



Report of the Bombay Economic and  
Industrial Survey Committee  
~~1938-1940~~

Notes on the Economy and Industries of the different  
Districts of the Bombay Province

THANA

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

Obtainable from the Superintendent, Government Printing and Stationery,  
Bombay, or through the High Commissioner for India, India House,  
Aldwych, London, W.C.2, or through any recognized Bookseller

Price—Annas 2 or 3d.

1941

## PREFATORY NOTE

Volume II of the Report contains notes on the economy and industries of the various districts of the Province and of the City of Bombay. These notes have been drafted by Dr. V. K. R. V. Rao and are based upon the reports collected by the Committee's investigators, the records of their interviews with the artisans and traders and such other information as was available to the Committee in the form of published documents and memoranda submitted by officials and non-officials; the notes were discussed by the Committee and they resolved that the same be published as Volume II of the Report.

It must be made clear that these notes are not intended to be recommendatory to Government, nor do the information and suggestions contained therein represent the views either of Dr. Rao or of the other members of the Committee. Such views as these notes contain are in most cases the views of the artisans and traders interviewed by the investigators and in some cases they also include the views of the investigators themselves. The Committee, therefore, do not hold themselves responsible for any of the views expressed in this Volume.

The Committee are aware that the data contained in these notes is not always adequate and in some cases it is possible that some inaccuracies of fact might have crept into these notes. After all, it must be remembered that the investigators on whose returns these notes are mainly based, can not have spent on an average more than 15 days in a district and their main function was to record views. They have faithfully done that and if there are any inaccuracies or erroneous beliefs or undue expectations about the industrial possibilities, they merely represent part of the accepted ideas of those who are engaged in industrial occupations in the districts. The Committee were anxious that data should be collected regarding the number of those engaged in different industries and with this end in view suggested to Government that a sample industrial census should be taken of the Province. But Government did not see their way to accept the scheme submitted by the Committee with the result that it has not been possible for the Committee to collect statistical data regarding the condition of small scale and cottage industries of the Province. With the limited staff and funds at their disposal, the Committee had to restrict themselves to ascertaining the

experience, views and difficulties of those who are engaged in small scale and cottage industries of the Province ; and as persons engaged in small scale and cottage industries are scattered, unorganised, and spread over the whole of the Province, the Committee had to appoint investigators for the purpose of interviewing a few persons in each district who are engaged in different cottage and small-scale industries. The industrial side of the notes, which follow, merely sums up the information collected by the investigators from the artisans and traders whom they interviewed. The Committee nevertheless have to recommend the publication of this material as Volume II of their Report in order that public interest may be roused in the economic and industrial conditions of the Province and these reports should be made the starting point for further and more elaborate investigation. They hope that Government will follow this up with a sample industrial census of the Province ; if this is done, these notes together with the results yielded by such a census will constitute a valuable store-house of information for those who are engaged in the task of planning the industrial future of the Province.

PURSHOTAMDAS THAKURDAS,

May 3, 1940.

Chairman.

## EXPLANATORY NOTE

These Notes on the Economy and Industries of the various districts in the Province and of the Bombay City, comprising Volume II of the Report of the Bombay Economic and Industrial Survey Committee, were submitted to Government by the Committee in May 1940. The Committee expressed the view that these Notes should be printed for general information in order that public interest might be roused in the economic and industrial conditions of the Province. The Notes as received by Government needed, however, revision and re-shaping before they could be published. Government, therefore, appointed with effect from 3rd January 1941 Mr. P. S. Nadkarni of the Finance Department, who had worked as the Assistant Secretary of the Committee, to carry out this work. Mr. Nadkarni worked under the general supervision of the Director of Industries and in the preliminary stages in consultation with the Chairman and the Secretary of the Committee. Beyond putting into shape, and editing the Notes for purposes of publication, no alterations have been made in the drafts as originally submitted to Government by the Committee.

March 1941.

P. B. ADVANI,  
Director of Industries.

# CONTENTS

	Paras.	Pages.
Position and Area .. .. .	1	1
Physical features .. .. .	2	1
Climate and rainfall .. .. .	3	1
Population .. .. .	4	1-2
Health and Medical Facilities .. .. .	5	3
Literacy and Educational Facilities .. .. .	6	3
Transport Facilities .. .. .	7	3-4
Survey of Resources : Agriculture and Live-stock .. .. .	8	4-6
Minerals .. .. .	9	6
Forests .. .. .	10	6-7
Power .. .. .	11	7-8
Capital .. .. .	12	8
Industries in the District—General .. .. .	13 & 14	8-10
Forest Industries .. .. .	15-17	10
Stock-raising .. .. .	18	10-11
Fishing .. .. .	19-23	11-12
Salt making .. .. .	24-25	13-14
Carpentry .. .. .	26-27	14-15
Cotton Weaving .. .. .	28-34	15-18
Potters, makers of earthenware and brick and tile makers .. .. .	35-40	18-19
Basket-making .. .. .	41-44	19-20
Lime-making .. .. .	45	20-21
Oil-seed crushing .. .. .	46	21
Tanning and leather footwear .. .. .	47-49	21-22
Other Industries—Machine-making .. .. .	50	22-23
Die-making .. .. .	51-54	23-24
Glass Bangle-making .. .. .	55-57	24-25
Possibilities of new industries .. .. .	58	25

## THANA.

### POSITION AND AREA.

The district of Thana, lies between 18° 53' and 20° 22' north latitude and 72° 39' and 73° 48' east longitude and covers an area of 3,422 square miles. It is bounded on the north by the Portuguese Territory or Daman and by Surat district; on the east by the Western Ghats; on the south by Kolaba district and on the west by the Arabian Sea.

### PHYSICAL FEATURES.

2. The district consists of a distinct strip of lowland intersected by hilly tracts, rising to elevations varying from 100 to 2,500 feet. Towards the east and north-east the country is elevated, covered with trees but scantily cultivated. Near the coast the land is low, and where free from inundation, fertile. Facilities for fishing also exist on a large scale and the villages are exceedingly populous. In the north-east, however, the hills are covered with forest, and the valleys but partially cultivated; here the villages are seldom more than scattered hamlets of huts; and the population consists mainly of uncivilised aboriginal tribes.

### CLIMATE AND RAINFALL.

3. For fully half the year the climate is exceedingly moist and the district is generally unhealthy. There are no great variations in temperature during the different seasons of the year, the air being cooled by sea winds during the hot months and in the south-west monsoon. The average rainfall is about 98 inches and is entirely derived from the south-west monsoon. Frequently continuous rain causes damage to the embankments of the fields and the seed-beds of rice, washing away transplanted crops, and otherwise doing much mischief.

### POPULATION.

4. According to the Census of 1931, the district has a population of 836,625 persons of whom 756,532 live in rural areas consisting of 1,547 villages, while the remaining 80,093 are resident in urban areas, consisting of five towns. The following are the important towns in the district:—

Towns.	Population.
Kalyan .. .. .	26,291
Thana .. .. .	21,816
Bhivandi .. .. .	15,619
Bassein .. .. .	12,689

It will be noticed that the proportion of urban population to the total population is only 9·5 per cent., which is considerably below not only the provincial average (23·3 per cent.) but even the All-India average (10·9 per cent.), thus demonstrating the essentially rural character of this district.

According to the Census returns for the same year, the total number of principal workers in the district is 345,284, of whom 235,123 are males. The occupational distribution of this number is given below :—

Exploitation of animals and vegetation	..	278,342
Exploitation of minerals	.. ..	3,372
Industry	.. ..	20,657
Transport	.. ..	6,315
Trade	.. ..	7,625
Public Force and Administration	.. ..	3,101
Professions and Liberal Arts	.. ..	2,707
Living on their income	.. ..	406
Domestic service	.. ..	7,300
Insufficiently described	.. ..	13,141
Unproductive	.. ..	2,318
		<hr/>
Total	..	345,284

The industrially occupied proportion of the total principal workers is only 6 per cent. But it should be pointed out that the 278,342 people shown as engaged in the exploitation of animals and vegetation are not all employed in agriculture. That figure can be further analysed into the following sub-divisions :—

Cultivation	.. ..	250,207
Forestry	.. ..	14,802
Stock raising	.. ..	6,946
Fishing, etc.	.. ..	6,387
		<hr/>
Total	..	278,342

Similarly the 3,372 persons shown under "exploitation of minerals" are all employed in salt making. It thus appears that forest industries, fishing, cattle breeding and salt making are important non-agricultural occupations of the district, and these though not falling within the Census definition of "Industry", nevertheless fall within the scope of this survey.

### HEALTH AND MEDICAL FACILITIES.

5. Some indication of the health conditions in the district is provided by its vital statistics. The mean ratio of births per thousand for the five years ending 1937 was 33·13 and that for deaths was 21·13. It will be observed that the birth rate is considerably lower than the corresponding provincial rate (40·11), but the survival rate for Thana is nearly the same as the provincial survival rate (12·86).

The district contains two hospitals and fifteen dispensaries. Of the two hospitals one is maintained by Government and is in the town of Thana, and the other is maintained by a mission at Dahanu. The District Local Board maintains 11 dispensaries, the remaining four being maintained by municipalities. There are about 191 doctors in the district of whom 27 are practising in Thana town. The proportion of doctors to the population in rural areas comes to one for every 6,000 persons.

### LITERACY AND EDUCATIONAL FACILITIES.

6. According to the Census of 1931, 65,960 persons are returned as literate; thus constituting a literacy percentage of 7·8 for the district. It is really a little surprising that in spite of superior economic conditions and vicinity to Bombay and its suburbs, this district should show such a low literacy percentage. But the explanation probably lies in the fact that the north-east part of the district is woody, isolated and largely inhabited by wild tribes.

The educational facilities in the district are summed up in the following statement for the year 1937-38 :—

Description.	Number of Institutions.	Number of pupils.
Primary Schools .. .. .	581	47,119
Secondary (including lower secondary) Schools ..	28	4,477
Commercial and Industrial Schools .. .. .	6	379

Of the 1,547 villages in the district, 1,073 villages have no schools.

### TRANSPORT FACILITIES.

7. The district is traversed in all directions by good roads, and the total mileage of roads maintained by Government and local authorities is 1,123 of which 875 miles consist of metalled and 248 miles of unmetalled roads. In the hot weather the "kaccha" cart tracks cut up badly and in the rains traffic almost ceases even on the main roads. Made roads cross the Sahyadris by the Shir Ghat and the Thal Ghat, while



the Nana Ghat track is also important. The B. B. & C. I. Railway runs along the coast while the G. I. P. line divides at Kalyan into two branches, the one running to Nasik by the Thal Ghat and the other to Poona by the Bhor Ghat.

#### SURVEY OF RESOURCES: AGRICULTURAL AND LIVESTOCK.

8. The district has a total area of 2,197,061 acres of which only 642,297 acres constitute the gross cropped area. Forests absorb 835,483 acres, while other uncultivable lands come to 292,147 acres. 382,636 acres constitute current fallows, while cultivable waste i.e., the area which is theoretically available for extension of cultivation covers 52,489 acres.

The following table gives details of the classification by crops of the cultivated area :—

	1937-38.
	Acres.
Rice .. .. .	336,562
Wheat .. .. .	105
Jowari .. .. .	762
Ragi .. .. .	44,470
Maize .. .. .	26
Gram .. .. .	1,510
Other food grains including pulses .. .. .	43,068
Sesame ( <i>Til</i> ) .. .. .	1,087
Groundnuts .. .. .	13
Cocoanut .. .. .	313
Castor seed .. .. .	268
Other oil-seeds .. .. .	4,622
Condiments and spices .. .. .	1,762
Sugarcane .. .. .	140
Fibres .. .. .	1,614
Drugs and narcotics .. .. .	600
Fodder crops .. .. .	198,508
Fruits and vegetables .. .. .	6,678
Miscellaneous non-food crops .. .. .	189
Total ..	642,297

Though fruits and vegetables account for an area of less than 7,000 acres, they form a very important part of the economy of the coastal talukas of Bassein, Palghar, Umbergaon and Dahanu. At Bassein more than 2,000 acres are under fruit crops. The most important

fruit crop is plantain, which is grown over 2,600 acres, the taluka of Bassein alone accounting for nearly 1,900 acres. More details under the head of "Fruits and Vegetables" were obtained from the Department of Agriculture for the year 1938-39; and in view of the importance of these money crops, these details are summarised below:—

Vegetables.					1938-39.
<i>Vegetables—</i>					Acres.
Potatoes	..	..	..	..	44
Sweet potatoes	..	..	..	..	270
Radish ( <i>mula</i> )	..	..	..	..	71
Onions	..	..	..	..	589
Others	..	..	..	..	85
					<hr/>
					1,059
<i>Green vegetables—</i>					
Tomato	..	..	..	..	30
Fenugreek ( <i>methi</i> )	..	..	..	..	19
Edible Hibiscus ( <i>bhendi</i> )	..	..	..	..	65
Musk Melon	..	..	..	..	58
Water Melon	..	..	..	..	221
Others	..	..	..	..	1,566
					<hr/>
					1,959
<i>Fruits—</i>					
Plantains	..	..	..	..	2,602
Mango	..	..	..	..	1,114
Guava	..	..	..	..	16
Kaju	..	..	..	..	55
Others	..	..	..	..	251
					<hr/>
					4,038
					<hr/>
Total, Fruits and Vegetables ..					7,056

There are in addition betel vines which are grown very extensively in the Bassein taluka.

Another noticeable feature in the agricultural economy of the district is the very large area under fodder crops ; in fact, fodder crops with their 198,508 acres come only next to rice with its 336,562 acres. This big area under fodder crops is accounted for by the flourishing trade in grass and hay which is centralised at Palghar. According to the Cattle Census taken in 1934-35 the details of live-stock in the district are as follows :—

Bulls and Bullocks (breeding, working and young stock) .. .. .	223,581
Cows (breeding, working and young stock) ..	193,828
Bull Buffaloes (breeding, working and young stock).	41,950
Cow Buffaloes (breeding, working and young stock).	50,544
Sheep and Goats .. .. .	69,215
Horses and Ponies .. .. .	2,148
Donkeys .. .. .	382

Of these, 158,056 are milch cattle consisting of 122,594 cows and 35,462 cow-buffaloes.

#### SURVEY OF RESOURCES—MINERALS.

9. Thana is not very rich in workable minerals. The laterite which caps many of the higher hills, such as Prabul and Mahuli, bears trace of iron, and where charcoal has been burnt, lumps of clay resembling iron slag may be found. The water in many springs also shows signs of iron. But iron ore is nowhere to be found in paying quantities. Another mineral of which there are traces is sulphur, found in the hot springs at Vajrabai, in Bhiwandi. Recently, the investigations of the Industries Department have lead to the discovery of bauxite deposits on the Tungar Hill. Bauxite is an important raw material for the aluminium industry and deposits found in the Tungar Hill are reported to be of good quality. Trap stone is found all over the district, except in its coastal portions. It is admirably suited and largely used for buildings. There is no clay suitable for making either good pottery or good bricks. The ordinary wheel tiles, flower pots and inferior bricks made in the district, are from rice-field clay.

#### SURVEY OF RESOURCES—FORESTS.

10. As has already been pointed out, Thana is a very important forest district. The area under forests is 835,483 acres or nearly 40 per cent. of the total area of the district. Most of the area consists of good medium size deciduous forest, in which teak and *ain* (*Terminalia tomentosa*) form the common species. There are also some other good species like the *khair* (*Acacia catechu*) and *Sisum* (*Delbergia latifolia*). Good bamboes are found in many places. The forests, on the whole, consist of valuable trees, and this fact combined with their accessibility

to two railways and the *bunders* make them very valuable revenue yielding forests of the Province. The following statement sets out the receipts from the products of these forests in the year 1937-38 :—

	North Thana.	East Thana.	West Thana.	(Receipts in rupees). Total.
	Rs.	Rs.	Rs.	Rs.
Timber .. ..	5,86,627	2,52,027	2,60,260	10,98,914
Firewood and charcoal ..	1,571	479	2,516	4,566
Bamboos .. ..	8,618	547	5,172	14,337
Grazing and fodder grass ..	14,322	5,654	111	20,087
Minor produce .. ..	923	4,059	3,847	8,829
Miscellaneous receipts ..	11,558	17,651	15,190	44,399
<b>Total ..</b>	<b>6,23,619</b>	<b>2,80,417</b>	<b>2,87,096</b>	<b>11,91,132</b>

It will be seen that North Thana contains most of the valuable forest areas in the district.

#### SURVEY OF RESOURCES—POWER.

11. There are four electric supply companies in the district but only one of them, viz., The Bassein Electric Supply Company, generates its own power. The rest obtain their power from the Tatas.

(in 000 units)

	Units generated.	Total Units sold.	Units sold for power.
Thana Electric Supply Co. .. ..	....	407	191
Kalyan Electric Supply Co. .. ..	....	301	190
Bhiwandi Electric Supply Co. .. ..	....	329	259
Bassein Electric Supply Co. .. ..	51	47	6

In addition to this, a part of the total electric power sold by the Bombay Suburban Electric Supply Company Limited, is consumed in the Thana district. It is not possible to estimate how much of the 1,566,000 units of power sold for industrial purposes by that company is consumed in the Thana district. But it cannot be a very large proportion.

#### SURVEY OF RESOURCES—CAPITAL.

12. There are a number of agricultural and non-agricultural co-operative credit societies in the district. During 1937-38 there were 128 agricultural societies having a total working capital of Rs. 4.92 lakhs and 50 non-agricultural societies with a working capital of Rs. 40.39 lakhs. As for post office savings banks, there were 36 such banks in the district with 13,429 accounts in 1937-38, the balance to their credit at the end of the year being Rs. 15.5 lakhs; during the same year cash certificates to the extent of Rs. 5.7 lakhs were sold in the district. These figures cannot, however, be taken as fully indicative of the capital resources of the district.

#### INDUSTRIES IN THE DISTRICT—GENERAL.

13. The principal workers engaged in industrial occupations proper has been estimated at 20,657 in the Census of 1931. In addition, there are 31,358 persons employed in forest industries, stock-raising, fishing and salt-making; these may also be considered from one point of view to come under the category of "industry". Of this total number of 52,015 principal workers, the following classes of workers are more or less suppliers of pure services and cannot be classified as makers of manufactured commodities :—

Sawyers	..	..	..	542
Butchers	..	..	..	1,517
Tailors, milliners, etc.	..	..	..	975
Washing and cleaning	..	..	..	728
Barbers, hairdressers	..	..	..	942
Scavenging	..	..	..	922
				5,626

The remaining 46,389 persons are distributed over different occupations in the following manner :—

1. Forest industries	..	..	..	14,802
2. Stock raising	..	..	..	6,946
3. Fishing	.	..	..	6,238
4. Salt making	..	..	..	3,372
5. Cotton ginning, spinning, weaving, etc.	..	..	..	1,596

6.	Rope making	..	..	..	141
7.	Wool	..	..	..	300
8.	Dyeing, bleaching, etc.	..	..	..	106
9.	Workers in leather	..	..	..	618
10.	Carpenters	..	..	..	1,655
11.	Basket making	..	..	..	1,290
12.	Blacksmiths	..	..	..	542
13.	Potters and makers of earthenware	..	..	..	1,311
14.	Brick and tile makers	..	..	..	596
15.	Manufacture and refining of vegetable oils	..	..	..	1,050
16.	Rice pounders, grain parchers, etc.	..	..	..	403
17.	Sweetmeat makers	..	..	..	270
18.	Boot and shoe makers	..	..	..	826
19.	Furniture and Cabinet makers	..	..	..	184
20.	Lime burners, cement workers, etc.	..	..	..	1,063
21.	Electric light and power	..	..	..	1,912
22.	Makers of jewellery and ornaments	..	..	..	516
23.	Other occupations	..	..	..	652
				Total	46,389

Of these 1,720 workers were employed in concerns coming under the Factories Act during the Census year 1931. The following statement gives details regarding the number of factories and the number of workers employed therein for 1931 and 1938 respectively:—

	Number of factories.		Number of workers.	
	1931.	1938.	1931.	1938.
Government and local fund ..	4	4	560	564
Textiles .. .. .	1	16	447	1,524
Engineering .. .. .	1	4	37	195
Food, drink and tobacco .. .. .	..	4	..	26
Chemicals, dyes, etc. .. .. .	1	3	333	1,533
Paper and Printing .. .. .	1	1	78	68
Processes regarding wood, stone and glass .. .. .	..	16	..	187
Processes regarding hides and skins .. .. .	..	..	..	..
Miscellaneous .. .. .	..	..	..	..
Seasonal factories .. .. .	2	2	265	186
Total ..	10	50	1,720	4,283

14. The following brief review of some of the existing industries of the district is based partly on the information collected by Messrs. N. M. Joshi, A. B. Trivedi and S. M. Muzumdar, investigators of the Committee, partly on the information collected by the Secretary himself in his tour of the northern part of the Thana district and also on the other data pertaining to the district available to the Committee.

#### FOREST INDUSTRIES.

15. We have seen that nearly 15,000 persons are reported to be employed in forest industries. Most of these persons are labourers who are employed on felling, cutting and carting timber from the woods either to the *bunders* or to the railway stations. Some of them are also employed in making charcoal, the charcoal being made in the forest areas, and subsequently transported to the consuming centres. In all these cases, the labour employed is mainly on daily wages, and contractors are the employers. There are no independent artisans or small employers in these industries.

16. It seems that there is good scope for the utilisation of different materials available in the forests. There are at present only two industries which utilise the forest products. One is basket-making and the other is carpentry. Notes on both these industries are given separately. It seems that there used to be a *Kath* or catechu industry here years ago, and in fact, the *Kaikaris* or the forest tribes, who are now engaged in wood-cutting and charcoal making, really derive their name from the making of *kath* (catechu). The possibility of revival of this industry needs further investigation.

17. Then again according to the Divisional Forest Officer, North Thana, a large number of species found in the forests belonging to the *Leguminosae* (*anjana*, *apta*, etc.), *Tiliaceae* (*dhaman*, *palas*, etc.), *Sterculiaceae* (*Udar*, *Kulu*, etc.), *Malvaceae* (*sawar*, *ambadi*, etc.), and *Urticaceae* ("ramie", *gol*, *karwat*, etc.) families yield good fibre that can be used for making suit-cases and boxes, cordage, matting, *champals*, etc. Further, the forests supply edible gum like those from *Sterculia Urens* (*Kulu*), *Anogeissus* (*dhauda* or *dhavda*), etc., which if skilfully utilised could be made into toffees, chewing gums and other sweetmeats. No systematic attempt seems to have been made to exploit the possibilities of establishing industries based on forest products. Still, the forest industries give seasonal employment to practically all the available labour in the district, and as such form a very important part of its economy.

#### STOCK-RAISING.

18. No special information was collected under this head; but one important milk producing company located in the district was visited. This Company holds 6,000 acres of land and has 250

she-buffaloes and 50 cows, the milk being sent to Bombay. The brisk season is stated to be November, December and January, when large supplies are available, while supplies are small in June and July. The main complaint of the Manager of the Company is regarding the unorganised and cut-throat competition of the *Bharyyas* who have no overhead charges and whose milk is alleged to be adulterated. As regards butter, a complaint is made of the competition of Australian butter as well as margarine. The Company sends about 72,000 pounds of milk per year to Bombay and obtains about Rs. 52,000. The price of milk is reported to be varying from Rs. 8 to Rs. 12 per Bengal maund (of 80 seers). According to the Manager, the Company is able to realise 3 per cent. net on its capital outlay of Rs. 2,00,000. As to the possibilities of ghee making, cheese making, etc., in the district, the Manager pointed out that Thana has not got a sufficiently large milk supply to leave any surplus for this purpose and he expressed his opinion that these milk products could not, therefore, be manufactured on any large scale from local supplies.

#### FISHING.

19. According to the Census figures, more than 6,000 persons are engaged in fishing. Investigations were made at three of the fishing centres: Arnala, Dahanu and Umbergaon. It is estimated that there are more than 500 fishermen at Arnala, about 200 at Dahanu and 200 at Umbergaon. Bassein is reported to have over 500 fishermen. It is well-known that fishing is a seasonal industry, and the fishermen do not do any fishing in the monsoon season, i.e., from June to the middle of September. The brisk season is from October to December; and from January to May is the slack season. The monsoon season is spent by the fishermen in repairing their nets and boats, oiling them, dyeing them and so on. Though the catch is considerably smaller in the slack season, i.e., January to May, than that of the previous 3 months, the price obtained per unit is higher by about 25 per cent. The fishermen of Umbergaon, however, have a brisk fishing season right from September to the end of May. This is because they go out from February to May on long trips towards the coast of Kathiawar and Cutch. They are able to make three trips, two long and one short every year during this season, and it is estimated that the value of catch per fisherman on these three trips taken together comes to Rs. 80. Their income during the remaining period of the year is about Rs. 115 per fisherman. It is thus estimated that on an average, the fishermen are able to earn about 200 rupees per head per year. The fishermen of Bassein, Dahanu and Arnala mainly catch pomfrets, while those of Umbergaon catch *bombils*.

20. The fishing method in use is what is known as "the stake or the 'dole' method". Stakes are planted in the sea at a distance of 10 to 15 miles from the shore and the nets are tied to them. The fish are driven by the incoming or outgoing tide into the tapering ends of the nets from where they are removed by the fishermen. There is no deep sea fishing. The nets are made of mill yarn in Bassein, Arnala and Dahanu and of san hemp in Umbergaon.



21. The production is organised on what may be described as semi-co-operative lines. Each fishing boat carries about 9 to 10 persons and the catch is equally divided between the owner of the boat and the other fishermen, excepting that an extra share is given to the owner in payment of hire for his boat. In some cases, the nets are the private property of individual fishermen, while the stakes are common property; and when a fisherman leaves one boat and joins another, he is given his share of the cost of the stakes, and that amount is recovered from the new recruit. In some cases, even the nets are commonly owned.

22. The marketing organisation is largely in the hands of middlemen. In some places, these middlemen are Muhammadans and in others they come from the fishing community. Before the beginning of the fishing season, the middlemen meet the *Tandels* or the captains of the different fishing boats and fix with them the price, and that agreement is binding on the whole of the fishing community in the particular area for the rest of the season. A certain amount of money is generally advanced by these middlemen and subsequent to that, there is a running account maintained between the fishermen and the middlemen which is closed at the end of the year. For purchase and repair of equipment, the fishermen have to resort to the *sowcar* in a number of cases. In Umbergaon, however, there is a flourishing co-operative society which is resorted to by the local fishing community. It was stated that an experiment had been started in Satpati of a kind of a communal financing of fishing operations; it seems that from every boat, one extra share was kept as reserve, and funds thus accumulated were lent out at interest to the members of the fishing community, the profits accruing to the members.

23. Generally speaking, the fishing community is in a fairly good condition as compared to other workers in cottage industries. They are a little dissatisfied with the marketing arrangements and would like the middlemen to be eliminated. There were also one or two complaints from the fishermen of Umbergaon. These fishermen would like concessional salt to be given to individual fishermen on a deposit of Rs. 25 instead of the present system which requires a deposit of Rs. 1,000 as they allege that it has led to the domination of the trade by one merchant who is able to advance this amount. They also complained of the heavy port charges to which their boats were subjected every time they touched any one of the Kathiawar ports, even though no similar charges were levied on Kathiawar boats when they touched British Indian ports. The fishing community is a well organised unit, in some cases possessing communal reserve funds and their fairly good condition may be largely traced to the fact that they have a steady and an assured market and do not have to face any competition worth the name from better equipped units of the fishing industry. In fact, theirs appears to be the only cottage industry which has escaped the competition of large scale methods of production. If, however, something could be done to increase their catch by either improving the quality of their nets or teaching them better methods or by improving the seaworthiness of their boats, without their incurring a large extra expenditure on that account, it would result in the betterment of the economic conditions of this community.

## SALT MAKING.

24. Salt making is a very important industry of the district, giving employment, according to the Census returns, to about 3,400 persons. It is interesting to note that the District Gazetteer compiled in 1882 estimates the number of people employed in making and trading in salt to be nearly 20,000.

25. The salt is made by the solar evaporation of sea water. The works are situated on creeks from which they are fed by a brine channel. The site is generally between the level of high water spring tides. The site is first surrounded by a strong embankment and the enclosed space divided into three divisions. The outer reservoir (*Khajina*), the inner reservoir (*Tapvani*) and the pan area (*Kondyas*). Great care is taken to make the bed of pans water-tight. Pans are formed by small clay partitions. Their normal size is 36' × 15'. But the pans in some places are 50' to 60' by 15' to 20' and even as big as 75' by 20'. The levels are so arranged that water flows by gravitation from the first reservoir to the second and from there into the pans. No lifting is required by this system which helps to keep down the cost of production. Sea water is admitted to the outer reservoir through a sluice at high tides and is then passed into the inner reservoir where it is allowed to concentrate by evaporation until it is saturated. Pans are irrigated with this brine from 1" to 1½" deep. This is allowed to evaporate and ¼ inch salt crust is formed. Salt is then raked to the edges of the pans and is allowed to drain. Fresh brine is admitted to the pans and the process is repeated. Government does not exercise control over the process of manufacture and the licensees are free to manufacture any grade of salt they like. Ordinarily Bombay salt contains a little impurity, but it is reported to be superior to Madras salt. The *kupa* or flake salt, a small quantity of which is manufactured in this Province for consumption in the City of Bombay, is made in small pans 6 feet by 3 feet by dividing up large pans by grass ropes to minimise the wind action. Pure white flake salt is thus formed which is scraped every fourth day. The salt works vary greatly in size, small works being about 5 to 6 acres and the largest about 500 acres in area. The working season lasts for about 8 months. It has not been possible to visit these salt works as during the monsoon they are flooded. A memorandum, however, was received from the Bombay Salt Merchants and Shiloh Association giving a lot of useful information on the industry. The Thana salt has an All-India market and is sent to the Central Provinces, Calcutta and East Coast, Madras and of course to the other parts of the Bombay Presidency. A complaint, however, is made that during the course of the last five years, exports to the Central Provinces, Calcutta and Travancore have fallen steadily with the result that the local salt-pan owners are in great difficulties. To meet these difficulties, they suggest the revival of the credit bond system under which salt manufacturers used to get 6 months' credit for payment of Government dues in respect of duty ;

secondly, concessions in railway freights, particularly the application of the "telescopic principle" over distances which are under the control of more than one railway; thirdly the abolition of the ground rent charged by Government of 3 pies per maund of salt; fourthly, facilities for bonded warehouses as in Calcutta; and fifthly, some safeguard against the likely competition from Goa salt due to the abolition of additional import duty on foreign salt. It may be added that salt making gives employment to a large number of persons for nearly 8 months in the year; and the preservation of this industry is important from the point of view of maintaining employment at the present level in the district.

#### CARPENTRY.

26. As is to be expected from a forest district with a large population engaged in carting, carpenters form an important part of the industrial population of the district. In addition to transport of timber, a great number of bamboos have to be transported partly to meet the demands of the betel vine plantations and partly to satisfy the demand of the basket-making trade. In addition, the grass trade of Palghar also gives occupation to a number of carts. The carpenters of the district, therefore, to a large extent, are employed in making carts and cart-wheels. Some of the carpenters at Bhiwandi, Umbergaon, Khattarwadi, and Dahanu Road were interviewed. The main articles manufactured were carts, cart-wheels, tongas, cots, and in one case building materials. The general complaint was that there had been a great fall both in prices and in output during the last 15 years and this was traced mainly to the competition of lorries. One manufacturer stated that 15 years ago there were, in Bhiwandi, 35 *karkhandars* producing 1,000 carts a year while today there are only 7 *karkhandars* who prepare about 350 carts. Similar estimates of production are not available for the other centres. The market for the carts and wheels extends over the whole of the district, and in the case of Bhiwandi goes beyond to Nasik, Poona, Satara, etc., and in the case of Khattarwadi, it goes up to Surat. The demand is seasonal, the brisk season being—as in the case of all industries we have surveyed so far—from November to March.

27. There are not many large employers in this trade. It is mostly dominated by independent artisans and small employers usually engaging one or two persons to assist them. Of course, they have also to engage the services of blacksmiths in making the axels, wheel tyres, etc. Finance for purchasing raw materials has to be borrowed in many cases and interest is reported to be charged in some cases at 18 per cent. Statistics of output, costs and earnings were given only by four carpenters

and are embodied in the following statement :—

Place.	Articles manufactured.	Volume of output.	Cost.	Receipts.	Earnings per year.
1. Umbergaon ..	Wheels ..	30	480	900	420*
2. Khattarwadi ..	Tongas ..	6	1,176	1,506	330†
3. Do. ..	Riding-carts ..	12	570	720 to 900	150 to 330
4. Do. ..	Cots ..	84	420	672	252

\* There are two brothers. They also do masonry work in addition. Some income is also obtained from repair work.

† He earns an additional Rs. 23 a year by repairing agricultural implements.

It can be roughly estimated, therefore, that this trade on an average provides an income of Rs. 20 per month to the carpenter. Hence it is not in such a very bad condition in this district. At the same time it should be remembered that the peculiar conditions of the district have ensured the demand for carts, and therefore the demand for the services of the carpenters. However, the carpenters all complain of a very great fall in prices and output, and they demanded that some restrictions should be imposed on transport by lorries, particularly into the rural areas. It should also be mentioned that one of the carpenters interviewed, who used to make building materials now complains that most of the doors, windows, etc., are obtained ready-made from factories in Bombay, and this deprived him of his business. One of the big manufacturers interviewed at Thana who has an oil mill, flour mill, rice mill, etc., has also a saw mill, with which he has combined the making of furniture. He stated that he has got a steady demand for his furniture, and he is able to market them at good prices. It is, therefore, possible—if appropriate training be given to these carpenters—that some of them may be diverted to the making of modern furniture which would ensure the continuity of their employment.

#### COTTON WEAVING.

28. The cotton weaving industry of the district is more or less concentrated at Bhiwandi. It seems that many years ago there was a silk weaving industry in the Thana district. But it had already practically disappeared in 1882, when the Thana District Gazetteer was written as at that time there were reported to be only 6 families working in that occupation. The Gazetteer states that these weavers prepared silk cloth with check pattern and, silk cloth of symmetric saracenic design in a variety of colours. They could not, however, stand the

competition of cheaper Chinese and French silk. It is also reported that there was a cotton weaving industry in Thana town, preparing check cotton cloth known as Thana cloth. Today the cotton weaving industry is almost completely located at Bhiwandi which is estimated to contain a weaving population of nearly 1,200 to 1,500 persons. Bhiwandi is remarkable in that it was originally a hand-loom weaving centre and during recent years it has witnessed a considerable supersession of the handloom by the powerloom, so much so that today the estimate is that there are 600 powerlooms and not more than 300 handlooms in this centre, as against nearly 3,000 handlooms in 1928.

29. The investigators interviewed 5 persons engaged in handloom weaving, 3 who use powerlooms and 3 who have both handlooms and powerlooms. Of the five handloom weavers who were interviewed four were independent artisans and one was an employer who had under him 15 weavers. The yarn used by the handloom weavers is of counts 40, 80, 2/80, 2/40 and 2/64 including mercerised yarn, and artificial silk which is mainly used for borders. The yarn is almost wholly Japanese in origin. All the persons interviewed were using fly shuttles. The following statement sums up the information the investigators were able to collect regarding the value of output per month :—

	Rs.
Value of yarn consumed per loom .. ..	34
Value of output per loom .. ..	47
Value of yarn consumed per weaver .. ..	27
Value of output per weaver .. ..	40

The value of handloom production in Bhiwandi is reported to be somewhere between Rs. 2 lakhs and Rs. 2½ lakhs per year. The handloom weavers used to make good *sarees* and *khans* but a number of them have now given up the making of *sarees*. The manufactured product is sold to local merchants for cash, as these producers cannot afford to sell on credit.

30. Their main complaint is about the competition of powerlooms. It appears that powerloom competition began to be felt about 15 years ago from Sangli and Ichalkaranji ; from 1930 it has started in Bhiwandi itself where powerlooms have grown very rapidly in number. According to the data supplied by one of the *karkhandars*, it seems that, 4 *sarees* can be produced on a powerloom per day giving employment to 2 weavers, and on a handloom a weaver can produce only one *saree* in 2 days. The handloom weavers, therefore, feel that it is impossible for them to meet the competition of the powerloom unless something radical is done for them, and it is suggested that powerlooms should not be allowed to produce Deccani *sarees* and *khans*, or in the alternative a subsidy should be given to handlooms, of 6 annas per *saree*, which should be met by taxing the output of powerlooms. It appears that all the persons interviewed were following weaving as their hereditary occupation and that most of them were independent artisans.

31. As for powerlooms the three persons interviewed were all employers one of whom was employing 25 persons, another 150 and a third 450. It is estimated that there are about 600 powerlooms in Bhiwandi giving employment to more than 1,200 persons. The following detailed estimate was offered by one of the persons interviewed, who stated that there are two *karkhanas* having more than 50 powerlooms, two having between 20 and 50, ten having between 10 and 20, and 20 having less than 10. Another person estimated that there were 1,200 persons working on powerlooms out of whom 15 were *karkhandars*. The yarn used is mostly Japanese, the counts being 40, 60, 2/60 and 2/120; while artificial silk is mainly used for borders. It was stated that Indian yarn was more costly. The looms were mostly English, either bought new in England through their agents in Bombay, or bought secondhand from Bombay and Ahmedabad. The market was provincial. The statistics that were obtained were not complete. Only one employer gave adequate data from which it is estimated that the value of output per loom comes to Rs. 200 to Rs. 266 per month while that of yarn purchased per loom comes to Rs. 134 to Rs. 147 per month and Rs. 67 to Rs. 73 per worker per month. Some complaint was made about the competition of the Sangli industry but, generally speaking these persons were in a prosperous condition; and according to their own admission, their profits ranged from 6 to 9 per cent. of their invested capital.

32. Three persons who had both handlooms and powerlooms were also interviewed by the investigators. Of these, 2 followed it as their hereditary occupation. The following statement gives the statistics of the looms owned by them and the number of workers employed:—

Employer.	Number of persons employed.	Number of manual workers.	Number of powerlooms.	Number of handlooms.
A ..	63	54	Details not available.	
B ..	73	70	19	50
C ..	55	53	42	19

The yarn used by them was of counts 40, 52, 60, 80 and 100, which was mainly Japanese.

33. Details of the value of production were not available from the persons interviewed by the investigators, but it appeared that in the case of the person who had 42 powerlooms and 19 handlooms the value of output per loom was Rs. 131 and per worker Rs. 151; whereas in the case of the person who owned 19 powerlooms and 50 handlooms the corresponding figures were returned at Rs. 109 and 107 respectively. Their markets are provincial. One of the persons interviewed

stated that his goods are sold in Bombay, Poona, Belgaum, Kolhapur, Madras, Bangalore, Nasik, Akola, Nagpur, etc. Some of them have canvassers, while others have not. Sales are mostly on credit. Workers are employed on piece-wages which are reported to vary from 7 to 12 annas per *saree*.

34. There are also some powerloom weavers who have taken to making artificial silk products. They complained of Japanese competition. There is no doubt that powerloom weaving has come to stay in Bhiwandi, in fact, it was reported that 100 more powerlooms were in course of erection at the time of the investigators' visit. It also appears that in a very short period of time the handloom weaving industry will practically disappear from this place.

#### POTTERS, MAKERS OF EARTHENWARE AND BRICK AND TILE MAKERS.

35. According to the Census returns, about 1,900 persons are engaged in the occupations mentioned above, nearly 600 of them specialising in making bricks and tiles. Some of the potters at Umbergaon were interviewed and the following note is based on the material collected at that place.

36. It is estimated that there are 10 to 12 houses of potters in Umbergaon with a total population of 40 to 50 persons. The working population is estimated at 25 to 30, of whom 15 are males. The articles manufactured are country tiles, bricks, cooking pots and flower pots. It was stated that the industry is in a declining condition and output has fallen a great deal in recent years.

37. Earthen pots are made indoors and generally during the monsoon. Country tiles and bricks are made during the rest of the year. The season begins in November and ends by the middle of May. To prepare 15,000 country roof tiles, the potter requires 30 cart-loads of saline earth from the creek. Five persons including the potter can prepare 1,000 unbaked tiles in a day. 15,000 unbaked tiles are prepared in 15 days. Another 15 days are required to prepare the kiln for firing and the filling of the *bhatti*; another 15 days are required for the baking of the tiles. At the end of the forty-fifth day 15,000 tiles are made available. The working season lasts for five to six months, the maximum capacity being 60,000 tiles per *bhatti*. The tiles are sold at Rs. 1-10-0 per 1,000 to the *sowcars*.

38. As for bricks, 10 cart-loads of earth at the rate of 5 cart-loads per rupee were required for making 1,000 bricks and the husk required for mixing was valued at 4 annas. One potter and three labourers can mix and prepare 1,000 unbaked bricks in a day and a *bhatti* can hold 10,000 to 12,000 bricks. The *bhatti* takes 15 days to fill and the baking takes another 15 days.

39. As for earthen pots, one cart-load of clay bought for 8 annas could be used for making vessels worth Rs. 3. The fuel required for the purpose if bought, would cost from Rs. 2 to Rs. 2-8-0, but actually it is not bought, twigs and waste materials being collected by the

potters, and the actual amount for all expense on fuel coming only to Re. 1. It takes them 15 days' working at the rate of 3 to 4 hours a day, to prepare vessels from one cart load of earth, and they use 5 cart-loads a year. These potters have been very hard-hit by the competition of Mangalore tiles, which have now captured popular taste. To make matters worse, persons who rebuilt their houses with Mangalore tiles sold their old and used country tiles at very low prices. The potters who were interviewed stated that some 20 years ago, 25 lakhs of country tiles were sold at their place. But now the number has fallen to about 8 lakhs. The decline in country bricks is even higher. They now hardly sell 25,000 bricks whereas it is estimated that some 25 years ago about 2 lakhs of bricks were sold. It was stated that the fall in the demand for country bricks is due to the competition of factory-made bricks.

40. Not only have the earnings of the artisans in this trade fallen due to its declining condition, but it is also controlled by the *sowcar*. It seems that sometime in July or August when they require cash for purchasing earth, etc., money is borrowed from the *sowcar* who makes it a condition that the wares are to be sold only to him at prices fixed in advance. One of the potters interviewed, stated that he had to sell his country tiles to the *sowcar* at Rs. 1-10-0 per thousand, while the *sowcar* would be able to sell them from Rs. 2 to Rs. 2-4-0 and sometimes even at Rs. 2-8-0. On enquiring as to why they did not take advantage of the co-operative society at Umbergaon, they replied that they were not able to pay the instalments in time and that the rules of the co-operative society being very rigid, they preferred the *sowcar* who took into consideration their difficulties and gave them extension of time whenever they required it.

#### BASKET MAKING.

41. The Census returns give about 1,300 as the number employed in basket-making, mat-making, etc. This is the highest number employed in this industry in any district in the province except for East Khandesh. This is due to the existence of large plantations of banana, betel-vine and *chikoo* and other fruits in the district. A few of the basket-makers at Mahim where there are large banana and betel-vine plantations, at Masoli near Dahanu and at Bordi where there are large *chikoo* plantations were interviewed. The industry is almost entirely in the hands of *Harijans*, and in some places, like Masoli and Bordi, women do most of the work, as their men-folk go to Bombay to work as domestic servants. In Mahim, both men and women are engaged in this occupation.

42. In Mahim, there are about 25 families whose main occupation is basket-making. Their market is mostly local. Two women working for a day can produce 12 baskets and one bamboo is required for the purpose; each pair of baskets fetches 9 pies; 100 bamboos cost Rs. 12 for those who have to hire carts for fetching bamboos from forests; and Rs. 7-8-0 in the case of those who own their own carts; these latter numbered 7. The daily earnings per worker, therefore, comes to Re. 0-1-8 in the case



of those who own their own carts and Re. 0-1-5 in the case of those who have to pay cart hire. When they did not have the cash to go and fetch the bamboos themselves from the forests, they had to buy it retail at 4 annas a bamboo; that left them hardly anything for their labour. Their main complaint was about the price of bamboos. A request was made for concession in the matter of fees charged by Government for cutting bamboos (now Rs. 3-8-0 per 100). It was also suggested that if they were financed for the purchase of bamboos, by Government or a non-commercial organisation, they would be able to earn more from their products.

43. Conditions are practically similar in the other centres visited. In Masoli, they make, in addition to baskets, country huskers both big and small. The daily earnings per head averaged Re. 0-1-0 in the case of those making big country huskers, Re. 0-0-9 for those making small ones, and Re. 0-1-5 for those making baskets. The forests are too far away for the *Harijans* to fetch their own bamboos and bamboo is purchased retail from one or two local merchants who practically control the trade. Most of the workers are indebted to the merchants. It is reported that the Village Uplift Committee has started a scheme of purchasing the bamboos on wholesale basis, and that bamboos worth about Rs. 500 were bought under this scheme. The Committee was thus able to sell bamboos at 5 to 6 per rupee as against local merchants' rate at 4 per rupee. The villagers expressed their appreciation of the scheme.

In Bordi, *chikoo* baskets are the main articles of manufacture; and the workers who are mostly women, get an income of Re. 0-1-1 per day; where they purchase the bamboo on credit, their earnings are lower.

44. Generally speaking, earnings in this trade vary from Re. 0-1-0 to Re. 0-1-6 per day—an appallingly low figure. In order to increase this figure it is necessary to approach the problem in two directions; on the one hand, the raw materials should be provided cheaper partly by better organisation and partly by Government granting concessions in the matter of fees charged for cutting bamboos; on the other hand, the sale of their products should be organized in a co-operative manner and higher prices should be obtained. Even if this results in a rise in the price of fruits or betel-vines or in a fall in the profits of those owning the plantations concerned, it would be worth considering. It must be added that in Masoli and Bordi, conditions are not so bad, as the men work in Bombay and further each family maintains a pig or two. It is only in Mahim, where basket-making is the principal occupation of both men and women that conditions require immediate and urgent improvement.

#### LIME MAKING.

45. According to the Census returns there are about 1,063 lime-burners in the district. One of the lime-burners at Dahanu, who was interviewed, stated that the demand for lime has fallen a great deal during the last 5 or 6 years, as also its price. He himself who was a big manufacturer, it seems, sold 2,000 *khandis* (20 maunds of 28 lbs. each) at an

average price of Rs. 24 in 1932, while in 1937, he only sold 800 *khandis* and that too at a price of only Rs. 20. He further stated that he at present made 50 *khandis* in 5 months of the year, and made a profit of Rs. 3 on every 7 *khandis* of lime that he manufactured. The increasing use of cement has affected this industry, and this factor is bound to affect it even more in future.

#### OIL-SEED CRUSHING.

46. No detailed inquiries were conducted into this industry. One of the investigators, however, interviewed a person at Thana engaged in oil crushing by the *ghani* method. He informed the investigator that whereas 10 years ago there were 10 to 12 persons at Thana engaged in oil-seed crushing with about 25 *ghanis*, today he was the only person in that industry and had only 2 *ghanis*. The decay of this industry is of course due to the competition of mill crushed oil, which is much cheaper.

#### TANNING AND LEATHER FOOTWEAR.

47. Some of the *Chamars* or leather workers, at Masoli near Dahanu Road and at Umbergaon were interviewed. It was stated that at Masoli there were about 20 houses of *Chamars*, the male workers numbering from 45 to 50. It appears that to tan one buffalo hide they required :—

	Rs.	a.	p.
<i>Chunam</i> 2 paylees .. .. .	..	0	4 0
<i>Avil</i> 8 paylees .. .. .	..	0	8 0
<i>Babul</i> bark 2 head-loads (nearly 2 maunds) ..	..	1	0 0
		<hr/>	
		1	12 0

The whole process took from 10 to 15 days, and usually, 2 to 3 hides were taken at the same time for tanning. The cash value of the strap *champals* and saddle equipment, which were made out of one buffalo hides, was estimated, at Rs. 8.

48. In addition to tanning and making footwear these persons follow carting as a subsidiary occupation. In fact, they owned more than 20 carts and it was stated that without carting they could not make any living. Their main complaints were : (1) the competition of machine made *champals* which had a superior finish and (2) the difficulty of getting raw materials. It appears that agents of wholesale merchants scour the villages and take away the raw hides, making it very difficult for these *Chamars* to get local supplies of hides. It must be added that these tanners realised that their methods of tanning were ancient and they expressed their desire to learn better tanning methods.

49. The *Chamars* who were interviewed at Umbergaon made country *champals* and leather requisites for the country carts. It was stated that there were 14 houses of *Chamars* in that place, of whom 10 followed

agriculture and 4, other occupations. They also did carting. In fact, 8 of them had carts of their own; and leather work was undertaken by them only when they were neither carting nor working on their land. One of the boot-makers stated that his trade had fallen a great deal because of the competition of Japanese goods.

A *Chamar* from the village of Virol—in Chinchni—stated that there were 18 houses of *Chamars* in this village and that they followed the profession of agriculture. He also said that out of the 18 families perhaps only 4 were exclusively engaged on working in leather. They bought the hides directly from the Mahars, buffalo hides at Rs. 1-8-0 and cow hides at 8 to 10 annas. Nine days were required for tanning one buffalo hide, the expenditure on the same being:—

				Rs.	a.	p.
<i>Chunam</i>	..	..	..	0	4	0
<i>Avil leaves</i>	..	..	..	0	8	0
<i>Babul bark</i>	..	..	..	0	8	0
				<hr/>		
				1	4	0

12 to 15 *champals* were prepared out of one buffalo hide and one pair of *champals* sold for 8 as. to Re. 1, the average price-being 10 annas. Roughly speaking, they got from this occupation, 4 to 5 annas on an average per day, if they were at work. The main complaint was about the competition to Bombay *champals* which were made of better tanned leather. The *Chamar* was anxious to learn better tanning methods, if an opportunity could be made available to him. It will be noticed that the figures of cost given above by the *Chamar* at Chinchni are lower than the figures given by the one at Dahanu. It is, therefore, very difficult to rely on these figures of cost. But 2 or 3 facts were revealed from the interviews with these different *Chamars*. It appears that most of these leather workers are also engaged in another occupation, either agriculture or carting, and secondly, their business is in a state of decline partly because of the fall in the demand for the leather equipment used in carting, and partly because of the competition of *champals* made of better tanned leather. They seemed also eager to learn new methods.

#### OTHER INDUSTRIES.

##### MACHINE-MAKING.

50. There are in Thana district three persons who are making rice-milling machinery. Two of them had their factories in Dahanu and the third at Bhiwandj. Of the two persons at Dahanu, one employed 40 persons and the other 35. It appears that the equipment required for the purpose cost about Rs. 10,000. The markets are inter-provincial and it was stated that their machines were sold not only in India but were also sent to Burma and Africa. The fear was expressed that once the Burma market was fully exploited, they would

find it difficult to find a profitable sale for their products. The main demand was for protection against foreign competition. It was also suggested that if loans could be made available, it should be possible to extend or improve their equipment. Expert technical advice would also help in this direction. Further, a request was made for concessions in freight charges, so that their markets could be expanded. The total value of the output of the two factories in Dahanu was estimated at 1,25,000 rupees. Though small, the industry is quite important in the economy of the district. One of the three persons who were interviewed was anxious that Thana should be industrially developed because he was not sure how long the demand for rice-milling-machinery would last, and he was anxious that alternative work should be found for his machinery.

#### DIE-MAKING.

51. This is an entirely new industry which has sprung into existence at Chinchni during the last 30 years. There are now more than 30 die-makers at Chinchni employing about 300 artisans and apprentices. The value of their output is estimated at between Rs. 50,000 and Rs. 75,000 a year. It seems about 40 years ago, one Purushotam Vaman Maistri found out the method of making dies and he made a great deal of profit. The apprentices employed by him were responsible for the spread of this industry. Even to-day the organisation of the industry is such that each artisan has two or three apprentices who are paid from 4 to 6 rupees a month, while the artisans get about Rs. 25 to 30. The apprentices after learning the trade very often set up independent business. It seems the number of shops has increased by 10 during the course of the last 5 or 6 years and more and more shops are coming into existence.

52. Dies are made for various articles such as bangles, rings, buttons, necklaces, bracelets, saree pins, hairpins, etc. Sheffield steel is used as it is considered to be superior for this purpose to Indian steel. The equipment of one big employer consisted of a French drill machine worth Rs. 150, 8 American drill machines worth Rs. 24 each, two German hammer rollers for file sharpening costing Rs. 13 each, one American roller costing Rs. 10, for the same purpose, and a press for purposes of trying all dies prepared. The equipment is estimated to cost about Rs. 1,000 and he employs about 10 artisans and 6 apprentices. Another employer who employs three persons stated that his equipment is worth about Rs. 200. The total value of the fixed capital investment employed in the trade is estimated at Rs. 12,000.

53. The markets are inter-provincial. The dies are marketed all over India and also Africa, and goldsmiths who have important orders to place come down to Chinchni and try to secure favourable prices. A part of the output is thus taken away by goldsmiths who come in person to Chinchni. It is evidently a profitable trade, and

two persons stated that their monthly profits come to between Rs. 100 and 120. The skilled artisans are paid on an average at the rate of Re. 1 a day. There were practically no complaints excepting that of local competition. Some of the persons in the industry felt that it was expanding at a reckless rate, and that unless some check was placed on its expansion, there might be a steep fall in the earnings of persons engaged in the industry. It was also suggested that there was no reason why they should not prepare dies for watch-cases and for toys of various kinds, but they did not know the processes and if some special training could be given to them it would enormously increase the scope of their market.

54. This is an entirely new industry and one that should have an expanding market. If some research could be undertaken into the making of dies for purposes other than jewellery, it might lead to the establishment of a really large industry in this centre.

#### GLASS-BANGLE MAKING.

55. It seems that about 20 or 30 years ago, there was a flourishing glass bangle industry in this district, bangles being supplied to a large extent to the Bengal market. That market is now lost. There is a local tradition that some people came from Bengal and saw the processes employed in bangle making at Tarapor and went home and established their own factories. In any case, from the reports which were obtained, it seems true that the bangle making trade has declined a great deal during the last 30 years. It recently had a certain amount of revival due to the swadeshi movement. At present there are two branches of the industry, one at Tarapor and the other at Chinchni. There are more bangle makers at Chinchni than at Tarapor.

56. Each bangle making *karkhana* gives employment to some 6 to 8 persons, two of whom may be small boys. The raw materials used are mostly broken soda water bottles, glass jars, etc., and coloured dyes. The thin type of glass obtained from broken glass jars, chimneys, etc., is reported to be good for making bangles, but, it seems that it cannot be obtained in sufficient quantities. The broken pieces of soda water bottles which are of thick glass are used to prepare cheap bangles which are sold at about Rs. 1/8 to Rs. 2 per thousand.

57. Of the two factories visited at Tarapor, one produces goods worth Rs. 250 per month, while the other produces goods worth Rs. 275. They work only for about 21 to 22 days in a month. The artisans are paid at the rate of Re. 1 per day and the bangles are sold in addition to the places in the Bombay Province, also to merchants in Madras, Bangalore, Mysore, Salem, Trinchinopoly, etc. Each bangle making factory tries to keep secret the names of merchants to whom it sends goods so that other factories may not poach on its markets. The tools required are very cheap. One manufacturer

stated that his instruments cost him only Rs. 3-12-0. But it was pointed out that this was a declining trade, and unless something was done to stop foreign competition, it was not possible for the industry to survive. It was pointed out that the bangles coming from abroad had a superior finish and lustre. It was suggested that Government should investigate the possibility of locating a glass making factory near Chinchni or Tarapore, as better bangles could then be made in consequence of better raw material being made available to the local bangle makers. The bangle makers at Chinchni, did not have anything very much to complain about. They seem to be getting an income of 20 to 25 rupees a month. The industry at Chinchni is worth noting as a handmade industry which has still survived competition to some extent and which gives a reasonable wage to the persons engaged therein.

#### POSSIBILITIES OF NEW INDUSTRIES.

58. The district appears to have good possibilities for industrial development. Thus, for example, the manufacture of boxes, wooden toys, and other wooden articles of every day use, of suit-cases and other fibre-made articles can be mentioned among possibilities arising from the forest resources of the district. Then again, the banana plantations of the district, result in the production of a large quantity of banana stems which are at present thrown away; research could be undertaken to find out if this wasted material could be made use of either for the manufacture of paper or artificial silk. The district has also a large number of date palm trees and the possibilities of power alcohol distillation are worth investigation. Among other possibilities may be mentioned the coir industry, an industry for preparing tomato-juice, and *sukeli* or the dry banana industry. The possibilities may also be investigated of making straw boards out of the vast quantities of rice husk that are available in the district.