggest slaughter house in the state i.e. at Bandra where about 225 to 250 oxen 20 bufallaoes and 2,500 to 3,000 sheep and goat are slaughtered per day, the blood is not properly utilised. At present it is only cagulated by boiling and dried to be used as manure. We recommend that immediate steps should be taken to prepare commercial blood albumin from the serum which is recovered after the coagulation of blood. This process will give a commodity of commercial utility without losing the present Haemoglobin manure material.

(35) Government of India made available sizable amounts to the State Banks under the Central financing agency scheme to provide

working capital in the form of cash credit at 2½ per cent. interest for the Industrial Co-operatives and Small Industries. It is learnt that very small amount of this fund is being utilised at present. We recommend that Government of India be requested to allow the Central Financing Agencies to utilise this amount against pledge credits wherever necessary, of the rate of 2½ per cent. as this mode of helping the craftsman is also a way of providing working capital with greater safety.

Octroi Duty.—At present Octroi duty is being levied on the following commodities coming under this industry :—

- (i) Raw hides and skins.
- (ii) Vegetable Tanning materials.
- (iii) Tanned leathers.
- (iv) Leather goods.
- (v) Grindery and fittings.
- (vi) Leather footwear.

(36) The Leather material from raw hides to finished product in the form of footwear or any other article of utility for the use of final consumer passes through many intermediary craftsman, who live in different places. This octroi duty though seems to be very small in the final analysis may come to about 20 per cent. to the last consumer. We think that it is too much a burden upon the poor manufacturer and more still on the poor consumer for his necessary requirements. Footwear is a necessity and as such the duty on this commodity should be minimised to the least possible. We feel that if an octroi duty is levied in the final product it will satisfy the revenue needs of the local bodies. We, therefore, recommend Government that local bodies be advised to have minimum octroi duty only on finished leather articles and not any other which serve as raw material for further processing.

(37) It has been observed that very long time is required at times even six to twelve months to finalise the cases of financial assistance under the Central Financing Agency Scheme. The present procedure adopts dual control in the matter departmental and bank. We do not wish to go into the intricate question of such controls but we insist it should be made obligatory on the agencies concerned to dispose off such cases within 90 days from the date of the receipt of application.

(38) At present the Government Tanning Institute and Government Leather Working School are under the administrative control of the Technical Education Department. If the activities of these institutions are to be linked with the development of the industry in the whole State it is necessary that these institutions should

be under the administrative control of the Department which has been charged with responsibility of developing the industry in the State.

(39) We have recommended to establish responsible District Association for organising this industry. It is, therefore, necessary that all Government agencies including Central and State should seek guidance and advice from these institution whenever they want to launch any Leather Scheme in the District concerned.

(40) We recommend that Government should organise the Leather Industry on the basis given in the chapter on Organisation with financial implications given in another chapter.

Acknowledgements.

(i) The Committee wishes to record its thanks to all the Firms and individuals who responded to its questionnaire and also to different Societies and Institutions which were kind enough to arrange the visits of the members of the Committee and supply the required information. We would also like to record our appreciation for the help rendered by the Officers of the Department of Cottage Industries, Block Development Officers and other Departmental Officers in the field for collecting the information and arranging the tours of the Committee members in their jurisdiction.

(ii) We would like to make a special mention of the full and hearty co-operation given by the Bombay and Sourashtra Khadi and Village Industries Boards.

(iii) It would have been difficult for the Committee to complete the report within the stipulated time without the active and sympathetic help from the staff of the Leather Section of the Khadi and Village Industries Commission. We, therefore, record our appreciation for the interest they have taken in the Committee's work.

CHAIRMAN	...	(Signed) (G. R. VALUNJKAR).
Member	...	(Signed) (M. K. BHAGWAT).
Member	...	(Signed) (BHIKUBHAI DHARUV).
Member	...	(Signed) (P. D. JADHAV).
Member	...	(Signed) (SALEEM SIDDIQUE).
Member	...	(Signed) (T. D. KAMBLE).
Member	...	(Signed) (P. CHAUHAN).
Secretary	...	(Signed) (P. S. NADKARNI),

APPENDIX "A".

The Terms of Reference to the Survey Committee for the Leather and Tanning Industry, in Bombay State.

The Committee will survey the working of the leather industry* in various parts of the State specifically and report on :—

1. Present condition of the industry at various stages—flaying curing, tanning and manufacturing—reasons for the same and suggestions for improvement. The Committee will examine the methods of production at various stages and suggest improvements that are to be effected and how.

(2) With respect to production, the Committee will in particular enquire into—

(a) Assessment of the present demand for leather goods as proposed now and as envisaged in future ;

(b) Specific types of goods with an assured demand, the production of which will ensure economic returns ;

(c) Fresh avenues of demand (this may be with reference to the nature of the raw materials available to the artisans and the aptitudes of the artisans);

(d) Supply of raw materials to the industrial Co-operatives and artisans producing leather goods.

(3) Quality of the finished product—suggestions for improvement and controlling of quality, particularly with reference to execution of orders.

(4) Securing of orders.

(5) Proper execution of orders including supervision.

(6) *Marketing.*—(a) present position regarding marketings of finished products.

(b) Coordinating supply of raw material, collection of finished goods and marketing.

(c) local markets.

(d) Method of settling payments of industrial co-operatives and artisans.

(7) *Training.*—(a) the usefulness of the present training in market.

(b) the position of trainees after training.

(c) following up action that is necessary to ensure that trainees not only use the training they have received for their own benefit but also help the artisans in getting employment in the villages.

(8) *Economic position.*—(a) Present economic position of the societies and artisans together with reasons thereof.

(b) Suggestions for making industrial co-operatives and artisans self-sufficient without leaning on Government aid for far too long.

(c) Assessment of a trainee's prospects having relation to the cost of production and marketability of the kind and quality of goods he is likely to produce.

In order to achieve the above, nature of assistance that need be given and the period up to which this should be given with reasons.

Financing of industrial co-operatives and artisans through co-operative and industrial banks reasons for the present unwillingness of the institutions—suggestions for getting the institutions to undertake such financing.

(9) The committee will also report on the possibilities of developing the leather industry in the State with reference to the demand, the capacity of the artisans, the supply of raw materials and the places where such industries can be located.

In the assessment of the present position the Committee will assess how far production has been related to the demand for the types of goods produced whether the goods that have been produced so far have been fully sold, if not why. The Committee will also assess the benefits that have been accrued to the industrial co-operatives and artisans with reference to the aids received from the Government.

* A. *Pre-Tanning*—

1. Flaying.
2. Full economic exploitation of the dead bodies of animals.
3. Bone products.
4. Horn products.
5. Hoof products.
6. Gut making (muscle products).
7. Gluemaking.
8. Parchment leather articles.
9. Hair products.
10. Others.

B. *Tanning*—

11. Vegetable tanning.
12. Chrome & Other mineral tanning.
13. Combination tanning.
14. Oil tanning.
15. Fur Leather tanning.
16. Leather finishing.

C. *Leather Goods Manufacture*—

17. Different types of footwear.
18. Military & Police equipment.
19. Suitcases money purses, waist-belts and other requirements of the modern society (Fancy leather articles).
20. Agricultural leather goods.
21. Saddlery and other horse equipments.
22. Manufacture of Belting leather, Prickers, Buffers.
23. Roller skins and other industrial requirements (Industrial leather).
24. Sports goods-Tennis Rackets, Football, Volley Ball, Leather Gloves etc.
25. Taxidermy.

D. *Ancillary industries*—

26. Manufacture of implements and tools for different branches of industries.
27. Manufacture of Machinery.
28. Collection and procurement of vegetable tanning materials.
29. Chemicals.
30. Dyes and pigments and finishing materials.
31. Oil and fat liquor.

APPENDIX "B".

Survey of Leather Industries in Bom

Questionnaire A.

*Part A—General—*I. No. of persons engaged in the Industry—

- (a) Flaying (collection and marketing of raw hides and skins).
- (h) Collection and marketing of tanning materials etc.
- (c) Tanning.
- (d) Footwear
- (e) Miscellaneous leather goods ...
- (f) Glue and other by-products such as bones, horns, hooves etc.
- (g) Ancillary industries

II Cattle population in the District—

- (a) Cows
- b) Buffalows
- (c) Sheep
- (d) Goat
- (e) Others

Part B—Flaying etc.—

- I. No. of Goshalas, Panjarapoles, Gosadans and slaughter houses in the District.
- II. No. of deaths and slaughter figures in the above categories yearwise for the last three years.
- III. What is the present system of collecting dead bodies of animals and disposing off the same in your District.
- IV. Have the hereditary flayers who are doing the work for ages given it up due to new awakening? What system you propose to be adopted for the proper disposal of carcasses so that the quality of raw hides may be improved and other remains of the carcase are economically exploited in the production of work.

- V. Whether any difficulties experienced regarding water, power supply and transport facilities.
- VI. What are the facilities available for training of Artisans in your District—
 (a) Permanent School/centre.
 (b) Peripatatic School ...
- VII. What is the present system of getting adequate finance, adopted—
 (a) Individual Artisans ...
 (b) Organised Unit ...
- VIII. Is the present system satisfactory? If not give suggestions.
9. Is there any scope for the development of the Industry in your District? Give concrete suggestions.

Part C—Collection of Raw Materials etc.—

- I. Types of vegetable tanning materials available in the District.
- II. Quantities of various materials available, mode of collection, marketing and seasons for peak production.
- III. Are any Acts or Rules passed by Government/Local Bodies affecting this industry in regard to location of the industry. Taxes on raw material.
- IV. Are there any societies or registered bodies undertaking the contracts for the removal of barks, hirma, etc. in your district? If not, state whether there are possibilities to get this work done through these agencies.
- V. Are there any difficulties regarding transport of the tanning materials etc.
- VI. Are the Agencies doing the work at present getting adequate finance for the purpose.

VII. Is the present system satisfactory? If not give suggestions.

Part D—Tanning—

I. Names of Tanning Centres in the District—

- (a) With five or more individual Units.
- (b) With one or more organised Units.
- (c) List of centres doing the following types of work :—
 - (i) Sole Leather.
 - (ii) Lining Leathers.
 - (iii) Upper Leathers.
 - (iv) Fancy and Miscellaneous leathers. Give the total production year-wise for the last 3 years. Give in brief the processes followed by local tanners.
Are there any Carriers' shops (Leather finishing units) in your district? If so what types of leather they are producing?

II. Marketing of Finished Goods—

- (a) Local
- (b) In the District
- (c) Outside the District
- (d) Agencies doing this work.

III. Are any Acts or Rules passed by Government/Local Bodies affecting this Industry in regard to Levation of Industry. Taxes on raw materials?

IV. Are there any difficulties experienced regarding water, power supply and transport facilities?

V. What are the facilities available for training the artisans through various Organisations, in your District.

- (a) Permanent School/ Centres.
 - (b) Peripatetic School ...
- VI. What is the present system of getting adequate finance, adopted by—
- (a) Individual artisans ...
 - (b) Organised Unit ...
- VII. Is the present system satisfactory? If not, give suggestions.
- VIII. Is there any scope for the development of the industry in your District? Give concrete suggestions.

Part E—Footwear—

- I. Name of Footwear Centres in the District.—
- (a) With five or more individual Units.
 - (b) With one or more organised Units.
 - (c) Give list of Centres doing the following type of work?
 - (i) Indian style Footwear such as Chappals, Pathani Sandals, Jods, Mojari, Chadhar,
 - (ii) Western style footwear such as Boots, shoes, slippers.
- II. Marketing of Finished Goods—
- (a) Local ...
 - (b) In the District ...
 - (c) Outside the District ...
 - (d) Agencies doing this work.
- III. Are there any Acts or Rules passed by Government/Local Bodies affecting this industry in regard to location of industry, Taxes on raw materials?
- IV. Are there any difficulties experienced power supply, and transport facilities?

- V. What are the facilities available for training the artisans, through various organisations in your District? .
- (a) Permanent school/centres.
- (b) Peripatetic School ...
- VI. What is the present system of getting adequate finance, adopted by—
- (a) Individual artisans ...
- (b) Organised units ...
- VII. Is there present system satisfactory? If not give suggestions.
- VIII. Is there any scope for the development of the industry in your District? Give concrete suggestions.

Part F—Miscellaneous Leather Goods—

1. Name of Centre manufacturing miscellaneous leather goods in the District.
- (a) With one or more individual Units.
- (b) With one or more organised units.
- (c) Give list of Centres doing the following type of works.
- (i) Fancy leather articles such as Money purses, wallets, waist Belts, Watch straps Document cases etc.
- (ii) Travel goods such as suit cases, Trunks, Holdall Air Travel Bags, Saddlery and Harness.
- (iii) Industrial Leather goods such as Belting, Roller skins picking bands, pickers, buffers, washers, laces etc.

(iv) Sports Goods such as
Foot balls, volley ball
cover, Gloves paddes
etc.

(v) Parchments, Diphram
leathers and other
products used in
musical instruments.

II. Marketing of Finished Goods.

- (a) Local.
- (b) In the District ...
- (c) Outside the District ...
- (d) Agencies doing this work.

III. Are there any Acts or Rules
passed by Government/
Local Bodies affecting this
industry in regard to location
of industry Taxes on raw
materials.

IV. Are there any difficulties expe-
rienced regarding power
supply, and transport
facilities?

V. What is the present system of
getting adequate finance
adopted by.

- (a) Individual artisans ...
- (b) Organised Unīts ...

VI. Is the present system satisfac-
tory? If not give sugges-
tions.

VII. Is there any scope for the deve-
lopment of the industry in
your District? Give con-
crete suggestions.

**Part G—Bones Glue and other by-
products—**

I. Is there any bone crushing
unit in your District? If so
what is its present capa-
city? and what is the pro-
duction at present? Give
average for the last three
years.

- II. Are there any bone-digesters supplied under the K. & V. I. Schemes in your District (Give Numbers). How many of them are working? (Give production figures). If not working, give reasons.
- III. Are there any Horns and hoofs works in your District? What articles are prepared from these materials?
- IV. Are there any gut making artisans (from muscles). Give probable production figure.
- V. Are there any Glue making centres? What is the materials used? Give average annual production for the last 3 years.
- VI. Are there any units utilising hair for brushes, or manure or any other purpose.
- VII. How much 'GoroChan' is collected in your district and whether there is any possibility of greater collection if some encouragement is given? If so give suggestions.
- VIII. Are there any other units or individual artisans who are making use of different-parts of carcasses other than these enumerated above.
- IX. Are there any Dubgars preparing diapharm punchments and other articles required for musical instruments.
- X. Is there any possibility of improving the quality of the goods and quantity of the produce? If so, give the nature of encouragement necessary for the development of this industry.

- XI. Are there any Acts or Rules passed by Government/Local Bodies affecting this industry in regard to location of industry, taxes on raw materials?
- XII. Are there any difficulties experienced regarding water, power supply and transport facilities?
- XIII. What is the present system of getting adequate finance adopted by—
- (a) Individual artisans. ...
- (b) Organised Units ...
- XIV. Is there any scope for the development of the industry in your District? Give concrete suggestions.

Part H—Ancilliary Industries—

- I. Are there any blacksmiths manufacturing small tools and instruments such as knives, rampas, rampi etc., required for tanning and leather goods industry.
- II. Are there any blacksmiths who can sharpen or temper the leather working instruments in your district. If not how the leather workers manage to get this work done?
- III. Are there any units manufacturing hand tools and machines required for leather industry as a whole? If so, give details.
- IV. Are there any factories producing chemicals such as Acids, Soda, Chrome salt etc., in your district? If so give details.

- III. Type of work carried out (Flaying, collection and marketing of Hides skins, barks, etc. Tanning, Footware, Miscellaneous Leather Goods, Glue and other by-products, Marketing).
- IV. Name of the proprietor/ Manager/Secretary.

Part B—Form of Organisation—

- I. Form of Organisation
Whether—
- (a) Proprietary concern ...
 - (b) Registered Firm ...
 - (c) Limited Company ...
 - (d) Co-operative Society ...
- II. Give details about—
- (a) Registration No. ...
 - (b) Date of Registration ...
 - (c) No. of Members ...
 - (d) Give the No. of persons employed under the following categories—
 - (i) Supervisory Staff,
 - (ii) Workers (skilled ; Semi-skilled and unskilled.).
- III. Give the schedule of wages for the above categories.
- IV. What are the other facilities provided to the workers (Medical aid, Residential quarters, Leave with wages etc.).

Part C—Raw Materials—

- I. What are the types of raw materials required by the Unit ?
- II. Give approximate annual requirements of the raw materials.

- III. Are these raw materials available locally?
- IV. Are they required to be obtained from other areas?
- V. Are they required to be imported?

Item, Price, Quality.
(Give the figures in each case).

- VI. How do the prices and quality of locally available material compare with imported goods?
- VII. Are any rights or concessions necessary to obtain the raw materials?

What are your suggestions to improve the position in regard to supply of raw materials mainly with reference to—

- (a) Agency supplying the raw materials at present.
- (b) Whether pooling of demand on indent bases is possible.
- (c) If possible, how this can be carried out. For example by suitable agency at District/Regional level.
- (d) Whether finished goods of any other industrial process form your raw materials and whether arrangements could be made to procure the same?

Part D—Labour and Apprentice Scheme—

- I. What type of labour is required by the Unit.
 - (a) Skilled : Full time—Part time.
 - (b) Semi-skilled : Full-time Part-time.
 - (c) Unskilled : Full time—Part time.

- II. Are any difficulties experienced in getting necessary skilled and semi-skilled staff?
- III. Do the workers work in the factory sheds, or in their homes or in both?
- IV. Is the Factory Act provision in this behalf considered to be affecting the working of the concern?

Do you therefore, suggest any exemptions or relaxations in the application of the factories Act to the Unit.

- V. Give the actual number of workers engaged in production during the last year—
 - (a) Outside the Factory in the Homes of the workers.
 - (b) Capacity of the Unit to employ additional workers.
- VI. The estimated No. of dependents on the workers.
- VII. The actual average earnings of the workers.
- VIII. Are any arrangements made to train the unskilled workers? If so, has this results in the increased and improvement in production?
- IX. Do you suggest any scheme for training workers?
- X. If such a scheme is prepared would you participate by allowing outside workers to be trained at your Unit on agreed terms?
- XI. Whether you can accept intelligent artisans or educated persons for apprentice training at your unit

If so, how many you can accept every year? If not, please state difficulties.

Part E—Production Problems—

- I. Give the processes carried out in the unit.
- II. Varieties of the goods produced.
- III. Indicate Names and particular of machines and important hand-tools used and their approximate cost.
- IV. Nature and quality of motive Power/water supply used
- V. What is the installed capacity of the units with the existing assets ?
Is it working to capacity at present ? If not, why,
Quantity and Value.
- VI. Whether the machines are manufactured locally or are of indigenous manufacture or imported ?
- VII. Is there any difficulty in obtaining imported machinery and processing chemicals etc.
- VIII. Whether machine operators require special training ?
- IX. What arrangements have been made or could be made for this purpose—
(a) Through Government Institutions.
(b) By the manufacture of the machines.
- X. Indicate quantities and value of the spare parts required per year and sources of availability.
Is there any difficulty in this regard ?
- XI. How the machinery is procured ?
(a) Purchased from owned funds.
(b) Out of loan from Government, Banks or other sources.
(c) On higher purchase basis from National Small Industries Corporation or other Agency.

XII. Do you find any difficulty in getting—

- (a) Technical 'know-how' for the industry.
- (b) Adequate Electricity at proper rate.
- (c) Adequate water supply at proper rate.
- (d) Proper facilities for communication and transport.
- (e) Adequate accommodation for the unit.
- (f) Continuing the Industry at present site due to Zoning procedure of the Municipality, Corporations etc., under Town Planning Scheme.

XIII. Indicate the increase in productive employment giving figures of production employment and capital investment for the last three years.

Year.	Capital investment.		Production.		Employment.	
	Block Capital.	Working Unit. Capital.	Quantity.	Value.	Full.	Part.
1	2		3		4	
1956-57						
1957-58						
1958-59						

XIV. Would you consider necessary, any common facility centre for the type of Industry carried out by you? If so please indicate the various operations that can be carried out at such centre?

- XV. Do you refer your problems about production etc., to—
- (a) Director, Small Industries Service Institute.
 - (b) Director of Industries ...
 - (c) Director of Cottage Industries.
 - (d) Government Tanning Institute and Government Leather Working School, Bombay.
 - (e) Village Industries Boards,
- If so, with what results ?
- XVI. Has the Unit got trained and competent Manager/Supervisory Staff/Secretary ?
- If so, what are his qualifications and pay-scale ?
- XVII. Is the unit engaged in any other production activities that do not necessarily form a part of the Industry.

Part F—Marketing.—

- I. What is the present system for the sale of your product ?
- II. What are the important markets for such products ?
- III. What is the commission and other charges paid to the middlemen ?
- IV. Is it possible to encourage Chainstores, sale Depots, or Central Organisations at District and Divisional level on Co-operative basis ?
- V. Whether propaganda through Mobile Van would encourage sale of your products ?
- VI. Are Emboria/Sales Depots run by Government or other Institutions of use for sale of your products ?

- VII. Which are the important markets in India and in foreign countries that can be explored for pushing your particular products.
- VIII. Can you suggest any arrangements for stocking raw materials during the period of lower prices and/or stocking finished products during slack seasons ?
- IX. Are you registered with any Department for supply of finished goods—
- (a) Department of Industries.
- (b) National Small Industries Corporation.
- (c) Director General of Supplies and Disposals.
- (d) Railways
- Give registration No. and date.
- X. Do you get any price preference for purchase/sale of your produce—what are the suggestions in this regard ?
- XI. Have you laid down any specific standard for your products ?
- XII. What are the steps for enforcing quality and standard in the products ?
- Give your suggestions in this regard.
- XIII. Are there any difficulties in regard to the sales tax, octroi and terminal taxes levied on raw, semi-finished and finished products ?

What are your suggestions to overcome the same ?

- XIV. Indicate the distance between your centre and the terminal market for your product. State its effect on the market-ability and give suggestions, if any.

Part G—Finance—

- I. What is the financial structure and resources of the Unit—
 - (a) Share capital ...
 - (b) Deposits from members.
 - (c) Deposits from non-members.
 - (d) Government loans ...
 - (e) Loans from other sources.
 - (f) Grants and Donations from Government/other Institutions for—
 - (a) Capital expenditure (Non-recurring).
 - (b) Management ...
- II. What is the programme for expansion of the Unit ?
- III. What are the sources from which the unit borrows ?
- IV. Give the following information :
 - (a) Amount borrowed during the last three years mentioned above.
 - (b) Rate of interest ...
 - (c) Period of repayment ...
 - (d) Security offered ...
- V. Are the borrowings, especially for non-recurring purposes, fully utilised ? If not state difficulties ?

Part H—Miscellaneous—

- I. Is there a good demand for the product of your unit ? If not, give reasons—Due to—
 - (a) Higher price ...
 - (b) Inferior quality ...
 - (c) Get-up and finish ...

Summary of Leather Industry in Bombay State.

Information about training schools/centres organised by Government Departments/Statutory Boards.

1. Name of the School/Centre ...
2. Address
3. Industry ...
4. Staff-Designation-Name of the incumbent, the Pay & Pay scale. Date of appointment.

5. Value of raw materials purchased during 1956-57 1957-58 1958-59
6. Stipends paid to trainees ...
7. Wages paid to workers ...
8. Value and varieties of finished goods produced.
9. Sales during the period ...
10. Annual expenditure of the school/centre.
 - (a) Pay and allowances ...
 - (b) Stipend/wages ...
 - (c) Purchase of raw materials/chemicals.
 - (d) Miscellaneous contingencies.
 - (e) Competition ...

- II. Suggest ways and means for the development of your industry.

- III. Please supply production and working details of your Unit in the enclosed form.

Production and Working Details of Industrial Units.

1. Name of the Unit
2. Address
3. Industry pursued

	1956-57	1957-58	1958-59.
4. Value of raw materials chemicals etc.			
5. Wages paid during the period.			
6. Overhead expenses during the period.			
7. Value of finished goods (Category-wise).			
8. Sales during the period ...			
9. Capital investment as on 30th June 1959.			
(a) Land and Buildings ...			
(b) Pits etc. ...			
(c) Machinery ...			
(d) Vehicles, trucks etc ...			
(e) Tools and equipment ...			
(f) Furniture and Fixtures ...			
(g) Working Capital ...			
10. Remarks ...			

APPENDIX.

QUESTIONNAIRE C.

Survey of Leather Industry in Bombay State.

Name of the District/Taluka.

1. Area in Square Miles ...			
2. Number of Talukas, Patas, Mahals.			
3. No. of Towns ...			
4. No. of villages ...			
5. Population :			Nos.
(a) Rural ...			1.
(b) Urban ...			2.
Total :			
(c) Schedule Caste ...			
(d) Schedule Tribe ...			
(e) Backward Class ...			
(f) Mahars and Chammars...			
	No. of establishments.	Rated capacity per annum.	Employment.
	1	2	3

6. Large Scale Tanning and Leather Works.
7. Small Scale Tanning and Leather works.
8. Village & Cottage Tanning works.
9. Bone Crushing Mills. ..
10. Slaughter Houses. ...
11. Tanning centres aided Government. ...
12. Training Schools for Tanning other items of leather industry (Elementary).
(b) No. of persons trained ...
13. No of Hides and skins-weekly markets.

<i>Raw materials—</i>	Nos	Average span of life
14. Total Live-stock	...	
Cattle	...	
Buffalo	...	
Sheep	...	
Goat	...	
Others	...	
15. Names of the Vegetable Tanning materials available.		
16. Number of Industrial Co-operative Societies.		
17. Number of Industrial Co-operative Societies engaged in Leather Works.		
(a) Number of Members	...	
(b) Capital invested	...	
18. The Production quantity-value.		
(i)	
(ii)	
(iii)	
(iv)	
(v)	
(vi)	
(vii)	
19. (a) Probable production of hides.		
(b) Probable production of skins.		

APPENDIX " C

Statement showing the Tanners and Leather Workers Co-operative societies in Bombay State.

(A)

Particulars.	Tanners and Leather workers.	
	1951-52	1953-54
1. Number	189	205
2. Membership	4,933	5,396
3. Paid up share capital	2,80,742	2,93,254
4. Reserve and Other funds	91,754	1,32,945
5. Working capital	10,89,753	0,09,910

(B)

Particulars.	Tanners Societies.	
	1957-58	1958-59
1. Number	289	344
2. Membership	6,296	7,296
3. Paid up share capital	3,45,028	4,16,404
4. Reserve and Other funds	1,30,063	1,71,147
5. Working capital	12,25,652	18,85,057

(C)

Particulars.	Leather Workers Societies.	
	1957-58	1958-59
1. Number	1149	207
2. Membership	4,401	5,280
3. Paid up share capital	1,80,628	2,28,715
4. Reserve and Other funds	1,14,863	1,20,678
5 Working Capital	7,60,355	13,80,281

APPENDIX "D".

Information regarding execution of Government orders for Leather Goods through State Industrial Co-operative Association. The Association started these activities from the year 1952/53. Orders executed during the years from 1955/56 to 1958/59. are given below :—

Year.				Value of order.
				Rs.
1955/56	...	...	...	12,03,907
1956/57	...	...	...	2,80,931
1957/58	...	...	...	9,04,662
1958/59	...	...	...	6,38,020

The work started initially with about six societies and centres and new units were taken in the programme in subsequent years. Now the following Co-operative societies and Departmental centres and individuals are executing these orders, through the State Industrial Co-operative Association :—

1. The Modern Tanners Co-operative Society Ltd., Dharavi, Bombay.
2. Dadar Charmakar Co-operative society Ltd., Dadar, Bombay.
3. Sarvodaya Womens' Industrial Co-operative Society Ltd., Bombay.
4. Bombay Industrial Leather Workers Co-operative Society Ltd., Bombay.
5. Poona Leather Workers Co-operative Society Ltd., Poona.
6. Sarvodaya Leather Workers Co-operative Society Ltd., Poona.
7. Satara Gramodyog Charmakar Sahakari Society Ltd., Satara.
8. Charmakar Samaj Audyogik Sahakari Mandil Ltd., Kolhapur.
9. Cobblers Industrial Co-operative Society Ltd., Aurangabad.
10. Ajantha Leather Workers' Co-operative Society Ltd., Aurangabad.
11. Kupwad Charmakar Sahakari Mandal Ltd., Kupwad. S. Satara.
12. Matheran Charmakar Co-operative Society Ltd., Matheran, District Kolaba.
13. Talbid Charmakar Co-operative Society Ltd., Talbid, Karad, District North Satara.
14. Nagpur District Leather Industrial Co-operative Society Ltd., Nagpur.
15. Post Training Production Centre (Leather) Borada.
16. Sahayog Footwear Production Centre of S. I. C. A. Ltd., Bombay.
17. Individual :—Veer Bharat Leather Works Bombay.

There are about 400 workers engaged in this work at the above mentioned units.

APENDIX "E".

*List of Departmental schools, Training-cum-Production Centres—
(Department of Cottage Industries and Industrial Co-operatives).*

I. *Tanning—*

Government Tanning schools :—

1. Barsi, district Sholapur.
2. Roha, district Kolaba.
3. Alkuti, Ahmednagar.
4. Umreth, district Kaira.
5. Naranpur, district Bhuj.
6. Post Training Production Centres (Tanning) Chalisgaon, East Khandesh.
7. Government Training-cum-Production Centre (Tanning), Patan, Mehsana.
8. V. I. D. Centre (Tanning), district Aurangabad.

II. *Leather working—*

1. Government tanning schools, Navsari, district Surat.
2. Government tanning schools, Sundia, district Mehsana.
3. Government tanning schools, Jalna, district Aurangabad.
4. Government tanning schools, Wai, district North Satara.
5. Government Tanning School, Degloor, Nanded.
6. Rural Arts and Crafts Centre (Leather) Mudkhed, Nanded.
7. Government Training-cum-production Centre (Leather working), Mansa, district Mehsana.
8. Government Training-cum-production Centre (Leather working), Jamnagar.
9. Government Training-cum-production Centre (Leather working), Bhavnagar.
10. Government Training-cum-production Centre (Leather working) Kolhapur.
11. Government Training-cum-Production Centre (Leather working), Warlapur, district Amravati.
12. Government Leather working school, Buldana.
13. Government Leather working school, Nagpur.
14. Government Utility Leathergoods centre, Hingoli, district Prabhani
15. V. I. D. Centre (Leather working), Aurangabad.

III. Department of Technical Institutions, Bombay—

1. Government Tanning Institute, Bombay.
 2. Government Leather working school, Bombay.
-
1. Kora Gramodyog Kendra, (Flaying & Tanning), Shimpavali, Borivli, Bombay.
 2. Gosewa Charmalaya, Gopuri, Nalwadi (Tanning), Wardha.

APPENDIX "F."

Views and Comments of the All India Picker and Textile Leather Manufacturers' Association.

(A) The manufacture of Pickers in India commenced during the year 1914 after the outbreak of the first World War. At that time India relied solely on imports of pickers to meet the needs of Textile-Manufacturing Industry and with imports drastically curtailed during the war period, an opportunity was presented to start picker-manufacturing in India. This matter was taken up by responsible Indian business interests and progress although slow, at first, continued and after the conclusion of the Second World War, India found herself self-sufficient in this important item of Mill Stores. This coincided with our Government's decision to place an embargo on the importation of pickers from abroad thus effecting an important saving in our country's expenditure of foreign exchange. Production of pickers has now risen to a point where there remains a sizable surplus of pickers available for export. Likewise, the production of all types of textile leather goods has been undertaken and progress has more or less been on parallel lines with that of pickers in India.

(B) Heavy Buffalo hides have always been used for the production of the conventional types of pickers, because (1) it is a relatively cheap material and readily available (2) There is always a good market for the residual manufacturing waste helps to cheapen the cost of production of pickers (3) the material fulfills the requirements of the picker manufacture for a hard resilient material with a low friction factor and heat resistant which is easily fabricated into pickers possessing rugged strength and great durability.

(C) Buffalo hides free from putrefaction, sun-burn and in a good state of preservation are first fleshed and unhaired. The hides are then cut into hide profiles suitable for fabricating into pickers. The profiles are conditioned in water to facilitate easy manipulation and then folded into rough picker forms. These are pressed with suitable dies, and at each pressing operation, the pickers are progressively dried and pressed several times to diminishing dimensions of size and weight. Spindle holes and picking band slot are the subject of further manufacturing operations, after which the filling and seasoning treatment is given.

(D) India to-day produces each year approximately 45,000 Gross of pickers, including pickers for the Jute Manufacturing Industry, their total value being approximately Rs. 75,00,000. The bulk of this production is confined to units situated in the Bombay State and in particular Ahmedabad and district.

(E) The demand for pickers in India has reached saturation point but there is a large market for pickers in many overseas countries which could easily be captured provided the Government of India gives the indigenous Picker Industry proper support and assistance. Measures such as financial assistance, in the form of long term low interest bearing loans, better transport facilities, export incentives, and a liberalisation of import licences for raw-hides, materials, machinery spare parts and stores.

(F) This question has been adequately dealt with in item "E".

(G) The transportation by rail of rawhides which is a heavy perishable commodity is given too low a classification in the priority list of the Railway Service and the excess delay in obtaining transport facilities together with the inordinate delay of goods in transit is the cause of much deterioration in the quality of the hides. Often, as a result, purchasers are faced with financial loss before the picker manufacturing process is started. Likewise, the transportation of the finished product by Goods Train involves serious delay and inconvenience for the consumer. Goods are not always accepted for booking from small stations near, where some of the factories are located.

All these matters require immediate attention and rectification.

During the restrictions on imports elaborate formalities have to be observed and complied with when submitting applications for import licences. Small manufacturers find these formalities very irksome and burdensome and since the Government are fully aware of the need for imports of rawhides, machinery parts and stores, which cannot be put to any other use and required by the Picker Industry, whose responsibility it is to keep the Indian Textile Weaving Mills supplied with pickers, Government should dispense with the need to furnish Essentiality Certificate, Treasury Challan Receipts etc., and place the goods on Open General Licence.

Financial and technical aid facilities should be made available to the smaller units.

Import duty on materials, stores, spare parts for machinery intended for the use of the Picker Industry should be abolished.

More generous quota allowances for iron wire, steel and goods fabricated from such materials such as iron staple, rivets, nails and tacks should be given and it is imperative that these quotas should be honoured and not dishonoured by suppliers as at present.

No further manufacturing licences should be granted to new-comers, because the present capacity of the picker Industry is more than sufficient to meet the existing demand for pickers from the Mills.

This Association should have representation on the Export Promotion Council and representatives should be sent abroad to survey foreign markets for pickers and report on measures to be adopted to capture these markets.

In the interests of the Picker and the Textile Leather Manufacturing Industry, the Government should consult this Association and seek their advice regarding all matters appertaining to the manufacturing side of the Industry.

Labour troubles, including increased demands for pay from the workers, lack of discipline in civility, misconduct, dis-obedience, haphazard and defective workmanship, absenteeism and lack of enthusiasm for work have become an

intolerable burden on employers and supervisors alike. Combined with this is the difficult task of discharging workmen for any of the reasons mentioned above and the heavy penalties imposed on employees when for reasons of economy or temporary curtailment of production due to lack of demand for their goods, retrenchment of workers become necessary.

The Picker and Textile Manufacturing industry has always been influenced by (a) the seasonal production of rawhides, (b) the extreme humidity in the atmosphere during the monsoon season which makes production difficult and sometimes impossible and which accelerates putrefaction and prevents hides and pickers being dried properly. Therefore, it is manifestly unfair that the industry should be deprived of benefits confined on seasonal undertaking and this should be corrected at once if the Industry is to be allowed to survive and flourish.

APPENDIX "G".

List of Establishments and individual contacted for statistical information.

1. Messrs. Gehi Industries,
Bai Jaribai Wadia Baug, Byculla, Bombay 27.
2. Messrs. K. Shyam & Co.,
Daboo Street, Bombay.
3. Messrs. Rasulbhai Admaji & Co.,
Daboo Street, Bombay.
4. Messrs. Kanubhai Babcoji,
Daboo Street, Bombay 3.
5. Messrs. Ravaji,
Daboo Street Bombay-3.
6. Messrs. S. Mohamed Sidding Mohamed Atiq,
136, Nagdevi Street, Bombay-3.
7. Messrs. T. M. Topiwala & Co.,
Leather Goods & Metal Fitting Suppliers,
33, Abdul Rahman Street, Bombay 3.
8. Messrs. Raymond Chemicals Mfg. Co.,
Advani Chambers, 1st Floor, Sir P. M. Road, Bombay-1.
9. Messrs. Bhor Industries Ltd.,
Sir Vithaldas Chambers, 16, Apollo St.,
10. Messrs. Dharamsi Morarji Chemical-Co., Ltd.,
Prospect Chambers, 317,21, Dr. D. Navroji Road, Bombay-1.
11. Messrs. Wimco,
Ambarnath, Bombay.
12. Messrs. M. Chaturbhuj & Co.,
Dhaboo Street, Bombay.
13. Messrs. K. Shyam & Co.,
Daboo Street, Bombay 3.
14. Messrs. Eastern Leather Stores,
Daboo Street, Bombay.

16. Messrs. Bombay Leather Suplpy Co.,
Daboo Street, Bombay.
16. Messrs. Standard Leather Works,
Dhaboo Street, Bombay.
17. Messrs. Kesar Sugar Works Ltd.,
44/45, Apollo Street, Fort, Bombay.
18. Messrs. Ahura Chemical Products,
84, Sion Road, Bombay-22.
19. Messrs. Sion Chemicals,
Sion, Bombay-22.
20. Messrs. Home Industries & Co.,
Upper Moghul Lane, 4647, Bombay 6.
21. Messrs. Hindustan Chemicals,
Mahim, Bombay.
22. Messrs. Golden Chemicals,
Jogeshwari, Bombay.
23. Messrs Pioneer Chemicals,
Tulsipipe Road, Dadar, Bombay.
24. Messrs. Amritlal & Co. Ltd.,
Sitaladevi Temple Road, Mahim, Bombay.
25. Messrs. Agra Soap & Chemical Works,
New Anjirwadi, Mount Road,
Mazgaon, Bombay 20.
26. Messrs. Modern Chemical Works,
Behind Plaza Cinema, Dadar, Bombay.
27. Messrs. Industrial Chemicals (India),
Swastic Chamber, Carnac Road, Bombay.
28. Messrs. French Dyes & Chemicals Ltd.,
42, Station Road, Byculla, Bombay.
29. Messrs. Premier Chromate & Chemical Works,
402, Cadell Road, Prabhadevi, Bombay-28.
30. Messrs. Dharamsi Morarji Chemical Co. Ltd.,
Ambarnath, Thana District.
31. Messrs. Eastern Chemical Co. (India),
Rawli Hill Wadala, Bombay.
32. Messrs. Golden Chemical Ltd.,
Ghodbunder Road, Vile Parle, Bombay.
33. Messrs. D. R. Kavle,
Dharvi, Bombay.
34. Messrs. Joshi Jivandas Gangaram,
280, Narushinath Road, Bhat Bazar, Bombay.
35. Messrs. Lalji Hija & Co.,
58, Poona Street, Dana Bunder, Bombay-9.

36. Messrs. Bahekar & Co.,
31, Noble Chambers, Parsee Bazar Road, Bombay-1
37. Messrs. New India Hides & Skins Co.,
Dharvi, Bombay-27.
38. Messrs. Amalgamated Experts,
Dharvi, Bombay-27.
39. Messrs. Fezalbhai Hirjee & Co.,
Dharvi, Bombay-27.
40. Messrs. India Goatskin Corpn. Ltd.,
Bombay-17.
41. Messrs. Art Home,
Byculla, Bombay.
42. Messrs. Artistic Leather Goods Mfrs.,
Apollo Pier Road, Bombay-1.
43. Messrs. Decent Footwear,
Husani Bldg. Shop No. 1, 2nd Pear-Khan St. Bombay
44. Messrs. Eastern Leather Works,
1, Ram Nivas, Ketwadi, Bombay.
45. Messrs. Goldfiled Leather Works,
Bombay-17.
46. Messrs. Kamal Leather Works,
Mohamad Alig Bldg., Room No. 4, Bombay-2.
47. Messrs. Maharashtra Leather Works,
Dadar, Bombay 28 and Kolhapur.
48. Messrs. Manohar Leather Works,
Khetwadi, 10th Lane, Bombay-4.
49. Messrs. Premier Leather Crafts Ltd.,
Dharavi, Bombay H. P., Hamam Street, Bombay-1
50. Messrs. Ramchandra P. Jadhav,
Chunam Lane, Lamington Road, Bombay
51. Messrs. Swami Kasinath Khade,
Chunam Lane, Lamington Road, Bombay.
52. Messrs. Diana Traders (P) Ltd.,
Dhobi Talao, Bombay-2.
53. Messrs. Sarvodaya Women Industrial Co-operative Association
132, Vithalbhai Patel Road, Bombay.
54. Messrs. Shri Gaitonde,
C/o Messrs. K. Sham & Co., Dharavi, Bombay-17
55. Messrs. Leather Goods House,
26-28, Carnac Road, Bombay-3.
56. Messrs. National Leather Industries,
Office : 105, Vithaldas Chambers,
Apollo St., Bombay.
Factory : 255 Dharavi Road, Bombay

57. Messrs. Jairam Jadhavji & Sons,
74, Nagdevi Cross Lane, Bombay.
58. Messrs. Sion Tanneries & Leather Works,
Dharavi Road, Bombay-17.
59. Messrs. Triumph Industries Corpn.,
P. O. Box No. 6477, Bombay-16.
60. Messrs. K. M. Ismail & Co.,
Dharavi, Bombay-17.
61. Messrs. Kora Gramodyog Kendra, Shimpawali, Borivli,
62. Messrs. Ram Laxman Tanning & Co.,
Kattawadi, Dharavi, Bombay-17.
63. Messrs. K. Shyam & Co.,
11-13, Dabu St., Bombay-3.
64. Messrs. Shri Shankar Sayaji Kandare,
Dharavi, Bombay-17.
65. Messrs. Valkattawadi Tanneries,
Dharavi, Bombay-17.
66. Messrs. Industrial Leather Workers,
Koliwada, Dharavi, Bombay-17.
67. Messrs. Indian Glace Kid Industries,
Near Lajja Silk Mills, Mogradpara, Andheri, Bombay.
68. Messrs. International Textilaties,
Office : 14, Hamam St., Bombay-1.
69. Messrs. Saifee Saddlery & Harness Stores
110, Jamshed Piroz Mahal,
Ibrahim Rahimtulla Road, Bombay.
70. Messrs. P. L. Gupta & Co.,
130, Bhendi Bazar, Bombay.
71. Messrs. Moto Hood Depot,
480, Sandhurst Road, Bombay-4
72. Messrs. A. K. Sainddin & Co.,
122, Bhendi Bazaar, Mohamed Manzil,
Bombay-3.
73. Messrs. Y. M. M. Maji & Sons (P) Ltd.,
136-38, Ibrahim Rahimtulla Road,
Bombay-3
74. Messrs. Lalwani Bros.,
Handbag Factory, Taj Bldg. Henry Road, Bombay.
75. Messrs. The Premier Leather Krafts,
35-37, Hamam St., Fort,
Bombay-1 (38080).
76. Messrs. The Jayant Industrial Home,
99, Bhajipala St., Bombay-3 (30383).

77. Messrs. The Pioneer Leather Works,
Sitaram Building,
Crawford Market, Hornby Rd., Bombay-1.
78. Messrs. The Master Leather Works,
Kala Killa, Dharavi Road, Bombay-1.
79. Messrs. The Honesty Leather Works,
Mahavir Building, 11, Hoji St.,
Shri P. M. Road, Bombay-1.
80. Messrs. The Kamal Leather Works,
Mohamadali Building, R. No. 4,
Mohamadali Road, Bombay-3
81. Messrs. E. S. Patanwala Laboratories,
62, Cannought Road, Bombay-24.
82. Messrs. Venus Polishes,
Thermal House, Cawasji Patel Street,
Bombay-1.
83. Messrs. Anand Sole Polishes,
Shanti Niketan, 7-Bungalows,
Varsova Road, Andheri, Bombay-41.
84. Messrs. V. H. Vaidya, Manager : B. N. Kudadi,
Factory, Baramati, District Poona.
85. Messrs. Abdul Latif Karmkhan Bhavatkhar,
At Phaltan, District North Satara.
86. Messrs. Ambadas Bhimrao Kamble,
At Madha, District Sholapur.
87. Messrs. Abdul Bari Nazir Ahmed & Sons,
716, Baba Bayats Road, Contonment,
Ahmednagar.
88. Messrs. Jyantilal Chootalal,
Myraf Mer. at Ambagaon via Madha,
District Poona.
89. Messrs. Swastic Traders Near Talegaon,
General Hospital, Talegaon, Poona District
90. Messrs. Chintumen Dhendu,
Mandvawala, Hinteshi,
Post Bhor, Poona District.
91. Messrs. Janarden Khanduji & Vithal Bros.,
Amegaon, Poona District.
92. Messrs. Maharashtra Leather Works,
Kolhapur.
93. Messrs. Sarvodaya Leather Works Corp. Society.
Poona.
94. Messrs. Chintji Kasiram & Co.,
Tanner, Poona.

95. Messrs. G. A. Shinde,
Tanners, Satara.
96. Shri B. G. Tapase,
Tanners (Satara).
97. Messrs. Sholapur Tanneries,
Sholapur.
98. Messrs. Parasuram Tanneries,
Sholapur.
99. Messrs. Amba Tanneries Extract & Chemicals.
Factory, Amba, District Kolhapur.
100. Messrs. Ramehendse D. Kade & Shri Lazman D. Kavee,
Gunawari Naka, Baramati, Poona.
101. Messrs. Nagpur Boot House, Nagpur.
102. Messrs. Submen Haji Famail,
Ahmadabad, Outside Ahmedabad City,
Nadiad.
103. Messrs. Bharat Pickers Works,
Nari Road, Bhavnagar.
104. Messrs. Bhavnagar Picker Works,
Nari Road, Bhavnagar.
105. Messrs. Graduate Picker Works,
P. O. Box 91, Dariapur,
Dabagrwad, Ahmedabad.
106. Messrs. Ahmedabad Picker Works,
New Vadej, Near Railway Line,
Ahmedabad-13.
107. Messrs. Swastic & Mafg. Co. (P) Ltd.,
Amravadi, Ahmedabad.
108. Messrs. J. Manuswami & Sons,
Opp. Navvada St., Narada.
109. Messrs. Chandabhai Bros & Co.,
Dariapur, Dabgarvada
Ahmedabad.
110. Messrs. Swastik Industries,
Behind Lal Mills, Ratilal Road,
Ahmedabad-10.
111. Messrs. H. Mansoori & Sons,
Daryapur, Dabgarwada, Ahmedabad.
112. Messrs. Tacasaf Haji Rehemtulla Tannery,
Nari Road, Bhavnagar.
113. Messrs. Pickers Manufacturers, Ahmedabad.
114. Messrs. Aman Industries, Bacher Road,
Bulsar (W. Rly.).

115. Messrs. R. A. Babunnā,
Ebrahim R. Kolasawada, Outside Ahmedabad, Nadiad,
116. Messrs. Abdul Rahim Haji Esmile,
Outside Ahmedabad,
Nadiad.
117. Messrs. Jai Hind Washers & Leather Belting Works,
Broach.
118. Messrs. Jain Hin Leather Industries,
Kalayanpur, Kalol.
119. Messrs. Saifulla Tannery, Opp. City Station, Rajkot.
120. Messrs. Palanpur Tanneries, Palanpur.
121. Messrs. National Shoe Material Industries,
23 A, Udyog Nagar, Rajkot.
122. Messrs. Gramodyog Mandir, Pador, Rajkot.