

CHAPTER - VI

Industrial Structure of Nadia District

Introduction :

Industrial structure is the aggregation of individual industries of a region, or rankanking, or rating of all these industries according to a given criteria. The study of Industrial Structure is necessary, while studying the potentiality of industrial activity, so as to have a clear picture of the existing industrial condition of the district and thus considering all the essential possibilities for developing the district industrially.

Nadia is one of the ten backward districts of West Bengal, situated in the heart of the Bengal delta. Though has some reputation for cotton saris and clay modelling yet 68 percent of its population are directly or indirectly engaged in cultivation, it's little manufacturing skill could'nt flowered into any large scale textile industry due to so many a reasons like absense of raw material, power, capital, market etc.

Nadia is a backward district with little economic development, it becomes clear from the map (Fig.32) showing distribution of population in the district according to worker and non worker¹. Almost 68.22% of the workers are engaged in primary activities. In 1971 all non agricultural activities claimed about 31.76% of the working group, of which 11.58% were in the secondary and the rest 20.18% were in the tertiary sector.

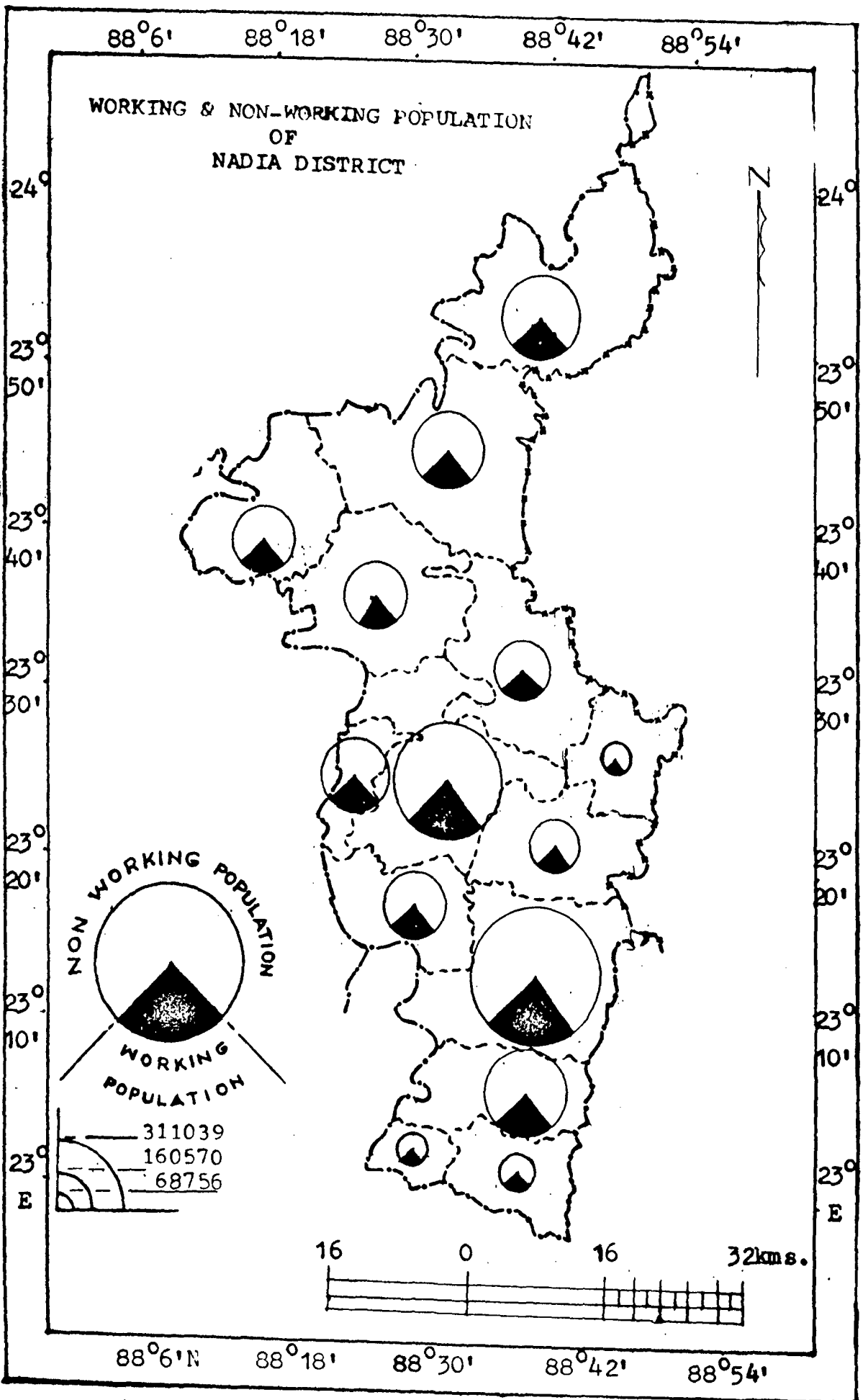


Fig- 32

Interms of total employment, Ranaghat, Krishnanagar, Karimpur, Chakdah, Tehatta and Nabadwip have the maximum employment, while Kalyani and Krishnaganj have the minimum. Karimpur, Ranaghat, Krishnagar, Tehatta, and Nakasipara have the maximum population engaged in agriculture.

Maximum industrial employment is found in Nabadwip, Ranaghat, Santipur, Krishnanagar, Chakdah, and Kalyani. Krishnaganj is the least industrially developed police station in the district. Kalyani being in the CMDA and as well as having an Industrial Estate, it offers to become the most industrialised region in Nadia. Fig.33 Shows the occupational structure of Nadia Police Station wise.

Largest number of people occupied in the tertiary sector are concentrated in Krishnagar, being the district headquarter, next in importance is Nabadwip, being a traditional seat of religious cult and once the head quarter of the Britishers, Ranaghat comes next, tertiary activity is important here, as the subdivisional seat is located in this police station. This area is also advanced both agriculturally and industrially. Next positions are followed by Chakdah and Santipur. When concentration of industrial activities are concerned, in the district, it can nevertheless be said that, the police stations of Nabadwip, Krishnanagar, Santipur, Ranaghat, Chakdah, and Kalyani comprise the industrial zone of Nadia. The rest are primarily agricultural, though they also carry on some cottage and household industries.

While comparing the employment of Nadia in three different

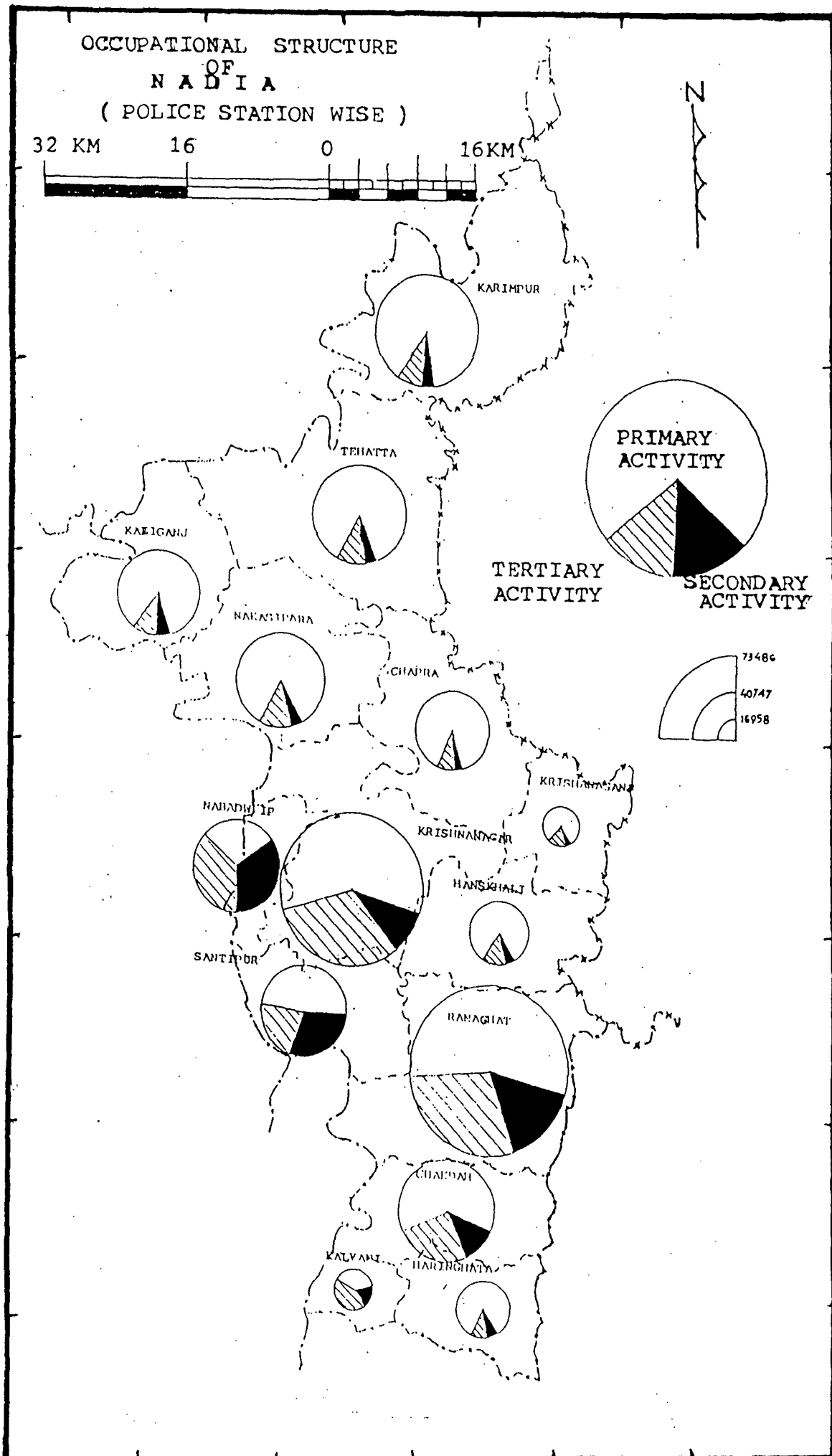


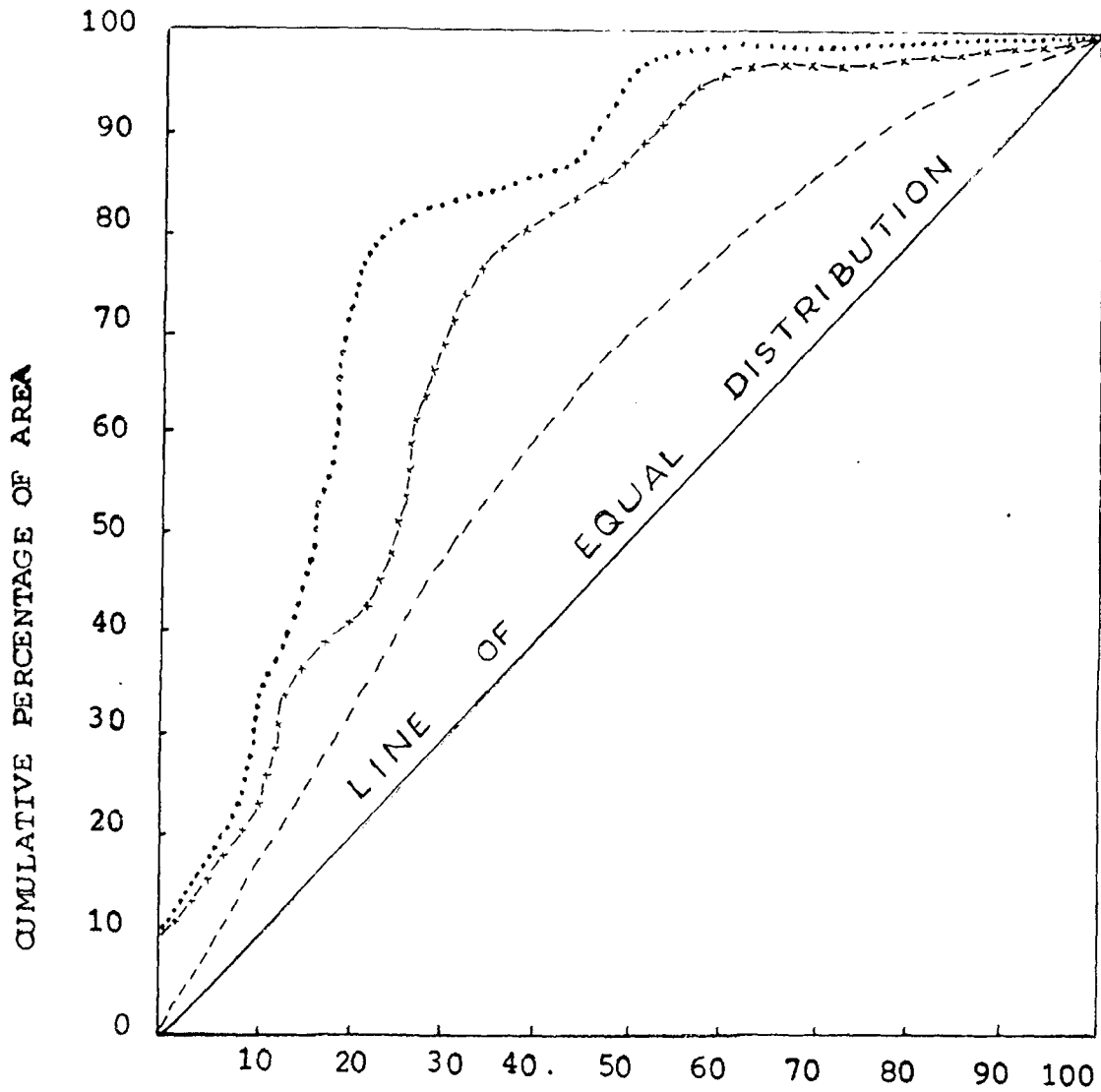
Fig - 33




perspectives namely, total employment, industrial employment and employing in household industries of different police stations of Nadia District, it is found that the geographic relation ship amongst the three is not very strong as the three maps do not convey the same pattern. Ranaghat ranks 1, 2 and 3 in the three maps. Nabadwip ranks 1st in industrial employment, 2nd in household employment and 6th in total employment. Santipur ranks first in household employment 3rd in industrial employment and 9th in total employment. Krishnanagar ranks 2nd in total employment and both 4th in Industrial and household employment.

From the Lorenz Curve drawn in Fig.34 it appears that the density of secondary worker is not evenly distributed as in the case of primary worker, in the district. 40% of the density of secondary worker is concentrated over 2.7% of the total area. 6.85% density is within 9.9% of the area and the 83.2% of density of population is distributed over 27.32% of the area. This resulted in the two major steps in the Lorenze Curve for secondary activity. The rest 17% is distributed over roughly 73% of the area. This indicates the varying concentration of industrial activities in the district. 4.99% area included 51.5% of the total secondary worker again 18.13% area of total area covers up 71.9% of secondary worker of total workers, hence it indicates that a large amount of area, about 80% of the total area, covers only 22% secondary workers of total workers. That means secondary or industrial activities are low in the district as a whole.

Similarly the tertiary activity has the almost same

LORENZ CURVE SHOWING THE DENSITY OF
OF INDUSTRIAL ACTIVITY



-  Primary
-  Secondary
-  Tertiary

Cumulative Percentage of Worker

Fig - 34

nature of curve with the only exception that it has a lower magnitude of shifting from the line of equal distribution. This pattern of curves of both Tertiary and secondary lines are similar in nature because the tertiary activity is very much dependent on secondary activities. Another point is that both these two sector occurs at the same places in the district. That is to say, that the towns, and semi urban centres and urban agglomerations are the places where both government seats, banking, post and Telegraph offices etc are situated side by side with the industrial units.

The curve of primary activity is more or less evenly distributed over the total area.

The degree of relationship between the number of industrial employment and total employment can be picturised through a ratio map². The ratio is not at all constant in Nadia, varying from 1.11 in Krishnaganj to 22.18 in Nabadwip which implies that the geographic association between the two elements is weak. For the district as a whole the ratio is 11.58 . Out of the fourteen police stations of Nadia only 3 are above the district percentage and eleven are below. The median value for the eleven below average police stations is 2.78, four police stations are below the median value, while one is of the same value and one is above the median, but all are below the district average. The median value of the three above average police stations is 18.19, one above and one below. The Ratio map is shown in Fig.35 .

The whole analysis can be systematically categorised into

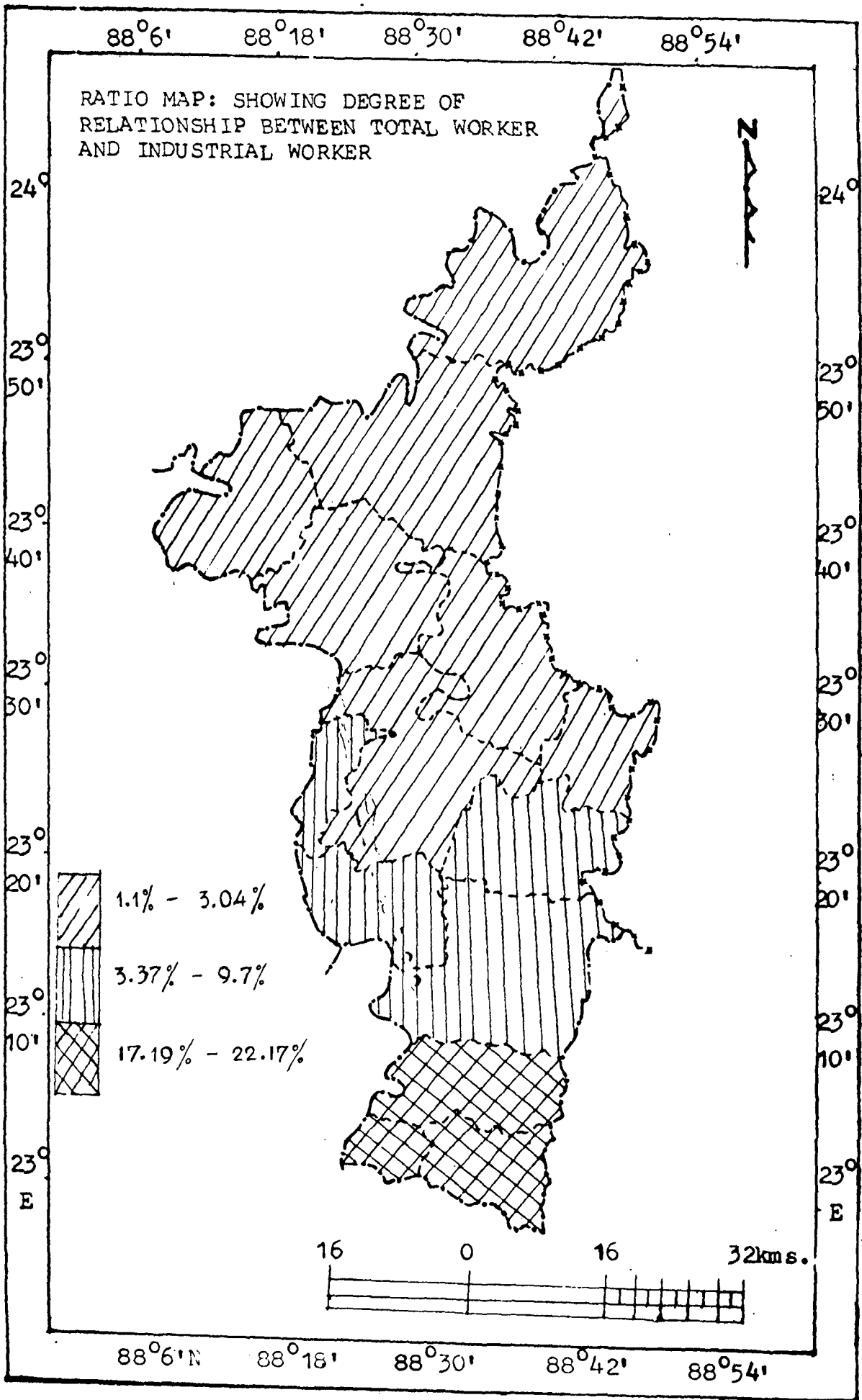


Fig - 35

three groups. The first one consists of 3 police stations namely Chakdah, Kalyani and Haringhata which are above the district average as well as the median of 'above average'. The second category consists of four police stations namely Nabadwip, Santipur, Hanskhali and Ranaghat whose ratios are between 11.58 and 3.165 and lastly the third one which includes seven police stations namely Karimpur, Tehatta, Kaliganj, Nakasipara, Chapra, Krishnaganj and Krishnanagar whose ratios are below 3.165 .

With the help of location Quotient the unevenness of industrial activity can be measured properly. If the Location Quotient is 1 in a particular region then that region is said to have a balanced activity.

Items taken into consideration for studying the unevenness of activities in Nadia with the help of Location Quotient are employment in industry in a police station, employment in all activities in the district and employment in all activities in a police station.

In Nadia out of fourteen police stations only Nabadwip, Santipur, Ranaghat, Chakdah and Kalyani have location quotient above 1, they are 3, 2.59, 1.36, 1.05 and 1.68 respectively, it indicates a high concentration of industrial activity relative to district's share as a whole. The remaining police stations have location quotient less than 1, this means that industrial activity is less developed in these regions compare to industrial activity in the district as a whole. These police stations are Karimpur, Tehatta,

Kaliganj, Nakasipara, Chapra, Krishnaganj, Manskhali, Krishnanagar and Haringhata.

Now location quotient for the three sectors of primary, secondary and tertiary activities taken separately shows the location quotient of primary activity is 1.0078, which indicates that this activity is balanced with reference to the working population, where as for secondary and tertiary activities the average location quotients are 0.9643 and 0.94 respectively which is slightly less than the 1. This suggests that the activities are in the lower tone with reference to the working population. Moreover, it is obvious that the tertiary activities like transport, service etc are mostly dependent on secondary activities thus an emphasis set on secondary sector will also lead to development to tertiary sector. Fig. 36 Shows the map of Location Quotient of Nadia District.

From the analysis so far made it is found that there is some relationship between the two phenomena of (a) general employment and (b) Industrial employment. To measure the type and degree of this relationship the method of Pearson Product Moment Coefficient of Correlation is applied. The co-efficient of these two elements is + 0.49 which implies that there is a positive correlation between the two elements but the relation is not very strong.

An Index of Local specialisation, helps to identify the importance or the share of local employment in relation to the national employment ; also the importance on any particular industrial employment in relation to that industrial employment for the

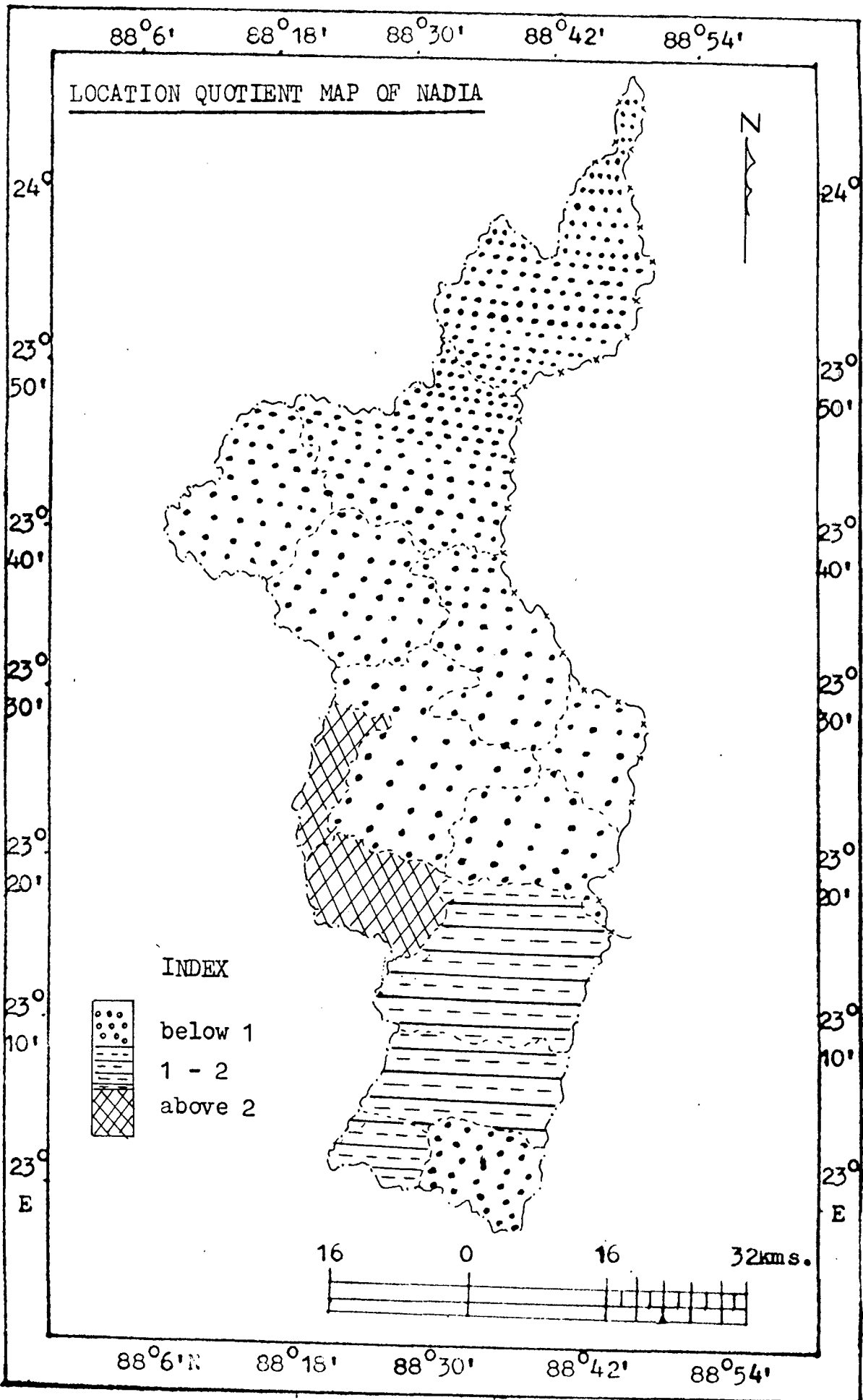


Fig - 36

nation as a whole.

This method when applied for Nadia with reference to West Bengal (items taken are industrial employment, and total employment of Nadia and West Bengal) it shows that the index is 0.82 which indicates that the locality has no specialised or skilled worker to produce surplus goods and services to earn from external markets. Though Nadia enjoys some reputation for her clay modelling or handloom weaving yet she does 'nt have enough, to have a profitable return from markets outside Nadia. It may be mentioned in this connection that Government and Bank's credit plans have changed this gloomy picture to some extent, in the case of handloom weaving. Weavers are now profiting from outside markets. The fact that the household industrial activity is more widely practised in Nadia can be computed with the application of Coefficient of Linkage. The items taken are employment in three categories namely, (a) all industry, (b) household industry, (c) other than house hold industry. For the employment in household industry, the coefficient is 0.84 and for the employment in other than household sector, the coefficient is 0.86. The higher the figure the closer the correlation. Accordingly it can be concluded that within the district 'other than household industry' varies from place to place in slightly closer association with all industry than does the household industry.

'Index of concentration' is a measure of the degree to which an activity is concentrated regionally. It is based on the comparison between the distribution of two phenomena for the purpose

here, the two phenomena taken are total number of all units in Nadia and total number of handloom units in Nadia³ - both are taken police station wise. Applying this method, it is found that the police station of Nabadwip enjoys the concentration of handloom weaving industry in Nadia.

The industrial sector of Nadia is not very bright, her agricultural side is much better even though she produce very little surplus to be sent for outside markets.

Basic/NonBasic :

Industries may be classified as basic and non basic. The basic industries contributes to the growths of the district by drawing wealth from outside and the latter are ubiquitous industries designed to serve the district only. In Nadia most of the units cater to the internal markets excepting the factories at Kalyani, the Haringhata Dairy farm product, and the handloom products which go outside for external markets.

Owing to certain difficulties some of the units are on the verge of decline and some others are unable to expand inspite of encouraging demand and potentialities. The major problems are :

- (a) Inadequate quantity, inferior quality and high prices of raw materials.
- (b) Inadequate power supply and marketing facilities.
- (c) Outdated technology and severe competition from outside.
- (d) Majority of the units are under financed.

- (e) Lack of appropriate entrepreneurs with proper knowledge, zeal and enthusiasm.
- (f) Required infrastructural facilities are not available in many parts of the district.
- (g) Number of financial institutions are meagre.
- (h) Detrimental influence of Mahajans on rural artisans and weavers.

Problems are many no doubt yet the economy of Nadia is undergoing slow but steady changes with the commercial banks and other local financing agencies, stepping up their credit programmes in a big way to give a push to rural development.

The Commercial Banks have taken two fold policies :-

- (a) To step up new agro-based industries.
- (b) To render support to traditional activities.

Both Central and State Governments have extended many facilities, incentives, subsidiaries, accomodation facilities etc to develop cottage and small scale industries.

Further steps are having taken to set up new units in growth centers identified by the district's DIC.

The datas applied in the aove methodologies namely occupational structure, Lorenz curve, Ratio map, Location quotient. Index of local specialization, Index of concentration are furnished in Table 6.1 ad 6.2.

Table 6.1 Primary Census Abstract

<u>Police Station</u>	<u>Total Population</u>	<u>Total Workers</u>	<u>Primary Workers</u>	<u>Secondary Workers</u>	<u>Tertiary Workers</u>	<u>Non Workers</u>
Karimpur	187480	47888	42039	1946	3903	139,592
Tehatta	177013	44094	38081	1785	4228	132,919
Kaliganj	148465	37725	31989	2161	3474	110,740
Nakasipara	160232	40335	33788	1781	4766	119,897
Chapra	135634	34844	30865	1285	2694	100,790
Krishnaganj	68756	16958	13453	712	2793	51,798
Krishnanagar	272958	66232	39382	6213	20637	206,726
Nabadwip	160570	40747	11446	14192	15109	119,83
Santipur	144311	36658	17528	11004	8126	107,653
Hanskhali	114206	27072	22290	1317	3438	27,134
Ranaghat	311039	73486	40830	11644	21012	237,553
Chakdah	186044	44802	28021	5493	11288	141,242
Kalyani	67979	16992	6454	3307	7231	50,987
Haringhata	95583	24715	20831	1146	2738	70,868

Table 6.2 Total Employment, Industrial Employment and Employment in Other than household Industry.

<u>Police Station</u>	<u>Total Employment</u>	<u>Industrial Employment</u>	<u>Employment in household Industry.</u>	<u>Employment in other than household Industry.</u>
1. Karimpur	47,888	1946	1372	574
2. Tehatta	44,094	1785	1064	721
3. Kaliganj	37,725	2161	834	1327
4. Nakasipara	40,335	1781	924	851
5. Chapra	34,844	1285	973	312
6. Krishnaganj	16,958	712	402	310
7. Krishnanagar	66,232	6213	2229	3904
8. Nabadwip	40,747	14192	5771	8421
9. Santipur	36,658	11004	8653	2351
10. Hanskhali	27,072	1317	748	596
11. Ranaghat	73,486	11644	4463	7181
12. Chakdah	44,802	5493	1714	5779
13. Kalayani	16,992	3307	277	3030
14. Haringhata	24,715	1146	440	706

References

1. District Census Handbook, Nadia, 1971
2. Economic Geography - Alekender J.W. and Gibson LJ,
Prentice Hall, 1979
3. Credit Plan for Nadia District 1980