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 nonofficials; 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 мо-п Вк Qc 20--а

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 smallscale 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, Chairman.

May 3, 1940.

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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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KAIRA.

Position and Area.

The district of Kaira lies between 22° 14' and 23° 7' north latitude and 72° 30' and 73° 23' east longitude and has an area of 1,620 square miles. It is bounded on the north by the Ahmedabad district, Mahi Kantha and the small State of Balasinor in the Rewa Kantha Agency; on the west by the Ahmedabad district and the State of Cambay; on the south and east by the river Mahi and the Gaikwar's territory. The breadth of the district varies from 25 to 40 miles.

PHYSICAL FEATURES.

2. Kaira is a lowland country situated between the rivers Sabarmati and Mahi which fall into the Gulf of Cambay. It consists of an almost unbroken plain and the land in the centre is a tract of most fertile soil. Besides the two large rivers already mentioned the country is wellwatered by several smaller rivers. Embankments have been thrown across the Khari in the west near its junction with the Sabarmati and these serve to irrigate the rice fields of the neighbouring villages.

CLIMATE AND RAINFALL.

3. From November to March the air is pleasant and bracing but the heat during the rest of the year is severe, dry and parching from March to May, moist and oppressive from June to October. The average rainfall is 34", but although it is so moderate, the district is liable to flood, especially in the low-lying tract.

POPULATION.

4. According to the Census of 1931 the district has a total population of 741,650 persons of whom 616,030 live in rural areas consisting of 570 villages while the remaining 125,620 are to be found in 10 towns. The important towns are ;—

		,			Population.
Nadiad	••	••	• •	••	34,584
Kapadvanj	••	• •	••	• •	16,556
Umreth	••	• •		••	14,779
Borsad			••		13,191
Anand			••	••	11,660
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The percentage of urban population to total population comes to 16.8.

The total number of principal workers in the district is 205,544 of whom 178,077 are males. The occupational distribution of that number is as follows :---

Exploitation of animals and	vegetation	••	••	148,100
Exploitation of minerals	••	••	••	250
Industry	••	••		19,690
Transport	••	••	••	2,004
Trade	••	••	••	10,175
Public force and Administra	tion	••	••	3,059
Professions and liberal arts	•	••	••	5,461 -
Living on their income	••	••	••	2,914
Domestic service	••	••	• •	2,095
Insufficiently described	• •	••	••	9,205
Unproductive		••	• •	2,591

Total .. 205,544

The proportion of the industrially occupied persons to the total earners comes to 9.3 per cent. Besides the 19,690 persons shown as engaged in industries proper according to Census classification, there are 3,822 persons engaged in stock-raising and 438 persons engaged in forest industries and though these are grouped under "exploitation of animals and vegetation" for purposes of Census returns, they can be taken to be industrially occupied. The total number of persons engaged in industrial occupations is thus 23,950.

HEALTH AND MEDICAL FACILITIES.

5. Some indications of the health conditions in the district are provided by its vital statistics. The mean ratio of births per thousand for the five years ending 1937 was 42.74. The mean ratio of deaths for the same period was 32.08 per thousand. The survival rate, thus works out to 10.66 per thousand which is the lowest in the Northern Circle. Department of Agriculture and the information supplied by that Department in respect of 1938-39 is given below :---

					1938-39. Acres.
Vegetables-					
Potatoes	••	••	• •	••	690
Sweet Potatoes	••		••	••	320
Elephant foot (S	uran)	••	••	••	21
Radish (Mula)	••				87
Onions	••	••	••	• •	257
					1,375
Green vegetables-			ž		
Edible Hibiscus	••	••	• •	••	258
Water Melon		• •	• •		42
Others	••			• •	1,663
					1,963
Fruits-					
Plantains		••	••		89
Mango		••	••		238
Lime	••	••	• •		328
Guava	••	• •			319
Papaya	••	• •			127
Others	••		••	•••	162
					
					1,263
	Tot	al, Fruits a	nd Vegetables		4,601

The district is well supplied with fodder, the area under it being nearly 107,000 acres. It produces the best *kankreji* cattle in the Province and is thus very important in connection with cattle breeding. The chief breeding localities are Thasra, Kapadwanj and Matar talukas. Throughout the greater part of the district, the breed is essentially of the *kankreji* type and even the ordinary village cattle are also above the average of other parts of the Province. According to the Census

1)

The district has six hospitals and twelve dispensaries. Of the six hospitals, one is in Kaira town and is maintained by Government; four hospitals, including one eye hospital, are at Anand and these are maintained by missions and private bodies. The sixth hospital is at Borsad and is maintained by a mission. The District Local Board maintains five dispensaries while the remaining seven are maintained by municipalities. The proportion of doctors in the district comes to 1 for 11,600 persons.

LITERACY AND EDUCATIONAL FACILITIES.

6. According to the Census of 1931, 91,691 persons were returned as literate, thus constituting a percentage of literacy of nearly 12.3 for the whole district.

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

Description.	No. of Institutions.	No. of Pupils.
Primary Schools	716	60,139
Secondary (including lower Secondary and English teaching) Schools.	51	7,034
Industrial, commercial and agricultural Schools.	5	197

• Of the 570 villages in the district, 366 villages had schools in them.

TRANSPORT FACILITIES.

7. The district is intersected by three lines of railways; the B. B. and C. I. main line, the B. B. and C. I. line from Anand to Godhra and the Nadiad-Kapadwanj Railway. The total mileage of both metalled and unmetalled roads in 1937-38 was 240.40 and 35.23 miles respectively.

SURVEY OF RESOURCES : AGRICULTURE AND PASTURE.

8. The district has a total area of 986,837 acres of which 874,015 acres constitute the gross cropped area. Current fallows constitute 16,149 acres. The uncultivable waste or land which is not available for cultivation is 157,378 acres. There are 14,946 acres which are returned under culturable waste or land which is theoretically available for cultivation.

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I	escription of (crops.		A	rea in acres 1937–38.	١.
Rice	••	••			110,770	
Wheat		••	••	••	19,048	
Jowari	••	••	••	• •	42,393	
Bajri	••	••	••	••	135,650	
Ragi	••	• •	••	• •	47,358	
Maize	••		••	••	1,638	
Gram	••		••		9,032	
Other food grai	ns including	g pulses		••	141,446	
Sesame (Til)	••		••	••	8,560	
Groundnuts			••		55,973	
Castor seed	• •	••	••	• •	5,464	
Other oil-seeds	••	••	••	••	251	
Condiments and	l spices	••	••		4,775	
Sugarcane	•••	••		••	177	
Cotton	••	• •		••	96,375	
Other fibres	••	••		••	3,371	
Tobacco	••	••	••	••	80,117	
Fodder		••	••		106,900	
Fruits and vege	tables	••	• •	••	4,555	
Other miscellan	eous crops	••	••		162	
						

The following table gives details of the classification by crops of the cultivated area in 1937-38 :--

Total .. 874,015

It will be noticed that cotton is the most important commercial crop of the district. The other valuable crop is tobacco which accounts for a considerable portion of the cropped area. This is grown mostly in the *charotar* tract, the central part of the district. Among food crops, bajri and jowari are the principal crops. Groundnuts are grown in considerable quantities and the other oil-seeds are castor and sesame which are grown to a lesser extent.

Fruits and vegetables account for an area of nearly 4,600 acres. Detailed information regarding this money crop was obtained from the of cattle taken in 1934-35 the details of live-stock in the district are as follows :---

Bulls and Bullo	cks (bre	eding, worl	ting and	young	
	``	stock)	•••	•••	156,439
Cows	(do.)	••	38,773
Bufialoes	(do.)	••	21,427
Cow Buffaloes	(do.)	••	$245,\!354$
Sheep and goats	••	••	••	••	82,005
Horses and Ponie	28	••	••	••	1,887
Donkeys	••		••	••	5,593 -
Camels	••	••	••	••	696 .

Of these milch cattle number 154,109 consisting of 26,673 cows and 128,436 cow-buffaloes.

SURVEY OF RESOURCES : MINERALS.

9. The Gazetteer states that iron ore was at one time worked in the neighbourhood of Kapadwanj. In the bed of the Majam river, about 15 miles from Kapadwanj, varieties of agate and moss-stone are reported to be found. The bed of the Mahi river contains masses and boulders of trap while on its upper course, on the Balasinor frontier, rock is plentiful including trap, with occasional limestone, quartz and granite. There are hot springs at Lasundra 10 miles south-east of Kapadwanj; these are slightly sulphurious and are said to be useful for curing skin diseases.

SURVEY OF RESOURCES : FORESTS.

10. The district has no forests or forest lands. The trees either stand singly or in small groves. In the north the *mhowra* and in the south mango and *limdo* or *nim* are the commonest kinds. Mangoes are sent in considerable quantities to Baroda, Ahmedabad and Kathiawar. During the hot season the fleshy corolla of the *mhowra* flower is eaten by the poorer classes and by cattle.

SURVEY OF RESOURCES : POWER.

11. There are 3 electric supply companies in the district. The figures of their output are given below :---

	Units generated.	Total units sold.	Units sold for power.
	(in 000s)	(in 000s)	(in 000s)
Nadiad Electric Supply Company Limite	xd 327	287	217
Kapadwanj Electric Supply Com Limited.	pany 28	15	Nil.
Anand Electric Supply Company Limite	d 98	74	26

SURVEY OF RESOURCES : CAPITAL.

12. There were 102 agricultural credit societies in the district during 1937-38 and their total working capital amounted to Rs. 4.59 lakhs. There were also 20 non-agricultural credit societies with a working capital of Rs. 1.99 lakhs. During the same year, the working capital of the District Central Co-operative Bank amounted to Rs. 3.3 lakhs. There were also 110 post office savings banks in which there were 25,862 accounts current in 1937-38 with a balance of nearly Rs. 83.8 lakhs. Besides, postal cash certificates to the extent of Rs. 25.8 lakhs were sold in the district during the same year.

INDUSTRIES IN THE DISTRICT-GENERAL SURVEY.

13. The population engaged in industrial occupations has been estimated at 23,950 including the 4,260 persons engaged in stock-raising and forest industries. Of these, the following classes of industrial workers are more or less suppliers of pure services and cannot be classed as makers of manufactured commodities :---

Butchers	••		 219
Tailors, milliners, etc.	••		 999
Washing and cleaning	• •	• •	 197
Barbers, hair dressers, etc.		••	 1,778
Scavenging	••	••	 967
·			<u> </u>
		\mathbf{Total}	 4,160

The remaining 19,790 may be regarded as persons engaged in industries proper. The Census tables give the following classified statistics :---

	Tota	J	19,790
Other industries	••	••	· 371
Makers of jewellery and ornaments	• •	• •	651
Lime burners, etc.	••	••	1,404
Cabinet makers, etc.			363
Boot and shoe makers			181
Manufacture and refining of vegetable oil			727
Brick and tile makers		• •	189
Potters and makers of earthenware	••		1,922
Workers in brass, copper, etc			561
Blacksmiths, etc.			903
Basket makers, etc.			951
Carpenters, turners, etc.			2,087
Working in leather			1,284
Wool carding, spinning and weaving	••		880
Rope, twine, etc., makers			222
Cotton spinning and weaving	••		2,276
Cotton ginning, cleaning, etc			558
Forest industries	••	• •	438
Stock-raising			3,822

Of these, 3,063 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 o	of faotories.	Number of workers.		
	1931.	1938.	1931.	1938.	
Textiles	1	2	1,839	1,858	
Engineering	1	2	11	18	
Food, drink and tobacco	1	1	90	102	
Chemicals, dyes, etc	4	6	141	387	
Paper and printing	• • • •	1	••••	21	
Processes regarding wood, stone and glass.	••••	3	••••	75	
Processes regarding hides and skins.	••••	3		171	
Seasonal factories	16	27	982	1,491	
Total	23	45	3,063	4,123	

14. The investigator, Mr. A. B. Trivedi, spent 12 days 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 two independent workers at Mehmedabad. One weaves bath-towels and the other coarse cotton cloth. The former uses 20s yarn and works on a fly-shuttle. He also cultivates his small piece of land during the agricultural season. The towels are mainly produced to meet the orders from Ahmedabad and the Northern Division Industrial Co-operative Association, and the weaver finds no difficulty in marketing them. He gets a net income of about Rs. 20 per mensem. The other weaver weaves coarse cloth which he sells to the villagers. He earns about Rs. 7 to Rs. 8 a month for about nine months in the year. During agricultural season he works on his land. He complains that due to severe mill competition he does not get a fair price.

16. At Karamsad some years back, there were about 60 looms. To-day there are said to be only six *saree* weavers, two towel weavers and four *gazi*-weavers. The counts of yarn used in this locality are mostly $8\frac{1}{2}s$, 29s, 2/20s, 2/30s, 2/40s and 2/84s.

The investigator interviewed two independent workers. One of them reported that he produced towels worth about Rs. 1,250 during the past year while the other stated that he wove sarees worth about Rs. 1,100 during the same period. The products were sold in the district and the adjoining territories. The former estimated his income at Rs. 18 per month while the latter stated that both, he and his brother together earned about Rs. 35 a month.

17. There are about 40 looms at Borsad where *ghaghrapats* (women's garments) are woven. About 15 years ago, there were said to be nearly 300 looms at this place. This cloth is mostly prepared by women in their spare hours. They get about 12 annas on each piece of 24 yards $\times 31''$ of cloth. A woman who can work for about 8 hours a day gets nearly Rs. 7 per month.

The dealers purchase the *ghaghrapat* cloth at the rate of Rs. 3-14-0 per piece of 24 yards $\times 31''$, and sell it at Rs. 4. The consumers are mostly people from Dakor, who have a fancy for this product. It may be pointed out that the women folk of the families of the dealers also work in this industry and add something to their family income.

At Uttarsanda about 15 looms work in summer and about 8 in 18. the rainy season. The investigator interviewed an independent worker and one outworker at this place. Both of them use 20s yarn. The former has a fly-shuttle loom and the latter a throw-shuttle loom. The independent worker has to purchase his yarn at Nadiad. He produces coatings and shirtings which are sold locally and in the surrounding villages by personal hawking. His net income from weaving is reported to be about Rs. 90 a year. In addition he gets about Rs. 40 a year from work on his piece of land during the rainy season. The out-worker gets the raw material on contract from a Bohra at Nadiad and gets a monthly income of Rs. 9 for himself and his family. At times when work on a contract basis is not available, he buys the yarn and produces cloth directly for the market and gets an anna or two more, but the additional time taken for marketing the product cancels the advantage.

19. At Gutal, there are only nine looms. Five are owned by outworkers and the rest by independent artisans. The investigator interviewed an artisan using a fly-shuttle loom. He uses 20s handspun yarn and earns about Rs. 9 per month. His products are sold in the taluka itself. All the weavers interviewed complained against the power-loom competition from factories and mills. They wanted Government to put some restrictions on this competition. They also wanted some marketing arrangements whereby they could market their products easily, especially during the rainy season.

THE DAIRY INDUSTRY.

20. The Kaira district is famous for its dairy industry. There is a large number of dairies at Anand. Casein is exported every year to England, Holland, Germany, etc. And Bombay imports butter from Anand on an extensive scale. There is also a very large trade in *ghee* at Mehmedabad, Kapadwanj and Nadiad.

The investigator visited a big dairy at Anand employing about 130 persons. About 100,000 lbs. of milk are daily supplied to the dairy by merchants who collect it from the agriculturists. With the help of a milk separating machine, the cream is taken into a Pasturizer to kill bacteria. It is kept for a day in a condenser and later on transferred to a churner which prepares butter. In the separated nulk acid is mixed and case in is prepared. Case in pieces are ground in powdering machines and then exported. The annual production of butter of this factory comes to about 1,302,373 lbs. and that of case in about 3,000 maunds.

At another dairy visited by the investigator at Anand, about 21.9 persons are employed on monthly wages varying from Rs. 10 to Rs. 15 per month. The employer owns a separating machine priced at about Rs. 300, a press for casein and a few tubs and gunny bags. The total value of the equipment is about Rs. 450. He purchases the milk required from the agriculturists, the prices of milk varying according to its butter contents. Butter is exported to Bombay and casein is sold to a local merchant. This karkhandar complains of internal competition from powerful individuals. Prices of casein are also reported to be going down year by year. As a result of these changes, his profits are steadily declining. He states that in 1925 he earned Rs. 10,000; his income came down to Rs. 5,500 in 1928 and to-day it is hardly Rs. 1,000. Other difficulties common to all dairies at Anand are : (1) absence of gradations according to quality, so that both superior and inferior quality butter is sold at the same price, (2) high transport costs from Anand to Bombay; and (3) poor quality of milk due to partial starvation of cows and buffaloes.

22. Another establishment visited by the investigator was that of an independent worker engaged in powdering casein. He had a permanent assistant and occasionally engaged casual labour. The permanent assistant is given free boarding and lodging and is paid about Rs. 5 per month. His equipment, worth about Rs. 2,500 consists of two powdering machines and a crude oil engine. In 1937-38 his purchases amounted to about 75 tons of casein valued at about Rs. 21,000. The casein powder was exported to England, Germany, Holland, etc., and the total amount realised was nearly Rs. 22,500. He thus got about Rs. 1,200 for his work.

BRASS AND COPPERWARE.

23. It is stated that there are about 400 artisans at Nadiad engaged in the brass and copperware industry. The annual production of brassware and copperware is valued at Rs. 5 lakhs to Rs. 6 lakhs.

One of the independent artisans interviewed at Nadiad has three family members working with him and specializes in copperware. Another mostly prepares brassware and is helped by eight family members. The former purchases annually copper sheets worth about Rs. 5,400 and the latter brass sheets worth about Rs. 10,000. The equipment consists of the usual tools and appliances and is worth about Rs. 400 to Rs. 450. The finished products are sold to local merchants and the village folk. The total value of the annual sales is reported to be about Rs. 6,600 in the case of the first family and Rs. 11,100 in the case of the second.

The artisans state that due to the increasing poverty of the agricultural classes, their business is very slack. They have also to face the stiff competition from cheap and attractive factory-produced goods. According to one estimate the imports of such goods in the district are valued at Rs. 15 lakhs per year. The artisans want some restrictions to be placed on these imports. They also desire that internal competition should be minimised by starting an association for their industry which would regulate prices and hours of work. Lastly, they want Government to evolve a marketing scheme by which their goods can be sold without much loss of time and labour.

GLASS INDUSTRY.

24. Kapadwanj is well known for its glass products. There were 25 to 30 factories working at this centre before Japan began to flood the markets with cheap glassware. To-day there are only two factories employing about 24 labourers.

The raw materials utilised in these factories, are pieces of broken glass, soda ash, coal, sand, etc. The broken glass is generally purchased from the sweepers and the ærated-water dealers of Ahmedabad. Both the factories manufacture small mirrors and bangles. The small mirrors are mostly used by shepherd women to decorate their dress. The market for them is Kathiawar and the Nizam's Dominions where women still wear their old fashioned dress with decorative mirrors. The owner of one factory informed the investigator that his earnings come to about Rs. 90 a month.

25. This manufacturer bitterly complains about the high railway rates on his raw materials. He points out that while the actual cost of his raw-materials like broken glass and sand, is negligible, the freight charges on railways are very prohibitive. He suggests that Government should arrange for reduction in these railway rates. It is also stated that the demand for the old type of goods is steadily declining, and that the technique of production needs much improvement to cater to changing popular tastes. The manufacturers want training in the methods of preparing better quality bangles and also financial help.

SOAP INDUSTRY.

26. Kapadwanj was well-known for its soap industry. It is reported that only a few years back, it had about sixty *karkhanas*. To-day only six are left. They give employment to about sixty wage-earners and the total output is estimated at about Rs. 24,000 a year. The investigator was told that the main reason for the decline of the Kapadwanj soap industry was the severe competition from large-scale factories.

27. One of the karkhandars interviewed, has an equipment worth about Rs. 175. The raw materials are locally purchased and consist of *mhowra* oil, caustic soda, lime, etc. All told, the annual expenditure on raw materials is about Rs. 6,000 and realisations from the sale of soap are about Rs. 7,200. He employs 3 to 4 labourers who are paid Rs. 8 to Rs. 10 per month. He has his own shop and his products are sold to merchants from the neighbouring villages. The karkhandar estimates his net income at Rs. 75 per month.

LEATHER WASHERS.

28. At Nadiad there are three workshops, engaged in manufacturing leather washers for ginning factories. Their total annual output is valued at about Rs. 1½ lakhs.

The investigator visited two of these workshops. One of them employs about 40 wage-carners and the other 75, and all are paid on a piece-rate basis. The leather available locally is said to be defective and the manufacturers, therefore, use chrome splits imported from America. The smaller manufacturer spent Rs. 24,000 and the other nearly Rs. 37,000 on raw materials during 1937-38. Both of them have borrowed a part of their working capital at about 9 per cent. interest. The total value of washers sold during the same year was Rs. 36,000 in the case of the smaller manufacturer and Rs. 55,000 in the other. The washers are sent to ginning factories all over India and a part of them are even exported to Africa and Burma.

The manufacturers complain of severe competition from Madras. Cheap imported coir and paper washers are reported to be used increasingly in India. Further, they have to pay high rates of interest on their loans. They also want the municipal and railway charges to be substantially reduced. The manufacturers suggest that if the local tanners are trained to prepare chrome leather on a larger scale, both the tanners and the washer-manufacturers would benefit.

ORNAMENTAL ENAMEL WORK.

29. It is reported that some time back there were two artisans at Kapadwanj who were making enamelled gold and silver buttons, earrings, etc. One of them left for Bombay for improving his prospects and the other was interviewed by the investigator. This artisan generally works to order. Orders are received from a dealer in Surat and from stray customers. Two labourers and an apprentice work with him. The silver and gold required for his work are mostly supplied by the customers, though on occasions he himself purchases them. Coal, kerosene oil and chemicals are his other necessities. On an average, he estimates his net earnings at Rs. 50 a month. The two labourers are each paid about Rs. 15 to Rs. 16 a month. Business is reported to be slack in the rainy season.

30. The artisan wants to establish direct connections with his customers instead of depending upon dealers who make good profits. For this he needs capital at low rates. Secondly, he wants training in the preparation of cheap alloys of gold and silver for making cheap ornaments, etc., on a large scale.

MANUFACTURE OF RAZORS.

31. There are about four razor manufacturers at Umreth and their total annual output is estimated to be worth nearly Rs. 1,200.

The investigator interviewed one of these artisans. He has an assistant on a daily wage of 8 annas. He makes razors and scissors out of old iron files purchased from the mills of Nadiad and Ahmedabad. In 1937-38 he purchased files worth about Rs. 18. But expenditure on coal and chemicals was rather heavy and came to about Rs. 60. The value of razors and scissors turned out was Rs. 480. He estimates his net income at about Rs. 25 per month. But most of this income is earned by him from repairs work. The razors are sold to the village barbers. The manufacturer complains that he is rapidly losing his market due to the increasing popularity of foreign, especially German, razors. He is somehow carrying on his industry because the old fashioned village barbers still appreciate his products.

It was suggested to the investigator that these workers should be made familiar with the technique of production on machinery and should be supplied with the necessary machinery on easy terms.

BAMBOO WORK.

32. The investigator interviewed bamboo workers at Gutal and at Uttarsanda in the Nadiad taluka. These artisans are assisted by their families. At both the places the industry is in the hands of *bhangis* whose main occupation is generally sweeping. It is reported that there are six families of bamboo workers at Gutal and thirteen at Uttarsanda.

One of the artisans interviewed at Gutal uses old bamboos, purchased at 8 for Re. 1 and produces baskets and mats worth about Rs. 12 per month. During the rainy season he works on his piece of land. All told, he estimates his net income at Rs. 80 per annum. Of the two artisans interviewed at Uttarsanda, one produces goods worth about Rs. 31 per annum and the other who has a bigger family, about Rs. 110. The former also works as an agricultural labourer when such work is available. Both these artisans use new bamboos purchased at 5 for Re. 1. Both the Gutal and Uttarsanda workers have to go on foot to Nadiad for purchasing their raw materials. The finished products are sold locally and in the surrounding villages by hawking from house to house.

33. The bamboo-workers complain about the narrowing of their market. The increasing use of road metal carriers made of iron and other metals, has very much affected the demand for their products. They get some business only because of the tobacco plantations. Due to the fall in demand, prices have gone down considerably. It is stated that a basket which in 1925 fetched about 6 annas hardly fetches $2\frac{1}{2}$ annas to-day. These workers want Government to supply them with bamboos at low rates. They also desire that the Public Works Department, District Local Boards and Municipalities should go in for their products instead of using iron and tin road-metal carriers. A suggestion was also made that these artisans should be taught better methods of production.

GHEE MAKING.

34. Mehmedabad is a big centre of *ghee* trade. Annually about Rs. 2 lakhs worth of *ghee* is reported to be exported from here to Surat, Broach and Baroda. *Ghee* for export is generally purchased by dealers from agriculturists. Apart from Mehmedabad, Kapadwanj and Nadiad produce Rs. 160,000 worth of *ghee* in about equal proportion.

The investigator was informed by the dealers that ghee of superior quality can be produced if the cattle get better fodder. Further it was suggested that strict action must be taken by Government against adulterated stuff so that the honest dealers may get their due price.

PREPARATION OF CLOTH-BUTTONS.

35. Muslim Women of Kapadwanj prepare buttons out of white cotton rags and yarn. By working for about 8 hours a day they can earn about Rs. 5 to Rs. 6 per month. In 1921 buttons worth about Rs. 1,700 were exported from this centre. The trade has now considerably declined due to changes in fashion and competition from buttons of better finish of Poona, Borsad, etc. The present local production per year is said to be not more than Rs. 100 in value.

Patrala OR LEAF-PLATE INDUSTRY.

36. At Umreth about 700 families are engaged in the production of leaf-plates for dining purposes from *khakhra* leaves. The work is generally done by women and children. The net income of a family may be put at Rs. 50 per annum. The industry is said to be much handicapped by the heavy freights on the exports to Bonibay.

OTHER INDUSTRIES.

37. Among other industries in the district which may be mentioned are *bidi* making and blacksmith's work. At Umreth there are reported to be five *bidi karkhanas* employing about 500 wage-earners. The annual production at that centre is estimated to be worth about Rs. 2 lakhs. The blacksmith's industry is on the decline. The village artisans complain against the itinerent Marwari blacksmiths who visit their places and compete with them. Their earning are reported to have declined considerably and at present they do not get more than Rs. 15 per mensem.

Possibilities of New Industries.

38. Among the possible new industries may be suggested the cigarette industry. A considerable portion of the cropped area of the district is devoted to the tobacco crop and the tobacco leaf is stated to be superior to that grown in the Southern Maratha countries. It is also worth considering whether the groundnuts grown in the district cannot be utilised, with the help of oil-expellers, in the district itself. The Mamlatdar of Kapadwanj suggested the possibility of utilising the groundnuts for production of vegetable *ghee* by the hydrogenation process. The same officer was of opinion that soap and glass industries could be started at Kapadwanj on a large scale.