

URBAN DEVELOPMENT DIRECTORATE

MINISTRY OF WORKS

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

**LAND USE PLAN FOR
NATORE PAURASHAVA**

JANUARY 1989

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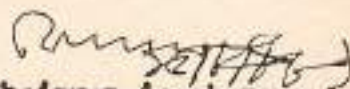
JANUARY 1989



PROKAUSHALI SANGSAD LIMITED
Consulting Engineers, Architects & Economists
131, Motijheel Commercial Area,
Dhaka-1000, Bangladesh

TO WHOM IT MAY CONCERN.

The undersigned along with Overseer, Surveyor and respectable Commissioners have carefully reviewed and checked the Land Use plan for Natore Pourashava submitted by the Prokoushali Sangsad Limited 131, Motijheel Commercial Area, Dhaka and found it acceptable.


Chairman-in-charge,
Natore Pourashava.
Natore Pourashava.

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CHAPTER ONE: BACKGROUND INFORMATION

1.1. INTRODUCTION

In the Government's recent policy of overall administrative reorganization the Zila Shahar has been recognised as the focal point for development of the zila level activities. Former District and sub-divisional headquarters towns have been converted to Zila Shahar. 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 the urban area.

The administrative re-organization has delegated more power to the zila authority for planning, programming, implementing and controlling development activities within the zila region. It is expected that with the geared up administrative, social and economic activities the zila shahar will gradually emerge as a sprawling urban centre. It is evident that most of the urban centres of the country have already been grown in an unplanned haphazard way leading ever increasing civic problem. The newly created zila shahars can be relieved from the course and ills of unplanned growth through the preparation and implementation of the land use plan.

The Zila Shahar has been conceived as focal point of development of the zila as a whole. The activities performed in the zila shahar will act as a propulsive factor for generating

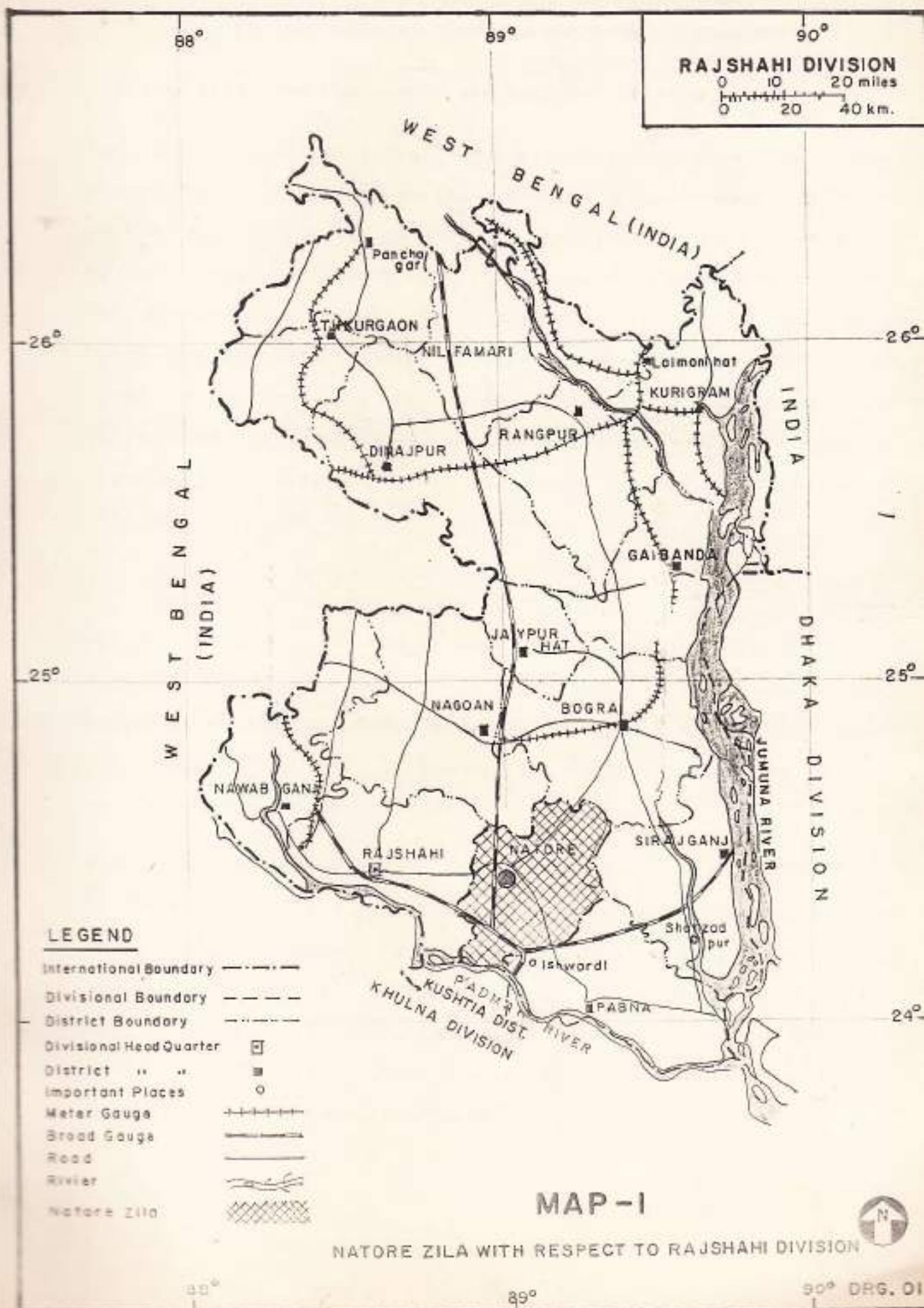
trends in the zila. The landuse plan prepared for the zila shahar will serve as a guide line for a planned and co-ordinated development of prospective Zila Shahar upto the year 2001 A.D. When successfully materialized, the landuse plan will cause orderly growth of the shahar. It will provide efficient transport network, promote development of commerce and industries, extended marketing facilities resulting in generation of more employment opportunities and will indicate more rational use of scarce land resources. The plan will reserve all provisions necessary for modern civic life.

It is a promise to the potential dwellers of the shahar for a healthy, pleasant and functionally efficient living environment. Planned development is the prime objective of the landuse plan. However, there is a common feeling that planning means a total development involving huge volume of fund. But such an idea is not fully correct. Planned development, to a large extent, can be ensured through effective enforcement of development control regulations.

In the light of above circumstances, it is felt that the zila shahar/paurashava should grow up expeditiously and the preparation of landuse plan for each shahar is of utmost importance for better utilization for regions, land, people and natural resources. With this end in view, the government has planned to engage consultants for preparation of landuse plan for some of the zila shahars/paurashava of Bangladesh.

1.2 Methods Adopted for Data Collection

The Consultant organised its team to collect data in conformity with the Terms of Reference (TOR) vide Para-2.1 to 2.10 of the Annex. to TOR. All the related information on Regional Setting, Delineation of Area of Influence, Delineation of the Study Plan Area, Existing Land Use, Demographic Studies, Housing Sector Studies, Industry and Commerce Sector Studies, Social Services Sector Studies, Transportation Sector Studies and Land Studies were collected either from primary sources and surveys or from the existing secondary sources of various departments. The Consultant's team was able to reach all the relevant contact points, for collection of the secondary data in connection with the Study. Existing Land Use was marked on mouza Maps (Scale 1"=330') and important development areas have been shown thereon. For Demographic and Housing Sector Studies, Socio-Economic Surveys were conducted at household level. The detail techniques for collecting data for each sector Study has been described at the beginning of the analysis of each Study.



CHAPTER TWO: REGIONAL SETTING OF NATORE PAURASHAVA

2.1 The Zila, the Paurashava and Regional Setting

The Natore Zila is located in northern Bengal known as North Bengal region of Bangladesh (Map-1). The North Bengal is a wider region and comprises the whole of greater Dinajpur, Rangpur, Rajshahi, Bogra and Pabna district. These five districts have now been divided into sixteen new districts and encompasses the entire North Bengal region. Natore has been upgraded to the district level as a result of the decentralization of administration policy. It is also hoped that the assembly of data for Natore Zila would provide an adequate data base for future development activity under the Natore Paurashava.

Natore zila is located on the southern part of North Bengal region. Natore is located between 24 10 and 24 50 north latitude and 88 55 and 89 30 east longitude. It is bounded in the north by Naogaon and Bogra district, in the east by Pabna district and in the south by Kushtia and Pabna district and in the west by Rajshahi district (Map-1).

2.2 Principal Topographical and Climatic Features

The Natore district is a flood plain land with mixed young and older Ganges Meander dark brown and gray clays prevailing. Topography is almost plain and suitable for cultivation. Topographical, geological and climatological features have made the soil surface much fertile which has enabled about 85% of its rural population to live on agriculture.

The district is generally described as having a typically tropical monsoon climate with high temperature, a good amount of humidity, moderate rainfall and fairly marked seasonal variations. The annual rainfall in the district is less than 60 inches or 155.4 cm. The variation of rainfall from year to year is very marked. The summer season commences in the early March when the mean monthly maximum temperatures of 56 F and the mean monthly minimum temperatures of 65 F are recorded. The high temperatures are however recorded in the months of April and May and also in the first half of June. The lowest temperature is recorded in the month of January the mean maximum being 76 F and the minimum mean being 52 F.

2.3 Population Size, Density and Growth by Upazila

The size of population, level of density and growth rates by upazila in the district region are given in Table-1.

The growth rate (exponential) has been calculated for each of the six constituent upazilas by using the following formula:

$$P_t = P_o e^{xn}$$

Where P_t = horizon population

P_o = base population

x = growth rate

n = number of years

It is worth observing that the growth rate varies from as low as 2.67% to as high as 3.69% for the year 1974-81. The growth

TABLE - I. POPULATION GROWTH RATE AND DENSITY BY UPAZILAS

	AREA		POPULATION		PROJECTED POPULATION GROWTH RATE (1961-81)					GROWTH RATE (2)			DENSITY OF POPULATION/SQ.KM (SQ. M)			
	SQ. KM.	SQ.MILES	1961	1974	1981	1991	2001	1961-81	1961-74	1974-81	1961	1974	1981	2001		
Natore	401.45	155	135909	212885	274340	389609	553310	3.56	3.51	3.69	339 (877)	530 (1370)	683 (1770)	1378 (3570)		
Bagatipara	137.27	53	44607	68867	87467	122430	171369	3.42	3.4	3.47	325 (842)	502 (1299)	637 (1650)	1248 (3233)		
Lalpur	295.26	114	93383	143656	175751	241055	330624	3.21	3.38	2.92	316 (819)	487 (1260)	595 (1542)	1120 (2900)		
Boraigra	300.44	116	84390	140798	179807	243043	345829	3.59	4.02	2.8	281 (728)	469 (1214)	569 (1472)	1151 (2981)		
Gurudaspur	199.43	77	68382	111233	133774	187067	261591	3.41	3.81	2.67	343 (888)	558 (1445)	671 (1737)	1312 (3397)		
Singra	528.36	204	119176	181180	224019	307258	421426	3.21	3.27	3.08	226 (584)	343 (888)	424 (1098)	798 (2066)		
TOTAL ZILA	1862.21	719	545847	858619	1066158	1490462	2084149	3.4	3.54	3.14	293 (759)	461 (1194)	573 (1483)	1117 (2894)		

Source: Population has been taken from the Census report of 1961, 1974 and 1981 of BBS, Govt. of Bangladesh.

is very high in Natore upazila but it is comparatively low in Gurudashpur upazila. Thus, the growth rate of the district as a whole is 3.14% and represents a more reliable figure. The projected population for 1991 and 2001 for the zila is about 1489454 and 2080810. The projected population has been calculated by using the same formula and the overall growth rate.

The overall density of the district as a whole is 1483 persons per sq. mile, i.e., 573 persons per sq. km. The most densely populated area is Natore Sadar with 1768 persons per sq. mile or 683 persons per sq. km. The most sparsely populated area is Singra with 1098 persons per sq. miles or 424 persons per sq. km.

2.4 Identification of Upazila Shahars, Union Headquarters and Major Growth Centres

Table-2 gives the Statistical details regarding the upazila urban centres, upazila shahars, union headquarters and Major growth centres. It is found that Natore Sadar upazila has the highest number of hats/bazars (30) and Bagatipara upazila, on the other hand has lowest number of hats/bazars (8). Administratively Natore sadar upazila and Singra has 12 unions each and each union has its separate headquarter. Bagatipara has only 4 unions head quarters.

Table-2: Number of Upazila Shahar, Union & other Centres in the District of Natore

Locality	Towns/ (Paurashavas)	Other town upazila shahars	Union** head quarters	Other centres (hats,bazars,etc.)
Natore Paurashava				
Natore sadar	Upazila	1*	12	30
Bagatipara	Upazila	1	4	8
Laipur	Upazila	1	10	19
Baraigram	Upazila	1	7	20
Gurudaspur	Upazila	1	6	15
Singra	Upazila	1	12	22
Total:		6	51	114

Source: 1) Rajshahi district statistics, 1983, BBS Govt. of Bangladesh.

2) Thana Series 1985 Bangladesh Population Census, 1981 of Rajshahi district. BBS, Govt. of Bangladesh.

* The upazila shahar is included in Natore zone

** One of the union headquarters are included in each upazila shahar.

2.5 Identification of Main Transport Routes

2.5.1 Transport Routes and Services

The basic means of transport available in the zila are train, bus, rickshaw and bi-cycle. The statistical details regarding transport routes and services are given in Tables-3 and 4. The railways and roads of the district play an important role in its transportation and communication. They provide convenient railway and roads for both passenger traffic and goods. The railway

network enables the people to move themselves or their goods to the important places; specially to north and south Bengal. Due to the good transportation system the North Bengal sugar Mill is situated here.

Bullock carts play a vital role in communication during the dry season. Jute, sugar cane, rice and other agricultural products are transported to the local market by local bullock carts, vans and pulling carts, etc. There is a good road transportation and communication network with Rajshahi divisional headquarter and with the capital city Dhaka, via Pabna zila town. Other road networks are i) Natore Bogra road ii) Natore Lalpur road and iii) Natore Nawabganj road. The major transportation system has been shown in the regional setting map (Map-1). The main routes are described in the transportation sector study which follows in the later chapter.

Table-3: Length of Roads in Natore Zila

Locality/ Upazila	Roads					
	Pucca		Semi-pucca		Kutchha	
	Mile	Km	Mile	Km	Mile	Km
Natore sadar	37		11		184	
Bagatipara	11		4		284	
Lalpur	10		5		94	
Baraigram	30		8		65	
Gurudaspur	4		5		40	
Singra	16		3		349	
Total:	108		36		1016	

Source: Rajshahi District Statistics 1983, BBS, Table No.7.01
Page-113

Table-4: Number of Rail Station, Bus Stoppage, Buses, Rickshaws, Auto-rickshaws, Minibuses, Boats, Bullock Carts etc. in Natore Zila

Locality/ Upazila	Rail sta- tion	Bus stop- page	Buses	Tru- cks	Boats	Rick- shaws	Auto rickshaws	Bull- ock carts
Natore sadar	6	2	18	22	-	2150	6	3590
Bagatipara	1	1	2	1	15	42	-	275
Lalpur	2	-	1	2	200	140	-	3000
Baraigram	-	-	2	3	723	210	5	1530
Gurudaspur	-	2	9	3	300	3	-	1200
Singra	-	4	-	-	480	13	-	922
Total:	9	9	32	31	1718	2558	11	10517

Source: Rajshahi District Statistics 1983, BBS, Tables 7.02, 7.03 and 7.04 page 114-116.

There is no regular Steamer or launch service inside the Natore district. But during rainy season small wooden launches and mechanised country boats ply in several rivers & canals.

2.6 Other Infrastructure

As for the other infrastructure facilities; electricity and water supply are available in Natore sadar and other upazila headquarters. However, a majority of the people of these areas are deprived of these two important urban necessities. Table Nos. 5, 6 and 7 show other infrastructure or categories of services.

2.6.1 Electricity Facility of Natore district

Electrification in the district is organised by two organisations namely Bangladesh Power Development Board and Rural Electrification Board.

2.6.1.1 Bangladesh Power Development Board (BPDB)

Only the municipal area of Natore is electrified by PDB and its performance is as follows:

Table-5: Electricity Supply by BPDB

1. Capacity	: 5 MVA (33/11KV)
2. Line	: 17 miles (Low tension) and 4 miles (High tension)
3. No. of Transformers:	55
4. No. of connections :	
a) Domestic	: 2458
b) Commercial	: 1087
c) Small industrial	: 131
d) School/college/mosque etc.	: 70
e) Irrigation and others	: 11

Source : Office of the Executive Engineer, PDB, Natore.

2.6.1.2 Bangladesh Rural Electrification Board (BREB)

Rural areas of Natore district are under REB and controlled by two Palli Biddut Samittees, one at Natore and the other at Bonpara under Baraigram upazila and upazila-wise connections by types are as follows:

Table-6: Supply of Electricity by REB

Upazila	Number of connections by types				
	Residential/ household	Commercial	Irrigation	Industrial	Others str. light etc.
Natore sadar	3083	638	265	77	49
Bagatipara	1435	203	8	14	15
Singra	2980	758	592	126	47
Gurudaspur	1610	964	38	39	13
Lalpur	8905	589	162	62	21
Baraigram	961	598	325	112	93
Total:	18974	3750	1390	430	238

Source: Office of the Executive Engineer, REB, Natore.

Table-7: Water Supply in Natore District (Upazila-wise, 1987)

Upazila	Number of HTW's		Remarks
	Total	Incractive	
Natore sadar	2087	68	In Natore municipal area water supply system includes 3 DTW's. One central tank of capacity 1,50,000 gallons. 2 pump sets are used for raising water to the central tank and from the other pumpset direct supply is done 3 times daily 6 hours water supply.
Bagatipara	792	53	
Singra	2102	128	
Baraigram	1703	66	
Gurudaspur	1278	76	
Lalpur	1581	67	
Total:	9543	458	

Source: Office of the SDE, PHE, Natore.

2.6.2 Irrigation

The production of various crops of the district during 1986-87 depended both on natural rainfall and mechanised irrigation system of various categories viz. Deep tubewell, shallow tubewell and low lift pump. Except the mechanised system there is a local traditional method of irrigation. The upazila wise irrigation scenario as obtained from Bangladesh Bureau of Statistics is illustrated in the Table-8.

Table-8: Upazila-wise Irrigation in Natore district (1986-87)

Upazila	DTW		STW		LLP		Other methods (Traditional in acre)	Total Acres
	Num-ber	Acre	Num-ber	Acre	Num-ber	Acre		
Natore sadar	81	3962	516	2595	13	140	726	7423
Bagatipara	22	801	20	108	15	28	345	1282
Lalpur	27	1120	2204	7278	391	4002	814	23214
Baraigram	68	3400	207	930	21	270	802	5402
Gurudaspur	8	480	295	3120	128	4050	496	8146
Singra	34	1109	25	90	2	30	323	1623
Total:	240	10953	3267	24121	570	8520	3506	47100

Source: Office of the Executive Engineer, BADC, Natore
Office of the Zila Agricultural Officer, Natore.

CHAPTER THREE: DELINEATION OF AREA OF INFLUENCE (CATCHMENT AREA) AND DELINEATION OF STUDY PLAN AREA

3.1 Delineation of the Boundaries of the Catchment Area

3.1.1 Criteria for Delineation of the Boundaries of the Catchment Area

As mentioned in the TOR the catchment area extends over 10-15 miles from the zila shahar/paurashava. This principle has been followed, but adjustments have been made by considering the natural barriers like the rivers and attractiveness of other towns. The livelihood of people residing in the nearby communities was found to be limited to approximately within 14 miles from the heart of the zila shahar/paurashava. This was established by holding free interviews with the people from various walks of life at strategic entry/exist points at peak, dull and average rush hours.

3.1.2 Details of the Catchment Area

Based on this criteria the Catchment Area of zila shahar/paurashava has been defined. This area is shown on Map-2 and the details of population and area are given in Table-9.

Table-9: Details of Catchment Area

Localities	Area		Population		
	Acres	Hectares	1961	1974	1981
Natore sadar	94427	38243	135909	212885	274340
Total:	94427	38243	135909	212885	274340

Source: Population Census Report of 1961, 1974 and 1981 of BBS Government of Bangladesh.

Note : More details are given in the Annex Table-1.

There are five upazila shahars and three hats, bazars in the hinterland of zila shahar/paurashava area. Four upazila are located totally and another one partially in the catchment area. Each of these settlements are economically related to the zila shahar Natore as well as divisional shahar of Rajshahi. There is a two-way relationship between the zila and the upazila shahar and their hinterlands. The zila shahar supplies mainly consumer goods mainly and the upazila shahars and the hats supply agro-based commodities and other rural products to the zila shahar/paurashava of Natore.

3.2 Delineation of the Study Plan Area

3.2.1 Criteria for Delineation of the Study Plan Area

Suitable area for future urban development was carefully chosen considering many aspects such as past development trend, geographical location, natural advantages/barriers, people's preferences etc. It is worth while to mention a few; firstly by investigating and analysing the traditional development trend of the paurashava area and secondly by the natural barrier of Chalan beel which has restricted the possibility of further expansion of the paurashava in the southern direction. It appears from the daily lives of people that the future development will take place along the east-west direction.

As a matter of fact the expansion on east west and northern direction has largely attributed to the National highways which connect Rajshahi divisional town and the capital city. Another road communication is Natore Bogra road.

3.2.2 The study area has been delineated on the criteria mentioned above and this is shown on Map 2 and 3 and the details of population in Table-10.

TABLE-1.1 STUDY PLAN AREA OF IILA SHAHAR NATORE

Name of Mouza	Total Area		Involved Area		Total Population			Involved Population		
	Acres	Hect.	Acres	Hect.	1961	1974	1981	1961	1974	1981
i) Paurashava Area	1100	445.5	1100	445.5	1337	21993	31210	13317	21053	31210
Ward No. 1	400	162	400	162	-	7196	7882		7196	7882
Ward No. 2	300	121.5	300	121.5	-	5721	10100		5721	10100
Ward No. 3	400	162	400	162	-	8136	13228		8136	13228
ii) Adjoining Areas	5899	2389.09	3673	1487.57	8643	15722	22178	5462	10582	14474
Bishnupur	191	77.36	86	34.83	59	159	689	77	72	120
Hogolbaria	234	94.77	234	96.77	446	585	728	446	585	728
Borbelgharia	456	182.25	270	109.35	831	1684	2755	498	764	1653
Baragachha	234	94.77	211	85.46	558	584	1479	502	525	1331
Chak bayddanath	81	32.81	81	32.81	340	522	828	340	522	828
Tebaria	426	172.53	170	68.85	973	1616	2334	389	646	934
Natore Poduapara	1404	568.62	1404	568.62	926	4159	4130	926	4154	4130
Ashati	1146	464.13	458	185.49	2180	2780	4212	872	1112	1685
Bara Hrispur	747	302.54	523	211.82	1634	2530	3499	1143	1771	2449
Vita	761	308.21	76	30.78	405	650	844	41	65	84
Narayankandi	86	34.83	77	31.19	178	290	415	160	261	373
Rasaigachhi	139	56.3	83	33.42	113	163	265	68	100	159
Total i+ii	6999	2834.6	4773	1933.07	21960	36775	53388	18779	31635	45684

Sources: Population census of Bangladesh, District Census Report, 1961, 1974, and 1981 of Government of Bangladesh.

- No information is available

CHAPTER FOUR: EXISTING LAND USE

4.1 Landuse

The consultant has conducted elaborate landuse survey to classify and distinguish on a map the following: agriculture, commerce, industry, education, health, administration, government departments, cantonments, recreation, socio-cultural and urban services, residential areas, ponds, roads, ferry, bus depot, power line, embankment, etc. The survey is presented in Map-5 on scale 1"=330' and paurashava Map-6 using standard symbols. A table of the existing land uses showing the areas of different categories is presented in Table-4.1 and the description has been shown in the following paragraph :

Commerce and Industries

Commerce: For commerce 23.91 acres of land are used out of which 12.86 acres of land are located in ward No. 1 most of them are found in old bazar area. Commercial areas are found along the Dhaka-Rajshahi road also.

Industries: Industries cover 136.50 acres of land. In Ward No. 2., 30.00 acres of lands are found under the use of industries. Industries are located along Dhaka-Rajshahi road and along the western side railway lines. The Natore Sugar Mill (one of the largest sugar mill in Bangladesh) is situated outside the existing Pourashava area but within the study plan area.

TABLE 1.1 EXISTING LAND-USE PATTERNS OF THE STUDY PLAIN (Hectares/hectares)

Name of Block	Agriculture/Forestry		Commerce		Industry		Educational Institutions		Health Facilities		Administration		Recreation Facilities		Socio-Cultural		Urban Services		Road Subsidies		Residential		Water Bodies		Total	
	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares	hect-ares
Motora Parsadao	401.77	163.53	13.86	5.71	8.19	3.32	16.23	6.76	1.45	0.59	39.61	16.64	3.11	2.47	2.18	0.5	0.2	31.18	31.13	495.34	79.11	179.00	72.12	149.02	384.68	
Borapada Sit-1	246.82	99.97																								
Shir-2 (Bar-1)	185.35	32.54					8.19	0.60																		
Shir-2	133.22	55.95																								
Osi Baidyath	59.35	24.04	0.39	0.15	0.02	0.33					3.72	1.51														
Mahabaria	132.85	53.48	1.01	0.41	38.22	12.24					6.31	2.56														
Lavva	198.62	86.44			25.37	10.48			1.01	0.41																
Jangli	153.56	62.11																								
Isi Singaraha	94.54	38.29																								
Koravapur	128.17	59.20																								
Son Belgaria sht	344.10	139.36																								
de-2			2.29	1.05	2.02	0.82					12.62	5.11														
Budhapur	100.17	72.87																								
Salapur Aulati	92.31	37.39																								
Aulati Sit-2	404.16	42.18																								
de-3	221.92	88.88																								
Sara Maripur	133.02	52.87			5.2	2.15					19.94	8.06														
Vita Sit-1	131.02	56.74	4.28	1.74	4.40	1.81	1.45	0.59			10.03	4.06	1.28	0.61	0.12											
de-2	68.20	24.42					5.05	2.05																		
Tataria	198.19	88.27	2.78	1.17	9.53	3.68	0.15	0.85																		
Pamunguchi	78.84	31.93																								
Naravankadi	48.25	19.58																								
Motora	675.15	231.33			4.36	1.77			0.44	0.18	58.03	26.25			0.86											
TOTAL :	3515.91	1425.56	23.91	55.6	136.5	41.48	24.85	9.78	2.6	1.18	142.26	37.62	3.08	16.1	6.94	1	8.4	331.48	154.72	593.36	203.84	236.44	152.45	5451.67	2383.87	

Education

Land used for education amounts to 24.05 acres out of which 19.00 acres are in Ward No. 1, where the Govt. High School, Girl's School, the Women's College, the Govt. College, the PTI, the Polytechnic Institute and the Vocational Institute are located. Most of the educational institutions are located on Dhaka-Rajshahi road which passes through the core of the Shahar. The Polytechnic Institution and the Vocational training Centre is located out side the old core and in new area. In Word No. 2. One Girls' High School is located.

Health

For health and welfare 2.90 acres of land are used. In Word No. 2, 2.00 acres of lands are used for health where the new sadar hospital with nurse's training centre is located. This health complex is located on Dhaka-Rajshahi road on a new site. The old hospital is located in Ward No. 1. covering 2.50 acres of lands.

Administration

For administrative purposes 142.26 acres of lands are used. In Ward No. 1, there are the old Jailkhana, URO Office, Food Office Zila Board Office, BADC Office and Women's Ansar Camp covering together 33.00 acres of land. In Ward No. 2, there are D.C.'s complex, BWD office new Jailkhana. Police line, R & H Office, P.D.B. office and other related offices of Zila administration coveing together 87.50 acres of lands. The UNO Complex is located

outside the Paurashava area and is located in Amhati mouza. Other offices are also located covering 18.00 acres of land.

Recreation

Facilities of recreation inadequate in Nature Shahar for which only 7.62 acres of lands are used. In Ward No. 2, there are two play ground and a Shisu Park covering 6.00 acres of lands.

Socio-cultural

This facility is also inadequate in Nature Shahar. For socio-cultural function only 16.10 acres of lands are used. In Ward No. 2, there is a graveyard, a burning ghat and a public library.

Urban Services

For urban services 5.00 acres of land are used. In ward No. 1, the police station is located on Dhaka-Rajshahi road. There are power supply station and bus station etc. in Ward No. 2, covering together 4.00 acres of land.

Roads/Embankment

Roads cover only 331.48 acres or 134.22 hectares of lands. Existing roads are narrow and obsolete. They should be widened and new roads should be constructed.

Residential

For residential purpose 503.36 acres or 203.84 hectares of lands are used. In most cases the density is low due to the presence of orchards with residences. The Ward No. 1 is densely populated covering 95.00 acres of land. There is a little scope of their extension. In Ward No. 2, 50.00 acres of lands are used for residences. In Amhati mouza 50.00 acres of lands are used for the same purpose.

Water Bodies

There are many canals and khals in the shahar area. There are also a few big ponds. Water bodies together cover 376.44 acres of lands.

Agriculture/Forestry

In the designated shahar area 3519.91 acres or 1425.56 hectares of lands are under the use of Agriculture/Forestry. It may therefore be assumed that lands are available for urban development in the shahar area. For details of current uses of land of Natore Zila Shahar, the Table No. 4.1 and the existing land use map may be seen.

4.2 Contours

The contours maps have been collected from the BWDB and compared with the survey map. Finally, the contours have been interpreted on the shahar area map for studying the level of lands and physical infrastructures. Buildable land of physical barriers are identified through the study of contours.

CHAPTER FIVE: DEMOGRAPHIC STUDIES

5.1 Population Growth Characteristics

Past population data has been obtained from the population census report of 1961, 1974 and 1981 pertaining to the three wards of the Natore paurashava and another 12 mouzas adjacent to these wards. The growth rates obviously differed from one another. The average annual growth rates for Paurashava area were 3.59 percent from 1961 to 1974 and 5.79 percent from 1974 to 1981. The high growth rates occurred due to the existence of Paurashava where high migration has taken place. In the other mouzas the growth was more or less in conformity with that of other areas of the country. The average annual growth rates of the Mouzas in question were 2.66 percent from 1961 to 1974 and 2.79 percent from 1974 to 1981. The following tables shows the growth characteristics at a glance (Table-12).

5.2 Population Structure

A survey was also conducted in the present paurashava area during January, 1987, to determine the average percentage of population in different age groups. This was divided in nine age groups and each of the wards were studied separately. The ratio of males and females was also estimated based on this sample survey. The males were found to out strip females in all the wards. The survey was primarily undertaken to see the pattern of population age groups and thereby reduce the dependency ratio. The findings are presented in Table 13. It appears from this table that persons falling under age groups 0-4, 5-10 and 55 above may be assumed to

Table- 12.1 Population Growth Characteristics in the Study plan Area

Locality	Population		Growth Rates			
	1961	1974	1981	1961-74	1974-81	1961-81
I Pourashava Area						
Ward No.1	2895	7196	7882	7.26	1.3	5.14
Ward No.2	4168	5721	10100	2.47	8.46	4.52
Ward No.3	6254	8136	13228	2.04	7.19	3.82
Sub-total	13317	21053	31210	3.59	5.79	4.35
II Adjoining Mouzas						
Bishnupur	77	72	120	0.52	7.57	2.24
Hogolbaria	446	585	728	2.1	3.17	2.48
Bonbelghoria	498	764	1653	3.34	11.66	6.18
Baragachha	502	525	1331	0.35	14.21	5
Chak balddanath	340	522	828	3.35	6.81	4.55
Tebaria	389	646	934	3.97	5.4	4.47
Natore potuapara	926	4159	4130	12.25	0.09	7.76
Ashati	872	1112	1685	1.88	6.12	3.35
Bara Horishpur	1143	1771	2449	3.42	4.74	3.88
Phita	41	65	84	3.61	3.73	3.65
Narayankandi	160	260	373	3.8	5.29	4.32
Ramatgachhi	68	100	159	3.01	6.85	4.34
Sub-total	5462	10581	14474	5.22	4.58	4.99
GRAND TOTAL	18779	31634	45684	4.09	5.39	4.55

Source : District Census Report of Rajshahi, 1961, 1974 & 1981
BBS, Govt. of Bangladesh.

Growth rate has been calculated from census report.

TABLE-1.3 : POPULATION STRUCTURE BY AGE & SEX IN THE STUDY AREA

Ward	0-13			14-59			60-above			Both		Depen- dency ratio %	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female		Total
1	97	64	161	166	126	292	8	13	21	271	203	474	38.4
2	133	98	231	192	149	341	15	12	27	340	259	599	43.1
3	132	147	279	256	247	503	30	28	58	418	422	840	40.1
Total Pourashava	362	309	671	614	522	1136	53	53	106	1029	884	1913	40.6
Adjacent Area	18.9	16.2	35.1	32.1	27.3	59.4	2.8	2.8	5.6	53.8	46.2	100	
Total Study Area	534	470	1004	996	879	1875	109	100	209	1639	1449	3088	39.3
Percent	17.3	15.2	32.5	32.2	28.5	60.7	3.5	3.2	6.7	53.1	46.9	100	

Source: Field Survey, January, 1987.

be dependant on the earnings of the main member of the family. Besides, there are persons who may not be working on the following grounds:

- i) lack of proper employment opportunity
- ii) prolonged illness
- iii) students
- iv) voluntary unemployment, etc.

It would be rather difficult to find out the ratio of the last group which is a summation of a few categories of individuals and which, very often, vary from one situation to another. If we make an assumption that about 20 percent of the effective manpower will fall under this category then the dependency ratio will stand as shown in Table-14.

Table-14: Population Dependency percentage/ratio

Ward No.	Age group in %		20% of effective manpower	Dependency percentage
	0-10 years	Above 55 years		
1.	28.45	15.91	10.53	54.89
2.	21.18	13.41	13.08	47.67
3.	20.20	15.50	14.25	49.95
Average	23.28	14.94	12.62	50.84

Source: Field Survey, January, 1987

5.3 Household Size

A survey was also conducted to assess the average number of family members, household area and number of rooms in each family in the existing Paurashava and adjoining areas. Sample surveys were done in each of the three wards of the area. The findings are presented in the Table-15.

It reveals from the table (Table-15) that average number of family members was highest in ward no.2 being (6.10) followed by ward no.3-(5.57) and ward no. 1-(4.23). The average size of household was 2.17 kathas in ward no. 1 and in case of ward nos. 2&3 it was about 1.44 kathas. Average rooms for each family consisted of 2.37 in ward no. 1 and less than 2 rooms in case of ward nos. 2&3.

Table 15: Household Size in the Study Plan Area

	Average Number of Members/ Family	Average Area of Household/ Family (sft)	Number of Rooms/ Family
I Paurashava Area			
1	6.8	2230	2.50
2	6.0	2960	2.10
3	6.5	2350	1.95
II Adjoining Areas:	5.9	3058	3.20

Source: Field Survey, January 1987.

5.4 Migration

A sample survey was conducted by the consultant in September, 1986 for the three wards and the adjoining mouzas with regards to migration in and out of the area. This is presented in Table-5.5 which follows. The general tendency, as is evident from the table, is that more people are migrating in to the town area. The main reason behind this is the opportunity to find gainful employment and personal. In both cases the urban area offers a better opportunity than rural area (Table-16).

Table-16: Migration Since 1981

Locality	% of population migration in	% of population migrated out	% of population migrated net
I Ward Nos.			
1	10.34	6.54	3.80
2	11.02	7.51	3.51
3	11.52	7.26	4.28
II Adjoining Mouzas	12.51	7.83	4.68

Source: Field survey - January, 1987.

5.5 Population density

The overall density of the study plan area as a whole is 6.70 persons per acre or 16.76 persons per hectares. Table 17 shows the population density for the year 1981, which is the latest census report of BBS, for the ward/mouza for the study plan area of Zila Natore.

TABLE-1.7 : POPULATION DENSITY FOR THE YEAR 1961, 1974 AND 1981 BY MOUZA OF THE STUDY PLAN AREA

Ward/Mouza	Area Involved		Population Involved			Density					
						1961		1974		1981	
	Acres	Hect.	1961	1974	1981	Per Acres	Per Hectares	Per Acres	Per Hectares	Per Acres	Per Hectares
Ward No. 1	400	162		7196	7882	-	-	17.99	44.42	19.71	48.65
Ward No. 2	300	121.5		5721	10100	-	-	19.07	47.09	33.67	83.13
Ward No. 3	400	162		162	13228	-	-	20.34	50.22	33.07	81.65
Sub-total:	1100	445.5		13079	31210	12.11	29.89	19.14	47.28	28.37	70.06
Bishnupur	96	34.83	77	72	120	0.9	2.21	0.84	2.07	1.4	3.45
Hogolbaria	234	98.77	446	585	728	1.91	4.52	2.5	5.92	3.11	7.37
Bonbelgharia	270	109.35	498	764	1653	1.84	4.55	2.83	6.99	6.12	15.12
Baraghacha	211	85.46	502	525	1331	2.38	5.87	2.49	6.14	6.31	15.57
Chak bayddanath	81	32.81	340	522	828	4.2	10.36	6.44	15.91	10.22	25.24
Tebaria	170	68.85	389	646	934	2.29	5.65	3.8	9.38	5.49	13.57
Natore Poduspara	1404	568.62	926	4154	4130	0.66	1.63	2.96	7.31	2.94	7.26
Akhali	458	185.49	872	1112	1685	1.9	4.7	2.43	5.99	3.68	9.08
Bera Horispur	523	211.82	1143	1771	2449	2.19	5.4	3.39	8.36	4.68	11.56
Vita	76	30.78	41	65	84	0.54	1.33	0.86	2.11	1.11	2.73
Narayanlandi	77	31.19	160	261	373	2.08	5.13	3.39	10.48	4.84	11.96
Rasailgarhi	83	33.62	68	100	159	0.82	2.02	1.2	2.97	1.92	4.72
Sub-total	3673	1491.59	5462	10577	14474	1.49	3.67	2.88	7.11	3.94	9.73
Grand Total	4773	1937.09	5462	23656	45684	3.93	9.71	6.63	16.37	9.57	23.63

Sources: Census Report of Rajshahi District, 1961, 1974, 1981 of BGS, Government of Bangladesh.

- No information is available.

5.6 Labour Force

As regards categories of main employment we have accepted the broad classifications done in the population census of 1981. These include: Not working, household, cultivation, agriculture (Non-crop), manufacture, business and others. According to census report of 1981, engagement in household, cultivation, agriculture (Non-crop), manufacture, business and other sectors were in the order of 44.59, 4.83 0.22 4.16, 24.48 and 21.72 percent respectively, in the paurashava area. This indicates that the main employment category was the household sector followed by business and other sectors. Cultivation sector could not show any significant impact in the paurashava area for obvious reasons but this sector stood second when viewed in the mouzas of the adjoining areas.

When the Paurashava area as well as mouzas are taken together the employment position in cultivation sector has improved a lot to over 12 percent compared to 4.83 percent for paurashava area. A detailed position is presented in Table-18. It has been indicated in this table that out of 31,879 persons in 1981, as many as 7763 persons (24.35 percent) were not working in the paurashava area. In case of adjoining and paurashava areas as a whole, non-working force consisted of 10851 persons being 34.04 percent of the total number of work force.

TABLE-18 : EMPLOYMENT CATEGORIES IN NUMBER

Ward/Mouza	Employed						Others
	Not Work- ing	House- hold	Culti- vation	Agri- culture Non-crop	Manu- facture	Busi- ness	
Ward No. 1	2139	1599	97	2	82	1045	957
Ward No. 2	2248	2143	149	1	120	1233	1307
Ward No. 3	3376	2201	299	1	101	1194	2268
Sub-total:	7763	5943	545	4	303	3472	4532
Bishnupur	112	174	96	0	0	65	29
Hogolbaria	82	226	98	0	2	39	84
Bonbelgharia	383	633	300	27	5	132	269
Baraghacha	111	420	211	4	10	91	123
Chak bayddanath	173	196	27	0	5	101	66
Tebaria	376	561	278	3	87	79	207
Natore Poduapara	584	965	509	1	17	197	539
Ashati	492	1050	733	5	8	100	310
Bara Horisapur	388	906	607	3	20	109	285
Vita	139	195	118	0	0	18	64
Narayankandi	46	104	36	3	24	4	44
Ramaigachhi	202	302	269	2	1	11	121
Sub-total	3088	5732	3282	48	179	946	2141
Grand Total	10851	11675	3827	52	482	4418	6673

Source: Census Report of Rajshahi District, 1981 of BBS, Government of Bangladesh

HIGH PROJECTION (1974-81)

TABLE-19: POPULATION GROWTH CHARACTERISTICS AND PROJECTION FOR YEARS 1991 & 2001 BY MOUZA OF THE STUDY PLAN AREA

	Involved Population		Population (Projected)				
	1961	1974	1981	1986	1991	1996	2001
a) Paurashava area							
Ward No. 1	-	7196	7882	10443	13837	18334	24293
Ward No. 2	-	5721	10100	13383	17733	23497	31134
Ward No. 3	-	8136	13228	17527	23224	30772	40774
Sub-total:	13317	21053	31210	41353	54794	72603	96201
b) Adjoining Mouzas							
Bishnupur	77	72	120	150	188	235	294
Hogolbaria	446	585	728	911	1140	1426	1784
Bonbelgharia	498	764	1653	2068	2587	3236	4048
Baraghacha	502	525	1331	1665	2083	2606	3260
Chak bayddanath	340	522	828	1036	1296	1621	2028
Tebaria	389	646	934	1168	1462	1828	2287
Natore produapara	926	4159	4130	5166	6463	8085	10114
Ashati	872	1112	1685	2107	2637	3299	4126
Bara Horispor	1143	1771	2449	3064	3832	4792	5997
Vita	41	65	84	105	131	164	206
Narayankandi	160	261	373	467	584	730	913
Rawaigachhi	68	100	159	199	249	311	389
Sub-total	5462	10582	14474	18106	22652	28333	35446
Grand Total	18779	31635	45684	59459	77446	100936	131647

Source: Census Report of Rajshahi District, 1961, 1974, 1981 of BBS, Government of

- No information is available

Growth rate: 5.79 for Paurashava area and 4.58 for adjoining mouzas.

MEDIUM PROJECTION (1961-81)

TABLE-20 : POPULATION GROWTH CHARACTERISTICS AND PROJECTION FOR YEARS 1991 & 2001 BY MOUZA OF THE STUDY PLAN AREA

	Involved Population		Population (Projected)				
	1961	1974	1981	1986	1991	1996	2001
a) Paurashava Area							
Ward No. 1	-	7196	7882	9752	12066	14929	18471
Ward No. 2	-	5721	10100	12496	15461	29130	23668
Ward No. 3	-	8136	13228	16367	20250	25055	30999
Sub-total:	13317	21053	31210	38615	47777	69114	73138
b) Adjoining Mouzas							
Bishnupur	77	72	120	153	195	249	318
Hogolbaria	446	585	728	929	1185	1511	2928
Bonbeigharia	498	764	1653	2109	2690	3432	4378
Baraghacha	502	525	1331	1698	2166	2763	3525
Chak bayddanath	340	522	828	1056	1347	1719	2193
Tebaria	389	646	934	1191	1520	2939	2473
Natore poduapara	926	4159	4130	5269	6721	8574	10937
Amhati	872	1112	1685	2150	2742	3498	4462
Bara Horispur	1143	1771	2449	3124	3985	5084	6486
Vita	41	65	84	107	137	174	222
Narayankandi	160	261	373	476	607	774	988
Ramatgachhi	68	100	159	203	259	330	421
Sub-total	5462	10582	14474	18465	23554	31047	39331
Grand Total	18779	31635	45684	57080	71331	100161	112469

No information is available and data obtained by interpolation

Sources: Census Report of District, 1961, 1971, 1981 of BBS, Government of Bangladesh

Growth rate: 4.35 for Paurashava and 4.99 for adjoining mouzas.

LOW PROJECTION (1961-74)

TABLE-21 : POPULATION GROWTH CHARACTERISTICS AND PROJECTION FOR YEARS 1991 & 2001 BY MOUZA OF THE STUDY PLAN AREA

	Involved Population		Population (Projected)				
	1961	1974	1981	1986	1991	1996	2001
a) Paurashava Area							
Ward No. 1	-	7196	7882	9402	11215	13378	15959
Ward No. 2	-	5721	10100	12048	14371	17143	20449
Ward No. 3	-	8136	13228	15779	18822	22452	26782
Sub-total:	13317	21053	31210	37229	44408	52973	63190
b) Adjoining Mauzas							
Bishnupur	77	72	120	155	200	257	332
Hogolbaria	446	585	728	939	1211	1562	2014
Bonbelgharia	498	764	1653	2132	2750	3546	4573
Baraghacha	502	525	1331	1717	2214	2855	3683
Chak bayddanath	340	522	828	1068	1377	1776	2291
Tebaria	389	646	934	1205	1554	2003	2584
Natore paduapara	926	4159	4130	5326	6870	8860	11427
Aahati	872	1112	1685	2173	2803	3615	4662
Bara Horispur	1143	1771	2449	3158	4074	5254	6776
Vita	41	65	84	108	140	180	232
Narayanekandi	160	261	373	481	620	800	1032
Rawalgachhi	68	100	159	205	264	341	440
Sub-total	5462	10582	14474	18667	24077	31049	40046
Grand Total	18779	31635	45684	55896	68485	84022	103236

- No information is available and data obtained by interpolation

Source : Census Report of Rajshahi District, 1961, 1974, 1981 of BBS, Government of Bangladesh

Growth rate: 3.59 for Paurashava and 5.22 for adjoining mauzas.

CHAPTER SIX: HOUSING SECTOR STUDIES

6.1 Housing Characteristics

A. Paurashava Area

A total of 300 dwelling houses were surveyed in the three wards of the Paurashava area and from this survey findings it is revealed that 24.67 per cent of the houses were pucca, and semi-pucca houses consisted of 43.67 per cent. 31.66 per cent of the dwellings were kutcha. It was revealed from this survey that 93.33 per cent of the houses were built by the professionals while 6.67 per cent were built by the owners themselves. Table-22 gives the geographic distributive pattern of these categories of housing in the Paurashava area. Generally there is an admixture of semi-pucca and kutcha houses all over the area. However, as the existing land use survey map shows, the government housing areas in and around the headquarters site are mostly pucca. Semi-pucca houses occur densely adjacent to the bazar area. On the road sides some floating squatters are also seen and some upgradation may be necessary for these areas. Away from the bazar and central areas the houses are sparsely built.

A survey was undertaken to see the conditions of the existing houses in all the wards of the Paurashava and the inhabitants were also interviewed in order to seek their opinion with regard to the conditions of their dwellings. In all 300 houses were brought under the survey of which 70 were taken from ward no. 1, 100 from ward no.2 and 130 from ward no.3 (Table-23). The survey findings are summarised in Table-24).

TABLE- 22 : HOUSING AREAS

Ward No.	Type of dwelling										Construction Progress	
	Kutcha		Semi-pucca		Pucca		Total		Owner built		Built by profession	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	18	25.71	21	30	31	44.29	70	100	9	3	61	20.3
2	53	53	23	23	24	24	100	100	6	2	94	31.3
3	24	18.46	87	66.92	19	14.62	130	100	5	1.67	125	41.8
Total	95	31.66	131	43.67	74	24.67	300	100	20	6.67	280	93.3

Source: Field survey , January, 1987

Table-23: Level of Satisfaction with Present Housing Condition

Ward No.	Levels						Total No. of people surveyed	%
	Satis- fied		Dis- satisfied		No Answer			
	(Nos)	(%)	(Nos)	(%)	(Nos)	(%)		
a) Paura- shava area								
1	38	54.30	27	38.60	5	7.10	70	100
2	47	47.00	51	5.00	2	2.00	100	100
3	56	43.0	65	50.00	9	6.90	130	100
Total Paurashava	141	47.00	143	47.70	16	5.30	300	100
b) Adjoin- ing area								
	62	31.00	126	63.00	12	6.00	200	100
Total study plan area	203	40.60	269	53.8	28	5.60	500	100

Source: Field survey, January 1987.

It is revealed from the answers of the respondents that about 47 percent of respondent of the wards were satisfied and another 48 percent expressed their dissatisfaction while the remaining five percent could not provide any straight answer. But there is hardly any major indication for a growing shortage of housing. This is mostly because the rented accommodation is met from the adjoining rural areas.

It appears from the survey that conditions of most of the houses were either fair or poor but the respondents seemed unconcerned about this. This is because they have learnt to live with such conditions.

B. Adjoining Areas

The housing condition in the adjoining areas are mostly kutcha and semi-pucca and rural in character. The houses are sparsely built with little amenities. The houses are generally owner-occupied and very few are rented.

6.2 Housing Need

The zila shahar/Paurashava is now limited to only three existing wards of the Paurashava. But by the year 2001, the zila shahar/paurashava area is expected to expand towards the northern and eastern side covering the adjoining areas. About 12 mouzas, may be brought under the paurashava area. The present population estimate of the paurashava is over 46 thousand and this may reach about 111 thousand by year 2001. If this expansion of Paurashava beyond the existing wards is accepted as a possibility then the total population by the year 2001 will reach about 120 thousand and the requirement of dwelling houses for accommodating all households have to be considered.

6.3 Implications for land area required for residential purposes

The existing characteristics of the residential areas indicate that the gross density is at a very low level, viz. 6.78 persons/acres in the paurshava area and only 6.60 persons/.acre in the adjoining areas (Table-24). The exception is in the congested areas behind the bazar area. Consequently, the important implications for earmarking land area for residential purpose is as follows:

TABLE-2A HOUSING REQUIREMENT BY 1991 & 2001
(Including existing stock)

Locality	Population		Population Projection			Housing need			
	1981	1986	1991	1996	2001	1986	1991	1996	2001
a) Paurashava area									
Ward No. 1	7882	9752	12066	14929	18471	1438	1790	2202	2724
Ward No. 2	10100	12496	15461	19130	23668	1843	2290	2822	3449
Ward No. 3	13228	16367	20250	25055	30999	2414	2987	3695	4572
Sub-total:	31210	38615	47777	59114	73138	5695	7067	8719	10745
b) Adjoining Mouzas									
Bishnupur	120	153	145	249	318	24	31	40	51
Hogolbaria	728	929	1185	1511	1928	148	189	241	307
Bonbelgharia	1653	2109	2690	3432	4378	336	429	547	696
Baragheche	1331	1698	2166	2763	3525	271	345	441	562
Chak bayddanath	828	1056	1347	1719	2193	168	215	274	350
Tebaria	934	1191	1520	1939	2473	190	242	309	394
Matore pradapara	4130	5269	6721	8574	10957	840	1072	1367	1744
Asheti	1685	2150	2742	3498	4462	343	437	558	712
Bara Horishpur	2449	3124	3985	5084	6486	498	636	811	1034
Vita	84	107	137	174	222	17	22	28	35
Narayankandi	373	476	607	774	988	76	97	123	158
Rasulgachhi	159	203	259	330	421	32	41	53	67
Sub-total	14474	18465	23504	30047	38331	2943	3756	4792	6112
Grand Total	45684	57080	71281	89161	111469	8638	10803	13511	16899

Source: Census Report of 1961, 1974, 1981 of BBS, Government of Bangladesh.

- o Adoption of a gross density by which the size of population would be enough to afford the cost of development of infrastructure. The gross density levels of 40,45,50 persons/acre generally create net density levels of 70,80 or 100 persons/acre.
- o Areas should be visualized for middle and low income groups which could be developed by government and non-government agencies.

Table-25: Consultant Evaluation of the Dwellings

Ward No.	Condition	Number of Household	%	Total surveyed	%
1	Good	21	30.00	70	100
	Fair	27	38.60		
	Poor	13	28.60		
	Very poor	9	12.80		
2	Good	16	16.00	100	100
	Fair	48	48.00		
	Poor	22	22.00		
	Very poor	14	14.00		
3	Good	29	22.30	130	100
	Fair	43	33.10		
	Poor	38	29.20		
	Very poor	20	15.40		
Pourashava area:					
	Good	66	22.00	300	100
	Fair	118	39.30		
	Poor	73	24.40		
	Very poor	43	14.30		

Source: Field survey January, 1987.

CHAPTER SEVEN: INDUSTRY & COMMERCE SECTOR STUDIES

7.1 Industrial Activity, Production

The communication system of Natore Paurashava with Regional town of Rajshahi and the capital city of Dhaka is by road and rail. It helped to establish industries in Natore district. The North Bengal Sugar Mills is the explanatory example of this.

An attempt has been made to give a brief account of each enterprises which are located in the Sadar of Natore district.

a) Heavy Industries

The North Bengal Sugar Mill, a private company at Gopalpur, was established in 1933. On the 13th October, 1965, the management of the mills was taken over by the Bangladesh Industrial Development Corporation (Rajshahi District Gazetteer, 1976)

The production capacity of the sugar mill is 15000 tons per annum. In 1967, the mill produced 5,53,514 maunds of sugar. The raw material used are sugar-cane, sulphur, lime, caustic soda, filter cloth and gunny bags etc. These are partly procured locally and partly imported.

Upto February, 1968, the mill employed 448 permanent workers, 30 temporary 638 seasonal and 2414 workers on daily basis.

b) Light Engineering

Light engineering includes Truck, Bus repairing and spare parts making, repairing of rice mills, sugar mills and its spare parts making. At present the light engineering workshop has provided employment to 200 number of people in its eight units. The annual out turn of these workshops stand at Tk.175,00,000.

c) Rice Mills

There are 31 rice husking mills in the Sadar with a total husking capacity of 1759 thousand maunds per year. These mills generate employment to 120 persons.

d) Cinema Halls

There are presently 4 Cinema halls in Natore zila shahar/Paurashava area. The sanctioned seating capacity is 604 number and the number of employees engaged is 10 for each hall.

e) Hotels

Present total capacity of the hotels consists of 100 rooms and total checkout amount as recorded at the time of survey was Tk.54,90,000.00 per year. An average of 70 persons are in employment in these hotels.

f) **Saw Mills**

Registered saw mill is only 4 while unregistered ones are eleven in number and the total sawing capacity is 27,000 cft/year.

g) **Oil Mills**

There are 10 Mustard Oil producing Mills which produce Mustard oil at the rate of 350 maunds/day in a single shift and these operate three shifts per day. The number of employees engaged is about 32 persons.

h) **Ice Plant**

The total number of ice plant is 6 with 20,000 tons capacity per year. These plants give employment to about 150 persons.

i) **Steel Furniture**

There exists only 3 steel furniture making factory in Natore which transacts Tk.350,000.000 per year with 32 number of employees.

j) **Wooden Furniture**

There are 29 wooden furniture making industry in Natore Paurashava. The wooden furniture making enterprises transact work of Tk.30,000 thousand annually and engages 35 persons during 1986.

k) **Bakery/Biscuits Industry**

The number of bakery/biscuits industries are 18 and it employs about 65 persons.

l) **Printing Press Industry**

There are about 10 printing presses which employ 39 persons annually.

7.1.1 Potential Industries

There is ample scope for straw based factories and hardboard industries as raw materials of these industries are easily available in the vicinity of the area.

Natore is well connected with Rajshahi and capital city by road and the southern side is surrounded by chalan beel which is a low lying area. There is availability of raw jute and as such there is prospect for development of jute industries.

7.2 Storage & Warehouse Facilities

Cold storage facilities have not yet been established. Food godowns at four locations have, however, been constructed but the conditions of these godowns are not satisfactory. It needs modernisation. The number of godowns and their capacities are given in Table 26.

TABLE 26: STORAGE & WAREHOUSE FACILITIES

Location	Type	Nos.	Capacity in M. Tons
Paurashava area	Food	4	2000
Tebaria	Fertilizer	1	250
Paurashava area	Jute	7	3600

Source: Office of the Statistical Officer of Natore upazila and Natore paurashava office, Natore.

7.3 Commercial Areas, Markets, Hats & Bazaars

In each of the wards of Natore Municipality there exists 7 markets. In these markets a total of 1000 number of shops have been registered. No exact information could be obtained regarding weekly transaction of commodities.

There is no separate place for 'hat' in the Municipal area but it sits on every Saturday and Tuesday in the old bazar area and new market area. A new market has recently been established which will be formally handed over to the Paurashava soon.

Table 27 will shows the position of the existing markets (bazar) in the Municipal area.

TABLE 27: COMMERCIAL AREAS/HATS/BAZARS

Ward No.	Markets No.	Hats	Number of shops (Registered)
1	4	-	350
2	1	-	250
3	2	-	200
Tebaria	-	1	120
Bonbelgaria	-	1	80

Source: Upazila Statistical Officer of Natore Sadar Upazila

7.4 Main Employment Categories

The main employment categories in the Paurashava area is government service and service in private organisations. The Deputy Commissioner's office along with its administrative staff, PWD Office, BWDB office, Roads & Highways office, Sadar Hospital, Clinics and many other Government and semi-Government agencies are located in the paurashava area and accounts for the majority of the permanent and temporary jobs. There are also limited private organisations located in the paurashava area which employ some permanent and temporary personnel. A few seasonal employment areas were also found in the Paurashava area in sugar mills and rice mills, oil mills, light engineering etc.

The main employment categories, as found in the different wards of the paurashava area during field sample survey conducted by the consultants in January 1987 is given in Table 28.

TABLE 28: MAIN EMPLOYMENT CATEGORIES

Ward No.	Permanent Job		Temporary		Seasonal	
	Nos.	% of employees	Nos.	% of employees	Nos.	% of employees
a) Paurashava areas						
1	112	69.6	13	8.1	36	22.3
2	156	80.8	29	15.1	8	4.1
3	185	71.7	42	16.3	31	12.0
b) Adjoining areas						
	274	79.2	52	15.0	20	5.8
Total	727	75.9	136	14.2	95	9.9

Source: Field Survey January 1987 (Sample Survey)

It will appear from Table-28 above that 453 persons were in permanent job in the three wards of the Municipal area which constitutes 62.31 of total position available while 84 persons were provided with temporary jobs. Prospect of seasonal employment was very insignificant, only 75 persons could be found in seasonal employment.

7.5 Household Income

To determine the range of household incomes in the Paurashava area, a sample survey was conducted in the three wards of the Paurashava during January, 1987.

A total of 500 respondents parted with information. The household incomes so recorded represent only the cash funds of the family. The incomes in the form of consumables grown and consumed in the family such as chicken, ducks, eggs, fish milk, vegetables, horticultural crops were not included in this exercise. Income range of the respondents were grouped into six categories. The lowest income group ranged between upto tk. 500 per month and the highest group consisted of an income of Tk.5001 and above. It emerged from this survey that in the Paurashava area the single majority of household income group fell in Tk.1001 to 2000 group which account for 50.6 percent among the activity group. A summary of the three wards so surveyed is presented in Table-29 which has actually been derived from the information generated from the survey. The survey so carried out will give an indication of the income range of the households located in the Paurashava area. From this picture, generalisation for the entire Paurashava area may be made.

The adjoining area is mainly rural in character having a majority of people doing farming and cottage industries. It is very difficult to ascertain quite fairly their monthly income. However they are not very well off and may safely be placed in the lowest category of Tk. 100 to Tk. 500 per month.

TABLE-29: SUMMARY OF INCOME RANGE PER MONTH IN THE PAURASHAVA AREA-1986

Range of Income (Taka)	Number	Percentage
Upto 5000	35	7
501 -1000	73	14.6
1001-2000	253	50.6
2001-3000	80	16.0
3001-5000	33	6.6
5001 and above	26	5.2
Total	500	100

Source: Field survey January, 1987.

CHAPTER EIGHT: SOCIAL SERVICES SECTOR STUDIES

8.1 Health Facilities

There are twelve registered physicians practising privately while the number of hospital doctors are seventeen. Nurses have been assisting the medical hospital and upazila health complex. The number of beds in the hospital is stated to be 130. There is one T.B. Clinic, one Shishu Hospital, two Maternity & Family Planning Centres, one Sterilisation centre, one Private Clinic, one Private Family Planning Centre, one Upazila health complex and one charitable dispensary. The number of registered pharmacy is twenty in the Paurashava. A Table is also furnished below to show at a glance the health facilities available in the Study Area (Table-30).

TABLE-30: HEALTH FACILITIES (PAURASHAVA AREA)

Sl.No.	Type of Facilities	Number
1	T.B. Clinic	1
2	Shishu Hospital	1
3	Maternity & Family Planning	2
4	Private family planning	1
5	Medical Hospital	1
6	Private Clinic	3
7	Sterilization centre	1
8	Upazila (Sadar) health complex	1
9	Charitable dispensary	1

Source: Upazila Statistical Officer, Natore.

8.2 Education Facilities

There are a good number of educational institutions functioning in the Paurashava area. Besides 9 primary schools and 8 secondary schools, the paurashava is endowed with 2 colleges one Polytechnic Institute, one Vocational Training Institute, one Nurses' Training Institute and one Primary Training Institute (PTI). The major educational institutes are located in the Paurashava as obtained from Zila Education Office, Natore and are shown in tabular form in Table-31.

TABLE-31: EDUCATION FACILITIES (PAURASHAVA AREA)

Services	Nos.
Primary School	9
Secondary School	8
Colleges	2
Polytechnic Institute	1
Vocational Training Institute	1
Nurses Training Institute	1
Primary Training Institute	1

Source: Zila Education Office, Natore, 1986.

8.3 Water Supply & Sanitation

It will appear from Table-32 that there are 3 deep tube wells and 148 shallow tube wells in the paurashava area. It connects about 948 households. The demand for water connection in the Municipal area is quite high but absence of adequate number of overhead tanks has impeded its expansion. Sanitation system could not be

developed satisfactorily as yet. Generally the houses have latrines connected with drains which discharge into khals and canals. Some new houses have built their own septic tanks and soak-pit to provide sanitation in the paurashava area. Many house holds are on the bank of canals and rivers and the disposals are linked with these water bodies. There is no sewerage system in the area. There is about 26 km of pucca drainage and 6 km kutchha drainage in the study plan area. The kutchha drainage which is used for disposal of waste and excess water is also not well planned. This has mostly been designed for individual convenience and connected with river and canals.

8.4 Urban Services

Urban societies in Bangladesh enjoy certain distinctive facilities over rural area. Urban communities are very often endowed with facilities like assured water supply, power supply, fire brigade facilities, ambulance service, medical, telephone services, banking services, petrol pump, recreational facilities health, sanitation, T.V./radio services, etc. Most of these urban services have been dealt with separately. Attempt has, however, been made to give an account of only those which have not been touched elsewhere.

In the following Table-32 mention has been made about the number of people and vehicles under local fire brigade office. In all 36 people are engaged which include 28 Fireman 3 Drivers, 2 leaders and 1 officer to control fire or to combat other accidents in the area.

TABLE-32: FIRE BRIGADE FACILITIES IN NATORE PAURASHAVA

Service Categories	Number
No. of firemen	28
No. of leaders and officers	3
No. of drivers	3
River vehicles (Ambulance)	1
No. of Ambulance	1
Total :	36

Source: Office of the Fire brigade, Natore.

As regards telephone facilities, the capacity is only 500 lines now which is almost saturated and there are a good number of applications lying with the authority for consideration. The capacity needs to be expanded to meet the growing demand.

TABLE-33 : TELEPHONE STATISTICS IN NATORE PAURASHAVA

a) System	E.M.D.
b) Capacity	500 nos.
c) Existing line	480 nos.
d) Connections	1) 68% private 2) 32% Government

Source: Office of the Asstt. Engineers, T&T, Natore, 1986.

8.5 Socio-cultural, Religious and Recreational Facilities

One public library and three cinema hall are catering to a population of over 20 thousand in the paurashava area. The numbers of post offices are 3. There are several clubs, telegraph offices, mosques, temples, etc. in the paurashava area. An

account of cooperative societies and sociocultural, recreational and religious facilities is given in the Table-33.

TABLE-34: NUMBER OF SSCIO-CULTURAL AND CO-OPERATIVES 1986

I. SOCIO-CULTURAL

Facilities	Number
Library	1
Mosque	20
Temples	21
Post offices	3
Cinema halls	3
Parks	2
Graveyard	1
Clubs	15

II. CO-OPERATIVES (SADAR UPAZILA)

Co-operative Bank Ltd.	1
Industrial co-operative	10
District co-operative	1
Krishi co-operative	39
Rural Development co-operative	10
Landless co-operative	4
Auto rickshaw co-operative	10
Land mortgage co-operative	5
Others	9

Source: Office of the co-operative officer, Natore
Office of the Dist. information officer, Natore.

B.6 Power Supply

It may be seen from Table-35 that over 5000 electric connections have been given in the Pourashava area and about 68% are subscribed by private individuals. There are frequent complaints

of load shedding due to the presence of the large scale sugar industry.

TABLE-35: POWER SUPPLY OF NATORE SADAR UPAZILA, 1986

Electricity capacity	Number of private connections		No. of Govt. connections		Total
	No.	%	No.	%	
2.5 MVA	3400	68%	1600	32%	5000

Source: Office of the Executive Engineer, PDB, Natore.

B.7 Administrative Institutional Services

The local police station has been maintaining the law and order of the Pourashava area and they are also assisted by Ansars and Village Defence Party (VDP). The exact number of police personnel engaged in the police station was 560 persons. The numbers of VDP in each ward were found to be 250 and one platoon of Ansars, consisting of 31 numbers are posted in each ward. The following Table-36 shows the information about security in Natore Pourashava.

TABLE-36: REGULAR EMPLOYEES OF SECURITY IN NATORE PAURASHAVA

Name of the Organisation	Number
District police	560
Ansar	3150
VDP members	4184
Total	7894

Source: DC Court, Natore, office of the Ansar.

CHAPTER NINE: TRANSPORTATION SECTOR STUDIES

9.1 Vehicle/rickshaw Registration

The main mode of transport inside the shahar is rickshaw and cart. A major section of the people walk on the road mainly due to smallness of the town. There are regular bus services between inter upazilas, inter district town and with the capital city Dhaka. There are private cars, jeeps, motor cycles in the shahar. The registered vehicles are as follows:

TABLE-37: STATISTICS ABOUT VEHICLES

Type of vehicles	Number of registered vehicles
Motor cycle	354
Car/jeep	16
Mini bus	19
Delivery van	10
Truck	6
Scooter	2
Rickshaw	2000
Tractor	88

Source: Pourashava office, Natore, January, 1987

Assuming a population of 55 thousand in the Pourashava area during 1987, the number of motor cycle, car/jeep, mini bus, delivery van, truck and rickshaw per thousand persons account for 6.44, 0.29, 0.35, 0.18, 0.10, 0.04, 36.37 and 1.6 respectively.

Apart from rickshaw, bicycles ply all over the town during the day and also at night time. However, no data were available from any source to examine the number of bicycles in the shahar.

9.2 Traffic Flows

The location of Natore pourashava is beside the Dhaka-Rajshahi highway. The pourashava is connected by roads and railways with other district towns. By road it is connected with the district towns of Rajshahi, Pabna, Bogra, Dinajpur, Rangpur etc. and by railway it is connected with Dinajpur, Rangpur, Rajshahi, Kushtia, Jessore and Khulna. There are also inter upazila connecting roads. Coaster services are the prevailing means of communication. There are two terminals, one is a coaster terminal and another a bus terminal. After construction of the new bus terminal the traffic jams have been solved because it is now situated out side the town centre area.

The average road width of the shahar is 20'. The roads are carpeted. The total road length of the pourashava is said to be over 45 km of which pucca road is about 20 km.

In the market area, there are push carts (thela gari) and cart. These carry woods, sugar cane to one sugar mill, jute, gur etc to different godowns, stations, hats, bazars, etc. from different parts of the town. It also performs as ice carrier.

Several schools (primary) have their own rickshaw carriers for children, each of them carry between six to eight children. They are usually seen at the begining and end of the school

hours. However, they are very few in number. There are also rickshaw vans which help solve the transportation problem to a certain extent.

To determine the traffic flow in the town the consultant conducted a traffic count survey at three places, one at Rajshahi-Natore, Natore-Dhaka and Natore-Bogra roads. The survey was continued for three subsequent days. Three selected hours were chosen for conducting the survey. 9-30 am was chosen in the morning as this was the peak hour, a normal traffic movement at 2 pm was taken and lastly 5 pm was selected for another peak hour.

9.3 Inter Modal Transfer Points

This is one of the few districts in Bangladesh which has all types of transportation system. The major means of transportation of goods and people in the rural area of the district is by local carts, rickshaw van, truck, pulling cart. The railway plays the main source of transportation for goods and services for internal and inter district transportation and communication system.

CHAPTER TEN: LAND OWNERSHIP AND LAND VALUE

10.1 Land Owned by the Public Sector/Private Sector

The information regarding the ownership of land was collected from the land records office of Natore district court in January, 1987. The information is given below in Table-38. It is seen from the table that 70.76% of the total land in the paurashava area is owned privately which amount to 778.40 acres or 315.25 hectares. Only 29.24% of the total land in the paurashava area belongs to the Government of which is khas lands amounts to 321.60 acres or 130.25 hectares. The total area of land in the paurashava area is 1100.00 acres or 445.50 hectares.

10.2 Estimated Cost of Land

In making an estimate of the present day cost of land in the paurashava and adjoining areas, the land has been divided into three parts, i) high land (ii) low land and (iii) very low land.

- i) High land may be classified as those land which are above the average high flood level,
- ii) Low land which are subjected to flooding during the rainy season.
- iii) Very low lands are those land which always remain flooded.

It is estimated that the development cost required to make the land useful for construction purposes for very low land will be in the range of 50% of cost of land. In case of low land it will be 30% of the cost of land and 20% for the high land.

The present cost of land in the paurashava area is presented in Table-39 given below which was obtained from the paurashava office, Natore in the month of January, 1987.

TABLE-38: INFORMATION ON LAND IN THE PAURASHAVA AREA 1986

Ownership	Acres	Hectares	Percentage of total
Paurashava aress Govt. khas land	321.60	130.25	29.24
Private land	778.40	315.25	70.76
Total	1100.00	445.50	100.00

Sources: Land Record office, Natore, DC Court.

TABLE-39: LAND COST IN THE PAURASHAVA AND ADJOINING AREA

	LAND COST PER ACRE AND HECTARES		
	High land	Low land	Very low land
Per acre	8,00,000	5,50,000	3,00,000
Per hectare	3,24,000	2,22,750	1,22,500

Source: Paurashava office, Natore.

CHAPTER ELEVEN : OPPORTUNITIES AND CONSTRAINTS

11.1 Potential Areas

On the west and beside the boundary, passes the railway line and on the south the Beel area is situated passes along the Paurashava boundary. A wide and navigable canal bounds the Paurashava from the south. The present centre of the shahar has been developed on the south east corner of the paurashava. The Dhaka-Rajshahi metalled road also passes through the shahar centre. Studies of contours also showed that buildable high lands are available on the west, and north of the present built up area. It may therefore be said that the areas on the west of the paurashava and areas on the north of the paurashava along the metalled road have potential of urban development where growth have already been started. Another potential area is the southern part where a new by pass road is proposed for future development (proposed land use plan, Map-6).

11.2 Area Potential for Redevelopment

It has already been discussed in the section of characteristics of housing that areas along the main road and arounds the bazar have been developed in a haphazard and unplanned way leading to the growth of slums. These areas undoubtedly have great potential and should be redeveloped.

11.3 Constraints

It has been mentioned that the paurashava area are bounded from west and south by railway lines and Beel/low land. Due to the existence of these constraints, urban development is not possible towards the west and south. Land on the south are low. It has already been mentioned in the section of physical features that Lands away from the Natore canal to the south region is low. Therefore, buildable lands are only available as mentioned above. The lands on the east and north-east of the paurashava have high agricultural value.

CHAPTER TWELVE: CONCEPT PLAN

12.1 Introduction

The opportunities and constraints of land uses have been described in the preceding chapter of this report. Based on the opportunities and constraints as identified before, the schematic concept plan has been developed for the zila shahar of Natore in such a way that the plan can be capable of accommodating the forecast population and housing requirements as estimated in chapter 6 and shown in Table No. 24 of this report. Necessary allowances have also been made for additional industrial, commercial, social and transportation services and facilities that may be required to satisfy the demands of the forecast population.

It is very important to note that the requirements of land for various functional uses have been estimated according to the plan provision standards as given in Page 7 of the TOR for planning the upazila shahars. The estimated requirements of land have been shown in Table No. 40 in details. Based on the estimated land requirements and existing land uses for a particular urban function, the proposal for future land uses have been made in each case. Strong logic has been established whenever any deviation land requirement was found. The details of description of land uses are provided in the next chapter on "Urbanization Strategy (Land Use Plan)".

TABLE NO. 40 : LAND REQUIREMENTS IN ACRES, NATORE PAURASHAVA.

Functions	Standards As per TOR	Shahar/ Catchment Area Pop.	Require- ment as per TOR	Existing Landuse	Proposed Landuse
a) Commerce & Industry	1.5 ac per 1,000	667499	1001.25	23.91	200.00
i) Commerce : Shops, Office					
ii) Industry:	-	-do-	1001.25	136.50	230.00
b) Social, Administrative, Cultural and Urban Services					
Education :					
Nursery/Primary School	2.00 ac per 5000	112469	44.99	24.05	15.00
Secondary School	5.00 ac /20,000	-do-	28.12	-	20.00
College	-do-	-do-	28.10	-	18.00
Health: Dispensary/Maternity/Child Care	1.00 ac /5,000	-do-	22.49	-	10.00
Health Centre/ Hospital	5.00 ac/ 20,000	-do-	28.12	2.90	16.00
Administrative, Police Line Judiciary (including Officers)	23.50 Upazila together	-	23.50 12.00	142.26	150.00
Other Govt. and Semi-Govt. Depts.	together	-	40.00		
Recreation : Parks, Open Space	1.00 ac /1,000	112469	112.47	-	60.00
Cinema Hall, Closed Space	0.50 ac /20,000	-do-	2.81	7.60	3.00
Sports Stadium	3.00 ac /20,000	-do-	16.87	-	15.00
Social & Cultural : Community Centre	1.00 ac 20,000	-do-	5.62	-	4.50

Cemetery.	5.00 ac/ 20,000	-do-	28.11	16.10	20.00
Religions	0.50 ac/ 5,000	-do-	11.25	-	8.00
Urban Services :					
Post Office	0.50 ac/ 20,000	112,469	2.81	-	2.00
Telephone Exchange	0.50 ac/ 20,000	-do-	2.81	1.00	2.00
Police Station	2.00 ac/ 20,000	-do-	11.25	-	8.00
Bus/Ghat/Rail Station	1.00 ac/ 20,000	-do-	5.62	-	5.00
Others (Fire Services)	1.00 ac/ 20,000	-do-	5.62	-	4.00
Ansar & VDP	1.00 ac/ 20,000	-do-	5.62	-	4.00
c) Roads/Embankment					
Major	60' wide	5 to 10	500.00		
Secondary	40' wide	percent		331.48	450.00
Local	24' wide	of Shahar Area			
d) Residential	1.00 ac/ 100	112,469	1124.69	503.36	800.00
e) Urban Deferred	10%	Shahar Area	500.00	-	250.00
f) Reserve (Ponds, Canals etc.)	All- Category	-	-	-	-
	-do-	Shahar Area	-	376.44	370.00

The planning principal adopted in preparing the concept plan are as follows :

- a) The old core area of the shahar are found mixed up with almost all types of urban functions. Even residential areas are found in the core of commercial areas. There is no space in the old centre of the shahar for expansion of any urban use. Therefore, the old core/centre of the shahar should remain undisturbed. But there is ample scope of intensification of urban functions.
- b) In the designated shahar area, there are many wide canals, water bodies, and low lands. There is strong demands for lands for urban functional uses. Buildable lands are scarce. These factors have been compromised carefully by adopting the method of intersification of land in existing uses and extending the lands required. Sometime projects are shown in a seperate zone in such a way that can control the urban sprawling. Proposed projects and land allocation have been made considering real requirements for different functions.
- c) It has been tried to show the roads alignment following the existing ones. Widening of roads where ever found necessary are shown along the existing ones. New roads have been shown in such a way that minimum length of roads can connect maximum functions and can serve maximum people.

- d) Unnecessary urban sprawling have been controlled through making sub-centres. Lands of physical constraints and high agricultural value have not been taken under the use of urban functions.

Considering the above factors the proposed land uses have been shown on the north of the shahar along the Dhaka-Rajshahi road and Natore-Bogra road. The lands along the railways and southern part have specific potential for agricultural use. The residential developments may be made on the south and south west of the shahar area. The upazila complex located in Amhati mouza may be developed as a satellite shahar.

CHAPTER THIRTEEN: URBANISATION STRATEGY (LAND USE PLAN)

13.1 Introduction

This section of this report is concerned with the conversion of the concept plan into a land use plan for the Natore Zila shahar/paurashava and distinguishing between the existing land uses and proposed land uses. It also includes the allowance for long term urban development requirements by classifying areas as "Urban Deferred" that is the land which will be reserved for urban development after 2001 A.D. Here the short-term need development requirements of major infrastructures and social services are indicated.

According to the census report of 1981, the population of the designated Natore shahar Area and its Catchment Area/Zone of influences are 45684 and 123611 persons respectively. According to the medium projections, the estimated population of the shahar Area and Catchment Area are 112,469 persons and 555,030 persons in 2001 A.D.

From the above proportionate ratio analysis, it may be assumed that the requirements of land for each urban functions should not be more than 2.5 times of the existing land uses. The functions which are absent at present will be proposed and allotment of land will be made on logical assumptions and requirements of land for special projects will be given due importance. On these assumptions proposal for future land uses are made in the following paragraphs and described with their distributions.

13.2 Commerce and Industries.

According to the plan provisional standard of the TOR, commerce and industries together require 2002.50 acres of land. At present commerce and industries together use only 160.41 acres of land.

13.2.A. Commerce

According to the provisional standard of the TOR, the requirements of land for commerce are amounted to 1001.25 acres. At present 23.91 acres of land are used for this purpose. For planned development with special shopping centres and redevelopment of congested areas, it may be assumed that more than hundred acres of land may be needed. The details of area for commerce with existing land uses are shown in Table No. 41.

TABLE NO. 41 : DISTRIBUTION OF COMMERCIAL AREAS

Location	(Area in acres)		
	Existing	Proposed	Total
Ward No. 1	8.00	30.00	38.00
Ward No. 2	7.00	40.00	47.00
Ward No. 3	2.00	50.00	52.00
1) Paurashava area	-	-	-
11) Extension area	6.91	80.00	86.91
Shahar Area	23.91	200.00	223.91

13.2.B. Industry

According to the plan provisional standard of the TOR, the requirements of land for industrial use are estimated are 1001.25 acres approximately. At present 136.00 acres of land are used for industries. It may be assumed that some 230.00 acres of land will fulfill requirements of land for industries. The Table No. 42 shows the detailed distribution of Industrial Lands.

TABLE NO. 42 : DISTRIBUTION OF INDUSTRIES

(Area In Acres)

Location	Existing	Proposed	Total
Ward No. 1	30.00	10.00	40.00
Ward No. 2	10.00	20.00	32.00
Ward No. 3	12.00	22.00	34.00
i) Paurashava area			
ii) Extension area	84.50	39.50	124.00
Total:	136.50	91.50	230.00

13.3 Education

According to the plan provision standard, total requirements of land for education are 101.19 acres. At present 24.05 acres of lands are used for educational purpose. It may be assumed that 53 acres of land will fulfill the requirements of lands for education. Details are shown in Table No. 43.

TABLE NO. 43 : EDUCATIONAL INSTITUTION

Location	(Area in Acres)		
	Existing	Proposed	Total
Ward No. 1	6.00	10.00	16.00
Ward No. 2	4.00	5.00	9.00
Ward No. 3	4.00	5.00	9.00
i) Paurashava area			
ii) Extension area	10.00	9.00	29.00
Total :	24.00	29.00	53.00

13.4 Health

According to the provision standard, 50.61 acres of land are needed for health facilities. At present 2.90 acres of land are used for health and welfare. Health services, specially family planning and the childcare have been given due importance by the government. It may therefore be assumed that around 26.00 acres of land will require for health service. Table 44 shows the details of distribution of land for health services.

TABLE NO. 44 : DISTRIBUTION OF LAND FOR HEALTH SERVICES

(Area in Acres)

Location	Existing	Proposed	Total
Ward No.1	1.90	5.00	6.90
Ward No. 2	1.00	5.00	6.00
Ward No. 3	-	6.00	6.00
i) Paurashava area			
ii) Extension area	-	10.00	10.00
Total:	2.90	26.00	28.90

13.5 Administration

According to the guidelines for preparation of zila headquarters/paurashava, the total land required for government administration including judiciary, police lines, and officers residential quarters are amounted to 22.00 acres. The sadar upazila headquarters is also located within the designated shahar area for which 12.00 acres of land are decided by the government to be used for the said purposes as mentioned above. Therefore, total land may be required for government administrative purposes are amounted to 34.00 acres for Natore Zila Shahar. Studies and experiences showed that same amount of land is needed for other Govt. and semi-Govt. organizations. Accordingly, total requirements of land for administrative purposes amounted to 70.00 acres. The Natore zila shahar is a new one. The analysis of existing land use survey shows that 142.26 acres of land have

already been used for administration. It may therefore, to be said that no more land is needed for administrative purposes. If any new administrative office either Government or semi-government or any other category are needed to be located in the shahar, land for them will be available either from the existing administrative zones or from the urban deferred land. At present no new land have been earmarked for new administrative use. For distribution of administrative zones Table No. 40 may be seen.

13.6 Recreation

According to the plan provisional standard, the total requirements of land for recreational purposes amounts to 132.15 acres. At present only 7.60 acres of land are used for the said purpose. Recreational facilities are very inadequate in Natore zila shahar. To create a living environment, facilities for recreation should be increased.

It may be assumed that some 78 acres of land may be needed for recreational purposes.

13.7 Socio-Cultural

According to the plan provisional standard 44.98 acres of land are need for socio-cultural use. At present 16.10 acres of land are used for the said purpose.

There is a public library in Ward No. 2 covering only one acre of land. For a Public library 4.50 acres of land has been earmarked in Ward No. 2 which is located opposite the police line.

There is no organized community centre in Natore zila shahar. It is felt that 6 community centres of 1.00 acre each may be needed.

There are many small mosques, more mosques will be located in required places as felt by the local people. But the zila shahar requires at least three big mosques with Edgha maydan as shown in the Map-3.

13.8 Urban Services

According to the plan provision standard of the TOR, the total requirements of land for urban services amounts to 33.73 acres. At present 1.00 acre of lands is used for urban services. Details are discussed in the following paragraphs.

a) Post Office

Besides the existing post offices, three more post offices are needed to service the Natore zila shahar upto the year 2001 A.D. One acre of land has been earmarked for each newly located post offices.

b) Telephone-Exchange

At present 1.50 acres of land are used for telephone exchange. For this purpose 2.00 acres of land have been earmarked in the administrative zone.

c) Police Station

For Police station 8.00 acres of land are needed. The existing police station is located on 4.00 acres in Ward-2. For another police station 4.00 acres of land has been earmarked in Ward-2. The police station for the upazila complex will be located on one acre of land.

d) Bus/Ghat/Rail Stations

At present 0.50 acre of land is used for a bus stoppage in Ward no. 2. For a bus terminal 4.00 acres of land has been earmarked in Ward No. 1.

e) Fire Service

At present 1.00 acre of land is used for fire service. More 4.00 acres of land have been earmarked for fire service in Ward No. 2.

f) Ansar and VDP

They cover 0.50 acres of land in Ward No. 2. More 4.00 acres of land have been allotted for the same in ward No. 2.

13.9 Roads

According to the TDR, for roads 500.00 acres of land are needed. At present 331.48 acres of land are used for roads. The Table No. 40 shows the details of land that may be needed for roads.

13.10 Residential

At present 503.36 acres of land are occupied by residences. By the year 2001 A.D. more 297 acres of land will be needed to accomodate the estimated population. Details of land requirements and distribution of population have been discussed in Section 7.3 of this report and shown in Table No. 40 respectively.

13.11 Urban Deferred

According to the plan provisional standards of the TOR, 500.00 acres of land are needed to keep as urban deferred which will be used after 2001 A.D. Approximately 250.00 acres of land are kept as urban deferred in different locations.

13.12 Urban Reserve

There is no such land used by historical structures which should be reserved. Only land covered by water bodies are amounted to 370.00 acres out of which some small canals and low lands are needed to bring under urban use. It may be assumed that some 376.44 acres of land are till under the use of water bodies.

CHAPTER FOURTEEN: PROJECT IDENTIFICATION

- 14.1 Name of Project : Low Income Housing Project
- 14.2 Location of the Project : Ward No. 2, Natore Paurashava

14.3 Proposed Implementing Agency :

The project may be implemented by the Paurashava or the zila administration under direct supervision of a co-ordination committee formed by taking senior members of the zila administration, paurashava, Local Government Engineering Bureau, Directorate of Public Health Engineering, PDB, PWD, Housing and Settlement directorate Police Service and such other agencies as the Government may deem fit.

14.4 Nature, Purpose, Importance and Justification of the Project

Nature of the Project:

The project aims to fill the gap of accommodation crisis by creating housing facilities for the low income group. The project is described below in detail.

Site Development:

An area measuring 60 acres have been identified on the proposed land-use map of Natore Paurashava. the site development is in a rectilinear form with a series of hierarchical roads and paths at right angles to each other. Housing plots are also to be developed in module form. This facilitates installation of the drainage network and other network and location of the proposed community facilities. The provision of community facilities in

the form of community centres, schools, religious centres and clinics are to be guided by existing facilities.

Proposed Layout

Plot of three different sizes of 1350 sft., 2800 sft. and 3200 sft. are proposed. Plot sizes are considered adequate to ensure healthy environment. Since much vehicular traffic is not expected within the proposed housing area hence passage may be sized with provision for a few 30' arterial roads and 16' feeder roads. Adequate community space has to be created. The proposed space standards may be of the following sizes assuming a total population of 5000 in 1000 household of 5 members per household.

<u>Type of Facilities</u>	<u>Proposed Size</u>
a. House plot size	1350, 2800 and 3200 sft.
b. Schools	3.00 acres
c. Open space/Play ground	3.00 acres
d. Religious	0.50 acre
e. Health Centre	0.50 acre

Quality of Development

For judicious space utilization and for the project to be economical three standard design for construction of houses for the three categories should be adopted. The following criteria may be used for preparing the standard designs.

- a. The house in conjunction with the plot should follow the concept of "core" shelter.
- b. The house provide good protection from rain sun and cold.
- c. The house has built up area of 450 sft., 600 sft. and 850 sft. for plot sizes of 1350 sft. 2800 sft. and 3200 sft. respectively.
- d. The house provides a reasonable degree of privacy at least in the visual sense.
- e. The house is reasonably durable.

The plot size should give a net density in conjunction with roads and paths of 25-30 houses per acre.

Water Supply

Since piped water supply is available in the Paurashava this may be extended to the project area. Water may be supplied through stand pipes to the lowest category of housing. In this case 1 stand pipe can be provided for each families. A uniform water rate may be collected from this category.

Sanitation

Suitable criteria for sanitation may be drawn up based on general sanitation programmes as implemented through out the world. These are given below :

- a. The system should not contaminate the surface soil.
- b. There should be no contamination of ground water which can enter springs or wells.
- c. There should be no contamination of surface water.
- d. Bore hole latrines should be provided for each family as per design of P.H.

Drainage

The following criteria is to be used in the desing of all primary and secondary drains in the proposed housing estate :

- a. Self cleansing velocity of 2.5 feet per second.
- b. Rainfall intensity of 2.68 inches per hour
- c. Factor of impermeability (for loose sand) 0.2
- d. Manning's roughness co-efficient (for smooth current finish 0.01.
- e. Drains should be ferrocement to avoid future cost for the same purpose.

Roads and Pathe

The road facilities may be designed as follows at the proposed housing areas :

- a. Primary Roads: 30' reserve with 15' wide 5" thick herring bone bond over 3" thick flat soling. These are designed as vehicular roads to truck and bus traffic. The reserve is also adequate to carry two main open drains and power supply poles and water mains.
- b. Access Road: 16' reserve with 7' wide 5" thick herring bone bond on 3" brick flat soling. This may be designed to serve small vehicle single way traffic. The reserve is adequate to take expected drains and electricity poles and water mains.

Other Services

Installations of electricity supply water supply are also recommended.

Purpose of the Project

Due to decrease of employment opportunities in the rural areas there is a continuous inflow of population towards towns. This population somehow get themselves absorbed somewhere in the town. But they face acute shortage of accommodation which is a continuous problem. The purpose of this project, therefore, is to provide hygienic accommodation to these people and also the existing low income population who live in a very unhygienic condition scattered throughout the Paurashava area.

Justification of the Project

The urban population of the Natore Paurashava has increased at the rate of 4.87% per annum during 1974-81 which is quite high. The urban population is thus expected to rise by roughly two times by the year 2001 A.D. Inadequate and unplanned housing in urban areas find its ugly manifestation in the emergence of slums. This symptom of the problem usually attracts considerable attention because of the visible human sufferings specially in respect of the drainage, excreta disposal, water supply, light and air. Rising land values in urban areas is a serious impediment for systematic and hygienic housing condition for the low income group. The root cause of problems of the low income group is essentially socio-economic. It is at this level that an economically feasible and socially viable solution for housing has to be found. Therefore, a 60 acres low cost housing project is proposed to accommodate about 1000 household or about 500 people.

14.5 Total Cost

The proposed housing project is expected to accommodate about 1000 household. The proposed number of plots may be on the basis of the following percentage :

a.	135 sft. plot	-	35%
b.	2800 sft. plot	-	45%
c.	3200 sft. plot	-	20%

On the basis of the above figures the cost of the proposed housing project is Tk. 1465.75 lakh as detailed below :

Plot Size	No. of Plot	Unit Cost of Plot Tk.	Unit Cost of structure Tk.	Total Unit Cost Tk.	Total Cost Tk. in 000
1350	350	37500	92000	129500	45325
2800	450	77756	11300	190756	85840.2
3200	200	88864	140000	228864	45772.8
Total :					176938.0

Note: Cost of plot includes cost of roads and services on prorata basis.

Annual phasing of the project cost is given below :

Year	Expected Expenditure Tk. in lakh	Remarks
1.	510.00	Land purchase and development
2.	244.50	Construction of houses and roads
3.	244.50	Construction of houses and roads
4.	244.50	Construction of houses and roads
5.	244.50	Construction of houses and roads
6.	244.50	Construction of houses and roads
Total: 1488.00		

14.6 Major Physical Items of Works with Estimated Cost

For 1350 sft. Plot

a.	Brick work	1550 cft.	32.00	Tk. 49,600.00
b.	Wood Work	82 cft.	270.00	Tk. 22,140.00
c.	C.I. Sheet	575 sft.	18.00	Tk. 10,350.00
d.	Cement	62 bags	120.00	Tk. 7,600.00
Total:				Tk. 91,690.00
Say :				Tk. 92,000.00

For 2800 sft. Plot

a.	Brick Work	2000 cft.	32.00	Tk. 64,000.00
b.	Wood Work	92 cft.	270.00	Tk. 24,840.00
c.	C.I. Sheet	700 sft.	18.00	Tk. 12,600.00
d.	Cement	1000 bags	120.00	Tk. 12,000.00
Total:				Tk. 1,13,440.00
Say :				Tk. 1,13,000.00

For 2800 sft. Plot

a.	Brick Work	2500 cft.	32.00	Tk. 80,000.00
b.	Wood Work	108 cft.	270.00	Tk. 29,160.00
c.	C.I. Sheet	1000 sft.	18.00	Tk. 18,000.00
d.	Cement	110 bags	120.00	Tk. 13,200.00
Total:				Tk. 1,40,360.00
Say :				Tk. 1,40,000.00

14.7 Implementation Period

The project is proposed for implementation over a period of 5 years.

14.8 Sources of Financing envisaged

The government of Bangladesh may provide Tk. 510.00 lakh towards land acquisition and site development. International financing agencies such as the World Bank may be approached to provide credit for construction of houses.

14.9 Mode of Implementation

The land may be acquired by implementing agency (as above) and site development (including road, drainage electric supply, water mains) may be completed through appropriate contractors. Bank financing may also be arranged by the implementing agency. Plots may be allotted through public announcement to the intending buyers with the condition that the houses are to be constructed as per standard design. The buyers may be given the option either to pay the cost of plot at a time or in installments over a reasonable period (long term) of time with specific interest rate. Similarly the buyers may be given the option to construct their houses with their own money or to take advantage of bank financing. Plots should not be allotted scatterdly rather this should be done from one end with gradual progression to the other end. This will save initial cost of extending service facilities like water supply, and electricity.

Allotment of plots in each project may be completed within a period of one year but extension of services may be done gradually as required with the construction of houses.

14.10 Manpower Requirement

Houses, roads and other service facilities will be constructed either by the contractors or by individual skilled and unskilled labour to be appointed by the allottees. The project will generate substantial employment but recruitment of large number of manpower for the project is not envisaged. However, a small project implementation unit may be set up by the implementing agency.

14.11 Maintenance

Maintenance of the houses will be done by the allottees. Maintenance of the infrastructural and service facilities may be done by the implementing agency. A reasonable service charge or tax may be collected from the allottee so as to cover the maintenance cost.

14.12 Land Acquisition

Land may be acquired by the implementation unit as per government rules. A sum of Tk. 510.00 lakh is provided in the cost estimates for land acquisition and site development.

14.13 Project Benefits

The Project will provide both tangible and intangible benefits. Tangible benefits in the form of cost recovery is obvious. Besides a large number of low income people will benefit from a healthy environmental condition. The magnitude of intangible though difficult to calculate, is evidently substantial.

14.14 Origin of the Project

It is project proposed in view of the accommodation problem and unhygienic housing conditions in the shahar. The need for the project has been identified through discussion with a cross section of population of the study area/Paurashava Area.

14.15 Has any Previous Survey/Study been Undertaken

The project has been prepared on the basis of survey and investigation by the personnel of Prokaushali Sangsad Ltd. (PSL).

CHAPTER FIFTEEN : MANAGEMENT

15.1 Development Control

All development should be subject to planning control including all changes of use of existing buildings and the changes of use of land not involving the erection of buildings. It will be necessary to define the uses that will normally be permitted in the various zones. Buildings giving rise to special sitting problems, such as petrol filling stations, cinema and hotels will require special condition.

Additional matters which should be subject to planning control, such as, height of buildings, site coverage, density of houses per acre, preservation of trees, realisation of fees and taxes etc. should be adequately setout in an appropriate planning regulation for upazila shahar area.

It is desirable that planning control, in accordance with the land use plan, should be exercised as soon as the draft plan has been prepared, delay in the exercise of control might result in some proposals being endangered.

But, at present there is no planning regulation to exercise the control on the development at the zila shahar. The provision of the "Municipal Ordinance" is applicable only for the declared Municipalities like Natore.

Hence, we suggest that an appropriate planning regulation for all urban centres and potential urban centres should be framed as soon as possible. In the meantime the provisions of the "Municipal Ordinance" may be extended temporarily for development control at the local Executive Engineer should act as the "Authorised Officer" as per provision of "Building Construction Act" for giving planning permission in the zila shahar area.

15.2 Monitoring and Review

The present land use plan is a broad guide lines for the development of Natore zila shahar/paurashava area. The proposals of the plan involves on the basis of existing conditions, and the expected trend in growth and their future projections and estimates. Any significant change in any of these basis criteria may make it necessary to revise some of the proposals embodied in the plan. Hence the plan should be periodically reviewed.

It is suggested that the progress in the implementation of the proposals of the plan or any change or deviation from the plan should be monitored once in a year by the Paurashava should also seek advice from Urban Development Directorate in case of difficulty in the implementation of the plan.

On the basis of the monitoring of the progress, Urban Development Directorate should review the plan once in a year and make revisions incorporating the change and modifications in the plan. The revised plan should be sent to the Paurashava office every year. But, this process is likely to be cumbersome and time

consuming, moreover, town planning is a profession in its own right, and hence, we recommend that a qualified urban planner should be appointed to take charge in each of the zilas Paurashava to guide, control and implement the planning and development activities, to act as "Authorised Officer" and to monitor and review the land use plan, of the zila shahar/paurashava area.

RELEVANT INFORMATION ON CATCHMENT AREA OF NATORE PAURASHAVA

NAME OF MOUZAS	AREA		POPULATION		
	ACRES	HECTARES	1961	1974	1981
BANKURI	48	19.44	85	116	139
BARA HARISHPUR	747	302.54	1634	2530	3499
BHABANIPUR	114	46.17	77	175	207
BIHAR	562	227.61	402	484	608
DHALAT	510	206.55	307	568	688
DURGABAHARPUR	56	22.68	88	178	255
FATENGAPARA	272	110.16	314	548	945
GUNAIGRAM	302	122.31	393	522	674
KHAMARDIAR	157	63.58	305	488	562
LALMANIPUR	670	271.35	508	1524	2024
MAKRAMPUR	248	100.44	527	314	461
PAIKERDOUL	1002	405.81	869	1707	1996
PIRJIPARA	1041	421.61	1552	1695	2279
RABIRHAT	288	116.64	531	743	791
RAHIMKURI	250	101.25	188	317	410
RAJAPUR	294	119.07	358	617	707
RAJIBPUR	118	47.79	397	203	265
RAMAIGACHHI	139	56.30	113	163	265
RAMPUR	204	82.62	550	271	352
RHISHIR NAOGADN	373	151.06	597	930	1045

SRIDHARPUR	85	34.42	379	498	527
SUBADAIR	180	72.9	545	473	368
TENGIRHAT	77	31.18	37	80	86
TENGIRHAT ARAZI	3	1.22	56	23	32
BAIDYABELGHARIA	629	254.75	843	1274	1786
BANURBHAG	441	178.61	432	624	932
BASUDEBPUR	170	68.85	315	503	537
BELGHARIA SIBPUR	293	118.66	491	898	1159
BILRAMSA	1201	486.41	1272	2111	2792
BIPRABELGHARIA	1197	484.79	573	1545	180
CHAK BHABANIPUR	47	19.03	80	450	180
CHAK KESABPUR	31	12.56	12	18	15
CHALITABARI	95	38.47	2	15	19
HARIDAKHALSI	482	195.21	801	1218	1538
ISANPUR	34	13.77	34	52	63
JITAMITRAPUR	45	18.23	24	14	47
KAUSABARIA	80	32.40	139	178	211
KRISHNAPUR DIGHA	350	141.75	618	979	1292
MAMINPUR	469	189.94	654	879	1137
MIRZAPUR DIGHA	1103	446.71	1311	2473	3135
ABDANPUR	75	30.37	160	236	300
BANGALKHALSI	345	139.73	447	735	928
BRAHMAPUR	859	347.89	1071	1668	2110
BURIRBAGH	376	152.28	354	553	715
CHEUKHALI	366	148.23	358	574	719
CHHATARBHAG	496	200.88	436	682	854
CHAK SARKUTIA	152	61.56		2985	368

DHANKORA	273	110.56	342		644
DHOPAPUKUR	239	96.80	324	537	575
HALUDGHAR	433	175.36	550	859	1586
JAGADISPUR BARIHATI	423	171.31	421	599	783
KASIABARI	420	170.10	316	572	781
KHUDABARIHATI	39	15.80	65	90	122
KOMARPUR	331	134.05	520	752	962
KUTRIPARA	257	104.08	315	463	610
NALDANGA	225	91.12	353	646	1006
NADPARA	105	42.52	109	193	207
SANKHARIPARA	303	122.72	470	677	927
SARKUTIA	1220	494.10	2025		3191
SEKH PARA	269	108.94	218	428	507
ABDIGHA	1417	573.89	1788		3393
AMHATI KALIKAPUR	181	73.31	305	466	911
BILCHANDRABATI	145	58.73	344	487	689
CHATNI	1164	471.42	1269	2396	2455
CHHATNI BAZEFTI	35	14.18	290	80	109
CHHATNI SIBPUR	137	55.49	73	332	417
FARIDPUR	98	39.69	375	613	778
GOKULPUR	51	20.66	98	200	237
HARIGACHHA	29	11.75	403	91	734
HARISACHHI	233	94.36	392	584	502
KEBAPUR	329	133.24	1294	710	478
MAJHDIGHA	1119	453.19	995	1872	2835
PANDITBADN	768	311.04	204	1461	1762
RAGUNATHPUR	151	61.15	-	46	512
RAJBATI	8	3.24	227	231	58

RAY PUR	189	76.54	-	362	263
SALEMPUR AMHATI	110	44.55	-	362	611
SYAMPUR	1013	410.27	935	1654	2128
BAGBARIA	27	10.94	24	33	48
BAGSAR	577	233.68	672	1036	1254
BALADKHAL	1343	543.92	1315	2158	2749
BARUHAT	418	169.29	486	721	871
BHATURIA LAKHMIKOL	600	243	591	925	1116
CHOTA HARISPUR	85	34.43	162	308	413
DHAKOPARA	263	106.51	321	430	460
DHARAIL	460	186.30	-	-	1312
DIGHAPATIA	609	246.64	1448	2008	2595
GANGAIL	659	266.89	443	695	803
GOALDIGHI	290	117.45	234	339	400
GOALDIGHI KRISHNAPUR	193	78.17	211	381	517
GOBINDAPUR	114	46.17	665	956	1066
ICHLABARIA	400	162	422	834	1095
KAKBARIA	252	102.06	713	164	242
KAROTA	468	189.54	447	1173	1517
NEPALDIGHI	225	91.12	120	598	798
NDAPARA	28	11.34	344	175	144
PASCHIM HAGHARIA	256	103.68	350	727	940
PURBA HAGHARIA	236	95.58	351	489	697
SIBDURGA	317	128.39	173	628	760
TALGACHHI	118	47.79	237	281	290
TEGACHHI	265	107.32	641	394	448
ADRAIL	1168	473.04	545	1042	3173

ARJUNPUR	380	153.9	192	1063	1366
BAGROM	55	22.28	-	235	290
BALAKANDI	58	23.49	-	-	-
BALARAMPUR	60	24.3	16030	28157	-
BIPRA HALSA	281	113.81	312	498	612
CHIRAKHOLA	88	35.64	127	169	229
GOKULNAGAR	441	178.61	576	873	904
HALSA	130	52.65	376	530	711
HAT HALSA	50	20.25	1102	130	154
JHINAPARA	238	96.39	306	525	738
MAHESHA	194	78.57	363	550	641
MATIKOPA	352	142.56	470	750	1045
NABINKRISHNAPUR	245	99.23	1040	690	622
NALKHOLA	84	34.02	305	308	549
NISCHINTAPUR	100	40.5	233	93	444
PALE HALSA	30	12.15	14	569	314
PAT HALSA	252	102.04	388	569	365
PARKHOLABARIA	405	164.03	390	647	365
PHULSAR	525	212.62	486	392	793
RAY HALSA	175	70.88	211	429	502
RAYGHAT	134	54.27	351	406	490
BARASHARIA	152	61.56	316	280	474
BIRAHIMPUR	92	37.26	163	1113	417
CHAUGACHHI	707	286.34	620	361	1387
CHANDANPUR	90	36.45	185	7911	428
CHANDPUR	328	132.84	453	2247	956
DASTANABAD	1200	486	973	392	2905
HASIMPUR	246	99.63	159	1458	505

JALALABAD	846	342.63	755	357	1758
JAYRAMPUR	73	29.56	267	2304	476
KAFURA	984	398.52	1416	706	3057
KASBA	298	120.69	459	-	816
TOTAL	47454	19218.87	59182	91950	123611

Sources: Population Census Reports of Rajshahi district 1961, 1974 and 1981 of BPS.

- Means data is not available.