INDUSTRIAL DEVELOPMENT IN NORTH BENGAL

Thesis Submitted for the Degree of
Doctor of Philosophy (Arts)
of the
University of North Bengal.

By
Krishna Ghosh (M. A.)

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Krishna Ghosh
Department of Geography and
Applied Geography
University of North Bengal.

PREFACE

The topic under investigation is the Industrial Development of North Bengal and the reason for its selection is that so far no comprehensive study has been made on this by any individual or respective concerns. It is needless to say that the true picture of the economy of a region cannot emerge without taking its industrial activities into consideration. North Bengal, basically an agricultural region, depends to a certain extent, on its small scale and cottage industries which traditional as they are, reflect the Individuality of the region. Among the major industries that now functioning in North Bengal are mainly at the small scale and cottage level, like, the Saw Mill, the Ply Wood, the Handllom, the Rice Mill, the Fruit processing, the Bakery products etc. to name only the important ones. Tea Industry the most basic of the region has however not been included in the present study as by its sheer size and complexities it makes altogether a seperate study. Besides, intiated by foreign enterprise and capital - at least in the earlier period - tea industry does not fit in with traditional needs of the people of this region.

The introductory part is devoted to a comperative assessment of Small Scale and Cottage Industries functioning in North Bengal and West Bengal, giving an analysis of the terms like "Large Scale", "Medium Scale" and "Small Scale".

Chapter I refers to the Geographical, Occupational and Economic background contributing to development of the characteristic industries in North Bengal.

Chapter II investigates into the infrastructural facilities as available in the region and having their roles in industrial development.

Chapter III covers the places of Industry in North Bengal analysing the various locational advantages responsible for the diversification of the Registered Small Scale and Cottage Industries.

Chapter IV puts emphasis on the need of field survey, its objectives and scope for North Bengal, thus revealing a central contrast between 97 small scale and 140 cottage industrial units of the surveyed sample bringing into surface that all of the former, except ~~for~~ 4 (2 oil Mills, Cigar Cheroot, Sodium Silicate), are located in the important urban centres of North Bengal, whereas the cottage units are in smaller towns or villages. This geographical contrast no doubt, helps to explain some of the differences in the marketing characteristics and utilisation of capacity of the respective types of establishment.

Chapter V analyses the location, structure and operative conditions of the industries, with reference to the composition of fixed and working capital, employment and production capacity, providing a basis for banks or other financial institutions in adopting norms for loan-management.

Chapter VI and VII give details about the major industries, like, Saw Mill and Ply Wood Industry and Handloom Industry.

The concluding chapter focusses on the problems inhibiting the growth of industries in North Bengal and points out the remidial measures with suggestions for future development.

The principal aim of the present study has been first, to analyse the existing industrial character and its position, second, to assess the resource potentiality; and third to establish the priority of the speciality industries that can be given a better scope for further development which ultimately will strengthen the regional as well as the national economy.

A part of the results of this thesis obtained through persistent field investigations has been published in the form of 3 research papers the details of which are given below.

1. Indian Silk, Central Silk Board, Bombay "Malda : Premier Silk District of West Bengal", Vol. XVI No. 5 pp. 21-25, September, 1977.

2. Banmahal, Uttar Banga Banabyabasayee Sammilita Sanstha, Jalpaiguri, "Plywood Industry in North Bengal", Vol. III, No.7 pp. 23 - 26, March, 1978.

3. Indian Geographical Studies, Geographical Research Centre, Patna "Development and Growth of Wood Based Industry in North Bengal" Vol. II pp. 45 -50, September 1978.

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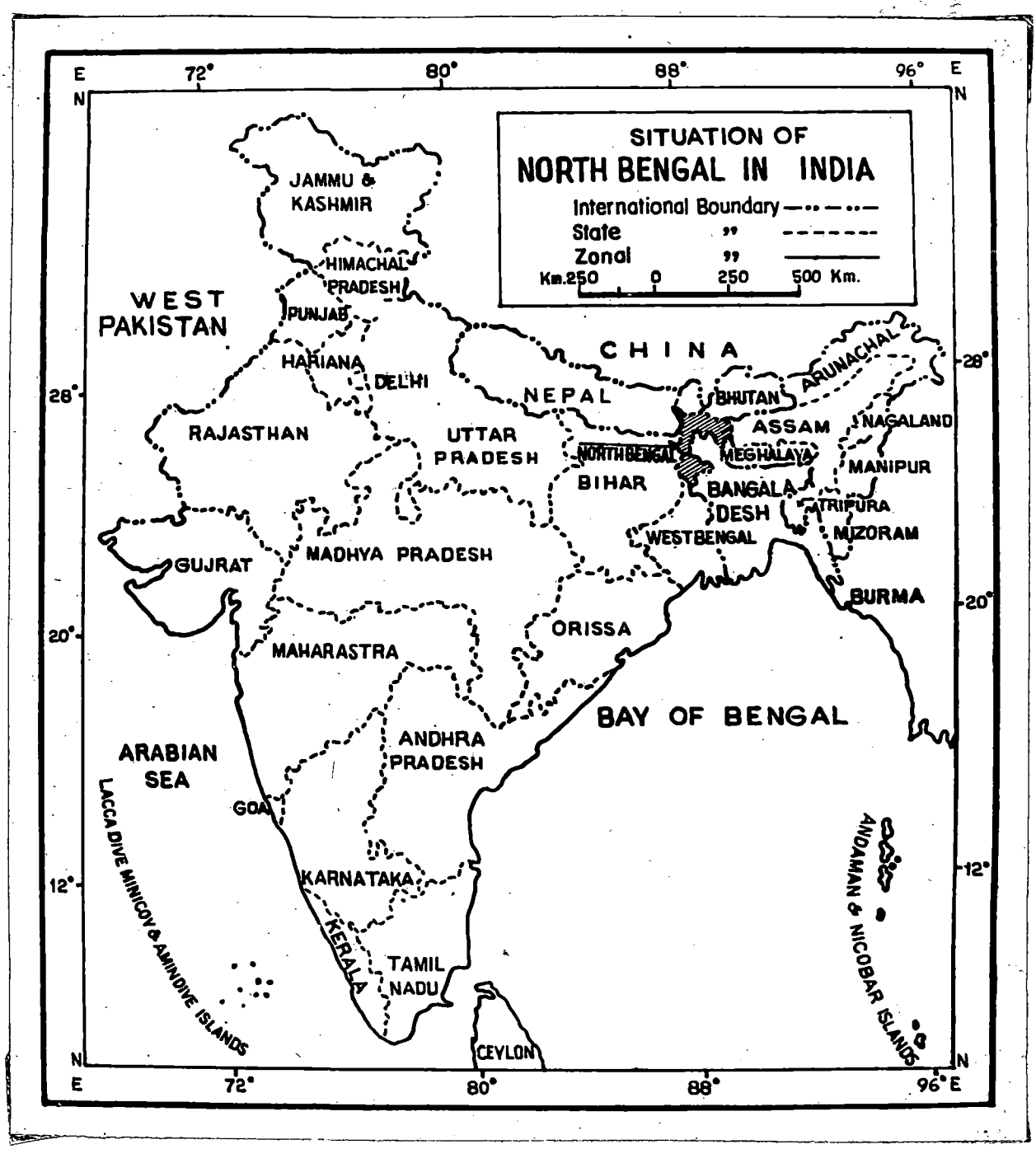
SITUATION OF
NORTH BENGAL IN INDIA
International Boundary
State
Zonal
Km.250 0 250 500 Km.
JAMMU & KASHMIR
HIMACHAL PRADESH
PUNJAB
HARIANA
DELHI
RAJASTHAN
UTTAR PRADESH
BIHAR
NEPAL
CHINA
BHUTAN
ARUNACHAL
ASSAM
NAGALAND
NORTH BENGAL
MEGHALAYA
MANIPUR
BANGALA DESH
TRIPURA
MIZORAM
WEST BENGAL
BURMA
GUJRAT
MADHYA PRADESH
ORISSA
MAHARASTRA
BAY OF BENGAL
ANDHRA PRADESH
ARABIAN SEA
GOA
KARNATAKA
KERALA
TAMIL NADU
CEYLON
LACCA DIVE MINICOY & AMINDIVE ISLANDS
ANDAMAN & NICOBAR ISLANDS
WEST PAKISTAN
E 72° 80° 88° 96° E
N
28°
20°
12°

Fig. 1

Introduction

With a few of its speciality products and characteristic Industries, North Bengal, being one of the smallest and humid regions of India, lies in between the Eastern Himalayan Mountain ranges and the River Ganga. It has a population of about 3,541,940 (1971) and until recently, its economy was based primarily on agriculture. Since the 4th 5 year plan North Bengal has benifitted financially for the rapid rise of Industries which has permitted the region on an ambitious development programme. (Fig.1).

Despite the low progress in economic development with its industries much smaller in both bulk and variety than the largescale industries of southern West Bengal, North Bengal is fortunate enough in possessing a few of its speciality industries, having in some cases world market.

The table below shows the total employment in Small Scale and Cottage Industries in North Bengal and its southern counterpart. (Chart.2).

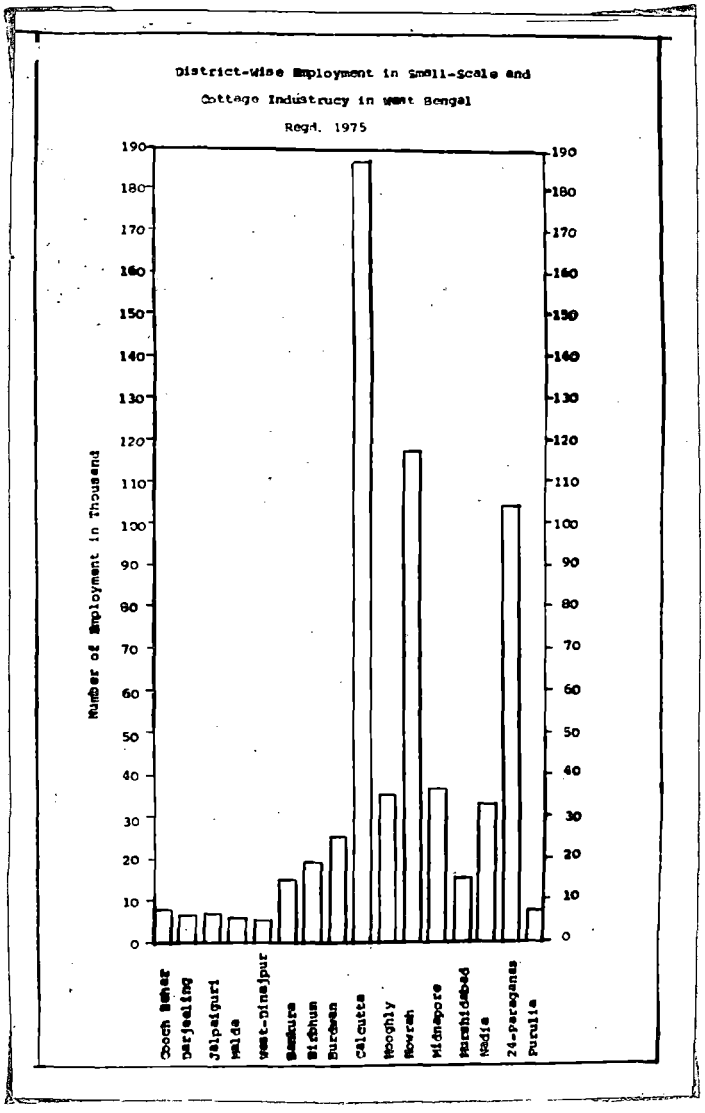
District-Wise Employment in Small-Scale and
Cottage Industrucy in West Bengal
Regd. 1975
Number of Employment in Thousand
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
Cooch Behar
Darjeeling
Jalpaiguri
Malda
West-Dinajpur
Bankura
Birbhum
Burdwan
Calcutta
Hooghly
Howrah
Midnapore
Murshidabad
Nadia
24-Parganas
Purulia

Chart. 2

Table - 1

Regd. as on 13.12.75

District-wise employment in Small Scale and Cottage Industries in West Bengal.

Sl. No.	Name of the Districts	Total Employment
1.	Darjeeling	6,966
2.	Jalpaiguri	7,294
3.	Cooch Behar	7,615
4.	West Dinajpur	5,034
5.	Malda	5,109
	Total for North Bengal	32,018
6.	Bankura	14,404
7.	Birbhum	18,835
8.	Burdwan	24,553
9.	Calcutta	1,86,824
10.	Hooghly	35,325
11.	Howrah	1,16,523
12.	Midnapore	36,444
13.	Murshidabad	14,757
14.	Nadia	33,415
15.	24-Parganas	1,04,434
16.	Purulia	7,836
	Total For West Bengal	6,29,367

Source : Directorate of Small Scale Industrial Office, Calcutta.

It is evident from the above table that out of the total employment of 6,29,367 in Small Scale Industry in West Bengal, the North Bengal districts share about 33,018 employment or 5 percent. In North Bengal again Cooch Behar possesses 23.8 percent followed by Jalpaiguri 22.8 percent, Darjeeling 21.7 percent, Malda 16 percent West Dinajpur 15.7 percent of the total employment engaged in Small Scale and Cottage Industry.

The present Study being on the Industrial Development of North Bengal its aim is to focus on the actual performances of the manufacturing units and how satisfactorily the job is done by the industry in providing employment, marketable goods and in distributing the income for strengthening the economy of the region.

A delinlation of some terms : Before proceeding further, it is necessary to define and discuss briefly some of the terms to be used frequently in succeeding chapters. Particular attention is, therefore, must be given to the Industry "Small Scale", "Medium Scale" and "Large Scale" units. Industry here refers to a privately owned business firm, engaged in productive activity. "Small scale", "Medium Scale" and "Large Scale" units, are the subgroups of such industry differing from each other on the basis of their capital outlays. Thus for the large, Medium and Small scale units by the definitions generally accepted now is that an industrial undertaking with a capital of upto Rs. 5 lakhs is a small scale unit; one with a capital of upto Rs. 20 lakhs

is a medium scale unit[1] and the one with a capital investment in excess of Rs. 20 lakhs is large Scale unit.

According to a press statement[2] the Govt. of India with a view to broaden the scope of the small scale industry so as to include within its folds a large number of such industries, has accepted to consider and redifine the present working definition[3]. Which has been criticised as very narrow[4]. "Under the new definition the only limiting factor for an industry to be called a small-scale industry would be in regard to the capital investment which should not exceed Rs. 5 lakhs, including the cost of land, Machinery, building and other materials"[5].

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1. Capital for Medium and Small-Scale Industries, S.S.E.S. Bombay, 1959, p.4.

2. The Hindu, d. 7.10.59 - Shri M.M.Shah at 14th meeting of All India Small Industries Board, (Puri 5,10.59); also Small Industrial Bulletin No. 21, 1959 p.21.

3. Working definition by Karve Committee.

4. The Govt. of India have decided to revise the definition of Small Scale Industries, so as to include all industrial limits with a capital investment of not more than rupees five lakhs, irrespective of the number of persons employed - The Hindu 3.2.60.

5. According to the 77th Report of the Estimates Committee 1959-60 (2nd Lok Sabha) "for the purpose of Govt. Assistance Small Scale Industries are defined to include all industrial units with a capital of not more than Rs. 5 lakhs irrespective of the number of persons employed". It has been clarified by the Govt. to the committee, that "Small Industries are defined as units with fixed capital assets not exceeding Rs. 5 lakhs irrespective of the number of persons employed" but no clarification was given on whether the term fixed capital assets mean gross or net assets. To avoid the risk of medium size units claiming or taking special advantages of Govt. aid offered to smaller units (on the pretext that their net value of fixed assets is below Rs.5 lakhs) the committee pointed out that the term fixed capital assets be treated as gross fixed assets.

Investment of capital per unit of manufacturing unitin North Bengal are mostly identical with that of the small scale and Cottage industry which is "a small scale or cottage industry may accordingly be defined to be an enterprise or series of operations carried on by a workman skilled in the craft on his own responsibility, the finished product of which he markets himself. He works in his own house with his own tools and materials and provides his own labour and at most the labour of such members of his family as are able to assist. These workers work mostly by hand labour and personal skill with little or no aid from modern power driven machinery, and in accordance with traditional techniques. Such suplementary energy as is provided by animal power may add to the economy and efficiency of the industry. He works, finally for a market in the immediate neighbourhood, that is to say, in response to known demand with reference to quality as well as quantity"[6].

The following table shows the distribution (including number of units and total capital investment) of the Small Scale and Cottage Industry both in North Bengal and the whole of West Bengal.

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6. Report of the Sub-Committee of the National Planning Committee on Rural and Cottage Industries, 1948 pp. 24-25 ~~25~~.

Table 2

Small Scale & Cottage Industries in North Bengal
(Registered upto 13.12.75)

	District	No. of units	Total capital Investment (Rs.)
	a	b	c
1.	Darjeeling	2,177	30,478.0
2.	Jalpaiguri	1,779	28,819.0
3.	Cooch Behar	1,313	15,230.8
4.	West Dinajpur	1,573	27,055.6
5.	Malda	1,246	7,974.4
	Total for North Bengal	8,088	1,09,558,6
	(AV. Investment per unit)		(13.54)
6.	Bankura	3,601	23,406.5
7.	Birbhum	2,943	32,961.6
8.	Burdwan	7,514	1,51,782.8
9.	Calcutta	20,307	11,37,192.0
10.	Hooghly	4,839	2,96,146.8
11.	Howrah	10,890	7,84,080.0
12.	Midnapore	4,859	34,984.8
13.	Murshidabad	6,416	23,097.6
14.	Nadia	4,914	55,036.8
15.	24-Paraganas	13,389	4,12,381.2
16.	Purulia	12,061	14,021.6
	Total for West Bengal	89,822	30,52,628.7
	(AV. Investment per unit)		(23.99)

Source : Collected from the directorate of the Small Scale and Cottage Industries, Govt. of West Bengal.

The object of above furnished data is to find out the regional pattern of the number of units and the total capital investment in the Small Scale Industry in North Bengal. The figures in colum b show that the number of units (8,088) accounts for 9 percent of the total number of such units in West Bengal (89,822) and the average capital investment per unit in North Bengal is 13.54 (shows only 38 percent compare to the whole of against 33.99 in West Bengal. It is quite evident from the above facts that the industrial situation in North Bengal in the context of West Bengal is not at all satisfactory.

The following Table gives an idea about the different types of Small Scale Industries in West Bengal.

Table 3

Industry wise Distribution of S.S.I. Units in West Bengal (Registered upto 13.12.1975)

Sl.No.	Industry	No. of units
1	2	3
1.	Process Allied to Agriculture	4
2.	Food Bevarage	3,934
3.	Tobacco	377
4.	Textiles including textile wearing apprel	5,659
5.	Foot wear	1,015
6.	Wooden products	2,219
7.	Furniture	2,362

1	2	3
8.	Paper and paper products	728
9.	Printing and Allied industries	4,051
10.	Leather and leather products	997
11.	Rubber Products	1,527
12.	Chemical and Chemical products	8,803
13.	Non-metallic industries	1,985
14.	Basic Metal industries	12,440
15.	Manufacturing of metal products	15,581
16.	Manufacturing of Machinery	9,880
17.	Manufacturing of Electric Machinery & apparatus	5,488
18.	Manufacturing and repair of transport equipment	3,341
19.	Manufacturing of Scientific and measuring instrument	844
20.	Manufacturing of photographic and optical goods	611
21.	Manufacturing and Repair of Watch & Clocks	269
22.	Pen pencil	674
23.	Button making	274
24.	Plastic products	2,632
25.	Celluloid articles	655
26.	Others	3,467
	Total	89,822

(Source : Directorate of Small Scale and Cottage Industries, Govt. of West Bengal)


NORTH BENGAL
ADMINISTRATIVE DIVISIONS
1971
Miles 15 0 15 Miles
Kms. 26 0 26 52 78 104 Kms.
DISTRICT HEAD QUARTER
POLICE STATION BOUNDARY
SIKKIM
BHUTAN
ASSAM
BANGLA DESH
DARJEELING
JALPAIGURI
COOCH BEHAR
WEST DINAJPUR
MALDA
BALURGHAT
ENGLISH BAZAR
POLICE STATIONS
1. Pulbazar
2. Darjeeling
3. Sukhiapokri
4. Jore Bungalow
5. Rangli Rangliot
6. Kalimpong
7. Garubathan
8. Kharibari
9. Phansidewa
10. Kurseong
11. Mirik
12. Naxalbari
13. Siliguri
14. Rajganj
15. Mal
16. Mitiali
17. Jalpaiguri
18. Maynaguri
19. Nagrakata
20. Dhubguri
21. Madarihat
22. Kalchini
23. Falakata
24. Alipur Duars
25. Kumargram
26. Cooch Behar
27. Tufanganj
28. Mathabhanga
29. Dinhata
30. Sitalkuchi
31. Mekliganj
32. Sitai
33. Haldibari
34. Chopra
35. Islampur
36. Goalpokhar
37. Karandighi
38. Raiganj
39. Hemtabad
40. Kaliaganj
41. Hilli
42. Kushmundi
43. Bangshihar
44. Gangarampur
45. Kumarganj
46. Tapan
47. Balurghat
48. Itahar
49. English Bazar
50. Kaliachak
51. Malda
52. Habibpur
53. Ratua
54. Manikchak
55. Kharba
56. Harishchandrapur
57. Gajal
58. Bamangola

Fig. 3

Chapter I

Geo-Economic Location of North Bengal

Geographical Personality

Lying between 25° 30′ N to 27° 13′ 15″ N latitudes and longitude 88° 15′ E and 89° 53′ 04″ E, situated in between the Himalayas in the north and River Ganga in the south, North Bengal comprising the five northern districts of West Bengal - Cooch Behar, Darjeeling, Jalpaiguri, Malda and West Dinajpur - forms a separate geographical entity, both physically and economically distinct from the southern portion of West Bengal. In its geographical location North Bengal commands a unique position. The region borders on three foreign countries - Bhutan in the north, Nepal in the west and Bangladesh in the south - and two Indian states - Assam in the east and Bihar in the west. Thus hemmed in largely by international boundaries on all sides, the region acquires a special strategic significance. (Fig.3).

General physiography

The general physical character of the area is contrasting nature. The Himalayas in the north and the north eastern portions are immediately succeeded further south by plains traversed by innumerable rivers flowing from north to south with braided courses. The region may thus be divided into two broad distinct physiographic units :

A. The mountainous terrain of the Himalayas of the north and north-east;

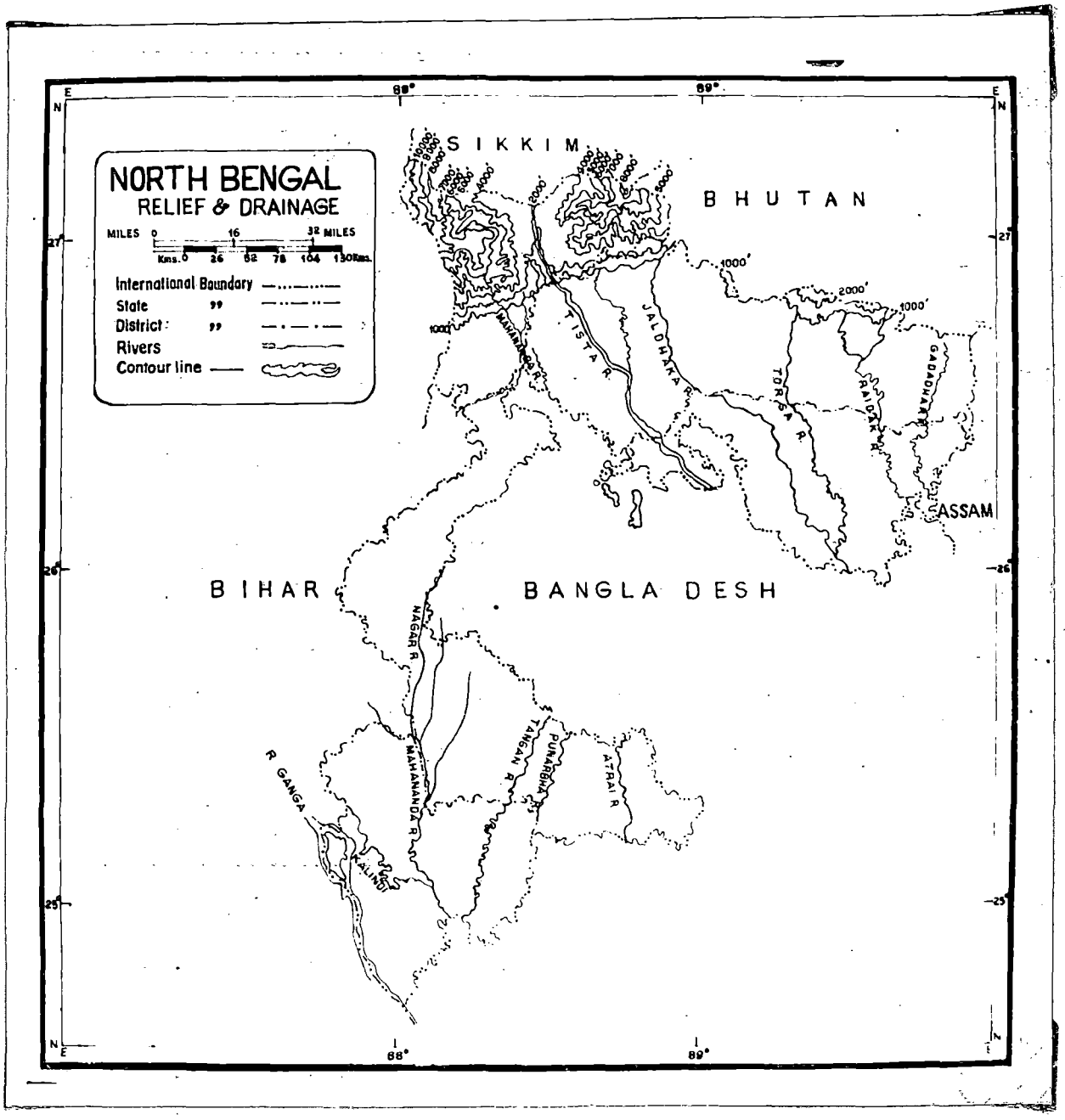
NORTH BENGAL
RELIEF & DRAINAGE
MILES 0 16 32 MILES
Kms. 0 26 52 78 104 130Kms.
International Boundary
State
District
Rivers
Contour line
SIKKIM
BHUTAN
ASSAM
BIHAR
BANGLA DESH
88°
89°
27°
26°
25°
TISTA R
JALDHAKA R
TORSA R
RAIDAK R
GADADHARA R
MAHANADA R
NAGAR R
PUNARBHABA R
ATRAI R
R GANGA
KALINDI

Fig. 4

B. The flat alluvial rolling plains of the south and south eastern part.

A. The mountainous terrain of the Himalayas in the north and north and north-east

The mountainous terrain of the Himalayas covers the districts of Darjeeling in the north and Jalpaiguri in the north east part of the region. The mountain system represents complicated relief features with zig-zag alignment of the ridges give rise to a number of long spurs on either side. Ridges mostly stretching from north to south are followed by rivers flowing in the same direction.

The confused nature of the relief is dominated by the Singalila ridge which rising 3658.53 mts. at Phalut near Darjeeling falls southward at Manibhanjan to 1829.26 mts. and forms the International Boundary between Nepal and India. Tiger Hill, another ridge with an altitude of 2439.02 mts. rises in the east of Manibhanjan.

East of the Tista, Rishila with 3201.21 mts. height makes the border between Bhutan, Sikkim and India. From here one of the more predominant ridges runs southeast ward cutting off the Jaldhaka valley from the rest of the Darjeeling district. (Fig.4)

B. Flat alluvial rolling plains of the south and the south eastern part

A traverse from the foot of the Himalayas towards the

Barind will reveal the following spatial association of land form [4] :

1. Boulder-strewn undulated plains;
2. Sandy undulations of the Duars;
3. The clayey flats of the Tal and
4. The slow rise of the ferallitic Barind.

The spatial association of these landforms suggests the operation of the mechanism of alluvial fan formation at the foot of the hill. The grain size variations of the materials between boulder plain and the Duars reflect the natural process of fluvial sorting within a water-filled basin of sedimentation . The clay minerals of the Tal region show unmistakable signs of anaerobic decomposition : The presence of "terrarosa" on the swellings of the Duars suggests a fairly long period of oxidation and also a slow process of evolution of the Duars landscape. One should not forget that tectonic upliftment of the Himalayas also involved the upliftment of the basement of the North Bengal lake : this will parhaps explain why rivers flowing through the Tal and the Barind do not show signs of inter cathment in their profiles.

Rivers of North Bengal

The rivers generally, follow a north to south course, though in some cases they flow from west to east.

The Tista the dominating river of North Bengal, rises from a glacier in North Sikkim, 6341.46 mts. above sea level, and forms the boundary between North Bengal and Sikkim. In the district of Darjeeling it is joined by the Rangpoo in the south and the great Rangit in the West. At Sivok, the Tista enters into the district of Jalpaiguri. The Lish, the Gish, and the Chel emerge from the hills, and join with the Tista in the Jalpaiguri district. After crossing the Jalpaiguri district, the Tista falls into the Brahmaputra River at Rangpur district in Bangla Desh.

East of the Tista, are rivers debouching from the foot-hills which, like it, flow into Brahamaputra the most important of the eastern rivers is the Jaldhaka.

The Torsha, the Mansai, the Kaljani, the Raidak, the Gadadhar coursing through the Cooch-Behar district join with Brahamaputra in the south.

All the rivers lying to the west of the Tista - the Mahanadi, the Balason and the Mechi flow into the Ganga.

The Mahanadi has its source near the mountain of Mahal-diran to the east of Kurseong. After leaving the hills, the Mahanidi flows south as far as Siliguri, (known as Mahananda) where it changes its direction more to the south west and forms the boundary between Terai and the Jalpaiguri district. Nagar a small tributary rising in the North of Bangla Desh enters into West Dinajpur and finally joins with Mahananda.

The Tangan, rising in the part of the Jalpaiguri district now in Bangladesh, entering into West Dinajpur is a fairly large

river. It is navigable by boats throughout the year.

The Punarbhaba, now an insignificant stream, famous for Hilsa fisheries, flows across the northern boundary of the West Dinajpur district.

The Atrai entering the northern part of West Dinajpur flows southward.

The Kalindri flowing as an offshoot of the eastern branch of the Ganga is actually a branch of the Mahananda, which by the name of Phullar traversing for a short stretch through Bihar enter into the district of Malda near Mihaghat, where it is known as Kalindri.

In fact, the Ganga forms the south Western boundary of the Malda district receives the water of all the other rivers. In the district of Malda, it forms the south western border with an island or char in its bed, about 15 miles in length, known as Bhutnidiara.

Climate

North Bengal's climate with its monsoon characteristics is largely influenced and modified by the Himalayan mountain system in the north. The maximum mean temperature is 6.5° C in Darjeeling and 23.3° C in Jalpaiguri, while the minimum mean temperature is 1.7° C and 10° C respectively. The summer temperature in the plains is attained in April and May. Over the Darjeeling hills the maximum temperature is obtained in the month of June. The month of January is the coldest month of the year in North Bengal. "Kalbaisakhi" or Norwester (Thunder Storm) are common

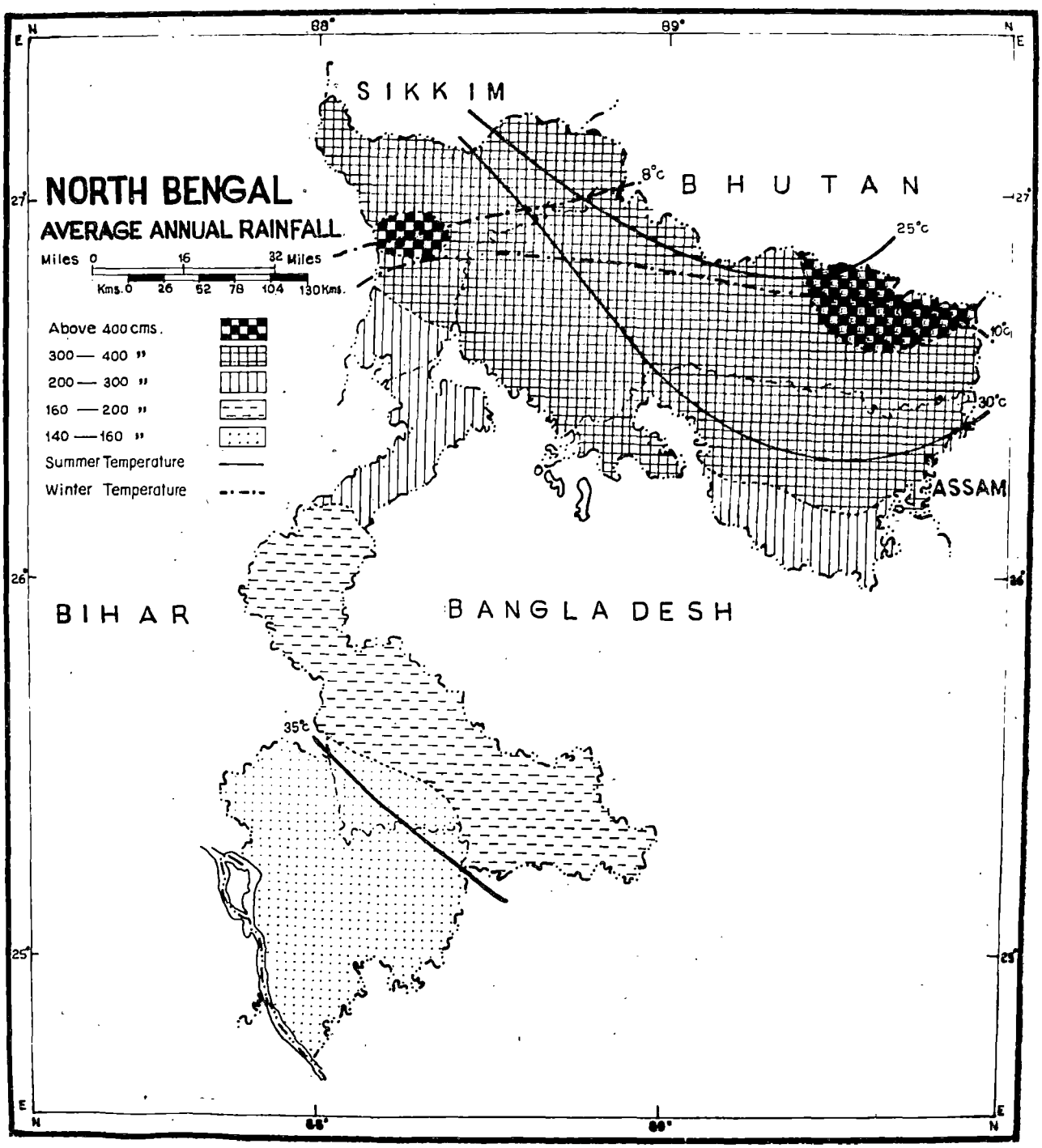
NORTH BENGAL
AVERAGE ANNUAL RAINFALL
Miles 0 16 32 Miles
Kms. 0 26 52 78 104 130 Kms.
Above 400 cms.
300 — 400 "
200 — 300 "
160 — 200 "
140 — 160 "
Summer Temperature
Winter Temperature
SIKKIM
BHUTAN
ASSAM
BIHAR
BANGLA DESH
8°c
25°c
30°c
35°c
88°
89°
27°
26°
25°

Fig. 5

from the middle of April to May.

The region experiences an average annual rainfall of about 117.5 cms. Rainfall in the Himalayan regions ranges from 250 cms to over 500 cms, while the southern plain districts receive on an average 125 cms to 187.5 cms. In the districts of Cooch Behar, Darjeeling and Jalpaiguri, rainy season starts from the last week of May and lasts upto to the middle of October. (Fig.5)

The tables (4 & 5) represent the temperatures and rainfall condition of the different districts of North Bengal.

Table - 4[5]

The distribution of temperatures in North Bengal (in Centigrade)

Name of the district	Maximum				Minimum			
	1969-70		71-72		1969-70		71-72	
Cooch Behar	32	32	30	31	24	23	24	25
Darjeeling	20	20	21	19	12	11	7	7
Jalpaiguri	32	32	31	31	23	23	23	25
Malda	35.3	38	33	39	24.6	24	25	25
West Dinajpur	34	37	33	38	25	24	26	25

Table - 5[5]

Monthly Average annual rainfall of North Bengal (in millimetres)

Name of the district	Maximum				Minimum			
	1969-70		71-72		1969-70		71-72	
Cooch Behar	899	885	959	N.A.	6	1	12	1
Darjeeling	726	982	611	N.A.	3	2	16	8
Jalpaiguri	681	835	586	962	12	22	41	3
Malda	225.7	436	296	105	3.5	15	21	N.A.
West Dinajpur	332	472	390	223	2	9	17	25

N.A. - Not available

The agricultural products of the region depend greatly upon the timely arrival of the monsoon. Paddy, jute, tobbacco, the main agricultural crops are planted with the onset of the rainy season. The climate in general, therefore has a direct impact on the regional economy.

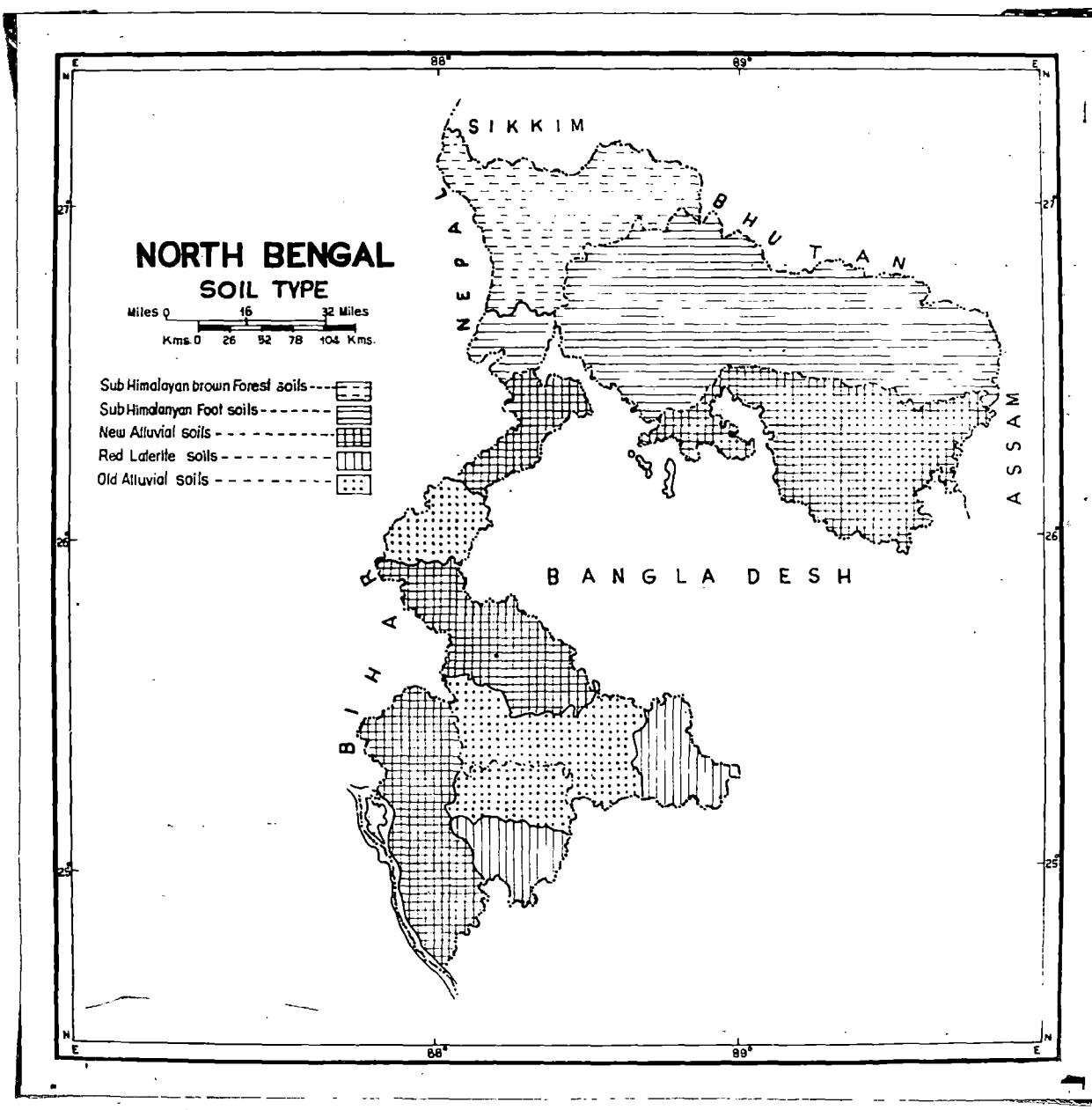
NORTH BENGAL
SOIL TYPE
Miles 0 16 32 Miles
Kms 0 26 52 78 104 Kms.
Sub Himalayan brown Forest soils
Sub Himalayan Foot soils
New Alluvial soils
Red Laterite soils
Old Alluvial soils
SIKKIM
NEPAL
BHUTAN
ASSAM
BANGLA DESH
BIHAR
88°
89°
27°
26°
25°

Fig. 6

Soil.

The agro-based raw materials for industrial growth have a direct relationship with the soil character of the region. The soil depending on altitude and aspect vary from place to place. An investigation by the West Bengal soil testing Laboratory in Siliguri made in 1977 led to following classification of the soils of North Bengal. (Fig.6)

1. The Gangetic Alluvium (old alluvium);
2. The Terai soils ;
3. The red soils ;
4. The Brown Forest soils.

1. The Gangetic Alluvium Soils or the Old Alluvium.

This type of soil occurs in the Western and the south - western part of the district of Malda and the north - western and the south - western parts of the district of West Dinajpur. Deposition from the river Ganga keeps this region generally fertille. A wide variety of crops are grown in these areas, such as Paddy, Jute, Mesta, Wheat, Barly, Oil seeds, Pulses, Chillies etc.

The old alluvium soils have great horticultural importance. Mango orchards are widely developed in these areas Mulberry cultivation has also taken an important place, forming a number of pockets in Malda district.

2. The Terai Soils.

Soils, derived from the mountainous Tracts of the Himalayas, brought and deposited by the hilly rivers like the Tista, the Mahananda, the Torsa, the Jaldhaka and their tributaries have been termed as Terai soils. Soils of these groups are found in the districts of Cooch Behar, parts of Darjeeling (Siliguri subdivision), Jalpaiguri and in the Islampur subdivision of West Dinajpur.

These soils are deep black to grey black in colour, shallow in depth and light in texture. Due to heavy rainfall and constant leaching in the bases, the soils are highly acidic (PH 4.4 to 6.0) with organic matter sometimes not properly decomposed. Cash crops like Rice, Jute, and Tobacco are grown extensively on these soils, Tea is the most important plantation crop in this tract and mustard is also cultivated widely here. The cultivators of Rajganj block in Jalpaiguri district and Siliguri subdivision in Darjeeling district have recently taken up pineapple cultivation on a massive scale in this area.

3. The Red soils.

The land lying east of River Mahananda in Malda district and in the southeastern part of West Dinajpur district is mainly composed of soils red to reddish-black in Colour sticky and hard in character. The soil reaction is mildly acidic (PH 5.6 to 6.6). The soils poor in organic matter but rich in phosphorus and other chemical bases, response well to fertilizers. Previously the

cultivators of this area practised only a single crop, the Aman*, but with the introduction of wheat cultivation, double-cropping system has been a popular practice.

4. The Brown Forest Soils.

Soils, found in the district of Darjeeling, are fertile but highly acidic (PH is as low as 3.8) in character. They are known as brown forest soils. Due to low temperature and inadequate sunlight the depth of soil is shallow. Orange is an important horticultural crop on these soils besides the famous flavoured tea.

Agriculture.

The physiographic climatic and edaphic conditions have influenced greatly the agricultural economy of North Bengal. With a contrasting physical landscape, copious rainfall and varied soils the region produces a variety of crops having distinct specialisations.

Agriculture being the backbone of the economy engages about 75 percent of the total population of North Bengal, which is 50 percent when West Bengal as a whole has been considered. The agricultural products meet not only the food needs but also provides the raw materials for small scale and cottage industries functioning in the region.

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*Aman, one of the three principal varieties of paddy.

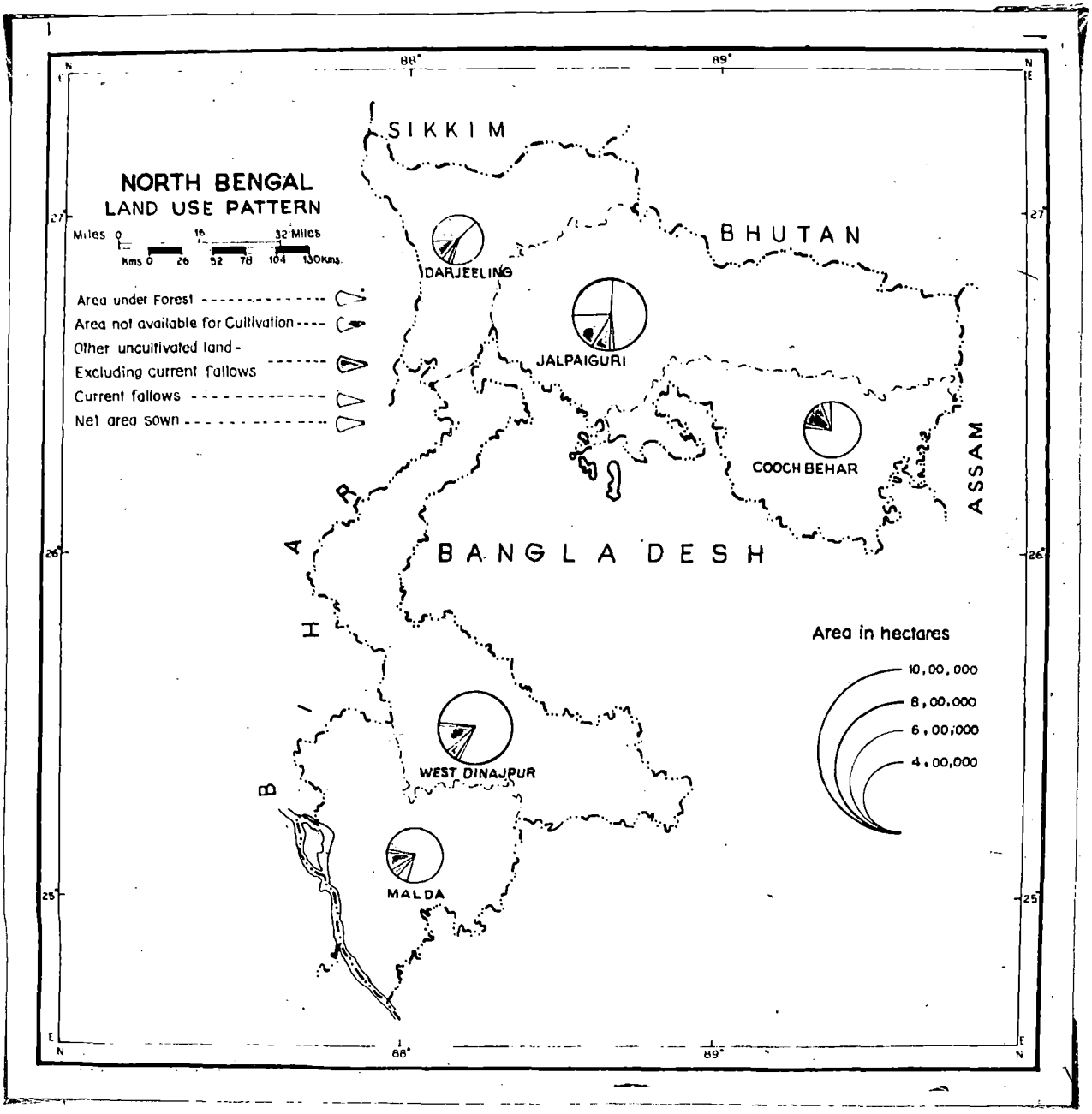

NORTH BENGAL
LAND USE PATTERN
Miles 0 16 32 Miles
Kms 0 26 52 78 104 130Kms.
Area under Forest
Area not available for Cultivation
Other uncultivated land - Excluding current fallows
Current fallows
Net area sown
SIKKIM
BHUTAN
DARJEELING
JALPAIGURI
COOCH BEHAR
ASSAM
BANGLA DESH
WEST DINAJPUR
MALDA
Area in hectares
10,00,000
8,00,000
6,00,000
4,00,000
88°
89°
27°
26°
25°

Fig. 7

Of total area of 21.6 lakh hectares about 65 percent is devoted to cultivation when the State's agricultural land ammounts to 60 percent of the total land. Table 6 shows landuse of North Bengal.

Table - 6 [7]

Land-use in North Bengal - 1971

Utilisation of the land	Percentage
Net area sown	65.5
Area under Forest	13.0
Area not available for Cultivation	14.0
Other uncultivated land excluding current Fallows	5.5
Current Fallows	2.0
Total	100.0

The importance of agriculture is pulpably clear from the proportion of total land available for it in a region where relief is not all that suitable for cultivation in a considerable part. This is further revealed in the landuse pattern obtaining in the districts (Table-7). (Fig.7).

Table-7[8]

A district-wise land-use pattern in North Bengal ('000 hectares)

Name of the district	Area for which returns of agricultural statistics are obtained	Area under Forest	Area not available for cultivation	Other uncultivated Land excluding current Fallows	Current Fallows	Net Area sown
Cooch Behar	339.2	6.0	43.3	23.8	3.7	262.4
Darjeeling	310.7	118.5	72.6	14.7	1.7	103.2
Jalpaiguri	615.0	165.3	96.5	45.6	3.2	302.2
Malda	360.5	0.5	35.5	14.2	22.6	287.2
West Dinajpur	555.4	0.8	64.9	21.3	4.5	463.9

It is interesting to note that West Dinajpur has about 80 percent of its total land area under cultivation and the proportion decreases in other districts. Cooch-Behar and Malda having 75 percent following further to 40 percent and 33 percent, in Jalpaiguri and Darjeeling district respectively.

Population

The distribution of population in North Bengal considered district-wise is largely determined by the total area and the availability of agricultural land. The total population in 1971 was 7,418,663 which is 16.74 percent of the Stat's total of 44,312,011. The growth rate of population, in North Bengal between 1961 and 1971 was 33.68 percent against 26.87 percent for West Bengal, during the same period.

The district-wise distribution of population may be found to be related to their respective total areas, latter providing living space for supporting existing densities.

Table -8[7]

Co-relation between population and area by districts in North Bengal 1971 and 1961

Name of the districts	Rank in population 1971	Percentage of State's population 1971	Percentage of State's Area 1971	Rank in Area 1971	Rank in population 1961
Cooch Behar	4	3.19	3.84	4	4
Darjeeling	5	1.76	3.68	5	5
Jalpaiguri	2	3.95	6.97	1	2
Malda	3	3.67	4.07	3	3
West Dinajpur	1	4.2	6.03	2	1

It is interesting to note here that West Dinajpur having 36.03 percent of total land area ranking first in the concentration of population, where as Jalpaiguri, possesing 6.97 percent of the total area stands 2nd in the same respect, Malda comes third with 4.07 percent, followed by Cooch Behar and Darjeeling with3.84 and 3.68 percent respectively. Thus in three districts rank in area is closely followed by rank in total population. The slight departure from this rule in the case of Jalpaiguri is due to unfavourable relief which being more homogenous in West Dinajpur gives it a higher rank in population.

Economy

Agriculture as the mainstay of the majority of the population of the region plays a vital role in defining its economy and all activities other than agriculture have grown on that basis. However, the following groups of occupation are clearly discussed.

(a) The primary;
(b) The Secondary;
(c) The Tertiary.

(a) The primary occupations include the activities of cultivation, fishing, hunting and mining;

(b) The secondary occupations, mainly are concerned with the manufacturing activities.

(c) The Tertiary activities are primarily dominated by trades and commerce and different types of services.

A classification of the working population engaged in different occupation brings out the true character of the existing economy of the region (Table-9).

Table - 9[7]

Distribution of working population by occupation in North Bengal (1971)

Name of Occupation		Total number of employment	Percentage of employment to total workers.
(a) Primary			
1.	Cultivators	1,064,137	48,92
2.	Agricultural labourers	437,580	20.11
3.	Livestock, forestry, fishing, hunting, plantations, orchards and allied activities	246,455	11.33
4.	Mining and quarrying	934	0.04
(b) Secondary			
5.	House hold industries	41,893	1.92
6.	Other than household industries	49,661	2.28
(c) Tertiary			
7.	Construction	12,837	0.59
8.	Trade and commerce	100,119	4.60
9.	Transport and communication	53,000	2.44
10.	Other services	168,262	7.74
11.	Non workers	19,461	0.90
	Total	2,174,878	100.00

The foregoing table shows that primary occupation employes 80.40 percent of the total workers and the tertiary activities shares 16 percent followed by the secondary or industrial activities with only 4.20 percent of the total workers in North Bengal.

From the point of view of economic development, North Bengal's industries are much subdued in character regarding their bulk as well as variety as compared with those of lower or the southern part of West Bengal, though they have typical speciality of their own, needing a through study. The economy of North Bengal, basically an underdeveloped region has so far depended on a few of its speciality industries some of which enjoy world market. In spite of this such industries have had little effect on the economy of the region, although it excels speciality products in the whole of India offering tea, raw - silk, tobacco, jute, cinchona, orange, pineapple, ginger, cinamon, mango - to name only the important ones, besides a large variety of forest products. But many of these resources have not yet been exploited to any measurable degree in an organised manner for giving rise to a strong industrial base.

Raw Materials

Availability of raw materials considered as an important factor for the location of industries may be grouped as follows :

1. Agricultural material;
2. Forest-based raw material; and
3. Minerals.

1. Agricultural raw-materials.

Raw material obtained directly from the agricultural sector and generally termed as agricultural raw materials, include both cash and plantation crops produced in North Bengal.

The cash crops further be divided into :

(a) Food crops; (b) Fibre crops; and (c) Horticultural crops

(a) Food crops.

Among the food crops worth mentioning in North Bengal are rice, oil seed, pulses, wheat etc.

Rice. There are three kinds of rice namely Aus (Autumn rice) Aman (winter rice) and Boro (Summer rice), cultivated among which Aman predominates in both area and production (Table No. 10)

Table - 10[8]

Production of rice in North Bengal

1973 - 74

Name of the district	Production ('000 tonnes)
Cooch Behar	263.30
Darjeeling	10.82
Jalpaiguri	367.50
Malda	188.16
West Dinajpur	412.27
Total	1242.05

A districtwise variation of production of rice in North Bengal shows that West Dinajpur with 33.19 percent of the total production ranks first, while Jalpaiguri sharing 29.58 percent comes second followed by Cooch Behar with 21.19 percent Malda with 15.13 percent and Darjeeling with ⅞ '91 percent.

(b) Fibre - crops.

Fibre crops include jute, meta, hemp. In North Bengal only jute is produced.

Table-11 [8]

Production of Jute in North Bengal ('000 bales)

Name of the District	1974-75	1975-76	1976-77
Cooch Behar	133.0	157.3	172.8
Darjeeling	175.50	112.45	154.12
Malda	107.63	142.81	202.82
West Dinajpur	107.13	122.37	170.63

The table reveals the growth rate of production of jute in 4 districts of North Bengal for last 3 years.

(6) Horticultural crops.

Mango, orange and pinneaple are most important among the horticultural crops in North Bengal. The district of Malda is famous for mango orchards. They cover about 6.83 percent area of the total land devoted to agriculture orange and pinneapple have largely been cultivating in the district of Darjeeling. The former is producing generally in the hill areas of Mirik and Takdah, while the latter has been growing in the plains and Rajganj block of Jalpaiguri district.

Apart from these three types of crops tobacco, in Cooch Behar and Jalpaiguri districts, Cinchona and Ipecac etc.

have been cultivated in Darjeeling district. Mulberry crops have also been planting in all the districts of North Bengal for silk industry for which Malda is famous.

The small scale rice mills, oil mills, jute bailing plants rope making Units, fruit processing units, cigar-chereot, silk-reeling and weaving have been thrived up based on these agricultural raw materials.

2. Forest-based raw-materials.

The forest offer varieties of timber as well as fuel for industrial use besides checking heavy soil erosion occuring mostly in north and north eastern parts of North Bengal.

The importance of forest products in the industrial economy of North Bengal, may be gauged from the regional distribution of the forests (Table-12).

Table-12[8]

Distribution forests in North Bengal by districts ('000 hectares)

Name of the district	Total area	Area under forest	Percentage of the forest area to total area
Cooch Behar	329.2	6.0	1.8
Darjeeling	310.7	118.5	38.0
Jalpaiguri	615.0	165.3	26.8
Malda	360.5	0.5	0.13
West Dinajpur	555.4	0.8	0.14

Thus, about 13.2 percent of the total land area is under forest in North Bengal. A district-wise distribution of the forests shows that, Darjeeling ranks first with 38 percent followed by Jalpaiguri having 26.8 percent, Cooch-Behar 1.8 percent and West Dinajpur 0.14 percent and Malda 0.13 percent. Since any region having 25 percent of its total area under forest can effectively help its economic development it is presumed that the districts of Darjeeling and Jalpaiguri are in a better position in successfully utilising their resources for industrial development.

The forests of North Bengal belong to three major categories.

(a) Coniferous forests mostly occupying the higher elevations of the mountainous areas of the districts of Darjeeling and Jalpaiguri.

(b) Wet ever-green forests occuring in the sub-montane and comperatively plain tracts of Jalpaiguri, Darjeeling and Cooch-Behar districts where rainfall exceeds 203.20 cm annually.

(c) Wet deciduous forests found in the southern parts of Jalpaiguri, Cooch Behar and West Dinajpur districts with lower rainfall than the former areas.

According to J.D.Hooker[9] the vegetation of Darjeeling Himalayas differs widely depending upon the variation of altitude. Vegetation available at different elevations are as follows :

1. 3658.53-3048.78 mts. Firs (Abies wabbiana), varities of rhododendron, juniper, polly, red-current bushes, cherry, pear or pepper tree, creeping raspberry, hypercum, balsam, lichens etc;
2. 3048.78-2743.90 mts. Oak, chestnut, magnolia, arboreous rhododendron, michelia or champa, olive, fig, laurel, maple, lily, white rose etc;
3. 2743.90-2439.02 mts. Magnolia, maple, rhododendron, oak, laurel, simplocus, vivernum and vaccinium etc;
4. 2439.02-1981.69 mts. Peach, oak, chestnut, maple, older, olive, walnut, birch, magnolia, respberry, strawberry and hypercum etc;
5. 1981.69-1219.51 mts. Alder, oak, maple, birch, acacia, terminalia, cryptomeria, Japonica, cherry, olive, pear, pepper etc;
6. 1219.51-304.87 mts Sal, tun, bombax or cotton tree, banian lemon, worm wood etc;
7. 304.87 mts and below : Different kinds of figs, dates, bamboos, wild mulberry, orchids, fern, ginger and many types of grasses etc.

Changes in variation also occur in the districts of Cooch-Behar and Jalpaiguri. Fruit trees like blackberry, jam and mango have been found in abundance in Malda and West Dinajpur districts.

Forest Products.

The forest products obtained from the forests of Darjeeling are of two kinds :

A. Major products;

B. Minor products.

Table -13[10]

Forest products of Darjeeling district
1971 - 72

Name of the products	Quantity available (in cubic feet)	Value (in rupees)
A. Major products		
1. Timber	69,104	91,41,156 - 00
2. Fire Wood	1,91,070	7,94,403 - 00
B. Minor Products		
1. Bamboo	3,14,481 number	1,24,171
2. Others	N.A.	3,77,161

The table 13 gives us an idea about the amount of different forest products obtained annually from the forests of Darjeeling district.

Timbers of various kinds, available in forests of North Bengal are as follows :

1. Bohera (Terminalia belerica),
2. Champ (Michelia tabularis),
3. Chikrashi (Chukrasia tabularis),
4. Chilauni (Schima Wallichii),
5. Gamari (Gmelina orborea),
6. Jam (Eugenia jambolasa),
7. Jarul (lagrostromha periflora),
8. Kadam (Anth cephalus cadamba),
9. Paksaj (Terminalia),
10. Sal (Shorea),
11. Sisoo (Dalbergia sisoo),
12. Tun (Cederla toona),
13. Teak (Tectonia grandis).

Sal, the most important timber, has been converted into sleepers in the saw mills for supply of the railways and various constructional works. Other varieties of timber are used for making furniture, building construction, plywood and the like, Saw mill and plywood waste, bamboos and agricultural waste such as paddy straw and jute stick materials may be utilised for the development of fiber board and hard board industries. The forest-based resources, thus appear to have taken important part in the development industries already operating in North Bengal.

Among the other minor products adra, dar haldi and lac are worth mentioning as raw-materials for the cottage industries

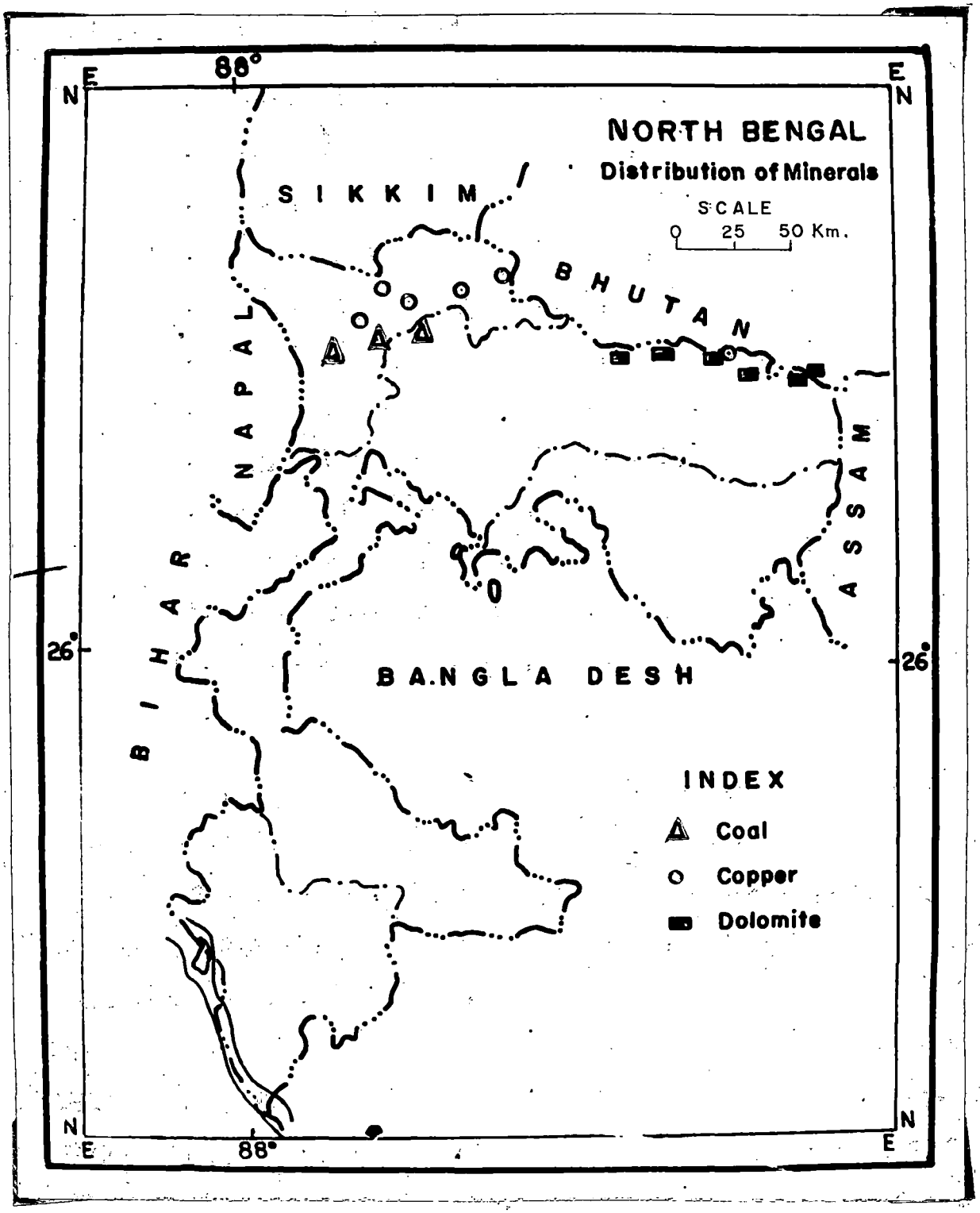

NORTH BENGAL
Distribution of Minerals
SCALE
0 25 50 Km.
88° E
N
SIKKIM
BHUTAN
NAPAL
BIHAR
ASSAM
BANGLA DESH
26°
INDEX
Coal
Copper
Dolomite

Fig. 8

in the region. Apart from the major and minor products, medicinal plants like Citronela, Ipecac, occur in abundance in Cooch Behar, Darjeeling and Jalpaiguri forest area.

Minerals

The mineral deposits available here are not, in general, commercially suitable for exploitation. However, minerals like coal, dolomite, limestone, present in some areas have economic importance. An estimate of such minerals may therefore be taken for consideration. (Fig.8)

(a) Coal.

Coals of Lower Gondowana belts are found in the districts of Darjeeling and Jalpaiguri associated with quartizite, sandstone and shale. The coal seams already investigated are those in the area from adjoining to the River Balason in the West to Neoranala in the east through Tindharia, Lish nala, Ramthi nala and Lethi nala. Coal seams have further been noticed in the east, along the Jaldhaka road section. The most important workable mines are in the river beds of Lethi, Lish and Ramthi.

Due to structural disturbances the bands of coal in the Gondwana series found are generally thin, containing flaky, semi anthracitic and often graphitic texture. They are low in volatiles and high in ash content.

(b) Dolomite.

In the Jainti-Buxa Duar area, in Jalpaiguri district, the occurence of dolomite of Buxa formation has been found in

two distinct bands : the upper band is by far the most important while the lower one is of less significance. The thickness of the upper band is 380m., extendending for about 1.2 kms. An estimated reserve of nearly 243 million tonnes is available here covering an area of 5 sq.kms with a depth of 50m. Presently, the Bengal Lime and stone co. and Jainti Lime Co. are engaged in mining the dolomite using it for lime production and sending a part of it to Durgapur Hindustan Steel Co.

Table-14[11]

Production of dolomite in North Bengal

Year	Quantity (in tonnes)	Value (in Rupees)
1970	39,655	213,000
1971	27,389	144,000
1972	39,538	195,000

(c) Lime stone.

A few scattered occurences of coarse, crystallins limestone bands, ranging in thickness from 1 to 1.22 m., interbedded with quartzites and sandstones have been reported from Palla in the beds of Phenock Stream, Bindi Stream, etc. The deposits of limestones have estimated at from a few hundred thousands tonnes to two million tonnes.

Limestone bands overlying the coal bearing formations are also reported from Darjeeling district occuring in the bed of Lish River.

Considerable deposits of calcareious tufa (containing more than 45% of $CaCO_3$) of Buxa formation are also found in Darjeeling and Western Duars area of Jalpaiguri districts.

Minerals of lesser economic importance.

Copper.

A few occurences of disseminated grains of copper associated with slates and schists have been traced in Darjeeling District. Deposits of copper pyrites with iron pyrites are also found at Buxa near Jalpaiguri.

Iron ore.

High grade micaceous hematite and octahedrous of magnetic occur in 6m thick band within the schists of Daling formation of Sambalong, about 1.5 km east-south-east of sikbar, Kalimpong sub-division. Iron content varies from 58.90 to 71.50 percent.

Talc and Stealite.

Three working quarries of talc and stealite are reported from Ramsuk khola in Darjeeling district.

Chapter II

Infrastructure for Industrial Development.

In understanding the industrial development in North Bengal, it is necessary to make out the infrastructural facilities enjoyed by the industries. Infrastructural facilities refer to the utilisation of certain advantages by a region. The factors offering infrastructure are availability of power resources, net-work of transport system and sources of capital.

Power

The word power resources means coal, oil and hydel power. North Bengal lack in high quality of coal, utilises oil and hydel power for its industrial as well as regional development.

On the basis of demand for the utilisation of power, two power zones[1] in North Bengal may be classified.

1. Region B - Comprising the districts of Malda and West Dinajpur ;
2. Region C - Comprising the districts of Cooch Behar, Darjeeling and Jalpaiguri.

The requirement of power in regions B and C is 2 percent only, while it is 98 percent in Region A (comprising the districts of Bankura, Birbhum, Calcutta, Hooghly, Howrah, Midnapore, Murshidabad, Nadia and 24-Paraganas[1]). This regional imbalance in power

has retarded the growth of industry in North Bengal.

As a long term measure, a number of hydel projects were undertaken to meet the requirements of power in North Bengal, during Third Plan period (1960-65).

Jaldhaka Hydro-electric project.

The river Jaldhaka flows along the Indo-Bhutan border. This turbulent river has been harnessed to generate 27 MW. of power at the first stage and 9 MW. at the second stage. Two unites each with 9 MW. Capacity have been ready for commercial operation. These units not only supply electricy to various towns, but also cater to the needs of industrial units and tea-estates as well.

The Little-Rangit.

The little Rangit scheme in the Darjeeling district have been set up with an installed capacity of 2 MW. of power.

The Bijanbari Station.

The Laring-Khola river near Bijanbari in Darjeeling district has been harnessed to produce 3000 kw. of power.

To form an idea about the power position in North Bengal the capacity of power produced by different stations and their total consumption in different categories have been taken into consideration.

Table-15[2]

Capacity of Power Generating Stations in North Bengal

31.3.74

Type		Name of the generating stations	Installed capacity (KW)	Percentage of total
Hydel	1.	Bijanbari	300	64
	2.	Jaldhaka	27,000	58.07
	3.	Kurseong	1,248	2.68
	4.	Little Rangit	2,000	4.30
Diesel	1.	Balurghat	380	81
	2.	Birpara	481	1.03
	3.	Changrabandha	422	0.90
	4.	Cooch-Behar	3,354	7.21
	5.	Haldibari	230	0.44
	6.	Islampur	156	0.33
	7.	Jaldhaka	400	0.86
	8.	Jalpaiguri	1,069	2.29
	9.	Kalindri	3,656	7.86
	10.	Kalimpong	318	0.68
	11.	Mal		Abandoned
	12.	Malda	439	94
	13.	Mathabhanga		Abandoned
	14.	Raiganj	920	1.97
	15.	Siliguri	4,120	8.86
Total for North Bengal			46,490	100.00
Total for West Bengal			549,923	

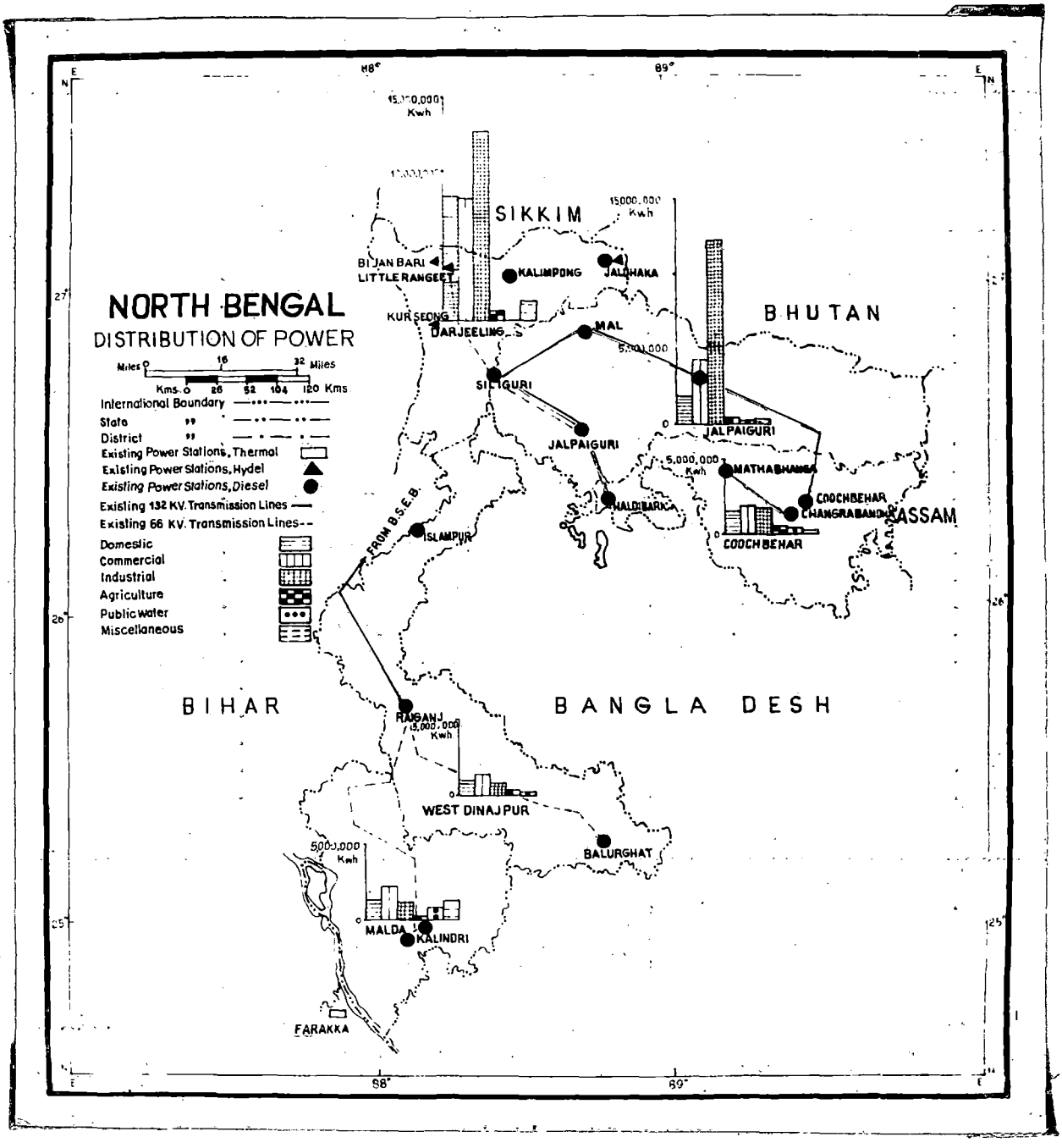

NORTH BENGAL
DISTRIBUTION OF POWER
Miles 0 16 32 Miles
Kms 0 26 52 104 120 Kms
International Boundary
State
District
Existing Power Stations, Thermal
Existing Power Stations, Hydel
Existing Power Stations, Diesel
Existing 132 KV. Transmission Lines
Existing 66 KV. Transmission Lines
Domestic
Commercial
Industrial
Agriculture
Public Water
Miscellaneous
SIKKIM
BHUTAN
BIHAR
BANGLA DESH
ASSAM
BIJAN BARI
LITTLE RANGEET
KALIMPONG
JALDHAKA
KURSEONG
DARJEELING
MAL
SILIGURI
JALPAIGURI
MATHABHANGA
COOCHBEHAR
CHANGRABANDHA
HALDIBARI
ISLAMPUR
FROM B.S.E.B.
RAIGANJ
WEST DINAJPUR
BALURGHAT
MALDA
KALINDRI
FARAKKA
15000,000 Kwh
5,000,000 Kwh
5000,000 Kwh
88°
89°
27°
26°
25°

Fig. 9

The capacity of generating power by different stations in North Bengal has been tabulated in the above table. In order of strength of capacity, the Jaldhaka station tops the list with 59.50 percent. Siliguri takes second position with a capacity of 9.07 percent and Kalindri comes third having 8.03 percent followed by Cooch-Behar, Little Rangit, Kurseong, Jalpaiguri, Raiganj, Birpara, Malda, Changrabandha, Jaldhaka (diesel station), Balurghat, Kalimpong, Bijanbari, Haldibari, Islampur. The capacity of generating power for the region is 45,490 KW shares only 8.27 percent of the total capacity of West Bengal, is really unsatisfactory.

Since our main aim is to find out the utilisation of power for industrial development in North Bengal it is necessary to evaluate the consumption of electricity for various uses. (Fig.9)

Table-16[2]

Consumption of electricity for different categories in North Bengal 1973-74.

Category of consumption (1)	Consumption of energy (KWh) (2)	Percentage of the total (3)
Agriculture	715,275	1.10
Commercial	17,207,413	26.56
Domestic	13,673,537	21.10
Industrial	27,990,879	43.19

(1)	(2)	(3)
Public lighting	1,370,738	2.11
Public water	843,170	1.30
Miscellaneous	3,008,400	4.64
Total for North Bengal	64,803,412	100.00

It is evident from the above table that the consumption of energy for industry is only 43.19 percent while it is 67.8 percent (3,414,238,735 KWh) for the State of West Bengal, proves a poor supply of energy for industrial development use.

Power Production :

According to the latest available figures, the production of electricity has been shown in the following table (No. 17).

Table-17[2]

Production of electricity in North Bengal
1973-74

Name of the generating station	Capacity (KW)	Maximum demand (KW)	Production of electricity (KWh)
Hydel			
1. Bijanbari	300	250	78,460
2. Jaldhaka	27,000	15,600	61,311,550
3. Kurseong	1,248	1,150	4,753,870
4. Little Rangit	2,000	1,950	4,618,873
Diesel			
1. Balurghat	380	360	546,195
2. Birpara	481	335	33,202
3. Changrabandha	422	218	72,119
4. Cooch-Behar	3,354	1,862	710,734
5. Haldibari	230	defective	32,520
6. Islampur	156	85	12,842
7. Jaldhaka	400	222	33,487
8. Jalpaiguri	1,069	848	374,426
9. Kalindri	3,656	1,560	4,601,940
10. Kalimpong	318	280	131,658
11. Mall			
12. Malda	436	129	72,289
13. Mathabanga			
14. Raiganj	920	595	539,155
15. Siliguri	4,120	2,245	1,151,418

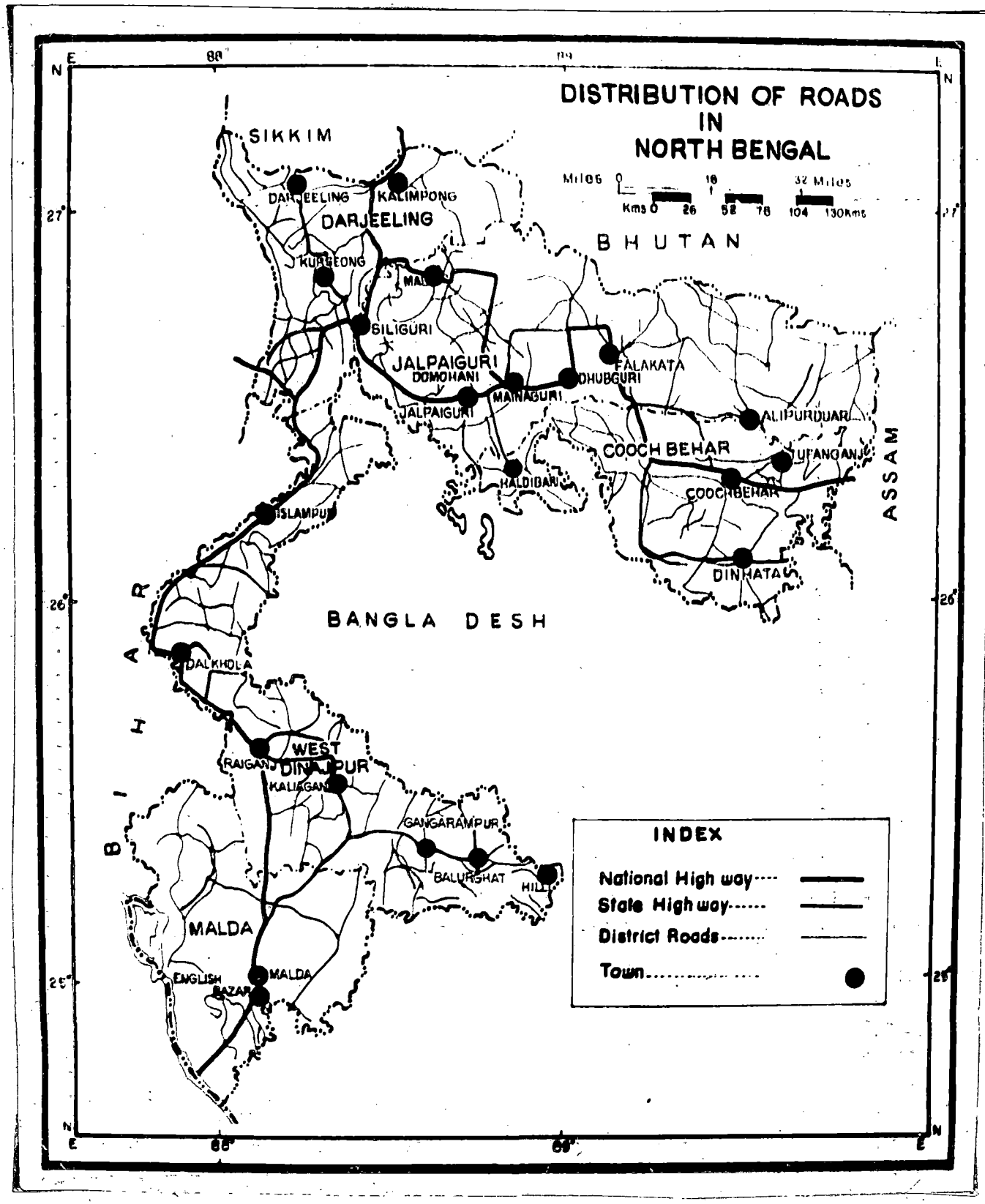

DISTRIBUTION OF ROADS
IN
NORTH BENGAL
SIKKIM
DARJEELING
KALIMPONG
KURSEONG
SILIGURI
JALPAIGURI
DOMOHANI
MAINAGURI
JALPAIGURI
FALAKATA
DHUBGURI
ALIPURDUAR
COOCH BEHAR
TUFANGANJ
HALDIBARI
COOCHBEHAR
DINHATA
ISLAMPUR
BANGLA DESH
BHUTAN
ASSAM
BIHAR
DALKHOLA
WEST
DINAJPUR
RAIGANJ
KALIAGANJ
GANGARAMPUR
BALURGHAT
MALDA
ENGLISH
BAZAR
MALDA
INDEX
National High way
State High way
District Roads
Town

Fig. 10

Transport.

Industrial progress in a region depends on the cheap and efficient method of transport for collecting the raw materials and distributing the manufactured product in the market.

Taking this factor into account, a look at the North Bengal's development in transport system have brought out the fact, that Road Transport and Railway lines have spread, to make link between industrial units with main urban centres for finding market within the region and outside as well.

1. Roads.

The roads in North Bengal have been developed after partition. There is yet, scope for further development of road system. Roads in many places particularly in the rural areas are unmetalled. The table below shows the length of metalled and unmetalled road up to 1977.(Fig.10)

Table-18[3]

Development of Roads Maintained by different Agencies in North Bengal upto 1977 (in kilometre)

Name of the Agency	Metalled Road	Unmetalled Road	Total length of Road	Percentage of the Metalled Road	Percentage of the Unmetalled Road
National Highway (N.H. 31 and N.H.34)	617.00	-	617,00	8.23	-
State High Way (P.W.D)*	2907,00	773	3680.00	38.81	10.32
Zilla Parisad Road	15,45	2759.3	2774,75	23	36.84
Lateral Route Project (L.R.P.)	160.00	-	160,00	2,13	-
Forest Road	-	258	-	-	3.44
Total	3699,45	3790.8	7489.75	49.40	50,60

As has been given in the table that out of 7489.75 kilometeres of total length of road, the metalled roads share only 49.40 percent, which requires further development.

The metalled roads connect the industrial units with the main market centres. An idea about the present situation of the metalled roads within North Bengal the Table 19 have been given below.

*Public Works Department.

Table-19[4]

Picture of Road Development Activities in North Bengal Upto 1975

Name of the district	Total Area in Sq.Km.	Total population	Total length of metalled Roads (Kms)	Kilometre per 100 in sq.km.	Kilometre per 1,000 of population
Cooch Behar	3,386	1,414,183	554	16.36	0.400
Darjeeling	3,075	781,777	731	23,77	0.900
Jalpaiguri	6,246	1,750,159	942	15,08	0,500
Malda	3,713	1,612,657	517	13,92	0.300
West Dinajpur	5,206	1,859,687	781	15,00	0.400
North Bengal	21,626	7,418,463	3,525	16,20	0.500
West Bengal	86,858	44,312,011	13,352	15,20	0.300

A regional variation of length of roads from the above table shows that North Bengal posseses 16.20 kilometres of road per 100 sq. kilometres of area, while it is 15.20 kilometre for the state as a whole. Again the distribution of roads among the five districts of North Bengal, Darjeeling ranks first with 23.77 kilometres per 100 square kilometres of area, Cooch Behar

takes second position having 16.36 kilometre, followed by Jalpaiguri, West Dinajpur and Malda 15.98, 15.00 and 13.92 kilometres respectively. From the point of view of metalled road development North Bengal's position is better while comparing with West Bengal as a whole.

National Highway.

Two National Highways were built during the 2nd Five Year Plan (1956-59).

A. Calcutta - Siliguri National Highway (N.H. 34).

This Highway banches off from the Calcutta-Bongaon National Highway near Barasat and runs upto Dhulian on the Ganga in the district of Murshidabad. At this place at Farakka a roadway has been constructed on the barrage at Khejuriaghat and passes through Kaliachak, Englishbazar, old Malda and Gazole in Malda district and enters into Itahar, Raiganj and Dalkhola of West Dinajpur District.

B. Bihar-Assam National Highway (N.H.31)

(i) This Highway entres from Bihar into Dalkhola in West Dinajpur district and after crossing Islampur and Sonapur of the district it passes through Siliguri of Darjeeling district, Oodlabari, Mal, Chalsa, Jalpaiguri, Maynaguri, Dhubguri, Birpara, Falakata, Alipurduar of Jalpaiguri district and Cooch-Behar, Tufanganj in Cooch-Behar district and goes to Assam.

(ii) Siliguri-Gangtok National High Way (N.H. 31A).

This Highway branches off from the Bihar National Highway near Sivok on the foot hills of the Darjeeling Himalayas. This highway connects Gangtok, the capital of Sikkim with Siliguri town.

The volume of length of roads has been increased by various local public authorities under plan e.g. Forest Department, Municipality, State Public works Department, Zilla Parisad and the like.

With the growth of steady development of road ways, the Bus services are improved. Both North Bengal State Transport Corporation (N.B.S.T.C.). buses and Private buses have been plying through out North Bengal, touching all the urban Centres and local weekly and bi-weekly market centres, as well, provide facilities for movement of various industrial and agricultural commodities from one point to another. Trucks help in transporting the raw materials for industries and finished products from industrial unit to the market. The goods transport service of the corporation was started in 1965 for carrying goods from North Bengal. Cooch Behar is the head quarter of the North Bengal State Transport Corporation. The good vehicles of public carriers numbering 311 have been used by the corporation upto 1973.

The export item of North Bengal e.g. Mango, Orange, Pineapple, Tea, Timber, Tobacco are moved to Calcutta by road transport. Various import items including Chemicals, Coal, Cotton Yarn, Drugs, Iron-sheets, Machineries, Paraffin-Wax, Scrap-iron and other raw materials for industries depend upon road transport for reaching

the industrial centres within the state of North Bengal. Besides Mango, orange etc. Ipecac, Raw skin and Hides have also been sent to Calcutta, Uttar Pradesh, Bihar and Orissa through roads.

Excepting the metalled roads, the region has no good all weather road. Many of the villages are not accessible through mechanical means of transportation, where means of communication is bullock carts only. As a result the villages and the commodities produced there do not find outlet to be established, in markets in order to bring adequate return to the producers. Cycle Rickshaws are used for short journeys with in the towns and near by villages.

2. Railways.

Railways influence the industrial development of North Bengal to a great extent. The transportation of the industrial commodities : Tea, Sawn wood, Ply wood, Mango and Preserved Mango, pineapple, orange, Jute Bails, different sizes of Stone Chcaps and Dolomite to Calcutta and other states, the import of Scrap Iron, chemicals like Resine, Hardner, Caustric, Paraffin, Tallow, Bidi Tobacco. Cotton Yarn, Cane, Small Tools and Machineries etc. from Calcutta and other states to North Bengal for various industrial units - in all these activities railways play an important role.

The completion of Farakka Barrage in 1972, offered North Bengal a direct link between Calcutta and Assam, makes a rapid industrialisation in this sector. The state of North Bengal thus

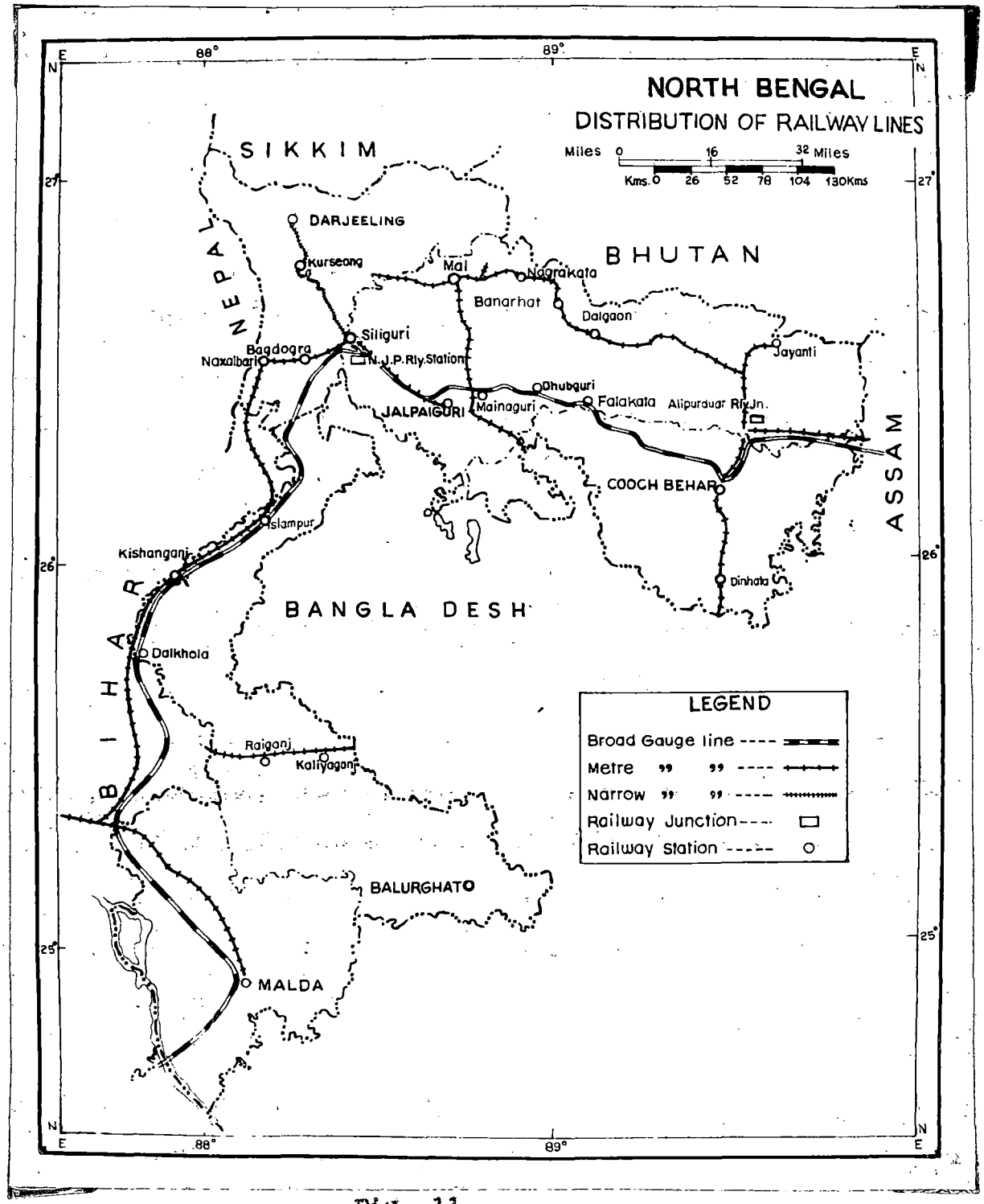

NORTH BENGAL
DISTRIBUTION OF RAILWAY LINES
Miles 0 16 32 Miles
Kms. 0 26 52 78 104 130Kms
SIKKIM
DARJEELING
Kurseong
Mal
Nagrakata
BHUTAN
Banarhat
Daigaon
Jayanti
Siliguri
Bagdogra
Naxalbari
N.J.P.Rly.Station
Dhubguri
Falakata
Alipurduar Rly.Jn.
JALPAIGURI
Mainaguri
COOCH BEHAR
ASSAM
Islampur
Kishanganj
Dinhata
BANGLA DESH
Dalkhola
Raiganj
Kaliyagani
BALURGHATO
MALDA
LEGEND
Broad Gauge line
Metre
Narrow
Railway Junction
Railway Station
88°
89°
27°
26°
25°

Fig. 11

served by the North East Frontier Railways. The rail lines of North Bengal are divided into 3 types : Broad Gauge, Metere Gauge and Narrow Gauge. (Fig.11)

Table-20[5]

District-wise distribution of different types of Rail line in North Bengal upto 1979.

Name of the district	Broad gauge (in kms.)	Metre gauge (in kms.)	Narrow gauge (in kms.)
Cooch Behar	30	nil	42
Darjeeling	31	67	79
Jalpaiguri	144	196	102
Malda	120	nil	nil
West Dinajpur	nil	96	nil
Total	325	359	223

The table reveals that the metre gauge railway lines cover the maximum portion of the total rail lines sharing 39.58 percent followed by broad gauge lines with 35.83 percent and 24.59 percent for narrow gauge. As seen in the table the metre gauge lines are not covering the district of Cooch Behar and Malda, while the narrow gauge lines are absent in Malda and West Dinajpur.

Broad Gauge line.

One Mail train the Darjeeling Mail, two Express trains Kamrup and Janata, and one passenger train are plying through Broad Gauge line. The Darjeeding Mail connects Sealdah with New Jalpaiguri while the express trains connect Howrah with Assam. After crossing the district of Murshidabad near Khejuria-ghat the broad Gauge line passes through Gour, Malda Town, Old Malda, Adina, Eklakhi, Mahananda Bridge, Kumarganj, Samsi, Malahar, Bhaluka, Milangarh Harishchandrapur and Kumedpur in Malda district. It enters Chatterhat, Nijbari, Rangapani in Darjeeling district, then it moves through New Jalpaiguri, Ambari Falakata, Belakoba, Ranninagar-Jalpaiguri, Jalpaiguri Road, New Domohani, New Maynaguri, Betgara, Altagram Dhubguri, Kolaigram, Salbari, Khirekot, Falakata, Gumani Hat of Jalpaiguri district. At Cooch-Behar district the line crosses Ghoksadanga, Pundibari New Cooch-Behar New Baneswar and again passes through New Alipurduar, Samuktala Road, Kamakhyaguri, Jorai of Jalpaiguri district.

Metre Gauge Line.

Two mail trains, Assam Mail and A.T. mail and Lucknow Expres trains are moving through Metre Gauge lines. The lines connect Assam Bihar and uttar Pradesh. After crossing the Galgalia of Bihar the metre gauge lines enter and pass through Adhikari, Batasi, Naksalbari, Hatighisa, Baghdogra, Matigara,

Siliguri Junction, Pashwashraya, Gulma and Gulmakhola of Darjeeling district and Sivok, Pilashat, Bagrakot, Godlabari, Dam Dim, New Mal Junction, Chalsa, Chapramari, Nagrakata, Carron, Chengmari, Banarhat, Binnaguri, Dalgaon, Mujnai, Madarhat, Hasimara, Hamiltonganj, Kalchini. Garopara, Raja Bhat Khowa, Damanpur, Alipurduar Junction, Salsabari, Samuktala Road, Chepani, Kamakhyaguri, Jorai of Jalpaiguri district.

Narrow Gauge Line.

The Narrow Gauge lines of Darjeeling district connect New Jalpaiguri to Darjeeling town. Besides carrying goods traffic to the hill stations, it is a source of tourist attraction with many loops and rounds, offering a perfect view of scenic beauty of Himalayas. In Jalpaiguri district the lines pass through the Tea Gardens and Forest areas of Duars. They help in movement of passengers and various agricultural products.

In order to find out the position of railway lines in North Bengal the following table has been given below :

Table-21[5]

The Position of Railway lines in North Bengal, 1979

Name of the district	Total area in sq.km.	Total length of railway in km.	Kilometre per 100 sq.km.
(1)	(2)	(3)	(4)
Cooch Behar	3,386	72	2.10
Darjeeling	3,075	177	5.74

(1)	(2)	(3)	(4)
Jalpaiguri	6,246	442	7.00
Malda	3,713	120	3.23
West Dinajpur	5,206	96	1.84
Total	21,626	907	4.14

A district-wise picture of rail lines with comperative figures of the area shows that the railway network spreads only 4.14 kilometres per 100 sq.km. of area in North Bengal. as a whole. Again a regional variation of rail lines among the five districts, Jalpaiguri ranks first with 7.00 km. per 100 sq.km. while Darjeeling comes second with 5.74 km. followed by Malda with 3.23 km; Cooch Behar with 2.10 km. and West Dinajpur with 1.84 km.

Capital

Ready capital or financial assistance in large amount for industrialdevelopment offered by the Central and the State Government from 1967 through different agencies like The District Industrial Office, The Nationalised Banks, The West Bengal Financial Corporation, The Co-operative Banks and Societies, The Khadi gramuddyaga etc. The benefits obtainedby such organisations have further been detailed :

1 Loan Under the Bengal State Aid to Industries Act. (BSAI Act)

Under this act short, medium and long term loans upto Rupees one lakh may be advanced to a unit by the Directorate of Cottage and Small Scale Industries, Government of West Bengal. The district and block level officers can sanction loans upto the amount as given below :

(a)	Deputy Commissioner/District Magistrate upto	Rs. 10,000
(b)	Rural Industrial Project Officer District Industrial Officer upto	Rs. 2,000
(c)	Block Development Officer upto	Rs. 400

An idea about the amount of capital assisted by the BSAI act a district wise distribution of loans have been given in the following tables.

Assistance of capital in the District of Darjeeling may be observed in the following table.

Table -22[7]

Amount of loans disbursed to Small Scale Industry by the Rural Industrial Project Office in the Project Area, Darjeeling District.

Year	Amount disbursed (in Rs.)	No. of Units
1966-67	1,50,000	107
1967-68	1,05,000	84
1968-69	1,25,000	74
1969-70	60,000	16
1970-71	70,000	18
Total :	5,20,000	299

The disbursement of capital in the project Area of the District of Darjeeling was Rs. 1,50,000 among the 107 units in 1966-67, while it increased to 71.1 percent within five years with an addition of 43.1 percent units.

Table -23[7]

Amount of loans disbursed to small scale Industry by the Rural Industrial project office in the Non-project Area, Darjeeling District.

Year	Amount disbursed (in Rs.)	No. of Units
1967-68	13,050	12
1968-69	22,000	14
1969-70	22,000	16
1970-71	62,000	36

From the table it is evident that the amount of loan among the 12 units in the Non-Project area was Rs. 13,050 in 1967-68, while it increased to 89 percent within 1970-71 when 66 more units were added.

Table-24[7]

Amount of loans disbursed to the Small Scale Industries by the Deputy Commissioner, Darjeeling District.

Year	Amount disbursed (in Rs.)	No. of units
1966-67	77,500	12
1967-68	37,500	7
1968-69	22,100	5
1969-70	40,000	13
1970-71	44,500	13

The table above shows that the capital offered by the Deputy Commissioner to the industrial units of Darjeeling district. Between 1966-67 the total amount of capital given was Rs. 77,5000 among 12 units, it went up to 65 percent between 1970-71 when the number of units were 50.

BSAI

Financial help given by the ~~S~~ act in the District of Jalpaiguri is showing in table -25.

Table - 25

Amount of loans disbursed to Small Scale Industry by the Block Development Officer, Jalpaiguri District.

Name of the Block	1969-70 Amount disbursed (Rs.)	No. of Units	1970-71 Amount disbursed (Rs.)	No. of Units	1971-72 Amount disbursed (Rs.)	No. of Units
Jalpaiguri	20,000	38	5,000	18	1,000	3
Rajganj	2,000	8	N.A.	N.A.	1,000	3
Maynaguri	N.A.	N.A.	N.A.	N.A.	1,000	3
Dhubguri	2,000	6	N.A.	N.A.	1,000	3
Mal	2,000	8	4,000	13	1,000	3
Matelli	1,000	4	2,000	5	3,000	7
Nagrakata	N.A.	N.A.	N.A.	N.A.	1,000	3
Falakata	3,000	7	N.A.	N.A.	3,000	8
Madarihat	1,000	3	N.A.	N.A.	1,000	3
Kalchini	1,500Ø	5	1,000	3	1,000	3
Alipurduar I	N.A.	N.A.	2,000	8	2,000	5
Alipurduar II	2,500	12	2,000	8	3,000	9
Kumargram	N.A.	N.A.	N.A.	N.A.	2,000	6

N.A. not available.

It is interesting to note that for the last three years from 1969-70 to 1971-72 the Jalpaiguri block receive the maximum amount of money with 36.62 percent of the total capital. Alipurduar II block ranks second sharing 10.56 percent followed by Mal with 9.85 percent, Metelli with 8.4 percent, Falakata, Alipurduar I, Kalchini, Dhubguri, Rajganj, Madarihat, Kumargram, Maynaguri and Nagrakata.

Table-26

Amount of loans disbursed to Small Scale Industrial Units by Deputy Commissioner and District Industrial Officer, Jalpaiguri District.

Year	Deputy Commissioner		District Industrial Officer	
	Amount disbursed (in Rs.)	No.of Units	Amount disbursed (in Rs)	No. of Units
1969-70	3,000	1	21,000	21
1970-71	4,000	1	15,000	14
1971-72	30,000	6	42,550	41
Total	37,000	8	78,550	76

The growth rate of financial help in the district of Jalpaiguri has been shown, and it has been found that in the year 1971-72 the maximum amount of capital was received with 90.9 percent of the total for 6 units and with 54.1 percent of the total for 41 units by the Deputy Commissioner and District Industrial Officer respectively.

The following table shows the source wise distribution of loans under BSAI Act in Malda district.

Table-27[10]

Amount of loan disbursed to the Small Scale Industries, Malda District.

Name of Office	1969-70		1970-71		1971-72	
	Amount disbursed (in Rs.)	No. of Units	Amount disbursed (in Rs.)	No. of	Amount disbursed (in Rs.)	No. of Units
District Magistrate	10,000	2	10,000	2	10,000	1
District Industrial Officer	14,000	7	14,000	8	20,000	10
Block Development Officer	N.A.		N.A.	N.A.	10,000	33

N.A. not available

The financial help obtained by the industrial units in Malda district has been shown in the above table. In 1969-70 Rs. 10,000 were distributed between 2 units by the District Magistrate, while Rs. 14,000 among 7 units have been helped by the District Industrial Officer Between 1970-71 again Rs. 10,000 for 2 units by the District Magistrate and Rs. 14,000 for 8 units by the District Industrial Officer have been financed. During 1971-72 one more unit with Rs. 10,000 by the District Magistrate, Rs. 20,000 among 10 units by District Industrial Officer and 33 units, with Rs. 10,000 by the Block Development Officer, were assisted.

Amount of capital helped by the Government in West Dinajpur district are as follows :

Table-23[11]

Amount of loan disbursed to the Small Scale Industries, West Dinajpur District.

Name of the Office	1968-69 to 1972-73	
	Amount disbursed (in Rs.)	No. of Units
District Magistrate	2,11,4000	51
Rural Industrial Project Office	54,000	N.A.

N.A. not available.

The loans given under B.S.A.I. Act in the district of West Dinajpur shows that Rs. 2,11,3000 have been distributed among 51 units within five years between 1968-69 to 1972-73 by the District Magistrate while the amount disbursed by the District Industrial Officer was Rs. 54,000 but the units not known.

2. Nationalised Banks.

Apart from B.S.A.I. Act, Nationalised Banks also come forward to finance the Small Scale Industrial Units, recommended

by the District Industrial Office. The following banks are functioning in North Bengal.

1. United Bank of India
2. State Bank of India
3. Central Bank of India
4. Allahabad Bank

An idea about the amount of capital assisted by the banks following information have been given below :

Table-29[12]

Amount of Capital sanctioned by the Nationalised Banks in North Bengal.

Name of Bank	Year	District	No. of Units	Total amount of capital (in Rs.)
1. United Bank of India	1970-71	Malda	1	5,200
	1973-76	West Dinajpur	23	1,131,010
	1975	Darjeeling (Siliguri)	17	3,030,010
2. State Bank of India	1969-72	Malda	13	565,000
	1973-76	West Dinajpur	14	96,270
3. Central Bank of India	1973-76	West Dinajpur	6	103,229
4. Allahabad Bank	1970-75	Darjeeling (Siliguri)	N.A.	396,000

N.A. Not available.

3 West Bengal Financial Corporation.

West Bengal Financial corporation offering financial assistance to the Small Scale Industrial Units has been carrying out its activities from 1972 with its to branches at Siliguri and Malda.

14

Table-30

Amount of capital distributed by the Financial Corporation of West Bengal to the Small Scale Industries in North Bengal.

Name of the district	Year	No. of Units	Total amount (in Rs. in lakh)
Darjeeling	1972	4	9.86
	1973	7	6.82
	1974	9	51.36
	1975	13	84.72
Malda	1972-75	15	10.18
West Dinajpur	1972-75	18	59.58

The growth rate of loans offered by the West Bengal Financial Corporation has been shown for the 3 districts of North Bengal. It is noticed that the district of Darjeeling shares the maximum amount of capital with 68.64 percent of the total followed by West Dinajpur and Malda 26.77 and 4.59 percent respectively.

After studying the tabular figures of the financial assistance, offered by the several organisations, to the various industrial units, we can say that industries can develop in North Bengal, if proper help may be rendered.

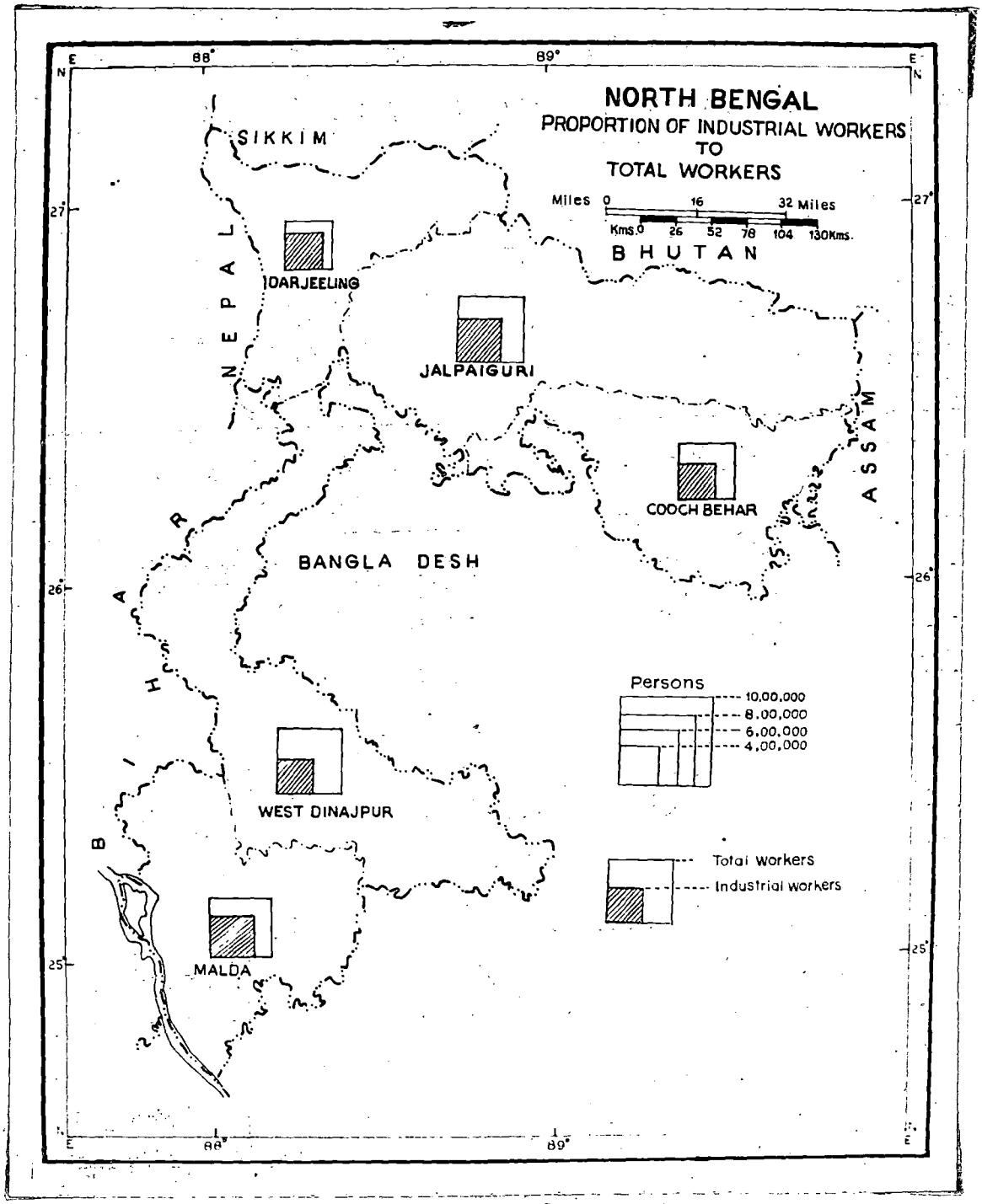

NORTH BENGAL
PROPORTION OF INDUSTRIAL WORKERS
TO
TOTAL WORKERS
Miles 0 16 32 Miles
Kms. 0 26 52 78 104 130Kms.
SIKKIM
BHUTAN
NEPAL
DARJEELING
JALPAIGURI
COOCH BEHAR
ASSAM
BANGLA DESH
BIHAR
WEST DINAJPUR
MALDA
Persons
10,00,000
8,00,000
6,00,000
4,00,000
Total Workers
Industrial workers
88°
89°
27°
26°
25°

Fig. 12

Chapter III

Place of Industry in North Bengal.

The industries of any country reveals the varying size groups which may broadly be classified as small medium or large, measured by a common acceptable denominator. The presence of units of varying sizes, despite the innumerable difficulties generally faced by those of relatively smaller size, is to be found the "advanced or industrially developed and backward or industrially less developed areas in the world.[1] Turning to North Bengal, it may be observed at the very out set that no definite estimate can be made about the over-all structure of industrial organisation with respect to the unregistered establishments or the unorganised sector, the employment provided by them, or their total turn over. However, an attempt is made in this chapter to give a general idea from scattered data collected from different reliable sources.

In understanding the position of industries in the economy of North Bengal, engagement of population in different economic activities may be taken for classification (Table-31). (Fig. 12)

Table - 31[2]

Distribution of workers engaged in different economic activities in North Bengal-Census 1971

Name of the district	Total workers	Workers engaged in agriculture	Percentage of the total	Workers engaged in industry	Percentage of the total
Cooch-Behar	390,502	326,255	83,54	15,958	4.08
Darjeeling	282,442	111,837	39,59	13,725	4.85
Jalpaiguri	544,686	272,406	50,01	23,407	4.29
Malda	436,873	347,421	79,52	23,559	5.39
West Dinajpur	520,375	443,792	85,23	15,958	3.06
Total for North Bengal	2,748,78	1,501,711	69,04	92,587	4.2
Total for West Bengal	12,368,944	7,227,108	58.42	1,739411	14.06

Table-31 shows that the workers engaged in industrial activities comprise only 4.2 per cent of the total workers engaged in the whole of North Bengal whereas agricultural activities engage 69 percent of the total workers. While in the state the over all percentage workers engaged in industries is 14.06. Considering these facts it becomes clear that from the point of economic development North Bengal's industries are still small employers.

In order to understand more clearly the present position of industries in North Bengal it is necessary to evaluate the locational factors of the industries. Locational factors refer to particular conditions giving rise to industrial activities at certain points enjoying greater advantage than others. The conditions governing such locations may be of several kinds, e.g. availability of resources, assemblege of the other factors helping in the entire process from production to distribution at a reasonable price at that point. In Weber's Locational Factors are best determined by the advantages of cost in the production of the finished goods.

Looking at North Bengal the development of industrial activities has taken place on the basis of the following factors : (a) Site and the availability of capital. The choice of site has a great influence and the availability of land for establishing the factory or mill has never been a problem in the region.

On the other hand, while local capital has always been far from adequate to meet the needs of the large industries, capital required to fulfil the demands of small and cottage industries has not been too shy to support such industries. (b) As it will be seen availability of raw materials - Jute, Mango, Tabacco, Silk, Wood etc. and supply of power from different sources, though inadequate, played an important role in location industries in the region. It further implies that the raw materials must be present either at the place of

production, or they should be within easy reach of the place of production. It has to be borne in mind that the prices paid for the raw materials, and the power generating fuel together with the expenses of transporting both of them enter into the cost of production which finally determines the market price of the commodity.

(c) The transportation system with its various types size and capacity has taken an important role in the assembling of the raw materials and transporting the finished products.

(d) Labour needed at every stage of the industrial activity largely;

(e) Similarly, the region has always provided a local market for the products from the various industries, making most of the units economically viable.

Taking all these factors into account a locational analysis of the industries in North Bengal is made in the following paragraphs.

Apart from the northern portion of Darjeeling district and north-eastern part of Jalpaiguri district, almost the whole of North Bengal has plain land, suitable for establishing the factories. But it has to be admitted that, considering the capital investment facility the region is much backward or rather very poor. The remote situation of the region kept it merely isolated from the main stream of economic life of the state for a long time. As a matter of fact ready capital in large amount was not available till 1970, and it is from 1971

that the Central and the State Government have taken a real in this direction, interest giving financial assistance for industrial development through several agencies like The District Industrial office, The Nationalised Banks, The West Bengal Financial Corporation, The Co-operative Banks and Societies, The Khadi Gramuddyaga etc.

The region lacking in basic mineral resources is quite rich in some agro-based and forest-based resources like, Tea, Raw-silk, Tobacco, Jute, Orange, Mango, Pineapple, Zinger to name only the important ones, besides a large variety of forest products. But all these resources have not yet induced any industrial activities in an organised manner or to an appreciable extent. Power needed for industrial function is mainly available from hydroelectric plants harnesssing from a number of hill streams of the region namely : Jaldhaka, Rangit, Kalindri. The total thermal power produced in the region amounts to 64,803,412 kwh of which only 43.1 percent is consumed by the industry and the rest goes for domestic and other consumption. The supply position of power is not satisfactory here. Non-industrial consumption makes a heavy demand and the power produces, thus limiting the scope for industries load-shedding to a great extent. Besides, it takes a long time for any industry to get a connection with the power grid, has further aggravated the problem.

The roads in North Bengal are well developed for the collection and distribution of raw materials and industrial

goods and there is about 16.20 km. road for every 100 sq. km. area while the corresponding figure for West Bengal is 15.20 km. National Highways No. 34 and 31 pass through the main Urban Centres of the region establishing direct links with Calcutta in the south, Assam in the east and Sikkim in the north. Side by side both broad gauge and metre gauge railway lines, also connect North Bengal with Calcutta, Assam and Bihar.

Both skilled and unskilled labour are recruited from the rural and urban areas of the five districts of North Bengal where the population increased significantly during the last few decade thus providing large number of workers who are generally attracted by the industries. A decennial variation in population since 1951, brings out it clearly (Table 32).

Table-32

Decennial variation in population in North Bengal.

Year	Persons	Decade variation	Percentage decade variation
1951	3,959,775		
1961	5,549,458	+ 1,589,683	+ 40.15
1971	7,418,663	+ 1,869,205	+ 33.68

Source : West Bengal Census - 1971

It represents the rate of population growth during each decade, between 1951-61, with it increased to 40.15 percent while the percentage being 33.68 between 1961-71.

As a result, regular supply of labour for industrial use has never been a real problem in the region.

It thus appears that the over all situation has not all been very much encouraging for the development of industries on a large scale which however does not mean that North Bengal lacked the potential for industrial development. The flow of captial, technological know how enterprise has always been low due to the remoteness of the region resulting mainly from continued apathy and negligence on the part of past administration. This also has been mainly responsible for the absence of a proper market closely tied up with urban development which has remained too slow in this region for a long time. Inspite of all these major handicaps industrial activities have gone on a full swing during all this period, giving rise to small units working on local resources and attaining specialisation serving the needs of the local population both in the rural and urban environments. And it is highly interesting to note that specialisation achieved in different industries makes the major identifying feature of many of these small and cottage industries, some of them having a good market out side the region for a long time. This particular feature is brought into focus in the remaining chapters.

Registration. The industries that are now functioning in North Bengal are mostly registered units. Before proceeding further it is necessary to clarify, the term "registration". Generally the SSI (Small-Scale Industry) Registration is granted to the small scale and cottage industries as a recognition for certain assistance given under various schemes both by the Government and other institutions. Originally the registration was given by the Directorate of Industries but subsequently the scheme has been decentralised under a Government order no. 90/50 stat Dt. 22.10.65. Since then the District Industrial officer has been issuing registration certificates to the small scale Industries and Cottage Industries under his jurisdiction.[5]

The assistance programme of the Cottage and Small Scale Industries - Directorate, Government of West Bengal has made following provisions :

A. Finance

1. Loan under BSAI Act. (Bengal State Aid to Industries Act.).

The District Industrial officer is empowered to disburse upto Rs. 2,000 to a single unit. This power has been provided by the Government, since 1967.

The Deputy Commissioner may sanction BSAI Act loan cases involving Rs. 2,000 to 10,000. The cases for such loans are sanctioned after an investigation made by the District Industrial officer into the feasibility and economic viability of the schemes.

II. There is also provision for extending financial assistance to cottage and smal scale industrial units through Banking Institutions.

III. Other Financial Institutions.

West Bengal Finance Corporation, offering financial assistance to small and cottage industry, has been carrying out their activities from Calcutta office. In the later part of August, 1972, two Branches of the Institution have been opened at Siliguri and Malda.

B. Raw Materials.

The following raw materials are generally provided to SSI Registered units at reasonable rates on a quota system by the Block Office.

1. Alluminium Sheets.
2. B.P.Sheets.
3. G.P.Sheets.
4. Iron & Steel.
5. Billets for rolling mills.
6. Cocoanut oil.
7. Palm oil.
8. Zink.
9. Paraffin wax.

C. Machine on Hire Purchases.

The SSI units may get mechines for industry under Hire Purchase scheme.

D. Assistance to Industrial Co. operative.

The Industrial Cooperative societies of the districts have been rendered the managerial subsidy, working capital loan and Government share participation for tools and equipments.

F. Other Activitis.

Besides the services, mentioned above, facilities are also available in obtaining :

1. Assistance in obtaining power supply;
2. Assistance in obtaining Telephone connection;
3. Import licence for scarce raw materials and machinery;
4. Subsidy @ 2% interest on Bank-loan for a working capital upto Rs. 50,000.
5. Subsidy on power supply to the units having motor with a production capacity of 50 HP.
6. Assistance for allotment of Cement through the Deputy Commissioner;
7. Arrangements for the marketing of products;
8. Assistance for marketing and exhibition.
9. Recognition to Handicraft artisans by organising Handicraft competition;

10. Assistance for an economic survey of the district giving an over all picture of the industrial development;

11. Grant in aid for the training Institutions.

A concrete idea about the relative position of the Registered fatories in North Bengal may be obtained from Table-33

Table-33

Registered working Factories in North Bengal

(Excluding Defence Factories)

Name of the districts	1963	1971	1972	1973	1974	1975
Cooch-Behar	12	13	13	15	14	14
Darjeeling	176	159	157	155	156	157
Jalpaiguri	228	241	234	239	234	241
Malda	4	11	7	7	7	7
West Dinajpur	33	34	34	31	31	29
Total for North Bengal	453	458	449	447	454	448
Total for West Bengal	5,653	5,677	5,619	5,629	5,688	5,626

Source : Chief Inspector of Factories, West Bengal.

Table gives an idea about the actual trend in the growth of registered factories in North Bengal between 1965 and 1975. In 1965, 453 factories were registered and within ten years 2241 more factories have been registered, the percentage of growth rate being 17 only, where as in West Bengal the growth of registered fatories between 1965 and 1975 was 96 percent. It is thus clear that, from the point of view of registered factories, the position of North Bengal in comparison to West Bengal is not at all satisfactory.

As it has already been discussed, the industries developed, and functioning now in North Bengal are mostly of small scale and cottage based in their size in employment, in annual investment of capital and the annual installed capicity of production of the units. The general distribution and figurative position of these industrial units are given in Table-34. and 35.

Table-34[6]

Distribution of Small scale and cottage industries in North Bengal by employment - Registered up to 31.12.1975.

Name of the district	No. of Units	No. of Employment
Cooch-Behar	1,313	7,615
Darjeeling	2,177	6,966
Jalpaiguri	1,779	7,294
Malda	1,246	5,109
West Dinajpur	1,573	5,034
Total for North Bengal	8,088	32,018 (3.95)*
Total for West Bengal	89,822	629,367 (7.0)*

*Figures in the brackets represent average employment per unit.

Table-35[6]

Investment of Capital and Annual Installed capacity of production of Small Scale and Cottage Industries in North Bengal Registered upto 31.12.1975.

Name of the district	No. of Units	Total Capital investment (in Rs. '000)	Annual Installed capacity (in Rs. '000)
Cooch-Behar	1,313	15,230.0	61,054.5
Darjeeling	2,177	30,478.0	70,317.1
Jalpaiguri	1,779	28,819.8	1354,752.8
Malda	1,246	7,974.4	28,782.6
West Dinajpur	1,573	5,034.0	27,055.6
Total for North Bengal	18,088	87,537.0	4,41,962.6
Total for West Bengal	89,822	30,52,628.0	1,98,78,206.2
Average per unit in North Bengal		10.82	54.64
Average per unit in West Bengal		33.99	221.26

It may be noted here that the figures presented in Tables-34 and 35 represent mainly of those the small scale and Cottage Industrial establishments falling outside the perview of the Factories Act. At the same time the data obviously will not tally with the total number of units existing and functioning in North Bengal as because the registration covers only a very

small fraction. Of the actual number in operation. This is, perhaps, due to the fact that, the Cottage Industrial units located in the remote rural areas of the districts have reservations about registering their units, though it may be helpful to them. This inherent drawback of the system is probably due to the lack of proper organisation and publicity on the part of the authorities. Moreover, limited finance and security are also responsible for the unenterprising habits of the owners of the Small Scale and Cottage Industrial units.

The object of furnishing the above tables is to find out the regional pattern of employment and capital investment in Small Scale, and Cottage Industry in North Bengal. It is Interesting to note that the employment comes down to 3.95 persons per unit, while per unit average for West Bengal is 7.0 persons. The same is the case for average capital investment and annual installed capacity per unit. The average capital investment per unit is Rs. 33.99 in case of West Bengal but it is only Rs. 10.82 in North Bengal. Again, it is Rs. 221.26 for West Bengal and Rs. 54.64 for North Bengal, while the annual installed capacity is concerned. Thus, North Bengal, sharing only 2.86 percent of the total capital invested in small scale and cottage industry in West Bengal, is really lagging behind.

To form an idea about the types of industries in North Bengal, a district-wise distribution of the different units now functioning under the registration act of the District Small Scale and Cottage Industry Department is given in Tables-36-41.

Table-36[7]

Small Scale Industrial units in Cooch-Behar District - Registered upto 1974

Name of the Industry	No. of Units	Total Employment	Percentage of employment to total employment in districts.
(1)	(2)	(3)	(4)
1. Food & Beverages	116	657	11.3
2. Tobacco	29	857	14.7
3. Textiles including textile wearing apparel	316	3083	53.1
4. Foot wear	13	42	7
5. Wood products	56	438	7.5
6. Furniture	26	77	1.3
7. Printing & Allied Industries	14	52	0.9
8. Chemical Products	27	117	2.0
9. Non-metallic mineral products	11	79	1.3
10. Basic metal industries	19	89	1.5
11. Manufacturing of metal products	6	33	6
12. Manufacturing & repair of transport equipment	43	139	2.4
13. Miscellaneous	47	159	2.7
Total :	724	8819	100.0
Average per unit		8	

Table -36 shows the employment in different types of industries in the district of Cooch Behar. It is found that the Textile Industry takes the leading position among all the industries with 63.1 percent of the total employment in industry, Tobacco takes second position with an employment of 14.7 and Food and Beverages come third having an 11.3 percent on its pay-rolls followed by Wooden products, Foot wear, Manufacturing and Transport Equipment, Chemical products, etc. In the total number industrial units again, the Textile Industry takes first position numbering 316, while Food and Beverages rank second with 116 units, followed by Wood Products, Manufacturing & repair of Transport Equipment, Tobacco, Chemical products, Furniture etc. Textile Industry, Tobacco, Food & Beverages and Wood products have thus taken a dominant role in the industrial activities of the District of Cooch Behar, maintaining a higher level of production than other types of industries functioning in the district.

Tables-37 and 38 present a picture of the district of Darjeeling. The industries within the district belong to two categories : the project Area Industries and the Non-project Area Industries.

1. The Project Area.[8]

The project area is under the Rural Industries project scheme comprising five development Blocks viz. Kalimpong I, Kalimpong II, Siliguri - Naxalbari, Phansidewa - Kharibari,

and Darjeeling - Pulbazar established with a view to promote the development of rural industries more intensively. The project was launched in this district in 1965 along with 48 others in various parts of the country. The rural Industries Project is a direct scheme included in the Central Sector on the Plan and executed by the Directorate of Cottage and Small Scale Industries, Government of West Bengal.

2. The Non-Project Area.[8]

This includes the municipal areas in the towns of Darjeeling, Kalimpong, Kurseong, Siliguri and five development Blocks viz. Kurseong, Mirik, Sukhiapokhri, Jore Bunglow, Garubathan and Rangliranglio.

Industries functioning in these two areas are given in the following Table.

Table -37 [9]

Small scale Industrial units in the project Area of Darjeeling District.

Registered upto 1971.

Name of the Industry	No. of Units	Total Employment	Percentage of employment to total employment in the district.
1. Food products	33	210	21.5
2. Textiles	8	13	1.33
3. Beverage Industries	3	10	1.02
4. Chemical & Chemical products	5	39	3.99
5. Foot wear & other wearing appreal	39	104	10.65
6. Wood work other than furniture	2	21	2.15
7. Furniture	11	36	3.68
8. Metal products	14	43	4.40
9. Building Materials	5	236	24.13
10. Handicraft	9	32	3.27
11. Misllaneous	53	231	23.66
Total :	182	976	100.00
Average per unit	-	5.36	-

Table-38[9]

Small Scale Industrial Units in the Non-Project Area of Darjeeling district Registered upto 1974

Name of the Industry	No. of Units	Total employment	Percentage of the employment to total employment in the district
1. Food products	80	1564	45.87
2. Textiles	7	20	0.58
3. Beverages	7	26	0.76
4. Chemical & Chemical products	33	175	5.13
5. Foot wear & other wearing apparels	111	456	13.37
6. Wood work other than furniture	23	189	5.54
7. Furniture	19	145	4.25
8. Metal products	75	217	6.36
9. Building Materials	3	16	0.46
10. Handicrafts	6	133	3.90
11. Misllaneous	127	468	13.72
Total :	491	3409	100.00
Average per unit	-	6.94	-

An employment character of the different types of industries have been tabulated in the above two tables for the project and Non-project Areas of Darjeeling district. In order of the strength of employment, the Food products tops the list both in the project and the Non-project Area with 21.5 percent and 45.8 percent respectively of the total employment in industry.

In the project area Building Materials take the next important position among the industries with an employment of 24.13 percent of the industrial workers and a group of industries humped together. Food Products rank third 21.5 percent of the total employment followed by Foot wear and other wearing apparels, Metal Products, Chemical & Chemical Products, Furniture, Handicraft, Wood work other than Furniture, Textiles and Beverages Industries. Considering the number of units functioning under each type, Foot wear of other wearing apparels maintains the first position with units 33, followed by Food Products 33, Metal products 14, Furniture 11, Handicrafts 9, Textiles 8, Building Materials 5, Chemical & Chemical products 5, Beverages Industries 3 and Wood work 2. Food Industries, therefore, dominates the scene in the project Area of Darjeeling district. When both number of units and employment are taken into consideration followed by Foot wear & Other Wearing apparels, Metal products and Furniture, in order of importance.

On the other hand Foot Wear of other wearing apparels rank second in the Non-project Area of Darjeeling district. Whereas Metal products occupy third position in employment

followed by Wood work other than Furniture, Chemical & Chemical products, Furniture, Handicrafts, Beverages, Textiles and Building Materials.

But, when the number of units are taken into account, the foot wear & other wearing apparels take leading position followed successively by Food products, Wood work other than furniture, Furniture, Beverages, Textiles, Handicrafts and Building Materials. Thus, both the Project and the Non-project area, the predominating industry is found to be the Food Industry closely followed by Foot Wear & other wearing apparels, Metal products, Wood work other than Furniture. Altogether they jointly have 56 percent of the total industrial units and employ 63.9 percent of the total industrial worker of the district.

Industrial position of the district of Jalpaiguri may be observed from the following table.

Table-39[10]

Small Scale Industrial Units in Jalpaiguri District, Registered upto 1973.

Name of the industry	No. of Units	Total employment	Percentage of employment to total employment in the district
(1)	(2)	(3)	(4)
1. Food & Beverages	139	2547	45.36
2. Tobacco products	21	116	2.06
3. Textiles including wearing apparels	79	272	4.84
4. Leather & Leather products	11	51	0.90
5. Wood products (Except furniture)	44	699	12.45
6. Furniture	20	92	1.63
7. Printing & Allied Industries	19	84	1.49
8. Chemical & Chemical products	99	548	9.75
9. Non-metallic mineral products	19	318	5.66

xContdx

(1)		(2)	(3)	(4)
10.	Manufacture of metal products	47	339	6.03
11.	Manufacuring & repairing of machinery (except electrical)	16	195	3.47
12.	Manufacturing & repairing of electical machinery	10	26	0.46
13.	Manufacturing & repairing of transport equipment	56	195	3.47
14.	Plastic or Polythene	3	22	0.39
15.	Manufacture & repair of watch & clock	8	21	0.37
16.	Manufacturing of photographic & optical	7	11	0.19
17.	Other industries not elsewhere classified	18	78	1.38
	Total :	616	5614	100.00
	Average per unit	-	9.11	-

Among the 17 industries in Jalpaiguri district Food & Beverages come first in order of both employment and number having 45.36 percent and 139 units respectively.

The second place in employment is obtained by the Wood products (except furniture) a percentage of 12.45. The Chemical & Chemical products rank third with an employment of 9.75 percent of the total industrial workers followed by Metal products, Non Metallic Mineral Products, Textiles including wearing Apparels, Manufacturing & Repairing of Machinery, Manufacturing & Repairing of Transport Equipment, Tobacco products, Furniture etc. Apart from these, other Industries included in the table take a rather insignificant role both in their employment as well as in the number of total units functioning under each category.

An idea about the industrial situation in the district of Malda may now be obtained from the Table-40.

Table-40[11]

Cottage and Small scale units in Malda district, Registered upto 1969.

Name of the industry (1)	No. of units (2)	No. of employment (3)	Percentage of employment to total employ- in the district. (4)
1. Handloom	4,532	9,600	56,32
2. Carpentry(manufacturing furniture, cartwheel etc.			
3. Blacksmithy (making agricultural implements)	125	398	3,26
4. Pottery	183	472	2.76
5. Village oil (processing mustered oil) Ghani	211	538	3.15
6. Basketry cane of Bamboo processing	58	1,117	6.55
7. Fishing net	1,400	1,800	10,56
8. Tailoring	750	970	5,69
9. Shellac (shola)	62	144	0.84

~~Contd~~

(1)		(2)	(3)	(4)
10.	Shoe making & repairing	74	N.A.	N.A.
11.	Bidi	153	N.A.	N.A.
12.	Cycle repairing shop	71	N.A.	N.A.
13.	Jewellery Goldsmith	221	N.A.	N.A.
14.	Mango processing	1,017	N.A.	N.A.
15.	Brass & Bell-Metal	44	N.A.	N.A.
16.	Handpounding	1,800	1,450	8.5
	Total :	10,928	17,045	100.00
	Average per unit	-	1.55	-

Note : N.A. not available

From the above table it is ascertained that Handloom Industry is the most important one both from the point of view of employment (56.32) and the number of units (4.532), next comes the Fishing net industry occupies the second position with an employment of 10.56 percent of the industrial workers of the district engaged in 1,400 units, in all Tailoring Industry takes the third position with an employment of 5.69 percent and having 750 units : Potery, Blacksmithy, Shellac etc. take less important positions with much lower employment. Mango processing industrial units numbering 1,017 but the figure on employment is not available. However, Mango processing ranks third in position in terms of the number of industrial units.

The names of industries functiong in the district of West Dinajpur is given in Table-41 showing their employment and the total number of plans under each type.

12

Table-41

Small Scale Industrial Units in West Dinajpur
Registered upto 1971

Name of the Industry	No. of Units	No. of employment	Percentage of employment total employment in the district.
1. Agro based	529	2386	21.95
2. Textiles	459	1851	17.03
3. Engineering	138	739	6.78
4. Forest Based	90	2258	20.78
5. Chemical	97	419	3.84
6. Ceramic	141	2138	19.61
7. Leather	105	239	2.19
8. Miscellaneous	412	836	7.69
Total :	1971	10,866	100.00
Average per unit	-	5.51	-

The foregoing Table reveals that agro-based (food-products) industry having the largest number of the district engages the largest number of industrial workers in the district with about 21.95 percent of the total. Next in importance is the forest based industry, with 20.78 percent in employment followed by ceramic 19.61 percent, textiles, engineering, chemical and leathers. Again, the agro-based industry (food-products) tops the list in regard to the number of units (529) the Textiles come next with 459 units followed by Ceramic, Engineering, leathers, Chemical and Forest based industry. Main industries, therefore, functioning in the district are Agro-based (food products) Forest based, Textiles, Ceramic and so on.

At a glance at the tabular figures of the registered units of the five districts of North Bengal, we may come into the conclusion that industries, of varying nature, according to their locational advantages have grown up functioning at present here.

A rank-wise classification of industries (Table-42) operating under the 'Small scale Industrial Registered Units' throws light on the industrial character of the region. The picture that emerges is quite interesting. In North Bengal the most predominant place is taken by the Food Industries taking Leading position among all industries in the three districts of North Bengal, namely Darjeeling, Jalpaiguri and

and West Dinajpur. Industries coming under this category like Rice Mills, Oil Mills, Bakery, Confectionery, Dairy products, Fruits Processing etc., have developed largely on the basis of local resources and in response to the demand of the regional market. Next in regional importance are the Textile Industries, having first position among the industries of the districts of both Cooch Behar and Malda where long tradition in Cotton and Silk Weaving respectively has given them the most important place in the industrial activities of the districts. The third important position is taken by Wood Products, based largely on the local resources. Industries like Metal and chemical coming next in order take a much less important position compared to the three most characteristic groups of industries in the region.

Table-42

Rank-wise classification of Registered Small Scale Industrial units by employment and number of units in North Bengal.

Name of the District	1st	2nd	3rd	4th
1. Cooch Behar	Textiles/Handlooms	Tobacco	Food products	Wood products
2. Darjeeling				
(a) Project Area	Food products	Foot wear	Metal products	Furniture
(b) Non project Area	Food products	Foot wear	Metal products	Chemicals products
3. Jalpaiguri	Food products	Wood products	Chemical products	Metal products
4. Malda	Textiles/ Handlooms	Fishing-net	Tailoring	Carpentry/ Wooden products
5. West Dinajpur	Food products	Forest products/ Wood based	Textiles	Ceramic/pottery

Chapter - IV

Methodology

The present chapter deals with the manner in which the field survey was conducted as the author's main analysis is based on personal investigation, and the limitations and difficulties in obtaining the data .

Utility of the Field Survey.

Personal visits to the existing industries that are functioning now in North Bengal were felt necessary for verifying a number of problems mentioned earlier and also in the following chapters. Moreover, the field study was designed to ascertain the operative conditions of the industries. It will be recalled that the main deficiencies that are confronting the industries in North Bengal are economic and organisational handicaps, retarding their progress and rendering them relatively inefficient. The data collected from spot-investigations therefore were of immense help for assessing the problems encountered by different industrial units and for finding out the remedial measures.

It is well known that the data relating to North Bengal's industrial activity are scanty, and the data available are generally haphazard and uncoordinated in manner. On the one hand no attempt has yet been made to conduct any comprehensive field enquiry to obtain a detailed pictur of the industries in the region, on the other hand, such data as are available now a days cannot be regarded as either satisfactory or adequate for the

purposes of any fruitful analysis.

Independent enquiry, therefore, made it imperative to collect necessary data for the present study. However, on account of practical considerations, such as the unorganised nature of these industries, their dispersed location and difficulties of coverage, enterprenures' resistence to part with information, as also the absence of accounting habits and so on, it was found necessary to restrict the field study to manageable block level.

With this end in view, it was decided to contact the five district industrial offices and to select the important industries in different blocks. The reasons which weighed in the selection of blocks for field study are summerised as follows :

1. A more or less developed industry with a relatively neglected area;
2. Operation of the rural industrial project in different blocks for the last ten years;
3. Existence of vast forest area, to serve as an industrial nucleus;
4. Concentration of handloom industry in the rural areas for the ever-increasing population due to migration from East Pakistan (Bangladesh);
5. Availability of raw materials or demands for some specialised and small-scale products in the area.

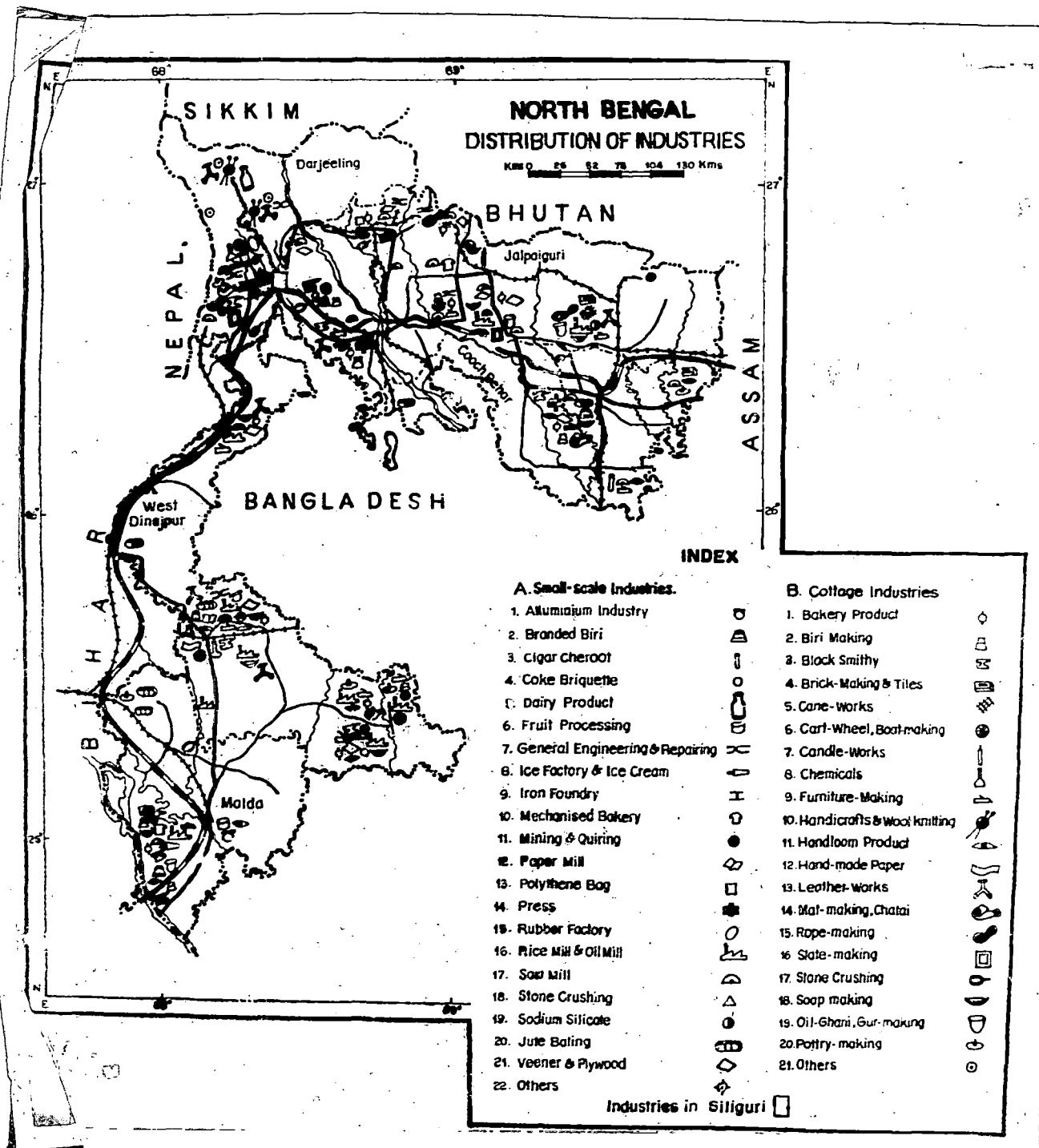
From the point of view of providing an insight into the general industrial character of the area, and also to provide the basic details for the field survey, it is proposed to enlarge the meaning of the term "relatively neglected area". The most important problem that confronts North Bengal today in its effort to industrialise, is an acute scarcity of capital resources and technical skill and a relative abundance of unskilled and semi-skilled labour. The task is, therefore, to try to make best use of both of these factors. Because of its remote location and partly for the inevitable emphasis implicit in the scheme of development of large scale industries, the very aim of economic development of which industrialisation forms the core remains far from achievement since the work for a judicious combination of scarce capital resources with those of abundant labour resources is completly absent in North Bengal.

An idea about the operational work of the Rural Industrial Project (District Industrial office) can be had from the following Table.

Table -43[1]

Number of Units in Different Districts

Name of the District	No. of Units
Darjeeling	2,177
Jalpaiguri	779
Cooch Behar	1,313
West Dinajpur	1,573


NORTH BENGAL
DISTRIBUTION OF INDUSTRIES
Kms 0 26 52 78 104 130 Kms
SIKKIM
Darjeeling
BHUTAN
Jalpaiguri
NEPAL
ASSAM
Cooch Behar
BANGLA DESH
West Dinajpur
Malda
INDEX
A. Small-scale Industries.
1. Alluminium Industry
2. Branded Biri
3. Cigar Cheroot
4. Coke Briquette
5. Dairy Product
6. Fruit Processing
7. General Engineering & Repairing
8. Ice Factory & Ice Cream
9. Iron Foundry
10. Mechanised Bakery
11. Mining & Quiring
12. Paper Mill
13. Polythene Bag
14. Press
15. Rubber Factory
16. Rice Mill & Oil Mill
17. Saw Mill
18. Stone Crushing
19. Sodium Silicate
20. Jute Baling
21. Veener & Plywood
22. Others
B. Cottage Industries
1. Bakery Product
2. Biri Making
3. Black Smithy
4. Brick-Making & Tiles
5. Cane-Works
6. Cart-Wheel, Boat-making
7. Candle-Works
8. Chemicals
9. Furniture-Making
10. Handicrafts & Wool knitting
11. Handloom Product
12. Hand-made Paper
13. Leather-Works
14. Mat-making, Chatai
15. Rope-making
16 Slate-making
17. Stone Crushing
18. Soap making
19. Oil-Ghani, Gur-making
20. Pottry-making
21. Others
Industries in Siliguri

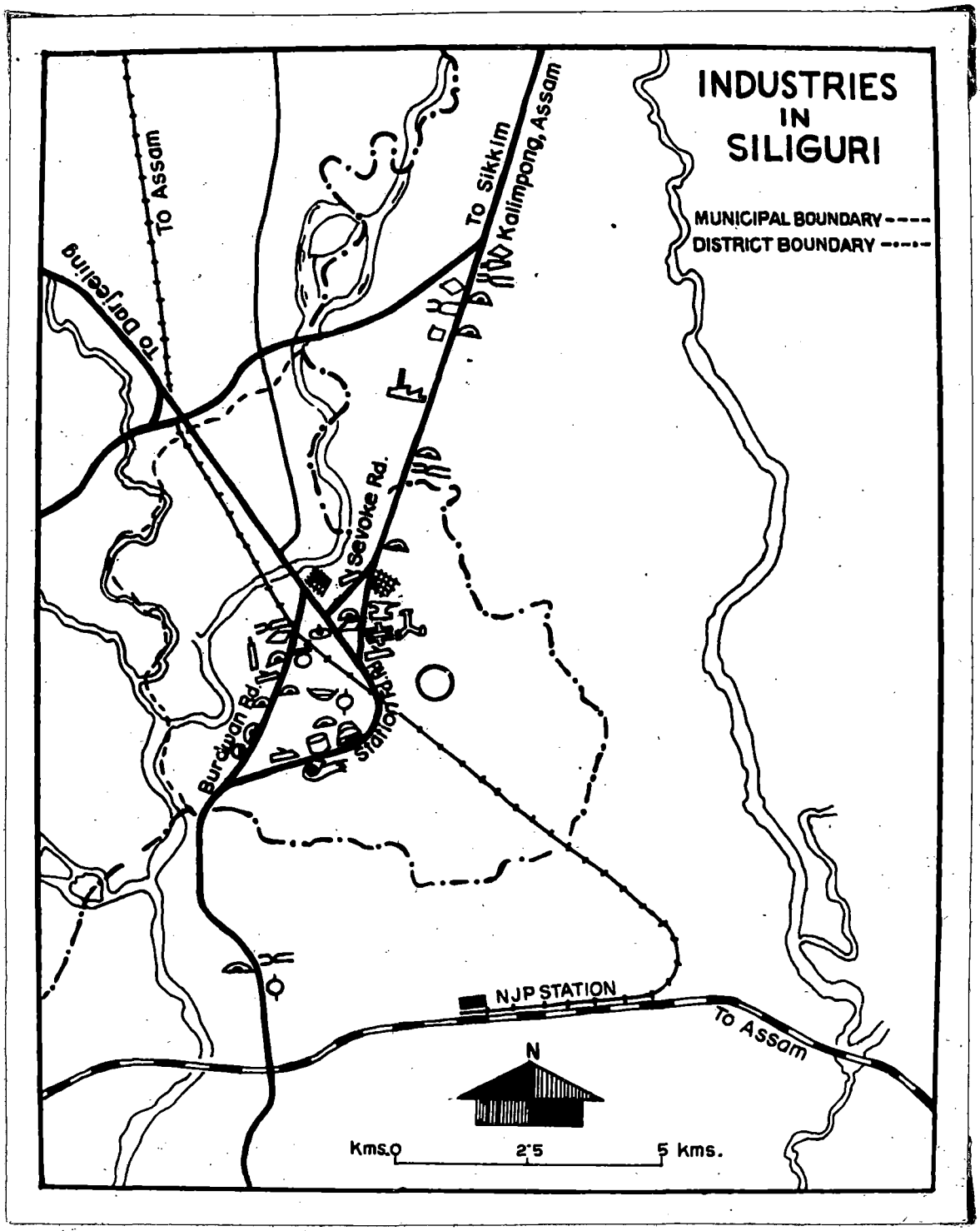

INDUSTRIES
IN
SILIGURI
MUNICIPAL BOUNDARY
DISTRICT BOUNDARY
To Assam
To Darjeeling
To Sikkim
Kalimpong, Assam
Sevoke Rd.
Burdwan Rd.
Station Rd.
NJP STATION
To Assam
N
Kms.0
2·5
5 kms.

Fig. 14

The bulk of the unregistered units of the area have not been included in the preceeding table, but an idea regarding the activities of the District Industrial offices of North Bengal which covers as much as 9 percent of the total registered units for West Bengal may be obtained.

On the basis of the importance of small scale and cottage industry of the area for five districts the following units have been included in this work for detailed study. (Fig. 13.14)

Table-44[2]

District-wise distribution of Sample Units

	Name of the Trade	Darjeeling	Jalpaiguri	Cooch Behar	West Dinajpur	Maldd
1.	Saw mill	7	13	-	3	-
2.	Venner and plywood	2	7	1	2	-
3.	General Engineering and repairing	7	5	-	3	-
4.	Alluminium Industry	1	-	-	1	1
5.	Sodium Silicate	1	1	-	-	-
6.	Rice mill and oil mill	1	2	-	5	-
7.	Coke Briquette	-	-	-	1	-
8.	Dairy product	2	-	-	-	-
9.	Fruit processing	2	-	-	-	1
10.	Paper mill (Medium Scale)	-	-	-	1	-
11.	Ice factory and Ice cream	1	1	1	1	1
12.	Mechanised Bakery	2	1	-	-	-

Contd.

Table-44

Name of the Trade	Darjeeling	Jalpaiguri	Cooch Behar	West Dinajpur	Malda
13. Iron foundry	1	-	-	-	-
14. Branded Bidi	1	-	1	1	1
15. Cigar Cheroot	-	-	1	-	-
16. Polythene bags	1	1	-	-	-
17. Jute Baling, Jute yarn	-	-	-	2	2
18. Press	2	-	-	-	-
19. Mining and quarrying	-	1	-	-	-
20. Stone Crushing	1	-	-	-	-
21. Rubber factory	1	-	-	-	-
22. Others (Paper bag)	1	-	-	1	-
B. Cottage Industry :					
1. Handloom Industry	1	1	15	6	7
2. Furniture making	1	2	1	-	-
3. Handicrafts and knitting	9	1	-	-	-

Contd.

Table - 44

Name of the Trade	Darjeeling	Jalpaiguri	Cooch Behar	West Dinajpur	Malda
4. Soap making	2	4	1	2	1
5. Oil ghani (mill), Gur making	-	2	-	-	2
6. Bakery product	1	3	1	1	1
7. Bidi making	1	1	1	1	1
8. Hand made paper	-	-	-	1	-
9. Chemical	-	1	-	2	-
10. Cartwheel, boat-making	1	1	-	2	-
11. Mat-making	1	1	1	2	-
12. Pottery-making	1	1	1	2	1
13. Cane-works	1	1	1	1	1
14. Blacksmithy	2	1	1	1	1
15. Leather-works	6	1	1	1	1
16. Rope-making	2	1	-	-	-

Contd.

Table - 44

	Name of the Trade	Darjeeling	Jalpaiguri	Cooch Behar	West Dinajpur	Malda
17.	Slate-making	1	1	-	-	-
18.	Stone crushing	1	-	-	-	-
19.	Candle manufacturing	1	1	1	1	1
20.	Brick making, Tiles	1	4	1	-	1
21.	Others (Silk industry, Madal making, Dhokra etc)	1	1	1	2	3

It may be evident from the above figures that the area under survey enjoys definitly better advantages for industrial development than other areas.

Objectives.

The main object of this survey enquiry is to verify the tentative conclusions arrived at in the earlier discussion. This field study specifically put emphasis on the following aspects :

1. An assessment of the numerous specific problems encounterd by these industries in their day-to-day functioning;
2. Operative condition of the industries;
3. A detailed analysis, as far as possible, of the various factors absence of which is found to inhibit the productive capacity, competative efficieny and retard the growth of these industries.

It is, however, mentioned here that the conclusions arrived at, on the basis of the data obtained through field work, is subject to the limitations imposed by these shortcomings.

Scope.

The study is restricted only to the (a) the small-scale sector and (b) the cottage-scale sectorof the industries functioning in the region.

Industries Surveyed.

Following is the list of the total number of industries surveyed by the author, the number of which has been indicated against the respective industries :

Table -45[2]

Type of Sample Units Surveyed

A. Small Scale Industry.

	Name of the Industry	No. of Units
1.	Saw mill	23
2.	Veener and Ply Wood	12
3.	General Engineering and repairing works	17
4.	Alluminium Industry	3
5.	Sodium Silicate	2
6.	Rice mill and oil mill	8
7.	Coke Briquette	1
8.	Dairy product	2
9.	Fruit processing	3
10.	Paper mill (Medium Scale)	1
11.	Ice factory and Ice cream	5
12.	Mechanised Bakery	3
13.	Iron foundry	1
14.	Branded Bidi	3
15.	Cigar Cheroot	1
16.	Polythene bags	2
17.	Jute Baling, jute yarn	3
18.	Press	2
19.	Mining and quarrying	1
20.	Stone crushing	1
21.	Rubber factory	1
22.	Others (Paper bag)	2
		97

Table - 45

B. Cottage Industry

	Name of the Industry	No. of Units
23.	Handloom Industry	30
24.	Furniture making	6
25.	Handicrafts and knitting	10
26.	Soap making	10
27.	Oil Ghani (mill), Gur-making	4
28.	Bakery product	7
29.	Bidi making	5
30.	Hand made paper	1
31.	Chemicals	3
32.	Cart Wheel, boat making	6
33.	Pottery-making	7
34.	Cane works	5
35.	Mat making,	4
36.	Blacksmithy	6
37.	Leather works	10
38.	Rope making	3
39.	Slate making	2
40.	Stone crushing	1
41.	Candle manufacturing	5
42.	Brick-making, Tiles	7
43.	Others (silk industry, Madal making, Dhokra etc.)	8
		140

Out of the 43 types of industries, 22 belonging to the small scale and 21 to the cottage types have been covered under the present study. The total number of units covered is 237 of which 97 are of small scale units and 140 are cottage scale units. These industries are located in the different parts of the five districts of North Bengal.

It may be noted that of the industries selected for study those of the cottage rank higher in number than that of the small scale units. This partly reflects the general character of the industries that are now operating in North Bengal. The focus of this work is therefore, firstly on finding out the functions characteristics of these industries, and secondly, on the various problems that are faced by these industries.

Methods of Surveying.

Discussions with officers at different levels related to the industrial functions formed major part of this survey. The offices who were consulted for this purpose are as follows : the District Industrial Officers (Rural Industrial Project Officers), the Extension officers, of Industries in different blocks, the Superintendents of Sericulture, the Industrial Co-operatives, the Secretary, Weavers' Association, the Handloom Offices, the Secretary, Timber Merchants' Association, the D.F.O. of the Forest Working plan Division , the Secretary of the Khadi Village Co-operative Society, the Small Farmers Development officers.

Following these discussions and after obtaining a tentative list of the registered units working in different districts, personal investigations were made in different blocks and villages sometimes with the help of the Extension officers etc. for obtaining primary data and information on various aspects of the industrial activities. This was based on random sampling.

Sample Size.

In order to ensure a more or less accurate idea about the industrial activities in the area one unit for each industry from each district was covered except where a particular was absent.

The investigation was conducted on the basis of a questionare prepared by the author herself with the help of the industrial Co-operatives who had intimate association with their local units.

The categorical division of the industries as 'small cale' Industry and 'cottage' Industry is considered on the basis of distinction as clarified earlier in the introduction.

Chapter-V

Structure of the Industries

In making an analytical study of the internal structure of the industries of North Bengal, it is necessary to emphasise here that the problems that are confronted by the cottage and small-scale industries are closely interlinked with each other. Among the aspects that are discussed here special reference is also made to particular characteristics of the industries namely the location, the nature of investment, the number of employment, the volume of production and market.

Definitions. Before proceeding further it is desirable to clarify a few important terms and that have often been used in this discussion.

A : I. Productive Capital.

It is generally termed as the total capital resources available at the begining of any unit of production. Thus, it includes (i) the fixed capital, in the form of land and building, machinary and tools, transport equipments and other fittings, and (ii) the working capital or floating assets which include stocks of raw materials, finished products in stock, cash balance at hand or in the bank, credit due to the unit and the like.

Methods of Enquiry.

To determine the values of the fixed assets or the block component of the productive capital, the following considerations are necessary :

(a) Initial cost of land at the time of purchase;

(b) Present book value of those assets.

Obviously, the choice of any one of them for determining the values of fixed assets depends very much on the feasibility of collecting the requisite data. The difficulties faced in obtaining the relevant data, with any measure of certainity, from the type of industries that are under study are as follows :

(a) In the case of an organised unit, it is possible to obtain these data from their records and books of accounts;

(b) But, due to the general absence of accounting habits it is difficult to obtain requisite data for the fixed assets so far as the unorganised units are concerned.

(i) Land and building.

Generally, the value of land and building forms an integral part of the fixed capital assets of an industrial unit, owing to certain difficulties the cost of land and building has not been taken in account in estimating the value of total fixed capital for the cottage industry.

In the first place, for most of the cottage industrial units, the work place and the residence are the same or are so mixed up as to indistinguishable from each other. In either case, the difficulties involved in ascertaining the value of the residence or its part wherein production activities are carried on.

Secondly a substantial portion of the units do not own their industrial premises and work in rented premises. Inclusion of the value of land and buildings in such cases necessitates the onerous task of capitalisation of the value of the land and buildings. It was, however, felt that any attempt either to apportion value to the portion of the premises used as 'workplace' or to capitalise the value of land and buildings obtained, would entail estimates and assumptions which may be arbitrary, if not unreal.

(ii) Working Capital.

The working capital or floating capital resources comprise of the following items : (1) cash in hand or in banks, (2) credit due to the unit, (3) stocks of raw materials and fuels, (4) stocks of finished products. Normally, for organised units, the rolling money can be estimated in reference to the duration of a reason (about three or six months) the period being determined by the nature of industry and the processes of production and the demand in the market (local or outside). The average amount of working capital required for different industries in this sense, therefore, reflects the varying "operational costs" in value in each industry which depend on the differential prices of raw materials and fuels, practice of purchase and stocking capacities, the requirement of credit facilities by the trade, marketing arrangements, policies accepted by individual units and so on.

Difficulties of Estimation.

On account of the peculiar nature of the production processes and the condition of their day to day working, several difficulties were encountered in estimating the working capital utilised by the various industries under survey. Also for the same reason, it was rather difficult to find the relationship between working capital and the duration of the working period. Most of the artisans and small industrialists among the industries under survey were found to lead a hand-to-mouth existence, and are therefore, compelled to dispose of their produces at the earliest apportunity. Moreover, it was the experience during the present field survey that the majority of the manufacturer had no idea of the utility of the working capital and its volume related to the particular period of time.

2. Installed Capacity.

It is the production potential of a unit of production with its existing set of machinery and plants, the operative conditions of the unit such as the availability of raw materials uniform supply of power and demand for its products.

3. Output.

Output (gross or actual) represents the value of commodities turned out or services rendered by a unit over a period of time. In other wards, the value of output is the ex-factory gross (selling) value of the products manufactured by a unit plus the

value of services rendered. Thus, it includes the volume of commodities manufactured and sold during a specific period, plus the stocks of finished goods, the remuneration earned for work done and the services rendered during this period. For presentation of the different types of industries in North Bengal, a classification of two broad groups may be divided :

A. Resource based;

B. Demand based.

A. Resource - based.

Industries developed, based on the local products are generally termed as resourcebased industry. It may, again be divided into three sub-groups :

1. Agro-based;
2. Animal-based;
3. Forest-based.

1. Agro-Based industry.

Mainly deals with the agricultural products. In North Bengal the main agricultural or plantation crops for industries are : Rice, Mustard, Jute, Sugar Cane, Orange, Pineapple, Mango, Mulberry, Tobacco etc. Under this group following industries have been functioning in North Bengal, at present.

Rope making from
Jute hessian
Matigara, Dt. Darjeeling.

Jute - Bailing.

The process of jute bailing has been introduced almost throughout the whole of North Bengal since 1972. Besides, the private units, the Jute Corporation of India, a Government organisation has established in North Bengal in 1974. The jute-bailing units are engaged in purchasing jute from the local ~~MFX~~ market bailing and transported it to the jute mills at Calcutta. There are all together 25 units, with capacity of bailing 40-80 bails of jute per day are functing in North Bengal for 5 months (November to March). The main centres for jute bailing are : Cooch-Behar town in the district of Cooch Behar, Haldibari in the district of Jalpaiguri, Samsi and Chanchal in Malda district, Raiganj and Islampur in West Dinajpur district. Each of the unit has an average size of productive capital investment of Rs.5,000 with an employment of 15 to 20 persons.

Jute ropes and twines are also the other products of raw jute. The manufacture of hand made jute rope is a common to most villages in North Bengal. The units are small and mostly family members are the main workers. The product of these units find market in local weekly or bi-weekly market centres or in adjoining urban centres. One mechanised jute twine factory near the Goalpukur block in the West Dinajpur district was established in 1970.

Dhokra (Jute Carpet).

The practice of manufacturing jute carpet out of jute hessian

is a common practice among the scheduled tribe people of Banshihari block in West Dinajpur district and the of Siliguri Naxalbari block in Darjeeling district. With the help of hand tools, involving 2 to 3 family members and investing Rs. 300 each small unit has developed as cottage based industry. In 1973 the Banshihari Tapasili Silpa, Dhokra and Tantuja Samabaya samity at Buniadpur, 72 km. away from Balurghat Town was established, consisting of 129 members. The co-operative received the financial benefit of Rs. 25,000 from the State Government for fixed capital, while Rs. 3,083 was obtained for working capital as share capital loan. With an employment of 60 artisans the co-operative was able to produce jute curpet, jute bags etc. valued Rs. 4,384 in 1974-75, while it was Rs. 17,749, in 1975-76, showing a satisfactory growth. Besides the local markets the products have good demand in Calcutta, Madhya Pradesh and Bombay. The units are suffering from marketing difficulty. Most of the units are existing as subsistance basis, which compelled them to limit their barganing capacity with the big traders or middlemen, as such they sell their product at a low profit of margin. The product has an export potentiality.

~~Madal Making (Local Musical Drum).~~

~~Madal, a musical drums used by the villagers and tea garden labourers at the time of festival and ceremonial functions. The practice of manufacturing the instrument was started here in 1947 by the Ghashi and Puidas community. The drums are made up of~~

Bamboo-Winower
Haidarpara
Dt. Darjeeling.

~~earthen material and leather, available within the area. The units are found functioning in Balapur in the district of West Dinajpur and Hatighisa Scholdangi in the district of Darjeeling. Apart from the district and outside district they have been sent to Assam also. An artisan can manufacture 1 pair of Madal within seven days with an investment of Rs. 50 with an output value.~~

Rice Mills and Paddy Husking.

About 16 rice mills in West Dinajpur district and 50 units of paddy husking, in Cooch Behar district, are functing. Apart from these units, rice mills and paddy husking are practiced all over North Bengal. The rice are milling with diesel operated hullar machines on an average each rice mill employs 10 persons, invests a fixed capital of Rs. 100,000 with a production capacity of Rs. 200,000 per annum (November to March). The paddy husking machines are mostly operated by diesel power. The units mostly undertake job works with a capacity of 15 quintals per day, an average investment per unit is abuut Rs. 10,000. These units give employment 2 to 3 persons. The main problems of these units are the non-availability of paddy during the off-season (April-October)

Rice milling with 'denki' (Winower)[a] (photo) is a common practice among the village people, mainly for their household

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a. An horizontal woodan wooden slab with 2 feet width and 8 feet length fitted with a pivot at the centre, which is attached with a hole at the ground, where paddy has been given for milling.

consumption. Family members are the workers of such units.

Oil mills.

The oil mill units including 8 in Cooch Behar, 8 in Malda and 32 in West Dinajpur district. Theyuse mostly mustard seed as raw material. Mustard oil and oilcake are the main product of the mills. Diesel operated machines are used to crush the mustard seed. The average crushing capacity of these units is about 4 to 5 quintals of seed per day (within 8 hours). Oil mills, also, found in Jalpaiguri and in Darjeeling district, functing in the urban centres. are of 6 in numbers. But, they can operate only one month due to lack of sufficient supply of raw materials. An average investment of Rs. 100,000 with a total employment of 10 persons the oil mills of North Bengal have the capacity of producing 15 to 16 kg. of oil per day (within 8 hours).

Village oil ghani[b] have often been found on the village areas, comprising mainly with the employment of 3 family members. The capacity of a Ghani is to crush the mustard seed of 37 kg. per day (8 hours) and production of oil being 8 kg. Mainly bullocks have been used to operate the ghani. The oil produced by the ghani, are generally sold in the local weekly market.

Shoti food.

There is a unit producing shoti food in Cooch Behar town in Cooch Behar district. The capacity of the unit is 20 kg. of food per day. It provides employment to 4 persons. The raw materials for the unit, the shoti root, is available in the

b. Made up of from the stem of Jackfruit, Mango and sal trees with 8 feet length having a whole about 8 inches radius on one side for grinding the mustard seed.

district. The market is mainly confined within the district.

Fruit Processing.

The abundant production of Mango, Orange, Pineapple and Tomato have given rise the fruit processing units in the districts of Darjeeling and Malda. There are about 10 units covering in the village areas of old Malda, Manikchak, Kaliachak and Chanchal in the district of Malda engage in making mango slices preserved in brines for export to Calcutta where they are processed into hot and sour pickles (chutney), jelly etc. Each unit with an average capacity of processing 685 M.T. of mangoes in 120 days (May to August), employing about 50 female workers daily. In 1974, 4 units have been set up at old Malda to manufacture hot and sour pickles and jelly etc. Among the 3 fruit processing units in the district of Darjeeling, 2 are situated at Siliguri while the other is at Matigara. They produce mainly canned pineapple, orange, and tomato squash, jam and jelly etc.

The fruit processing units in Malda district are mainly confined to the rural areas where as in Darjeeling district are developed in and around urban centres. Besides the local urban market, the products have demand in Calcutta and Allahabad also. An average capital investment of Rs. 100,000 each unit has employed 50 female workers daily. The units are extremely seasonal in character. The product of these units are of exportable variety.

Khandsari (Molasses).

The processing of gur (Molasses) from sugarcane is carried out in village areas of Malda and West Dinajpur districts. Sugar cane have been planted within these districts. The village people with the help of locally produced implements produce gur (khandsari) on cottage scale basis. Three big units, employing 27 persons each hase been located at Balurghat in West Dinajpur district. The production has been consumed within the district.

Cigar Cheroot.

The district of Cooch Behar produces superior quality of tobacco, suitable for making cigar cheroot. In 1972 The Cigar-Cheroot Co-operative Society was set up at Dinhata 20 km. away from Cooch Behar town. The unit produces a variety of cigar cheroot : Ameer, Corona, Dawsan, Whifts and Whifts Special etc. The unit received the share capital loan of Rs. 6,000 from the District Industrial office for 60 members. Wibh an employment of 6 female workers the unit has a capacity to manufacture 5,000 sticks daily. The product has been appreciated for its taste, burning quality and flavour. The unit requires suitable building, equipments : Re-drying chamber, Fumigation chamber, Cutting Scissors, Small Tools and Trays etc. Financial help and assistance for marketing the product from the government side will help to expand this industry.

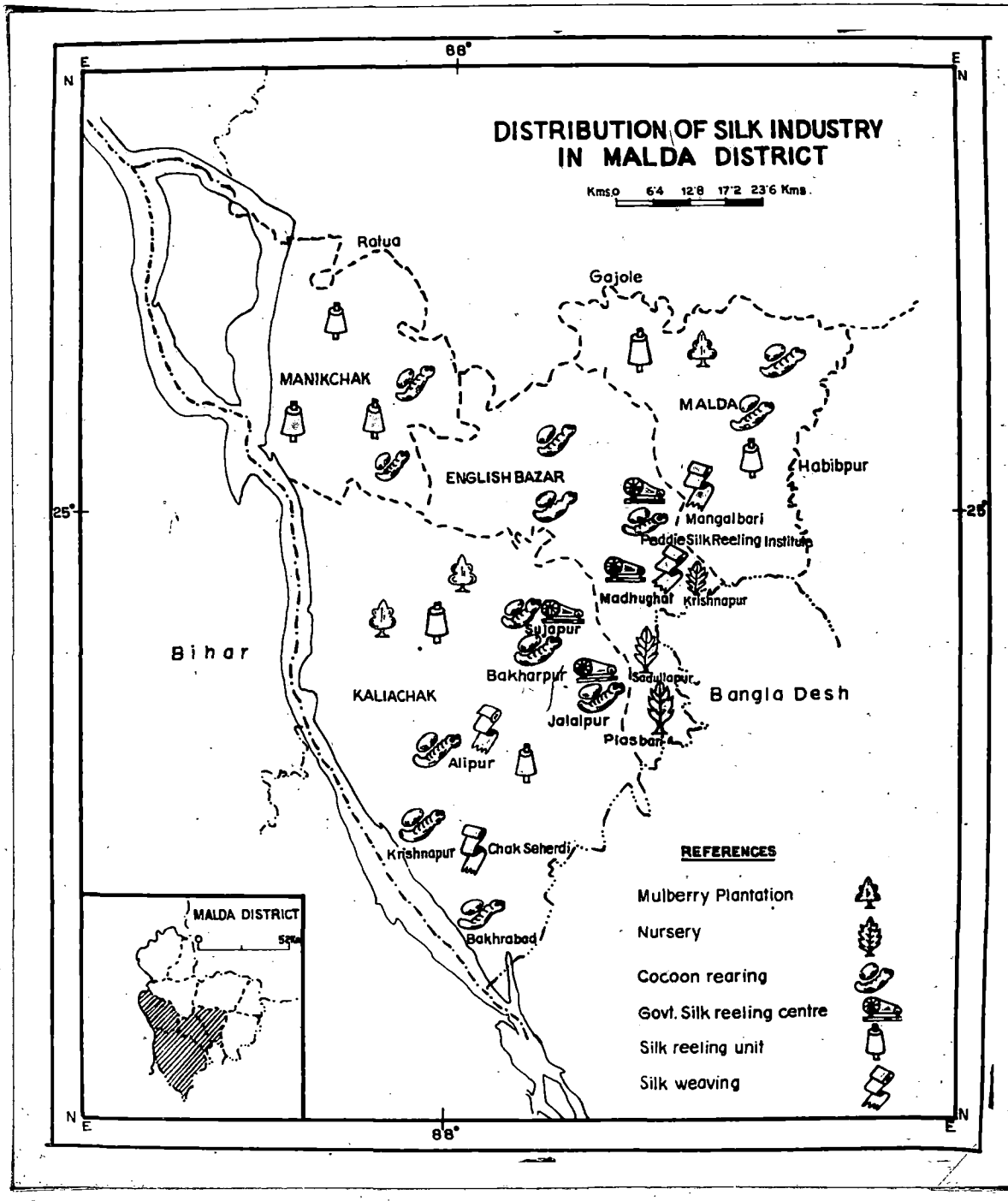

DISTRIBUTION OF SILK INDUSTRY
IN MALDA DISTRICT
Kms.0 6·4 12·8 17·2 23·6 Kms.
88°
25°
Ratua
Gajole
MANIKCHAK
MALDA
Habibpur
ENGLISH BAZAR
Mangalbari
Paddie Silk Reeling Institute
Madhughat
Krishnapur
Sujapur
Bihar
Bakharpur
Sadullapur
KALIACHAK
Bangla Desh
Jalalpur
Plasbari
Alipur
Krishnapur
Chak Seherdi
Bakhrabad
MALDA DISTRICT
REFERENCES
Mulberry Plantation
Nursery
Cocoon rearing
Govt. Silk reeling centre
Silk reeling unit
Silk weaving

Fig. 15

Seri-culture and Silk Industry.

The rearing of silk worms and the manufacture of silk fabricks became the general occupation in all classes of the people on both banks of the river Mahanonda in the neighbourhood of Malda district since 1686. There was an English Silk Factory in the town of English Bazar. In 1836 the factory was abolished[4].

Since the year 1950 the sericulture and silk reeling have come into prominence, on a commercial scale. Silk worm rearing and silk reeling, the largest agro-industrial activity of Malda district employabout 31,000 families involving a total of 155,000 persons. (Fig.15)

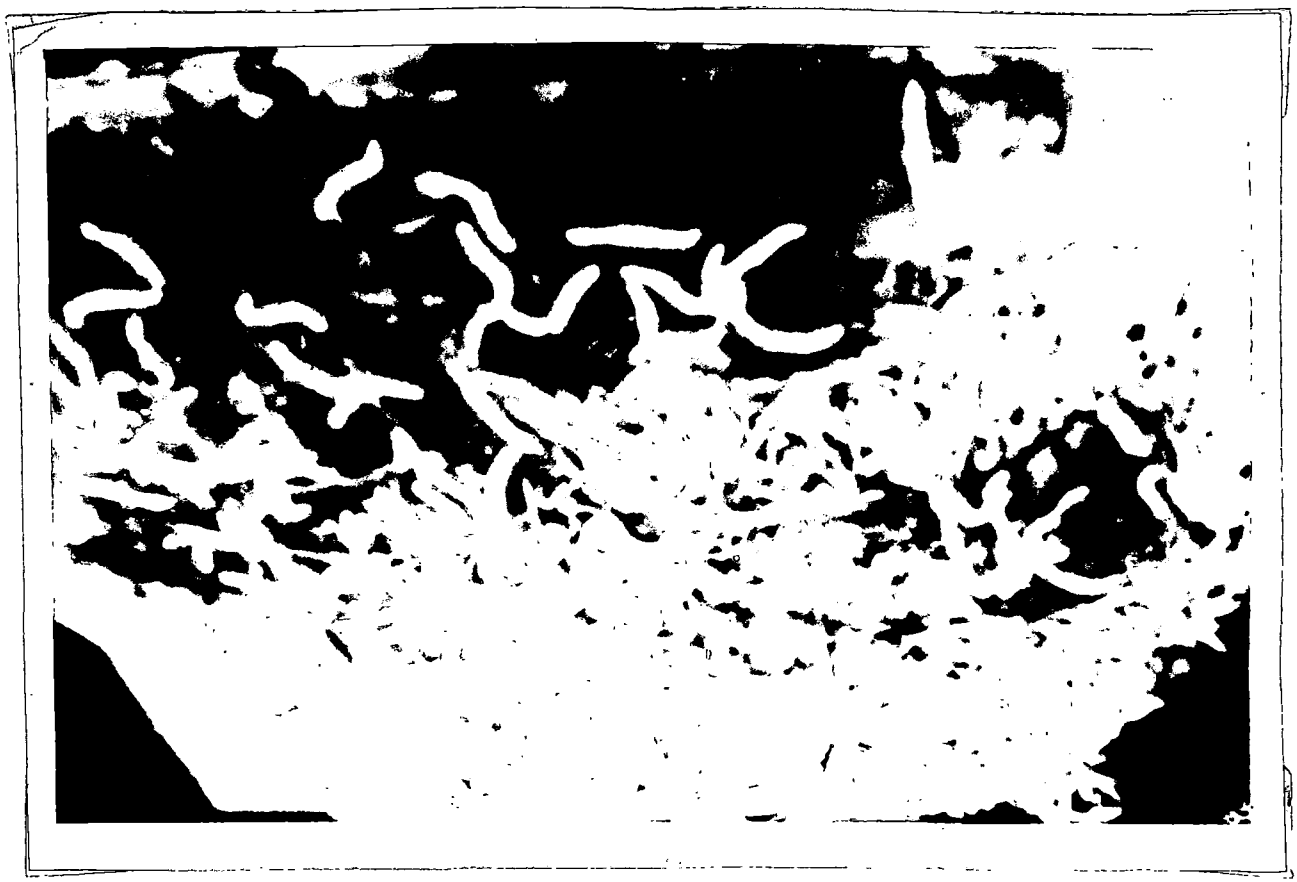
The silk industry have been divided into three different stages.

1. Rearing of silk worms;
2. Silk reeling; and
3. Silk weaving.

1. Rearing of Silk worms.

The rearing of silk worms depend upon the plantation of mulberry plants, because the green leaves are the only food for silk-worms. Mulberry cultivation therefore, occupies an important place in the economy of Malda. The total area devoted to mulberry cultivation in Malda district is 13,700 acres (1977), where as in West Bengal the total acreage under mulberry cultivation is 17,643 ~~acres~~. The district of Malda, therefore,

Mulberry Plants at Nursery beds
Sarium, Dt. Jalpaiguri.



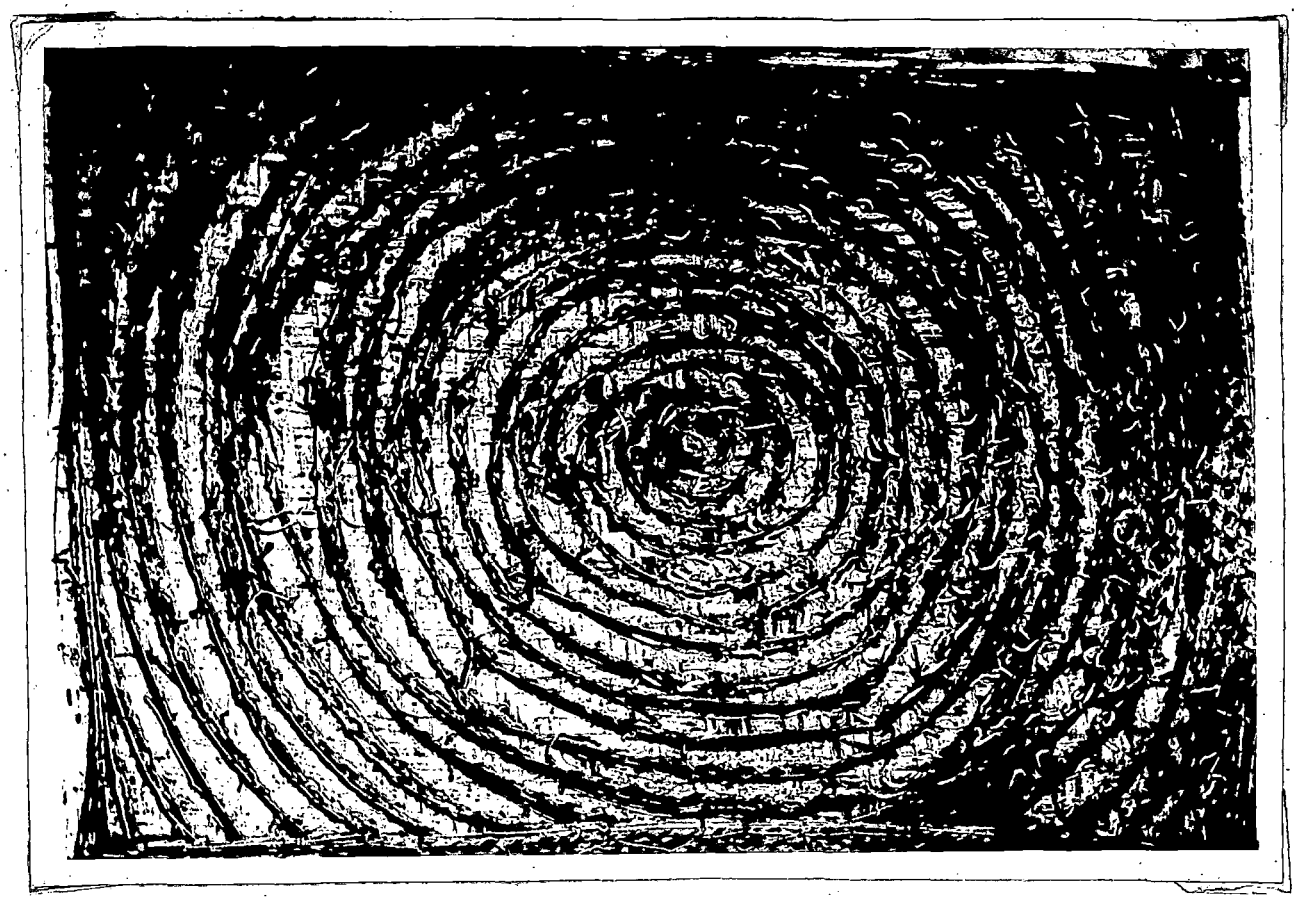
Larva or Silk worms at their early stage (below 10 days)
Sarium, Dt. Jalpaiguri.

constituted about 77 percent of the total area under this crop in West Bengal. The largest concentration of mulberry plantation is in the southern part of the district where the land is high, composed of sandy loam and thus unsuitable for paddy culture. The average yield per acre, is about 11,100 kg. of leaf per annum, with an average expenditure of Rs. 1,5000. The cost and profit per acre of mulberry plantation is shown below :

Cost and profit per acre of Mulberry cultivation[5]

1.	Yield per acre	11,100 kg.leaf	
2.	Cost of cultivation per acre	Rs. 1,500	
3.	Rearing cost (including family labour)	Rs. 1,800	The gross income per acre is : 360 X 18 - Rs. 6,480/-
4.	Cocoon production from 1 acre (i.e. ~~300 mds~~ of leaf) 11,100 Kg.	Rs. 360 kg.	The net profit per acre of mulberry plantation is : 6,480/- (1,500/- 1,800/- - Rs. 3,180/-
5.	Selling price per kg. of cocoons	Rs. 18	

The Central Nursery at Piasbari, 15 km. away from English-bazar, established in 1913, is distributing the improved quality of eggs among the reares. The farm is able to produce the Japanese variety of F_1 group only, during the winter season because the climatic condition of Malda is not suitable for rearing the exotic races during other seasons of the year. As such, seed farms have



Pupa or Silk worms (20-22 days) on bamboo-woven round, compartmentalised plates, Sarium, Dt.Jalpaiguri.

Silk Cocoons (42 days old) Sarium, Dt. Jalpaiguri.

been established by the state government in the hill areas of Kalimpong and Kurseong from where the eggs of the Japanese races are brought to the plains of Malda and Murshidabad. Besides, the seed farm at Piasbari, there are also three other nurseries namely, Krishnapur Nursery, Sadullapur Nursery and Amrity Nursery, in Kaliachak Police station, offering desease-free eggs among the rearers.

2. Silk reeling

The mulberry planters are usually the rearers of silkworm and the members of the reares' family adopt the reeling of silk as their seasonal occupation. An estimated number of 6,000 reelers and winders and 10,000 spinners of Silk and Matka are scattered in as many as 499 villages of Kaliachak, Malda, Manikchak and Englishbazar police stations. The total production amounts to 250,000 kg. of silk yarn, accounting for about 75 percent of the total production of the state, which brings about Rs. 6 crore annually for the district.

Reeling of silk, in most of the places is done in small units with country charkhas (hand operated reeling mechine), are of inferior quality. There are altogether 3,500 country charkhas in the district. Improved mechanised machines have been applied in State Filature at Madhughat 9 km. away from Englishbazar. The unit is equipped with 100 basins. Another reeling institute has been established by the government known as Paddie Silk Reeling Institute with 20 basins in Englishbazar. With a view to produce

quality silk through trained operators, a training-cum-production centre was established in this institute. The institute is engaged in imparting training to reelars for better reeling technology in order to meet the need for trained hands at State Filature, Madhughat. The institute also provides teating facilities for raw silk and operates a twisting plant of 24 spindles. Besides, there are also about 100 improved machines operating in the private sector. Production of silk yarnin the Malda district has been shown in Table.46.

Table-46[5]

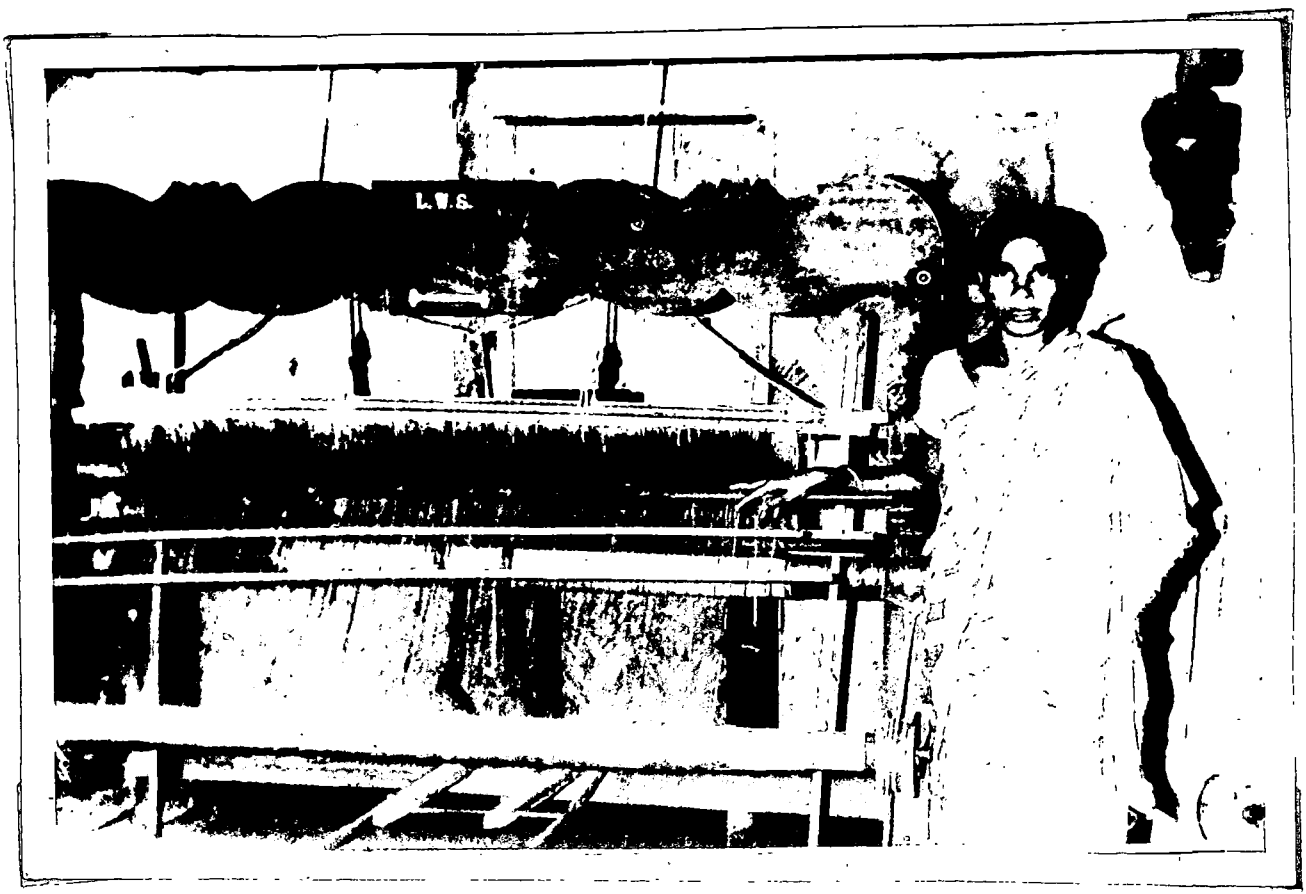
Production of silk yarn in Malda district

Year	Districts production (Kg.)	State's production (Kg.)	Percentage of the district
1974	250,000	316,000	79.11
1976	255,000	350,000	72.85

The growth rate of production of silk yarn in Malda district shows that in 1974 the production was 255.000 kg. constitute about 79.11 percent for West Bengal but it comes down to 72.85 percent in 1976.

The average production rate, therefore, shows 75 percent which confirm our earlier contention. The yarn produced here

Silk reeling done mostly by female labour
Sarium, Dt. Jalpaiguri.



Silk Weaving on Semi-Automatic loom
Sarium, Dt. Jalpaiguri.

are of much superior quality with a bringht lusture as compared with other silk producing areas of the ∕ country.

Silk realing with cocoons of Japaness variety of F_1 (Japanese X∕ indigeneous), in ∕ considered to be more advantatageous in comparison to Nistari or indegenous group. Experiments conducted by the sericultural states show that the yield of mulberry could be increased by resorting to cultivation of mulberry grafts with improved variety, since the cost of production of mulberry has a great bearing on the cost of cocoon. However, the short supply of Japanese races of silkworms is the limiting factor, which requires a faster growth.

About 30 percent of the silk yarn produced in Malda finds its market in Benaras, Bhagalpur and other places of the country engaged in silk weaving, the balance is being consumed by other districts of West Bengal, Murshidabad, Bankura and Birbhum.

3. Silk weaving.

There is only one mechanised weaving centre established in 1962 by Rehabilitation Industries corporation Ltd. (R.I.C.), a Government undertaking unit at Englishbazar with an employment of about 90 workers. The centre is well equipped with power driven, doubling, twisting and winding machines. It has 68 looms of different types engaged in weaving Kora Thans, Garad, Matka etc. The table below show the production of the silk in the unit.

Table - 47[6]

Production of silk in R.I.C. at Malda

Year	Quantity produced (Mts.)	Cost of production (Rs.)	Sale value (Rs.)	Percentage or profit
1973-74	30,710	3,17,200	4,32,000	73,4
1974-75	49,100	5,41,000	9,67,2000	55.9

The table above shows the relationship between the cost of production and percentage of interest obtained from the quantity produced for 1973-74 and 1974-75. The rate of silk production increased to 60 percent from 1973-74 to 1974-75. The percentage of profit being 73.4 for the same year while it is only 55.9 percent in 1974-75, proves a deteriorating market value.

The Kora Thangs are sent to Calcutta for second stage of processing, bleaching, dying, and printing. The R.I.C. has its own sales emporium for selling the product at Englishbazar.

One dying and bleaching centre at Jalalpur, 12 km. away from Englishbazar, has been set up in 1976 under aegis of Sri Gandhi Ashram.

Another silk weaving centre has been started in 1976 at Sariam, near Jalpaiguri by the Luthern World Service with a capacity of producing 6 mts. of silk per day. This organisation

also starts another weaving centre at Tufanganj in November, 1979 in Cooch Behar district. In 1978 The Luthern World Service, have started plantation of mulberry in 77 acres of land in the four districts of North Bengal; Cooch Behar Jalpaiguri, Malda and West Dinajpur. They distributed 24 acres of land among the 66 farmers in the same year. In 1979, again 77 acres of land have been devoted for mulberry plantation by the organisation and 49 acres have been distributed among 76 farmers.

Silk-weaving has been practiced in the village areas of Malda district on a Cottage scale basis and family members are the main workers. Manaskamaha Silk weaving Factory was established on 1977 at Mangalbari, near Englishbazar, financed by the Rural Industrial project office, Malda, involving Rs. 5000 with 6 mts. of silk producing capacity per day, employing 4 persons.

An analysis of these facts shows that the silk industry has its deep roots in Malda. But despite the export potentiality it has suffered from several difficulties. Sericulturists and silk reelers are very often affected by the fluctuations in crops and market. They are still in the clutches of middlemen, advance them cash loan during rearing period with the object of cornering their produce at a cheaper rate than the market. Recently, financing schemes taken up by the nationalised banks in collaboration with the State Department has opened a new avenue for the rearers.

From 1977 a scheme to expand the area of mulberry cultivation has been introduced by the directorate of sericulture in each district of North Bengal to develop the silk industry. At Matigara

near Siliguri, a Sericulture Institute has been opened in 1975, by the State Government to distribute the improved quality of seed among the mulberry cultivators of Darjeeling, Jalpaiguri and Cooch Behar districts.

The introduction of 'Kakme' system (fixation of price of Cocoon in terms of yield of silk) has enabled both the producers and the consumers to carry on business transactions on a just and rational basis.

Eri-culture and Eri-silk

Eri-culture is an old cottage industry of Assam and West Bengal. It is prevelent among the Scheduled Tribe people in villages of Jalpaiguri district and a part of Cooch Behar district adjacent to the border of Assam. With a favourable climate and socio-economic structure, the tribal villages of these areas produce Eri-silk cocoons, Eri-silk yarn, Eri-silk finished products both for domestic consumption and trade.

Mech community scheduled Tribe families rear Eri-silk worms, spin Eri-silk yarn by Charka (hand operated reeling machine) and weave Eri-silk in country looms.

Eri rearing provides a seasonal employment to the agricultural families. There is a Nursery at Taleswari, 20 km. away from Alipurduar Block in Jalpaiguri district engaged in supplying disease-free eggs among the rearers. Ericulture is mainly found in Kumargram, Alipurduar and Kalchini Development Blocks in Jalpaiguri

district. The state Government give financial assistance to facilitate this industry. Table/will[48] show the growth of this industry.

Table-48[9]

Development of Eri-rearing in Jalpaiguri district.

Year	Production of eggs Gms.	Number of rearer
1969-70	6239	1295
1970-71	5360	1290
1971-72	6077	1140

The table above reveals that the production of eggs in 1969-70 was 6239 gms., decreases to 14.1 percent in 1970-71 but again increases to 11.8 percent in 1971-72. The number of rearers have gradually been deteriorating in 1969-70 they were 1295, while in 1971-72 the number being 1140 with 11.99 percent less, proves the unpopularity of the practice for want of market facility.

With a view to revitalise this industry a Training cum production centre of Eri-culture was established at Kamakhyaguri, near Alipurduar in 1958, by the State Government. The centre has

been providing 40 trainees with a stipend @ Rs. 75 per month to each trainee. Rearing of Eri-silk worms, spinning of Eri-silk yarn and weaving, have been instructed here.

2. Animal-Based Industry.

Animal rearing or animal husbandry are the common practice among the villagers in the hill areas as well through out North Bengal. Buffalow, Cattle, Goats, Pigs etc. are the livestock resources offer a huge collection of milk within the region, suitable for developing the Dairy industry.

M/s. Edward Keventer's Private Ltd., was established on 1889 in Darjeeling town. The unit has its, own Dairy farm the collection of milk from its own farm is about 250 litres, and from the neighbouring villages is 500 litres, daily. The total daily collection of the unit, therefore, comes to 750 litres. The unit is engaged in pasturing the milk, bottling them and distributed to the urban people of the town. It manufactures cream, Butter, Ghee, cheese, etc. An annual production of different products has been given below.

Milk	168,551 litres
Butter	2,115 kg.
Cream	935 kg.
Ghee	106 kg.
Cheese	1,017 kg.
	Total : 4,266 kg.

Source : Personal Investigation to the unit, April,1976.

The unit has 30 workers, including 6 office staff. The product has a great demand within the town.

In 1975 "The Himul Co-operative Society" was established by the State Government at Matigara near Siliguri town. The collection of milk ~~XXXXXX~~ encompasses the whole of Darjeeling district, Islampur subdivision of West Dinajpur district and Sadar subdivision of Jalpaiguri district. Rs. 1,288,000,00 has been financed by The State Government as fixed capital. The unit started functioning since 1976.

3. Forest-Based Industry.

Industries, developed on forest products are known as Forest Based Industry. North Bengal, though poor in basic resources, rich in huze amount of (about 30 percent in Darjeeling and Jalpaiguri district) forest resources, give rise Saw mills, Ply Wood Factories and Furniture making units as small scale industry. On the other hand, cart-wheel, boat-making, etc. have functioned as cottage-scale basis.

The product of saw mill and ply wood factories have market around the urban centres and tea-garden areas of North Bengal. A detail study of both the industries have been made in a later chapter (VI).

Furniture-Making.

Furniture-Making units are engaged in making domestic as well as office furnitures like Almirah, Chair, Cot, Table etc.

The units are small with an average investment of Rs. 1,500 per unit and employing 4-5 persons. With the growth of government offices, private offices, Banks, Colleges, Schools, the demand for furniture have been increasing. These small cabinet firms are generally developed in the urban centre of the districts having a ready market around them.

Mat-Making.

It is a traditional handicraft of the district of Cooch-Behar. The artisans are mainly concentrated in the areas, namely Harinchara, Ghughumari, Dhaluabari, Tufangang etc. This is purely a cottage industry including various processes viz. the collection of Mothna cane, drawing of thread from the ripe cane and finally the weaving of the mat. Mothra cane have also been drawn from the forests of the Assam, besides the local forest. More than2000 persons are engaged in this industry. The development of this traditional industry depends upon the improvement of the cultivation of the raw materials. Each unit requires at least Rs. 300 per annum to stock the raw materials and family members are the workers. The product has a very wide and assured market within the district and out side district as well.

Cart-Wheels : Are mostly found in the village areas of North Bengal. The owners are mostly from Bihar. Ox-drawn or Buffalo-drawn cart is the main vehicle in the rural areas of the region

for transaction of commodities from producing centres to the weekly or bi-weekly markets. as such the demand for cart wheel in North Bengal's economy is growing day by day. Most of the cart wheels are either made up of local soft wood like Neem, Mango, Jackfruit and Sal etc. With the help of small number indegenous tools and implements, employing about 2 to 3 persons, having an investment of Rs. 500 each unit has grown up. It takes 6 each unit to make a pair of wheels, for seven days. The work stops during rainy season.

Boat-Making. Units are not so wide spread as the cart wheel units, and are mainly concentrated in West Dinajpur district. During the rainy season the entire south eastern portion of the district is flooded and the normal communication of the area is greatly affected. Boat-making has thus developed, specially during rainy season. Local timber available from Jackfruit trees are mainly used in making boats. The units are engaged with 2 to 3 persons with an investment of Rs. 700. The capacity of each unit is limited to the manufacture of one boat in 7 days. Boats carry both man and commodities. They are used as fishing, therefore, as well.

Paper and Paper products.

Only one paper mill has been established in 1977 near Raiganj in West Dinajpur district "The Kulik Paper Mill" The factory, situated on the National Highway No. 34 at Chotte Parua,

is only 6 km. away from Raiganj uraban centre. This unit has developed as a medium sized industry. The factory has been started by a Marwari with the financial assistance obtained from the Central Bank of India and West Bengal Financial Corporation.

This unit produces mainly craft paper, poster paper with a capacity of 7-8 tonnes per day. The factory area is centrally located among the rice producing areas of West Dinajpur district using raw materials like wheat straw, paddy straw and jute straw, obtained from the surrounding area by road transport. The unit now produces paper with the help of 50 percent waste paper and 50 percent local raw materials. (jute-straw, paddy straw etc.). The future plan of the mill is to produce paper with soft wood. In 1977 the factory produced 4-5 tonnes of paper per day. The unit has its own transformer with a capacity of 500 KVA. The requirement of electricity is 200 KW. per hour. Chemicals, used for making paper, coustic soda, resin, allum etc. have been drawn from calcutta by road transport. The factory has not yet been popular in the local market, and calcutta remains the main buyer. The main difficulties of this mill are the insufficient supply of power and lack of local market.

Bee-Keeping.

The north eastern part together with Kurseong, Darjeeling and Kalimpong forest divisions the district of Darjeeling has

good scope for development of bee-keeping industry to subsidise its economy. The district is renowned for fruits and vegetables. Among fruits, Orange and Pineapple are the major ones while Peach, Plum, Pear and Cardamom are also grown. The present yield of orange is about 50,000 tonnes and of pineapple about 14,000 tonnes.

At present household industries employ about 4,923 persons (census 1971) out of the 282,442 total working population in the district. The number of bee-keepers are 4,157 makes for 1.47 percent of the total worker in the district.

About 90 percent of the honey in the district is of organge variety. The orange covers about 1,918 acres of the cultivable land in the hill area of the district. The original home of orange are Takdah and Mirik. The Government has planned to bring in an additional acreage amounting to 2,500 for orchards to accommodate two mushroom farm in those places and development of bee-keeping has sought to be attempted on an organised basis.

The Central Government has set up the All India Khadi and village Industries Commission, under which a central Bee-keeping industry was constituted in August 1957 at Kurseong for encouraging bee-keeping (extraction of honey from the combs of bee-colonies) in scientific method, untouched by hand and free from all impurities. Besides, the unit is also engaged, in distributing the bee-hives and honey extracting machines among the villagers at subsidiery rate. Supply of bee-hives have been obtained from Baruipur, near Calcutta. The estimated cost for the establishment of one bee-keeping unit is Rs. 150-300, involving one or two persons.

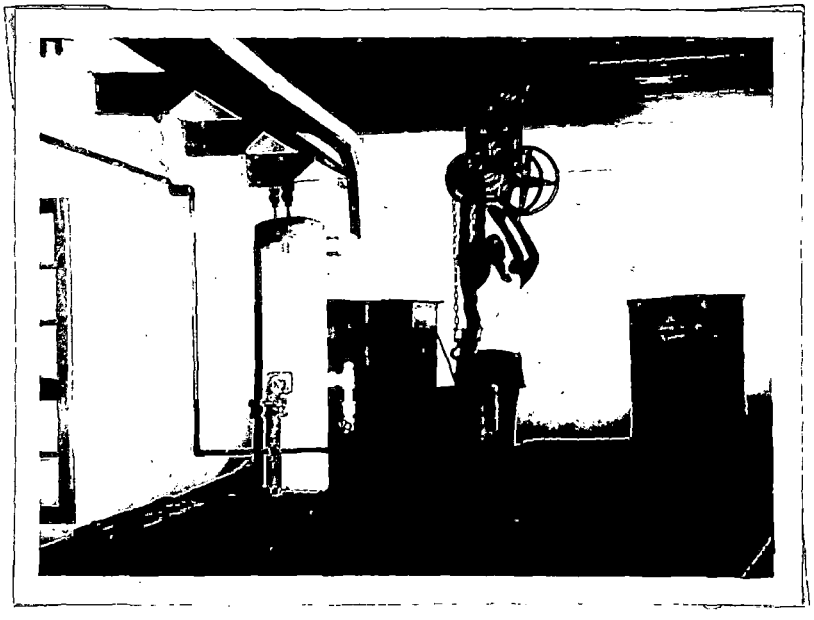
B. Demand-Based Industries.

With the growth of population and urban development in North Bengal, the demand for some basic necessities and specialised products like ready-made food, Textiles, Leather product, Chemical product, Engineering goods, Handicrafts etc. have gradually increased. The industries therefore, have mainly, developed based on local market within the region.

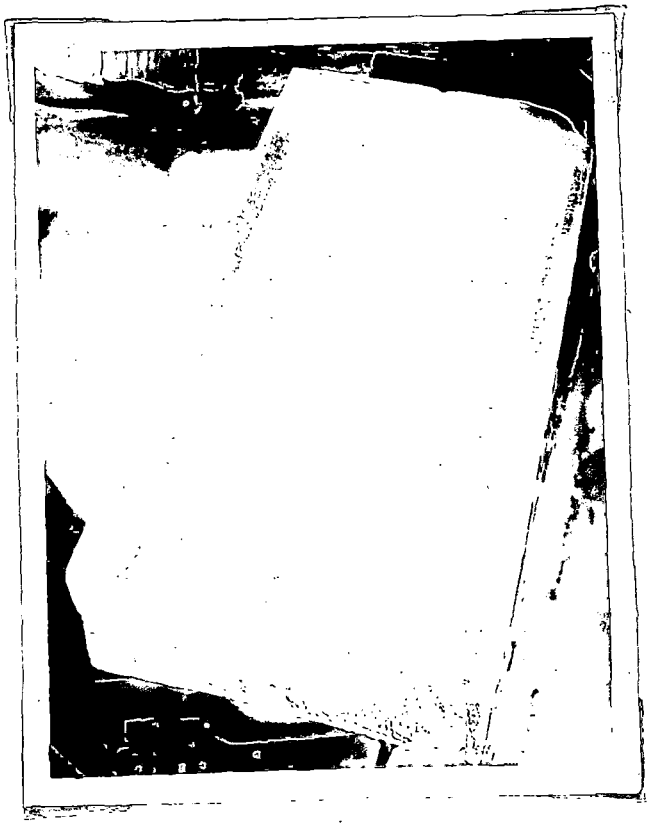
Bakery. The Bakeries of North Bengal are engaged in manufacturing hand made biscuits and loaf. From 1960 Bakery industry are the common practice in all the urban and village areas of the region. The capacity per unit is to produce 100 kg. per day with an average investment of Rs. 1,500 towards the cost of moulds and equipments, involving 4 persons. The production of these units find market within the local weekly market centres. Besides, non-mechanised bakeries 2 mechanised units, in 1962 at Siliguri in Darjeeling district, 1 at Birpara, in Jalpaiguri district, in 1969 and 3 in Malda district in 1977, have been established. The total fixed capital investment per unit is Rs. 150,000 with an employment capacity of 10-12 persons. Insufficient supply of working capital are the main draw-back of the units.

The aerated water making.

There are about 4 units in Darjeeling district, manufacture aerated water. The units are mainly confined to the urban centres. With an investment of Rs. 2,000 as fixed capital and an



Ice Factory, Siliguri,
Dt. Darjeeling.



Manufacture of Ice Blocks
Ice Factory, Siliguri,
Dt. Darjeeling.

employment of 2 persons, each unit can produce drinks worth Rs. 50,000 per year.

The confectionery.

Are mostly engaged in making sweet meet in all places of North Bengal. Some units also make lozenge, sugar-candy and hot gram, in addition to Khandesari Sugar. They are mostly confined to the urban centres of Darjeeling and Jalpaiguri districts.

Ice and Ice Candy.

These units are found in all the districts of North Bengal. The average capacity per unit is 4 to 5 tonnes of ice per day with an expenditure of about Rs. 40,000 for plants and machinery and employ 6 persons on an average. These units have developed in 1970. At Siliguri in Darjeeling district, one ice factory with an installed capacity of 80 tonnes of ice per day has been established in 1972. The ice, manufactured in different units, finds local market in urban centres and Military base to preserve fish, medicines etc. The Ice manufacturing units are very often suffering from short supply of electricy. In 1976 another ice factory with an installed capacity of 50 tonnes per day have been started at Siliguri.

Bidi-making.

Bidi-Making units are engagedin wraping grind tobacco with

Kendu leaf for somoking. This practice is popular in all most all the village people in cottage-scale level. With an investment of Rs. 200-300 and 2 to 3 female family members each unit can produce 100 pieces of bidi daily. The raw materials, Gujrati tobacco are obtained from Gujrat, while the Kendu leaves are drawn from Orissa by rail transport. The products have good demand within the area.

Apart from the cottage-based units, small-scale Branded Bidi making units have developed in Cooch-Behar Town in the district of Cooch-Behar, Siliguri in the district of Darjeeling, Kaliachack in the district of Malda and Raiganj in the district of West Dinajpur. Each unit have capacity to manufacture 10,000,000 pieces of bidi per month, investing Rs. 100,000 as productive capital with 100 workers.

Textiles. Cotton Hand-loom weaving and Tailoring are common under this group in North Bengal.

Hand-loom weaving.

The weaving of Hand-loom clothes in the districts of Cooch-Behar, Malda and Dinajpur were practiced since 1686. The articles manufactured at subdivisional town of Mechliganj in Cooch Behar district were Mechli a coarse cloth made of jute and used for screens, bedding etc.

After the partition of India and pakistan (no Bangla Desh) in 1947 the skilled weavers from Bangla Desh has migrated to the districts of Cooch-Behar, Malda and West Dinajpur in North Bengal and started weaving.

Dhoti, Mosquito-net, Bed-sheet, Gamcha (Towel) etc. The details of handloom industry making one of the major industries of the region, has been discussed in a later chapter (VII).

Tailoring.

Comprising 2 to 3 persons in employment and with an average investment in machinery and equipments worth Rs. 700-800 per unit, the tailoring units have been found working throughout North Bengal. The units in the plain cater to the needs of the local inhabitants, while in the hill areas of Darjeeling, they mostly prepare made-to-order garments for visitors and institutions.

Leather work.

Shoe-making units are characterised by the Leather-work industry. The units are found functioning since 1964 in the towns of Darjeeling, Kalimpong and Kurseong in Darjeeling district. This industry became common from 1972 in almost all the urban centres throughout North Bengal. They are engaged in making Ladies sleepers, Platforms, Boots, Ankle-Boots, Gum boots etc. Each unit is comprised of 5 to 6 persons and investing Rs. 2,000 for fixed capital. Leather is obtained from Calcutta. The units are undertaking both manufacturing and repairing of shoes. The capacity per unit for making shoes, is 8 pairs per day with the help of sewing machine while it is only 3 pairs by manual labour. Financial assistance upto Rs. 3000 has been disbursed at Block-level to improve this industry. The units find local

market within the urban centres and local villages.

Chemical & Chemical products.

Candle manufactureing, Distylled water making, Washing Soap making, Writing ink, Pheneol, Cosmetics (Alta, Sindur, Snow) and Tooth powder making are activities of this group in North Bengal. They have mainly grown in urban centres.

Candle-manufacturing.

Poor supply of electricity within the urban centres have given rise the candle-manufacturing units since 1972. The units have an investment of Rs. 2,000 for equipment and employed 5 persons. Each unit has capacity to produce 1 tonn of candle per month. But, since 1976, most of the units have been stopped due to unavailability of paraffin wax, which is the main raw-material.

Distilled Water.

The units producing distilled water and diluted sulphuric acid, are being consumed by the schools, petrol pumps and auto repairing shop. Each unit has a capacity to produce 50 grosses of 625 ml. bottles of both the products.

Each unit has a capital out lay of Rs. 2,000 in plant and machinery and is providing 2 persons. The units are suffering from want of working capital.

Sodium Silicate.

Sodium silicates are used for making soap. Sodium has been draw from Calcutta, while the silicates are obtained from Allabad by railway transportation. The units were started functioning from 1951. There are altogether 3 factories : One is situated at Alipuruduar in the district of Jalpaiguri and the two are established at Siliguri in the district of Darjeeling. The average production capacity per unit is 600-700 tonnes of sodium slicate per annum with a fixed capital investment of Rs. 15,000 involving 8 workers. The product have demand in all most allthe North Bengal districts.

Washing Soap.

The soap-making units are present in all the urban centres of North Bengal. The average production capacity of a unit is to invest fixed capital Rs. 4,000 with a production capacity of 1,600 quintals of soap per annum, employing 7 persons. The rated capacity remains unutilised, owing to the short supply of raw materials, tallow, sodium silicate etc., which they have to procure from Calcutta at a high price. The production of these units find market in the urban areas and local weekly markets centres, in the villages.

Writing Ink :

There are altogether 4 units in North Bengal manufacturing writing ink. The units of Cooch-Behar and Siliguri are making a good progress competing with the other established products in the market. The production capacity per unit is, 1,000 litres of ink and 1,250 gross of vermilion per month, with an fixed capital investment of Rs. 3,000 involving 7 persons. The units require help for working capital to increase their product.

Cosmetics, Pheneol, Tooth Powder units are very few in number. With a very little investment (Rs. 200) and family members, they are making a good business in the local market.

Printing Press.

Printing presses have developed in the urban centres of North Bengal. Printing of local News Paper, Postering paper, Advertising paper, Tickets for the local buses, Cash-Memo of the shops etc. have been printed in these units. With an average fixed capital investment of Rs. 10,000 and an employment of 4 persons each unit has a very good local market.

The problems of these units are the procurement of raw materials i.e., paper, ink roller etc. they have to bring from Calcutta at high rate. Short supply of working capital, is main the problem.

Paper bag. Unit has been started at Raiganj in 1977. It is a mechanised unit, angaged in producing paper bag to supply the local market for packing various commodities. Paper, the main raw material is abtained from Calcutta. The unit has invested Rs. 10,000 as fixed capital and employed three persons.

Non-Metallic mineral products.

The industries of North Bengal falling within this group are the manufacture of Cement well-ring, tiles, slates, bricks and earthern pottery.

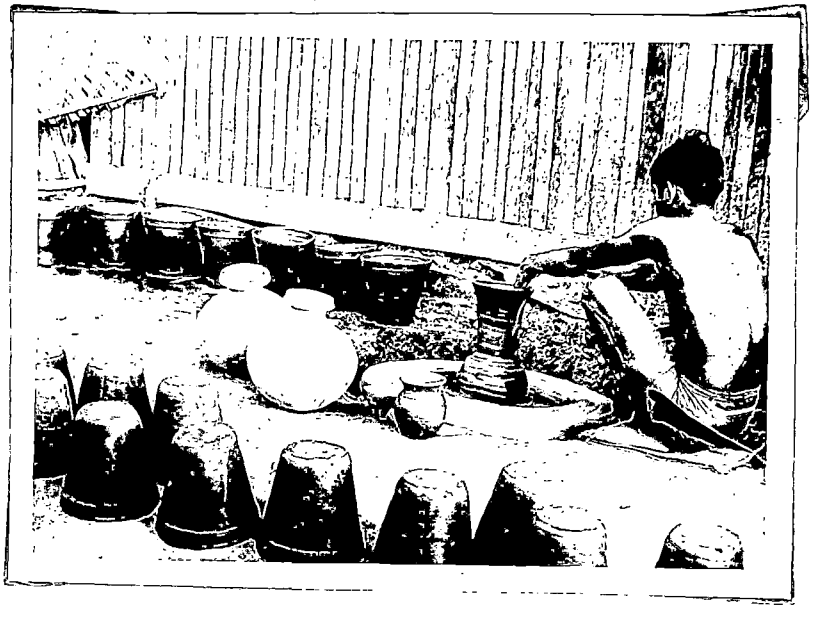
Brick-making.

Growing civil construction activities have generated demand for bricks. Consequently, a number of brick manufacturing units have come up on the river side of the urban areas of North Bengal. The units are non-mechanised. Average installed capacity of each unit is about 12 lakh pieces of bricks per annum, operating with 2 brick kilns. The activity is confined only 120 days in a year. The employment per unit is about 100.

Tile-making.

Tiles are prefered mostly in rural areas as they are both durable and economical than paddy-straw for roofing the village huts and can well be used both in mud and brick built houses.

Manufacture of Earthen pots of different types on earthen wheels Haidarpara, Dt. Darjeeling.



Different Types of earthen pots, Haidarpara, Dt. Darjeeling.

The units are localised in urban centres. With an investment of Rs. 500 employing 30 workers a unit can produce 50,000 pieces of tiles per day.

Pottery-Making.

Units are engaged in making household earthen utensils. This is a traditional village industry practiced almost all the villages and urban centres of NorthBengal by Kumar class people. The products have demand within the area both for the villagers and the urban dwellers. Mainly earthen pans, bowls, pitchers, glasses, well-ring etc. have been manufactured with the help of a earthen wheel. Mud, the main raw materials are available in the river side. Coal used for firing the product for getting strong are obtained from the local coal depo. With a capital investment of Rs. 500 each unit can develop, involving the family member as worker. The units are facing a number of difficulties :

(a) Poor living condition of the artisan hampared the work during rainy season;
(b) Lack of market;
(c) High prices of coal; and
(d) Insufficient supply of coal.

Slate-making.

Slate making units are found functioning at Maynaguri in Jalpaiguri district and at Matigara in Darjeeling district. The

Manufacturing of Tea Machinery (Conveyorbelt)
at Bhattacharya Mechanical Engineering Industry
Chalsa, Dt. Jalpaiguri.

Manufacture of Tea Grading
Machine, Bhattacharya Mechanical
Engineering Industry, Chalsa,
Dt. Jalpaiguri.

Manufacture of Tea Grading
Machine, Bhattacharya Mechanical
Eignineering Industry, Chalsa,
Dt. Jalpaiguri.

unit at Maynaguri was started in 1974, while at Matigara in 1976. Slates are used for writing in the infant classes. Fevicol, Sris-gum, Cement, Vegetable Black etc. are the raw materials drawn from Calcutta while silica is obtained from the river side of the area. With an investment of Rs. 1,000 employing 5 persons, each unit has a capacity to produce 144 pieces of slates daily. The units are functioning as cottage based industry. Besides, within the district the products have good demand outside the district also.

Manufacture of Metal products.

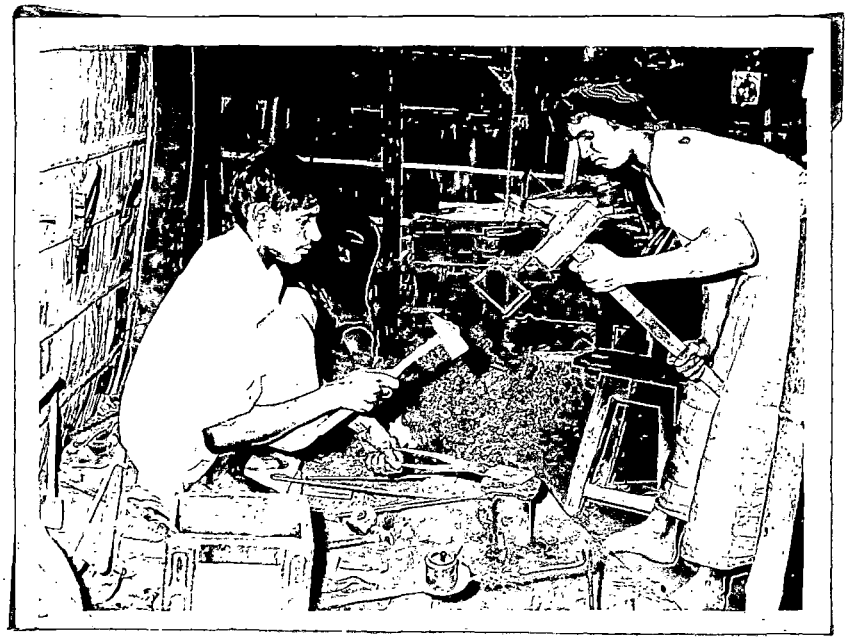
Light fabricated articles like grills, Iron rollers are the common activities of the existing units in North Bengal. Their capacities range from 400 to 2,000 sq. feet per month per unit depending on the size of the unit. The investment in plant and machinery range from Rs. 10,000 - 20,000 per unit with 5 to 7 persons.

The units can diversify the activities to take up the servicing and repairing of pumpsets, oil engines, tructors and automobiles.

But the common problem in the industry is the shortage of raw materials followed by non-avalability of power.

Engineering Industry.

Repairing of transport equipments, and tea garden machinery, manufacturing of the garden implements cement pole



A black-smithy in operation
Dabgram, Dt. Jalpaiguri.

Black-smithy at Schooldangi,
Dt. Darjeeling.

(for electrical line), spun pipe etc. are coming under this group of industries. The growing rate of goods and passenger traffic in North Bengal have given rise the repairing of transport equipment units since 1948. These activities are, generally confined in all the urban centres. Each unit has an installed capacity to do job work Rs. 300,000 approximately per annum and has an fixed capital investment of Rs. 250,000. They are also engaged in making the implements for tea gardens of North Bengal and repairing of machineries, sharpening of C.T.C. Roller etc. It has also been reported that the Maynaguri Engineering Work-Shop situated 20 km. away from Jalpaiguri town, has been started manufacturing the mini C.T.C. Machine since 1976. "The Bhattacharya Mechanical Industries" at Chalsa in Jalpaiguri district have started manufacturing of Tea garden machines from 1978. In view of the expanding volume of business in this industry there is enough scope for development of these small units. The cement pole factories and spun pipe factories has been functioning from 1973 in the urban centurs of Darjeeling Jalpaiguri and West Dinajpur districts.

Black-Smithy :

Black-smithy establishments have been found functing in villages and all the urban centres of North Bengal. They mainly produce agricultural implements and domestic utensils from iron sheets. They are very small units, with 2 persons investing Rs. 100 for each. They find local urban as well as weekly market centres in the villages.

Manufacture of Drum (Madal) on earthen structure with leather.

Ghashi tribe - Schooldangi
Dt. Darjeeling.

Handi craft.

Wooden model, wooden wal-plate, wooden flower-vase, wooden table lamp, ash-tray with the horn of buffelowes, decorated orgaments with white metal in Darjeeling and Kalimpong hill towns in district of Darjeeling are the famous handicraft products. Each unit with 3 or 4 family members invloving Rs.500 can produce 6 pieces of goods with the help of small hand tools. The activities are practiced by the traditional Nepali and Sikimiese people. The products have good market during the season time (April-May and October-November) specially for the tourists. The Tibetan Self help centre, situated at Bhutia Basti in Darjeeling produces jute carpet, wooden handicrafts, ornaments of stones and metals are famous for their export potentiality. The main problem of the units are lack of working capital and market. Proper assistance from the government side will enable the units to produce exportable variety of goods.

Madal-Making (Local Musical Drum).

Madal, a musical drum used by the villagers and tea garden labourers at the time of festival and ceremonial functions. The practice of manufacturing the instrument was started here in 1947 by the Ghashi and Ruidas community. The drums are made up of earthen material and leather, available within the area. The units are found functioning in Balapur in the district of West Dinajpur and Hatighisa, Schooldangi in the district of Darjeeling. Apart from the district and outside district they have been sent

to Assam also. An artisan can manufacture 1 pair of Madal within seven days with an investment of Rs. 50 with an output value of Rs. 110.

Hand Made Paper.

In 1952, a hand made paper unit was set up at Raiganj in the district of West Dinajpur. The unit started as co-operative basis by the women's Association. The main item of production are hand made paper, tissuye paper, board file, cover file, duplicating paper etc. Hosiary cutting, press-cutting, and tailor-cutting are the main raw materials, the former two articles have been brought from Calcutta, while the latter is available within the area. The unit received Rs. 9,750 from The Khadi - Board for plants and machinery and share capital of Rs. 2,000 from the Women's Association. The daily capacity of the unit is 10 rims of paper with 10 female workers. The main problem of the unit are scarcity of raw materials, lack of working capital and local market. The products are sent to Calcutta for export.

Cane-Works.

Domestic furniture, busket, bags are the main products of these units. The cane-works of the Alipurduar town in Jalpaiguri district and Siliguri town in Darjeeling district are famous, Urban people, Tea garden and Military men are the main buyers of the products. The units are small with an employment of about 5 to 7 persons, investing working capital of Rs. 500 each. Cane, the raw

material for this industry has been drawn mainly from Assam by railway. The capacity of each unit is to manufacture 6 pieces of goods per day.

Mining and Quarrying.

The Bengal Lime Stone Private Ltd. Co. and Jainti Lime Co. Were set up in 1948, at Jainti - Buxa Duar hills of Jalpaiguri district for mining and quarrying of Dolomite and Lime stone.

Dinamite has been used for blasting the big lime stone boulders, following which they are crushed into required sizes (5") by manual labour using iron-made hammer. The daily crushing capacity is 200 tonnes. The crushed limestones are mixed with coal, the proportion being 12 tonnes of limestone x 3.6 tonnes of coal. The mixture is then, heated with firewood and sent to Bokaro Steel Factory, Durgapur Steel Factory and Tata Iron and Steel Co. by road transport.

The dolomites are mined below ½ inches but above ¾ th inches of the surface. The daily capacity to mine the dolomite is 400 tonnes daily. After mining they are transported to Bokaro Steel Factory, Durgapur Steel Factory and Tata Iron and Steel Co; Each unit has an employment of 60 labourers. The dolomite powders are used to remove the acidic nature of the cultivated are within the district. The units are suffering from transport difficulty and shortage of labour.

Stone-Crushing.

Stone crushing activities by female manual labour, using

hammer, are found by the side of the river Balason in Darjeeling district, the river Torsha, in Cooch Behar district, the Lish, the Gish, the Chel and The Tista rivers in Jalpaiguri district stone cheaps of various sizes have been used in constructing roads and barrages. Each stone crushing unit consisting of 30 to 40 labourers. Apart from P.W.D. Roads Department of North Bengal, the stone cheaps are drawn to Bihar by road transport.

Besides the small stone-crushing units the Government P.W.D. Roads Department established a Stone Crusher unit by mechine in 1975, at Matigara, 6 km. away from Siliguri Town. The unit consists of 9 crusher machine with a capacity of 10-12 tonnes of stone cheaps per hour, involving 29 workers. The machines are operated by diesel oil with 29.4 H.P. engines. The production is stopped since 1978 due to some internal disturbances.

Alluminium Industry.

Manufacturing of domestic utensils are the products of these units. Four alluminium factories have been functioning since 1970, 2 in Siliguri town, in Darjeeling district 1 in Raiganj town in West Dinajpur district and 1 in Malda town in Malda district. They use mainly, Waste alluminum sheets, broken alluminum goods etc. The units are small with a fixed capital investment of Rs. 100,000 involve 12, persons for each. The daily production capacity of each unit is 30 pieces of utensils. The product has a demand in urban and village areas.

Polythene bags.

The requirements of polythene bags in the nurseries of tea gardens and Sericulture farm have given rise to 3 Polythene bag making units : one unit was established at Malbazar of Jalpaiguri district, in 1975 and two units have developed in 1976 at Siliguri town in Darjeeling district. The average size of a unit is to employ 7 persons, with fixed capital investment of Rs. 10,000, having a capicity to produce 1,000 bags daily (within 8 hours). With the growth of cloth shops within the urban market places the demand for polythene bag has been increasing day by day.

Coke-Briquettes.

Coke briquettes industries have been found to develop one at Balurghat in West Dinajpur district and two at Siliguri in Darjeeling district in 1977. The industry is mainly developed depending on the demand of the product within the local area. Coke briquettes are mainly used as fuel for domestic purposes. The breeze coke, a by product of the hard coke, the by product of the paper mill and the clay soil are the main raw materials. The former has been drawn from the Durgapur Iron and Steel Factory by road transport, while the latter are obtained from Calcutta. The arerage capital investment of Rs. 60,000 with employment of 2 people the factories have existed. The capacity of each unit on an average is 4 mt. per day. Since North Bengal is lack in

Manufacture of Iron Rods etc.
Hindustan Rolling Mill,
Siliguri, Dt. Darjeeling.

coal as such the demand for coke briquettee has been popular mainly for domestic consumption. But the units are suffering from the insufficient supply of raw material due to heavy transport cost and frequent disturbances of electricity.

Iron Foundries.

Two iron foundries have been set up in Ektiasal 4 km. away from Siliguri town in 1969. The main products of the units are the iron rods, which have been used largely in building construction and barrage construction, in whole of North Bengal districts. The main raw materials, the scrap iron and billets have been drawn from The Tata Iron and Steel Company at Jamshedpur by road transport The factories have established with a total capital investment of Rs. 800,000 and can employ 50 persons each. The average production capacity of an unit is 12 tonnes per day. With the growth of various building construction both by the Government and private concerns in the urban sectors the demand will be increased. The units are faced the difficulties of obtaining raw materials due to heavy transport cost and labour troubles.

Rubber-Factory $:

Manufacturing of cycle and Rickshaw tyre out of rubber has been established at Matigara, only 4 km. away from Siliguri town in 1974. Matigara is only 3 km. away from Siliguri Junction station, which connects Assam in the east and Bihar, Uttarpradesh

inthe West by railway line. National Highway No. 31 has been passing just in front of the factory area. So from the point of view of transport the area is ideally suitable. With an employment of 35 persons investing Rs. 934,000 the factory has set up. West Bengal Financial Corporation and State Bank of India have financed the factory. The total production amounts to Rs. 212,900 during 1974-75. The products have found their market in all the North Bengal districts and Assam, besides the local market. The problems faced by the factory are the poor supply of electricity and heavy transport cost.

Chapter VI

Major Industries : The Wood Based Industry.

In this chapter only the major industries of North Bengal have been taken up for detailed study. The major industries are: The Wood Based Industry and The Hand Loom Industry.

The Wood Based Industry

Industries using timber as their basic raw material are termed as Wood-Based Industries. To name some of the important industries that are now functioning in North Bengal are : Saw Mill, Veener and Ply Wood Industry, Household Furniture, Cart-wheel, Boat-making, Wooden craft, etc. For the present study however, saw mill, veener and ply Wood Industries have been taken into consideration, since from the point of view of industrial development of North Bengal these industries have played an important role. The main aim of this study, therefore is to find out its trend of growth, locational factors and size groups and finally, some future possibilities contributing ultimately to strengthening of the industry.

The Development and growth Trend of the Industry.

An idea about the trend of growth of Saw Mill, Veener and Ply Wood Factories of North Bengal may be obtained from the following table.(Chart.16)

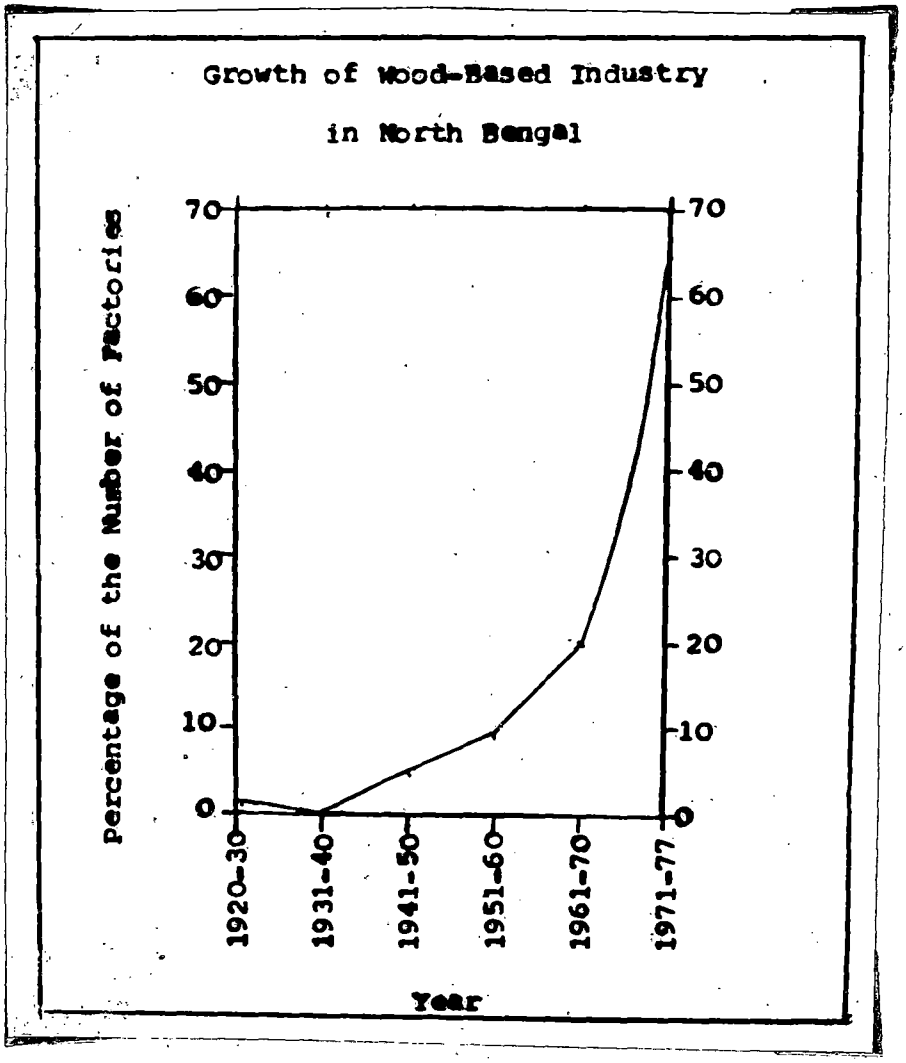

Growth of Wood-Based Industry
in North Bengal
Percentage of the Number of Factories
70
60
50
40
30
20
10
0
1920-30
1931-40
1941-50
1951-60
1961-70
1971-77
Year

Chart. 16

Table-49[1]

Growth of Wood-Based Industry in North Bengal

Year	No. of Factories established	Percentage of the total
1920-30	1	78
1931-40	-	-
1941-50	6	4.65
1951-60	12	9.30
1961-70	26	20.16
1971-77	84	65.11
Total :	129	100.00

It appears from the above table that the growth of Wood-Based Industry in North Bengal started as early as 1926, when a Saw mill was established at Siliguri in Darjeeling district by the Government. It may be surprising to note that there was no other Saw Mill and Ply Wood Factories established till 1940. And the first Ply Wood Factory, East India ply Wood Co. was

established in Cooch-Behar Town in Cooch-Behar district in 1944. Since 1941, however, the number of factories gradually increased and at present, there are about 129 units in North Bengal. The maximum development has taken place in between 1970-77, 84 new plants were added making an increase of over 65 percent in the total number of plants working in the region.

The principal reason behind this phenomenal increase in this particular sphere of activity is highly interesting. The partition of India in 1947 truncating Bengal left the several portion of North Bengal throubing under economic pressure. The entire transportation system was dislocated and the absence of direct route to the principal market of Calcutta almost had a paralysing effect on both its economic and administrative functions, the latter going out of gear all on a sudden. In order to remove these difficulties quick measures had to be adopted in no time and the main stress was primarily on laying out a well-limit transportation system.

Hence, since the begining of the Five Year plans various types of roads and railways have been constructed namely : village and district roads, state and National Highways formed an intergral part in this region giving it direct access to the part of this programme while a new railway link established direct communication between North Bengal and Calcutta across the River Ganga which till 1972 had to be ferried. The development of roads and railways, besides bringing the region

into the direct contact of its surrounding regions had its impact on the revitalisation of the regional economy. The remoteness of different parts of the region having been removed, the local resources came to be utilised in a more vigorous manner then hitherto ever witnessed. The developed transportation system helped in both ways - the movement of raw materials became easier and the market for their products enjoyed greater accessibility. The Saw Mill and Ply Wood Factories found their market apart from their domestic consumption for various uses like railways sleepers house building materials, various constructional works, furniture making, chasis of vehicles, (bus, truck) etc. out of sawn wood and tea-chest, packing boxes etc. from veener and ply wood. With the completion of Farakka Barrage over River Ganga in 1972, a direct link between South Bengal and North Bengal with that of Assam was established which brought a further spur in the industrial activities of the region witnessing a rapid growth of Saw Mill and Ply wood Factories finding their places in different districts of North Bengal with specially in the forest clad area of Darjeeling, Jalpaiguri and Cooch Behar. The industry, therefore, developed here have been mainly raw-material as well as Transport oriented.

Locational Analysis of the Saw Mills and Ply Wood Factories.

In making a locational analysis of the industrial plants functioning in different parts of the region it is necessary to evaluate all the factors taking an indispensable role in their functions.

Industrial Infrastructure.

(a) Raw material. The development of Saw Mill and Ply Wood Industries are mainly based on the utilisation of hard and soft wood. Hence, they are likely tobe attracted by the forest areas. ~~The~~ the forest areas of North Bengal, have been divided into 7 divisions namely Baikunthapur division, Buxa Division, Cooch-Behar Division, Darjeeling Division, Jalpaiguri Division, Kalimpong Division and Kurseong Division, Covering the districts of Cooch-Behar, Darjeeling and Jalpaiguri. The total production of timber amounts to 90,499.23 cubic metres in 1971, for five divisionns, the amount for Baikuntapur and Buxa forest divisions are not available. The total amount required for the industrial use is 20,000 cubic metres. The ratio between the total production of timber and the total requirement for industrial units, therefore, proves that from the point of view of raw material the region is really suitable for wood based industry.

(b) Power supply. Power is necessary for the development of Saw Mill and Ply Wood Factories. The Jaldhaka Hydel Power Station supplys the power to the industrial units through the following substations[2].

	Name of the Sub-Station	Bulk Supply
1.	Chalsa Voltage - 66/11KV Capacity- IX IMVA	At 11 KV
2.	Oodlabari Voltage - 66/11KV Capacity- 2X1 MVA	At 11 KV
3.	Siliguri Voltage - 66/6.6KV Capacity- 2X3 MVA	At 6,6KV
4.	Banarhat Voltage - 66/11KV Capacity- 1X3 MVA	At 11KV
5.	Birpara Voltage - 66/11 KV Capacity- 1X1 MVA	At 11KV
6.	Cooch - Behar Voltage - 66/11 KV Capacity- 2X3 MVA	At 11 KV

As has been seen that the bulk supplier sub-stations are set up adjoining the forest and tea garden areas, provide facility for supplying power to the Saw Mill and Ply wood units. Most of the units have developed within these substations which have been discussed in the part of this chapter.

(c) Labour Supply. Huge amount of labour is required for the growth of industrial location. A decennial variation of population will show the surplus labour supply within the area.

Table - 50 4,5

Number of Unemployed persons and growth rate of population in North Bengal.

Year	Total Population	Decade variation	Percentage decade variation	Total worker	Percentage to total worker	Non-worker	Percentage non-worker
1951	3,959,775						
1961	5,549,458	+1,589,683	+40.15	1,946,735	35.1	3,602,723	64.9
1971	7,418,663	+1,869,205	+33.68	2,174,878	29.3	5,243,785	70.7

A decennial variation of growth rate of population shows that the percentage of population was increased to 40.15 percent between 1951 to 61, having 35.1 percent of total worker with 64.9 percent of unemployed persons during 1961. The density of population, further increases to 33.68 percent within 1971, while the total percentage of non-workers is 70.7 involving 29.3 percent in employment, indicates an excess supply of labour.

(c) Selection of the Site.

1. The physical condition of the site such as the stability of the ground for foundation of the mill area, ample space for dumping of raw materials as well as finished goods and wastage;

2. The facilities of supplying electricity, postal and telephone facilities;

3. Lastly, accessibility of the site both for road and rail transport.

Considereing these three factors most of the saw mill and ply wood factories in North Bengal are located on either side of the National highway No. 31 and 34 or state highways, on spacious grounds provided with electric, telephonic and postal facilities.

Number of Mills Present in Different Districts.

With a view to ascertain the number of Mills functioning in North Bengal, a district-wise distribution has been given in the following table.

Table- 51[1]

District-wise distribution of Mills in North Bengal

(up to 1977)

Name of the district	No. of units	Percentage of the total number
Cooch Behar	13	10.07
Darjeeling	40	31.00
Jalpaiguri	45	34.88
Malda	8	6.20
West Dinajpur	23	17.00
	129	100.00

A district-wise distribution of number of units reveals that maximum concentration has been taken place in the district of Jalpaiguri with 45 in number, 34.88 percent of the total. Darjeeling comes second having 40 units, with 31 percent, while West Dinajpur ranks third, 17 percent followed by Cooch-Behar and Malda, 10.07 and 6.20 percent respectively.

The reasons for large number of factories in the districts of Darjeeling and Jalpaiguri are the presence of forested area and tea-garden. To have a figurative idea about the total forest and

tea-garden area within these two districts Table 52 has been presented below.

Table-52[6]

Distribution of forests and tea gardens in Darjeeling and Jalpaiguri Districts.

Name of the district	Total Area (in thousand hectare	Total forested area (in thousand hectare)	Percentage of the total	Tea-Garden area (in thousand hectare)	Percentage of the total
Darjeeling	310.77	118.5	38.1	29.01	9.3
Jalpaiguri	615.0	167.3	27.2	59.4	9.6

The distribution of forests and tea gardens, in the district of Darjeeling comprise 47.4 percent of the total area while it is 36.8 percent in Jalpaiguri district, have really attracted for developing the Saw mill and Ply Wood Factories.

Again, a categorical classification of the units in the region may be given thus.

Table-53[1]

A categorical classification of the Mills in different districts of North Bengal (1976 - 78)

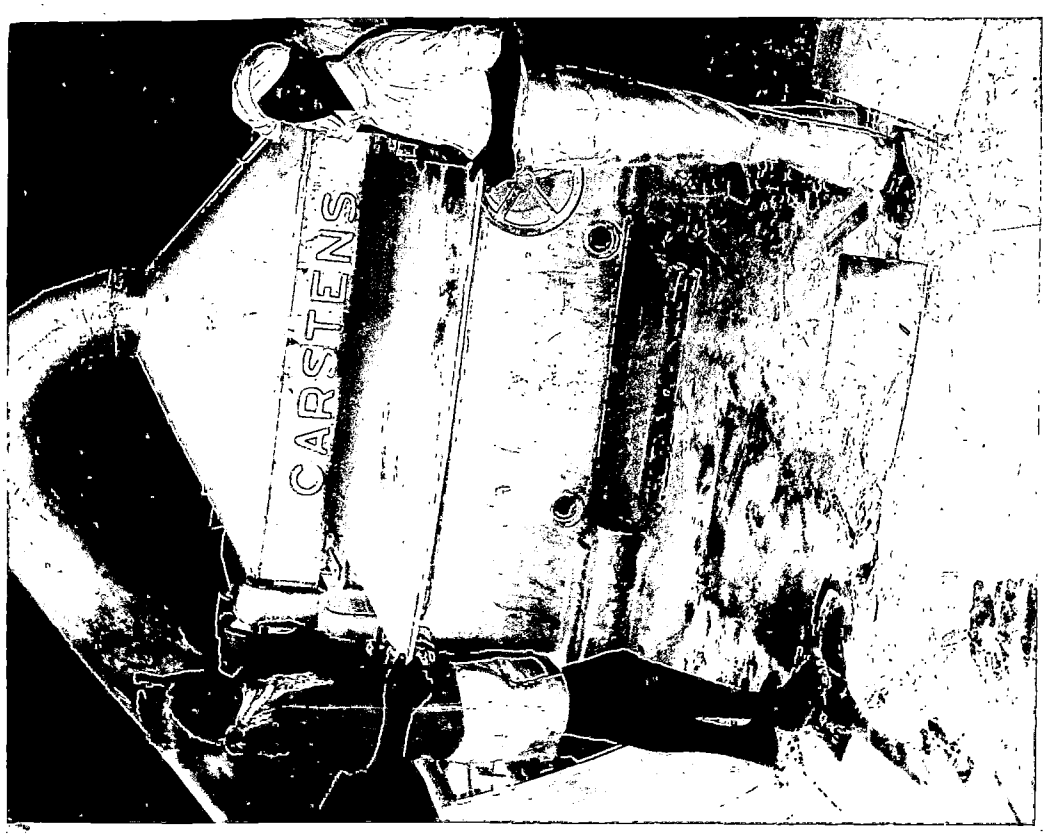
Category of the plants	Cooch Behar	Darjeeling	Jalpaiguri	Malda	West Dinajpur		Percentage age of the total
1. Saw Mill	12	38	38	8	18	114	88.4
2. Veneer & Ply Wood Industry	1	2	6	-	5	14	10.9
3. Commercial Ply Wood Factory	-	-	1	-	-	-	0.8
Total	13	40	45	8	23	129	100.00

It is very striking tonote here that saw mills share 88.4 percent of the total number of units in North Bengal. This is very likely since the industry is still at its primary stage when sawn timber is greater demand for direct use than as a raw material for other industries. Most of the Saw Mills are thus engaged in producing materials for building as well as other constructional works. The demand in local market for sawn wood are gradually increasing with the growth of population and urbanisation.

Log of Soft Wood Sawn by Electrically operated Machine
Assam Bengal Veneer Industriy, Oodlabari, Dt. Jalpaiguri.

Peeling of Veneer from logs by Leathe Machine
Assam Bengal Veneer Industry, Oodlabari, Dt.Jalpaiguri.

Piecing of veener to required size
Assam Bengal Veener Industry, Godlabari,
Dt. Jalpaiguri.



Drying veener in Dry chamber
Assam Bengal Veener Industry, Godlabari,
Dt. Jalpaiguri.

Pasting of 3 veeners for geting standard thickness
Assam Bengal veneer Industry, Oodlabari,Dt. Jalpaiguri.

Manufacture of Commercial ply for decorating purposes
Assam Bengal veneer Industry, Oodlabari, Dt. Jalpaiguri.

The veneer & Ply Wood Factories with 14 units forming 10.9 percent of the total have developed for making tea-chest for packing tea. The units are engaged in producing veener of ply from the soft wood for packing tea for exporting outside. The only commercial Ply Wood Factory has established at Chalsa in Jalpaiguri district in 1977. The unit is engaged in producing decorative ply wood for making furniture, flushdoor, partition etc. With the growth of urban development the demand for this product has gradually been increased. The table below show the growth rate of urban population for 1961-71.

Table-54

Growth of urban population in North Bengal 1961-71

Year	Total urban population	Decade variation	Percentage of decade variation
1961	489,651		
1971	686,660	+197009	+ 40.23

The decennil variation of urban population between 1961-71 shows that, it increases to 40.23 percent in 1971, proves the growth of urbanisation.

Organisation, Structure and Size.

Except the Government Saw mill at Siliguri, all the Saw Mills

and the ply wood factories are privately managed, so far as the organisational structure of the industry is concerned.

Capital Structure. The collection of the accurate data relating to the invested capital in the case of small scale industry is very difficult. Unorganised nature of the units under survey and the general absence of accounting habits, or reluctance at disclosing their accounts to outsiders, make it difficult to obtain requisite data regarding their historical cost as well as the present book value of the fixed assets. However, in the present survey an attempt has been made to give a general idea ⅈ about the fixed capital invested per unit which was obtained from the owners of eahh establishment covered by sample survey. In the present survey 37 establishments covering the four districts of North Bengal namely Cooch Behar Darjeeling, Jalpaiguri, West Dinajpur. The factories at Malda district have started just in the year 1977, as a result of which any complete data relating to the size and structure of the mills have not been collected during the survey-work. (Chart.17)

Table-55[7]

Distribution of units in Saw Mill and Ply wood industry by districts

Districts	No. of Centres	No. of Units
Cooch Behar	2	2
Darjeeling	4	7
Jalpaiguri	11	23
West Dinajpur	3	5
Total :	20	37

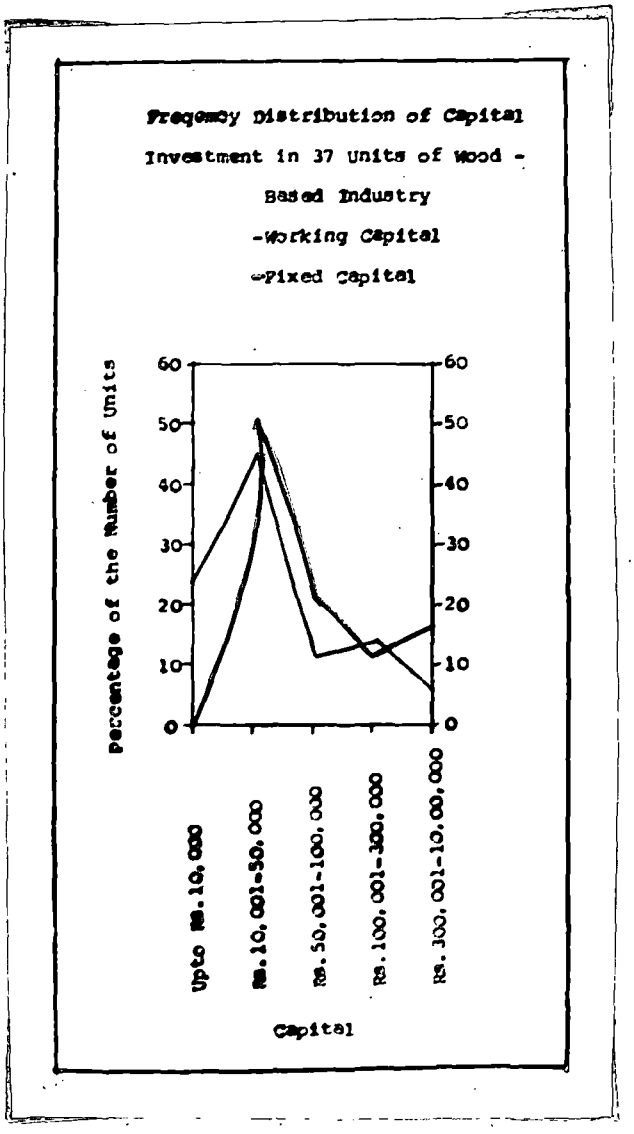

Fregency Distribution of Capital
Investment in 37 Units of Wood -
Based Industry
-Working Capital
-Fixed Capital
Percentage of the Number of Units
60
50
40
30
20
10
0
Upto Rs.10,000
Rs.10,001-50,000
Rs.50,001-100,000
Rs.100,001-300,000
Rs.300,001-10,00,000
Capital

Chart. 17

The table shows that in Jalpaiguri district the maximum number of 23 units of the industry are concentrated in 11 centres giving an average of 2.09 units per centre the next largest group of units surveyed was in Darjeeling where 7 units have developed in 4 centres with an average of 1.75 units per centre; this is followed by West Dinajpur with 5 units in 3 centres, having an average 1.66 units per centre. Lastly Cooch Behar has 2 units confined to 2 centres.

Table-56[7]

Bi-variate frequency distribution of 37 units by fixed and working capital

Fixed Capital	Working capital upto-10,000	10,001 50,000	50,001 1,00,000	1,00,001 3,00,000	3,00,001 10,00,000	Total	Percentage
Upto - 10,000	-	-	-	-	-	-	-.
10,001 - 50,000	8	11	-	-	-	19	51.35
50,001 -100,000	1	5	2	-	-	8	21.62
100,001 -300,000	-	1	-	1	-	4	10.8
300,001 10,00,000	-	-	-	4	2	6	16.2
Total	9	17	4	5	2	37	
ercentage	24.32	45.94	10.81	13.51	5.40		100

It is striking to note that a maximum number of 11 units out of 37, i.e. about 29.78 percent have got both the fixed and working capital ranging between Rs. 10,001-50,000. There are 5 units which have got a fixed capital ranging between Rs. 50,001-1,00,000 and a working capital ranging between 10,001-50,000. There is only one unit that has got a fixed capital ranging between

Rs. 1,00,001-3,00,000 with a working capital ranging between 10,001 - 50,000. It is highly interesting to note that not a single unit exists which has employed more than Rs. 3 lakh as fixed capital and a working capital ranging between Rs. 10,001 - 50,000. In all, 17 units, representing about 45.94 percent of the total number of units investigated during the survey, have working capital ranging between Rs. 10,001 - 50,000. Correspondingly, there are 8 units with a working capital upto Rs. 10,000 and the fixed capital ranging between Rs. 10,001 - 50,000. To sum up 19 units which constitute about 51.35 percent of the total number of units investigated have employed fixed capital ranging between Rs. 10,001 - 50,000.

Table - 57[7]

Distribution of Capital investment of 37 units

Capital Investment	Percentage of units having fixed capital	Percentage of units having working capital
Upto Rs. 10,000	-	24.32
Rs. 10,001-50,000	51.35	45.95
Rs. 50,001-1,00,000	21.62	1081
Rs.100,001.3,00,000	10.80	13.51
Rs.300,001-10,00,000	16.20	5.40

If the capital is compiled the following results is obtained for the 37 units.

Table - 58

Distribution of 37 units by total capital

Total capital (Rs.)	No. of units
Upto Rs. 10,000	-
Rs. 10,001-50,000	11
Rs. 50,001-1,00,000	10
Rs. 100,000-3,00,000	9
Rs. 3,00,001-10,00,000	4
over 10,00,000	3
	37

The table given above shows distribution of units according to differ nt total capital invested. Thus out of (1) 11 i.e. 29.72 percent fall within the total capital range of Rs. 10,001-50,000; (2) 10 units i.e. 27.02 percent come within the total capital range of Rs. 50,001-1,00,000; (3) 9 units i.e. 24 percent come within the total capital range between Rs. 1,00,001-3,00,000 (4) 4 units i.e. 10.82 percent in Rs.3,00,001-10,00,00 and (5) 3 units i.e. 8.10 percent have a total capital over Rs. 10,00,000.

Table -59[7]

Distribution of 37 units by average daily employment

Average daily employment	No. of units
1 - 9	11
10 - 49	18
50 and above	8
Total	37

The weighted arithmatic mean of average daily employment per unit comes to 8, approximately. Maximum number of units i.e. 18 (48.64 percent) have an employment ranging between 10 to 49 workers each while 11 units i.e. 29.72 percent employ from 1 to 9 workers each.

The following table (no. 60) shows that the total production in the units investigated in different districts, their installed capacity, the percentage of capacity utilised and the balances still to be/utilised. (Chart.18)

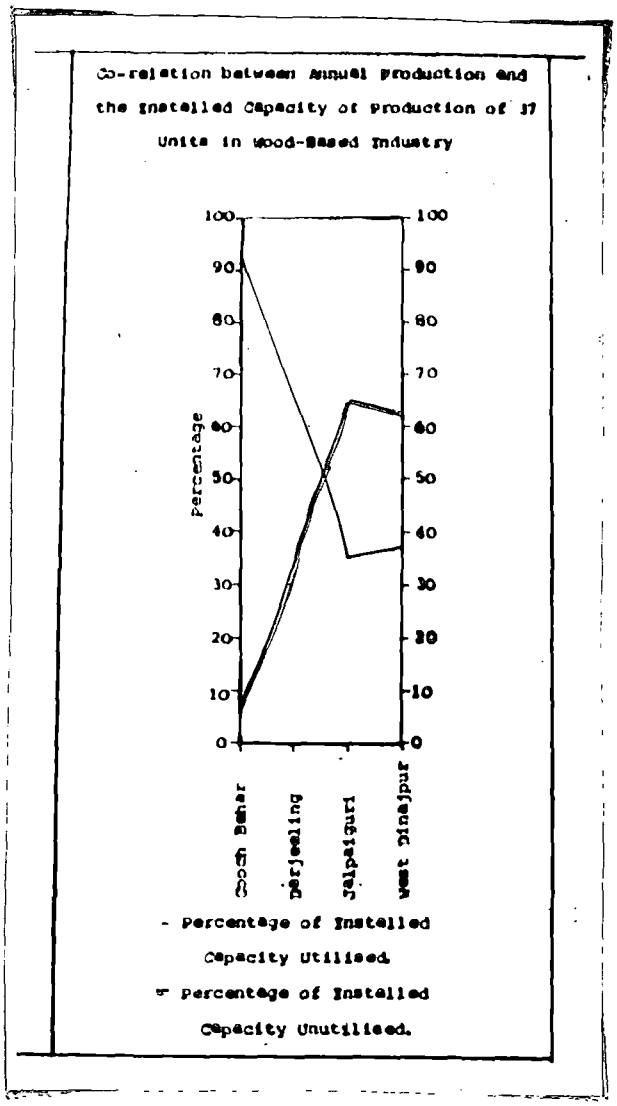

Co-relation between Annual Production and the Installed Capacity of Production of 37 Units in Wood-Based Industry
Percentage
100
90
80
70
60
50
40
30
20
10
0
Cooch Behar
Darjeeling
Jalpaiguri
West Dinajpur
- Percentage of Installed Capacity Utilised.
- Percentage of Installed Capacity Unutilised.

Chart. 18

Table-60[7]

Annual production and Installed capacity by districts for all, units averaged

District	No. of units	Annual production (in Rs.)	Installed capacity (in Rs.)	Percentage of Installed capacity utilised	Percentage of Installed capacity unutilised
1. Cooch Behar	2	13,22,000	14,26,000	92.70	7.3
2. Darjeeling	7	36,15,452	55,48,307	65.16	34.84
3. Jalpaiguri	23	93,38,145	2,63,64,500	35.41	64.59
4. West Dinajpur	5	9,70,750	25,62,618	37.88	62.12
	37	1,52,46,347	3,59,01,425	42.46	57.54

In this industry the maximum utilisation of the installed capacity is found in Cooch Behar with 92.70 percent of the total. Darjeeling utilises 65.16 percent of the installed capacity followed by West Dinajpur and Jalpaiguri with 37.88 percent and 35.41 percent respectively. It appears that there is a scope for expansion of production up to the limit of unutilised installed capacity.

The following table will give an idea about the varying amounts of capital invested per employment by districts in wood based Industry.

Table - 61[7]

Capital Investment per employment by districts

Name of the States	Total capital (Rs.)	Fixed capital (Rs.)	Working capital (Rs.)
1. Cooch Behar	3729.5	2049.1	104.91
2. Darjeeling	5670.2	4105.6	1565.3
3. Jalpaiguri	6233.2	3757.	2476.0
4. West Dinajpur	8299.1	4703.0	1865.3

The minimum amount of Rs. 3729.5 as total capital is invested per employment in Cooch Behar where as in the district of West Dinajpur a maximum amount of Rs. 8299.1 is invested per head. It is interesting to note that the amount of fixed capital invested per employment is highest in West Dinajpur with Rs. 4703.0 and lowest in Cooch Behar with Rs. 2049.1 . However, working capital invested per employment is highest in Jalpaiguri Rs. 2476.0 and lowest in Cooch Behar Rs. 204.91.

The foregoing analytical study reveals the characteristic feature of capital investment employment and installed capacity of 37 units under sample survey of this industry.

Again, the average employment, investment, production per unit in different districts have been showing thus :

Table-62[7]

Average employment, investment and production per unit by districts

	District	Average no. of persons employed per unit	Average capital invested (per unit (in Rs.)			Average annual production (in Rs.) per unit
			Fixed	Working	Total	
1.	Cooch Behar	61.00	1,25,000	12,500	1,37,500	6,61,000
2.	Darjeeling	66.28	2,72,142.8	10,375.71	2,82,518.51	5,16,493.14
3.	Jalpaiguri	40.82	1,53,399.1	101,086.95	2,54,486.05	4,06,006.30
4.	West Dinajpur	10.40	48,911.4	19,400	68,311.4	1,94,150

The table also brings out the concentration ofthis industry in different districts. Darjeeling has the highest concentration of this industry, it has the highest capital invested per unit, it means simply that an industry which offers better prospects in a particular area attracts more enterprenures to that area. This helps to concentration and investment per unit also go up. Thus, according to the average capital invested per unit the four districts rank in the following order :

(i) Darjeeling; ii) Jalpaiguri; iii) Cooch Behar and iv) West Dinajpur.

The techniques employed at various stages of production varies from district to district. The types of production are also disimila efficiency of the machines employed is not identical in all districts. Locational advantages and others to economic considerations vary from district to district. The inter-action of several of the above mentioned factors causes diverse reactions on industry itself from district to district.

Some Important Centres of Wood-Based Industry

Depending upon the locational advantages for the growth of this perticular industry, 3 important centres have been discussed under the following groups :

A. Siliguri Centre. This centre boasts of its early start with its Government Saw Mill, being the first in North Bengal. Approximately 36 saw mills and Ply Wood Factories are functioning within this centre. Table 63 have been given to show the growth rate of different units.

Table-63[7]

Name of the units with year of establishment in Siliguri Centre

Name of the unit (1)	Year of Establishment (2)
1. Government Saw Mill	1926
2. M/s. Enco Ply Wood and Saw Mill Industries	1944

(1)		(2)
3.	M/s. Bhiwani Saw Mill	1950
4.	M/s. Arzune Niwas Saw Mill	1958
5.	M/s. Radha Krishna Silpa Mandir	1958
6.	M/s. Sri Durga Saw Mill	1960
7.	M/s. Mahabir Industries	1965
8.	M/s. A.K.Mitra Saw Mill	1966
9.	M/s. Bengal Saw Mill	1966
10.	M/s. Shibananda Saw Mill	1966
11.	M/s. Dooars Timber Depo	1968
12.	M/s. Mahabir Prakash Mill	1968
13.	M/s. R.Banerjee Saw Mill	1968
14.	M/s. Hindustan Saw Mill	1970
15.	M/s. Everest Ply Wood Factory	1972
16.	M/s. Equity Saw Mill	1972.
17.	M/s. Harryana Saw Mill	1972
18.	M/s. P.C.Talukdar & Sons	1972
19.	M/s. Goodka Saw Mill	1973
20.	M/s. MA Tara Industries	1973
21.	M/s. Siliguri Timber Saw Mill and Industries	1973
22.	M/s. Ananda Saw Mill	1974
23.	M/s. B.B.Dey and others	1974
24.	M/s. Bharat Kuti Industries	1974
25.	M/s. Ila Saw Mill	1974

(1)		(2)
26.	M/s. Swastika Saw Mill	1974
27.	M/s. Banasree Silpa Mandir	1975
28.	M/s. Bharat Saw Industries	1975
29.	M/s. Bidhan Saw Mill	1975
30.	M/s. Jaychand Vasan Saw Mill	1975
31.	M/s. Rajkamal Saw Industries	1975
32.	M/s. Woodcraft Industries	1975
33.	M/s. Annapurna Saw Mill	1976
34.	M/s. Ganesh Saw Mill	1976
35.	M/s. Prakash Saw Mill	1976
36.	M/s. Sevoke Ply Wood Factory	1977

The growth of 36 units within the centre shows that the rapid development of units have taken place from 1972, with 22 numbers forming 61 percent of the total units.

The selection of Siliguri town for Saw Mill and Ply Wood Factories are indeed right. The large spaces on both sides of the Burdwan Road and Sevoke Road are suitable for establishing the factories. The Siliguri Town lies within the radius of 20 kilometres from the forested area of North Bengal. The Mills obtain their raw material by road from the forest. The West Bengal State Electricity Board have supplied the necessary

power for generating the machines. Siliguri Junction the nearest railway station, 1km away from the town, connects the centre Ass m on the East and Bihar on the West. New Jalpaiguri ~~XXXXXX~~ Railway Station 6km. away from the Siliguri town links the centre with calcutta in the South.

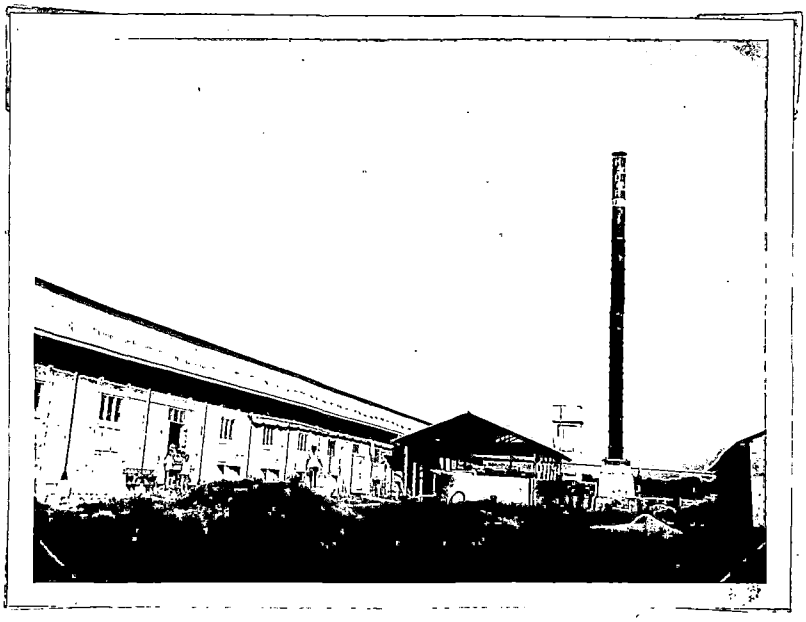
Apart from railway lines National Highway No. 31 passes through this centre from Calcutta in the south to Assam in East, provides factility for movement of raw materials from the forest and finished product to the local tea-garden, urban market, beside the Calcutta market. A large number of labour has been recruited from the surrounding villages and forest areas. The sized timbers of the Saw Mills have been sent to Bihar, Orissa, Rajasthan, Uttar Pradesh for making railway sleepers, besides their use in various constructional work in local market. while the veener and ply wood factories are engaged in producing ply wood for packing tea, for exporting abroad.

B. Oodlabari Centre. Comprising of 3 Saw Mills and 2 ply Wood Factories the Oodlabari centre is situated in Jalpaiguri district, 35 km. away from Siliguri town. Following factories have been establ shed within this centre.

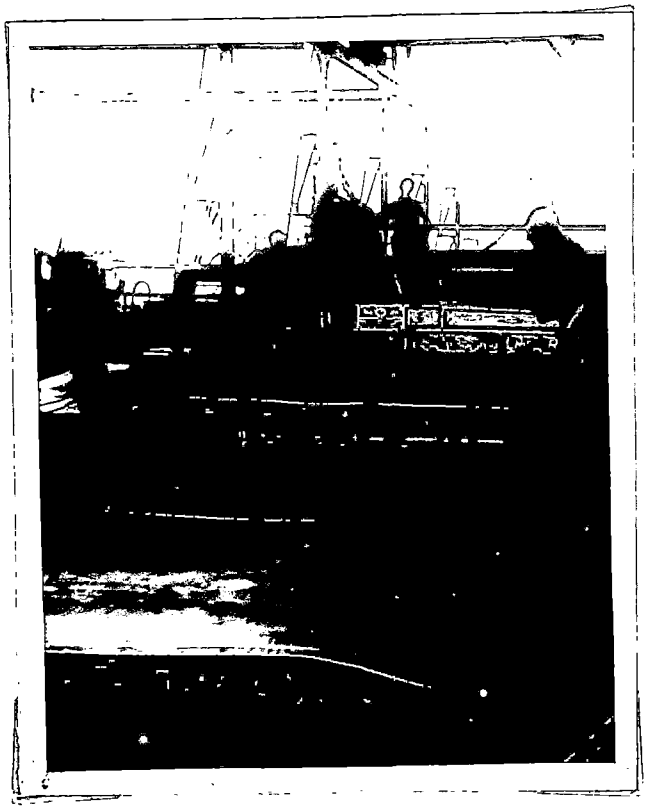
Table - 64[7]

Name of the Units in Oodlabari Centre

	Name of the Units	Year of Establishments
1.	M/s. Assam Bengal Fly Wood Factory	1951
2.	M/s. Prahlad Flour and Saw Mill	1955
3.	M/s. Mina Saw Mill	1964
4.	M/s. Oodlabari Saw Mill	1966
5.	M/s. Dosmit veener Industry	1974



Madora WoodCraft Industry
Chalsa, Dt. Jalpaiguri.



Manufacture of Commercial Plywood
of exportable variety,
Madora Wood Craft Industry,
Chalsa, Dt. Jalpaiguri.

The table above shows that the first Saw Mill was established in 1951 in Oodlabari Centre, and within 1974 four more units were added owing to the facilities of obtaining raw materials within the radius of 15 Kilometres. The National Highway No.31 and Metre Gauge railway lines offer facility of movements of finished product to the local as well as outside market. This area enjoys the advantages of electricity from the Jaldhaka Hydel Project controlled by the West Bengal State Electricity Board from Oodlabari sub station. The large spaces within each units prove suitable for dumping the raw materials as well as finished products. Labour has mainly been drawn from the local forest and tea garden area. The sized timbers produced here have been used by the contractors for various constructional work, and Ply wood Factories supply Ply Woods and veneer to the tea companies at Calcutta for export-business.

C. Chalsa Centre. Consisting of 5 units, the Chalsa area offers a suitable location for developing this industry.

Table-65[7]

Name of the units in Chalsa Centre

Name of the Industry	Year of Establishment
M/s. Chalsa Saw Mill	1966
M/s. Timber Trading Works	1970
M/s. Dooars Saw Mill	1974
M/s. Calcutta Ply Wood Co. Ltd.	1977
M/s. Madora Wood Craft Industry	1977

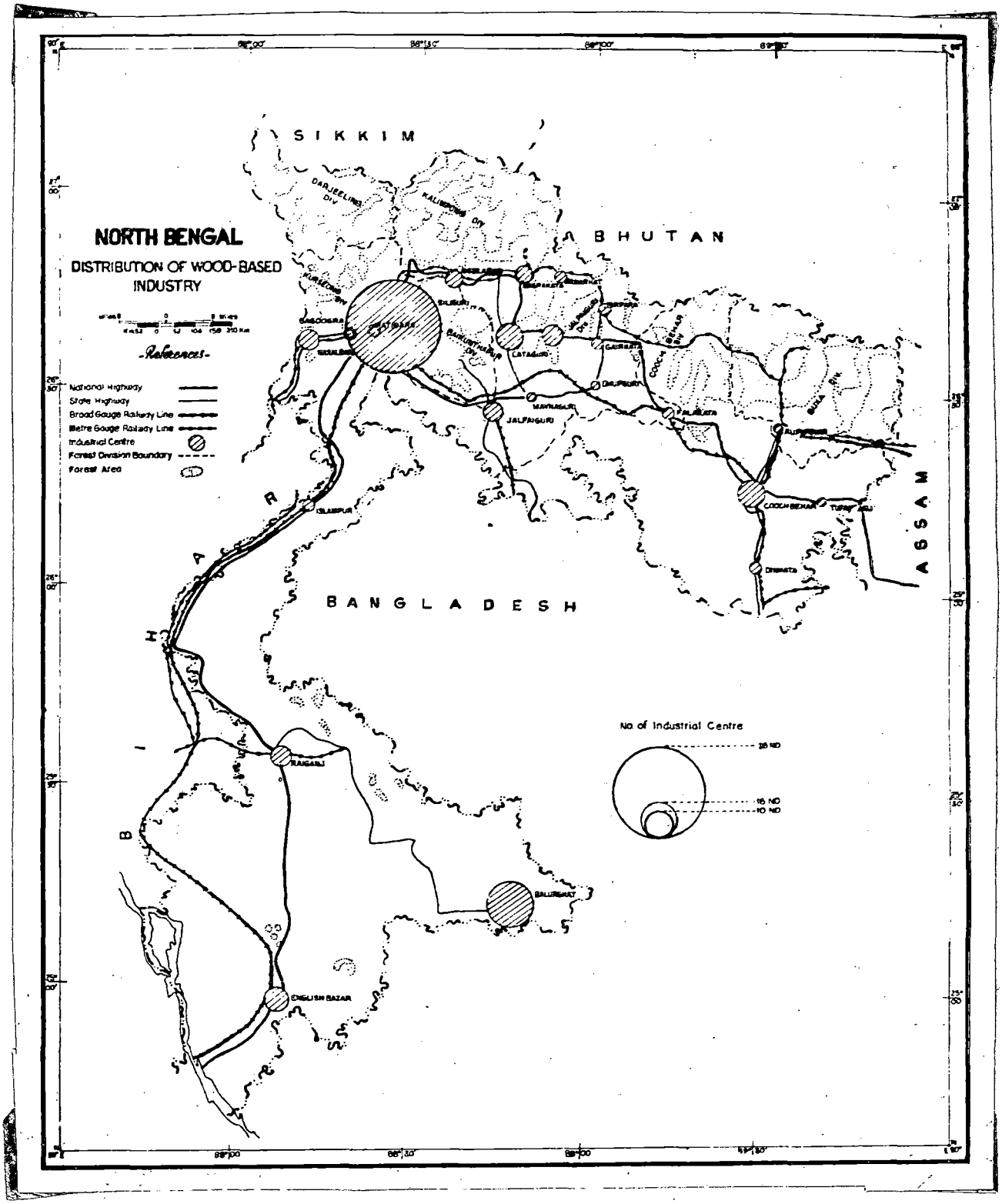

NORTH BENGAL
DISTRIBUTION OF WOOD-BASED INDUSTRY
-References-
National Highway
State Highway
Broad Gauge Railway Line
Metre Gauge Railway Line
Industrial Centre
Forest Division Boundary
Forest Area
SIKKIM
BHUTAN
BANGLADESH
ASSAM
BIHAR
SILIGURI
JALPAIGURI
COOCH BEHAR
ISLAMPUR
RAIGANJ
BALURGHAT
ENGLISH BAZAR
No of Industrial Centre
25 NO
15 NO
10 NO

Fig. 19

The mills at Chalsa started as back as 1966, it increases to five within 1977. The Centre lies within easy access, 5 kilometres radius, of the Jalpaiguri forest division supplys raw materials for the mills. The mills at Chalsa are situated on either side of the National Highway No. 31, offers facility for transporting the products to the market. Jaldhaka Hydel power station supplys the electricity from Chalsa substation. A good number of labour has been recruited from the local villages of forest area and tea gardens. Sawn Wood have been consumed by the local market and tea garden for building construction. Ply Woods and veneers are sent to Calcutta for packing tea. The Madora Wood Craft Industry have started on 1977 with an investment of Rs. 80,00,000 pr duces mainly commercial plywood of exportable quality.

Apart from these centres there are some other clusters of small scale Saw Mills and Ply Wood Factories in different parts namely, Banarhat, Gairkata, Lataguri in Jalpaiguri district, Naxalbari in Darjeeling district, Cooch Behar and Dinhata in Cooch Behar district, Malda Town in Malda district, Balurghat, Islampur and Raiganj in West Dinajpur district. (Fig.19)

Production.

It is highly interesting to note that the data on production for all the existing 114 saw mills operating in the region are not available either with the District Industrial Offices or with the concerns giving loans to many of them. It may be noted here that although all the concerns are registered units many of them do not

seek loans which appears tobe the only occasion when they have to give out their production figures. At the same time they do not seem to have any compulsion for producing their figures on production evey year to any Government agency. Thus it becomes difficult to get a true picture about the production position of this individual industrial units. Again, even where the industrial units are seeking loans, they are obliged to produce only the figure on their current production which may not be an indicator of the actual production for every year. In the absence of such figures one may however make some idea about the production of the industrial units on the basis of the rate of production which is 150 cft. for 8 working hours. This however, is dependent on the availability of power. Presuming that the power supply remains undisturbed, and al the 114 units work 6 days a weak, the total production ammounts to 2,667,600 cft. a year.

It is not possible to ascertain whether the actual production does approximate the figure mentioned above on the countrary the figure of production appears to be on the higher side when it is compared with the average production figure of the 20 saw mills for which data were collected personally from field investigation. According to the available data the total production for these 20 units amounts to 456,388 cft. And on this basis the production for 114 saw mills might amount to 2,652,666 cft, taking an average for the individual means. Thus there is a disparity between the two figures, the average for the 20 surveyed mills giving a total production is lesser than what is expected on the basis of the

actual daily capacity for each mill. The disagreement between the two figures, however, is not tenable inview of the fact that the production of individual mills vary widely between the 20 saw mills which have been investigated personally. Here, the annual production varies generally from 2,000 cft. to 50,000 cft., dropping to a minimum of 58 cft. in one case such variation is due to many factors and it is concievable that similar variation in production is also expected in the case of the remaining saw mills. As a result of the variable conditions governing the production of the saw mills their annual output for the region as a whole is expecte to the limit of 2,667,600 cft. a year (average working working days 6 months).

There are altogether 14 plywood factories in the region and as mentioned earlier distributed all over the region they function throughout the year. The different constraints are responsible for the variable production and this is largely manifest in the total annual production of them.

Table - 66[8]

Production of Plywood in North Bengal
(in sq. mts.)

Name of the Central Excise Division	1975-76	1976-77	1977-78 upto October
Cooch Behar	168,497	179,748	109,866
Jalpaiguri	470,533	425,768	332,901.81
Siliguri	701,506	978,296	889,010

Table no. 66 shows the total production of plywood for 3 financial year for the region of North Bengal. The over all picture is not very encouraging inview of the fact that the production is far from steady between the years 1975-76 to 1977-78. The figures are shown for the 3 divisions and in none of them the production shows a steady increase. The figures for 1977-78 however, donot give a complete picture, yet it is not expected that in the remaining 2 months the production will be such as to exceed the previous year's records. Thus the decline in total production in each of the division is very clear.

Utilisation of By-Products.

The saw dust and waste timber are the by-products of both saw mills and ply wood units. They are either used as fuel for generating steam-power for heating the dry chamber in ply wood factories, or consumed by the local market for domestic fuel. They may be utilised for the production of paper pulp, straw boards and paper boards.

Problems.

The wood based industry in North Bengal faces various problems; which may be ascertained from the following discussion.

1. Timber, the raw material for the industry have been distributed through lease of forest, which is done through the practice of Auction by the Governemtnt Forest Working Plan Division. The small-size saw mill units cannot complete with the big timber merchants and as a result the production capacity of

the units suffer greatly. This can be minimised by changing present practice.

2. The saw mills and ply wood factories of North Bengal are frequently suffering from insufficient supply of electricity. Regular supply of electricity in the industrial sector may help the industry.

3. The wood based industries of NorthBengal are in the most cases, small in size and paucity of working capital is the general problem in these sectors. Financial help from Government side may improve the industries.

The Development Plan for Saw Mill and Ply Wood Factories.

In order to improve the industry, the State Government has helped in the shape of productive capital loans among the various units, through several agencies. The West Bengal Financial corporation is playing an important role from 1972, which may be found in the following table.

Table-67[10]

Assistance of capital for Saw Mills and Ply Wood Factories by the West Bengal Financial Corporation

Year	No. of Saw Mills	No. of Ply Wood factories	Amount disbursed (in Lack Rs)	Employment
1972	-	1	3.49	59
1973	2	-	1.35	21
1974	2	-	2.85	27
1975	3	3	75.49	437
Total	7	4	83.18	539

Table no. 67 shows the financial benefit offered by the West Bengal Financial Corporation for 4 financial year in North Bengal. It is very encouraging inview of the fact that the number of units, amount of Capital and employment are steadily increasing between 1972-75.

Side by side Nationalised Banks : the United Bank of India, the Central Bank of India are helping with a liberal hand to promote the Wood based industries. If these schemes become fruitful in the long run, that will help increasing more employment apportunities as well as bringing an economic stability in North Bengal.

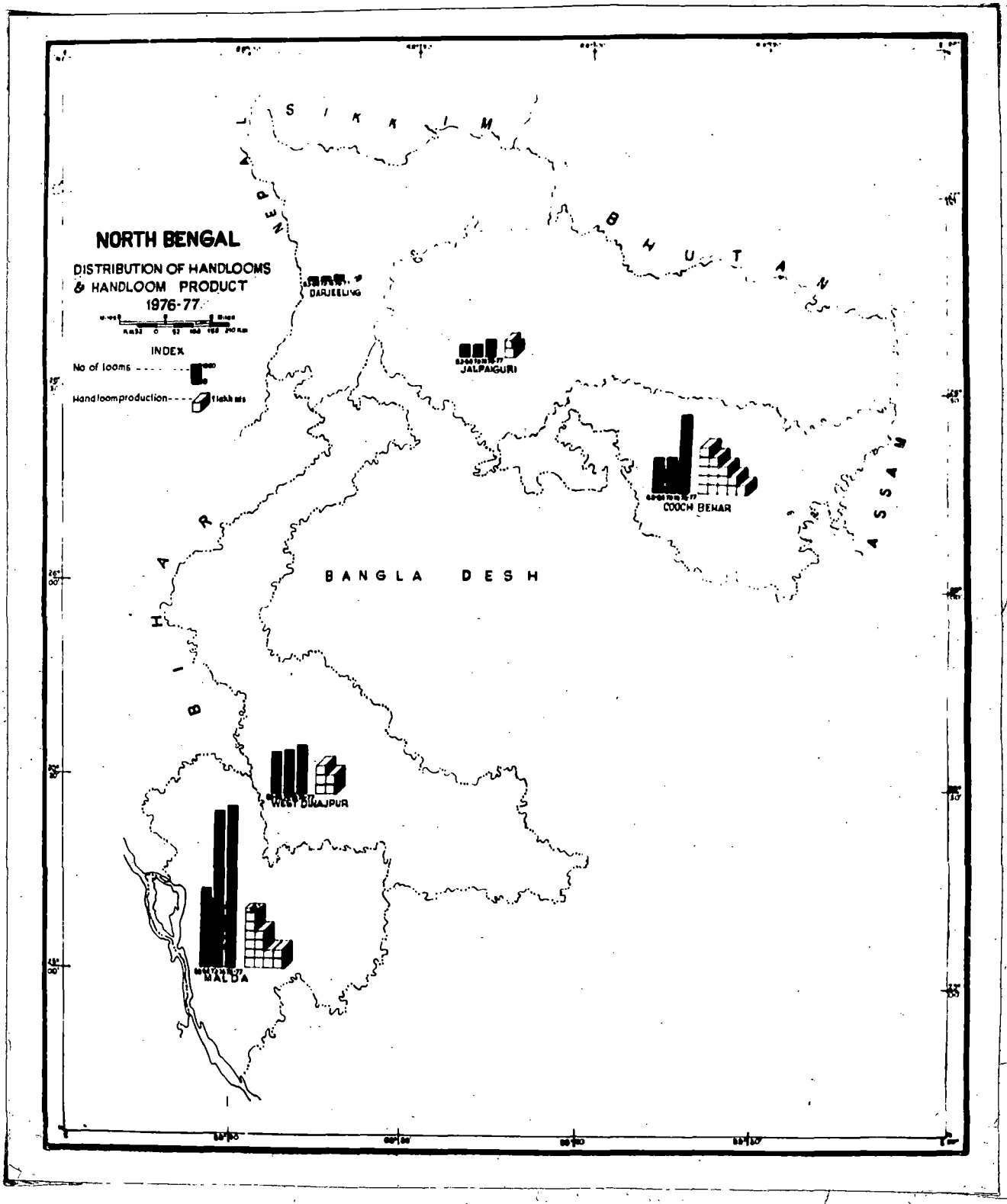

NORTH BENGAL
DISTRIBUTION OF HANDLOOMS
& HANDLOOM PRODUCT
1976-77
INDEX
No of looms
Handloom production
SIKKIM
NEPAL
BHUTAN
ASSAM
BIHAR
BANGLA DESH
DARJEELING
JALPAIGURI
COOCH BEHAR
WEST DINAJPUR
MALDA

Fig. 20

Chapter VII

Handloom Industry

Reference to the practice of Handloom weaving in North Bengal had been started since 1686, in the districts of Cooch Behar Malda and West Dinajpur. During that time the Weavers of Mechliganj Sub-division in Cooch Behar district made clothes of coarse quality out of jute string to use as secreens and bed-sheets etc. Cotton production Weaving and handloom business was preyelent at that time, on the left bank of the River Atrai in the them, undivided Dinajpur district (West Dinajpur)[1,2]

Thus from early times handloom became a traditional industry in the history of development of industrial geography in North Bengal. The present study therefore,deals with the trend of growth, locational factors, size groups and ultimately to find out some of its problems and remedial measures which will help in strengthening regional economy.

The growth Trend of the Industry from 1960

In understanding the growth of this industry it is necessary to find out the development of the number of looms and the volume of production. The table 68, therefore, has been given below .(Fig.20)

Table-68[3,4]

Growth of Handlooms and Handloom Products in North Bengal

Year	Total No. of looms	Decade variation of looms	Percentage decade variation	Total production (in lakh mts.)	Decade variation in production	Percentage decade variation
1963-64	9,330			10.31		
1976-77	17,210	+7880	+84.67	36.49	+26.18	+253.95

The growth rate of the Handloom Industry has been shown in the above table. It is interesting to note that the number of looms increased at the rate of 84.67 percent while the productions speeded up at 253.95 percent, indicates a steady progress.

Again in order to find out the growth of regional variation of the industry, a district wise distribution may be given :

Table-69[3,4]

Growth of Handlooms and handloom products by districts

Name of the district	1963 - 64		1976 - 77		Rank in position 1963-64		Rank in position 1976-77	
	No. of looms	Production (in lakh mts.)	No. of looms	Production (in lakh mts)	No. of looms	Production	No. of looms	Production
Cooch Behar	1,878	2.07	4,308	15.03	3	3	2	1
Darjeeling	151	0.17	272	0.31	5	5	5	5
Jalpaiguri	665	0.75	992	1.74	4	4	4	4
Malda	4,352	4.80	8,963	14,40	1	1	1	2
West Dinajpur	2,284	2.52	2,675	5,01	2	2	3	3

It is interesting to note that Malda with 46.64 percent of the total handlooms ranking first, where as West Dinajpur, possesing 24.48 percent of the total handlooms stands 2nd, in the same respect, Cooch Beharcomes third with 20.9 percent followed by Jalpaiguri and Darjeeling with

7.10 and 1.61 percent respectively. Thus in three districts rank in volume of production closely followed by rank in number of looms. The slight departure from this rule in the case of Malda is due to unfavourable market which being more favourable in Cooch Behar gives a higher rank in production.

The reason behind this growth of handloom industry is quite interesting. The riot between Hindus and Muslims in 1950 had brought a large number of Hindu weavers from East Pakistan (Bangla Desh) to the North Bengal's districts of Cooch Behar, Malda and West Dinajpur, resulting a heavy economic pressure. The entire economic balance has been disturbed due to heavy pressure of population and the limited scope for source of living within the region. In order to remove these difficulties a quick measure had to be adoptedin notime and the main stress was given to the development of small scale and cottage Industry.

Hence, since 1960 the Handloom Industry became popular in North Bengal. Apart from their domestic consumption, the handloom products find their market in Assam. Thus the industry has developed rapidly in different districts of North Bengal, specially in the traditional weaving sectors of Cooch Behar, Malda and West Dinajpur. Handloom Industries have mainly been existed here employment oriented and market oriented as well.

Locational Analysis of the Handlo m Industry.

In studying the locational analysis of handloom units in North Bengal it is necessary to make out the factors taking an

important role for their functions.

Industrial Infrastructure.

(a) Raw material. The main raw material for the handloom industry is the cotton yarn. The supply of yarn has been obtained from calcutta through middle men. The weavers still depend on the Mahajans or middle men for finance. The middlemen dictate terms of disposal of the finished products to the weavers, who sell them to the Mahajans at a low profit margin. The monthly requirements of yarn in different districts are as follows :

Table-70[5]

Monthly requirements of yarn by districts

1973 - 74

Name of the district	Amount of yarn (in Kg.)	Percentage of the total
Cooch Behar	74709	22.28
Darjeeling	613	.84
Jalpaiguri	12105	3.71
Malda	198025	60.73
West Dinajpur	40614	12.44
Total	426066	100

A regional variation of the monthly requirement of the five districts of North Bengal has been tabutaled. It is evident from the table that Malda with 60.73 percent of the total requirements ranking first, while Cooch Behar sharing 22.28 percent stands second followed by West Dinajpur with 12.44 percent, Jalpaiguri with 3.71 percent and Darjeeling with 84 percent. In 1973 the West Bengal Government have established the West Bengal Handloom and Powerloom Development Corporation to develop the industry, under which 5 centres at Gangarampur in West Dinajpur district and one centre at Cooch Behar have been set up to distribute the raw materials among the weavers at a cheaper rate.

(b) Labour. For its various types of works, the industry requires a large number of labour which can easily be available in a predominately agricultural economy with ever increasing population in North Bengal. The table No.50 in the chapter VI, showing the growth rate of unemployed persons, proves that labour being never a problem for developing this industry.

(c) Market. The handloom units in North Bengal can find their market in Assam and Bihar apart from their home market. With the growth of population the demand for clothes have been increasing day by day within the region (Table 32 in Chapter III).

The average daily transaction of handloom products in the local market centres in differrnt districts of North Bengal may be given in the following table.

Table -71[5]

List of Local Market-Centres for Handloom Products in North Bengal by districts 1973-74.

Name of the district (1)	Name of the market centre (2)	Type of the market centre (3)	Item of product (4)	Daily average transaction (1,000 s.) (5)
Cooch Behar	1. Baburhat	Weekly	Dhoti, Sari Napkin, and Yarn	N.A.
	2. Dinhata	bi-Weekly	- do -	N.A.
	3. Bhabaniganj bazar	Daily	- do -	N.A.
Jalpaiguri	4. Barobasa	N.A.	Sari and Napkin	N.A.
Malda	5. Harishchandra-pur	bi-Weekly	Sri, Lungi,	20,000
	6. Tulshitala	Weekly	- do -	20,000
	7. Kushida	Weekly	- do -	24,000
	8. Kumedpur	Weekly	- do -	20,000
	9. Mehahat	Weekly	- do -	20,000
	10. Gosanihat	Weekly	Sari and yarn	25,000
	11. Chanchal	Weekly	Sari, Lungi Napkin and Yarn	25,000
	12. Aiho	Weekly	Course Sari	20,000
	13. Bulbulchandi	Weekly	Sari, Napkin	20,000
	14. Pakurhat	Weekly	Sari, Napkin Yarn	24,000
	15. Gozole	Weekly	- do -	25,000

(1)	(2)	(3)	(4)	(5)
	16. Dighirhat	Weekly	-do-	25,000
	17. Ratanpur	Weekly	Sari, Yarn	30,000
	18. Balupur	Weekly	Coarse Sari, Napkin	20,000
	19. Nawabganj	bi-Weekly	-do-	20,000
	20. English-bazar	bi-Weekly	Sari, Napkin	25,000
	21. Mathurapur	Weekly	Sari, Yarn	20,000
	22. Kaniaganj	bi-Weekly	Sari, Yarn	50,000
West Dinajpur	23. Rasakhawa	Weekly	Dhoti, Sari Yarn	30,000
	24. Bilaspur	bi-Weekly	-do-	40,000
	25. Patiraj	Weekly	-do-	40,000
	26. Panimala	Weekly	-do-	30,000
	27. Bandar	bi-Weekly	-do-	25,000
	28. Jitka	Weekly	Sari, Lungi Yarn	30,000
	29. Maharaj	Weekly	-do-	25,000
	30. Mohiniganj	Weekly	Sari, Dhoti Napkin, Yarn	30,000
	31. Durgapur	Weekly	Sari, Lungi, Yarn	25,000
	32. Bara Duari	Weekly	Sari, Yarn	25,000
	33. Kamarhat	Weekly	Sari, Napkin	20,000
	34. Dankail	Weekly	Sari, Yarn	25,000
	35. Saraihat	Weekly	Sari, Lungi, Yarn	25,000

(1)	(2)	(3)	(4)	(5)
	36. Thaniadpur	Weekly	Sari,Lungi, Yarn	25,000
	37. Bishnupur	Weekly	-do-	30,000
	38. Kamalabari	Weekly	-do-	25,000
	39. Harirampur	Weekly	Sari,Lungi, Yarn	30,000
	40. Gangarampur	Weekly	-do-	30,000

Note : N.A. not available.

A total number of 40 local market centres are functioning in the transaction of handloom product covering the 4 districts namely, Cooch Behar, Jalpaiguri, Malda and West Dinajpur. Among them 18 centres are in the district of West-Dinajpur, while the share for Malda is also 18 in number, Cooch Behar has 3 and Jalpaiguri 1. With the exception of Dinhata, in Cooch Behar district, Harishchandrapur, Nawabganj, Englishbazar and Kaliaganj in Malda District Bilaspur and Jitka in West Dinajpur district, all the market centres are weekly. The item of products transacted are mainly Sari, Dhoti, Napkin, Lungi and Yarn.

The amount of daily average transaction of the 36 market centres varies in view of the volume of products, daily attendence and locational advantages. The table 72, therefore, shows the catogorical classification of the market centres.

Table - 72

Categorical classification of Handloom Market Centres in North Bengal

Name of the district	Rs.20,000	Rs.24,000	Rs.25,000	Rs.30,000	Rs.40,000	Rs.50,000	Total
Cooch Behar	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Jalpaiguri	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Malda	9	2	5	1	1	1	18
West Dinajpur	1	N.A.	8	7	2	N.A.	18
Total	10	2	13	8	2	1	36

Note : N.A. not available

From the table it is found that out of the total number of 36 market centres 13 are under the category of Rs. 25,000 with 36.11 percent of the total, while the share for Rs.20,000 category is 27.77 percent, ranking second followed by the category of Rs. 30,000 with 22.22 percent, the category of Rs. 24,000 and Rs. 40,000 having the same share with 5.55 percent each and for the category of Rs. 50,000 has only one centre bearing 2.80 percent of the total.

Number of Handloom Units within the Area

With a view to find out the total number of Handloom units in North Bengal, a district-wise distribution is given below :

Table - 73[5]

Number of Handloom units in North Bengal by districts (According to the statistics 1973-74)

Name of the District	No. of Units	Percentage of the total Number
Cooch Behar	4,695	14.03
Darjeeling	378	1.23
Jalpaiguri	1,663	5.05
Malda	21,328	62.70
West Dinajpur	5,710	17.07
Total	337,774	100.00

A district-wise distribution of the number of Handloom units reveals that maximum concentration has taken place in the district of Malda with 62.70 percent while West Dinajpur ranks second sharing 17.07 percent followed by Cooch Behar, Jalpaiguri and Darjeeling with 14.03, 5.05, and 1.23 percent respectively.

The reasons for large number of units in the districts of Cooch Behar, Malda and West Dinajpur are due to a huge number

of migrated people from East Pakistan (Bangladesh) and, perhaps a big portion of them came from weaving sector, because there is a strong base of this industry from early times. The table below will show the immigration of population in North Bengal.

Table-74[6]

Population migration from East Pakisthan to North Bengal by districts - 1961

Name of the district	Total Population	Total Migrants	Percentage of migrants to total population
Cooch Behar	426,111	252,753	59.31
Darjeeling	238,040	23,947	10.06
Jalpaiguri	627,960	218,331	34.76
Malda	355,288	64,454	18,14
West Dinajpur	492,495	172,237	34,97

The percentage of emigrants in different districts have revealed that Cooch Behar sharges the maximum with 59.31 percent of the total population, while West Dinajpur ranks second with 34.97 percent followed by Jalpaiguri with 34.76 percent, Malda with 18.14 percent and Darjeeling with 10.06 percent.

Capital Structure : The collection of accurate data relating to the invested capital in the case of Cottage and Small-Scale Industries is beset with difficulties. In the present survey an attempt has been made to obtain the average value of productive capital invested per unit was obtained from the owners of each sample establishment.

The estimated original cost of fixed assets in respect of 30 sample establishments covering the 5 districts is Rs.403,200. This amount is exclusive of the cost of rented land and buildings, and leaves out those establishments for which information is not available. In most cases buildings in which the establishments are situated are used for residential purposes also. Assets were calculated in respect of that portion of the building which is used for the industry.

Number of workers employed :

Obviously, there are serious difficulties in counting workers in handloom industry. Because a great majority of the weavers work for a wage under a Master-weaver, Mahajan and co-operative. The condition of industry is, however, still unorganised, most of the weavers still working in their own homes, and there is no facility for collecting periodical returns as in he case of mills.

Assuming that each weaver has to support besides himself 3 persons on an average. The total employment, therefore, in North Bengal can be calculated in the following table.

Table-75[4]

Number of workers engaged in Handloom Industry by districts

Name of the district	Total no. of	Total no. of workers (multiplied by 3 persons with total weavers)
Cooch Behar	11,703	35,109
Darjeeling	1,414	4,242
Jalpaiguri	2,745	8,235
Malda	8,963	26,889
West Dinajpur	2,446	7,338
Total	27,291	81,808

A district-wise distribution of workers employed in handloom industry shows that Cooch-Behar comes first with 42.78 percent of the total worker while Malda ranks second having 31.64 percent folbwed by Jalpaiguri with 10 percent, West Dinajpur with 9.50 percent and Darjeeling with 5.18 percent.

Organisation. The organisational structure of the handloom industry may be classified in the following heads.

Independent-weavers. Are those who own their organisation with the help of family members. The owner himself purchases the raw

materials, under-takes production function and markets the product in the local market, or sells it directly to the cloth merchants or dealers. The necessary finances may be provided by him out of his own resources or by borrowing. He is completely free to organise his production in such a way as to maximise his frofits without the intervention of any outside agency.

Master Weavers. are more or less akin to independent weavers in many respects, exception is that outside establishment. The master himself and his family members may work but the master weavers can be distinguished. The first type exercises ownership right over the employment. The second types do not have any production unit, they just supply raw materials to the out workers and receive the finished products. The second category of master-weavers cannot strictly be called as weavers since they no longer engaged themselves in production. They have now given up the practice of weaving in order to concentrate on trading in yarn and cloth, though they belong to the traditional community of weavers.

Co-operative Society. The co-operative society may either undertake centralised production or as with the second category of Master-weavers, advance yarn to the members who work in their own households, and receive the finished product from them. The table helpw will show the total number of Co-operative societies in North Bengal.

Table - 76[4]

Number of Handloom Co-operative Societies in North Bengal by districts

Name of the districts	No. of Co-operative Societies	No. of Active Society
Cooch Behar	36	18
Darjeeling	6	2
Jalpaiguri	29	5
Malda	60	16
West Dinajpur	21	8
Total	142	49

There are altogether 142 number of handloom co-operative societies have been establishing in 5 districts of North Bengal but only 34.5 percent of the total are in active, revealing a discuraging activities of the co-operatives.

Cost of Production of Handloom Cloth.

Any proper cost accounting of handloom cloth is a very difficult undertaking as the industry is not organised, and the bulk of the weavers hardly keep any account. However, the cost of material namely ℔ yarn varies from 50 to 80 percent, while the cost of labour varies from 15 to 23 percent, depending upon the fabric woven Yarn is, however, by far the largest factor entering into the cost of production.

Problem of the Handloom Industry.

The handloom units have to face a number of problems, which are given as follows :

(a) Marketing Problem. The handloom weaver is considerably handicapped in the abscence of a proper and well organised market for the sale of his cloth. He is generally at the mercy of the cloth dealers who charges him a substantial commssion for retailing the cloth, the prices of handloom products. Thus fixed by the cloth market, not by the weavers or the producers, and the pace of these prices is set to a large extent by the prices of mill made piece goods. The organisation of the handloom clothes for the sale are very unfavourable in comparison with the mill-made clothes, who are very well organised. The principal problem for the handloom weavers is the reduction of marketing cost. Another drawback of the handloom product is the lack of standard product which is necessary for interprovincial competative market.

(b) Lack of Funds. As discussed before there are three types of organisation, namely, Independent weavers, Master-weavers and Co-operative societies. A large percentage of workers work for the master-weavers and also depend on them for finance. Most of the small working for master-weavers suffer suffer from lack of organisation. Since they work for middleman, and since their bargaining power is weak, a very narrow margin of profit is left for them. Hence there is little scope for improvement. Handloom weavers use

mill made yarn, the prices of which increases day by day as a result the poor weavers cannot hold back the stock for want of sufficient fund, he has to purchase yarn either from the retail dealer or get the yarn and return the finished product to him and receive a wage for the work done.

Master, weavers are, therefore, the main source of finance. The Independent weavers who are not directly working for them, also come under their clutches when they go to them, as they have to for loans. In some cases yarn is advanced to the weaver and the finished product is returned to the master-weavers. In such transaction the bargain is always unfavourable to the weaver. Sufficient amount of financial assistance is therefore, necessary for the small weavers.

(c) In efficient Method of Production. So far the demand for the product is largely local, but there is scope for its expansion, provided the products are modified to suit the varying nature of demand in outside districts. The weaver with his inadquate resources and traditional skill are not willing to take up the responsibility of producing distant market.

Development plan for the Industry : In spite of the distress condition of handloom weavers, this is a major industry in North Bengal, because :

(1) It engaged a huze number of population in CoochBehar Malda and West Dinajpur district.

(2) It can produce a specialised kind of production for earning foreign exchange.

(3) It can also cater to meet the local middle class demand.

Government have initiated several steps to revitalise these traditional industry.

(a) Training Centre - To improve the quality of products raining cum production centres have been set up by the Directorate of Handloom Industry in the Districts of Malda and Cooch Behar. The Centre at Malda was established in 1958 at English Bazar with 50 trainees with a monthly stippend Rs. 75 to each. The training centre at Cooch Behar was started in 1976 with 12 trainees.

(b) Working capital loan - Insufficient supply of working capital is one of the major problems for the handloom units. The government have sanctioned to the weavers Co-operative society Under this scheme Rs. 224,000 has been sanctioned between 1970-71 to 1976-77 in the district of Cooch Behar, Rs. 173,750 was disbursed between 1965-66 to 1974-75 in the district of Malda and Rs. 31,000 has been assisted in the District of West Dinajpur in 1973-74.

(c) Improved Appliances - In order to increase the production of the handloom goods and to meet the diversified taste of the demand as well, improved appliances are necessary to compete with the mill-made product. Loans and grants are disbursed for these purposes.

Table-77[9]

Assistance of capital for Improved Appliances

Name of the district	Year	Amount disbursed (in Rs.)
Cooch Behar	1971-72 to 1976-77	8,603
Malda	1965-66 to 1974-75	57,428
West Dinajpur	1973-74	14,080

Apart from the above financial aids, share capital loan has been distributed to the weavers' Co-operative society, and Rs. 118,000 has been disbursed in 1977-78 in Cooch Behar district, while Rs. 20,995 has been financed in Malda district between 1965-66 to 1974-75 under this scheme.

Handloom is an improtant small scale industry. On its welfare depends the prosperity of a large population of skilled workers in this region. If a fair chance is given, it can hold its own against mill. Increased supply of yarn direct to the weavers by the mills at cheaper rate, the evolution of a dependable and efficient organisation for its finished goods, publicity for making the better quality of handloom clothes, by reducing the dependence of the industry on a host of middlemen and furnishing new designs, the industry, therefore, can be survived which ultimately will help in making balanced regional economy.

Chapter VIII

Conclusion

A detailed analysis of the industrial character brings out the fact that the industries functioning in North Bengal are mainly at the small scale and cottage level. The major industries belonging to these two categories are Saw Mill and Ply Wood Factories, Handloom Industry, Bakery, Rice Mill and Silk - Reeling. Though the industries are small in size, a degree of specialisation has already emerged in some areas such as the Silk - Weaving, Ply - Wood etc.

From the economic point of view, however, the industries play a negligeble role employing about 4.2 percent of the total working population (274,878) in the region. In spite of that in a region where agriculture is the main source of economy and the scope for large scale industry is limited, the small scale industry is the only field fillip providing to the ever growing unemployment problem. Apart from having particular specialisation, the industries basically depending an the local areas for their raw materials subsist on the demand of the local markets. This is the most important factor for their origin and present development in a region where small purchasing power of the rural population as well as their typical needs can not served by any other means.

Major Constraints

The industries, however, function against a large number

obstacles. Among the major constraints that are faced by small scale and cottage industries in North Bengal are as follows :

1. Marketing Problem. It is observed that the small scale and cottage industries usually enjoy the local market. But several problems are encountered in marketing the products acting as great hindrance to their activities. They are : (a) The practice of credit sale; (b) sale through the intermediaries; and (c) competition with the large scale industry. These are claborate further below :

(a) The Practice of Credit Sale.

Most of the units under survey are reported to sell their products on credit. The volume of credit gradually increases in such a way that in many cases particular industrial units come under great strain in meeting even their basic requirements leading sometimes to heavy losses. This along with other factors, make it impossible for most of the units either to devote themselves entirely to production activities or to find out an alternative market, the latter often demanding improved quality of the products. The small scale units with their limited capital resources can not take the riskof any competition and all these factors combine to keep many of the units partly idle through out the year.

(b) Sale through Intermediaries.

Generally the prices of the small scale and cottage

industries production are predetermined by the intermediaries before the production starts. This is possible because in general the financial support or the supply of the raw materials and similar assistance are provided by intermediaries. Obviously, therefore, they excercise a severe control on pricing the articles and a large amount of the share of the profit also goes to them, thus keeping the small scale units almost in poverty.

(c) Competition with the large - Scale Industry.

The products of the large scale units are backed by elaborate sales promotion schemes, such as publicity, advertisement, slides in Cinema Halls press and posters etc. The small scale and cottage units, on the other hand, neither have the resource nor the know ledge to take these methods. Moreover, the former have patent, widly publicised brands for which their products can easily find a market without much effort, where as in the case of the small scale industry the persuasive capacity of the dealers is the only means for making profitable sales. The dealer's commission, therefor , is relatively higher which the small scale units are obliged to pay. This practice greatly discourages the competative ablity of the small scale producers.

2. Indubtedness.

Most of the small scale and cottage industrial units have to struggle for their existence which make them deeply

indebted to the dealers, the money lenders or the intermediaries. During the survey of the several units it was observed that, the money lenders and intermediaries are the main sources for providing finance tothem. It was further noted that the rate of interests for such loans is extremely high. The reasons which compel them to borrow money from these unauthorised sources are the absence of any assured source of finance for from others sources or organisational institutes. Obcourse, the Government takes an active role in financing some units through the Directorate of Small Scale and Cottage Industrial office, Block Development Office, Naticnalised Banks etc., but on the whole this is far from adequate. Besides, proper security is to furnish for securing such loans, specially when it is taken from the Government Agencies or Banks, for whichthese poor small scall and cottage units are neither well-equipped nor they are ready to take the risk. Moreover, the time lag between the request for financial accomodattion and the actual receipt of the same is invariably long usually from Government side, and thus capital can not be obtained when this is badly needed.

3. Procurement of Raw Materials.

It has been gathered during the survey that the small scale and cottage industial units are very obten affected by the insufficient supply of raw materials of required specification, the high rate, difficulties in transportation and the like.

For this instance as it was noted during the survey,

the soap making units, the candle manufacturing units, the bakeries, the engineering industries, the oil mills, the rice mills etc. generally suffer from the scarcity of the raw materials when they are needed most. Apart from this poor supply of electricity and its fluctuation largely restricts the production activities in the saw mills and ply wood factories which can not work without power.

Inadequate financial resources forthe purchase of raw materials in bulk during season when they are available is one of the important problems faced by the majority industries. In the case of the saw mills and ply wood factories, the raw materials are offered by the government, through an auction system. The small scale units having small resources can not bid with the big merchants at the auctions where only bulk sales are made and as a result they have to purchase the same materials from the latter at a relatively higher price in smallbulk. Inability to make bulk purchases reducing the consumption of the raw material at a time gives rise to a higher production cost.

Transport difficulties put a check on the activities of the handloom industry, mat making, caneworks, pottery making and bee-keeping etc. as observed in the surveyed units which is mainly due to the absence of all weather roads good for neither the automobiles nor for the bullock carts or cycle rickshaws. Other problems experienced in procuring the raw materials are lack of storage facilities, the limited quota or licences issued to the industrial units for raw materials.

4. Organisational Problem.

One of the major factors affecting the progress of the industries is the lack of organisational or managerial expertise. The problems, such as procurement of raw materials, finance, marketing of the products, etc. can be solved by a group of organised units and this may effectively be done on a co-operative bassis. But a very few of the units under survey are the members of the co-operatives, they are less interested about this. The reasons for their reluctance in joining the co-operative are innumerable.

The co-operative societies are generally engaged in procuring the necessary raw materials and finance for individual artisans and market the products, but here the co-operatives have not been able to achieve any degree of success. Further, lack of practical knowledge either about the functions of the co-operatives or the philosophy of the co-operative movement among the secretetaries and the other office-bearers who are seldom have any direct connection with the production activities is another factor responsible for their failure. Besides dishonest practices adopted by some of the members in the society results in the demoralisation of the other members, thus defeating the very ideology and aim of the co-operative movement as a whole. Lastly, there is a problem involving the lack of administrative and organisational capacity among the members. Since they are illiterate the maintanance of accounts and the responsibility of running the administrations are entrusted with the hands of paid secretaries who do not come from the artisans group and hence cannot inspire the

members about the possible gains from a co-operative organisation. As a result, the co-operative movement has failed tomake any measurable impact on the rural areas so far.

5. Lack of Technical Skill.

There is the problem of the lack of necessary awareness about the need for technical training as well as the realisation of the benefit therefore. The importance of providing easy facilities for training the artisan class so as to impart knowledge about the modern techniques is not fully realised. The need for making improvements in the quality of their products and the productivity is understood by almost all the units, however, a majority of them hardly believe that this is possible through technical training, they rather feel proud about there traditional knowledge and remain satisfied at that.

Remedial Measures

1. Financial Assistance.

One of the major constraint being capital, as has been observed earlier, it is strongly felt that a lot of improvement is possible in the field of small and cottage industries provided that they get financial assistance on easy terms and in adequate amount. At present there are different institutions such as. The Nationalised Banks, the Commercial Banks, the Co-operative Banks, the State Financial Corporation which offer loans to industrial units for the execution of their development plans. There is another

institution namely Khadi village Industries Commission which gives financial aids on account of capital expenditure.

It appears that apparently there is enough scope for getting financial assistance though, infact, a scrutiny of the situation will reveal that there are certain limitations for the industrial units to make use of such loans. For instance, the loans are given only to the registered units and that also on the basis of report submitted by the officer deputed by the concern who needs to be satisfied by the loanee on various grounds. As a matter of fact the grounds on which the loans are sanctioned and issued are mostly beyond the capacity of these small units to meet. The grounds normally are as follows : (a) the loanee is required to show an asset either in the form of land or bank fixed deposit to the value of Rs. 5,000; (b) the loanee is under obligation to mortgage his land when he does not have the fixed deposit; (c) he is further required to produce a guarantor against the loan prayed for . Allthese conditions become too difficult for many of the small units to meet, thereby reducing the chances of obtaining any loan. As a result many of the registered units are not in a position to derive the benefit of such schemes. In this connection the name of industries particularly suffering from these difficulties are worth mentioning. They are : Pottery making, Leather work, Mat-making, Cane-work, Chemical industries etc. The nature of the industries mentioned above will indicate the actual reasons for this. There is a general reluctance on the part of these industrial units to part with their land in

mortgage, if they have any, because of their illiteracy, making them afraid of getting it back. Besides in most of the cases the units are too small to have any property of their own, or bank deposits or to find out a guarantor as security against the loan. All these factors work togethe to make them deprived off the financial assistance available from different quarters.

Further, to be a loanee every unit has to be registered with the government. This is not an easy process with many of them wher also ignorance born of illiteracy is one of the major reasons.

The entire process in practice to day does not appear to a sound one meant for real improvement of the industrial situation in the region. The presence of a communication gap between the loan of ering institutes and loan loanee is proving to be the most important constraint. The fact should not be lost sight of that one is dealing with very small industrial units mostly functioning from their home bases and they are completely ignorant of many aspects of benefits that may accrue from the utilisation of a larger investment. To make them understand the actual perspective of these schemes needs to be taken up more seriously by the relevant quarters. This needs greater publicity on the one hand, while on the other the existing terms and conditions attached with these schemes also ne d to be revised for making them more acceptable. For instance easier terms are likely to make the loan schemes more attractive for the poor units and a greater distribution will definitely act as a booster for more work and larger production.

The existing practice of credit sales on the part of most of the industrial units is largely due to presence of another factor which makes the manufacturer sometimes partly idle as he does not receive the proceeds in time from the buyer. These vicious practice should be done away with immediately steps for which are discussed in the following paragraphs.

2. Marketing Facilities.

The over all impression gathered from the survey of the industries is that the manufacturers largely suffer in the absence of a good and dependable market for their products. Though a considerable amount of these products find a ready sale in the rural market centres where the manufacturer himself takes the responsibility of selling his product a large part has tobe sold through other agents. Such agents are mainly represent the wholesalers going from area to area for the collection of these goods. A major part of such sales to the whole salers through their agents are done mainly on a credit basis, and as mentioned above this is proving to be a harmful practice for the producer since he can not force the buyer for ready payment. As a resutl the manufacturer often runs short of capital for further investment in his industrial persuits. In fact, the very continuation of the work is thus heavily interrupted from time to time, keeping him idele.

From all accounts it is strongly felt that the existing marketing system has got to be changed drastically not only for making further improvement of the industrial situation, but at the same time for providing him an appertunity to keepthe production

uninterrupted. Co-operatives formed through the initiative of the government officials involving the producers in different fields of the industry will prove tobe great beneficial.

Apart from the co-operatives the initiative for providing better market for these products should come from the different established organisation which have been set up by the government with the primary view enliven the rural industries. Such organisations are : Rehabilitation Industries corporation Ltd., Tantuja, Khadi Board and Handicraft Board which have already acquired much experience in the collection and sales of various types of goods available from the rural industries. What is needed to them is to make genuine efforts at revitalising these industries functioning in the region which, in many cases so far, have rather been neglected. It is not expected however, that the agents need be sent to every village for the collection of the industrial products, instead they can make an elaborate programme of establishing their agents at a number of important centres located mostly in the weekly or biweekly market places or such other semi urban centres for the collection of goods from their immediate surroundings. A proper publicity of such a programme will definitely attract the manufacturers. At the same time it should be take a note of that the pricing of the village products should be made in such a way that they do not have to face competition from large scale industries.

Besides similar steps for publicising the quality as well as ~~peculiarity~~ the speciality of these products would make them more marketable. As a matter of fact there are quite a number of products which already enjoy national as well as international market. Semi processed fruits, silk, cotton fabrics, tobacco, leather etc. are only a few of such items which are sent abroad. It is clearly painful to notice that the semi processed fruits collected by Bombay merchants for exporting mainly to European markets under their own label. This also happens in the case of tobacco which after being processed in Madras goes to the foreign market its own name. Inspit of the fact that the existing plants have the capacity to process it locally

An easy and dependable market will make the industries more stable then they are today. Initiatives haye to be taken by the government for ~~making~~ providing the market and for this purpose the local fares held regularly at many of the places of the region may also come greatly to the aid of these industries. They will provide an opportunity for wide scale publicity of these products among the general public who are still concious even about their existence.

3, Supply of Raw Materials.

One of the major handicaps for many of these industries is the unsteady supply of raw materials. As has been observed earlier many of the industries work on the basis of a quota of particular raw material fixed by the government. Since the view of the industries concerned are not taken into consideration for making allocation of raw materials it is found that the industries in

most of the cases do not get an adequate amount. At the same time the supply of the quota is also not steady for various reasons. This naturally restricts production, causing immense harships to the industries.

Better provision for the supply of raw materials, not usually available without permit from the government, should be made keeping in view the actual requirements of each unit. There are certain manufacturers like different concerns engaged in repairing works who require steel and such other materials for which they have to depend on major suppliers like TISCO etc. The supply of such raw materials is often interrupted due to various reasons beyond the control of the manufacturers of the region . Besides the exhorbitant cost on transportation is another handicap on the part of the manufacturer to keep his production steady. This has to be solved through the initiative of the government in such a way that the manufacturer enjoys some sort of relief for meeting the transport cost as well as getting an easy supply of the raw materials. The industrial concerns engaged in the production of wood based materials should also be given the opportunity of getting their raw materials on easier terms instead of going into competetion with bulk purchasers in an auction system. This is not very difficult since the Forest Department can easily keep a seperate quota for the small buyers, priced at the minimum level, coming within the capacity of the latter. As has been mentioned above transport seems tobe one of the major problems with these small manufacturers. While in many cases there is absolute

scarcity of transport, whether in the road and in the railways, the cost is often much higher for them tobe met individuals distribution of the raw materials through B.D.O. or such organisations functioning at the Government level may come/to the useful aid of the manufacturers and thus may solv/ing the problem of supply in all its aspects on a permanent places.

4. Organisational Set-up.

In general the industrial units being very small in size have not been able to build up any organisation to work under its protection. Attempts at the formation of co-operative societies have not found much favour with the industrial units in various fields because of the inherent weakness in the system. The result has been the demoralisation of such units to work on a co-operative basis and/thus keeping them isolated to fight against many odds. Fresh attempts on the part of the Government should be made tobring them under the co-operative system or any other type of organisation so that at the times of crisis they can unit their forces for joint operation. It is strongly felt during the survey that isolation and complete separation fromthe main stream of economic forces make them weak as competitors in a growing market. Organisational strength is needed to take them out of this isolation.

5. Technical Skill.

By and large the industries ofthe region work on the basis of traditional skill and as such they face many difficulties.

A slight improvement in the existing technology may benefit the industry to a large extent and this has already been proved in quite a number of home based industries, sericulture being the most important one. It is true that the workers are generally reluctant for any such improvement in their techniques. But the reluctance is due more to ignorance than actual realisationof the fact. It is strongly felt that technological improvement will change the entire lot of the industry in almost all the fields and for this initiatives should come in a selective manner giving priority to certain industries and the phased programme for a period like 10 years will notbe a long one to impart minimum education for improving the existing level of technology. On this basis the industries working within their own fields willbe in a position to improve the condition substantially.

Appendix I

Definitions.

Police Station.

Popularly known as P.S. isthe smallest administrative unit of the state of West Bengal. A district is generally divided into a number of police stations for administrative purposes.

Sub-division.

The State Government is given the authority to devide a district into sub-divisions for criminal administration and to appoint a sub-divisional Magistrate for each subdivision.

Block.

The block is an administrative unit below the sub-division of a district for organising community development and agricultural programmes. In contrast to other administrative units each block has an area defined by particular size and population. For instance a block generally covers an area of 400 to 500 sq. kms., containing about 60,000 - 70,000 population and including hearly 100 villages. It is a unit more responsible for development than administration of the rural areas.

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