

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

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

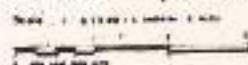
BIROLE
IN THE ZILA OF DINAJPUR
IN THE DIVISION OF
RAJSHAHI

JULY 1988

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

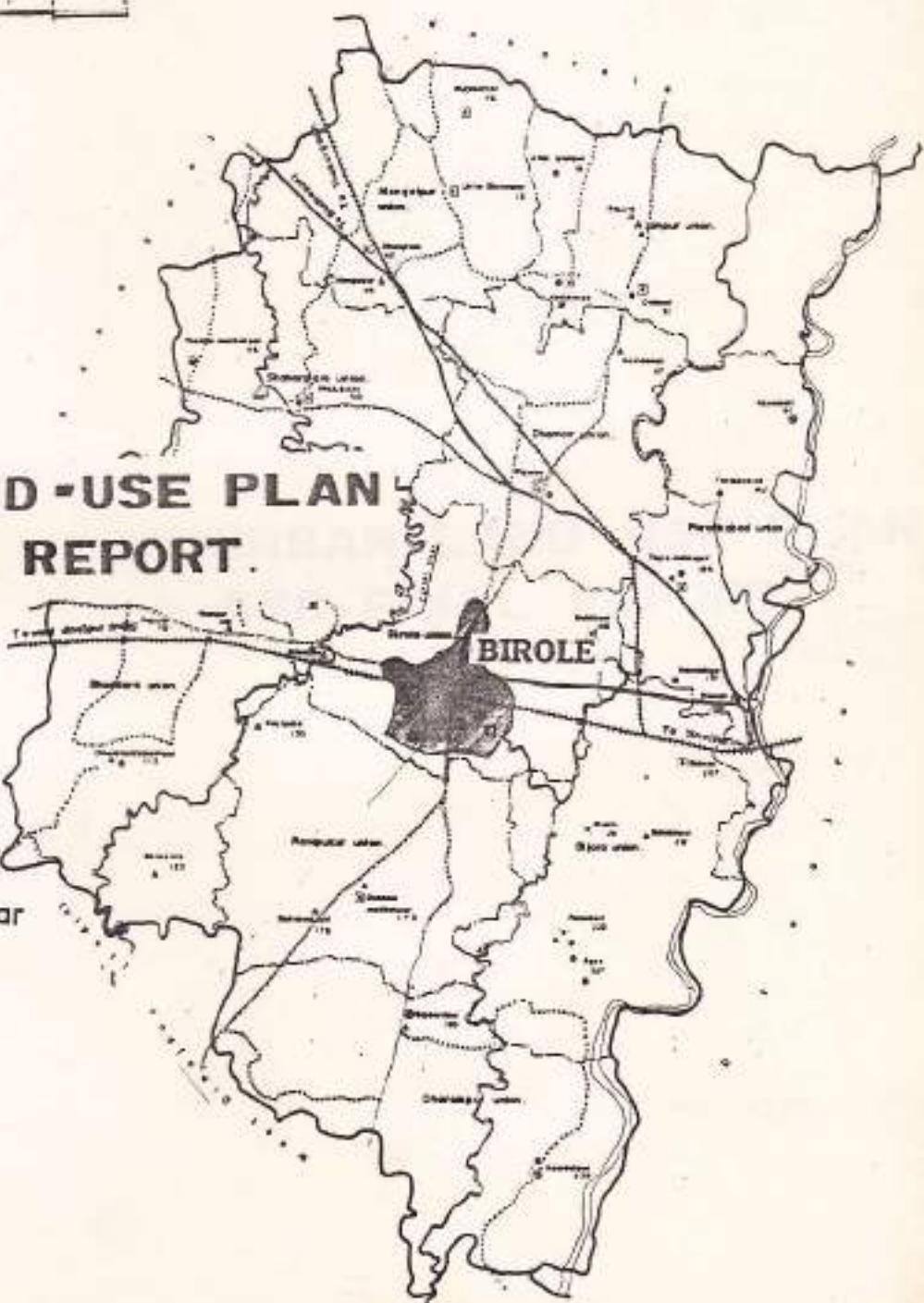


birôle upazila.



URBAN LAND-USE PLAN AND FINAL REPORT.

birôle upazila shahar



Submitted by :



a Consortium of
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**URBAN LAND -USE PLAN
AND FINAL REPORT.**

SEP 1988

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C H A P T E R I

Upazila Parishad
Biral, Dinajpur

romo No. U.P./Biral/Dinajp/ 152

Date:- 2/6/88

To

The Urban Development Director

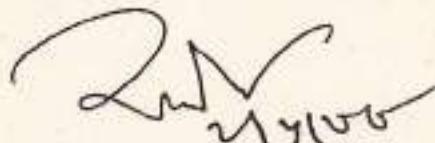
Sub:- Opinion and Comment on Draft land use plan of Upazila Parishad, Biral Upazila, Dinajpur.

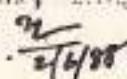
Ref:- Your Office Memo No. PTA/UDP-LP-UZS-09/83/10 dt. 22nd May 1983.

With Reference to your letter quoted above the plan which was submitted on Discussion P-4-83, has gladly been accepted and approved by this Upazila Parishad, Biral, Dinajpur.

Now we have no objection for implementation of the same.

Thanking you for kind co-operation.


(MD. HASAN ALI)
Chairman
Upazila Parishad
Biral, Dinajpur.


2/6/88

M.Sht 1/83

INTRODUCTION

The objective of preparing land-use plan for Upazila Shahar is to feed Government policy of administrative decentralization and devolution of development activities at local levels to local Governments, which will accelerate infrastructure development at Upazila centre and promote development activities there. This will induce rapid growth of small scale industries mainly based on locally available resources and human settlements in and around the upazila headquarters. The main strategy of physical planning in this context will be to formulate complete physical as well as land-use plans for upazila and preparing the land-use plan is the partial fulfilment of the objective which will ensure national economic development.

The Birole thana came into existence in the year 1915. There is no authentic information about the origin of the name of the thana. It is generally believed that the thana has been named after the Mouza Birole as its Headquarters is located there. That upgraded thana has become the upazila headquarters at present.

An offer was given by the Urban Development Directorate under the Ministry of Works of the Govt. of the People's Republic of Bangladesh to PTA Consortium to study the present condition of the old thana Headquarters (upgraded to upazila Headquarters) with the eventual aim of preparing a comprehensive " LAND USE PLAN/MASTER PLAN " of the Birole upazila shahar. This plan is also to ensure the development of the shahar in an orderly and disciplined manner through the observation of future LAND-USE proposals (as detailed in the plan and Report) and development control by discouraging the unplanned and uncontrolled growth.

To make the plan pragmatic and appropriate for the existing socio-economic and physical condition and future development potentialities, two teams of Surveyors headed by planner conducted the

following survey works related to study :

- a) Physical Land-use survey of the present delineated area of the upazila shahar and its surrounding (study plan area).
- b) Socio-economic survey of the upazila shahar and zila region through primary and secondary methods/sources.
- c) An overview of upazila "Headquarters Land and its vicinity" by the experts of the team.
- d) Interview with officers of Urban Development Directorate for collection of maps, reference, TOR and other information and also the collection of mouza, maps, thana maps and contour survey maps from the D.C. Office, (Dinajpur), D.L.R's Office (Dhaka) and B.W.D.B. (Dhaka).
- e) Interview with local upazila authority like upazila Chairman, Nirbahi Officer and upazila Engineer for collection of Data and informations.

The findings of the Surveys conducted during our study were presented in three different REPORTS earlier submitted to UDD and these were accepted by them. This REPORT is the followup of earlier reports which included every part of the findings and results of our study as provided in the TOR. On the analysis of the sectoral studies and existing land-use, a concept plan was developed, and evaluating the survey findings, land-use pattern, constraints and opportunities of the study area, a Draft Land-use plan was prepared. Thorough discussions were made with the local administrations and the People's representatives as well as with the officials of the UDD.

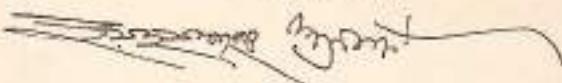
Here we want to mention that during the preparation of this LAND-USE PLAN from the begining of the study, we maintained a close liaison with the local authority, especially with the Upazila Chairman, upazila Nirbahi Officer and the upazila Engineer. After the preparation of a Draft Land-use plan, we discussed with

them and after fruitful discussions they have accepted the proposals made in the "LAND-USE PLAN" (a copy of letter of authentication is appended in this report).

We must extend here our profound gratitude to the Upazila Chairman, Upazila Nirbahi Officer, Upazila Engineer for their co-operation. This would not have been possible without the active co-operation of the officials of the Urban Development Directorate including its Regional Office at Rajshahi. We record here our appreciation and acknowledgement to them.

The proposed urban centre (upazila shahar) will serve as "SERVICE CENTRE" for the surrounding rural area or the hinterland particularly for its catchment area in addition to functioning as administrative headquarters, and economic and social service centre. We sincerely desire that the local authority, for whom the plan has been prepared, will implement this by using the land-use guidelines for the present and the future development of their urban centre.

For PTA CONSORTIUM

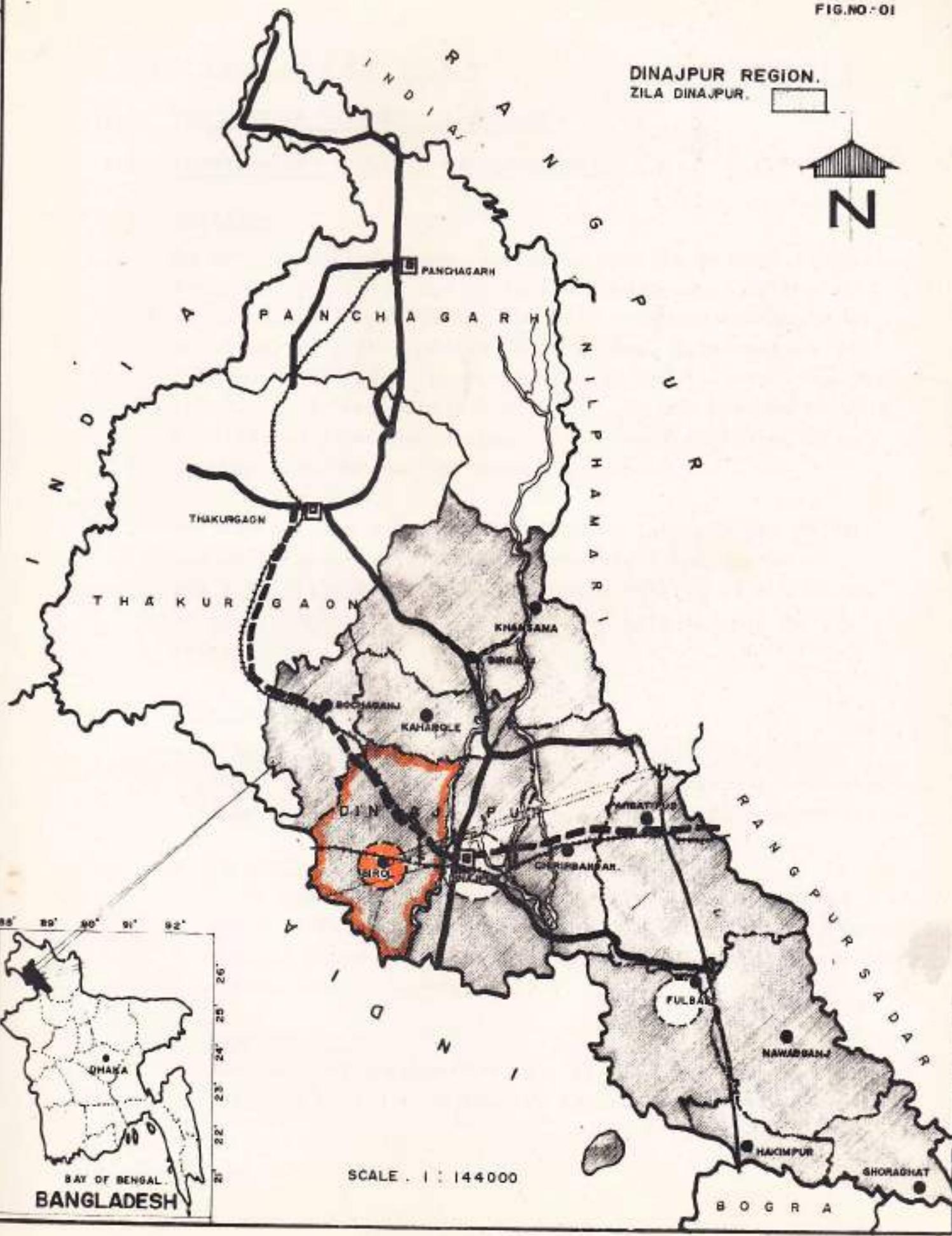

(YEAFESH OSMAN)



DINAJPUR REGION.
ZILA DINAJPUR.



N



R E P O R T O N S T U D I E S

2.0 THE UPAZILA IN THE ZILA CONTEXT

2.1 LOCATION AND PHYSICAL CHARACTERISTICS

a. Location :

In the regional context the Birole Upazila belongs to the Dinajpur Sub-region and it is situated/located by the side of the Kotwali Upazila and the Zila Headquarters is 10 Km. (6 miles) from the upazila Headquarters. This Upazila is bounded to the North by the Bochaganj and Kaharole Upazillas in the south by West-Dinajpur of India. In the East by Kotwali Upazila and Zila Headquarters. It is well connected by all weather road and railway from Dinajpur.

It lies between $25^{\circ}31'$ and $25^{\circ}46'$ North latitude and $88^{\circ}26'$ and $88^{\circ}38'$ East longitude. It comprises a total area of 352.1 km^2 (136.0 Sq.Miles) including an area of 4.9 Sq.Km. of river. Location and Transport Map (Fig-01) may be referred to.

b. Physical Characteristics :

o Climate :

The Upazila region stands within the transirory climatic zone, where hot summer with moderate rainfall prevails.

o Rainfall :

There are three main sources of rainfall. The sources are - i) Western depression of winds, ii) The early summer thunder storm, iii) The monsoon about 75" inches falling mainly between May-October.

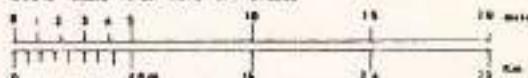
o Temperature :

The range of Temperature is : i) mean July temperature being 79°F , ii) mean January temperature being 49°F .



dinajpur zilla

Scale: Scale from left to right 1:50000



LEGEND.

ZILA SHAHAR

UPAZILA SHAHAR

RAILWAY LINE

• METER GAUGE

• BROAD GAUGE

PRINCIPAL ROADS

• PAVED ROAD

• KUTCHA ROAD

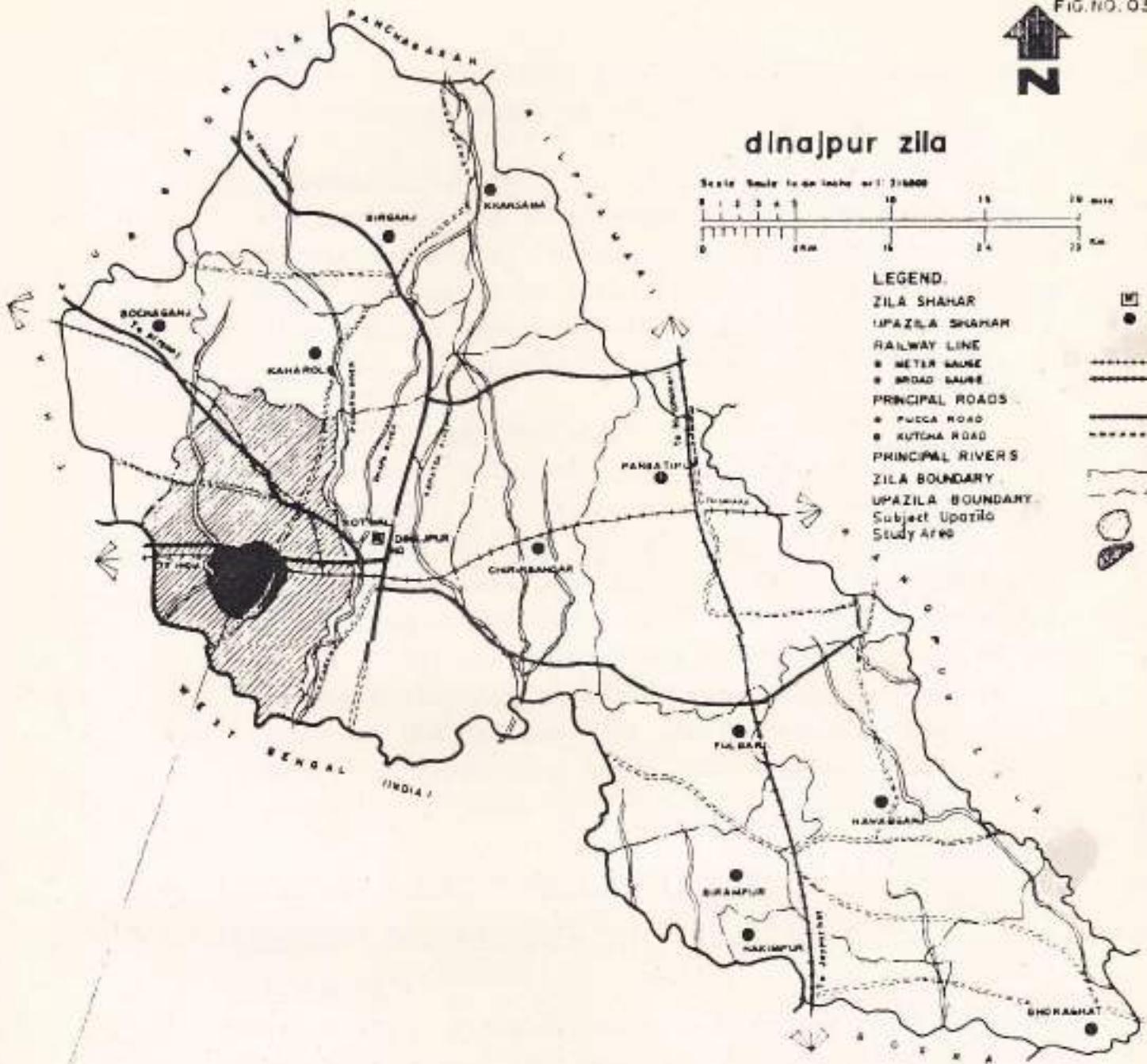
PRINCIPAL RIVERS

ZILA BOUNDARY

UPAZILA BOUNDARY

Subject Upazila

Study Area



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SHEGHABANDHA SHAKA

Transport Routes & Regional Setting Map

LOCATION MAP

UPAZILA - BIROL

PTA CONSORTIUM

43. BIRAMPUR ROAD, CHAMRODOK DHAKA

o Humidity :

The level of humidity is : i) highest in August at 83%, ii) Lowest in March at 46%.

o Prevailing Wind :

The general wind directions are : i) North-easterly during the period, November-February, ii) Westerly or South-Westerly from March to May; iii) South-Easterly from June to September, iv) October winds are very variable.

o Topography and Landform :

The Piedmont alluvial plains, comparatively high level and rolling in parts and the alluvial loams of the many rivers issuing from the Terai region at the foot of the Himalayan ranges. The interfluves of the rivers are slightly dome shaped. The gradient is considerable, being 3' ft. per mile. Brown silty loams soils of the piedmont alluvial plains of the Jamuna series are covering the Western part of the UPAZILA. The mixed Brown and grey silty loams of the Barind Tract are found in the east.

2.2. POPULATION & SETTLEMENT DISTRIBUTION

2.2.1 POPULATION CHARACTERISTICS :

Within Zila :

There is 18,04,015 population in Dinajpur zila sub-region as per census year 1981 which is 2.07% of National Population. Among these population 10.23% live in URBAN area and rest population 89.77% in the RURAL area. The percentage of the Male population of this zila sub region is 51.60% and the Female population is 48.40% i.e. 9,30,200 and 8,73,815 respectively. There are 107 males for every 100 females. The overall density of population for the zila sub region is 509 persons per Km². The Tables 1 and 2 provide detailed picture of the population for the zila sub region and the BIROLE Upazila.

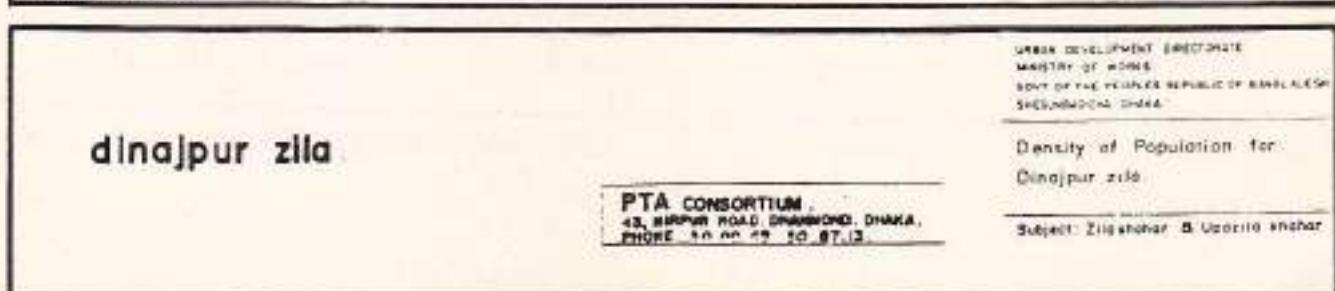
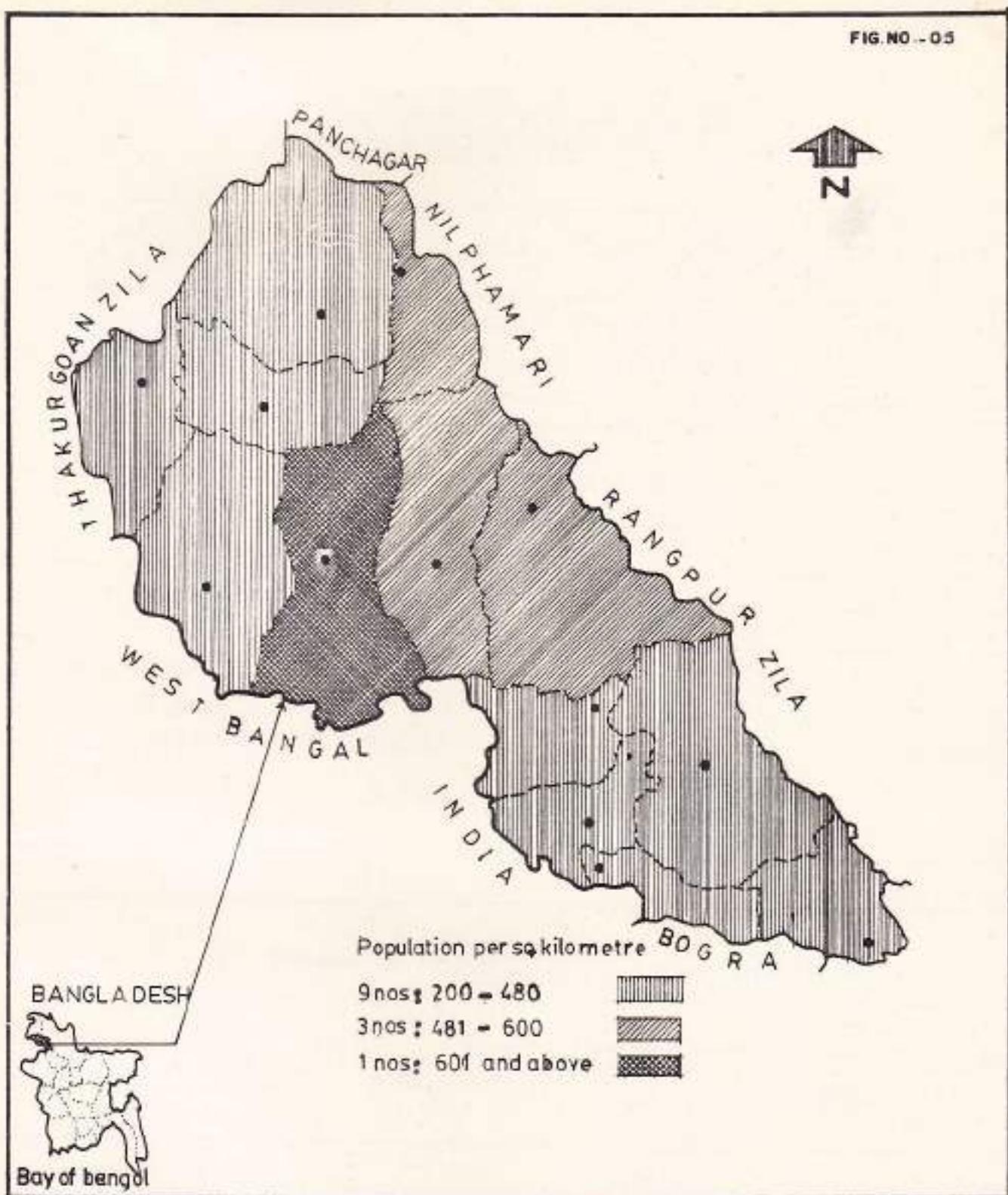


TABLE : 1 POPULATION BY SEX, HOUSEHOLD STRUCTURE SIZE AND DENSITY FOR DINAJPUR ZILA SUB-REGION AND BIROLE UPAZILA 1981

ZILA UPAZILA	AREA Km ²	POPULA- TION Sq.m.	TOTAL	MALE	FEMALE	NO. OF HOUSE HOLD	AV. HOUSE HOLD SIZE	DENSITY PER Km ²
ZILA	3543	1368	18,04,015	9,30,200	873815	327236	5.51	509
UPAZILA	352.24	135	1,66,485	88,280	78205	28140	3.92	473

SOURCE : BBS Population census 1981 (all Upazila) Dinajpur Zila.

TABLE : 2. URBAN & RURAL POPULATION, AGE-SEX OF DINAJPUR ZILA - 1981.

Age Group	Population		TOTAL	Population	
	Male	Female		Urban	Rural
Upto 9 years	3,14,146	2,95,247	6,09,393	62,353	5,47,040
10 - 17 "	1,68,011	1,57,592	3,25,603	33,342	2,92,261
18 - 64 "	4,23,043	3,96,846	8,19,889	83,957	7,35,932
65 Years above.	25,000	24,130	49,130	5,031	44,099
TOTAL	9,30,200	8,73,815	18,04,015	1,84,683	16,19,332

TABLE : 3. POPULATION CHANGES IN DINAJPUR ZILA SUB REGION (FROM 1961 - 1981)

YEAR	AREA		POPULATION	DENSITY PER Km ²	VARIATION	GROWTH RATE PER YEAR
	Km ²	Sq.m.				
1961	3,543	1,368	10,10,035	285	44.27	2.85
1974	3,543	1,368	14,57,175	411	23.80	3.09
1981	3,543	1,368	18,04,015	509	78.00	2.94

SOURCE : BBS. DIST. STATISTICS 1983.

In the above table population changes in the Dinajpur Zila sub region from the year 1961 to 1981 have been identified with variation and growth rate. There is a considerable change in the density of Population from year 1961 to 1981 which reads as 285 persons per Km² in 1961, 411 persons in 1974 and 509 persons in 1981 census year. Thus the variation reads as 44.27% from 1961 to 1974; 23.80% from 1974 to 1981 and 78.60% from 1961 to 1981 (Base Year) respectively. The growth rate stands at 2.85, 3.09 and 2.94 respectively for the same respective period.

2.2.2. WITHIN UPAZILA :

The total population of this Upazila region is 1,66,485 persons according to 1981 population census. Out of this total population 88,280 persons are males and 78,205 persons are females. The percentage reads as 53.02% and 46.98% respectively.

In the BIROLE Upazila 6,996 population live in different urban areas of the Upazila including the Upazila shahar and the remaining 1,59,489 population live in the Rural areas within different villages. There are 113 males for every 100 females as against 107 for the Dinajpur Zila Sub region.

About 3.69% percent of the Zila population live in this Upazila region in an area of about 9.94% percent of the zila acreage. The Population density of the BIROLE Upazila as per census year 1981 shows that there are 473 persons per Km² as against 509 persons for the zila and 605 persons for the nation. About 52.26% of the total population belong to the age-group of 0-17 years whereas 45.14% of the age-group 18-64 years and the rest age-group 64 year and above is 2.6%. Dependency ratio for this Upazila is found to be 99 for every 100 population of the age-group 15-64 year. The Upazila has 28,336 married women in the fertile

age group of 15-64 years of age. Table - 4 shows the picture of Age-sex composition and Urban Rural distribution of population for BIROLE Upazila.

TABLE - 4 : URBAN AND RURAL POPULATION AGE-SEX COMPOSITION IN BIROLE UPAZILA - 1981.

Age Group	Population		Total	Population	
	Male	Female		Urban	Rural
Upto 9 years	30,251	26,827	57,078	2,398	54,680
10 - 17 "	15,873	14,058	29,931	1,258	28,673
18 - 64 "	39,854	35,297	75,151	3,158	71,993
65 Years above	2,302	2,023	4,325	182	4,143
T O T A L	88,280	78,205	1,66,485	6,996	1,59,489

TABLE - 5 : POPULATION CHANGE IN BIROLE UPAZILA FROM 1961 - 1981.

YEAR	AREA		POPULATION	DENSITY	VARIATION	GROWTH RATE PER YEAR
	Km ²	SQM				
1961	352.24	136	89,220	253	45.98	3.58
1974	352.24	136	1,30,244	370	27.83	4.43
1981	352.24	136	1,66,485	473	86.60	4.57

SOURCE : BBS. DISTRICT STATISTICS.

TABLE - 6 : POPULATION AND GROWTH RATE BY UNION FOR BIROLE UPAZILA FROM 1961 - 1981.

U N I O N	P O P U L A T I O N			G R O W T H R A T E S		
	1961	1974	1981	1961-74	1974-81	1961-81
AZIMPUR	8,234	10,086	14,455	1.73	6.19	3.78
BHANDRA	8,249	12,480	15,241	3.95	3.16	4.24
BIROLE	11,599	15,836	20,262	2.81	3.99	3.73
BIZORA	12,269	18,204	22,030	3.77	2.93	3.98
DHAMOIR	7,313	10,588	18,068	3.44	10.09	7.35
FARAKKABAD	9,851	14,356	17,382	3.52	3.02	3.83
DHARMAPUR	7,252	11,190	14,630	4.18	4.39	5.09
RANIPUKUR	7,510	12,615	15,917	5.23	3.76	5.61
MONGALPUR	7,610	11,093	13,900	3.52	3.61	4.13
SHAHARGRAM	9,333	13,716	16,716	3.61	3.12	3.95
BIROLE UPAZILA	89,220	1,30,244	1,66,485	3.58	4.43	4.57

SOURCE : BBS. DISTRICT CENCUS AND VILLAGE STATISTICS.

* UPAZILA STUDY AREA (PART)

The Table 5 and 6 reflect population changes and growth rates by Unions in the Upazila from the year 1961 to 1981. There are considerable changes in population and density from the year 1961-74 which reads 89,220 to 1,32,044 in respect of population and density of population per Km². are 253 to 370 persons. But from the year 1974 to 1981, the population changes from 1,30,244 to 1,66,485 in the base year 1981 and the density shows from 370 to 473 per Km². The growth rate has been identified in the year 1961, 1974 and 1981 as 3.58%, 4.43% and 4.57% per year respectively. Population and growth rate by unions in table 6 shows the more detailed picture about the Upazila by unions.

TABLE - 7 : LITERATE PERSONS (5 YEARS +)
FOR ZILA & UPAZILA.

LOCALITY	TOTAL	MALE	FEMALE	In Percentage
				PERCENTAGE
UPAZILA	28,309	21,728	6,581	20.8
ZILA	3,44,217	2,47,810	96,407	23.2

SOURCE : BBS

TABLE - 8 : LITERACY RATE (5 YEARS AND OVER)

POPULATION	SIROLE UPAZILA	DINAJPUR ZILA
TOTAL : BOTH SEX	20.8	22.32
MALE	29.7	30.92
FEMALE	10.4	12.68
<u>URBAN</u>		
TOTAL : BOTH SEX	25.1	34.54
MALE	32.6	42.90
FEMALE	16.4	24.60
<u>RURAL</u>		
TOTAL : BOTH SEX	20.6	21.00
MALE	29.6	30.00
FEMALE	10.2	11.45

SOURCE : BBS.

TABLE - 9 : MARRIED WOMEN BETWEEN 15-40 YEARS AGE GROUP

UPAZILA/ZILA	POPULATION		Married Women 15-40 years age group	Percent
	TOTAL	% Over Zila population		
UPAZILA	1,66,485	9.23	30,102	18.08
ZILA	18,04,015	100.00	3,12,063	17.30

SOURCE : BBS.

2.2.3 SETTLEMENT DISTRIBUTION OF ZILA AND UPAZILA

A. DINAJPUR ZILA

Human settlement distribution all over the zila sub region shows that there are 2,689 villages and 1,977 Mouzas for a total population of 18,04,015 with an average density per village 671 persons. The zila comprises by Administrative units of 102 unions and 1,977 Mouzas. There are 3,27,236 house-holds with an average house-hold size of 5.51 and 3,24,986 (about 99.31%) are dwelling units, the rest are Institutional and Business Units.

B. BIROLE UPAZILA

In BIROLE Upazila, it is found that Human settlement distributions all over the Upazila are 247 villages and 231 Mouzas with 28,140 house-holds for a total population of 1,66,485. The Upazila is covered by administrative units with 10 Unions and 231 Mouzas. There are 28,061 (about 99.7%) dwelling units, the rest are Institutional and Business units within the Upazila. The average density per village is 674 persons. Amongst these villages there are 135 (54.7%) small villages with maximum 100 house-holds, 109 (44.1%) medium villages with more than 100 house-holds and the rest 3 villages (about 1.2%) are big having more than 500 house-holds.

In BIROLE Upazila, it is found that most of the unions have atleast one Secondary School each. There are Huts and Bazars, those serve as local service centres. Some of the centres have dispensaries, union level public NGO's Institutions. Such centres do have at least 4,000 population at its adjacent villages with service area of about 2 miles radius to serve a population of about 10,000 on the average. The local level

services and facilities vary with the size of the village mouza population. Most of the villages with less than 500 population have such social facilities like Mosques, some of them have Madrasha and Primary School.

In this Upazila it is distinctly found that the Service facilities vary with the hierarchy of Settlement and that the number of Settlements (Mouza-wise) decreases with the increased size (shown in the chart) in the Hierarchy. About 47.19% of the total mouza villages having less than 500 population of the total 231 mouza, villages within the Upazila. A chart showing Hierarchy of Settlement by Mouza-wise and population, reflects the picture of Settlement distribution. Tables 10 and 11 reflect Settlement distribution, and the population changes of human Settlements hierarchy from 1961 to 1981 for the subject Upazila.

TABLE - 10 : SETTLEMENT DISTRIBUTION FOR DINAJPUR ZILA SUBJECT UPAZILA AND OTHER UPAZILA.

Location	No. of villages	No. of Mouza	No. of Unions	Population	Average density per village
Birole Upazila	247	231	10	1,66,485	674
Remaining Upazila	2,442	1,746	92	16,37,530	671

SOURCE : BBS.

TABLE - 11 : CHANGES OF HUMAN SETTLEMENT HIERARCHY
BY POPULATION SIZE FROM 1961-1981.

Classified Hierarchy	NOS OF SETTLEMENTS					
	1961	Percent	1974	Percent	1981	Percent
Upto - 500	172	76.44	130	55.08	109	47.19
501 - 1000	42	18.67	76	32.20	76	32.90
1001 - 1500	8	3.56	19	8.06	25	10.83
1501 - 2000	3	1.33	6	2.54	10	4.33
2001 - 2500	-	-	4	1.69	5	2.16
2501 - 3000	-	-	1	0.43	3	1.30
3001 - 3500	-	-	-	-	1	0.43
3501 - 4000	-	-	-	-	1	0.43
1001 and above	-	-	-	-	1	0.43
TOTAL	225	100.00	236	100.00	231	100.00

SOURCE : BBS.

2.3. ECONOMIC PERFORMANCE AND TRANSPORT LINKAGE

a. EMPLOYMENT

Population of over 10 years age-group enter labour force according to Bangladesh Standard. The age-group shares little over 66% percent of the total Upazila active population of which little over 45% percent are labour force. Population and labour force of the BIROLE Upazila and DINAJPUR Zila (base year 1981) are shown as under :

TABLE : 12. POPULATION & LABOUR FORCE PATTERN FOR
ZILA & UPAZILA BIROLE.

LOCALITY	TOTAL POPULATION		ACTIVE POPULATION		LABOUR FORCE	
	Nos.	% over zila Popula- tion	Nos.	% over total popula- tion	Nos.	% over active popula- tion
Birole Upazila:	1,66,485	9.23	1,10,612	66.44	49,821	45.04
Dinajpur Zila :	18,04,015	100.00	10,82,454	60.00	5,14,086	47.58

SOURCE : BBS

Distribution pattern of Labour force by sex reveals that about 93.86% of the total labour force in BIROLE Upazila are male. Same is in the case of Zila level as shown thus :

TABLE : 13. POPULATION AND LABOUR FORCE BY SEX

LOCALITY	LABOUR FORCE BY SEX (10 YEARS +)					
	TOTAL		MALE		FEMALE	
	NOS.	%	NOS.	%	NOS.	%
Birole Upazila:	4,982	100.00	46,761	93.86	3,060	6.14
Dinajpur Zila :	5,14,086	100.00	4,81,482	93.49	33,504	6.51

SOURCE : BBS.

Distribution of Labour force by occupation has been shown thus :

TABLE : 14. LABOUR FORCE BY OCCUPATION

Locality	Total Nos.	Culti- vation	Agricul. Non Crop	Manufac- turing	Busi- ness	Others
Birole Nos.:	49,821	35,072	144	320	3,151	11,134
Upazila % :	100.00	70.40	0.29	0.64	6.32	22.35
Zila Nos.:	5,14,986	3,49,684	3,446	7,280	38,720	1,16,856
% :	100.00	67.90	0.67	1.41	7.52	22.5

SOURCE : BBS.

b. INCOME AND EXPENDITURE PATTERN

It is very difficult to ascertain income and expenditure pattern of the Upazila population. However, the Survey team, on observation has derived a generalised but conceived assumption which expresses that the non-agricultural community's income and expenditure pattern is distinctively higher than that of Agricultural Community. Food is still the higher item for expenditure in either of the communities. Average income of Agricultural Community with the exception of few on the upper segment is around Tk.6,000.00 to Tk.8,000.00 per annum. Average daily wages rate of Agriculture labour is reported as Tk.12.00.

Average daily wage rate of non-agricultural labour force (base year 1982) has been shown thus.

C. DAILY WAGE RATE FOR NON-AGRICULTURAL LABOUR

NON-AGRICULTURAL LABOUR		DAILY WAGE RATE IN TAKA	
COTTON TEXTILE	SKILLED	: TK.	22.45
	UNSKILLED	: TK.	19.77
BEKARY	SKILLED	: TK.	19.50
	UNSKILLED	: TK.	9.50
OIL MILLS	SKILLED	: TK.	14.30
	UNSKILLED	: TK.	10.55
BOOK BINDER	SKILLED	: TK.	28.75
	UNSKILLED	: TK.	18.00
COMPOSITOR (PRINTING PRESS)	SKILLED	: TK.	15.75
	UNSKILLED	: TK.	12.50
CONSTRUCTION LABOUR :	MASON	: TK.	60.50
	CARPENTER	: TK.	50.00
	HELPER	: TK.	30.00

SOURCE : Field Survey.

D. AGRICULTURE :

At present a total land area of 34,788 hectares is used as Cropped area. Out of this cropped area about 44% percent is used for single cropped, followed by about 20% percent for double cropped and about 5% of the cropped area is used for tripple cropped. Near about 9% percent of net cropped area of Dinajpur Zila subregion belongs to Birole Upazila. About 8% of Zila single cropped land belongs to this Upazila followed by about 9% for double cropped land and about 9.6% for tripple cropped land. Tables 15 and 16 placed below shows the Agricultural land-use and Agricultural products in this Upazila.

TABLE : 15. AGRICULTURAL LAND USE IN BIROLE UPAZILA AND DINAJPUR ZILA (FROM 1981 - 1982)

Locality	AREA IN HECTARES					
	Net cropped area	Current fallow	Single cropped area	Double cropped area	Tripple cropped area	Total cropped area
BIROLE UPAZILA	24,166	2,449	15,360	6,989	1,816	34,788
DINAJPUR ZILA	2,75,987.59	12,512.10	1,81,073.77	75,990.11	18,923.77	3,89,825.25

SOURCE : BBS DIST. STATISTICS, 1983.

TABLE : 16. MAJOR AGRICULTURAL PRODUCTION AND AREA OF PRODUCTION FOR BIROLE UPAZILA AND DINAJPUR ZILA 1981 - 1982.

MAJOR ITEMS	Z I L A		UPAZILA	
	AREA	PRODUCTION	AREA	PRODUCTION
AUS	84,370	80,702	6,987	6,680
AMAN	2,12,417	2,65,437	12,595	15,855
BORO	7,558	17,457	772	2,142
WHEAT	28,095	48,672	2,103	3,663
JUTE	8,881	76,807	68	588
SUGARCANE	5,780	1,89,820	394	13,025
POTATOES	6,362	46,492	589	5,255
MUNG	324	230	12	9
MASUR	597	327	32	17
KHESHARI	494	360	32	24
MATAR	97	60	8	4

SOURCE : BBS DISTRICT STATISTICS - 1983.

The BIROLE Upazila is a prominent place for rice production. From the above Table it reflects that Aman is the main production followed by Aus and Boro in rice production. 5.97% Aman Paddy production of the Zila is in Birole Upazila. The next highest production is

sugarcane which is 6.86% of the Zila. 7.52% of wheat production of total Zila is produced in this Upazila. Out of the total production of jute in the zila as a whole, only 0.76% are produced in the Upazila. About 11.30% of Potatoes was produced in this Upazila during 1981-82 compared to Zila production of this group for the same period. Table above shows the detailed picture of different Agricultural productions for Zila and Subject Upazila.

In Birole Upazila 2,866 hectares of land for Agricultural use were covered by various means of Irrigation. In this Upazila it is found that 1,403 hectares of land are being irrigated by Power Pump followed by Shallow Tubewells and Doons and other means of Irrigation system. Near about 9% of total irrigated agricultural land of Dinajpur Zila by different means belongs to Birole Upazila. Table 17 shows the detailed picture of the different irrigation systems for the Zila and the subject Upazila.

TABLE : 17. AGRICULTURAL LAND COVERED BY DIFFERENT IRRIGATION MEANS FOR ZILA AND BIROLE UPAZILA - 1981-82.

Locality	Power Pump	Tube-well	Doons	Swing Basket	Canals	Others	Total
BIROLE UPAZILA	1,403	684	239	146	106	289	2,866
DINAJPUR ZILA	11,371	8,263	4,199	2,509	1,336	4,480	32,164

SOURCE : BBS. DISTRICT STATISTICS 1983.

TRANSPORTATION : STORAGE, MOVEMENT AND COMMUNICATION

The Birole Upazila is the nearest Upazila of Dinajpur Zila. The Upazila is connected with the Zila Headquarters by rail and stands on the national grid of railway transport. It is about 10 Kilometers (6 miles) from the Zila Shahar and connected by metalled road.

The Upazila Headquarters is connected with most of the unions

by kutch roads. There are 26 Km (16 miles) metalled road, 575 Km (356 miles) kutch road, and 34 Km (21.12 miles) railway line. The basic means of Transports available in the Upazila are Train, Rickshaw, Cycle and Motorcycle. There are 5,000 bullock carts within this Upazila (10.45% of the Zila Total). Boats are the principal means of river transport and the number amounts to about 54 which is about 37.5% of the Zila Total.

BIROLE Upazila has a total of 7 food godowns (capacity 3750 tons). There are 13 Post Offices and 29 Govt. Offices.

2.4 SOCIAL INFRASTRUCTURE

a. Market

There are 269 Hats (Market) commercial establishments within the Dinajpur Zila sub region. Out of these total Hats/Bazars the subject Upazila has 26 hats and it indicate that there is one hat for every 6,166 persons in the Upazila. These hats/Bazars of this Upazila are located within the 10 different unions. Table below shows the Zila - Upazila picture in respect of Hats/Bazars.

TABLE : 18. HAT-BAZAR FOR UPAZILA & ZILA

Item	Zila	Upazila	Birole Upazila over Dinajpur zila in %
Hat	269	26	9.66
Daily Bazar	41	1	2.43

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

b. EDUCATION

In the Dinajpur Zila, there are 15 Colleges, 238 Secondary Schools, 917 Primary Schools and 130 Madrashas. Out of these total Educational Institutions there are one College, 20 Secondary Schools, 6 Madrashas and 92 Primary Schools in the Birole Upazila. This shows that there is one College, one High School one Madrasa and one Primary school for every 76,593 persons

in the age-group of 15-24 years, 1,062 persons in the age-group of 10-14 years, 12,773 persons in the age-group of 5-24 years and 291 persons in the age-group of 5-9 years respectively. Table 19 below reflects the detailed of the Educational Institutions.

TABLE : 19. EDUCATIONAL INSTITUTIONS IN ZILA & THE BIROLE UPAZILA.

INSTITUTIONS	BIROLE UPAZILA	DINAJPUR ZILA	BIROLE UPAZILA OVER DINAJPUR ZILA IN %
COLLEGE	1	15	6.67
SECONDARY SCHOOL	20	238	8.40
PRIMARY SCHOOL	92	917	10.03
MADRASHA	6	130	4.62

SOURCE : BBS,

c. HEALTH

The facilities in health sector available for Zila and Upazila Birole has been shown in the table below which reflects the details as under :

TABLE : 20. HEALTH SERVICES

	UPAZILA	ZILA	BIROLE UPAZILA OVER DINAJPUR ZILA IN %
	Nos.	Nos.	
HOSPITAL	1	12	8.33
HOSPITAL BED	10	211	4.74
DISPENSARY	2	36	5.00
DOCTOR	6	132	4.55

d. OTHER URBAN SERVICES AND UTILITIES

In Birole Upazila, there are 13 Post Offices, out of the total 145 Post Offices in Dinajpur Sub region. There are other Govt. Offices numbering 29 out of the total 308 of Zila sub region. In respect of religious & cultural affairs, there are 352 mosques, 139 temples, and 3 churches within the Upazila out of the total of 3,607 Mosques, 505 Temples and 35 Churches of the Zila Sub region. There is one Cinema hall and one community centre located in the Upazila Shahar and 7 registered clubs within the Upazila.

2.5 SYNTHESIS IDENTIFICATION OF HIERARCHY OF SETTLEMENTS IN THE UPAZILA

In the context of Upazila human settlement pattern, hierarchy of settlements has been studied mainly focusing on identification of potential settlements within the Upazila in a hierarchical order. Settlement concentration, growth of social and physical services facilities are the principal aspect of study in identifying hierarchy of settlement within the Upazila. In view of classifying the settlement hierarchy in the Upazila in an order of importance, available socio-economic service facilities population concentration has been taken into consideration and graded. In case of grading, we have covered 100% settlement within the Upazila and on the basis of total grade achieved by a particular settlement their ranking was made. In the Birole Upazila we have made four levels of settlements with an weight of more than 60=A, 60-30=B, 30-10=C and 10-8=D respectively, and less than D has not been considered to be identified because they are not significant settlements in terms of their weight. The top hierarchy of this Upazila is located within the study area. Important settlements with their level of hierarchy have been given in the following tables and detailed information about identifying the hierarchy of settlements has been given in ANNEX-I. The hierarchy map by mouza has been prepared and annexed. (Fig. No. 06).

TABLE : 21. HIERARCHY OF SETTLEMENTS, WEIGHT, LEVEL & NUMBER

WEIGHT	LEVEL	NO. OF HOUZA
60 +	A	1 -
60-30	B	7
30-10	C	39
10- 8	D	30

3.0 THE UPAZILA HEADQUARTERS

3.1 DEFINITION OF SPHERE OF INFLUENCE/ATTRACTIVENESS :

Sphere of Influence, influence zone or the attractiveness of an urban centre like Upazila Shahar varies or likely to vary for different functions or for different services such as administrative, economic, social and cultural.

In the case of the subject Upazila shahar "BIROLE" is, in fact, the seat of Upazila administration. On that perspective the sphere of influence or the attractiveness of Upazila Shahar for administrative purposes spread over the whole Upazila. But for socio-cultural and day to day activities some percentage of population from parts of Birole, Bhandra & Ranipukur Unions will be attracted by the Upazila centre because of its geographical location and expected Socio-economic growth of the centre, the population of those unions are taken into consideration in delineating the area of influence.

The physical boundary of each hierarchical influence zone depends upon the mode of transportation available and the socio-economic capability of the people to travel to a place and return within a day and also in the type of shop and service facility available. On that perspective we can define the "Sphere of Influence" as the zone spread from a certain location over the surrounding region of the centre from where the people travel for specific purpose daily for day to day needs or for a longer period for specific needs. It may be mentioned here that in case of delineating an area of influence in the level of Upazila urban centre from where the people generally travel to meet their normal social and economic needs, as a sphere of influence. In delineating this sphere of influence we consider other small influence zones within the Upazila by identifying the hierarchy of settlement on the basis of service facilities available.

The catchment area covers Birole, Bhandra and Ranipukur Union with an area of 112.17 Km² or 43.19 Sq.Mile with a total population of 51,440 in the year 1981 (Census year). Table No.22 reflects more informations about the catchment area (refer Fig.No.-06)

TABLE : 22. INVOLVED AREA AND POPULATION OF THE CATCHMENT AREA OF BIROLE UPAZILA SHAHAR 1961-1981.

LOCALITY	Total involved Area		Involved population					
	Km ²	Sq.m.	1961		1974		1981	
			Pop.	G.R.	Pop.	G.R.	Pop.	G.R.
BIROLE	39.75	15.31	11599	2.81	15386	3.99	20262	3.73
BHANDRA	37.79	15.55	8249	3.95	12480	3.16	15241	4.24
RANIPUKUR	34.63	13.33	7516	5.23	12615	3.76	15936	5.61
	112.17	43.19	27358	3.99	40931	3.64	51440	4.53

3.2. DEFINITION OF SHAHAR AREA

Shahar area for an Upazila Headquarters can be defined as the urban centre within Upazila where :

- o Administrative Offices of Upazila are located
- o Other necessary establishments such as :-
 - Educational Institutions
 - Cultural & Religious Institutions
 - Entertainment, Recreational facilities, structures of central Shopping & Commercial Establishment.
- o Official residences of the Officers and Employees.
- o Inhabitants of the Shahar.
- o Utility installations and net work of services.

The present administrative complex of the Birole Upazila is located in the Birole Mouza of the Birole Union and adjacent to the old thana. Birole, Paikpara, Shankarpur & Husna mouzas have been identified as designated Upazila Shahar (Headquarter) area for the proposed STUDY AREA.

BIROLE UPAZILA SHAHAR (STUDY AREA) stands more or less at the centre of the total Upazila and it is about 10 km (6 miles) away from the Dinajpur Zila Shahar. The present Upazila Shahar centre enjoys the most central location of the Birole Upazila region from accessibility point of view.

It occupies an area of about 9.32 Km² (about 3.6 Sq.miles) having a population of 5,671 persons as per census of 1981, resulting a gross density of about 608 persons per Km² and about 1,575 persons per square mile. According to the year 1981 census 4.2% percent of the total population of the Upazila Region live in the Upazila Shahar area that occupies 2.6% percent of the total Upazila acreage. There are 113 males for every 100 females in this Urban Locality.

A Table is given below which will provide the involved population picture of the Upazila Shahar by mouza and area from the year 1961 to 1981.

TABLE : 23. INVOLVED AREA AND POPULATION OF THE STUDY AREA BY MOUZA OF UPAZILA SHAHAR - BIROLE 1961-1981

MOUZA	TOTAL INVOLVED AREA		TOTAL INVOLVED POPULATION		
	Hectares	Acres	1961	1974	1981
BIROLE	502.47	1241.60	2050	2720	3691
PAIKPARA	49.21	121.60	512	167	243
SHANKARPUR	323.76	800.00	274	787	1103
HUSNA	56.98	140.80	368	392	634
	932.42	2304.00	3204	4066	5671

3.3 EXISTING LAND-USE FACILITIES AND UTILIZATION CHARACTERISTICS.

The study area of BIROLE Upazila Shahar covers an area of 2304 acres or 932.42 hectares within the study area. The study area covers, mouzas - Birole, Paikpara, Shankarpur and Husna. The present Upazila Administrative Complex is located at Birole Mouza on the Southern side of the Railway line and eastern side of Rail Station by the side of a pucca road which connects Dinajpur Zila Shahar. This Upazila Shahar is the closest Upazila Shahar of the Dinajpur Zila Shahar and in fact only 6 miles off from Dinajpur Shahar.

Existing Land-use Survey of the study area information reflects that present Upazila Administrative Complex and other Government Establishments are located on both sides of a metalled road which connects Dinajpur Zila Shahar. The Nona Khal is located on the south-west part of the Upazila Shahar. A railway connection also exists between the Birole Upazila Shahar and Dinajpur Shahar.

The Land-use Survey information has been mapped along with contour information (10 ft. interval) indicating names of principal features (natural & constructed) area of high residential density, roads by type and area prone to major flooding (vide land-use map). Distribution of landuses of existing facilities has been shown in a tabular form and annexed below in this report.

In addition to that a detailed land-use survey of the town centre comprising an area of 200 acres (approximately) mapped in a bigger scale ($82\frac{1}{4}'=1"$ or 1:1000) showing the present different land-uses based on the mouza map has been prepared and submitted in the earlier report (Report-III).

The Survey information reflects that about 77% percent of the

total study area (Upazila Shahar) acreage is non built-up. Tanks, canal, bil and other water bodies - occupy about 3.54% percent. The net buildup acreage therefore, accounts for about 23% and the residential area occupies little over 12% percent i.e. 285.75 acres or 115.64 hectares of the total net acreage of the Upazila Study area.

Excluding the present Agricultural land within the Upazila Shahar study area, net urban buildable acreage has been identified as 211.78 hectares (523.32 acres). Out of this total major land-use like Residential area occupies about 54.60% percent, followed by road & railway 18% percent, canal, tank and other water bodies occupies about 15.56% percent. Industries commerce, education, health, administration, recreation, socio-culture and Urban services, occupies about 4.49%, 0.44%, 1.19% 1.24%, 1.19%, 0.63% 1.47% and 1.19% respectively. A table is annexed in this report for reference. (Table 24). At present there is no demarcation or area boundary of the Upazila Shahar. The study area is characteristically a low lying marshy land where a small trade centre emerged as a Railway Town.

The area stands like an island surrounded by paddy fields. This is infact, a centre of trade and commerce including small industries like husking mills. This demands further development, institutional in particular. But due to shortage of buildable land adjacent to the centre, the development activities took place on the east at a distance of about one kilometer away. Police Station and such thana level Offices were constructed there. Following paragraphs will give more detailed descriptions of different land-use patterns in the Upazila Complex and Study area.

AGRICULTURE

There are vast paddy growing lands surrounding the present Urban Centre within the study area. The percentage of Land-

use has been detailed in earlier paragraph. These agricultural lands are above the normal flood level R.L. 106-113.

RESIDENTIAL

A few Government Employees residential houses (flats) have been newly constructed on the south-west part of the Upazila Complex. But other Residential area, predominantly village oriented are located near the railway station, bazar, Upazila complex and on both sides of a semipucca road which connects Bochaganj Upazila on the north from Birole. All other residential areas are dispersely located within the study area like a cluster of villages.

ROAD INFRASTRUCTURE & TRAFFIC

A major road connects this Upazila Shahar with Dinajpur Zila Shahar. But this road is in dilapidated condition and needs improvement. Two other brick soiling road bisecting from this road near the bazar connects the Rail Station on the west and Bochaganj on the north. The environment is thus separated by natural features (Low Land). It is also bisected by the Dinajpur - Birole Railway line but integrated by the unique network of road pattern. Rickshaws and bicycles are the main traffic. There is no other vehicular traffic in this Upazila Shahar.

COMMERCE & INDUSTRY

The Shopping Centre, the main Bazar of this Upazila Shahar is flourishing on the junction of Bochaganj - Birole road and Dinajpur - Birole Road, Commercial Bank and other financial Inst. are also located there. There are some husking Mills Saw Mills, etc. located near the Rail Station and near the Bazar.

EDUCATION

In the Birole Upazila Shahar there are College, High School

Primary School and Madrasha in and around the Upazila centre.

URBAN FACILITIES

Birole Upazila Shahar has some Urban facilities i.e. Post Office, telegraph telephone, Electricity and a few food godowns located in and around the Upazila Complex details of which are shown in the land-use survey Map.

SOCIO-CULTURAL

There is only one Cinema Hall, which has been newly built and located near the main Bazar. Mosques numbering two or three are located within the neighbourhood zone, out of them one is located near the Bazar. No public graveyard could be identified within the study area except a few private graveyards located in and around the neighbourhood zone. There is no Stadium or Parks except one Auditorium which is also newly constructed on the south of the Upazila Parishad Bhaban. A Play ground of small area could be identified near the College.

HEALTH

One health complex is located at the entrance of the Upazila centre from Dinajpur Shahar & north-east of Upazila Parishad Bhaban. One thana level Maternity Centre is also located opposite to Upazila Parishad Bhaban.

ADMINISTRATIVE

Present Upazila Complex has been developed adjacent to and south of thana. There are some other offices of Upazila level also located in and around the thana. U.U.O. Office, Upazila Court Building and T & T Building have been constructed a little further away on the south of Upazila Parishad Bhaban. Other Government Establishments are also located thereby. All activities are mainly concentrated on the southern side of the railway line. The land percent presently covered by this

sector has been described in earlier paragraph.

The landuse survey map of the Upazila Shahar (study area) has been mapped showing all the landuse information along with contour information.

TABLE : 24. EXISTING LANDUSE ANALYSIS FOR DIFFERENT FACILITIES OF BIROLE UPAZILA SHAHAR 1987

LAND-USE	Area in Hect/Acres			Percent Excluding Agri- cultural N=523.32 acres
	Hectares	Acres	Gross	
Agricultural	720.64	1,780.68	77.29	-
Commerce	0.40	2.25	0.09	0.44
Industry	9.51	23.50	1.02	4.49
Education	2.53	6.25	0.27	1.19
Health	2.63	6.50	0.28	1.24
Administration	2.53	6.25	0.27	1.19
Recreation	1.31	3.25	0.15	0.63
Socio-Cultural	3.09	7.65	0.33	1.47
Urban Service	2.53	6.25	0.27	1.19
Residential	115.64	285.75	12.40	54.60
Roads & Railway	38.13	94.22	4.09	18.00
River, Tank, Canal, Bill and other water bodies.	32.96	81.45	3.54	15.56
TOTAL	932.42	2,304.00	100.00	100.00

3.4. PHYSICAL OPPORTUNITIES AND CONSTRAINTS

a. Opportunities :

Present built-up area of the Upazila Shahar within the study area are high land of PL Roads 114'-116' where most of the existing infrastructural facilities are available and even the present Upazila Administrative Complex, other

socio-economic activities and residential concentration are mostly located. The main functional road, connecting the Upazila Shahar with Zila Headquarter are located mostly within the above mentioned R.L. some other major roads of this Upazila Shahar are mostly with this R.L.

Potential area which is presently used for agricultural purpose with a R.L. 112'-114' in and around the built-up area which can be utilised for future urban development with a minimum land filling with an extension of present infrastructure, integrating the present built-up area with future urban development requirements.

High agricultural land with a RL. 106'-112' within the study area but adjacent to present built-up area can be used for future urban development upto 2001 AD. within that a minimum area of the development control can be delineated from the study area.

b. Constraint :

A small Khal passes through the Birole Upazila Shahar from north to south direction which most of the season in a year remains as a water channel and acts as a normal drainage channel of the Shahar. There is an important hill named Karai located on the north-west of the present Upazila centre and presently used for fish culture and nursery around it, there are some important tanks and low lying areas within the study area which act as a part of constraint for planning purpose.

Low agricultural land has been identified with high yielding agricultural production (RL 106'-112') where most of the season in a year remain above normal flood level, but unprecedented flood like the flood of 1987 effects the area severally.

Presently Metergauge Railway line connecting the Dinajpur Zila on the east has been identified as a physical constraint for the Shabar because of its location as a barrier for spontaneous growth and act as a constraint for land-use proposal.

An opportunity and constraint map has been drawn on BWDBS map in the scale of 1:15840 which is annexed with the report. (Fig. No. - -8)

C H A P T E R - I I

CONCEPT FORMULATION & LAND-USE PROPOSAL FOR UPAZILA SHAHAR

4. o FORECAST

4. 1 POPULATION, HOUSEHOLD STRUCTURE & DENSITY

a. Population

After the data processing and synthesis, population forecast has been made. The projection of population has been done in respect of total upazila, sphere of Influence of Upazila Shahar. Before performing that it is necessary to provide some basic information of the present situation.

TABLE 25 : POPULATION HOUSE-HOLDS STRUCTURE AND DENSITY WITHIN BIROLE UPAZILA SHAHAR (1987)

Mouza	Area		Population	No. of House-Holds	Average House-Holds size	Density of population per Hectares
	Hectares	Acres				
Birole	502.47	1241.60	3691	587	6.29	7.35
Paikpara	49.21	121.60	243	47	5.17	4.97
Shankarpur	323.76	800.00	1103	200	5.52	3.39
Musna	56.98	140.80	634	92	6.89	11.12
TOTAL	932.42	2304.00	3671	926	5.98	6.70

SOURCE : BBS, Population census - 1981

In terms of households size Musna stands in the top with 6.89 person per households, where as Paikpara is the lowest with 5.17 persons per household. In the case of density per hectare is as the lowest. In our study area average household size is 5.98 and density per hectare is 6.70. The table 25 will reflect a more clear comparative picture.

TABLE 26 : POPULATION, HOUSEHOLDS STRUCTURE & DENSITY WITHIN SPHERE OF INFLUENCE OF BIROLE UPAZILA SHAHAR, 1981.

Unions	Area		Population	No. of house hold	Average house hold size	Density population per Km ²
	Km ²	Sq.m.				
Birole Union	39.75	15.31	20,262	3,372	6.0	510
Bhandra Union	37.79	14.55	15,241	2,800	5.44	403
Ranipukur Union	34.63	13.33	15,937	2,789	5.71	460
TOTAL	112.17	43.19	51,440	8,961	5.72	458

SOURCE : BBS Population census 1981

In case of population characteristic of the sphere of influence Table 26 indicates that density of population with 510 persons per Km² in Birole Union which stands at the top within the sphere of influence. Bhandra Union with 403 persons per Km² is the lowest. The table provide more information about the population of the catchment area.

TABLE 27 : PATTERN OF GROWTH RATE OF BIROLE UPAZILA CATCHMENT AREA AND UPAZILA SHAHAR FROM 1961 TO 1981.

PERIOD	GROWTH RATE %		
	UPAZILA AS A WHOLE	CATCHMENT AREA	UPAZILA SHAHAR AREA
1961 - 1974	3.58	3.99	3.06
1974 - 1981	4.43	3.64	5.54
1961 - 1981	4.57	4.53	5.03

After the data processing and synthesis, Population Projection have been made. This projection has been done in respect of total Upazila Catchment or Sphere of Influence Zone of Upazila

Shahar (Headquarter) Shahar Centre (including Study Area). The population Projection has been done on certain assumption and consideration of past trend of growth rate and those are as under :

- o Past Trend of Population growth from 1961 to 1974 was 3.85, 3.99 and 3.06 for total Upazila, catchment area and Upazila Shahar area (STUDY AREA) respectively. During these periods growth rate within catchment area was high in comparison with the total Upazila and the Upazila Shahar.
- o From the year 1974 to 1981 the growth rate was 4.43, 3.64 and 6.54 for total Upazila, catchment area and Upazila Shahar area (STUDY AREA) respectively. During these periods it is found that the growth rate of Upazila Shahar (STUDY AREA) was higher than that of the total Upazila. But the growth rate of the catchment area was low during that period.
- o From the period (20 years) from 1961 to 1981 the growth rate (per annum) was 4.57, 4.43 and 5.03 respective for the total Upazila, Catchment Area and the Upazila Shahar (STUDY AREA) which seems to be high in the Upazila Shahar, midium in the total Upazila and lowest in the Catchment Area. Considering the above dynamics of population changes in the Study Area, Catchment Area and total Upazila we felt it was logical for the planning purpose to consider medium growth rate that for the Catchment area and the same for the Study Area. Trend of Population growth which seems to be low in the Catchment Area indicates that within that area there are influences of two close urban community i.e. Dinajpur Zila Shahar and Birsole Upazila Shahar (Study Area) with favourable infrastructural impact for migration.

The growth rate from 1974 to 1981 in the Birsole Upazila Shahar (Study Area) is high because of locational aspect of Dinajpur Zila Shahar which is only 6 miles away. It seems to us that due to concentration of agricultural lands in the

hands of rural elite who prefer to have a big families and live in a place nearer to the main urban area of the region. is a cause of high population concentration in the study area.

In view of the aforesaid consideration of high growth rate (6.54%) and medium growth rate (5.03%) during the period of last 20 years, we have considered the medium growth rate in considering the expected national urban growth rate for the Upazila Shahar by the end of the century.

The following table reflects the population projection from the base year 1981 to 2001 AD on the basis of medium, high and low growth rates for Upazila Shahar, Catchment Area and total Upazila.

TABLE : 28. PROJECTED POPULATION OF THE CATCHMENT AREA -
UPAZILA SHAHAR - BIROLE

PROJECTION RATE	PROJECTION YEAR				
	Base 1981	1986	1991	1996	2001
HIGH : 4.53%	51,440	64,516	80,916	1,01,485	1,27,282
MEDIUM : 3.99%	51,440	62,797	76,662	93,588	1,14,251
LOW : 3.64%	51,440	61,708	74,026	88,803	1,06,529
National Target	51,440	56,566	62,203	68,402	1,76,866

The above table indicate the projected population of Catchment area and this projection has been made on the basis of three different growth rates (per annum) as found from the past trend of growth during the years 1961-1974; 1974-1981 & 1961-1981 respectively. Considering the trend of growth, the medium growth rate (3.99%) has been taken as a basis of the growth rate for the population of the Catchment area and thus the

targetted Population for the Catchment Area will be 114,251 persons by the end of the century.

TABLE : 29. POPULATION PROJECTION FOR THE UPAZILA SHAHAR (STUDY AREA).

TREND OF PROJECTION RATE	Base year 1981	PROJECTION		YEAR	
		1986	1991	1996	2001
HIGH :					
6.54%	5,671	7,865	10,907	15,125	20,976
MEDIUM :					
5.03%	5,671	7,293	9,378	12,059	15,508
LOW:					
3.06%	5,671	6,609	7,701	8,974	10,458
NATIONAL TARGET GROWTH RATE	5,671	6,236	6,857	7,540	8,291

According to the census of 1981, Population of the Upazila Shahar (STUDY AREA) was 5,671 persons. On the basis of three different trend of growth rates for the study area, the projection of population has been shown in the above table. Considering the three different growth rates, we have taken the medium rate of growth (5.03%) as a basis for planning and the estimated population will be 15,508 persons by the end of the century and on that basis LAND-USE PROPOSAL has been prepared.

B. ASPECT OF MIGRATION

Birole Upazila Shahar is centrally located within the Upazila with some infrastructural facilities and is the closest Upazila Shahar of Dinajpur Zila Shahar. The national growth rate of the Upazila was 4.43 in the years 1974 to 1981 whereas it was found in the study area that the growth rate of that particular period was 6.54% which indicates a positive form of

migration, the reason of migration of this particular urban area is not clear to us but it seems that location aspect and socio-economic characteristic of this particular Upazila Shahar has an impact on migration. The table indicating the aspect of migration is given below :

TABLE 30. ASPECT OF MIGRATION

YEAR	REGIONAL GROWTH RATE IN PERCENTAGE	RATE OF MIGRATION IN PERCENTAGE
1961 - 1974	3.58	+ 0.52
1974 - 1981	4.43	+ 2.11
1961 - 1981	4.57	+ 0.46

4.2. LABOUR FORCE AND EMPLOYMENT

A. Labour Force

Labour force includes population of age 10 years and above and who are engaged in agricultural and non-agricultural production, market oriented activities, including the female sex. However, about 30% of the total population of study area has been considered as labour force in the base year 1981. Projection for labour force has been made on the basis of the same criteria used for population projection. On that perspective in the year 2001 AD the labour force in the study area will be 6277, 4641 and 3129 on the assumption of 6.54%; 5.03% and 3.06% growth rate (per annum) respectively. For our planning purpose we have taken medium growth rate of 5.03%.

TABLE 31. LABOUR FORCE PROJECTION OF THE UPAZILA SHAHAR (STUDY AREA).

TREND OF PROJECTION RATE	P R O J E C T I O N			YEAR	
	BASE YEAR 1981	1986	1991	1996	2001
HIGH :					
6.54	1697	2353	3264	4526	6277
MEDIUM :					
5.03%	1697	2182	2806	3609	4641
LOW :					
3.06%	1697	1978	2304	2685	3129

B. EMPLOYMENT :

It is very difficult to assume the areas of concentration of employment in the absence of long range investment plans at the level of small size shahar or growth centres. For the employment of the labour force in the urban areas, sufficient land-use area for shops, commercial establishments and agro-based Industrial establishments have been proposed in the LAND-USE PLAN. But it is doubtful, whether the total projected labour force can be employed effectively by those commercial and Industrial establishments by the end of the century. It is presumed that major part of labour forces will be employed effectively in agriculture, industry, commerce, shops, administration and other service facilities like transport, restaurant and hotel business.

4.3

LAND REQUIREMENTS & PROVISION STANDARD

Land requirement for various activities stated before has been calculated as per the standard recommended by the Government in the TOR. But according to findings, Physical constraints and opportunities and socio-economic needs of the projected population for the subject Upazila Shahar (Study Area), the LAND-USE PLAN has been prepared according to the Standard. These

land requirements have been made with the objectives to make the Plan perservid and functionally suitable for generating overall development at the Upazila level.

In case of land requirements for residential uses, we considered the projected population inclusive of labour force. But for other socio-economic facilities 5% percent of the gross projected population of the Catchment Area have been taken into consideration.

It is expected that the 1% of the forecasted population upto 2001 A.D. for the Catchment Area have been considered who will constantly stay in the Shahar area for their Commercial & Industrial needs and activities. Considering the stated realities, land formation and trend of infrastructural growth, land provision has been made for this Upazila Shahar.

5.0 LAND USE PLAN

5.1 APPROACH

The planning approach is related to the Government policy of Administrative decentralization, which calls for the establishment of Upazila Parishad with a mandate of service facilities to the newly created Urban centre as well as for the hinterland around the Upazila Shahar.

In this way, there is a commitment to carry out different Socio-economic activities related to land utilization and space maximisation.

The approach here cannot be confined only to the need of the Physical Survey of existing Land-use and the spot verification of that use but also the essential needs of contour survey to find the gradients for planning and locating the physical infrastructures and utilities such as housing, drainage, roads, water supply, sanitary system etc.

Apart from this, a survey has been conducted in order to find the present land-use, economic condition of the area, social infrastructure available, and the income structure of the community. Study has also been conducted to estimate the future potential and the possibilities.

Besides, the hierarchy of settlements within the Upazila Shahar and Influence Zone need to be determined from the result of the demographic, economic and social surveys. In short, the approach to planning for the subject Upazila Shahar should be :

- Collection of base maps, C.S. Map (Mouza), thana map, Zila map, and other concerned maps from different sources like UDO, Director Land Records & Survey, Survey of Bangladesh, Deputy Commissioner's Office, Upazila Parishad and other Agencies.

- Physical Survey on present land utilization and investigation of the Land-use pattern of the Upazila Shahar.
- Conducting the Socio-economic survey and the demographic survey from both primary and secondary sources and also on sample basis.
- Identification of constraints and opportunities.
- Assessment of future land requirements within the Upazila Shahar, in respect of Administrative, Housing, Employment and other socio-economic infrastructural needs.
- Analysis of Data and present land forms and land-use pattern for future requirements.
- Deliniation of Development control area on the basis of logical utilization of valuable agricultural land.
- Formulation of Objectives and concept plan on the basis of estimated population for the study area and its zone of influence and discussion with UDD and concern authority of the Upazila if necessary before finalization. Planning approach and process has therefore, been framed keeping in view of the above mentioned observation.

a. Concept formulation

For the over all development of the Urban centre as the functional aspect is concerned, it has assumed that the Upazila centre will function as :

○ Seat of Administration :

The Upazila Urban Headquarter, in its full sense and entity as the seat of Administration and Economy.

○ Service Centre :

The centre of Upazila will function as a service centre, not only for its catchment area and hinterland, but also for the Upazila as a whole.

c. Seat of Commerce & Industry :

This will function as a main marketing centre for the Agricultural & Cottage Industrial products of the total Upazila.

o. Socio-Cultural Function & Health Services :

The centre will be the main focal point in respect of Higher Education, Recreational facilities, upper grade Medical, Family Planning and Health Services for the Upazila Shahar and its hinterland, zone of Influence and the total Upazila. In fact, the Upazila Shahar will be an Urban centre of the nature of an ACROVILLE where agricultural labourer and agricultural economy will be predominant factors for the sustenance of the society.

b. PLANNING PRINCIPLE

No sieve map has been prepared for this Upazila Shahar built-up area but a constraint and opportunity map on the basis of contour map (BWD9 MAP) has been drawn from the information on contour of the land showing the grades of land which are buildable and unbuildable (high or low), drainage, etc. to facilitate the work of plan preparation.

Three cardinal principles of LIVE, WORK and PLAY i.e.

- a. Place of residence, education, health and religion etc.
- b. Place of jobs and employment.
- c. Place of Social & Recreational facilities.

These principles have been followed in planning and the principles adopted are that the plan should be :

1. Economically Viable :

The urban area may be able to sustain within the economy generated within the area and in the Upazila for the maintenance of the population and the establishments set up here as far as practicable and with a minimum Govt. assistance. The Industrial, Commercial and shopping centres for the

economic activities have been proposed according to the standard as given in the TOR to provide job opportunities and employment of the labour force and people.

III. Socially Acceptable :

The proposal should be socially acceptable by its users, local inhabitants of the proposed Shahar and its environ and that of the surrounding regions. Social facilities required as per standard suggested in the TOR for the communities have been provided for the development of the area and the community. Appropriate spatial allocations have made for education, recreation, entertainment, and religious facilities etc.

III. Functionally Suitable :

To make the Urban Centre functionally suitable and physically attainable, attention has been given to the following landuses and points :

- o High buildable land, existing builtup area, o Free from flood, erosion and land subsidence. o Grouping of land-uses for commercial, administrative, industrial activities in their appropriate location. o Tendency of the direction of growth and maturity of the area for development. o Communication and transportation system. o Existing Road alignment. o Locational aspect of present residential area.

5.2

PLAN DESCRIPTION

Urban Land-use plan for Birsole Upazila Shahar has been prepared on the perspective of future population, present land-uses of land formation, future requirements for its administrative, residential, socio-cultural, health, education, urban service and other service facilities. The present Upazila Administrative Complex has no delineated boundary. However, for the preparation of landuse proposal an area of about 4 Km² (1.60 Sq.m.) has been delineated as

the proposed Upazila Shahar planning area to serve the population of study area, Catchment Area and the total Upazila.

THE LAND-USE PLAN is comprehensive in nature and it contains different land-use functions. This is also a synthesis showing all the future land-use proposals of different items represent on a base map of cadastral survey (Mouza) and in a scale as per TOR. The following paragraphs will provide detailed description of different land-use items in accordance with the plan proposal. Land-use analysis of different items is also given in a tabular form. These are as under :

a. COMMERCE AND INDUSTRY

In respect of commercial use of land, an area of 3.44 hectares (8.50 acres) has been proposed and location of the same uses has been kept on the existing plan and other new places to facilitate the neighbourhood area. This land allocation is 1.06% of the net landuse area. At present only 0.40 hectares (2.25 acres) of land is used for this sector.

In the case of industrial use of land an allocation of 10.11 hectares (25.0 acres) has been proposed to serve the population and hinterland area of the Upazila. This area is 3.13% of the net land-use which will serve the estimated population of 1647 persons per hectares by the turn of the century.

b. EDUCATION

An area of 3.44 hectares (8.50 acres) of land has been provided for this sector, considering the population of catchment area and study area which is 1.06% of the net landuse area, 6168 persons per hectares will serve for this purpose. At present 2.53 (6.25 acres) of land is used for this sector.

c. HEALTH

4.45 hectares (11.0 acres) of land provision has been made for this purpose, which will serve the Government policy of Health for all by the year 2000.

This area of land allocation for this purpose is 1.39% of the net landuse area and will serve the population of study area and the Upazila as a whole.

d. ADMINISTRATION

The present landuse for administrative purpose is inadequate to serve the future administrative need of the Upazila by the end of the century. In view of that a land allocation of 14.49 hectares (35.80 acres) of land has been allocated in the landuse proposal to serve the Administrative purpose smoothly at Upazila level which is 4.49% of the net landuse area.

e. RECREATION

There is no specific landuse for this sector in the Upazila headquarters at present except one cinema hall and a Community Centre. However, in the landuse proposal an area of 21.55 hectares (53.25 acres) of land have been provided for this purpose. These land areas will serve as future stadium, park, play ground, open space, etc. and other recreational purposes. The net land percentage for this sector stands at 6.67%.

f. SOCIO-CULTURAL

Socio-Cultural Land-use for the Upazila Shahar (Study Area) includes land allocation for mosque, grave-yard, temple, orphanage, exhibition etc. and for this purpose, a land area of 4.05 hectares (10 acres) have been provided in the Land-use Plan.

g. URBAN SERVICE

One of the objectives for the creation of Upazila Shahar is to provide Urban facilities at the Upazila level, to develop the previous thana as a Urban centre to serve the rural masses. At present there is no significant landuse for this sector except one post office to serve the present population.

A land area of 4.55 hectares (11.25 acres) has been allocated for the urban services to serve the future population.

h. RESIDENTIAL

A comprehensive landuse proposal for residential uses has been provided in the plan with the objective of providing residence for different Govt. officials, and residential area for the neighbourhood population. To serve this specific purpose an area of 132.35 hectares (327.00 acres) of land has been provided in the landuse proposal which will give an approximate density of 117 persons per hectares. The net land area is about 41% of the total net land utilization.

i. ROAD & RAILWAYS

In the land-use Proposal, attention has been given on the existing metalled and semi pucca road net-works of the Upazila Shahar to bring a conformity with the present use and trend, provision of widening and linkages for smooth traffic flow in the future have been proposed. Major vehicular road proposed in the land-use plan are 100' width and surrounding road has been proposed feeding the major road with a width of 40' to 60'. Most of the road has been proposed on the existing road net-work. A land area of 47.75 hectares (118 acres) including the existing Railway & Rail Station land stands at 14.79% of the net Landuse area.

j. URBAN DEFERRED & RESERVE

To accommodate the Urban expansion in the future, an area of 26.10 hectares (64.50 acres) has been earmarked as an Urban deferred. An area of 47.56 hectares (117.50 acres) have been proposed as a RESERVE LAND for specific land-use. At present low lying area and part of existing KARAIBIL, is being utilized for nursery, fishi-culture and duck firming and managed by Muktijoddha Sangshad with an area of 56.00 acres of land for this purpose.

Considering the existing features and locational aspect, it is proposed in the land use plan that this area could be utilized for this particular purpose with future expansion which would be an attractive recreational and income gene-

generating project for the upazila shahar and its dwellers. A provision of land area of about 76.00 acres has been proposed for this purpose and shown in the land use plan as Reserve land for the development of this multi-purpose activities.

TABLE : 32. ANALYSIS OF LAND-USE PROPOSAL OF DIFFERENT FACILITIES FOR BIROLE UPAZILA SHAHAR,
DINAJPUR ZILA 1987.

ESTIMATED POPULATION : 15,508 UPTO 2001 A.D.

PROPOSED DEVELOPMENT CONTROL AREA : 4 Km² (1.6 Sq.m.)

SYMBOL NO.	LAND USE	TOTAL AREA		NET PERCENT	
		Excluding Agricultural Land		Existing N=523.32	Proposed N=797.75
		Hectares	Acres		
	AGRICULTURE	93.08	230.00	-	-
1	Commerce	3.44	8.50	0.44	1.06
1A	Industry	10.11	25.00	4.49	3.13
2	Education	3.44	8.50	1.19	1.06
3.	Health	4.45	11.00	1.24	1.39
4	Administration	14.49	35.80	1.19	4.49
5	Recreation	21.55	53.25	0.63	6.67
6	Socio-Cultural	4.05	10.00	1.47	1.26
7	Urban Services	4.55	11.25	1.19	1.41
8.	Residential	132.35	327.00	54.60	40.99
-	Major Road, Railway	47.75	118.00	18.00	14.79
-	River, Tank, Bil & other water bodies.	3.01	7.45	15.56	0.93
9	Urban Deffered	26.10	64.50	-	8.08
0	Reserve including Fish culture and nursary.	47.56	117.50	-	14.74
		415.93	1027.75	100.00	100.00

6. PROGRAMMING AND IMPLEMENTATION

6.1. Priority Action, Cost Implication :

a. Priority Action :

Priorities have been given for establishment of Administrative structures for economic activities within the Upazila urban centre as administrative decentralization has been the prime factor in setting up of the Upazila Shahar. While the economic activities such as marketing, shopping, commercial activities and job opportunities in other income generating sectors like agriculture, commerce and horticultural plantation or fruit, orchards, etc. and provision of communication facilities within the Urban complex as well as for linking Zila Shahar with other important Upazila Headquarters have been proposed. This will activate the pace of development of the subject Upazila Shahar and movement of goods to and from the areas. Therefore, the key development in every area should be taken up and other priorities depending upon the situation as necessary, should be given importance according to the prevailing condition then.

b. Cost Implication

So far land value is concerned to develop the Upazila Shahar according to the guide lines of the LAND-USE PLAN and it is found that the lands within the Master Plan area are privately owned by the local people and cost of the land be around Tk. 50,000.00 to 60,000.00 per acres. In preparing the landuse plan, we consider the maximum utilisation of high buildable land but it was not possible to avoid land filling as the characteristics of the land needs filling. However, cost effective nature has been maintained in the plan. Road net-works have been proposed on the existing alignment with some linkages and widening as desired to make it cost effective.

To implement any development project according to landuse plan (guide line) a detailed development plan is necessary in addition to land filling as per requirements and acquisition.

6.2. PHASING URBAN DEFERRED

a. Phasing

The future proposal of development has been framed into three phases starting from 1986. Therefore, the phases hereby are termed as follows :

From 1986 to 1991 as First Phase.

From 1991 to 1996 as Second Phase.

From 1996 to 2001 A.D. as the Third phase of development.

Land-use plan has been developed on the basis of the requirement and was phased in the above mentioned time-frame. In the first phase, the proposal for the development has been concentrated mainly on administrative and service facilities with necessary land allocation for residential need of the officials and people of the locality with the detailed development plan while the second and third phase ending in 1996 and 2001 A.D. respectively and those phases require attention according to the need of the projected population. According to the phases land requirement has been made. In each phase in addition to the principal route alignment, location of the appropriate educational institutions, housing and shopping, commercial & industrial, religious areas, health facilities, place for entertainment and open space, and the net work of services has been calculated.

b. URBAN DEFERRED

An area of 64.50 acres (26.10 Hectares) of land has been earmarked as deferred area for future urban requirement. This land is about 8% of net land-use area by the end of the century, details of which has been given in plan description.

6.3. DEVELOPMENT CONTROL

For the purpose of development control of the Upazila Shahar in the perspective of Upazila land-use plan as an Urban centre, we have proposed a development control boundary indicating the area of development for the projected population by the beginning the new century under different phases.

This development control will prevent an undesirable construction, uses which may occur in the near future. A land area of 1027.75 acres (415.93 Hectares) has been proposed as a planning area for a population of 15,507. Some green land surrounding this planned area has also been proposed to avoid undesirable urban growth.

Present Building Construction Act applicable to the Municipality should be applied to the subject Upazila Shahar with an objective to control the all types of construction activities irrespective of Govt. and private to ensure orderly development of the Upazila Shahar in accordance with the Land-use proposal. Before implementing the land-use proposals, a detailed survey according to the priorities of the different zones should be done.

It is desirable to constitute a "DEVELOPMENT CONTROL BODY" comprising local people's representative, Upazila Chairman, UNO, Upazila Planner, Upazila Engineer, local Engineers from different Govt. organisations functioning at Upazila level such as R&H Deptt., PWD, PHE and BWDB etc. This committee will be called as " UPAZILA SHAHAR DEVELOPMENT COMMITTEE ".

An enabling legislation should be framed in the Parliament by the Government in order to implement this Upazila Shahar land-use Plan for the proper development of the Upazila Shahar.

6.4. Monitoring & Review

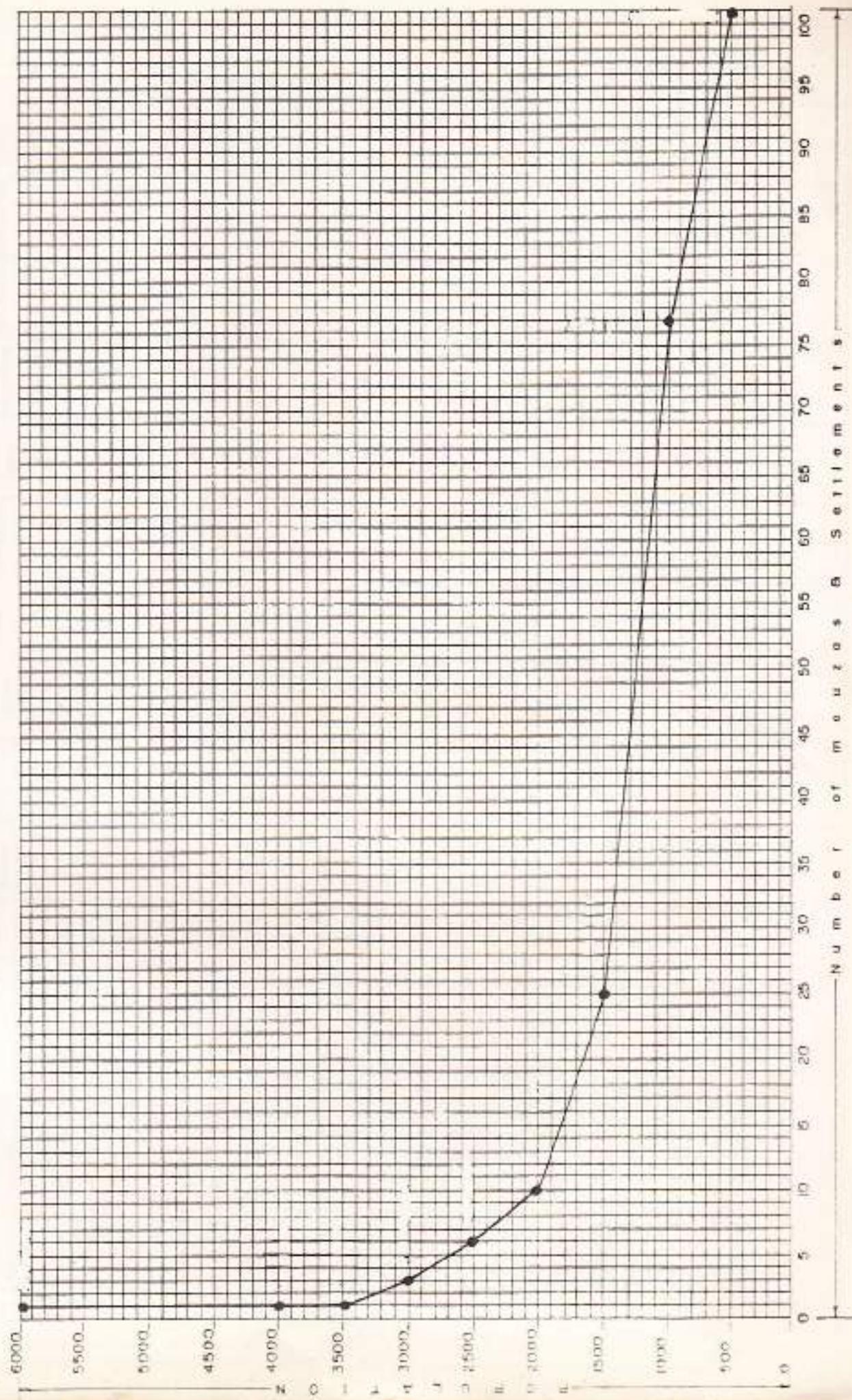
The proposed land use plan of the Upazila Shahar should be monitored and reviewed. From time to time each phase of development should be reviewed after the completion of that phase to evaluate the progress and direction of development according to the necessity of the area. If any correction and modification in the alignment are required, the plan should be modified thereafter before undertaking the implementation of the next phase. The feed-back effect as a corrective processes of the plan proposal and alignments.

HIERARCHY OF HUMAN SETTLEMENTS OF MAJOR ORDERS BY MOUZA.

Total number of mouza within the upazila = 228 nos.

base year 1981 as per census,

Birole upazila.



HIERARCHY ORDERS BY MOUZAS, POPULATION
AND SERVICE FACILITIES OF BIROLE UPAZILA.

ANNEXURE - I

SL. No	Name of Mousa	Population 500 +	Social Service						Economic activities			Total	Rank		
			College	High school	Primary School	Madrasa	Health Centre	Bank	Post office	Thana Court	Administration office	Hot bazar	Dally bazar		
1	Birole (U)	21.53	7	6	10	5	5	18	6	6	168	5	7	244	A
2	Farakkbandi	17.93	x	6	15	5	x	x	x	6	5	x	x	54.93	B
3	Hipalayn	34.98	x	6	x	x	x	x	x	x	5	x	x	45.98	B
4	Tegman	17.20	x	x	10	x	x	x	x	x	x	x	x	27.20	C
5	Maheshpur	16.95	x	x	10	x	x	x	x	x	x	x	x	31.95	B
6	Madhabpate	16.21	x	6	15	x	x	x	x	x	x	x	x	42.21	B
7	Bhondora	13.77	x	x	10	10	x	x	x	x	6	x	x	39.77	B
8	Kajipara	13.49	x	x	10	x	x	x	x	x	x	x	x	23.49	C
9	Dharanpur	12.78	x	x	10	x	x	x	x	x	6	6	x	33.78	B
10	Kasidanga	12.00	x	x	5	x	x	x	x	x	x	x	x	22	C
11	Haljai	11.88	x	x	x	x	x	x	x	x	x	x	x	11.88	C
12	Bahdin	11.78	x	6	5	x	x	x	x	x	x	x	x	22.78	C
13	Rejuria	11.20	x	x	x	x	x	x	x	x	x	x	x	21.20	C
14	Mulkespur	10.66	x	x	5	x	x	x	x	x	x	x	x	15.66	C
15	Okra	10.47	x	x	5	x	x	x	x	x	x	x	x	15.47	C
16	Panashbari	9.78	x	6	10	x	x	x	x	x	x	x	x	25.78	C
17	Haghans Thpur	9.74	x	x	5	x	x	x	x	x	x	x	x	14.74	C
18	Kamelepur	9.65	x	x	6	5	x	x	x	x	x	x	x	20.65	C
19	Bhangon	9.35	x	x	5	x	x	x	x	x	x	x	x	14.35	C
20	Moijabor	9.23	x	x	5	x	x	x	x	x	x	x	x	14.23	C
21	Mir Japur	8.87	x	x	5	x	x	x	x	x	x	x	x	18.87	C
22	Boramot	8.69	x	x	5	x	x	x	x	x	x	x	x	13.69	C

HIERARCHY ORDERS BY MOUZAS, POPULATION
AND SERVICE FACILITIES OF BIROLE UPAZILA.

- II

Sl. No	Name of Mousa-	Population 500 +	Social Service						Economic activities			Total	Rank	
			College	High school	Primary School	Madrasha	Health Centre	Bank	Post office	Thana Court	Administration office			
23	Rejbarampur	8.60	x	x	5	x	x	x	x	x	x	13.60	C	
24	Nona	8.57	x	x	5	x	x	x	x	x	x	13.57	C	
25	Gobindnagar	8.37	x	x	5	x	x	x	x	x	x	13.37	C	
26	Sujail	8.10	x	6	10	x	x	x	x	x	x	24.10	C	
27	Rampur	7.57	x	x	5	x	x	x	x	x	x	17.57	C	
28	Agargon	7.42	x	x	5	x	x	x	x	x	x	12.42	C	
29	Sabnit	7.30	x	x	5	x	x	x	x	x	x	12.30	C	
30	Uttar Bishnupur	6.97	x	6	5	x	x	x	x	x	x	17.97	C	
31	Gopalpur	6.87	x	x	5	x	x	x	x	x	x	11.87	C	
32	Dharamjatir	6.74	x	x	x	x	x	x	x	x	x	6.74	C	
33	Panipukur	6.69	x	6	5	x	x	x	x	6	x	23.69	C	
34	Hara Badyanathpur	6.71	x	x	5	x	x	x	x	x	x	11.71	C	
35	Shankarpur(U)	6.43	x	x	5	x	x	x	x	x	x	16.43	C	
36	Shahergram	6.39	x	6	5	x	x	x	x	6	x	28.39	C	
37	Bijora	6.30	x	6	10	x	x	x	x	x	x	33.30	B	
38	Dhageram	5.75	x	6	x	x	x	x	x	6	x	11.75	C	
39	Sibpur	5.77	x	x	10	x	x	x	x	x	x	15.77	C	
40	Mustafabad	5.74	x	6	5	x	x	x	x	x	x	21.74	C	
41	Dhakin Madhabpur	5.72	x	6	10	x	x	x	x	x	5	x	26.72	C
42	Bishnupur	5.25	x	6	5	x	x	x	x	x	x	16.25	C	
43	Sakoir	5.13	x	6	5	x	x	x	x	x	x	16.13	C	

HIERARCHY ORDERS BY MOUZAS, POPULATION
AND SERVICE FACILITIES OF BIROLE UPAZILA.

III

Sl. No	Name of Mousa	Population 500 +	Social Service						Economic activities			Total	Rank		
			College	High school	Primary School	Madrasha	Health Centre	Bank	Post office	Thana Court	Administration office	Hat bazar	Daily bazar		
44	Kondibari	4.73	X	6	5	X	X	X	X	X	X	X	X	20.73	C
45	Rudrapur	4.52	X	6	10	X	X	X	X	X	X	X	X	20.52	C
46	Ranipur	4.36	X	X	X	X	X	X	X	X	X	X	X	4.36	
47	Pakura	4.36	X	6	10	X	X	X	X	X	X	X	X	20.36	C
48	Busua (U)	3.69	X	X	10	X	X	X	X	X	X	X	X	13.69	C
49	Charpukuria	3.69	X	X	5	X	X	X	X	X	X	X	X	8.69	D
50	Khopra	3.66	X	X	5	X	X	X	X	X	X	X	X	8.66	D
51	Tegon Naraynpur	9.57	X	X	X	X	X	X	X	X	X	X	X	9.57	D
52	Ungchhi	8.69	X	X	X	X	X	X	X	X	X	X	X	8.69	D
53	Gaganput	7.30	X	X	X	X	X	X	X	X	X	X	X	7.30	
54	Bajnhat	6.76	X	X	5	X	X	X	X	X	X	X	X	6.76	
55	Bhabanipur	6.59	X	X	X	X	X	X	X	X	X	X	X	6.59	
56	Darail	6.57	X	X	X	X	X	X	X	X	X	X	X	6.57	
57	Hobipur	6.49	X	X	5	X	X	X	X	X	X	X	X	11.49	C
58	Rumia	6.45	X	X	X	X	X	X	X	X	X	X	X	6.45	
59	Beuthia	6.39	X	X	X	X	X	X	X	X	X	X	X	6.39	
60	Domrai	6.10	X	X	X	X	X	X	X	X	X	X	X	6.10	
61	Sorenia	5.81	X	X	X	X	X	X	X	X	X	X	X	5.81	
62	Hutani	5.72	X	X	X	X	X	X	X	X	X	X	X	5.72	
63	Noton	5.61	X	X	X	X	X	X	X	X	X	X	X	5.61	
64	Noideri	5.44	X	X	X	X	X	X	X	X	X	X	X	5.44	
65	Dakshin Gobindpur	5.08	X	X	X	X	X	X	X	X	X	X	X	5.08	

HIERARCHY ORDERS BY MOUZAS, POPULATION

AND SERVICE FACILITIES OF BIROLE UPAZILA.

IV

S.L No	Name of Mousa.	Population 500+	Social Service						Economic activities			Total	Rank	
			College	High school	Primary School	Madrasha	Health Centre	Bank	Post office	Thana Court	Administration office	Hot bazar		
66	Sonpur	4.81	x	x	5	-x	x	x	x	x	x	x	9.81	D
67	Azimpur	4.81	x	x	x	x	x	x	x	x	x	x	9.81	D
68	Bhabki	4.79	x	x	x	x	x	x	x	x	x	x	4.79	D
69	Duptoir	4.77	x	x	5	x	x	x	x	x	x	x	9.77	D
70	Insulsapur	4.77	x	x	5	x	x	x	x	x	x	x	9.77	D
71	Nizampur	4.77	x	x	x	x	x	x	x	x	x	x	4.77	D
72	Bhowdongi	4.77	x	x	x	x	x	x	x	x	x	x	4.77	D
73	Ganripur	4.72	x	x	x	x	x	x	x	x	x	x	4.72	D
74	Khad Sibpur	4.56	x	x	x	x	x	x	x	x	x	x	4.56	D
75	Nagarbari	4.52	x	x	5	x	x	x	x	x	x	x	9.52	D
76	Uttar Gabindaspur	4.49	x	x	5	x	x	x	x	x	x	x	9.49	D
77	Dhaultoir	4.46	x	x	5	x	x	x	x	x	x	x	9.46	D
78	Harichandrapur	4.40	x	x	x	x	x	x	x	x	x	x	4.40	C
79	Nohegram	4.37	x	x	10	x	x	x	x	x	x	x	14.37	C
80	Uttar Gomigram	4.32	x	x	5	x	x	x	x	x	x	x	9.32	D
81	Barirampur	4.32	x	x	5	x	x	x	x	x	x	x	9.32	D
82	Damrai	4.30	x	x	5	x	x	x	x	x	x	x	9.30	D
83	Noramtampur	4.28	x	x	5	x	x	x	x	x	x	x	9.28	D
84	Panchsain	4.24	x	x	5	x	x	x	x	x	x	x	9.24	D
85	Purin	4.24	x	x	5	x	x	x	x	x	x	x	9.24	D

HIERARCHY ORDERS BY MOUZAS, POPULATION
AND SERVICE FACILITIES OF BIROLE UPAZILA.

V

Sl. No	Name of Mousa.	Population 500 +	Social Services						Economic activities .			Total	Rank	
			College	High school	Primary School	Madrasha	Health Centre	Bank	Post office	Thana Court	Administration office	Hat bazar	Dally bazar.	
86	Kuchilapukur	4,18	x	x	5	x	x	x	x	x	x	x	9.18	D
87	Uttar Laxmi pur	4,00	x	6	x	x	x	x	x	x	x	x	10	C
88	Khatiltair	3,99	x	x	5	x	x	x	x	x	x	x	8.99	D
89	Nanpara	3,97	x	x	5	x	x	x	x	x	x	x	8.97	D
90	Dhamoir	3,93	x	x	5	x	x	x	x	x	x	x	8.93	D
91	Uttar Shayampur	3,89	x	x	5	x	x	x	x	x	x	x	8.89	D
92	Jugibari	3,89	x	x	5	x	x	x	x	x	x	x	8.89	D
93	Bistair	3,88	x	x	5	x	x	x	x	x	x	x	8.88	D
94	Karala	3,85	x	x	5	x	x	x	x	x	x	x	8.85	D
95	Murdipur	4,14	x	x	x	x	x	x	x	x	x	x	4.14	-
96	Ibrahimpur	3,97	x	x	x	x	x	x	x	x	x	x	8.97	D
97	Taranja	3,83	x	x	x	x	x	x	x	x	x	x	3.83	-
98	Bamangon	3,82	x	x	x	x	x	x	x	x	x	x	3.82	-
99	Gaturgram	3,82	x	x	x	x	x	x	x	x	x	x	3.82	-
100	Paschim Rongchandrapur	3,81	x	x	5	x	x	x	x	x	x	x	8.81	D
101	Bharatpur	3,82	x	x	x	x	x	x	x	x	x	x	3.82	-
102	Dhakeshin Mergnon	3,80	x	x	x	x	x	x	x	x	x	x	3.80	-
103	Taliyabpur	3,79	x	x	x	x	x	x	x	x	x	x	3.79	-
104	Dangapara	3,66	x	x	x	x	x	x	x	x	x	x	3.66	-
105	Bhuttazon	3,66	x	x	x	x	x	x	x	x	x	x	3.66	-
106	Ballabpur	3,63	x	x	x	x	x	x	x	x	x	x	3.63	-

HIERARCHY ORDERS BY MOUZAS, POPULATION
AND SERVICE FACILITIES OF BIROLE UPAZILA.

VI

Sl. No	Name of Mouza	Population 500+	Social Service						Economic activities -			Total Score	Rank		
			College	High school	Primary School	Madrasa	Health Centre	Bank	Post office	Thana Court	Administration Office	Hat bazar	Daily bazar		
107	Agra	3.63	x	x	x	x	x	x	x	x	x	x	x	3.63	
108	Birattalain	3.57	x	x	x	x	x	x	x	x	x	x	x	3.57	
109	Prachim Suktul ebpur	3.56	x	x	x	x	x	x	x	x	x	x	x	3.56	
110	Basudebpur	3.55	x	x	x	x	x	x	x	x	x	x	x	3.55	
111	Patipur	3.47	x	x	x	x	x	x	x	x	x	x	x	3.47	D
112	Giridhorpur	3.47	x	x	x	x	x	x	x	x	x	x	x	3.47	D
113	Mahatabpur	3.44	x	x	x	x	x	x	x	x	x	x	x	3.44	
114	Bhangabanpur	3.33	x	x	x	x	x	x	x	x	x	x	x	3.33	
115	Purbha Maheswar- pur	3.31	x	x	x	x	x	x	x	x	x	x	x	3.31	D
116	Gachhapat	3.13	x	x	x	x	x	x	x	x	x	x	x	3.13	
117	Meragon	3.12	x	x	x	x	x	x	x	x	x	x	x	3.12	
118	Jhinaikhuri	3.08	x	x	x	x	x	x	x	x	x	x	x	3.08	
119	Alberia	3.08	x	x	x	x	x	x	x	x	x	x	x	3.08	
120	Ongapara	3.08	x	x	x	x	x	x	x	x	x	x	x	3.08	
121	Sengaon	2.95	x	x	x	x	x	x	x	x	x	x	x	2.95	
122	Sijeram	4.25	x	x	x	x	x	x	x	x	x	x	x	4.25	