

BOMBAY

Economic and

Industrial Survey

Committee, 1938

Report.

AHMEDABAD

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, cannot 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.

P. B. ADVANI,
Director of Industries.

March, 1941,

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AHMEDABAD.

POSITION AND AREA.

The district of Ahmedabad lies between $21^{\circ} 26'$ and $23^{\circ} 27'$ north latitude and $71^{\circ} 19'$ and $73^{\circ} 27'$ east longitude and covers an area of 3,846 square miles. It is bounded on the west and south by the peninsula of Kathiawar; on the north by the northern division of Baroda Territory; on the north-east by Mahi Kantha Territory; on the east by the State of Balasinor and the district of Kaira; and on the south-east by the State and Gulf of Cambay. The boundary line is irregular, and two portions, the Prantij taluka in the north-east, and the Gogha Peta in the south, are cut off from the main body of the district by the territories of Indian States. The compactness of the district is also broken by several villages belonging to Baroda and Kathiawar which lie within it, while several of its own are scattered in small groups beyond its borders.

PHYSICAL FEATURES.

2. In the extreme south and also just beyond the northern boundary are a few rocky hills. But between these points the whole of the district forms a level plain, gradually rising towards the north and east, its surface unbroken by any inequality greater than a sand hill. In the extreme west the country is subject to inundation and there are extensive salt wastes stretching to the Rann. The river Sabarmati rises in the north-east near the extremity of the Aravali range and flows into the Gulf of Cambay. The river has three tributaries, the Kari, Meshva and Majham which with the Shelva and Andhari all flow south-west. Flowing east from Kathiawar are the Bhogava, Bhadar, Utavli, Nilki, Pinjaria and Adhia rivers. There are several creeks of which the most important are those of Dholera and Gogha.

CLIMATE AND RAINFALL.

3. In the cold season the range of temperature is very great. Generally speaking, the climate of the central portion of the district is more oppressive during the hot season, and at all times less healthy, than along the coast line or in the north, the coast benefiting by its nearness to the sea, and the north of the district by its height above the sea level. The average rainfall of the district is about 29 inches. It is heaviest in the hilly country of Modasa and in Prantij.

POPULATION.

4. According to the Census of 1931, the district has a population of 99,768 persons of whom 600,200 live in rural areas consisting of

869 villages while the remaining 399,568 are to be found in 12 towns. Of these the important towns are :—

	Population.
Ahmedabad City	234,265
Viramgam	18,965
Dholka	13,743
Dhandhuka	9,076

It will be noticed that the proportion of urban population to the total population is nearly 40 per cent., the city of Ahmedabad alone accounting for more than 23 per cent. of the urban population. The proportion of urban population is thus considerably higher than the corresponding provincial (23·3 per cent.) and all-India (10·9 per cent.) averages.

According to the Census of 1931, the total number of principal workers in the district is 261,566 of whom 222,807 are males. The occupational distribution of this number is given below :—

Exploitation of animals and vegetation	108,983
Exploitation of minerals	1,207
Industry	83,915
Transport	9,881
Trade	17,579
Public force and Administration	6,415
Professions and liberal arts	5,273
Living on their income	2,296
Domestic service	7,161
Insufficiently described	13,443
Unproductive	5,413
Total	261,566

The proportion of the industrially occupied persons to the total earners is more than 32 per cent. and establishes this district as the most industrialised one in the Bombay Province. In addition to the 83,915 persons shown as engaged in industrial occupations according to the Census classification, there are 7,755 persons engaged in stock-raising and 1,027 persons engaged in salt-making. These occupations can also be considered as industrial though they are included under “exploitation of animals and vegetation” and “exploitation of minerals” respectively in the Census returns. The total industrial workers in the district can, therefore, be taken at 92,697.

HEALTH AND MEDICAL FACILITIES.

5. As regards health conditions, vital statistics show that the district as a whole is not healthy. Though the mean ratio of births per thousand for the five years ending 1937 was 45·38, the survival rate was only 11·93 as the mean ratio of deaths was 33·45, the highest in the whole of the Province.

In Ahmedabad town there are nine hospitals, two of which are maintained by Government, one of them being a Police hospital. There are also other institutions like the X-Ray Institution, eye hospital, maternity homes, etc. In addition there are eleven dispensaries in Ahmedabad town of which nine are maintained by the Municipality. In the district, there are thirteen dispensaries. Of these seven are maintained by the Municipalities, three by the District Local Board, two by Missions and one by Government. The total number of doctors in the district is reported to be 270 of which as many as 237 are in Ahmedabad town. In rural areas, the proportion of doctors to population comes to one for every 18,700 persons.

LITERACY AND EDUCATIONAL FACILITIES.

6. According to the Census of 1931, 119,397 persons are returned as literate thus constituting a percentage of only 11·9; for a highly urbanised district, this percentage is surprisingly low. It is even more surprising that the less urbanised districts of Kaira and Broach and Panch Mahals should have a higher proportion of literacy among their population.

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

Description.	No. of Institutions.	No. of pupils.
Primary Schools	640	73,989
Secondary (including lower secondary and English teaching) Schools.	49	9,848
Industrial and Commercial Schools ..	3	321

Of the 869 villages in the district only 363 had schools in them.

TRANSPORT FACILITIES.

7. The district has good railway facilities. The railway from Bombay to Rajputana runs through the district. Another line runs from Ahmedabad to Viramgam, where a metre-gauge branch turns south to Wadhwan and Bhavnagar, while another branch goes to Kharaghoda. Another metre-gauge line runs from Viramgam to Mehsana, where it joins the line from Ahmedabad and connects the Kathiawar railways with

the other minor lines. The Ahmedabad-Dholka-Dhanduka metre-gauge line is also of considerable importance. The headquarter town of Ahmedabad is connected with most of the taluka towns by the railway system. The district, however, is not well served by roads, as the total mileage of both metalled and unmetalled roads in 1937-38 was only 216·01 and 342·07 miles respectively.

SURVEY OF RESOURCES : AGRICULTURAL AND LIVE-STOCK.

8. The district has a total area of 2,465,694 acres of which 1,648,911 acres constitute the gross cropped area. Forests absorb only 9,115 acres while other uncultivable land comes to 496,376 acres. Current fallows constitute 254,949 acres. There are 75,544 acres which are returned under culturable waste or land which is theoretically available for cultivation.

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

				1937-38.
				Area in acres.
Rice	..	..	..	68,431
Wheat	..	..	..	273,052
Barley	..	..	..	2,385
Jowari	..	..	..	406,084
Bajri	..	..	..	121,924
Ragi	..	..	..	2,973
Maize	..	..	..	5,768
Gram	..	..	..	52,193
Other food grains including pulses	..	..	..	53,454
Sesame (<i>Til</i>)	..	..	..	31,324
Rape and mustard	..	..	..	17,033
Groundnuts	..	..	..	71,278
Castor seed	..	..	..	5,613
Other oil-seeds	..	..	..	483
Condiments and spices	..	..	..	2,228
Sugarcane and other sugars	..	..	..	558
Cotton	..	..	..	387,686
Other fibres	..	..	..	1,812
Tobacco	..	..	..	5,304
Fodder crops	..	..	..	130,232
Fruits and vegetables	..	..	..	8,894
Miscellaneous food and non-food crops	..	..	..	202
Total ..				1,648,911

It will be noticed that the important crop of the district is cotton which accounts for nearly one-fourth of the cropped area. Other important commercial crops are groundnuts and sesame. The main food crops are jowari, wheat and bajri.

Fruits and vegetables account for an area of nearly 9,000 acres. More details were obtained from the Department of Agriculture in respect of these important crops and the details supplied by that Department in respect of 1938-39 are as below :—

				Acres. 1938-39.
<i>Vegetables—</i>				
Potatoes	..	..	..	254
Sweet potatoes	..	..	..	193
Yam	..	..	..	30
Radish	..	..	..	37
Onions	..	..	..	331
Others	..	..	..	61
				906
<i>Green vegetables—</i>				
Tomato	..	..	..	60
Fenugreek (<i>Methi</i>)	..	..	..	23
Edible Hibiscus (<i>Bhendi</i>)		..	..	510
Musk melon	..	..	..	226
Water melon	..	..	..	182
Others	..	..	..	2,832
				3,833
<i>Fruit trees—</i>				
Plantain	..	..	..	134
Mango	..	..	..	538
Lime	..	..	..	384
Pomegranate	..	..	..	281
Guava	..	..	..	434
Papaya	..	..	..	359
Others	..	..	..	1,956
				4,086
Total, Fruits and Vegetables ..				8,825

Another noticeable feature is the large area under fodder crops, which makes out the district as a cattle-breeding district. In fact, Ahmedabad district along with Kaira produces the best breed of cattle in the whole of this Province known as the *Kankrej* cattle. Throughout the greater part of the district the breed is essentially of the *Kankrej* type and the ordinary village cattle are distinctly above the general run of other parts. According to the Census of cattle taken in 1934-35 the details of live-stock in the district are as follows :—

Bulls and Bullocks (breeding, working and young stock).	19,252
Cows (do. do.)	147,572
Buffaloes (do. do.)	34,068
Cow-buffaloes (do. do.)	182,928
Sheep and Goats	130,935
Horses and ponies \.. .. .	7,275
Donkeys	12,254
Camels	1,258

Of these, 171,801 are milch cattle, consisting of 74,570 cows and 97,231 cow-buffaloes.

SURVEY OF RESOURCES : MINERALS.

9. Considerable tracts in Viramgam are reported to be covered with earth suited to the manufacture of saltpetre. Similar material is also found near Dholera. The district Gazetteer states that about the beginning of the 18th century saltpetre was made in large quantities but after the transfer of these areas to the English, the demand ceased and in spite of several efforts later on, the industry did not survive. Crude soda (*us*) used in soap-making is also said to be found in large quantities in the west of Prantij. Among the stones, the most valued are found near Ranpur in Dhandhuka and are known as *doradar* and *ratia* stones. They take high polish. Limestone or *Kankar* is found in rivers and water courses and in the extensive beds eight miles south-west of Viramgam and Dhandhuka. It is used for mortar and road making.

SURVEY OF RESOURCES : FORESTS.

10. The district as a whole is open and poorly wooded. The chief trees are mango, *rayan* (*Mimusops hexandra*), *mahua* (*Bassia latifolia*), and *nim* (*Melia Azadirachta*). The Modasa hills bear inferior teak and bamboo and also produce the *khair*, *babul* and *pipal*. Many of the trees and shrubs supply food, medicines, and materials for dyeing and tanning. Gum from the *khair* and *babul* is eaten by the poorer classes. The berries of the *mahua* or *mhoura* are boiled with grain and leaves of a creeper called *dori* form a favourite article of food with the Bhils.

SURVEY OF RESOURCES : POWER.

11. There are only two electric supply companies in the district—one at Ahmedabad and the other at Viramgam. Out of 17·4 million units of electricity generated by the Ahmedabad company 14·7 million units are sold to the public, of which as much as 11·7 million units are consumed for power purposes. The Viramgam company generates about 171,000 units of electricity of which 135,000 units are sold, the units sold for power purposes being about 71,000.

SURVEY OF RESOURCES : CAPITAL.

12. There are a number of agricultural and non-agricultural co-operative credit societies. According to the Report for Co-operative Societies for 1937-38, the agricultural societies in the district number 86 and have a working capital of Rs. 5·17 lakhs while the non-agricultural credit societies are as many as 102 with a working capital of nearly Rs. 48 lakhs. The District Central Co-operative Bank had a working capital of Rs. 4·57 lakhs during 1937-38. Moreover, the Imperial Bank of India, the Bank of India, the Central Bank of India, the Bank of Baroda and other banks have got their branches or offices at Ahmedabad. As for post office savings banks, there were 156 such banks during 1937-38—the highest number in any district in the Province. The total number of accounts in these savings banks was 44,543 and the total amount of balance to their credit was nearly Rs. 18 lakhs. During the same year cash certificates to the extent of Rs. 33·1 lakhs were sold in the district. Thus the district seems to be the richest in the whole of the Province excluding Bombay City.

INDUSTRIES IN THE DISTRICT—GENERAL.

13. Next to the City of Bombay, Ahmedabad is the most important industrial centre in the Province. The population engaged in different kinds of industrial occupations has already been estimated at 92,697 including persons engaged in stock-raising and salt-making. Of these, the following classes of workers are more or less suppliers of pure services and cannot be classified as makers of manufactured commodities :—

Butchers	..	..	..	652
Tailors, milliners, etc.	..	..	..	3,819
Washing and cleaning	..	..	..	2,202
Barbers, hair dressers, etc.	..	..	..	2,423
Scavenging	..	..	..	1,526
				10,622
			Total ..	10,622

The remaining 82,075 are distributed over different occupations in the following manner :—

1. Stock-raising	..	..	7,755
2. Exploitation of salt, saltpetre	..	..	1,027
3. Cotton gins and presses	..	..	16,522
4. Cotton spinning and weaving	..	..	34,726
5. Rope, twine, string and other fibres	..	..	815
6. Wool carding, spinning and weaving	..	..	761
7. Dyeing, bleaching, etc.	..	..	576
8. Working in leather	..	..	3,102
9. Carpenters	..	..	2,577
10. Basket making	..	..	619
11. Blacksmiths	..	..	1,638
12. Potters	..	..	3,188
13. Brick and tile makers	..	..	610
14. Manufacture and refining of vegetable oils	..	..	1,559
15. Boot and shoe making	..	..	512
16. Lime burners, cement workers, etc.	..	..	3,294
17. Printers	..	..	315
18. Makers of jewellery and ornaments	..	..	1,209
19. Other miscellaneous occupations	..	..	1,170
Total ..			82,075

Of these, no less than 79,583 workers were employed in concerns coming under the Indian 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 :—

	No. of factories.		No. of workers.	
	1931.	1938.	1931.	1938.
Government and Local Fund ..	2	3	106	83
Textiles ..	97	109	74,303	114,671
Engineering ..	8	44	645	1,501
Minerals and metals ..	6	9	333	112
Food, drink and tobacco ..	5	9	180	285
Chemicals, dyes etc. ..	10	46	722	2,324
Paper and printing ..	13	40	275	1,088
Processes regarding wood, stone and glass ..	2	8	95	147
Processes regarding hides and skins ..	1	1	30	54
Miscellaneous ..	1	4	32	267
Seasonal factories ..	56	69	2,862	4,257
Total ..	201	342	79,583	124,789

14. The investigator, Mr. A. B. Trivedi, spent about a month in the district and interviewed a number of artisans and traders working in the district. The following notes on some of the cottage and small scale industries of the district are based mainly on the returns and other information collected by the investigator during his stay in the district as also on other data available to the Committee.

HANDLOOM WEAVING.

15. The investigator interviewed some of the handloom weavers in Ahmedabad City, Dholka, Dhandhuka, Sarkhej, Chaloda and Bavla. Mr. Telang estimated in 1927 that there were 750 handlooms in Ahmedabad and 700 handlooms at Dholka. Statistics collected as a result of the special inquiry in 1936-37 by the Northern Division Industrial Co-operative Association showed that there were only 200 handlooms in Ahmedabad and 600 at Dholka. The investigator's enquiries showed that the number of handlooms had diminished still further in Ahmedabad, and according to the local weavers the number of handlooms at Dholka did not now exceed 350. The handloom weavers of this district manufacture not only *sarees* but also towels and *dhoties*, shirtings and coatings, the counts used being 6 to 20 for the towels and coatings, and 60s and 80s for the *dhoties* and *sarees*. The handloom weavers in Dholka also prepare *sarees* with a specialised type of gold-border which the mills cannot manufacture. There are not many independent artisans in this district, most of the handloom weavers, being outworkers. The earnings of weavers differ according to the type of cloth produced and are about Rs. 9 to Rs. 20 per mensem. It is the weavers who specialise in making towels that earn the higher income. A noticeable thing about the handloom weaving industry of the district is that in places outside Ahmedabad it is largely a seasonal occupation, the weaver resorting to agricultural labour during the slack season. Many of the weavers in this district appeared to be interested in the making of coarse cloth and they urged that there should be some restriction on the making of coarse cloth by the mills. There are also some weavers who suggest that there should be restrictions on the making of fine cloths by the mills.

There is an Industrial Co-operative Association in Ahmedabad which supplies raw materials and makes arrangements for the sale of the finished products made by the handloom weavers. The Association helps to put new designs in the market. The Manager of the Association suggested that something should be done to dispel the ignorance of the weavers which comes in the way of their proper organisation.

TAPE MAKING.

16. Tape making is an important branch of the textile industry in Ahmedabad. It is estimated that there are 20 families engaged in this industry, in addition to which there are 6 to 7 tape making factories.

The investigator interviewed 3 families engaged in making tapes and the owner of one tape making factory. The equipment of an artisan engaged in this industry is usually worth about Rs. 8. He uses yarn of 6s and can manufacture annually about 36 maunds of tape of the width of $1\frac{1}{2}$ ". He sells this quantity for about Rs. 540. The cost of the raw material is said to be Rs. 288. His average monthly income thus comes to about Rs. 20 to Rs. 21. The artisan is usually assisted in his work by his wife and other members of his family. The owner of the tape making factory interviewed by the investigator employed 4 persons of whom one is a mechanic. He has 20 tape making machines worth Rs. 30 each and his factory is run by electric power. The output per year is reported to be about 4,800 lbs. of tape which is sold for about Rs. 5,000. The boys employed in his factory are paid at the rate of Rs. 5 to Rs. 6 a month, while the mechanic is paid at Rs. 22. The owner is able to get an income of Rs. 60 to Rs. 65 a month from this factory.

SILK WEAVING.

17. Ahmedabad was once famous for the excellence of its silk products. Now, however, the industry is in a state of decay and it is estimated that there are not more than 30 to 40 looms engaged in making silk cloths. The decay of this industry though partly due to competition from outside is largely the result of a change in taste. At Dholka, silk *sarees* interwoven with cotton yarn of 80s are prepared and the weavers earn about Rs. 8 to Rs. 12 a month. There are not many weavers who manufacture silk cloth. Most of them usually combine with it the production of *Kinkhab*. Silk weaving industry on a cottage basis is very negligible in the economy of the district.

Kinkhab WEAVING.

18. This was once a very important and well-known industry of Ahmedabad. According to the information collected by the investigator it appears that there are now not more than 100 weavers working in this industry who employ about 200 wage earners to help them in the preliminary processes. The raw materials consist of silk yarn and gold thread. Silk yarn is mainly Chinese and Japanese but silk yarn from Kashmir and Bangalore is also used. The weavers are mostly outworkers to whom the raw material is given by dealers who also take from them the finished products. One *kinkhab* worker said that he obtains Rs. 26 for 35 *gajs* or 70 feet of *kinkhab*. This takes him a month to make, while he has to pay two wage-earners, one at Rs. 6 and another at Rs. 9 to help him. That leaves him a net income of Rs. 11 a month. Another worker said that he gets Rs. 30 for 35 *gajs* of *kinkhab* and earns a net income of Rs. 15. A third *kinkhab* worker who has two looms, employs 4 workmen, and gets a net monthly income of Rs. 30 for himself.

19. The main difficulty of this industry is the fall in demand due to a change in public taste. Moreover, the industry suffers from competition of inferior quality goods produced with imitation threads

and also from the competition of *kinbhabs* produced at Benares. There is no competition from powerlooms. Moreover, as pointed out by Mr. Fernandes in his report on the Arts-Crafts in the Bombay Presidency, the artistic skill of these weavers is rather low. It is stated that this as well as the other allied arts-crafts such as the making of *kor*, *palavs* and *modhiyas* are all suffering from decline due to the change in public taste. It was suggested that as cheap imitation products form a source of keen competition, some kind of grading should be introduced in this industry. It would also seem worth while to teach the weavers, new designs.

BLANKET WEAVING.

20. There is a small blanket-weaving industry in the village of Aniali Blhinji near Dhandhuka, where about 20 families are engaged in the industry. The weavers get their wool locally and the dyes from Dhandhuka. It is estimated that the workers in this industry earn on an average about Rs. 144 a year, which they supplement by working as agricultural labourers. The weavers interviewed by the investigator stressed the importance of having a marketing organisation which would provide them with raw wool and sell the blankets prepared by them.

POWERLOOM WEAVING.

21. There are reported to be about 50 powerloom weaving factories in the city of Ahmedabad having about 500 looms. They undertake silk and cotton weaving. The yarn used is mostly foreign and is obtained from Bombay. The investigator interviewed two owners of powerloom factories, one with 30 looms and the other with 23. The former employs 35 persons and the latter 23. These factories produce cloth for shirting and coating, using spun silk yarn, mercerised yarn, cotton yarn and artificial silk yarn. They sell their cloth to dealers in and outside Ahmedabad and sometimes they get orders from places in the Punjab and the United Provinces. Most of them employ canvassers and sell on credit to the dealers. It is stated that the owners get a return on their capital of about 5 per cent. Wages given to the labourers vary from annas 12 to Rs. 3 for a piece of 30 to 33 yards. The requests made by the owners of powerlooms were : (1) financial assistance for storing raw materials and improving their equipment, (2) leniency in the administration of the Factories Act, (3) Government stamping of real silk cloth so as to distinguish it from imitation silk cloth, (4) facilities to see new types of machinery and get the necessary contact with new methods and (5) reduction in electric charges.

CALICO PRINTING.

22. It is estimated that in Ahmedabad there are 125 *karkhandars* and 1,500 outworkers who are engaged in this industry. The outworkers work at home and get help from the members of their family. The equipment consists of wooden stamps prepared locally ; these

require to be changed from year to year to suit public taste. Their prices vary according to the design and vary between Rs. 5 and Rs. 30 each. The cloth required is obtained locally, colours and chemicals also being purchased locally from dealers. The *karkhandars* get their orders from private individuals. They supply the cloth for printing to out-workers. During the slack season, some of them buy their own cloth for printing. The average monthly earnings of *karkhandars* come to between Rs. 100 to 120 in the case of smaller ones and from Rs. 200 to Rs. 250 in the case of those who employ more than 15 persons. The out-workers are paid at the rate of annas 10 to annas 12 per piece for printing the body of the cloth and from annas 2 to annas 3 per piece for printing the border. The *karkhandars* stated that they would welcome a co-operative society that would enable them to purchase the raw materials and cloth at cheaper rates. Recently this industry has begun to feel the competition of machine-printed cloth. In fact, it is stated that more and more mills are installing printing machines and that in consequence hardly 600 out of the City's 1,500 out-workers get enough work to maintain them for the whole of the year.

HOSIERY.

23. There are about 1,500 persons employed in the hosiery factories at Ahmedabad. It is estimated that the annual output is worth about Rs. 12 lakhs, while the raw materials utilised are estimated to cost Rs. 9 lakhs. The raw materials used, are cotton and wool yarn, the cotton yarn being purchased from local mills while wool yarn is obtained from Bombay. The main products are underwears, sweaters, pull-overs and coats. The brisk season for underwears is summer while in the cold season there is more demand for woollen goods. The factory-owners complain of the competition of the hosiery manufacturers at Ludhiana. The manufacturers suggest that Government should start a Hosiery Institute for the demonstration of up-to-date methods.

COTTON GINS AND PRESSES.

24. This is another important textile industry of Ahmedabad. The investigator interviewed a factory owner at Bavla and another at Dhandhuka. There is a great deal of complaint about internal competition in this industry. This problem has, it seems, been solved at Dhandhuka by the five factory-owners combining and agreeing to work only 2 factories in the slack season and dividing equally the profits obtained. This has saved them the ginning and pressing charges. It was stated that each owner received Rs. 1,280 as his share of the profits during 1937-38.

IRONWARE.

25. The ironware industry may be considered from the point of view of some of its products to be a new industry. The investigator interviewed 5 manufacturers of whom one specialised in the making of trunks,

one in that of safes and one in that of cup-boards. The fourth manufactured safes, cup-boards and locks, while the fifth was engaged in making buckets and containers for storing grain. These five manufacturers employed about 65 workmen between them and the average wage per worker came to more than Rs. 30 per mensem while individual wages varied according to skill from Rs. 20 to Rs. 60 per mensem. The manufacturers who were interviewed, state that their industry is in a fairly flourishing condition, though they are afraid of over-production, a trunk manufacturer pointing out that whereas there were only five or six concerns ten years back, there are now 18 such concerns in his trade and the tendency is still one of increase. Of the finished products, the iron containers and buckets have a local and district market, while the trunks have an inter-provincial market. The raw material used is mainly Tata iron, though in trunk manufacturing, English iron is also used. Almost all the manufacturers suggest that Tatas should sell the iron-sheets direct to them so that they could avoid the commission charged by the agents of Tata goods. It is also suggested that Government should help the industry by getting a reduction in the railway rates on the transport of raw materials used by them.

MILL MACHINERY PARTS.

26. The making of mill machinery parts is an important industry in a textile centre and may be considered to be one of the new occupations which modern industrialisation has opened up for the blacksmiths. The investigator interviewed three such manufacturers. Two of them employed 16 persons and the third 8. The articles made are twist wheels, pinions and other spinning and weaving machine parts. The cost of the equipment required by them varies from Rs. 4,000 to Rs. 6,000, and consists of slotting and drilling machines, cutters, files, lathes, etc. The equipment is mostly of old pattern, and the manufacturers expressed their desire to go in for improved machinery, but stated that they did not have the means to do so. Orders are obtained directly from the mills or mill-agents or the mill store suppliers. The labourers are paid on an average Rs. 30 to Rs. 35 a month. The manufacturers stated that their monthly income varied from Rs. 125 to Rs. 180 according to sales.

BRASS AND COPPER-WARE.

27. It is estimated that there are 300 to 350 artisans working in brass and copper-ware in Ahmedabad. Most of them are working in *karkhanas* while some are outworkers who work at home for the *karkhandars*. The artisans in this trade are paid on piece rates; it appears from the investigator's inquiries that the artisans are getting Rs. 30 to Rs. 40 a month. Detailed inquiries were not made into this trade.

MOTOR BODY BUILDING.

28. It is reported that there are four *karkhandars* in the City of Ahmedabad who are engaged in building bodies of motor buses and lorries. The investigator interviewed 2 of these. One employs three carpenters and one blacksmith who are paid daily wages varying from Rs. 1-12-0 to Rs. 2-4-0. He has an equipment worth Rs. 500. He builds about four motor bodies in a month and gets about Rs. 380 for each. His net earnings are estimated to amount to Rs. 110 to Rs. 120 a month. The other motor-body builder employs about 5 workers, and his equipment is stated to be worth Rs. 2,500. He also builds about 4 bodies in a month and earns about Rs. 120 a month.

COACH AND CART-MAKING.

29. There are about 12 to 13 *karkhandars* in the City of Ahmedabad who are engaged in building coaches. The total number of persons, employed by them is estimated to be 40. Two of these *karkhandars* who were interviewed, stated that they were following this as their hereditary occupation. One of them does not employ any outside labour. His sons who work in the mills during day, help him at night. He has an equipment stated to be worth about Rs. 300. He usually builds two coaches and one cart in a year and earns about Rs. 150 on the same. His main occupation, however, is repairing work, from which he gets about Rs. 70 to Rs. 75 a month. He stated that some years back he used to build 8 to 10 coaches and 5 to 6 carts in a year and employed half-a-dozen artisans. But to-day his industry is much affected by the fall in demand. The other coach-maker in addition to working himself, employs an artisan from October to May, and pays him daily wages at the rate of Rs. 1-8-0. His equipment is worth about Rs. 200. He stated that a coach cost him Rs. 95 to make and was sold at Rs. 160. It thus seems that he is able to earn about Rs. 65 for each coach. Though he can make one coach a month, he usually makes only two to three coaches a year. His main occupation is doing repair work which gives him from Rs. 700 to 800 a year. It is reported that formerly there were 30 coach-makers at Ahmedabad but to-day there are only 12 to 13 and even these subsist mainly on repair work.

30. One of cart-makers at Dholera was interviewed. He employs two artisans and a boy. He is able to make three carts in a month, but actually makes only 12 carts in a year. The wood is bought on credit. He gets Rs. 600 for the 12 carts that he makes and as his cost comes to Rs. 432, his net earnings from cart-making are Rs. 168 for the year. In addition, he does repair work and gets about Rs. 318 in a year. His equipment cost him Rs. 100. The price of carts is reported to have fallen during recent years and this is considered to be due to the decline in the cultivators income as also to the setting up of more centres of cart-making.

Patara (WOODEN-BOXES) MAKING.

31. One maker of *patara* or wooden boxes was interviewed by the investigator at Dholera where there are reported to be four *patara*-makers. He is following the trade as his hereditary occupation. He makes 50 *pataras* in a year for which he gets Rs. 550. As his raw materials cost him Rs. 450, he earns an annual income of Rs. 100 from his occupation. The equipment is said to have cost him Rs. 100. It is pointed out that *patara* making is not now a paying industry as steel trunks are being used on an increasing scale. The *patara*-makers have, therefore, taken to cart-making or repair work to supplement their income.

FURNITURE MAKING.

32. This seems to be a growing industry at Ahmedabad. It is estimated that there are about 22 large and 75 small concerns engaged in this industry in the City of Ahmedabad. The investigator interviewed three of these furniture-makers. One of them employs about 30 to 35 persons and manufactures tables, cots, cup-boards, chairs, etc. His equipment is worth Rs. 3,000 while the cost of its repairs comes to Rs. 300 a year. He estimates the value of his annual output at Rs. 36,000, the cost of his raw materials at Rs. 17,000 and his other charges for wages, rent, etc. at Rs. 14,600. He had no grievances or complaints to make and stated that his industry was in a good condition. The second furniture-maker who was interviewed was a small *karkhandar*. He employs two carpenters, who are paid daily wages at Rs. 1-12-0 each, one polisher who is paid at the rate of Rs. 1-4-0 per day and a boy for general help who is given Rs. 7 a month. His equipment cost him Rs. 150, and its repair charges come to Rs. 25 a year. According to his own statement he earns an income of about Rs. 65 a month. The third furniture-maker has a partner and employs six artisans and an apprentice; he himself and his partner also take a very active share in the work. The cost of his equipment is placed at about Rs. 500 and his repair charges at Rs. 100. The value of his output comes to about Rs. 12,000, the cost of the raw material to Rs. 7,000 and that of other charges for wages, rent, etc., to Rs. 3,000. Carpenters are paid daily wages at the rate of Rs. 1-8-0 each. His figures seem to show a profit of about Rs. 2,000 for the two partners, though he himself claims that the income does not come to more than Rs. 60 a month for each partner.

33. It seems that this branch of the carpenter's trade is in a fairly good condition. A suggestion was made in the course of the interview by the furniture-makers that modern journals on decorative and home furnishing trades giving latest designs, patterns, etc., should be made available to them.

At Dholera the investigator interviewed a carpenter who made tables and wooden legs for cots. It was his hereditary occupation and he claimed to make an income of Rs. 200 to Rs. 250 a year. His equipment was valued at Rs. 35 and his estimated annual cost of repairs was Rs. 5 to 6.

TANNING.

34. The tanning industry does not appear to have obtained much success in Ahmedabad, it being reported that 2 or 3 tanneries which were started had all failed. There is, however, to-day the Ahmedabad Chrome Tanning Company, a factory which seems to be flourishing. It is reported that the water and weather at Ahmedabad are not suitable for good tanning. The factory also complains about the unsuitability of their site. It is estimated that there are about 10 tanneries at Dhandhuka, 5 at Bavla, and 100 at Dholka. Dholka seems to be a good tanning centre, and the tanners interviewed in that place expressed a great desire to see a modern tannery opened in their place. They were anxious to learn the details of the lime process in tanning which resulted in the production of softer and more polished leather. The average monthly earnings of the persons engaged in this trade appeared to be Rs. 10 to Rs. 12.

GUT-MAKING.

35. There are a few artisans in Ahmedabad who prepare guts. One of them, who was interviewed, was making guts for which he obtained Rs. 1,270 a year. His net income came to Rs. 310 per year or about Rs. 25 a month, and his entire family helped him in his occupation. He stated that there was a good demand for guts but all the waste materials from the slaughtered cattle in Ahmedabad were taken away by dealers who exported them to England. The gut-maker had, therefore, to obtain the raw materials required by him from the United Provinces and the Punjab, and had to pay high prices for them. He pointed out that whereas five years ago the price per hundred intestines was Rs. 2 to Rs. 3 it was now Rs. 10 and the result was a large reduction in the number of families who were engaged in making guts. He wanted some arrangement to be made by which it would be possible for all of them to obtain intestines in Ahmedabad itself. The gut-worker in question also pointed out that he did not know how to colour the guts, and required some training, to enable him to prepare guts suitable for tennis racquets.

LEATHER INDUSTRIES : ROLLER SKINS.

36. It appears that about 10 to 12 men are employed in this industry in Ahmedabad, and the value of their output comes to Rs. 10,000. The local mills, however, are consuming a much larger quantity of roller skins which are mostly imported from abroad. The indigenous roller skins are much cheaper but the foreign ones are reported to be much superior in quality.

37. One of the manufacturers who was interviewed seemed to be earning about Rs. 500 a year by making roller skins. He employs four artisans of whom three are paid Rs. 25 per month and one Rs. 20 and pays a rent of Rs. 25 per mensem for his *karkhana*. The raw materials

utilised by him annually consist of goat skins worth Rs. 5,300, 10 tins of fat at Rs. 5 each and 100 tins of castor oil at Rs. 5-8-0 per tin. He prepares 200 dozen roller skins in a year and sells them at Rs. 15 per dozen. In addition he sells leather laces, oiled as well as dry, worth Rs. 4,800. The leather wastage which is sold to the shoe repairers yields him about Rs. 100 a year. Another person who was interviewed employs two artisans, and produces roller skins worth Rs. 4,000 a year.

LEATHER INDUSTRIES, PICKERS.

38. This is another new industry connected with leather started in Ahmedabad. The investigator interviewed two manufacturers of pickers, one of whom employed 42 persons and the other 50. One of the two persons interviewed is wellknown in the trade. He stated that he obtains sperm oil and colour from England and wire from Germany and Belgium. The buffalo hides are obtained from the United Provinces, the Punjab and the North West Frontier Province. It is stated that slaughtered buffalo hides are not available locally in sufficient quantities and the hides of dead buffaloes are not suitable for the industry. Moreover, hides in the United Provinces and the Punjab are dried on frames, whereas in the Gujarat they are dried on the ground, with the result that weight of the hides is increased on account of the adherence of clay. It was suggested that a change in this practice might perhaps lead for a better utilisation of the local supply.

39. For the preparation of pickers, the buffalo hides are first soaked in water, then a paste of lime, sodium sulphide, etc., is applied for dehairing. Then the hides are cut into pieces of suitable size called "Pharma", which after being pressed three times, are punched and steeped in sperm oil for about 2 months, after which they are ready for sale as pickers. The cost of this manufacturer's equipment was estimated to be Rs. 10,000 and it was all locally made. The volume of output is said to be 2,000 gross of pickers per year, which are sold at about Rs. 60,000. He makes pickers for cotton, jute and silk mills. The industry is seasonal because during the monsoon, the weather is not suitable for manufacture. The manufacturer has agents who get orders, and he also supplies to mills and mill store suppliers; 30 per cent. of his sales are local, while 70 per cent. are sent outside. He sells on 42 days' credit and gives a discount of $1\frac{1}{2}$ per cent. if paid in cash. He claims to get a return of 4 to 5 per cent. on the value of his sales. The machinery employed by him is not up-to-date. The workmen are paid wages on piece-work basis. The average wage bill is reported to be Rs. 1,000 per month, which gives an earning of nearly Rs. 24 per worker employed by him. It is estimated that there are in Ahmedabad 6 manufacturing concerns employing about 250 to 300 persons, who are engaged in making pickers. The volume of total output is estimated at 12,000 gross of pickers worth about Rs. 3.6 lakhs.

40. The main complaint of the manufacturer was that the local mills to a large extent patronised foreign pickers despite their higher price. It was stated that employment would greatly increase in this industry if all the mills in Ahmedabad used the pickers manufactured locally. He also desired Government to provide financial facilities by which he could provide himself with improved machinery and thus reduce his cost.

OIL SEEDS CRUSHING.

41. The investigator interviewed two persons working on hand-*ghanis* in Modasa. It is estimated that about 50 *ghanis* work there during the working season. The cost of a hand-*ghani* is about Rs. 25 to Rs. 30 while the maintenance charges of a bullock come to Rs. 7-8-0 a month. A *ghani* worker is able to crush 45 to 50 maunds of sesame seeds in a month. This costs him Rs. 107. The monthly output of oil comes to about 20 maunds and oil cakes about 30 maunds and the price realised is stated to be Rs. 100 for oil and Rs. 200 for the cakes. This seems to leave him only Rs. 13 a month as earnings inclusive of the charges of maintenance of the bullocks. One of the *ghani* workers interviewed had a small piece of land from which he is able to get the fodder for his bullocks. He estimates his income at Rs. 10-8-0 a month for eight months in the year. Both he and his wife work on the *ghani*. During the agricultural season, both of them work on their piece of land which yields them about Rs. 50 a year.

42. The other worker interviewed, does not buy his own oil-seeds, but works to order. He gets 3 annas per maund of oil-seeds and crushes about 40 maunds of oil-seeds in a month. This gives him an income of Rs. 7-8-0 a month for about nine months in a year. From this income, he has to meet the charges of maintenance of the bullocks. He is able to do so because he also works on his cart. According to him, his total annual income comes to Rs. 12% of which Rs. 68 is from the *ghani* and Rs. 54 from cartage. The cost of maintaining his bullocks is said to be about Rs. 50 a year. It seems, therefore, that he gets a net annual income of Rs. 72.

A number of persons in Modasa submitted a memorandum to the Committee's investigator complaining about the competition from oil mills. They also said that the advent of lorries had reduced their income from cartage, while rice-husking and flour mills had deprived the women of their important occupations.

SOAP MAKING.

43. Prantij was known for its soap industry, and even to-day soap making is in a flourishing condition in that place. It is reported that there are three big *karkhandars* and two small *karkhandars* in Prantij producing soaps worth Rs. 2,20,000, the raw materials employed costing from Rs. 1,70,000 to Rs. 1,80,000. One of the leading soap manufacturers of the place employs about 25 persons who are paid daily wages

varying from annas 5 to Re. 1-4-0 each. He reported that last year, he prepared soap worth Rs. 16,000 and earned a profit of Rs. 2,000. Mainly *gola* soap used for washing purposes, is manufactured and marketed at Ahmedabad. The raw materials consist of *mahura* oil, soda and lime. Crude soda is available in good quantities in Prantij while the *mahura* oil is obtained from Modasa. It appears from the statement of the person interviewed, that his sales are increasing. There is also an important soap making industry in Ahmedabad City. The investigator interviewed three manufacturers who prepare toilet and washing soaps. The raw materials used are lime, castor oil and other oils, washing soda, etc. The industry is seasonal as some of the processes cannot be carried on during the monsoon. The labourers work for about 8 to 10 hours a day and are paid from 4 to 6 annas a day. It is estimated that there are 4 to 5 big factories in Ahmedabad and 15 to 20 small concerns. Of the three soap makers interviewed, one obtained an income of more than Rs. 100 a month, another about Rs. 100 to Rs. 120 a month, while the third got an income of Rs. 45 to Rs. 50 a month. The All India Village Industries Association has started a soap-making industry at Ahmedabad and two *Harijans* are employed who obtain a decent income from the same. The soap-makers at Ahmedabad complain about the high rates of railway freights for the raw materials used by them.

PAPER MAKING.

44. There are at present reported to be only 2 families at Ahmedabad working in this industry whereas formerly there were estimated to be 600 families producing hand-made paper. The fall in number is ascribed to the severe competition from machine-made paper, both foreign and Indian. The artisans assert that their paper is more lasting and is very good for records. They claim that their paper can even last a hundred years, and state that due to the absence of any encouragement from Government, Municipalities and the public they suffer.

45. The chief raw materials are waste-paper, soda, soap and bleaching powder. The yearly consumption of waste-paper comes to 960 maunds worth about Rs. 2,540. Bleaching powder, soap, starch, etc., cost about Rs. 1,100 a year. The output per year is estimated at 7,200 *gha* (of 24 sheets each) worth Rs. 7,650. It is said that ten years ago, the production was 20,000 *gha* and the prices were also double those of to-day.

46. One of the two producers prepares 300 *gha* of paper in a month; the second one also produces the same quantity. But the paper made by the former is unglazed and fetches annas 12 per *gha* while the paper made by the latter which is glazed fetches Rs. 1-6-0 per *gha*. Each of these producers employs an artisan and two labourers. All adult members of the family also work. The artisan is paid Rs. 1-8-0 for ten *gha* of paper which is usually made in a day and the labourers who are unskilled workers are paid daily wages at 12 annas each. The monthly earnings of each family are estimated to be between Rs. 30 and Rs. 40.

47. They state that they are capable of producing more, but do not do so on account of the lack of demand. They think that Government can help them by encouraging the hand-made paper industry. At present, only some of the Kathiawar States use this paper. They feel sure that with Government and public patronage, the industry will once again prosper. They, however, complain of the severe competition of machine-made paper which though cheaper, is less durable; and want some sort of protection against this competition so that their industry can prosper.

INK.

48. There is only one ink manufacturer at Ahmedabad. His yearly output is estimated to be worth Rs. 3,600 and the raw materials (colours, chemicals, bottles, etc.) worth Rs. 1,500, per year. His present investment amounts to Rs. 3,000 or thereabouts.

At present his chief customer is the Ahmedabad Municipality. His market is mostly local but orders are also received from outside. He exhibits his products at fairs and exhibitions. He estimates his profits at about 8 to 10 per cent. of his investments.

49. His chief complaint is against foreign and Bombay inks. He maintains that the foreign inks are neither better in quality nor cheaper in prices. All the same, people go in for these, because they have a better packing, and are very well advertised. He thinks that the Government can help him by making available the initial capital at a low rate of interest. He also finds the rates of advertising too high. He wants the help of technicians and also encouragement from schools, mills and Government Departments. He suggests that the Government should test and certify the quality of inks produced by Indian manufacturers so as to create confidence in the public regarding their products.

LIME KILNS.

50. It is reported that there are about 7 lime kilns in Prantij, each employing about 3 labourers. The total annual output is estimated at about 2,000 *brass* valued at Rs. 30,000. It is significant to note that 75 per cent. of this lime is consumed by the local soap factories. The individual who was interviewed stated that he brings about 200 *brass* of lime-stones from the lime quarry. The lime quarry is worked by contractors who allow lime-kiln owners to take lime stones on payment of Rs. 6 or Rs. 7 per *brass*. Sand is obtained from river beds. The industry suffers from internal competition as a result of which prices have gone down considerably.

BAKERIES.

51. The investigator interviewed only one bakery-owner at Ahmedabad. The individual produced biscuits and bread. His main complaint was of fierce internal competition. He expressed a wish that this may be stopped by forming a syndicate or association of all bakeries in the city.

AYURVEDIC MEDICINES.

52. At Modasa, the Gandhi Pharmacy manufactures Ayurvedic medicines from herbs, etc. The industry is carried on with manual labour. The Pharmacy gives employment to 8 men who work throughout the year for 8 hours a day. The total wages paid annually come to about Rs. 1,000. Raw materials consisting of herbs, mineral products, etc., worth about Rs. 2,000 are utilised every year and the sales of the products amount to Rs. 7,000 a year. They suffer from the competition of machine-made drugs both Indian and foreign. They want Government to test and certify the quality of ayurvedic medicines and further help the industry by giving it full publicity. They feel that without encouragement from Government, there are no bright prospects for their industry.

Tulsi BEADS MAKING.

53. This small industry is found only at two places in the district—Bagad and Khas. At Bagad which is the larger centre, 50 artisans are engaged in this industry. *Tulsi*-beads have an inter-provincial market, but the annual production does not exceed Rs. 1,800 in value. A hundred beads cost only 2 annas. The beads are made on ordinary lathes. The wood is obtained locally, and the annual cost of wood utilised in this industry does not exceed Rs. 500. The artisans engaged in this industry earn only about Rs. 70 to Rs. 100 a year. They take therefore to subsidiary occupations, mostly to agriculture.

It is reported that the number of artisans engaged in this industry is increasing though there has not been a corresponding increase in demand. Prices consequently have gone down considerably due to the internal competition and the artisans are getting less and less profits.

POSSIBILITIES OF NEW INDUSTRIES.

54. There appear to be very few raw materials in the district which await exploitation. The forests are poor and the minerals available are not many. Ahmedabad, however, being an important centre of the textile industry, there seems to be much scope for the manufactures of bobbins, and shuttles, sizing and finishing materials, mill machinery parts, etc. Similarly, it should be possible to develop such leather industries like the manufactures of roller-skins, washers, pickers, belting, etc. There seem also some possibilities of utilising on cottage industry basis, the nitrous earths found at Dholera and Viramgam for production of saltpetre, and the crude soda found at Prantij for the further development of the soap industry at that place. It is also worth considering whether some of the old established cottage industries like paper-making, which are at present practically dying out, cannot be revived.