

URBAN DEVELOPMENT DIRECTORATE  
MINISTRY OF WORKS  
GOVT. OF THE PEOPLE'S REPUBLIC OF BANGLADESH

**LAND-USE PLAN & REPORT  
FOR  
ZILA SHAHAR**

**DINAJPUR POURASHAVA**  
IN THE DIVISION OF  
RAJSHAH

JULY 1988

# URBAN LAND-USE PLAN AND FINAL REPORT.



Submitted by :



a Consortium of  
PROKALPA UPADESHTA LTD., TROPICAL CONSULTANTS LTD & MD. ASADUZZAMAN  
& ASSOCIATES.

● Planning ● Engineering ● Surveying and Architecture Consultants

43, Mirpur Road Ground Floor, East Dharmundi Dhaka-2 Bangladesh Phone 50-00 49  
50-87 12

**URBAN LAND-USE PLAN  
AND FINAL REPORT.**



## C O N T E N T S

## P a g e

### C H A P T E R - I

Letter of acceptance and Comments of Pourashava.

1.0	INTRODUCTION	1 - 3
	<u>REPORT OF STUDIES</u>	4 - 40
2.0	<u>REGIONAL DESCRIPTION</u>	
2.1	Regional Setting	4 - 16
2.2	Delineation of Area of Influence	16 - 17
2.3	The Study Plan Area	18 - 19
2.4	Existing Land-use	19 - 25
2.5	Demographic Studies	26 - 32
2.6	Sectoral Studies	32 - 33
2.7	Industry and Commerce Sector	33 - 34
2.8	Social Service Sector	35 - 38
2.9	Transport Sector Studies	39 - 40
2.10	Land Ownership and Land Value	40

### C H A P T E R - II

	<u>CONCEPT FORMULATION AND LAND-USE PROPOSAL</u>	41 - 56
3.0	LAND USE PLAN PROPOSAL	41
3.1	Constraints and Opportunities	41 - 42
3.2	Concept Plan	42 - 44
3.3	Urbanization Strategy	44 - 51
3.4	Identification of the Project	51 - 55
3.5	Management	55 - 56

### INSERT MAPS AND PLANS

- |     |  |                 |
|-----|--|-----------------|
| 1.  | Dinaipur Region Map  | : Fig. No. - 01 |
| 2.  | Transport Routes & Regional Setting Map                              | : Fig. No. - 02 |
| 3.  | Land Configuration Map   | : Fig. No. - 03 |
| 4.  | Topography Land Formation and Zila Shahar's Main Road Infrastructure | : Fig. No. - 04 |
| 5.  | Density of Population for Dinaipur Zila                              | : Fig. No. - 05 |
| 6.  | Catchment area of Dinaipur Zila Region                               | : Fig. No. - 06 |
| 7.  | Density of Population per Sq. mile for Zila Shahar                   | : Fig. No. - 07 |
| 8.  | Existing Land Use Plan of Dinaipur Zila Shahar                       | : Fig. No. - 08 |
| 9.  | Constraints and Opportunities Map for Dinaipur Zila Shahar           | : Fig. No. - 09 |
| 10. | Major Road Infrastructure proposed in the Land Use Plan              | : Fig. No. - 10 |

### ANNEXURE MAP

- \*11. URBAN LAND-USE PLAN  
( Scale 1" = 330' )

CHAPTER I





# দিনাজপুর পৌরসভা কার্যালয়

Office of the Dinaipur Pourashava  
DINAJPUR.

স্থাপনা নং : ৩২৪৭

৩২৪৭

বাসা : ৩৩২৬

No:

Date

19

কর্তৃপক্ষ :- জনস্বাস্থ্য, নিবাসপুত্র পৌরসভা।

প্রতিষ্ঠান :- বহিঃস্থ  
স্বাস্থ্য উন্নয়ন কমিটি, সেগুন বাগিচা, ঢাকা-১০০০।

জানতে পৌঁছ করা যায় যে, জনস্বাস্থ্য, নি, টি, এ, কনসোলিডেশন কর্তৃক নিবাসপুত্র পৌরসভার পৌর এলাকার ১ টুকি ব্যবস্থার জন্য প্রদত্ত মাটির প্রায় বিঘা ১০-৮-৮৮ তারিখ পৌরসভার কমিটির সভাপতিত্ব, স্বাস্থ্য উন্নয়ন কমিটির নির্দেশ প্রায় ৭ মি.মি. নি, টি, এ, কনসোলিডেশনের প্রতিবিধি পত্রকে বিদ্যমান আছে কিনা অনুষ্ঠিত হয়। অত্যা-যাত্র উপস্থিত পত্রকেই বস্তু মাটির প্রায়টি প্রায়সংগত বলে দৃষ্ট প্রকাশ করণ।

ইহা জানতে পত্র কমিটি ও প্রকল্পের ব্যবস্থা প্রায়ের জন্য প্রদত্ত হয়।

১/১০/৬৮/২) ৭/১৬/৮

কর্তৃপক্ষ, নিবাসপুত্র পৌরসভা।

কমিটি ও প্রকল্পের ব্যবস্থা প্রায়ের জন্য অনুষ্ঠিত প্রদত্ত হয় :-  
১) জনস্বাস্থ্য মাটির বুদ্ধিমত্তা, স্থানীয় নির্দেশ প্রায়, স্বাস্থ্য উন্নয়ন কমিটি, রাজস্বী আর্থনিক অফিস (অতিরিক্ত মাটির), মাটির এক সেটসেই তব, পত্র, রাজস্বী।

২) নি, টি, এ, কনসোলিডেশন, ৪০, মীরপুর শঙ্ক, পূর্ব বাগিচা, ঢাকা-১২০৪।

কর্তৃপক্ষ, নিবাসপুত্র পৌরসভা।



# INTRODUCTION

In the Government's current policy of overall administrative reorganisation, the Zila Shahar has been recognised as the focal point for development at the Zila level. Former District (Zila) and Sub-divisional headquarter towns (Shahars) have been converted to Zila Shahars. In most cases this involves an upgrading of administrative responsibility, which in turn will require an upgrading of social, economic and infrastructural services provision in these urban areas.

For these reasons the Government has embarked on a programme of preparing urban land use plans for the old Zila Shahar as well as the upgraded Zila Shahars at the earliest opportunity to provide for the orderly development of these urban areas so that the Government and private sector investment in urban services may subsequently be introduced in a planned and cost effective manner.

To this effect, an offer was given by the Urban Development Directorate, Ministry of Works, Government of the People's Republic of Bangladesh to PTA Consortium, a planning Consultants to study the present condition of the old Zila Shahar Dinajpur with the eventual aim of preparation of comprehensive land use Plan/Master Plan for the Zila Shahar (Dinajpur Pourashava). This plan will also ensure the future development of the Shahar in an orderly and cost effective manner through the observation of future land use proposal (as detailed in the land use plan and Report) and development control by discouraging the unplanned and uncontrolled growth.

The old District (Zila) Dinajpur is an important mid-level urban centre in the country and is one of the major urban centres at the extreme north-western border of Bangladesh. Dinajpur Pourashava was established during the British period and in the year 1868. The present Pourashava encompasses an area of 20.87 Km<sup>2</sup> (8.06 sq. miles).

1974.




Dinajpur Zila Shahar like other Zila Shahars of Bangladesh, faces an overwhelming problem of population growth and infrastructural services facilities of different dimension.

To make the Land Use Plan pragmatic and appropriate with the existing socio-economic, physical condition and future development potentialities of the Dinajpur Zila Shahar and the objectives formulated in the TOR (Terms of Reference), PTA Consortium setup two teams of Surveyors headed by the Planner to conduct the Survey works related to the Study and plan preparation which are as follows :

- a) Physical land use survey of the Pourashava area of the Zila Shahahr including the surrounding area delineated as Study Plan area showing the existing land use of different facilities available at present using the Mouza Map as base Map.
- b) Socio-economic survey of the Zila Shahar and Zila region through primary and secondary sources.
- c) Interview with the different agencies functioning in the Zila Shahar related to the Urban Development activities such as : Pourashava, P.H.E., P.W.D., R&H, B.W.D.B., and P.D.B., etc.
- d) Collection of different Maps, charts, relevant data and information related to the Study from Pourashava, DLR's Office, (Dhaka) Water Development Board, (Dhaka) D.C's Office Dinajpur, etc.

After the completion of the survey and compilation of the data collected and analysis of those findings and sectoral studies done from the secondary sources, three different Reports have been presented to and accepted by UDD with some suggested modification and adjustment in the plan which are incorporated in this Final Report.

After the preparation of the Draft Land Use Plan, our PJ 1974 explained its salient features to the Chairman

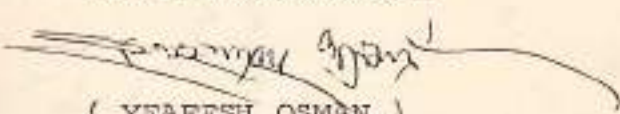


and Ward Commissioners of the Dinajpur Pourashava. They accepted the land use proposal but highlighted some problems which they were facing in respect of drainage, sewerage, sanitation and requested to provide proposals for these services in the land use plan. In this Report, it has been proposed that a Trunk Sewer network with Sewer Pump Station and Sewer Treatment Plant with inlet station and out-fall and the main drainage channel for waste water is to be connected with the existing surface drain for the Master Plan area. It has also been proposed that the existing water supply network should be extended further for the future neighbourhood area within the planned area.

During the processes in preparing this Land Use Plan/Master Plan for the Dinajpur Pourashava, a close contact was maintained with the local administrative authority, public representatives, Municipal authorities, etc. and also with the officials of the Urban Development Directorate and its Regional office at Rajshahi. Appreciations and their contributions are acknowledged.

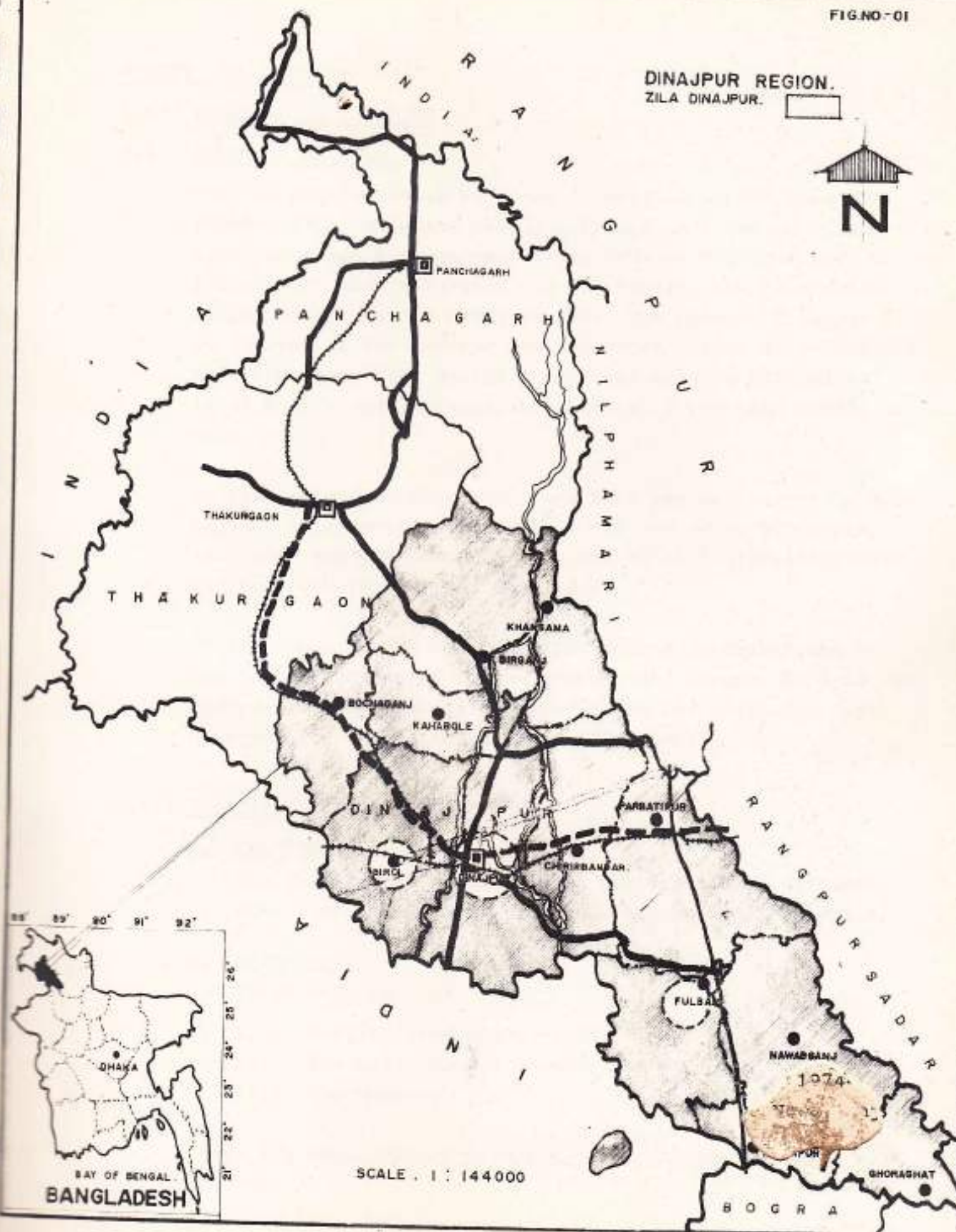
Finally, it is sincerely desired that the Pourashava authority of the Dinajpur Zila Shahar for whom this Land Use Plan/Master Plan has been prepared will undertake the responsibility to implement this plan for the future development of the Pourashava to ensure the provision of better urban facilities for the inhabitants of the Dinajpur Zila Shahar.

For PTA CONSORTIUM

  
( YEAFESH OSMAN )  
B. Arch. M.I.A.B.



DINAJPUR REGION.  
ZILA DINAJPUR.



## REPORT OF STUDIES

### 2.0 REGIONAL DESCRIPTION

#### 2.1 Regional Setting :

The old Dinajpur Zila has been identified as the Dinajpur region of the Rajshahi Division (Fig.No.01) and in this Division there are sixteen new Zilas. Present Dinajpur region comprises of old Thakurgaon and Panchagarh, the former Sub-divisions of the old Dinajpur Zila. The present Dinajpur Zila is located at the extreme north-western border of Panchagarh and Thakurgaon Zila having a physical area of 6565.65 Km<sup>2</sup> (2535 Sq.m.) and administrative units of thirteen number of Upazilas.

In its regional context, the new Zila region, a fertile sub-region, is situated within 25° - 14' and 26° - 30' north latitudes and between 88° - 66' and 89°-19' east longitudes on the northern strip of Bangladesh.

It is hemmed around by such Zila regions as Thakurgaon to the north, Nilphamari to the north-east, Rangpur Zila to the South-east, Panchhibi and Joypurhat to the south and west Dinajpur (of India) to the West (Figure-01).

#### 2.1.1 PRINCIPAL TOPOGRAPHIC FEATURES

##### a. CLIMATE :

The zila region stands within the transitory climatic zone where hot summer with moderate rainfall prevails.

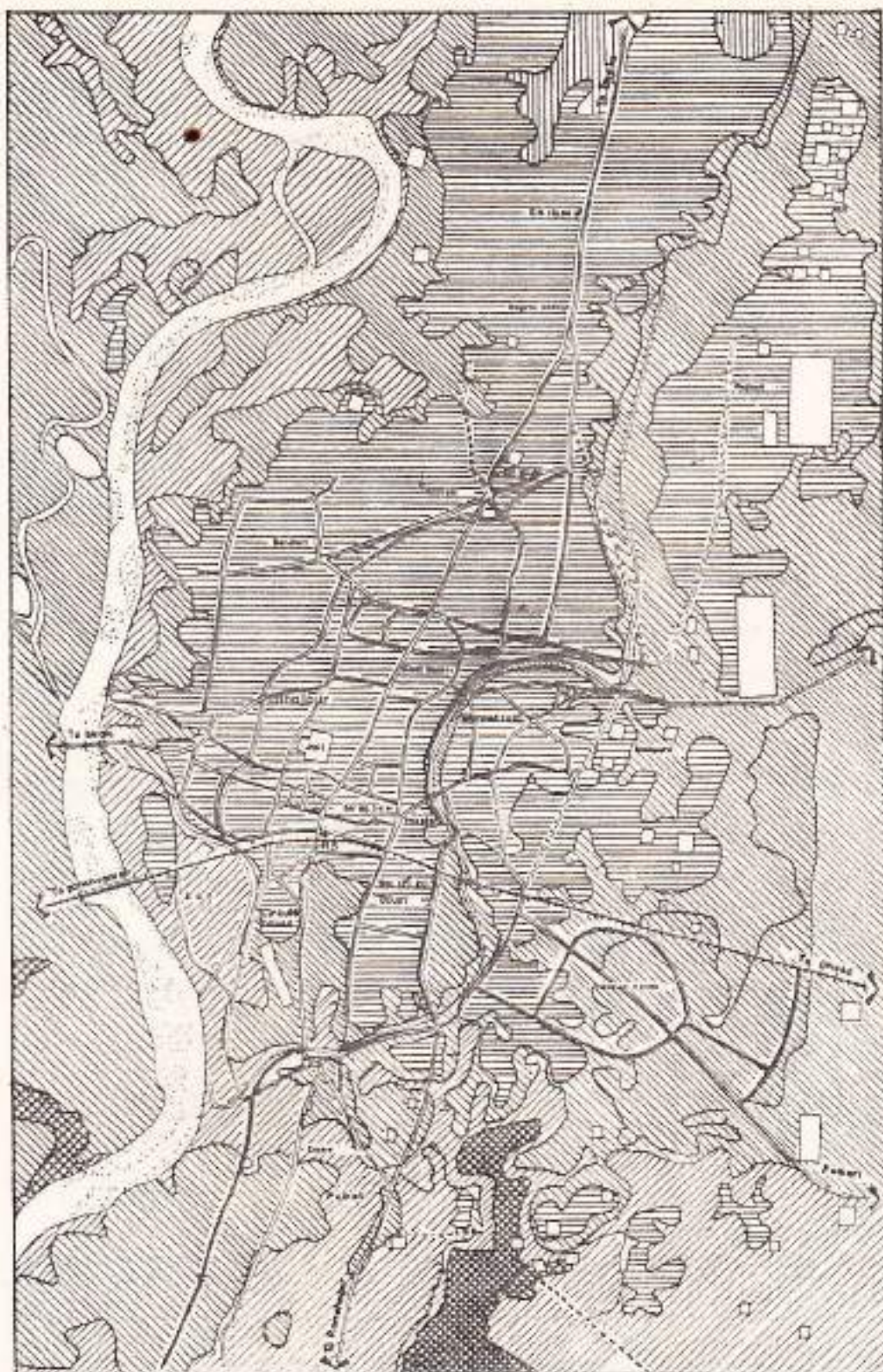
##### b. RAINFALL :

Three main sources :

- i. Western depression winds;
- ii. The early summer thunder storm;
- iii. The Monsoon

There are about 75" of rainfall mainly between May - October.





C. TEMPERATURE :

The range of temperature is moderate -

- i. Mean July temperature being 79°F.
- ii. Mean January temperature being 49°F.

d. HUMIDITY :

- i. Highest in August (83.00)
- ii. Lowest in March (46.00)

e. PREVAILING WIND :

The general direction of winds are :

- i. North-easterly during the period November - February;
- ii. Westerly or south-westerly from March to May;
- iii. From June to September being south-easterly;
- iv. October winds are very variable;

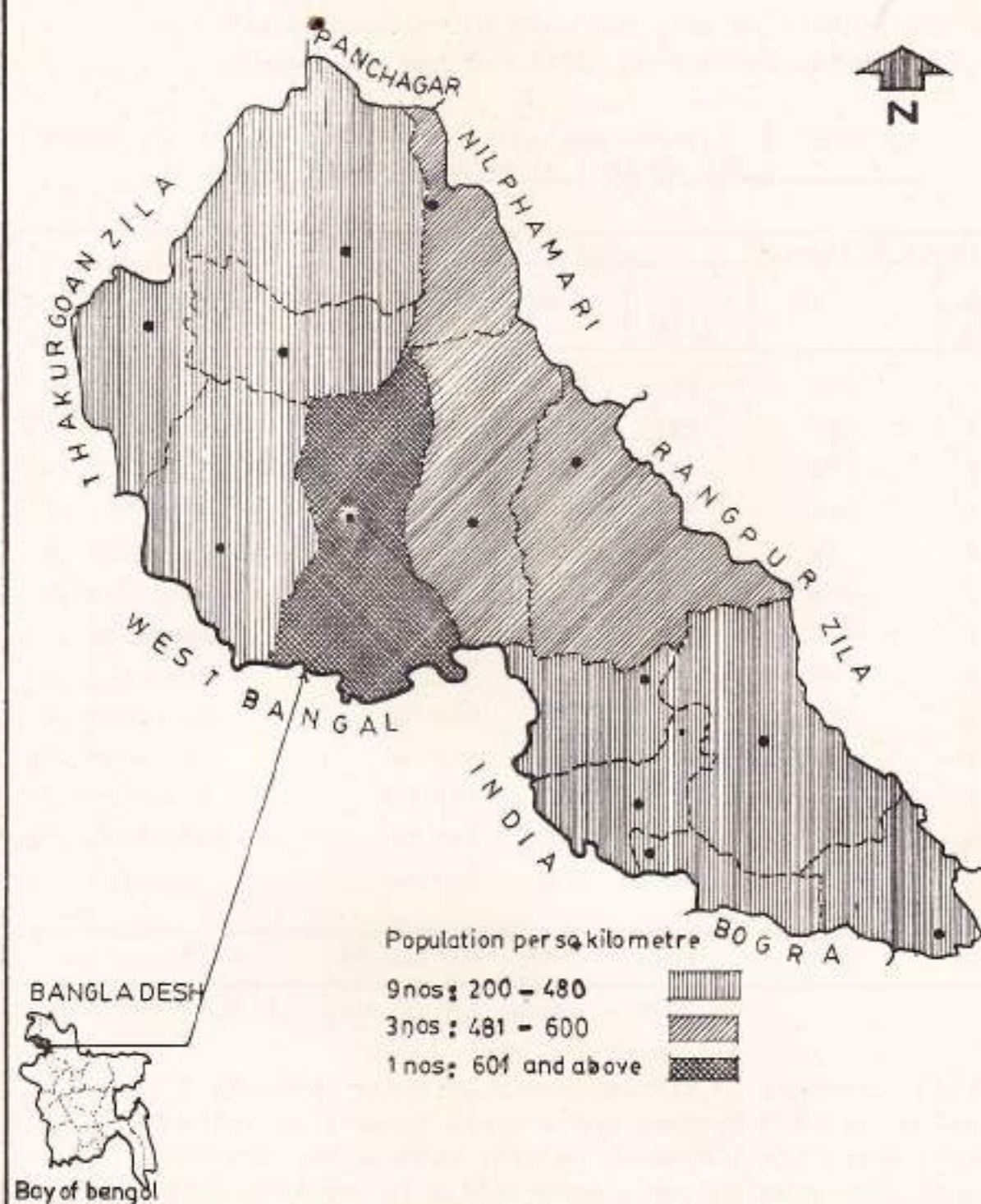
f. TOPOGRAPHY/LAND FORM :

- I. General level : a fertile sub-region of comparatively high level of the older flood plains of Barind tract.
- II. Slope : the land slopes from a height of 317 ft. in Tetulia (now in Panchagarh zila) to 109 ft. at Dinajpur the gradient is considerable, being 3 ft. per mile.
- III. Land type : recent alluvial deposits, mostly sandy silt, overlies the pleistocene clays of the Barind tract.

2.1.1 POPULATION, SIZE, DENSITY AND GROWTH BY UPAZILA

a. POPULATION SIZE :

Dinajpur Zila region had a total population size of 18,04,015 persons of which 1,88,388 were urban population in the census year 1981. The rate of urbanization of the zila region was thus 10.88%. This is much lower than the national rate (15.2%) of urbanization.



dinajpur zila

PTA CONSORTIUM  
43, WARPUK ROAD, DHAKA  
PHONE 40.00.40 40.07.13

URBAN DEVELOPMENT BOARD  
MINISTRY OF WORKS  
GOVT OF THE 1974. REPUBLIC OF BANGLADESH  
DINAJPUR

D. No. 11 for  
D.

Subject: Zila shahar & Upazila shahar

b. DENSITY :

Average density of Dinajpur zila population was about 509 persons per Km<sup>2</sup> (1319 persons per Sq.mile).

TABLE 1 : Population size, Area and Density of Dinajpur Zila region by Upazila region, 1981.

Upazila	Population	Area		Density Population	
		Km <sup>2</sup>	Sq. Mile	Km <sup>2</sup>	Sq. Mile
1. Katwali	2,82,008	360	139	783	2,029
2. Parbatipur	2,36,943	427	165	555	1,436
3. Chirir Bandar	1,84,639	308	119	509	1,552
4. Birganj	1,79,885	409	158	440	1,139
5. Birol	1,66,485	352	136	473	1,224
6. Nawabganj	1,40,319	316	122	444	1,150
7. Bochaganj	1,01,429	225	87	450	1,166
8. Birampur	1,03,396	215	83	480	1,246
9. Khanshama	99,794	179	69	558	1,446
10. Kaharole	93,423	207	80	451	1,168
11. Phulbari	92,831	195	75	476	1,238
12. Ghoraghat	68,361	148	57	462	1,199
13. Hakimpur	54,502	202	78	270	699
Dinajpur Zila	18,04,015	3543	1368	509	1,319

SOURCE : B.B.S. Population census - 1981.

The density varies from one Upazila to another. This is smaller in case of least urban centred Upazila region Hakimpur for example (270 persons/Km<sup>2</sup>) and shown progressive increase with the successive increase rate of urbanization as in case of Parbatipur (555 persons/Km<sup>2</sup>), Chirirbandar (599 persons/Km<sup>2</sup>) and Kotwali (783 persons/Km<sup>2</sup>).



Average rural urban density were, thus, found as about 567 and 1759 persons per Km<sup>2</sup> respectively (about 4557 and 1210 persons per Sq.mile respectively). This has been shown in the map. Density of population for Dinajpur Zila (Upazila wise) shown in Fig. No. 05.

c. POPULATION GROWTH UPAZILA WISE

Population growth pattern during the period 1961-74 and 1974-81 & 1961-81 by Upazila also shows great variation.

TABLE 2 : POPULATION AND GROWTH RATE BY UPAZILA

Upazila	Y E A R			GROWTH RATE %		
	1961	1974	1981	1961-74	1974-81	1961-81
1. Kotwali	137044	212431	282008	4.23	9.41	1.17
2. Parbatipur.	156406	189550	236943	1.51	4.33	2.09
3. Chirirbandar.	109339	152104	184639	2.79	3.06	2.65
4. Birganj	92217	150834	179885	5.31	2.75	3.39
5. Birole	89220	130244	166485	2.94	2.91	2.94
6. Nowabganj	94332	142382	140319	3.82	0.21	2.94
7. Bochaganj	58460	81934	101429	2.87	3.42	2.79
8. Birampur	47388	83570	103396	4.46	3.08	3.97
9. Khansama	57920	85180	99794	3.36	2.45	2.75
10. Kaharole	49356	78221	93423	4.18	2.78	3.23
11. Phulbari	94332	104832	92831	0.85	1.64	0.08
12. Ghotaghat	37916	56023	68361	3.60	3.15	2.99
13. Hakimpur	52311	73440	54502	2.02	3.69	0.21
Dinajpur Zila	1010035	1457175	1804015	2.85	3.09	2.94

SOURCE : Village population statistics & BBS, Population census-1981.

The Zila Shahar has an annual growth rate over 100 (109.77) during the period 1961-74 with an abrupt fall during the period 1974-81 (9.41). Again, Hakimpur (-3.69), Phulbari (-1.64) and

(-0.21) reflect negative growth during the period 1974-81. This is partly because of the impact of 1965 war when a great influx of immigrants from India took place. The immigrants preferred urban living and thus the tremendous increase in Dinajpur zila shahar population. The rest is perhaps one more indication of the state of stagnancy persisting in Dinajpur over the decades. The development process which initiate changes in the population distribution over space has hardly started in Dinajpur.

Annual rate of population growth of Dinajpur Zila as a whole shows 2.85 during the period 1961-74. The 1974-81 rate was 3.09.

This has been explained as an impact of family planning over an area having static population where only natural growth predominates. The impact of separation of Thakurgaon and Panchagarh as separate zila region has been found negligible. Again Government efforts for local level development will help develop 12 centralised urban settlements at strategic locations. Dinajpur Zila Shahar will pivot them. Thus chances for rural-urban migration prevail. Besides, with the rising tempo and mass awareness of family planning, the growth rate is expected to be curved down during the successive periods with an ultimate target for 1.80 by 2000 AD to reach the national goal.



TABLE 3: POPULATION PROJECTION OF DINAJPUR ZILA  
FROM 1981 to 2001 AD

	Base popu- lation	Estimated population			
	1981	1986	1991	1996	2001
High projection, Growth rate(3.09%)	18,04,015	21,00,500	24,45,712	28,47,659	33,15,66
Medium projection Growth rate(2.94%)	18,04,015	20,85,263	24,10,358	27,86,136	32,20,49
Low projection Growth rate(2.85%)	18,04,015	20,76,163	23,89,252	27,49,688	31,64,49

2.1.3 IDENTIFICATION OF UPAZILA SHAHAR, UNION  
HEADQUARTERS AND OTHER MAJOR CENTRES

There are 13 Upazilas in Dinajpur Region: and in each Upazila Headquarters there is an important market and those market serve some specific purpose of the people of the Upazila. In this 13 upazilas there are 310 hat/bazars, and that means that most of the unions have a market. In this region on average 6519 persons were served by a Hat/Bazar. Birganj and Chirirbandar have the highest number of markets in the region and Ghoraghat and Hakimpur the lowest number of market in this region. Table-4, Market Centre by upazilas (Dinajpur Zila, 1981), reflects more picture about the trade and commerce in the region.

TABLE 4 : MARKET CENTRE BY UPAZILAS (DINAJPUR ZILA) 1981

Upazila	Mouza	Village	Union	Hat/Bazar	Per Person
Birampur	164	164	7	12	8,616
Birganj	187	187	11	41	4,387
Birol	242	256	10	27	6,166
Bochaganj	144	146	6	26	3,901
Chirirbandar	145	145	12	41	4,503
Phulbari	149	191	7	10	9,285
Ghoraghat	115	143	4	7	9,766
Hakimpur	70	104	4	7	7,786
Kaharole	150	146	6	26	3,593
Khansama	58	57	6	19	5,252
Kotwali	216	258	10	37	7,622
Nawabganj	212	354	9	18	7,796
Parbatipur	186	214	12	39	6,075
TOTAL	2,042	2,201	104	310	6,519

SOURCE : B.B.S. District Statistics - 1983

#### 2.1.4. IDENTIFICATION OF MAIN TRANSPORT ROUTES

Old Dinajpur Zila is well connected with all the former zila headquarters and newly upgraded Zilas by pucca roads and railway. Dinajpur Zila Shahar is also connected with all of its Upazila headquarters by road and some Upazilas are connected by railway also, (Fig.No.-02) represents more detailed information about the present Transportation net-work of the Zila region of the Rajshahi Division.

The rivers in this sub-region flows towards the south. Mohananda, Punarbhaba, Juboneswari, Kulik and little Jamuna are the major rivers that entrenched in the recent alluvial deposits.



Fig-1

dinajpur Region.

RAJSHAH DIVISION

## LEGEND.

- ZILA SHAHAR
- UPADILA SHAHAR
- RAILWAY LINE
- METER GAUGE
- BROAD GAUGE
- PRINCIPAL ROADS
- PAVED ROAD
- KUTCHA ROAD
- PRINCIPAL RIVERS
- ZILA BOUNDARY
- UPADILA BOUNDARY

URBAN DEVELOPMENT DIRECTORATE  
MINISTRY OF WORKS  
GOVT OF THE PEOPLE'S REPUBLIC OF BANGLADESH  
SHEKHARSHAH, DHAKA

Transport Routes & Regional  
Setting Map

LOCATION MAP

ZILA SHAHAR DINAJPUR

PTA CONSORTIUM  
43, WAPDA ROAD DINAJPUR  
Phone 40 00 00 31 72 00

## 2.1.5 ECONOMIC PRODUCTION

### a. Agriculture

At present 46% of the agricultural land is used for single crop, followed by 10% is used for double cropped and only 5% of the agricultural land is used for triple cropped 10% of agricultural land utilized different type of irrigation facility, out of that 40.43% was covered by deep tube well where as 29.40% was irrigated by shallow tube well. Aman is the main production in the area followed by Aus and Boro. Sugarcane and potatoes are the two other major agricultural productions of the zila. Table of agricultural production provides more information.

TABLE 5 : AGRICULTURAL LAND USE IN DINAJPUR ZILA, 1981-82

Upazila	Net Cropped area	Current fellow	Single Cropped	Double Cropped	Triple Cropped area	Total Cropped area
Birampur	-	-	-	-	-	-
Birganj	29332.65	1381.64	21117.24	5348.24	2867.60	40414.96
Bochaganj	17203.39	202.75	12907.50	3355.77	940.11	22439.40
Birole	24165.85	2448.83	15360.38	6990.89	1816.29	34787.60
Kaharole	17047.58	692.44	11923.27	4289.41	834.89	23006.79
Khansama	14187.97	775.00	10336.84	3122.26	728.86	18767.96
Kotwali	29968.43	909.76	18120.03	8906.03	2941.76	44758.60
Chirirbandar	26798.82	748.69	12704.74	11846.78	2247.29	43140.21
Parbatipur	35209.70	1117.78	19101.43	14171.37	1936.89	53254.87
Phulbari	24228.98	2172.42	18069.94	5023.94	1135.99	31524.91
Nawabganj	29246.85	1344.81	22638.10	5119.05	1489.70	37345.31
Hakimpur	15472.89	195.06	10695.81	3442.18	1333.89	21583.86
Ghoraghat	13124.42	543.10	8099.26	4373.99	651.16	18800.74
DINAJPUR ZILA	275987.59	12512.10	181073.70	75990.11	18923.77	339825.25

SOURCE : B.B.S. District Statistic 1983

TABLE 6 : MAJOR AGRICULTURAL PRODUCTION 1981-82

I t e m	A r e a	Area in Acres :
		Production in Tons :
		Production (81-82)
Aus	2,08,499	80,702
Aman	5,24,876	2,65,436
Boro	18,677	17,457
Wheat	69,421	48,672
Jute	21,945	76,807
Sugar Cane	14,282	1,89,820
Potatoes	15,721	46,492
Mug	800	230
Masur	1,475	327
Kheshari	1,220	360
Matar	240	60
Mashkalai	3,330	941
Chelies	2,663	676
Onion	3,910	6,166
Garlic	1,517	1,939
Oil	16,110	3,705

SOURCE : B.B.S. District Statistic 1983.

TABLE : 13 AGRICULTURAL LAND IRRIGATION  
BY MEANS - 1981-82

Upazila	Area in hectares						Total area
	Power Pump	Tube Well	Doons	Swing Baskets	Canals	Others	
Birampur	-	-	-	-	-	-	-
Phulbari	1331.46	157.02	307.16	131.93	48.56	213.68	2189.83
Birganj	506.27	243.62	309.19	343.99	28.32	651.97	2083.39
Bochaganj	616.35	190.61	197.08	151.35	24.28	435.86	1615.56
Birole	1402.69	684.34	238.77	145.69	105.62	288.95	2866.08
Kaharole	200.73	285.31	468.23	178.87	26.30	199.51	1358.98
Khansama	235.53	161.07	674.23	388.51	95.50	369.89	1924.75
Kotwali	1658.05	576.69	460.54	184.54	152.16	259.41	3291.42
Chirirbandar	2131.55	1291.39	311.21	252.53	61.10	678.68	4726.49
Parbatipur	1071.64	208.42	477.54	192.23	50.58	643.47	2643.90
Nawabganj	1356.14	180.90	305.54	161.07	340.35	238.77	2582.79
Hakimpur	568.19	71.63	248.48	153.38	34.39	255.36	1331.46
Ghoraghat	292.19	170.37	200.73	225.41	368.68	244.84	1502.24
TOTAL	11370.85	8268.42	4198.76	2509.54	1335.91	4480.43	28116.93

SOURCE : B.B.S. District Statistic 1983

Highest area in Chirirbandar is covered by power pumps for irrigation purpose and lowest area covered by this means of irrigation is Kaharole. In case of shallow tubewell Chirirbandar covers the highest area and Hakimpur the lowest area. Table : Agricultural land irrigation by means provide a comparative picture of irrigation in the region.

#### b. Industry

There is 9910 small and cottage industries in Dinajpur Zila region and among those establishments 6651 are cottage industries and rest are handlooms. There is highest number of cottage industry in Birganj followed by Kotwali and lowest number in Parbatipur. In case of hand-loom industry Chirirbandar becomes the top in the region. Table cottage and small scale industries in Dinajpur District 1982 provide more picture of this sector.

TABLE : 8 COTTAGE AND SMALL SCALE INDUSTRY  
IN DINAJPUR DISTRICT 1982

Upazila	Cottage Industry	Small Scale	
		Hand Loom	Total
Birampur	-	-	-
Birganj	1,171	-	1,171
Bochaganj	707	-	707
Birole	533	-	533
Khansama	-	60	60
Kaharole	425	-	425
Kotwali	1,015	2	67
Chirirbandar	744	3,192	3,966
Parbatipur	65	2	67
Phulbari	791	-	791
Nawabganj	571	-	571
Hakimpur	599	-	599
Ghoraghat	-	3	3

SOURCE : B.B.S. District Statistics 1983

c. Employment

In terms of occupation nearly 68% of the employed persons are engaged in agriculture, 8% of the people are performing business activities and only 1.36% are engaged in different manufacturing activities. Rest of the employed population that is 23% of the people are engaged in different other occupations.

TABLE 9 : OCCUPATION BY CATEGORY DINAJPUR ZILA - 1982

Upazila	Cultiva- tion	Business	Manufac- turing	Other	Total occu- pation
Birampur	18,845	2,500	203	6,194	27,742
Birganj	42,999	2,511	379	8,625	54,514
Birole	35,072	3,295	320	11,134	49,821
Bochaganj	18,155	1,539	427	6,978	27,099
Chirirbandar	36,529	3,179	490	10,351	50,549
Phulbari	16,498	2,813	95	5,325	24,731
Ghoraghat	13,929	1,977	103	3,580	19,589
Hakimpur	9,219	2,092	61	3,688	15,060
Kaharole	23,299	1,241	206	4,715	28,461
Khansama	20,578	1,339	81	5,491	27,489
Kotwali	35,192	11,010	2,886	32,538	81,626
Nawabganj	30,324	2,675	122	6,431	39,552
Parbatiour	47,570	5,676	1,584	13,923	68,753
TOTAL	3,48,209	41,847	6,957	1,17,973	5,14,986

SOURCE : B.B.S. District Statistic - 1983

#### 2.1.6 DEVELOPMENT PROJECTS :

With the changing circumstances, progressive demand for urban facilities and services are always on the increase, and it is very difficult on the part of the Govt. to cover such manifold demands, mainly because of resource constraints at local and national level, in either case. Thus a need for priority selection for effective as well as appropriate project has become an urban issue encountered. And Dinajpur zila shahar is not an exception.

Slum areas in Dinajpur zila Shahar, like others, are growing fast. These are the areas of poor people where basic services like water, sanitation, primary health care and the like are almost absent. And thus, the pourashava selected slum areas at Goalkathi and Ghashipara for improvement. but the attempt had



Scale 1" = 4 Mile



## LEGEND.

- INTERNATIONAL BOUNDARY
- ZILA BOUNDARY
- UPZILA BOUNDARY
- ZILA HEAD QUARTER
- UPZILA HEAD QUARTER
- STUDY AREA

- CATCHMENT AREA
- METALLED ROAD
- SEMPUCCA ROAD
- RAIL WAY LINE
- RIVER
- CANAL

URBAN DEVELOPMENT DIRECTORATE  
MINISTRY OF WORKS  
GOVT. OF THE PEOPLES REPUBLIC OF BANGLADESH  
SAGUN BARTHA DHAKA  
Catchment area of dinajpur zila  
region.

PTA CONSORTIUM  
43, MIRPUR ROAD, GROUND FLOOR  
EAST CHAMBER, DHAKA

to be postponed for the time being as no immediate response in this regard was forthcoming from the land owners. The second choice for improvement of slums at Dakhin Balubari and sweepers colony got the priority. They have started such programmes with group savings in five groups at Ghasipara and are expected to start income generation activities shortly. Production centre for construction of latrine components have been established. Physical facilities like lighting, dustbins, drains and foot-paths were taken up in June, 1987 in the organised slums.

The slum improvement project, assisted by UNICEF was sponsored by the LGEB (a local govt. agency) at national level. SURK, an NGO, is the execution agency for implementation of this social sector development and community organisation.

The project aims at improving the social and physical quality of life of the urban poor in the slum areas.

Recently the Facilities Department of the Education Ministry took up a development scheme by upgrading the present Dinajpur Degree College to a University College and in this respect a development plan was prepared by the concerned authority for its implementation. It was not necessary to present this project in this study as required in the TOR.

## 2.2. DELINEATION OF AREA OF INFLUENCE

Area of influence or catchment area of Dinajpur Zila region varies or likely to vary for different functions or for different services such as administrative, economic, social and cultural. In case of Dinajpur Zila Shahar, the sphere of influence or the attractiveness of the Zila headquarters for administrative reason spread over the whole of the territory covered by the Zila as a whole. This is for the reason that there are one Deputy Commissioner's Office, one Court and many other administrative offices at district headquarters. For

economic reasons there are some hats and bazars in the Upazila. And there are marketing centres outside the zila headquarters. In such cases each marketing center creates its own sphere of attractiveness around it. The area of each influence zone depends upon the mode of transportation available and the capability of the people to travel to and return within a day and also on the type of services and facilities available.

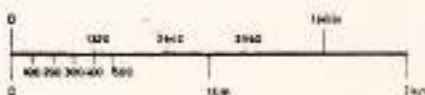
It is mentioned in the TOR that in the case of zila headquarters the attractiveness of the centre for economic reason is normally 8 to 12 miles on both directions from the centre (central Business District) itself, but our study reflects that except the surrounding Upazilas which were considered as the catchment area of Dinajpur Sub-region. Other Upazilas which are far-off from the Zila headquarters and were capable of providing the required necessity of day to day activities were excluded.

In the field of socio-cultural activities such as education, culture and entertainment follow almost the similar pattern as before. As such we can define the "Sphere of Influence" or the "Attractiveness" as the zone spread over surrounding region of the centre from where the people travel for specific purposes daily for day to day needs or for a longer period for special needs. It may be mentioned here that in our case we have indicated the zone surrounding the Zila Shahar from where people generally travel to meet their normal socio-economic needs as the sphere of influence of Dinajpur Shahar. It includes the Upazilas namely Kotwali, Birole, Bochaganj, Kaharole and Chirirbandar having an area of 561 Sq.miles or 1452.82 Km<sup>2</sup> which has been shown in Table-10 and in the Figure. But this sphere is much greater when we consider administrative, health and special needs of the remaining parts of Dinajpur sub-region.



# dinajpur zila shahar.

Scale 1 inch = 2.5 miles or 1:15000



## LEGEND

- 1. Contour Line
- 2. Public Road
- 3. Rempaced Road
- 4. Railway Line
- 5. River
- 6. Drainage Channel
- 7. Canal
- 8. Communication Line
- 9. Boundary
- 10. Municipality Boundary
- 11. Study Area



GOVERNMENT OF BANGLADESH

FORMATION AND ROAD

LINE.

Shahara

**PIA**  
PUBLICATIONS

1. Dinajpur Zila Shahar Map  
2. Dinajpur Zila Shahar Map  
3. Dinajpur Zila Shahar Map  
4. Dinajpur Zila Shahar Map  
5. Dinajpur Zila Shahar Map  
6. Dinajpur Zila Shahar Map  
7. Dinajpur Zila Shahar Map  
8. Dinajpur Zila Shahar Map  
9. Dinajpur Zila Shahar Map  
10. Dinajpur Zila Shahar Map  
11. Dinajpur Zila Shahar Map  
12. Dinajpur Zila Shahar Map  
13. Dinajpur Zila Shahar Map  
14. Dinajpur Zila Shahar Map  
15. Dinajpur Zila Shahar Map  
16. Dinajpur Zila Shahar Map  
17. Dinajpur Zila Shahar Map  
18. Dinajpur Zila Shahar Map  
19. Dinajpur Zila Shahar Map  
20. Dinajpur Zila Shahar Map  
21. Dinajpur Zila Shahar Map  
22. Dinajpur Zila Shahar Map  
23. Dinajpur Zila Shahar Map  
24. Dinajpur Zila Shahar Map  
25. Dinajpur Zila Shahar Map  
26. Dinajpur Zila Shahar Map  
27. Dinajpur Zila Shahar Map  
28. Dinajpur Zila Shahar Map  
29. Dinajpur Zila Shahar Map  
30. Dinajpur Zila Shahar Map  
31. Dinajpur Zila Shahar Map  
32. Dinajpur Zila Shahar Map  
33. Dinajpur Zila Shahar Map  
34. Dinajpur Zila Shahar Map  
35. Dinajpur Zila Shahar Map  
36. Dinajpur Zila Shahar Map  
37. Dinajpur Zila Shahar Map  
38. Dinajpur Zila Shahar Map  
39. Dinajpur Zila Shahar Map  
40. Dinajpur Zila Shahar Map  
41. Dinajpur Zila Shahar Map  
42. Dinajpur Zila Shahar Map  
43. Dinajpur Zila Shahar Map  
44. Dinajpur Zila Shahar Map  
45. Dinajpur Zila Shahar Map  
46. Dinajpur Zila Shahar Map  
47. Dinajpur Zila Shahar Map  
48. Dinajpur Zila Shahar Map  
49. Dinajpur Zila Shahar Map  
50. Dinajpur Zila Shahar Map  
51. Dinajpur Zila Shahar Map  
52. Dinajpur Zila Shahar Map  
53. Dinajpur Zila Shahar Map  
54. Dinajpur Zila Shahar Map  
55. Dinajpur Zila Shahar Map  
56. Dinajpur Zila Shahar Map  
57. Dinajpur Zila Shahar Map  
58. Dinajpur Zila Shahar Map  
59. Dinajpur Zila Shahar Map  
60. Dinajpur Zila Shahar Map  
61. Dinajpur Zila Shahar Map  
62. Dinajpur Zila Shahar Map  
63. Dinajpur Zila Shahar Map  
64. Dinajpur Zila Shahar Map  
65. Dinajpur Zila Shahar Map  
66. Dinajpur Zila Shahar Map  
67. Dinajpur Zila Shahar Map  
68. Dinajpur Zila Shahar Map  
69. Dinajpur Zila Shahar Map  
70. Dinajpur Zila Shahar Map  
71. Dinajpur Zila Shahar Map  
72. Dinajpur Zila Shahar Map  
73. Dinajpur Zila Shahar Map  
74. Dinajpur Zila Shahar Map  
75. Dinajpur Zila Shahar Map  
76. Dinajpur Zila Shahar Map  
77. Dinajpur Zila Shahar Map  
78. Dinajpur Zila Shahar Map  
79. Dinajpur Zila Shahar Map  
80. Dinajpur Zila Shahar Map  
81. Dinajpur Zila Shahar Map  
82. Dinajpur Zila Shahar Map  
83. Dinajpur Zila Shahar Map  
84. Dinajpur Zila Shahar Map  
85. Dinajpur Zila Shahar Map  
86. Dinajpur Zila Shahar Map  
87. Dinajpur Zila Shahar Map  
88. Dinajpur Zila Shahar Map  
89. Dinajpur Zila Shahar Map  
90. Dinajpur Zila Shahar Map  
91. Dinajpur Zila Shahar Map  
92. Dinajpur Zila Shahar Map  
93. Dinajpur Zila Shahar Map  
94. Dinajpur Zila Shahar Map  
95. Dinajpur Zila Shahar Map  
96. Dinajpur Zila Shahar Map  
97. Dinajpur Zila Shahar Map  
98. Dinajpur Zila Shahar Map  
99. Dinajpur Zila Shahar Map  
100. Dinajpur Zila Shahar Map

## 2.3 THE STUDY PLAN AREA

### 2.3.1 DELINEATION OF THE STUDY PLAN AREA

Dinajpur zila shahar is the designated Municipality of 1st order. It was established in the year 1868 and the first Chairman was Mr. Peterson. The present Chairman is Jonab Aminul Haque.

Entire Municipal area of the zila shahar has been designated as the study plan area. This is in conformity with the basic principle of delineation of the study plan area as mentioned in the terms of reference.

Besides, consideration of the principle of optimum utilization of scarce land suggest any sporadic development along the trunk roads beyond the municipal limits need, to be discouraged as the existing built-up area of the municipality constitutes only 54 percent of the total acreage. Adjacent areas where future urban development may take place are essentially to be brought within the municipal limits.

The zila shahar encompasses an area of about 20.87 Km<sup>2</sup> (8.06 Sq.mile) wherein about 1,01,368 persons lived in 1981. The municipality is composed of 5 Wards including such adjacent new areas (incorporated in 1982) as : Suihari, Nayanpur, Mirjapur, North Gosaipur, Auliapur, Hamjapur, Nimnagar & Shekapura Mouzas under Extra Ordinary Gezette notification - Dhaka the 6th September, 1982. Topography and land use configuration map of study plan area has been identified and presented in the Figure No. 03 & 04. The above maps are prepared and presented on BWDB map.



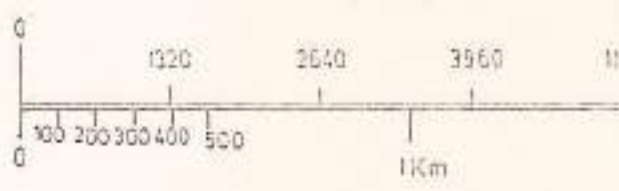


TABLE 10 : AREA AND POPULATION OF THE CATCHMENT AREA

Locality	Total Area		Area involved percentage	Total population & involved population		
	Sq. Mile	Km <sup>2</sup>		1961	1974	1981
Kotwali	139	360	100 %	137044	212431	282008
Chirirbandar	119	308	100 %	109339	151104	184639
Bochaganj	87	225.33	100 %	58460	811934	101429
Kaharole	80	207.2	100 %	49356	78221	93423
Birole	136	352.29	100 %	89220	130244	166485
TOTAL	561	1452.82	100 %	443319	1384934	827984

Source: B.B.S. District Statistics-1983.

TABLE 11 : DETAILS OF POPULATION AND AREA INVOLVED IN STUDY AREA (DINAJPUR POURASHAVA).

Wards	Total Area involved		Total involved population		
	Area in Km <sup>2</sup>	Area in Sq. Mile	1961	1974	1981
1. Ward - A	0.80	.32	5,634	14,347	10,637
2. Ward - B	6.83	2.64	6,911	11,642	15,536
3. Ward - C	4.40	1.70	5,670	8,229	24,077
4. Ward - D	4.92	1.90	12,298	16,397	21,092
5. Ward - E	3.92	1.51	7,198	11,251	17,635
Total Study area (Pourashava)	20.87	8.06	37,711	61,866	1,01,368

Source : B.B.S. Village population Statistics-1974.  
District Statistics - 1983

#### 2.4 EXISTING LANDUSE

Existing land-use survey in the study area which is at present existing municipal area reflects the land-use picture within the municipal area. About 62% of the land is used for different purposes. It will give more detailed description of different uses, and existing land-use map has been prepared and presented on the scale as per TOR and annexed in this report.

TABLE 12 : GROSS EXISTING LAND-USE PATTERN OF  
DINAJPUR POURASHAVA 1987.

Land-use	TOTAL AREA		Percentage
	In Hectare	In Acres	
Agricultural land and incidental open land	802.46	1982.86	38.44
Industry	45.32	112.00	2.17
Commerce	33.59	83.50	1.62
Education	77.74	192.00	3.72
Health	5.76	14.25	0.28
Admn.	84.27	208.25	4.40
Recreation	40.44	99.95	1.94
Socio-Cultural	39.86	98.51	1.91
Residential	756.13	1868.38	36.22
Urban Services	2.32	5.75	0.11
Roads	113.66	280.86	5.44
Railway	5.26	13.00	0.25
River, Canal, Ponds & other water bodies	80.53	199.10	3.86
TOTAL	2087.60	5158.40	100.00

SOURCE : Physical Land-use Survey, 1987.



TABLE 13 : DETAILS OF EXISTING LAND-USE FACILITIES FOR DIFFERENT PURPOSES EXCEPT AGRICULTURAL AREA WITHIN STUDY AREA (DINAJPUR POURASHAVA 1987)

Total Area : 2087.6 Hectares or 5158.4 Acres  
Agricultural Land : 802.46 Hectares or 1982.85 Acres

Land-use	Total Area		Percentage	
	Hectares	Acres	Including Agriculture	Excluding Agriculture
Agriculture	802.46	1982.85	38.44	-
Commerce and Industry	79.12	195.5	3.79	6.16
Education	77.74	192.0	3.72	6.05
Health	5.77	14.25	0.28	0.45
Administration Govt. Deptts., Police, BDR, etc.	84.28	208.25	4.04	6.56
Recreation	40.45	99.95	1.94	3.15
Socio-Cultural	39.87	98.51	1.91	3.10
Urban Services	2.32	5.75	0.11	0.18
Residential	756.13	1868.38	36.22	58.83
Major Roads, Lanes and Railway	118.93	293.86	5.69	9.25
River, Canal, Ponds & other water bodies.	80.59	199.10	3.86	6.27
TOTAL	1285.14	3175.55	100.00	100.00

SOURCE : Physical Land-use Survey, 1987

a. Agriculture

At present 38.44% of the land is used for agriculture purpose which is the highest in the study area and indicate the present growth of the land use. 40% of the area in ward E and 49% area of the study area is used for agriculture within the present municipal limits. The agricultural land is above the national level of RL113' to 188'.



b. Commerce

There are three main commercial bazars within the municipality namely Bhadur Bazar, Chack Bazar located in the ward A & Railway Bazar in Ward B. Bazars and commercial activities are located near the Junipukur crossing in Ward E. Many commercial enterprises with pucca structures are along the Kotwali Road up to Shuihari Bus Stand. Another commercial market is located in Phulhat in the north of BSCIC Industrial Area. These commercial uses are about 1.62% of existing land use.

c. Industry

There is a BSCIC Industrial Estate located in Phulhat of Ward D and there are other industrial land uses of mainly sawmills, rice mills, oil mills and small engineering workshops located in different areas within the study area, covering a total area of 112 acres which is 2.17% of the total acreage.

d. Education

There are 22 Primary Schools, 11 High Schools, 3 Colleges and a Poly-Technic Institute within the municipal area. The present Degree College which is converted to a University College covering an area of 64 acres is located in Ward B on the extreme north of the present shahar. In total 192 acres of land is utilised for the educational facilities of the shahar which covers 3.72% of the total acreage.

e. Health

The Sadar Hospital and Missionary Hospital which are located in Ward C and Ward D respectively. An Eye hospital is located in Housing Estate. There are also located in Ward C. There are also clinics, nursing Homes and Family Planning centres located in the different wards of the municipal area. The list is given

in a Tabular form in page 35 and this particular use covers an area 14.25 acres of the municipal area.

f. Administration

District administration with Judge's Court, DC's offices and his Court, District Council Office and other main district administrative functions and Police lines are located in Ward C. S.P. Office, BDR and WDB offices are located in Ward D. Other Government establishments are located in different wards mainly on rented houses. A new Post Office which is newly completed is located on the south of the housing estate on Phulhat Road. All these land uses for administrative purposes at present are covering an area of 208.25 acres which is 4% of the total acreage.

g. Recreation

A stadium and central play ground, and parks are located in Ward D. Cinema Halls are located in and around the Kotwali Road up to Shuihari Crossing. Incidental open spaces are located in different wards.

h. Socio-Cultural

Two main graveyards are located in Ward E and C respectively. Shashan Ghat (Hindu) and Christian cemetery are located in Ward E and C respectively. Adequate number of mosques are located in different wards within the study area. A community Centre is located on Kotwali Road in Ward A.

i. Urban Services

T & T, Fire Station, are located in Ward A. There are two main Bus Stands within the municipal area. Shuihari and Phulbari Bus Stands. Water supply lines of 10", 6" & 4" water lines with 3 over-head tanks are only located in present built-up area. At present there is no sewerage system within the municipal area. At present there are


5665 domestic and 1910 Commercial and official electric connections with monthly consumption of 10,66,589 K.W.H. The urban services land-use cover an area of 5.75 acres of land.

j. Residential

1868.38 acres, that is 36.22% of the total land, are used for residential purpose including the incidental open space 40.38% of the land is used for residential purpose in Ward A and among this residential use 49.30% is pucca, 32% is semi pucca and rest are Kutcha by character of structure. In Ward B, 450 acres of land are used for residential purpose and that is 26.64% of the land is use for this ward for residential purpose and residential structures are predominantly semi-pucca (50%). 37.51% of the land in ward C is used for residential purpose and this ward is dominated by pucca structures with a percentage of 49.34 and percentage of semi-pucca and kutcha is almost the same. In terms of land-use ward D utilize highest percentage of its land for residential purpose with an area of 516.00 acres. This ward is dominated by pucca residential structures (38%) followed by semi-pucca (32%) and rest are Kutcha. Near about 38% of the land of ward E is used for residential purpose and most of the residential houses are semi-pucca in nature (46%) and 29% are Kutcha and rest 25% are pucca in nature.

k. Roads & Railway

Existing land use for major roads, feeder roads, lanes and railway lines and railway yards present zila shahar occupies about 5.69%. Near of the land of ward A is used for roads. In of the land is used for road and railway. Land use for roads are in ward 'E'.



WARDWISE SCHEDULE OF EXISTING LAND-USE  
DINAJPUR POURASHAVA (ZILA SHAHAR) -1987

Land - use	W A R D S A R E A											
	A			B			C			D		
	Ac.	Hec.		Ac.	Hec.		Ac.	Hec.		Ac.	Hec.	
Agricultural Land and incidental open Land	x	x		826.46	334.47		330	133.55		291	117.77	
Industry	-	-		26	10.52		20	8.90		65	26.31	
Commerce	32.00	12.95		15	6.07		19	7.60		14	5.66	
Education	11.00	4.45		102.5	41.48		13	5.26		65	26.31	
Health	x	x		3	1.21		9.5	3.85		1.25	0.50	
Admn.	39.00	15.78		40	16.19		112	45.33		13.75	5.56	
Recreation	3.08	1.25		17.37	7.03		77.5	31.36		x	x	
Socio-Cultural	2.25	0.91		13.25	5.36		19.0	7.69		45.0	18.21	
Residential	80.13	32.43		450.25	182.22		455.0	184.14		516.0	208.83	
Urban Service	4.00	1.62		1.75	0.71		x	x		x	x	
Roads	19.5	7.89		72.36	29.28		97.0	39.26		71.0	28.73	
Railways	x	x		x	x		9.0	3.64		4.0	1.62	
River and other water	7.44	3.01		121.66	49.24		55.0	22.26		2.0	0.81	
TOTAL	198.40	80.29		1689.60	683.78		1216.0	492.12		1088.0	440.30	

SOURCE : Survey analysis.

## 2.5 DEMOGRAPHIC STUDIES

### 2.5.1 Population structure, including age, sex and dependency ratio :

The total population of the study area was found to be 1,01,368. This is about 36% of the total upazila population and about 54% of the total urban population (1,88,388) of the zila region.

A detailed profile of the existing population has been made as part of the employment and population projections for the study (table). Briefly, it was found that the number of males per 100 females was 114 and that 50% percent of the population was below the age of 18. Again 2% percent of the total population was found over 65 years age group.

TABLE 15 : POPULATION BY SEX INDICATING  
MALE - FEMALE RATIO :

W a r d	POPULATION			Ratio (Male per 100 Female)
	Total	Male	Female	
Ward - A	10,627	6,261	4,366	143
Ward - B	24,313	13,091	11,222	117
Ward - C	26,476	13,366	13,110	102
Ward - D	22,317	12,398	9,919	125
Ward - E	17,635	8,888	8,747	102
TOTAL	1,01,368	54,004	47,364	114

SOURCE : B.D.S. District Statistics - 1983.



TABLE 16 : POPULATION DISTRIBUTION BY AGE, GROUP OF DIFFERENT WARD.

Locality	Total	0-9 Years	10-17 Years	18 - 64 Years	65+ Years
Ward - A Nos	10,627	2,322	2,362	5,687	256
%	100.00	22.00	22.00	54.00	2.00
Ward - B Nos	24,313	6,882	5,404	11,509	518
%	100.00	28.00	22.00	48.00	2.00
Ward - C Nos.	26,476	7,598	5,893	12,392	593
%	100.00	29.00	22.00	47.00	2.00
Ward - D Nos.	22,317	5,757	5,226	10,927	407
%	100.00	26.00	23.00	47.00	2.00
Ward - E Nos.	17,635	5,381	3,873	7,934	447
%	100.00	31.00	22.00	25.00	2.00
Nos.	1,01,368	27,940	22,758	48,449	2,221
%	100.00	28.00	22.00	48.00	2.00

SOURCE : B.B.S. District Statistics, 1983

### 2.5.2 House Hold Characteristics :

According to 1981 population census there are 17,110 house holds in the study area of which 16,399 (about 96%) dwelling units and the rest are institutional (214) and business and cottage industries (397). Details have been shown in Table 17 below.

TABLE 17 : HOUSEHOLD BY USE OF DWELLING UNITS BY TYPE & BY WARD

Locality	Total Nos.	Dwelling Units Nos	Institutional Nos	Business & Cottage Industries.	Dwelling Unit type		
					Kutcha	Semi pucca	Pucca
Ward - A	1597	1361	91	145	256	434	671
Ward - B	4147	4041	59	47	1074	2019	958
Ward - C	4795	4673	71	51	1192	1175	2306
Ward - D	3424	3246	57	121	978	1036	1232
Ward - E	3147	3078	36	33		1412	758
Total Nos.	17110	16399	214	397		6076	5925
Total %	100.00	96	2	2		37	36

SOURCE : B.B.S. District Statistics - 1983

About 37% of the dwelling units (6076) are pucca followed by semi-pucca (5925) 36% and Kutchha (4398) 27% respectively.

74% of the total house-holds have at least one literate person 66% of the total house-holds have own house and 31% and 2% of the total house-holds have agricultural land and cottage industries respectively as shown thus :

TABLE 18 : HOUSEHOLDS HAVING AGRICULTURAL LAND, OWN HOUSE, COTTAGE INDUSTRIES AND WITH AT LEAST ONE LITERATE PERSON BY WARD

Locality	HOUSE HOLDS HAVING			
	Agricultural land	Own House	Cottage Industry	With at least one literate person
Ward - A	318	652	19	1916
Ward - B	1206	2749	53	2804
Ward - C	1055	2219	29	3208
Ward - D	2050	3806	17	3526
Ward - E	675	1899	123	2113

SOURCE : B.B.S. District Statistics - 1983

### 2.5.3 House-hold size and density

Average house-hold size in Dinajpur zila shahar area is little over 6, ward A experiences highest size (7.8) with ward E the lowest (5.72).

The house-hold density of the zila shahar area was found to be 960 house-holds for every Km<sup>2</sup>. This is about 2483 for every Sq.mile. Distribution pattern of house-hold size and density of population by ward has been shown in Figure- No. 07.



TABLE 19 : HOUSE-HOLD SIZE AND DENSITY BY WARD

Locality	Area		Population		House Hold		
	Km <sup>2</sup>	Sq. Mile	Nos.	Nos.	Size	Km <sup>2</sup>	Sq. Mile
Ward - A	0.80	0.31	10627	1361	7.8	1701	4390
Ward - B	6.84	2.64	24313	4041	6.0	591	1531
Ward - C	4.40	1.70	26476	4673	6.88	1062	2749
Ward - D	4.92	1.90	22317	3246	5.67	660	1708
Ward - E	3.91	1.51	17635	3078	5.72	787	2038
Total	20.87	8.06	101368	16399	6.18	960	2483

SOURCE : B.B.S., POURASHAVA & DISTRICT STATISTICS - 1983

#### 2.5.4 Migration Pattern

Dinajpur zila shahar experienced a major structural change during partition (1947) when most of the Hindu urban dwellers left for India. During the period the process of migration was much higher than that of immigration. During 1961 Dinajpur Zila shahar had a population size of about 3,771 only.

The period 1961-74 experienced tremendous inflow of population towards the zila shahar partly because of 1965 war impact. During the period, the immigrants from the neighbouring country preferred leading urban life here. Besides, an inflow of population from the surrounding hinter land took place during and after the war of liberation. Most of the well-to-do agricultural families at that period preferred to live in the zila shahar for security reasons. Moreover, the period experienced great famine that caused an influx of distressed population for food.

The period 1974-81 was more or less stable. The impact of local level development is yet to be geared. The impact of separation of Panchagarh and Thakurgaon could not affect much. Current trend of growth is predominantly natural.

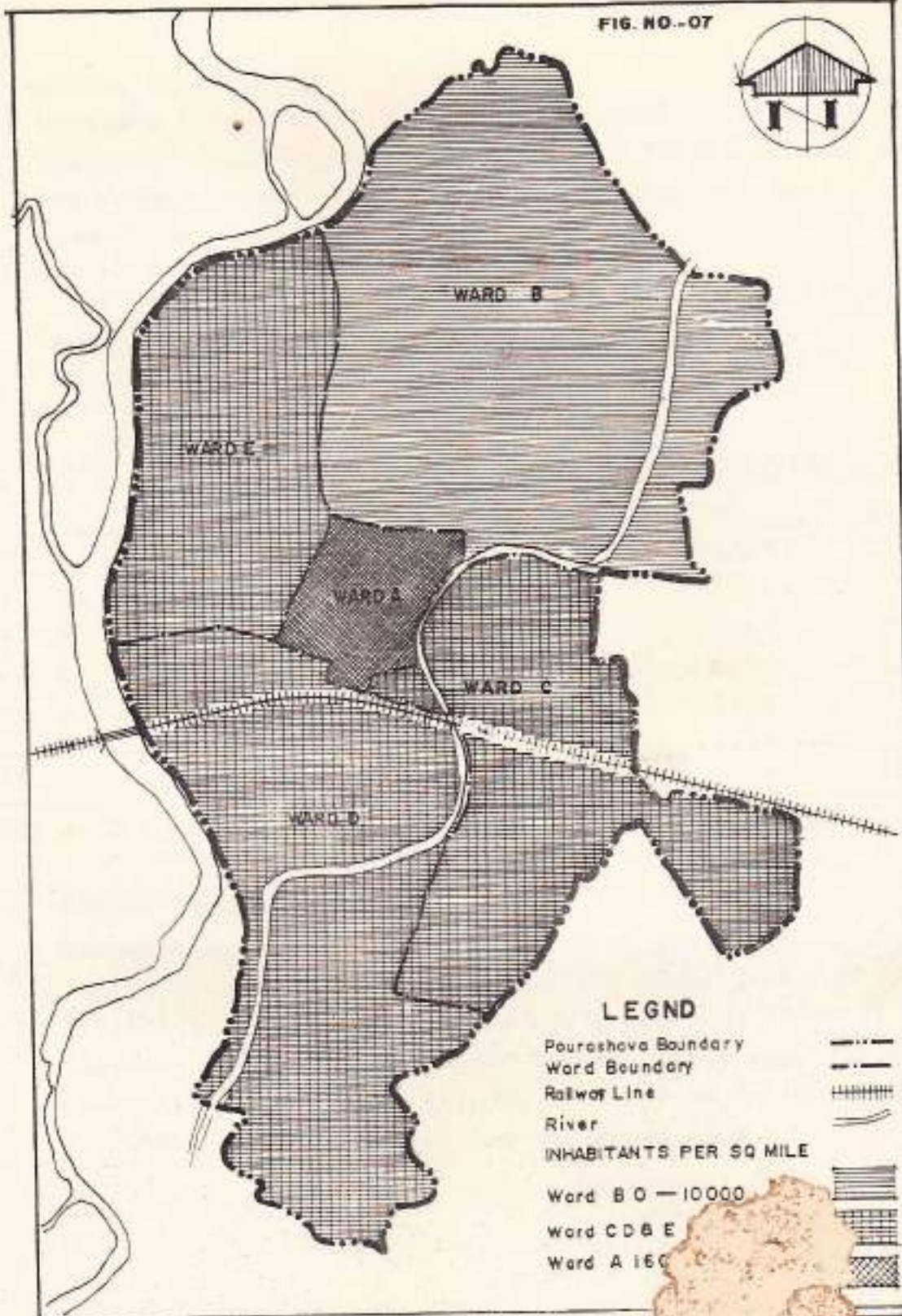


Fig-5

Dinaipur Pourashava

 URBAN DEVELOPMENT DIRECTORATE  
 MINISTRY OF WORKS, GOVT. OF  
 REPUBLIC OF BANGLADESH, DHAKA.

Density of population per sq mile

PTA CONSORTIUM

 43, MIRPUR ROAD, GROUND FLOOR  
 EAST DHAMONDI, DHAKA. PH: 500049, 3176 89

### 2.5.5 Population Density

Dinajpur zila shahar (Pourashava) occupies an area of about 10.87 Km<sup>2</sup> (8.06 sq.mile) wherein about 101368 persons live in. The density figure thus stands at 6380 persons per Km<sup>2</sup> (16.498 persons per Sq.mile).

The following table reflects distribution of population and density thereof as under (also shown in the map).

TABLE 20. POPULATION AND DENSITY BY DIFFERENT WARD

Wards	Area		Population	Population density	
	Km <sup>2</sup>	Sq.mile		Km <sup>2</sup>	Sq.mile
Ward - A	0.80	0.31	10627	13284	34,280
Ward - B	6.84	2.64	24313	3554	9,209
Ward - C	4.40	1.70	26476	6017	15,574
Ward - D	4.92	1.90	22317	4536	11,746
Ward - E	3.91	1.51	17635	4510	11,679
Total	20.87	8.06	101368	6380	16,498

SOURCE : B.B.S. District Statistics-1983, Pourashava-1987.

### 2.5.6 Labour Force

Labour force constitutes about 70% of the total population (71676 persons). About 34.52% of the total force do not work (11.66% belong to 10-29 years age group) and about 27.27% is actively engaged in household affairs. Thus about 38.21% of the remaining labour force (27,386 persons) is actively engaged in different economic activities as shown thus :



TABLE 21 : PERSONS ENGAGED IN DIFFERENT SECTORS  
OF ECONOMIC ACTIVITIES BY WARD, 1981

Locality	Total active labour force	Sectors				
		Culti- vation	Agri. non crop	Manufac- turing	Business	Others
Ward - A	3530	10	4	280	1264	1872
Ward - B	7277	33	25	221	1624	4574
Ward - C	6566	366	35	-	1845	4320
Ward - D	5634	511	19	333	481	4290
Ward - E	4379	205	7	465	1646	2156
Total Nos.	2786	2025	90	1199	6860	17212
Total %	38.21%	2.83%	0.13%	1.67%	9.57%	24.01%

Source : B.B.S. District Statistics - 1983.

#### 2.5.7 Population Forecasts

From the foregoing paragraphs it is expected that natural growth (Population) rate predominates and will continue for another one and half decades. Same is the case with the zila shahar population because of possibilities for emerging centres at strategic locations.

TABLE 22 : POPULATION BY ZILA SHAHAR AND ZILA REGION  
PROJECTION FROM 1981-2001 AD.

Period	Growth rate (%)
1974 - 81	7.30 (High)
1961 - 81	5.06 (Medium)
1961 - 74	3.88 (Low)

TABLE 23 : PROJECTION OF POPULATION STUDY AREA 1981-2001 AD.

Trend of Projection	1981 (Base year)	1986	1991	1996	2001
High (7.30%)	1,01,368	1,44,178	2,05,067	2,91,671	2,44,850
Medium(5.06%)	1,01,368	1,29,744	1,66,063	2,12,549	2,72,048
Low (3.88%)	1,01,368	1,22,619	1,48,326	1,79,422	2,17,037

Formula of population Projection :

$P_1$	=	$P_0 \times e^{rt}$
$P_1$	=	Population of participating time
$P_0$	=	Initial population
$e$	=	Natural base of IO garithms
$r$	=	Growth rate
$t$	=	Time

2.6 SECTORAL STUDIES

2.6.1 Housing Sector

Total housing area in Dinajpur zila shahar is about 666.62 hectares (1646.56 acres) distributed all over the built-up area excepting, the central part as well as the north and the south fringe along the trunk road.

These identified central function areas also hold housing structures of sporadic nature. An area of about 75.25 hectares (141.5 acres), on the south eastern part of the municipality has been planned for housing estate. This will accommodate about 1832 housing units of different categories.

The housing area accommodates about 16399 dwelling units of which 36% is pucca, Semi-pucca and Kutcha units being 37% and 27% respectively.

Housing density per hectare has been calculated as 25 units (10 units per acre). Most of the houses are semi detached; sizes varies between  $56-186m^2$  (600-2000 sft with an average being  $93m^2$  (1000 sft)).

From analysis of the foregoing paragraphs it is observed that average size of the dwelling units is little over 6 persons per d.u. (6.18).

This indicates that an additional 6554 housing units will be required if all the families are to be housed by the turn of the century. This will require additional 166 hectares (410 acres) land. Distribution pattern of housing stages of development has been shown thus :

TABLE 24 : HOUSING DEMAND & LAND REQUIREMENTS THEREOF

D e m a n d	Development Stage		
	1990	1995	2000
Housing Unit	3687	5889	6554
Land requirements			
- Hectares	93	149	166
- Acres	230	368	410

2.7 INDUSTRY AND COMMERCE SECTOR :

Industry and Commerce occupy about 3.39% of the total acreage of the zila shahar area (Industry 49.49 hectares and Commerce 21.30 hectares) where-in about 8059 persons are actively engaged in gainful employment.

There are 10 saw mills (employing 65 persons) having the capacity of processing 18,7000 cft. per year. The zila shahar has 241 cottage industries, 100 manufacturing (Soap factory 8, plastic products 1, furniture 39 and jewellery 62) and 36 mis-

miscellaneous type of which rice husking mills predominates. These industries support about 1200 working labourforce. Average size of employment per industrial unit is 3.

Commerce includes wholesale trade (1373), Retail Trade (1406), construction (339), Bank/Financial Institutions (24), Residential Hotels (14), Hotel and Restaurants (90), Medical/Pharmacy (83). These are distributed all over the area. But the major concentration is found in the central part of the shahar area along the trunk road.

Commerce occupies about 21.30 hectares (52.62 acres) where in about 3329 units are operating giving employment facilities for about 6860 persons. Average size of employment facilities per establishment being 2.

TABLE 25 : MANUFACTURING AND BUSINESS ESTABLISHMENTS AND EMPLOYMENT THEREOF BY WARD.

Localities	Manufacturing/Cottage Industry		Business	
	Nos. of Estb.	Nos. of Employ	Nos. of Est.	Nos. of Emp.
Ward - A	145	280	630	1264
Ward - B	45	121	812	1624
Ward - C	51	100	822	1845
Ward - D	121	333	240	481
Ward - E	33	365	825	1646

SOURCE : B.B.S. District Statistics - 1983

Dinajpur shahar is well provided with storage and were-house facilities. There are about 600 godowns with a total capacity of 2200 tons. Beside, there are 2 seed storages 11 fertilizer godowns (2500 tons capacity) and other 13 godowns (7000 tons capacity).

There are about several retail markets, wholesale market (1) pucca markets (3) with hats and bazars.

2.8 SOCIAL SERVICES SECTOR :

2.8.1 Health facilities

The zila shahar is provided with Govt. Hospital (1), T.B. Clinic (1), School Health Clinic (1), Urban dispensary (1). Besides, a number of private dispensaries and Pharmacy (83) provide services at the hour of needs.

Private sector hospitals are also providing greater services to this health sectors. Some of them to be mentioned are :

Health Facilities available at Present

	<u>Nos.</u>	<u>Location</u>
o 50 bedded Red Cross	1	Paharpur
o 80 bedded Mission Hospital	1	Kashba
o 24 bedded Gausul Azam Eye Hospital	1	New Town
o 10 bedded Luckey Nursing Home(Private)	1	Paharpur
o 8 bedded Poly Clinic (Private)	1	Hospital Road
o 8 bedded Ahsan Clinic (Private)	1	Paharpur
o Friday Free Clinic (Private)	1	Marwaripatty
o Outdoor Facilities	1	New Town
o Diabetic Centre Ram Krishna Mission	1	Kashba

Source : Zila Civil Surgeon Office - 1987

Family Planning

o Maternity and child Welfare Centre	1	
o Private Sector - B.F.P.A.	1	At Muslimpara
B.A.V.S.	1	At Ghashipara
o Social Welfare Training Centre	1	At Ghashipara
o Kanchan Mahilashamity	1	At Baleebari
o Anayanna Unnayan Shangstha	1	At Station Road
o Nari Kalyan Sangstha	1	At Station Road
o Muslim Nari Sangstha	1	At New Town
o Shahid Smriti Sangstha	1	At New Town
o Shamaj Progati Parishad	1	At New Town
o Janson F.P.H.C. Society	1	At Auliapur

Source : Zila Civil Surgeon office - 1987.

### 2.8.2 Education facilities available at present

The shahar is also provided with educational facilities as under :

Primary School :	22
High School :	11 (Boys-8 & Girls-3)
College :	5 (Govt. 2 & Private 2)
	Music College (1) cum Intermediate
Technical College : (Poly Technic)	1

Source : Zila Education office - 1987

### 2.8.3 Water Supply facilities

<u>Water connection</u>	<u>Dwelling units</u>			
Ward - A	Pucca	200	Semi pucca	22
Ward - B	"	145	" "	10
Ward - C	"	320	" "	26
Ward - D	"	128	" "	6
Mosque, Temple ..	..		..	30 Nos.
Road side water connection	..		..	28 "
Over head tank at Balubari Ganeshtala, New Town (Each 1.5 lakh gallon)	...		..	3 "
Nos. of Deep Tubewell with pump house	..		..	5 "
Nos. of hand Tubewell	..		..	350 "
Length of water pipe line -				
- 4" dia -	8	Miles		
- 6" dia -	7.35	"		
- 8" dia -	2.50	"		
- 10" dia -	1.65	"		
- 12" dia -	0.50	"		
<hr/>				
20.00 Miles				

Source : Dinaipur Municipality - 1987.

#### 2.8.4 Sanitation and Drainage Facilities

Drainage : Pucca - 7 Mile (combined)  
Kutchha - (Normal channel)  
Ghagra canal (earthen)

\* Storm water & sewage water is being disposed of at the earthen channel connected by deep drain. Surface drain is connected with drain and falls in existing ghagra canal and Girija Canal

- Dustbin : 110 Nos. (R.C.C.)

Trash is removed in alternate days from the different points on lanes and daily from the main dustbins located in different points on main roads.

- Toilet :

Service Latrine : 5,000 Nos.

Sanitary Latrine : 4,000 "

o Night soil & garbages are being disposed off at the ditch near matasagar by bucket carrier.

o There are 192 sweepers to collect rubbish and night soils.

o There is no sewer system at present.

Source : Dinajpur Pourashava - 1987.

#### 2.8.5 Socio-Cultural, Religious and Recreational Facilities

o Number of mosques distributed all over the area

o Community Centre : 1 No.

o Town Hall : 11 No.

o Cinema Hall (including one  
B.D.R. Auditorium) : 5 Nos.

o Club : 1 No.

o Stadium : 1 No.

##### Professional Services

o Doctors : 12 Nos.

o Lawyers : 134 Nos.

2.8.6 Urban Services

a. Roads

a. Type	- Pucca
Width	- 40' - 60'
Length	- 48.37 Miles
b. Type	- Brick Soling
Width	- 12'-20'
Length	- 10 Miles

b. Power

Electric Connection (Source : PDB)

i. Domestic	:	5665 Nos.
ii. Commercial including Govt. office	:	1910 Nos.
iii. Educational Institution	:	110 Nos.
iv. H.T. Connection above 50 KWH for Industry	:	4 Nos.
v. Street light	:	25 Nos.
vi. Water supply pump station	:	7 Nos.
o Monthly power consumption Outside the Municipal area	:	10,66,589 KWH
o Dinajpur Textile Mills	:	2,50,000 KWH
o Palli Bidyut Samity	:	8,00,000 KWH

Source : Pourashava and Power Development Board - 1987.

2.8.7 Administrative/Institutional Services :

- General Administration and Judiciary both at Zila and Upazila levels.
- Police, both at Zila and Upazila level
- Other office Govt./Semi Govt. at Zila and Upazila levels.

Source : Field Survey - 1987.

## 2.9 TRANSPORT SECTOR STUDIES

### 2.9.1 Traffic

At present the location of the zila shahar within the zila region is not significant for motorised traffic flow with the study area (Pourashava) except some out-going traffic connecting other upazila and adjacent new zila shahar of Thakurgaon and Panchagarh within the urban area some motorised traffic and Cycle Rickshaw are main traffic movement where number of motorised traffic is insignificant. On that perspective no traffic survey was conducted but our study team has collected some information on Motorised and non Motorised traffic vehicle of the zila and zila shahar from zila transport authority for which transportation registration figure since 1977-87 shows as :

<u>Motorised</u>		5047	
1.	Jeep	104	Nos.
2.	Pick-up	33	"
3.	Baby Taxi	3	"
4.	Van	8	"
5.	Mini Bus	12	"
6.	Truck	195	"
7.	Micro Bus	4	"
8.	Bus	12	"
9.	Tractor	299	"
10.	Trailer	164	"
11.	Motor Cycle	4203	"
<u>Non-Motorised</u>			
1.	Cycle Rickshaw	3900	"
2.	Push Cart	121	"
3.	Bullock/Cow Cart	679	"
4.	Hackney carriage	1	No.

Source : Zila Traffic office - 1987.

Above information indicates the transport available in Dinajpur zila for the motorised vehicle and in case of non-Motorised the

number is applicable for pourashava area of Dinajpur only. At present there is no motorised public transport system within the city and people of the shahar mostly use Cycle Rickshaw and walking as a means of communication within the city. Traffic flow is not a problem for the town at present but in future when the population will be doubled then it will become a matter of concern. In perspective of that, some new roads have been proposed in the proposed land-use plan which will solve the problem of the future.

#### 2.10 LAND OWNERSHIP AND LAND VALUE

Generally our study information reflect that there are some public sector land within the pourashava which has been identified in the land-use map as Government and Semi-Government use, other than these, all other lands within the study area are privately owned except some khash land available along the existing khal (which at present functions as a drainage channel in absence of any sewer system). However, from registration office source it is learnt that average land cost per acre is about Tk.5,60,000/- in and around the municipal area. Land value varies according to the location and characteristic of the land. The value of the land within the central business district is much higher than the cost mentioned above.

CHAPTER - I I

## CONCEPT FORMULATION & LAND-USE PROPOSAL

### 3.0 LAND-USE PLAN PROPOSAL

In the previous chapter 2.4 to 2.10 regarding the studies of existing land-use, Demography, Housing, Commerce & Industry, Social, transportation and land value and land ownership, details information analysis of these sector studies has been presented and annexed in this report as Chapter - I.

### 3.1 CONSTRAINTS AND OPPORTUNITIES :

Dinajpur is far away from the coastal belt and lies in a piedmont plain of the Physiographic regions of Bangladesh and for this the district is comparatively less favourable to natural calamity. Mixed brown and grey silty loam soils of the Barind Tract Amira series are prevailing in the District Headquarters.

Dinajpur Zila Shahar is centred around the Dinajpur Railway station and divided into two parts by the Railway lines. Entire municipal area of the zila shahar has been designated as the study plan area and it encompasses an area of about 20.87 Km<sup>2</sup> (8.06 sq. mile) composed of 5 wards.

Physical opportunities and constraints of the Dinajpur Zila Shahar have been identified on the map, (Constraints and Opportunities Map). It is observed from the existing land-use that wards E & B have the highest potential for future development and most of the future residential use can be accommodated in the above mentioned wards. An approximate area of 700 acres in the wards C & B have been identified for re-development on the basis of the present physical and socio-economic conditions of the area.

There is little scope for any new urban establishment here because at present most of the urban facilities are already existing. Some important and additional requirement can be

incorporated with the present facilities. Additional road requirement, for the smooth functioning of the present and future traffic flow, some new road linkages and extension of some existing roads have been proposed in land-use plan, and these are made on the basis of physical opportunities.

Land in and around the present built-up area which is presently used for agricultural purposes and are above normal flood level by character has been identified and this can be utilised for any type of specific land-use on the basis of future requirements. In some cases substantial earth-filling will be required to ensure planned urban development. Unplanned squatter establishments should be removed for creating new urban functions.

### 3.2 CONCEPT PLANT :

Dinajpur is one of the oldest district towns of Bangladesh with a long history of settlements from the British period. Required administrative, judiciary and other urban facilities available in other old district towns are available in Dinajpur. But the alarming growth of national population and its impact on urban life also affects the settlement of Dinajpur town. On the basis of the past trend of population growth it is expected that in 15 years it will grow at the rate of more than 5% which requires a lot of attention of authorities especially on the physical infrastructure.

In the chapter of opportunities and constraints potential areas for development and re-development have been identified. With the rapid growth of urban population, urban housing will demand urgent attention. For the demand of housing, an area has been identified for re-development. The objective of re-development is to utilize the existing physical infrastructure and locational advantages of the area in terms of proximity to the centre of the city. Potential area for future urban development has been identified in the north-western part of the city. There are some pockets of relatively low agricultural land but their elevations are above normal flood level.

which can be utilised for any necessary urban function. The concept plan has been designed with the objective of accommodating the growing population with limited resources to maximize the utilisation of human resources and Physical and socio-economic opportunities available to create a better environmental condition for the town.

### 3.2.1 Planning Principles

In perspective of limited resources, the immediate attention is to maximize the effectiveness of Physical plan by carefully determining priorities. To achieve these objectives the following planning principles have been adopted :

- a. To provide land areas for an appropriate mix of socio-economic facilities to serve the need of the population at the end of the century.
- b. To reduce the distance and cost between the place of work and place of living a pragmatic road network has been proposed.
- c. Realistic space standards for different urban land-use has been followed.
- d. Maximising the utilization of existing and committed infrastructure has been utilized.
- e. Unnecessary urban sprawl especially in area with physical disadvantages in respect of construction/or high agricultural value has been avoided.

### 3.2.2 Planning Approach

In preparing the physical land-use plan for the Dinajpur Pourashava, considerations have been given to :

- a. The national goal of economic development in relation to urbanization as relevant to Dinajpur.
- b. Regional development objectives in relation to the infrastructural development that would bring about changes in the economic condition and would influence the expansion of the zila shahar, and

- c. Internal urban factors for the zila shahar as observed from the sectoral studies conducted and analysis of potentialities and constraints of the study area.

Status of Dinajpur zila shahar in relation to the region can be understood by its locational characteristics. Dinajpur is a growth centre of highest degree in the zila region. As a result it would continue to serve as a big catchment area. Land-use plan for Dinajpur zila shahar has been prepared considering the above mentioned factors and potentialities.

### 3.2.3 Schematic Concept Plan

A schematic concept plan has been prepared for the Dinajpur Zila Shahar on the basis of national economic growth in relation to urbanization, regional development objectives and local factors. The principal features of this plan are :

- i. Accommodation of a population of 272048 by the end of the century within the proposed planning area (Existing Pourashava area.).
- ii. Identifying possible sites for commerce, industry and other socio-economic activities.
- iii. Roads and other infrastructure identified for immediate actions which will ensure a planned development of the zila shahar.

### 3.3 URBANIZATION STRATEGY

Official policy of administrative decentralization and devolution of development activities at local levels of local governments, the objectives of physical planning is to accelerate infrastructure development at upazila and zila headquarters and promote development activities there. This will include rapid growth of small scale industries mainly based on locally available resources and human settlements in and around upazila headquarters. The main strategy of physical planning in this context will be to formulate complete physical as well as land-use plans for the upazila and zila headquarters.

At present the nation is incapable of devoting necessary resources for the purpose of both improving the quality of urban life in terms of living side by side with development of agriculture, industry and other employment generating sector in a particular urban area. In view of that the strategy must, therefore, be :

- A. A guided land-development plan incorporating the present land-use trend has been proposed to ensure more rapid growth of facilities in future in sound lines.
- B. Priorities have been identified in planning of socio-economic and physical environment of the shahar to meet the present and future needs of the urban communities as well as to avoid future dislocation and problems.
- C. Formulate a systematic plan of population distribution consistent with present development trend utilizing the present and future infrastructure facilities.
- D. Suitable area for "Urban Deffered" has been identified which will serve the purpose of future urban development.

With the above frame of reference a strategy of total environmental planning has been adopted for land-use plan as described in the following paragraphs.

#### 3.3.1 Plan Description

Dinajpur is one of the oldest urban centres of the country and earlier it was the sadar sub-division of the Old Dinajpur Zila. administrative, commercial and infrastructure required for a zila shahar has been already established there. Growth pattern of zila shahar can be divided into two major blocks divided by the railway approaching from Parbatipur to Birole. Main commercial and residential constructions are located in the northern part of the shahar, Ward A can be identified as the central Business District (CBD) of the shahar with

marginal scope of further development. Most of the administrative establishments and government residential areas and Dinajpur Housing Estate are located in Wards C&D on the South of the Shahar.

Existing land-use pattern and infrastructure facility indicate that future urban growth can be incorporated with the extension of present road network and some additioned roads can be made for the smooth functioning of the future traffic flow. (Pedestrian and Rickshaw). The proposed Urban land-use plan is described in the following paragraph and the map has been drawn in the scale 1" = 330' on the basis of findings of studies, and annexed in this report.

GROSS LAND-USE REQUIREMENT FOR THE  
DINAJPUR POURASHAVA (ZILA SHAHAR)  
BY 2001 AD (Excluding Agriculture)

Land-use	Requirements as per standard		Proposed land-use	
	Population	Persons per Hec.	Area in Hec.	Percentage
Residential	2,72,048	265	1025.76	56.04
Commerce & Industry	3,02,094	3,235	93.38	5.10
Social Admn. Cultural & Urban Services	3,02,094	983	307.20	16.79
Roads	3,02,094	10% of the total land.	178.40	9.75
Urban deferred	3,02,094	10% of the total land.	167.55	9.16
Reserve	3,02,094	5% of the total land.	57.88	3.16
Total	-	-	1830.17	100%

In case of gross land-use requirement for the pourashava we have taken into consideration two different categories of population as a basis. In case of residential use we consider the projected population of the study area but in case of providing

#### Education

A substantial area of 192 acres is used for existing educational purpose. As per provision standard 54 primary schools are needed in the proposed shahar area. Hence 32 additional primary schools are needed if 100% literacy is to be achieved and the required number of schools can be accommodated in the proposed residential zones. Number of high school and college is adequate to fulfil the requirement up to 2001 AD.

#### Health

The existing hospital complex at ward C is considered to be adequate up to 2001 AD. However, additional approximate 11 acres of land has been proposed for health purpose in the proposed land use plan.

#### Administrative

At present 234 acres are under administrative use and this is quite adequate for the requirement and in that perspective an additional 26 acres of land has been proposed to accommodate future administrative purpose.

#### Recreational

At present 139.50 acres of land are used for recreational purpose which is adequate for the present need. At present 1 acre of land is used for 1300 persons for recreational purpose. It has been proposed that 1 acre of land should be used by 2166 persons for Parks, open space, Cinema hall, play ground and stadium, etc.

#### Socio-Cultural

At present 98 acres of land is used for socio-cultural purposes that is at present 1326 persons are using 1 acre of land for this purpose which is quite adequate and it is proposed that by 2001 AD, 2590 will use 1 acre of land for socio-cultural purposes and this socio-cultural purpose is for community centre, religious facilities, Graveyard, etc.

### Urban Services

There are approximately 6 acres of land under existing land-use for urban services. About 57 acres of land has been proposed for urban functions at suitable location. Therefore 4,317 persons will utilise 1 acre of land for different urban services which will include Bus Stand, Garbage disposal area, etc.

### Residential

An area of 1868 acres of land are utilised for residential uses for a population of 1,29,744 in the year 1986 that is 69 persons per acre. It is proposed that an additional 666 acres of land would be required for the estimated population of 2,72,000 by 2001 AD. In total 49.13% of land have been provided in the land use plan with an expectation of 107 persons per acre.

### Roads & Railway

Present Dinajpur Zila Shahar (Pourashava) have adequate number of secondary and major roads having possibility of widening. Some of the roads are connected with major urban centres and surrounding Upazila headquarters. In the land-use proposal it has been considered that some major roads should be widened for the smooth functioning of the traffic system. By-pass roads have also been proposed to avoid traffic hazard as well as it will serve the purpose of by-passing the crowded area of the town. These major roads have been designed with an width of 100'-0" and the secondary roads connected with these major roads with an width of 60'-0" to 44'-0" according to the requirements of the area. Hence for the purpose of widening of the existing roads and for the proposed roads an additional 146 acres of land would be required with existing uses of 294 acres of land that is 8.54% of the total land provision (Figure No. 10).

### Agriculture

At present 1283 acres of land is used for agricultural purpose which will be only 437 acres by 2001 AD, that is only 8.48% of the land will remain for agricultural use. Therefore, 1546 acres of agricultural land will be utilised for different uses to fulfil the requirement by the end of the century.

### Urban Deferred

About 8.02% of the land for future urban expansion have been kept as urban deferred. These areas will be utilised in future for government and non-residential uses depending on future needs of the shahar.

### Reserve

'RAJBARI' has some historical importance in terms of Dinajpur zila shahar. Two adjacent water bodies namely SOOKSAGAR and PADMA PUKUR can be utilised for income generating activities and at the same time it can be utilised for recreational purposes. The area has potentiality for development of pisciculture, duck-farming, nursery and also for the recreational purposes. The area has been kept as a reserve land for the utilization of the said purpose.

It is suggested that the Municipality would take care of developing this area as per land-use proposal. They may provide recreational facilities and income generating activities for its dwellers and the municipality itself. In the land-use proposal a land area of 57.88 hectares i.e. 2.77% of the total land use has been kept as Reserve land.

SCHEDULE OF LAND USES FOR DIFFERENT FACILITIES  
PROPOSED IN THE LAND USE PLAN FOR DINAJPUR  
POURASHAVA (ZILA SHAHAHR) - 1987

Estimated Population : 2,72,000 up to 2001 A.D.

Planned area and  
Development Control boundary : 2087.60 hectares.

Symble	Land-use	Total Area		Existing Land-use Percentage	Proposed Land-use Percentage
		In Hectare	In Acres		
1.	Commerce	36.42	90.00	1.62	1.75
1.a	Industry	56.96	140.75	2.17	2.73
2.	Education	77.70	192.00	3.72	3.72
3.	Health	10.20	25.20	0.28	0.49
4.	Administration				
	a. Govt. Deptts.				
	b. Police, BDR	94.70	234.00	4.04	4.55
	c. Local bodies				
5.	Recreation				
	a. Parks, Open Space				
	b. Cinema, Play Ground	56.45	139.50	1.94	2.70
	c. Sports, Stadium				
6.	Socio-Cultural				
	a. Community Centre				
	b. Religious Facilities	42.49	105.00	1.91	2.04
	c. Grave Yrad/Cemetery				
7.	Urban Service				
	Post Office, T.T. Police				
	Station, Fire Service	25.66	63.40	0.11	1.23
	ware house, garbage Cen- tre, Bus/Rail Station Elect.				
8.	Residential				
	Areas with internal open area & Roads (Local)	1025.76	2534.62	36.22	49.13
-	Major & Secondary Railway line Major & Secondary Road	178.40	440.83	5.69	8.54
-	Agricultural Land				
	a. Agricultural Firm	176.85	437.00	38.44	8.48
	b. Open Land				
	River, Canal, Ponds & Other Water bodies	80.58	199.10	3.86	3.86
9.	Urban Deferred	167.55	414.00	-	8.02
0.	Reserves	57.88	143.00	-	2.77
	Total	2087.60	5158.40	100.00	100.00

### 3.4 IDENTIFICATION OF THE PROJECT

#### SEWERAGE, SANITATION, WATER SUPPLY AND DRAINAGE

According to the Terms of Reference, it is the responsibility of the Consultant to identify the priority Projects in respect of Low-cost Housing, Industrial Development, Water Supply and Sanitation, Flood Control & Drainage infrastructure related to Transportation.

The Consultant felt a thorough investigation and study was essential before identifying such kinds of projects, even though this was not asked for in the TOR. A slum upgradation project has already been taken up by UNICEF for Pourashava and it is in the phase of implementation.

During the discussion on the Draft Land Use Plan and Report with the Pourashava authority, they desired that the Consultant should suggest and identify the immediate requirements of the projects such as Sewerage, Sanitation and Drainage. These projects encompass several different disciplines. These disciplines could be outlined grossly as detailed Engineering Survey, Technical Specification, Financial and Management involvement. A tentative outline regarding this has been attempted as follows :

**SEWERAGE :** In the Plan a tentative proposal with the information available by this study, a Trunk Sewer network assuming the covered services area has been proposed in the land-use plan. And also assuming the slope of trunk sewer 1 in 1000, lift stations at an interval of 30,000 ft. (approx.) have also

been assumed to be 5 ft. below the road level. This Trunk sewer system has been shown with a possible location of Inlet Pump Station. Treatment Plant which is suggested to be the Oxidation Pond from outfall to the down stream of the river Punarbhaba. The diameters and type of Sewer should be determined by thorough investigation for preparing detailed designs.

**DRAINAGE:** At present two numbers of natural Canals namely Ghagra and Girija Canals are serving the natural drainage of the Zila Shahar and most of the Surface and Deep drains are connected with these natural drains (canals). These canals are presently silted up and at the same time squatter encroachment is hampering its functional capacity. So it is felt that these two natural canals should be re-excavated to a required depth and transform it to a open R.C.C. drain having both side as green areas. This proposed drain will function properly to solve the drainage problem with minimum cost involvement and also ensure the environmental safety. The Pourashava authority should take necessary step to construct under-ground deep drains which should run along the proposed major roads and surface drains should be connected with these deep drains at a required points which will subsequently be connected with these two major drain proposed in the Plan. These two existing canals are at present running from north to south direction with a required catchment area for drainage and falls to the river Punarbhaba which have been shown in the land use plan.

WATER SUPPLY :

Dinajpur Zila Shahar like other Zila Shahar of the country have an existing water supply net-work which are not sufficient enough to cope with the present demand of the Shahar dwellers. And in future, with the implementation of the proposed Lans Use Plan provisions need improvement in this sector to cope with the generated population of 2,72,000 up to 2001 A.D. Study with an extensive investigation and detailed Engineering survey should be carried out for better improvement of this service facilities to the dwellers of the Pourashava. Here in this report some out lines have been proposed to this effect which are as follows :

POPULATION : Projected population of the planning area upto 2001 A.D. is estimated to be 2,72,000.

ASSUMPTION : 35 Gallons/capita/day including system loss and wastage.

TOTAL  
REQUIREMENT : 9.52 Million gallon per day.

SYSTEM  
PROPOSED : Intermittent supply from Deep Tubewell sources. It is known from different secondary sources like BADC, PHE and BWDB that the water bearing aquifer is sufficient for Deep Tubewell Water supply net-work. If one Tubewell of 6" dia with 1.5 cusec capacity pump is sunk and run for 20 hours a day it would yield 0.67 mgd. Thus a total number of 15 Tubewells would serve the estimated population upto 2001 A.D.

Based on this proposal a detailed investigation and engineering design should be undertaken for significant change in the system to cope with estimated water demand.

REHABILITA-  
TION OF EXIS-  
TIN SYSTEM :

After detailed engineering design the existing

water supply net-work should be rehabilitated to cater the proposed demand. It would not be prudent in advising to go for any water reserving structure like overhead tank keeping in view the economy in implementing the plan.

The normal life of such Deep Tubewells as mentioned earlier is generally considered to be 50 to 70 thousand hours depending on :

- i) Quality of aquifer-water
- ii) Maintenance of the whole system.

### 3.5 MANAGEMENT

Dinajpur Municipality is one of the oldest Municipalities (Pourashava) in Bangladesh and it was established in the year 1868. In the Government's recent policy of administrative reorganisation, the Zila Shahar has been recognised as the focal point for development at the Zila level. Hence the responsibility of the Pourashava of Zila Shahar has increased to such an extent that it should take firm measures to implement the development proposals made in the Land Use Plan for Dinajpur Zila Shahar. Successful implementation of Land Use Plan depends on effective management. The development activities of both Public and Private Sectors are to be implemented in accordance with the land use plan and that should be directly controlled by the Pourashava authority in order to avoid unplanned growth.

It is desirable to constitute a "COMMITTEE" to implement the land use plan within the frame work of existing Municipal Act and the Building Construction Act. This Committee will be headed by the Chairman of the Pourashava. The Pourashava authority should be strengthened further by inclusion of more technical and planning personnels in it to facilitate illustration and implementation of plans.

Local Engineers of the Govt. organisations may be included in the COMMITTEE as ex-officio members. The Pourashava will also function for site selection for any development activities within the planed area.

The Planner/Engineer will act as the Authorised Officer in approving the construction plans within the planned area in respect of residential, commercial and other uses.

It is also desired that the Pourashava authority will constitute a cell within the Pourashava administration, comprising the Planner, Engineer, Economist and other Supporting technical Staff for approving the proposed construction in accordance with the land use plan. This cell has the following responsibility to perform :

- a. Approval, illustration of the proposed plans for construction within the jurisdiction of Development control boundary of land-use plan.
- b. Co-ordinate with the Committee to implement and control the development activities within the planed area.
- c. Assist in implementing the land-use plan according to the priority and resource allocation.
- d. Detailing of the different Zones of the Land-use Plan for proper implementation.

Apart from this an enabling legislation should be framed and approved by the Jatyo Sangsad to empower the Pourashava to control the unplanned growth and to implement the proposed land-use plan in a cost effective manner and also to ensure the better urban facilities for the people of Dinajpur Zila Shahar.

\* \* \* \* \*