

URBAN DEVELOPMENT DIRECTORATE  
MINISTRY OF WORKS

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LANDUSE / MASTER PLAN  
JAMALGANJ UPAZILA  
SUNAMGANJ ZILA

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PURALOY KAUSHALI LIMITED  
ARCHITECTURAL AND ENGINEERING CONSULTANTS

এতদ্বারা প্রত্যয়ন করা যাইতেছে যে, জামালগঞ্জ উপজেলা শহরের ভূমি ব্যবহার পরিকল্পনা সংশ্লিষ্ট পুরানয় কোশলী নিঃ এর প্রতিমিথির সহিত আমরা বিস্তারিত আলাপ আলোচনা করি। পুরানয় কোশলী নিঃ এর প্রস্তুতকৃত জামালগঞ্জ উপজেলা শহরের ভূমি ব্যবহার পরিকল্পনা সরকারের অনুমোদনের জন্য সুপারিশ করা যাইতেছে।



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(উপেক্ষা নাহা উপকার)  
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INTRODUCTION

In the government's policy of overall administrative reorganization, the upazila has been recognised as the most significant tier of the administration. Each upazila shahar will be the focal point of all upazila level administrative and commercial activities. It will be planned and developed to accommodate all social, economic, administrative and infrastructural services for the upazila region. The development of the upazila shahar is the government's key strategy for social, economic and infrastructural upliftment of the upazila region. This also reflects the national policy of bringing developmental, administrative and service facilities to the door step of the rural masses and to ensure better delivery of governmental services to the people.

With the decentralization of administration, there will be an increase in population at the upazila level and activities will be increased and expanded. Therefore, the upazila shahar will provide the locations for administrative, judiciary, cottage and small scale industries, education, health, social utility services, commercial, cultural and recreational facilities.

In the light of the above circumstances, it is felt that the upazila centre should grow up expeditiously and the preparation of a landuse plan for such a centre is of utmost importance for the better utilization of land, people and natural resources. Urban Development Directorate (UDD) has engaged Consultants for the preparation of landuse plans for the upazila shahar and the zila shahar. "PURALOY KAUSHALI LIMITED" has been awarded with such an assignment for the preparation of landuse plan for Jamalganj, Upazila Shahar of Sunamganj Zila.

This report is the Final Report of the preparation of Landuse Plan for Jamalganj upazila shahar of Sunamganj zila. This is an exhaustive report (Draft landuse plan report) covering all the aspects mentioned in the TOR.

THE UPAZILA IN ITS ZILA CONTEXT2.1 Location and Physical Characteristics of the Upazila:2.1.1 Geographical Location:

Jamalganj upazila belongs to Sunamganj zila. This upazila is in the western part of Sunamganj zila. It is at a distance of 32.19 kms. (20 miles) from the zila shahar. It lies between 24°50' and 25°04' north latitude and 91°05' and 19°19' east longitude. It is bounded in the north by Tahirpur and Bishamvarpur upazila, in the south by Derai upazila, in the east by Sunamganj upazila and in the west by Dharmapasha upazila. The geographical location is shown in the Zila Map (Map No. 1).

2.1.2 Physical Characteristics:

- ° The topography of this upazila shows a gentle slope from the north to the south. Most of the areas consist haors and lands are uneven in nature of which major portions lie under water during monsoon. The Surma-Kusiyara old floodplain basin type of Terchibari-Dirial soil association in the form of bluishgrey clay covers the whole upazila.
- ° The climate of this upazila is marked by extreme humidity. The level of humidity reaches a maximum of 85% at 00.00 hours and is 85% at 12.00 hours. The average annual rainfall is around 175" which is highest in Bangladesh.

2.2 Population and Settlement Distribution:2.2.1 Within the Zila:

Sunamganj zila consist of 11 upazilas, 83 unions, 1571 mouzas and 2236 villages, spreading over an area of 1445 sq.miles (2325.70sq.kms.). The population of this zila was 1428787 in 1981 of which 736972 male and 691815 female. the overall density of population was 989 persons per sq.mile. Population statistics of Sunamganj zila and its upazilas are provided in the following Table-1.



TABLE-1

Population Statistics of Sunamganj zila and its upazilas - 1981.

Upazila	Area in sq.mile	Population 1981	Household	Average size of household	Density per sq.mile
Bishwampur	65	75972	12485	6.1	1169
Chatak	175	219583	34749	6.3	1269
Derai	162	161317	26770	6.0	996
Dharmapasha	140	84597	15535	5.4	604
Dowarabazar	101	131397	21625	6.1	1301
Jagannathpur	141	163450	24382	6.7	1159
Jamalganj	130	94641	14570	6.4	728
Madhyanager	86	61779	10298	5.8	719
Sulla	100	70521	11691	6.0	705
Sunamganj	209	244019	39342	6.2	1184
Taherpur	141	121511	19713	6.1	862
Total =	1445	1428787	230970	6.2	989

Source: BBS, Thana Statistics - 1983.

It is observed from the the table that population distribution is not even within the zila. Population density is the highest in the Dawarabazar upazila but population density is the lowest in the Dharmapasha upazila 604. As such Dharmapasha upazila has less urban development.

### 2.2.2 Within the Upazila:

Jamalganj upazila occupies a physical area of 130 square miles including river area and has a population of 94641 according to the Population Census, 1981. The density of population is 728 persons per square mile against 1566 persons per square mile for Bangladesh. It is one of the most thinly populated upazila in Sunamganj zila. Out of the total population 49112 are males and the rest 45229 females. This upazila has 14570 (1981) households and the average size of household was 6.50 persons against 5.8 persons for Bangladesh.

The population of this upazila in 1981 census increased by 20.96% over 1974 against 21.79% for Bangladesh. Again the increase of population in 1981 over 1961 was 30.77% against 71.36% for Bangladesh. According to 1981 census this upazila comprises 5 unions, 87 mouzas and 384 villages.

TABLE-2

Household, population by sex and density of Jamalganj upazila - 1981.

Household	Population-1981			Sex Ratio	average size of household	Density per sq.mile
	Male	Female	Total			
14570	49412	45229	94641	109.2	6.4	728

Source: BBS, Thana Statistics - 1983.

TABLE-3

Unionwise Population Statistics of Jamalganj upazila - 1981.

Union	Household	Population	Average size of household
Bhimkhali	2955	19754	6.62
Behali	1958	13044	6.66
Fenerbak	3831	23426	6.11
Jamalganj	3996	26639	6.67
Sachna Bazar	1830	11958	6.53
Jamalganj upazila	14570	94641	6.50

Source: BBS, Thana Statistics - 1983.

### 2.2.3 Migration:

Secondary sources of information do not provide any data on migration of population both for the zila and the upazila. Considering the general situation prevailing in the country it can be reasonably assumed that some of rural population of sunamganj zila migrant to the urban areas of this zila or other zilas and small percentage also migrant from rural areas of this upazila to the upazila shahar.

According to the socio-economic survey within the planning area of Jamalganj upazila shahar, it is found that out of 90 households only 10 families for 9.00% of the total households have been in migrated within last 10 years. The cause of migration are business study and employment. Out of 671 sample population only 19 people that is 2.83 percent of the sample population have been migrated out during last 10 years. the cause of out migration are business, service and study.

### 2.2.4 Settlement Distribution:

The special aspects of the Jamalganj upazila is its location, the great Sachna (Nowa) River flows through this upazila from west to east and south-east and a lot of haors in this upazila. As a result, most of the settlements are developed along the banks of these rivers in linear way. Out of these river banks most of the areas are lowlying and haor areas and not suitable for human settlement development.

## 2.3 Economic Performance and Transport Linkage:

### 2.3.1 Employment and Underemployment:

Population 10 years plus in Sunamganj zila was 963097 persons in 1981 and 18126 persons were engaged in earning activities, which was only 43.41% of the population 10 years plus. The situation in Jamalganj upazila is about the same. Out of 63416 population 10 years plus only 28408 persons were engaged in various earning

activities in 1981, which was only 44.8% of the population 10 years plus. The detail pictures about the employment situation are given in the following Table-4:

TABLE-4

Labourforce and Employment situation - 1981.

Upazila/Zila	Labourforce as % of popn. 10 yrs. +	Population of 10 years Plus			Labourforce 10 Yrs.		
		Male	Female	Total	Agri.	Non- Agri.	Total
Jamalganj	44.8	33629	29787	63416	23564	4844	28408
Sunamganj	43.41	503551	459546	963097	324335	93791	418126

Source: BBS, Thana Statistics - 1983.

The underemployment situation is largely contributed by the fact that majority of the female workforce were not engaged in any income generating activities.

### 2.3.2 Income-Expenditure Pattern:

Necessary information of income-expenditure pattern of the households in Sunamganj zila and Jamalganj upazila are not available from secondary source. However, a BBS Publication (Sylhet zila statistics - 1981) shows that per capita income of old Sylhet zila was only Tk. 1971/- against the national average of Tk. 2015/- in 1981. The situation in the planning area for Jamalganj upazila shahar can be described from the data collected during socio-economic survey, 1988.

TABLE-5

Annual Income Level of Households of Jamalgonj Shahar

Annual Income(Tk)	No. of household			Total	Percentage
	Agri.	Non.- Agri.	Both		
Upto 2000	16	6	4	26	28.89
2000-5000	18	10	8	36	40.00
5000-10000	10	0	2	12	13.33
10000-15000	6	2	2	10	11.11
15000 and more	4	1	1	6	6.67
Total =	54	19	17	90	100.00

Source: Field Survey, 1988.

It is observed from the table that about 68.89 percent household earn less than Tk. 5000/- per year. About 18.89% families have income from agriculture and non-agricultural sources. Most of household do not have any saving and rest were not spontaneous about their saving. So quantitative data regards saving have been dropped. Even though there is no defined line for property level, it can easily be said that most of the households were under severe financial pressure considering the general socio-economical condition of the country.

### 2.3.3 Agriculture and Non-Agriculture:

Sunamganj is basically an agricultural area. But it is also one of many zilas of the country which can not produce enough food grain for its population. Out of the total area of 925440 acres of Sunamganj zila 78.94 percent (730579 acres) were under cultivation in 1981-82. The intensity of cropping (147.77) is lower than Bangladesh figure of 153.86. Only 10.52 percent of net cropped area that was under various means of irrigation in 1980-81.

In the non-agriculture sector, there was no modern industrial establishment of significant nature in this zila. about 1026 cottage industries (mainly weaving, pottery and cane/bamboo furniture, handicrafts, wood furniture etc.) are available in this zila.

Jamalganj upazila is also basically a typical agricultural area. But shortage in food production was 1400 tons in the year 1981-82. Out of the total area of 92800 acres only 38594 acres were under cultivation in 1981-82. The intensity of cropping is 159.43 in Jamalganj upazila which is much higher than Sunamganj zila.

Formal non-agriculture sector is in significant in this upazila. It does not have even cottage industries worth mentioning. The following table land utilization characteristics of Jamalganj upazila, Sunamganj zila and Bangladesh is provided.

TABLE-6

Land Utilization Characteristics, 1981-82.

	Total Area in Acre	Current Follow	Cropped Area			Total Cropped		Inten- sity of cropping
			Single	Double	Triple	Net	Gross	
Jamalganj	92800	20966	18926	16398	3270	38594	61532	159.43
Sunamganj	925440	94637	282858	186941	246131	494412	730579	147.77
Bangladesh	35308000	1350000	1146400	80700000	1677000	21212000	32637000	153.86

Source: BBS, Thana Statistics - 1983.

2.4 Social Infrastructure:2.4.1 Market/Commerce:

In the table below the number of hats, bazars, banks branches and commercial holdings of Sunamganj zila and Jamalganj upazila are provided, so as to identify their relative position in terms of commercial infrastructure.

TABLE-7

Commercial Infrastructure of Sunamganj zila and Jamalganj upazila 0 1982.

	Hats	Daily Bazar	Commercial Holding	Bank Branches
Jamalganj Upazila	5	1	30	3
Sunamganj zila	126	28	185	56

Source: BBS, Thana Statistics, 1981.

From the above table it is observed that Jamalganj upazila has not fair share of commercial infrastructures in relation to the zila. Commercial activities are mainly performed through hats and bazars. Agriculture commodities and households items are major trading commodities. But facilities and provisions in the hats, bazars are very poor.

2.4.2 Education:

The situation is being analysed by providing number of educational institutions and literacy rate for both Sunamganj zila and Jamalganj upazila.

TABLE-8

Educational facilities in Sunamganj zila and Jamalganj upazila, 1982.

Educational Institution	Jamalganj upazila			Sunamganj Zila		
	No.	Student	Pop./Institution	No.	Student	Pop./Insttn.
P.School	59	5809	1604	874	93797	1634
S.School	5	909	18928	75	18945	19050
J. H. School	2	250	47320	22	2438	64945
College	-	-	-	3	1092	476262
Madrasha	9	884	10515	37	7026	38616

Source: BBS, Thana Statistics - 1983.

Apart from various statistics, the table indicates that number of population served by a primary school and secondary school is more less same for both upazila and zila. There was no college in the upazila in 1982 but now (1988) there is a college located in the Teliajamalpur mouza.

TABLE-9

Literate person and Literacy rate in Sunamganj zila and Jamalganj upazila - 1981.

	Jamalganj upazila	Sunamganj zila
Total Population	94641	1428787
Literate Person (5 years +)	Total - 12482 Male - 8983 Female- 3499	191084 132721 58363
Literacy Rate	Total - 16.0 Male - 22.8 Female- 10.4	16.0 21.5 10.2

Source: BBS, Thana Statistics, 1983.

The literacy rate of Jamalganj upazila is 16.0 percent which is same as Sunamganj zila literacy rate.

#### 2.4.3 Health Facility:

Relative position of Sunamganj zila and Jamalganj upazila in terms of health facilities is being analysed by the information provided in the following Table:

TABLE-10  
Health Facility Statistics of Sunamganj zila  
and Jamalganj upazila - 1981.

Facility	<u>Jamalganj</u>		<u>Sunamganj</u>	
	No.	Pop./Facility	No.	Pop./Facility
Upazila Health Complex	1	94641	8	178598
Bed	31	3053	248	5761
Charitable Dispensary	1	94641	17	84046
Other Health Centre	-	-	17	84046
Qualified Doctor	37	2558	476	3001
Family Planning Clinic	4	23660	40	35719

Source: BBS, Thana Statistics, 1983.

Compared with the zila, Jamalganj upazila has very poor health facilities. Most striking one is there is only one doctor for 2558 number of population in the upazila, while zila figure is 3001. There is no patient care facility in the upazila health complex of Jamalganj.

#### 2.4.4 Urban Services and Utilities:

Some of the important urban services and utilities that available in Sunamganj zila and Jamalganj upazila, are presented in the table that follows in the next page.

Compared to Sunamganj zila shahar, Jamalganj is extremely underdeveloped upazila shahar. There are only three villages with electricity but with irregular supply and hardly any recreational facility exists in the Jamalganj upazila.

TABLE-11

Urban Services and Utility Statistics of  
Sunamganj zila and Jamalganj Upazila - 1982.

Service	Jamalganj		Sunamganj	
	No.	Pop./Facility	No.	Pop./Facility
Cinema Hall	-	-	2	714393
Post Office	1	94641	4	357196
Telegraph Office	1	94641	7	204112
Tubewell for drinking water	165	573	5866	243
Village with Electricity	3	31547	79	18086
Dak Bunglow/ Rest House	1	94641	12	119065
Other Govt. Office	27	3505	231	6185
Public Library	1	94641	3	476262
Registered Club	-	-	19	7519

Source: BBS, Thana Statistics, 1983.

## 2.5 Current Development Projects:

In the financial year 1987-88 total development fund available to Jamalganj Upazila Parishad is Tk. 17,07,000/- only. The Parishad has identified the sectorwise allocation of this fund following the guidelines provided by the Planning Commission. But till the date of writing this report (September, 1988) the Parishad has not identified the projects they are going to implement in different sectors during this period. In the absence of development projects in different sectors the Consultant feels that sectorwise allocation of funds will serve the purpose of this report.

## 2.6 Identification of Hierarchy of settlement in the Upazila:

Hierarchy of settlement depends on many variables. an attempt is made to determine the hierarchy of settlements within the upazila as a whole based on population, economic activity, with available services and facilities, transport link and other related characteristics. Mouza has been considered as the unit or centre to determine the higherarchy of settlements. In determining the hierarchy of settlement, the weightage methods has been applied. Different deights have been given for various ranges of population, economic, social, transport and other services in respect of their degree of importance, extent of services rendered and impact produced on the development of the upazila. This is shown in the table. The total weightage obtained for each mouza have been calculated and ranked in four categories. The rank according to weightage obtained in shown in table-12.

TABLE-12

CATEGORY	WEIGHTAGE
A. Population range of -	
Upto 1000	1
1001-2000	2
2001-3000	3
3001-4000	4
4001-5000	5
5001-6000	6
6001-7000	7
7001-8000	8
8001-9000	9
9001-10000	10
B. Any one of -	
1. Primary school, 2. Mosque, 3. Tubewell	1
C. Any one of -	
1. High school, 2. Hats, 3. Post office, 4. Electricity	2

## CATEGORY

## WEIGHTAGE

D. Any one of -

1. Bazar, 2. Health Centre, 3. BADC Office,  
4. Bank, 5. Police out post.

4

E. Any one of -

1. Hospital, 2. College, 3. Police station,  
4. Upazila complex, 5. Telephone exchange &  
Telegraph office, 6. Bus station, 7. Railway  
station, 8. Launch ghat.

8

TABLE-13

Ranking of hierarchy according to weightage obtained

Total weightage obtained	Rank in hierarchy
30 and above	I
20 to 29	II
10 to 19	III
9 and below	IV

According to the aforesaid method the mouzas obtaining the highest and 2nd highest rank with weightage obtained is shown in the following table.

TABLE-14

1st and 2nd category of mouzas in the hierarchy of settlement

Sl. No.	Name of Mouza	Name of union	Weightage obtained	Category
1.	Telea Jamalpur	Jamalpur	60	I
2.	Sachna	Jamalpur	30	I
3.	Kamal baj	Jamalpur	28	II
4.	Kandarpur	Fenerbak	21	II
5.	Bathali	Bethali	20	II

THE UPAZILA SHAHARS3.1.1 Definition of Sphere of Influence:

The catchment area (or the sphere of influence) has been considered as the area surrounding the upazila shahar from which people normally commute to avail various day to day services situated in the shahar area. This area would usually encompass a radius 2.5 to 3.0 miles (TOR) from the centre of the upazila shahar but has been adjusted in respect of the following factors:

- a. Natural Barriers, Physical opportunities and constraints.
- b. The availability of good transport facilities.
- c. The shape of administrative boundaries.
- d. Type, capacity and quality of services available in the upazila shahar.
- e. The location of upazila shahar in respect of other upazila shahars and other major centres.
- f. Economic attractiveness of the zila shahar e.g. employment opportunities, industrial and trading facilities etc.

3.1.2 Delineation of Sphere of Influence of Jamalganj Upazila Shahar:

An attempt is made to identify the Jamalganj upazila shahar's socio-economic sphere of influence or catchment area through reconnaissance survey, landuse survey and socio-economic survey, information from secondary sources and through personal interviews, in the various socio-economic service centres such as markets, shops, educational institutions, health complex, govt. offices, public representatives etc. Two spheres of influence such as Primary and Secondary have been identified for the existing shahar area. The primary influence spreads over approximately 9323.00 acres of land or 14.57 sq.mile excluding the upazila shahar area.

People from these places come to the upazila shahar to perform a wide variety of functions and avail various services for their day to day life. The secondary sphere of influence spreads over the larger distances covering the whole upazila and even outside the upazila boundary. People from all over the upazila occasionally come to the upazila shahar mainly for receiving health, administrative and judiciary services.

The catchment area has been determined according to the primary sphere of influence considering the factors stated above. The catchment area thus have covered an area 9323.00 acres or 14.57 sq.mile with a population of 20750 in 1981.

TABLE-15  
Mouzawise area and population for zone of  
influence of Jamalganj Upazila

Name of Mouza	Total Area in Acres	Involved area in acres	Total Population			Involved Population		
			1961	1974	1981	1961	1974	1981
Sachna (P)	986.00	871.00	986	1841	2774	76	171	642
Kamal baj (P)	1428.10	1251.00	2880	4540	6486	437	508	1467
Telia Jamalpur (Part)	928.95	674.00	2160	3050	5293	240	271	1104
Palak (P)	619.47	582.00	470	800	1514	295	502	1104
Jamalpur (P)	988.34	898.00	1195	3163	4095	943	2662	3345
Tekipur (P)	329.00	329.00	680	925	1450	680	925	1095
Sermasterpur	344.00	344.00	689	878	1066	689	878	970
Najatpur	122.00	122.00	112	212	303	112	212	303
Durlabpur	804.00	804.00	628	1105	1485	628	1105	1239
Fatepur (P)	593.00	593.00	429	758	992	429	758	812
Chata Gagotia	191.38	191.00	322	580	623	322	580	623
Golamirpur	154.50	154.50	230	316	381	230	316	381
Daskin Sahapur	41.38	41.38	105	354	478	105	354	478
Ujjalpur	605.40	605.40	492	672	983	492	672	772
Hayetpur (P)	1300.42	700.00	2859	3425	4328	2859	3425	3825
Sonargaon (P)	508.00	302.00	812	1093	1242	712	1093	1143
Uttar Rampur	218.35	219.00	281	376	444	281	376	444
Rahimpur	547.90	548.00	481	687	721	481	687	721
Hariharpur	182.18	93.00	114	199	282	114	199	282
Total =	10892.27	9323.00	14600	25290	34940	10125	16010	20750

Source: Bangladesh Population Census - 1981, 1974 & 1961.

### 3.2 Delineation of Jamalganj Upazila Shahar Area/Planning Area:

In addition to the present upazila shahar and the existing built up urban area of Jamalganj shahar, the planning area also includes some area which are expected to be develop as urban area in the near future. In selecting the planning area the following factors were considered:

- Existing pattern and trend of development.
- Tendency of landuse changes from agricultural to non-agricultural activities.
- Existing pattern of transportation network within and around the built-up area.
- Availability of flood free and buildable land.

Considering the limitation of high and flood free lands available and other natural constraints, the planning area have not been widen enough in all directions from the existing upazila shahar.

The total planning area (shahar area) thus determined an area of 674.00 acres or 1.05 sq.mile with a population of 12500 in 1981.

TABLE-16  
Mouzawise area and Population under shahar area  
of Jamalganj Upazila

Name of Mouza	Total area in acres	Involved area in acres	Total Population			Involved Population		
			1961	1974	1981	1961	1974	1981
Sachna (P)	986	115.00	986	1841	2774	910	1470	2132
Kamal baj (P)	1428.10	177.00	2880	4540	6486	2443	4232	5019
Telia Jamalpur (P)	928.95	255.00	2160	3050	5293	1920	2779	4189
Palak (P)	619.47	37.00	470	800	1514	175	298	410
Jamalpur (P)	988.34	90.00	1195	3163	4095	252	501	750
Total =	4950.86	674.00	7691	13394	20162	5700	9280	12500

Source: Bangladesh Population Census - 1981, 1974 & 1961.

### 3.3 Existing Landuse and Utilization Characteristics:

#### 3.3.1 Summary of Existing Landuse:

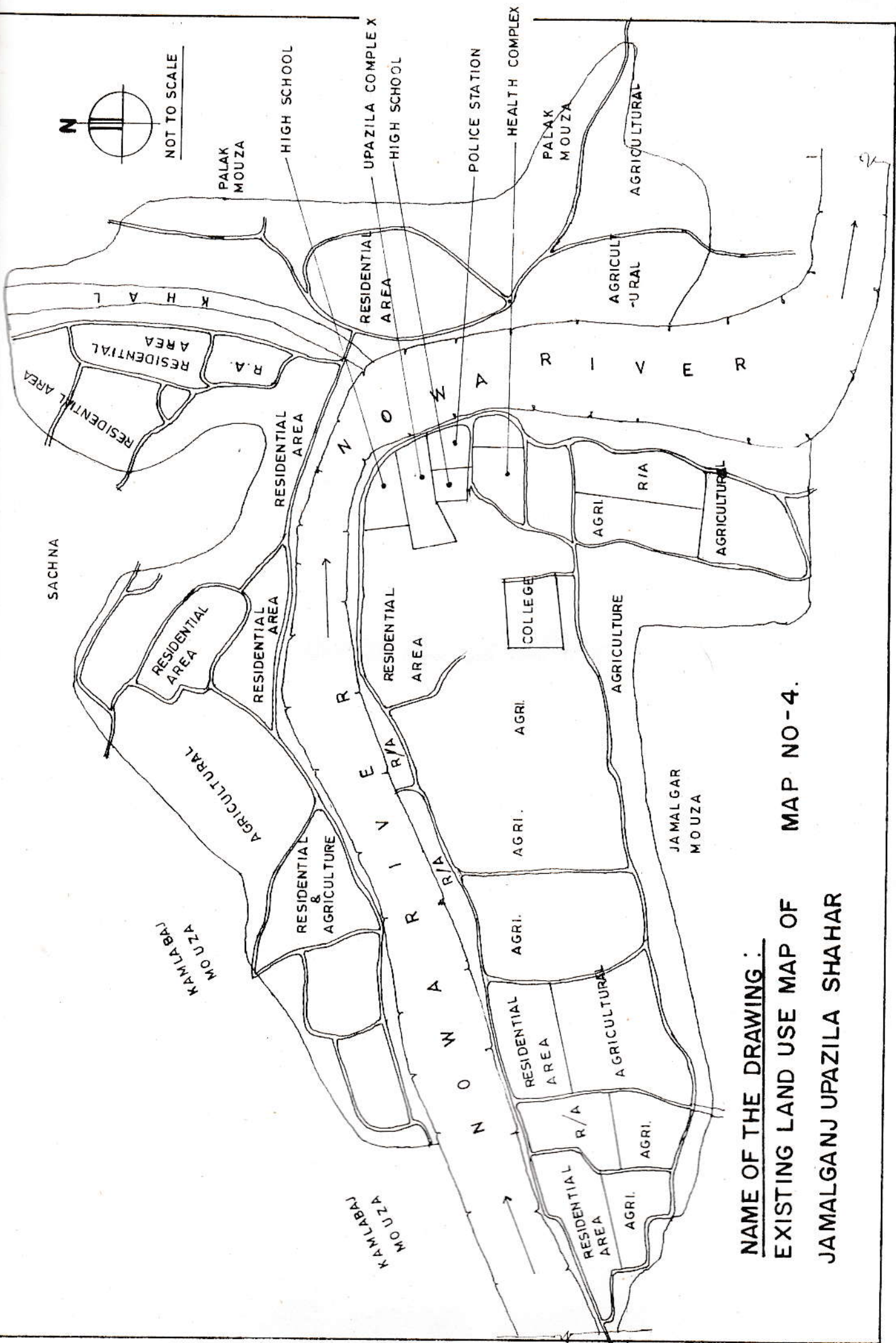
Existing landuse pattern of the planning area has been ascertained through field survey. Plot to plot survey has been conducted on the mouza maps to identify specific use of every plot and find out areas under various urban establishments. Details of existing landuse pattern has been presented in the map-3.

The table below shows board landuse pattern of the planning areas, where landuse have been classified into 11 categories keeping in mind of the guidelines provided in the TOR.

TABLE-17  
Existing Landuse Pattern of the Planning Area - 1987.

Sl. No.	Landuse Type	Area in Acres	Percent of the Total area
1.a.	Commerce	8.20	1.21
1.b.	Industry	0.48	0.07
2.	Education	11.85	1.76
3.	Health	6.60	0.98
4.	Administration, Govt. Deptts. etc.	15.75	2.33
5.	Recreation	1.00	0.15
6.	Socio-cultural	14.05	2.09
7.	Urban services	2.70	0.40
8.	Residential	112.04	16.62
9.	Roads	22.98	3.41
10.	Water Bodies (River, Ditch etc.)	119.65	17.76
11.	Agriculture	358.70	53.22
Total =		674.00	100.00

Source: Field Survey, 1987.



NAME OF THE DRAWING :  
 EXISTING LAND USE MAP OF MAP NO-4.  
 JAMALGANJ UPAZILA SHAHAR

The above table shows that highest percentage of land (53.22%) is utilized by agriculture, followed by residential area (16.83%), roads (3.41%), Administration and govt. deptts. etc. (2.33%), socio-cultural area (2.09%). The lowest percentage of land (0.07%) belongs to industry.

### 3.3.2 Land Utilization:

#### 1.a. Commercial Use:

Land occupied by commercial uses amounts to about 8.20 acres in the planning area. Major uses under this category include bazar, banks, road side shops, river side shops and corner shops, etc. There are two daily bazars in the planning area. Ajmiriganj bazar is the largest commercial area for both wholesale market, retail shops and daily bazar. Commercial use occupies 1.21% of the total planning area.

#### 1.b. Industrial Use:

In the planning area there are only 0.48 acres of land under this category. There is no large scale industrial establishment within the planning area. Only few rice mills, saw mills and oil mills are located in the planning area. Total land covered by this category is 0.07% of the planning area.

#### 2. Educational Use:

Educational land uses amounts to about 11.85 acres in the planning area. It includes different types of educational institutions. There are one college, two high schools, four primary schools and one madrasha located in the planning area. The total land covered by this category is 1.76% of the planning area.

#### 3. Health:

The survey of the planning area has identified the upazila health complex at Telia Jamalpur mouza. The health complex is located near to upazila complex covering an area of about 6.60 acres and 0.98% of the total planning area.

4. Administration of Govt. Deptts. etc.:

About 15.75 acres of land belongs to the various administrative establishments in the planning area. The upazila complex and the major administrative set ups are located at mouza Telia Jamalpur. There are one Tahsil office, sub-registrar office, BADC office and live stock office, located in the planning area. Total land covered by this category is 2.33% of the total planning area.

5. Recreation:

Under recreation facilities, 2 playgrounds, and few clubs are located in the planning area. The total land under recreational facilities is only one acre or 0.15% of the total planning area.

6. Socio-Cultural:

About 14.05 acres of land is occupied by different socio-cultural facilities in the planning area. Socio-cultural facilities include mosque, eidgah, graveyard, etc. and 2.09% of the planning area.

7. Urban Services:

Planning area has about 2.70 acres of land belonging to various urban services like dak bungalow, post office, police station, launch terminal etc. Total land covered by this category is 0.40% of the planning area.

8. Residential:

About 112.04 acres of land belongs to the residential use which is 16.62% of the total planning area. Most of residential development takes place along the river banks. There are also some small pokets of concentrated settlements of Sachna mouza and Kamalbaj mouza. Most of the structures are semi-pucca and kutchra in nature.

9. Roads:

There are about 8.50 miles of road network in the planning area of which only 1.5 miles are HBB and the rest are kutchra. The condition of roads are very bad and the design is sub-standard. Even the width is only 15 ft. almost all roads in the planning area. About 22.98 acres of land belongs to this category which is 3.41% of the total planning area.

10. Water Bodies:

The planning area has about 119.65 acres of land under water bodies include river, khal, beel, pond and ditches. This land use accounts for about 17.76% percent of the planning area.

11. Agriculture:

Obviously, agriculture is the most dominant land use having about 358 acres or 53.22 percent of the total planning area. Agricultural land produce usual crops like rice, jute, pulse etc. It may therefore be assumed that lands are available for urban development in the planning area.

3.4 Social Opportunities and Constraints:

3.4.1 Opportunities:

The river Nowa passes through the middle of the Jamalganj upazila shahar. the present centre of the shahar has been developed on the south western corner of this river. Studies of contours showed that buildable high lands are available on the southern side of the Nowa river and the western side of the upazila complex. It may therefore be said that the area on the south western side of the Nowa river are potential for urban development were growth have already been started.

### 3.4.2 Constraints:

It has been mentioned that the existing built-up area are bounded from west to east by big river Nowa. Due to the existence of this river, urban development is not possible towards the north of the existing built-up area. Again the lands of the north are low and high agricultural value. Therefore buildable lands are available as mentioned above. So the flood free and buildable land are the major problems for urban development in this upazila shahar.

### 3.4.3 Land Value:

Land value in the planning aea has been found to vary between Tk. 10000 to Tk. 100000/- per bigha for different categories of land. Land values in the planning area has been analysed under the following three categories:

#### Shahar Area:

- a. High land: High buildable land in the upazila shahar area, used for commercial establishments and also for housing, is sold at Tk. 100000/- per bigha on average.
- b. Medium land: Medium land, used mainly for homesteads, is sold between Tk. 50000/- to Tk. 80000/- per bigha.
- c. Low land: Low elevation land in the planning area is sold between Tk. 20000/- to Tk. 40000/- per bigha.

#### Agricultural Land:

Agricultural land in the planning area is sold at following prices:

- Low Land : Tk. 10000/- to Tk. 20000/- per bigha.
- Medium Land: Tk. 20000/- to Tk. 30000/- per bigha.

FORECASTS4.1 Population, Household Structure, Density:

Forecasting of target population is the most important element of any land use plan. So it is necessary to forecast the future population both for upazila shahar and its sphere of influence. According to the TOR low, medium and high projections were made. High and medium level projection of population have been made on the basis of its existing trends and for the low level projection it is assumed that fertility rates will fall, taking into account the positive effect of family planning programme of the government and also the area will experience a lower migration flow. The population of 1981 are used as base year data.

4.1.1 Sphere of Influence:

Within the sphere of influence (catchment area) of Jamalganj upazila shahar, the population growth rate between 1961 and 1981 was 3.65% which is used as the growth rate for medium level projection. The growth rate for the population of high level projection was made by considering the growth rate between 1974 and 1981 which was 3.77% and the population at the low level projection was made by the assumed growth rate of 2.0%. The 1981 population in the catchment area was 34940. The detail of different level of projections for the future population in the catchment area are shown in the following table:-

TABLE-18

Population projections for the catchment area of  
Jamalganj upazila shahar, 1981-2005 A.D.

Existing Population			Projected Population		
1961	1974	1981	High growth rate (74-81) = 3.77%	Medium growth rate (61-81) = 3.65%	Low growth Rate Assumed = 2%
10125	16010	20750			
	1985		23995	23903	22460
	1990		28774	28526	24797
	1995		34505	34043	27377
	2000		41378	40628	30226
	2005		49620	48486	33371

The average size of household (household structure) in the catchment area was 6.30 in 1981. It is expected that due to urbanization household size will decrease over the years. The following table gives the assumed household size and resultant number of households during 1981-2005 A.D. on the basis of medium level projection:

TABLE-19

Household structure by size and number of household in the catchment area, 1981-2005 A.D.

Items	1981(Base)	1985	1990	1995	2000	2005
Population	20750	23903	28526	34043	40628	48486
Household size	6.30	6.25	6.20	6.15	6.10	6.00
No.of Household	3293	3824	4600	5535	6660	8081

The density of population of the catchment area are shown in the following table in detail, considering the medium projection:

TABLE-20

Density of population in the catchment area, 1984-2005 A.D.

Items	1985	1990	1995	2000	2005
Projected Population	23903	28526	34043	40628	48486
Total area in acres	9323	9323	9323	9323	9323
Density/acre	2.56	3.05	3.65	4.35	5.20

#### 4.1.2 Upazila Shahar Area (Planning Area):

The population of the planning area of Jamalganj upzila shahar was found to be 5700, 9280 and 12500 in the census year 1961, 1974 and 1981 respectively. Inter -Census growth rate were 3.21% (1961-74), 4.33% (1974-81) and 4.00% (1961-81). On the basis of the above mentioned past growth rates and also considering that migrants will be a major component of the future population high, medium and low growth rates of the upazila shahar are assumed. Which are 4.34%, 4.00% and 2.25% respectively. The base population for all three forecasts is taken to 12500 in 1981.

TABLE-21

Population projections for the planning area of  
Jamalganj upazila shahar, 1981-2005 A.D.

Existing Population			Projected Population		
1961	1974	1981	High growth rate (74-81)=4.34%	Medium growth rate (61-81) = 4%	Low growth rate is assumed = 2.25%
5700	9280	12500			
	1985		14792	14623	13636
	1990		18257	17791	15203
	1995		22534	21645	16950
	2000		27813	26334	18898
	2005		34329	32039	21070

It is expected that for all three projects the rate of population growth will increase mainly due to increase population flow because of increased economic activity within the planning. But an average growth is taken for forecast for the sake of simplicity.

The number of household in the planning area was found to be 2032 with an average household size of 6.15 persons in 1981. For the reasons mentioned earlier household size is expected to be reduced overtime. Considering that household numbers in the planning area is calculated on the basis of medium projected and presented in the following table:

TABLE-22

Household structure by size and number of  
household in the planning area, 1981-2005 A.D.

Items	1981(Base) Popn.	1985	1990	1995	2000	2005
Population	12500	146231	17791	21645	26334	32039
Household size	6.15	6.05	5.90	5.75	5.60	5.50
No.of Household	2032	2417	8015	3764	4702	5825

Considering medium growth rate the density of population in the planning area is being calculated and presented in the following table:-

TABLE -23

Density of Population in the Planning Area, 1985-2005 A.D.

Items	1985	1990	1995	2000	2005
Projected Population	14623	17791	21645	26334	32039
Total area in acres	674.00	674.00	674.00	674.00	674.00
Density/Acre	21.69	26.39	32.11	39.07	47.53

The planning area of Jamalganj upazila shahar is expected to have an average population density of 47.53 persons per acre in the year 2005 A.D.

#### 4.1.3 Aspects of Migration:

It is really necessary to emphasis the importance of getting a realistic picture of migration situation. Because it is going to be an important element of future population increase. But the task of estimation the number of migrants to the upazila shahar area is a very difficult task as there is hardly any data regarding migration from the secondary sources. The primary data which was obtained during socio-economic survey is somewhat insignificant to rely on. But it is surely identifies one important information.

So, it is reasonable to assume that immigration to the area will considerable increase over time with the increased or investment in different sectors. In this situation in order to visualise the extent of migration, it is assumed that 12% of the future population will be migrated to the planning area.

TABLE- 24

Estimated number of migrants of Jamalganj Shahar

Items	1990	1995	2000	2005
Projected population (Medium)	17791	21645	26334	32039
No.of Migrants (12%)	2135	2597	3160	3844

This migrant population is already considered in the growth rates for all three projections.

#### 4.2 Labourforce and Employment:

Labourforce and Employment are inter-related at any stage of economic development . Since a co-relation factor is not available for any areas of Bangladesh, an assumption is made based on the existing trend. In this upazila only 30 percent of the total population and 44.8 percent of the population 10 years were engaged in earning activities. We have assumed 35.00 percent of total population will constitute the labourforce for the catchment area with the consideration that due to added investment and economic activities participation in earning activities will rise.

TABLE-25

Forecasting of Labourforce for the catchment area

Items	1990	1995	2000	2005
Total Population (Medium)	28526	34043	40628	48486
Labourforce (35%)	9984	11915	14220	16970

In future the upazila shahar situation is expected to be little bit different. Apart from the resident labourforce (RLF) within the shahar, there will be commuter labourforce from the surrounding areas. Commuter labourforce is taken to be another 10% of the resident labourforce.

TABLE-26

Estimated Labourforce

Items	1990	1995	2000	2005
Resident Population	17791	21645	26334	32039
Resident Labourforce (35%)	6226	7575	9217	11213
Commuter Labourforce (10% of RLF)	998	1191	1422	1697
Total Labourforce =	7224	8766	10639	12910

#### 4.3 Land requirements and provision standards:

Based on the future population in 2005 A.D. and provision standards, provided by the TOR, land requirements for different purposes are estimated. The total population in the catchment area and in upazila shahar will be 48486 and 32039 respectively on the basis of medium

growth rate. The shahar population is designated as 'A' and catchment area population as 'B' and the future land requirements estimates are provided in the following table:-

TABLE-27

Future requirement of land for Jamalganj upazila shahar

Sl. No.	Landuse	Provision Standard (Acre/Popn.)	Design Population A = 32039 B = 48486	Land Requirement
1.	Commerce & Industry:			
1.a.	Commerce	1.5/1000	A+B	120.78
1.b.	Industry	1.5/1000	A+B	120.78
2.	Education:			
	- Primary School	2/5000	A	12.81
	- Secondary School	5/20000	A+B	20.13
	- College	5/20000	A+B	20.13
3.	Health:			
	- Dispensary, Mat, Childcare Clinic.	1/5000	A+B	16.10
	- Health Centre/Hospital	5/20000	A+B	20.13
4.	Administration/Judiciary	12/Upazila	Upazila Popn.	12.00
5.	Recreation:			
	- Parks, open space	1/1000	A	32.03
	- Cinema, closed space	0.5/20000	A+B	2.01
	- Sports stadium	3/20000	A+B	12.07
6.	Socio-Cultural:			
	- Community Centre	1/20000	A+B	4.02
	- Religious Facilities	0.5/50000	A+B	8.05
	- Graveyard/Cemetery	5/20000	A+B	20.13
7.	Urban Services:			
	- Post Offices	0.5/20000	A+B	2.01
	- Telephone exchange	0.5/20000	A+B	2.01
	- Police station	2/20000	A+B	8.05
	- Bus/Rail station/ghat	1/20000	A+B	4.02
	- Dak Bungalow/Godown	-	-	-
8.	Road	5%-10% of Built-up Area		-
9.	Residential	1/100		320.39
10.	Urban Deferred Reserve	10% of Built-up		
TOTAL	=			636.87

LANDUSE PLAN

In the previous chapter existing situation and future requirements for the Jamalganj upazila shahar has been evaluated and presented. This chapter presents a discussion on approach, concept and planning principles for the landuse plan preparation.

5.1 Approach, Concept and Planning Principles:

It should be cleared at this point that landuse plan for a upazila centre is a broad guide plan in order to control the development through an appropriate locational and functional arrangement of services and facilities so that efforts of all the concerned agencies can be guided to a common goal. Once the main criteria and basic guidelines for development schemes are set individual area development schemes have to be detailed according to the guiding principles of the plan and development phases.

For the preparation of landuse plan for Jamalganj upazila centre some of the factors were found worth considering which are discussed below.

5.1.1 General Considerations:

- ° Eventhough the allotment of government fund for the upazila level development in much more now than it was before, it is hardly enough for the kind of development envisaged. So it was important that development cost have to be at most reasonable minimum. And this fact has dictated that existing development has to be kept intact as far as practicable.
- ° It is also reasonable to consider, and act accordingly, the existing trend of physical development. Any suggestions altogether reverse to the existing one might be unacceptable to the inhabitants and costly to implement.

- ° Land is the most scarce resource in an agrarian society of Bangladesh. Per capita agricultural land is only 0.3 acres and land/man ratio is the lowest in the world. With the increasing population and finite land resources the situation is deteriorating fast. In this situation it goes beyond saying that great care has to be taken to convert agri-use land for non-agricultural purposes as minimum as possible. So firstly existing built-up areas are proposed for maximum possible utilization and then taking some agricultural land, if necessary.
- ° Apart from the above mentioned considerations the proposals are based on existing situation, existing and expected trend of growth, future population projections and service requirements.

#### 5.1.2 Specific Considerations:

Some of the specific considerations for the preparation of land use plan for Jamalganj upazila centre are discussed below:

- ° Jamalganj upazila itself and the future shahar area is located at the extreme north-western boundary of the Sunamganj zila. As such interrelationship and communication of this upazila is towards south. It is anticipated that future growth of upazila shahar should proceed toward south in Jamalganj upazila.
- ° The existing linear like development along the river Nowa dictates that it would not be possible to have compact concentric type of development. So future upazila shahar may consist of two or three built-up areas linked by major roads.
- ° Attempt is also taken to have appropriate zoning of various broad land use areas. Conventional methods (like compatible/incompatible association, locational criteria of specific use) of land planning have been utilized.

- ° The main thorough fares of the road network system are used to provide separation between different landuse zones, apart from providing inter communication, so as to retain environmental quality of an area.
- ° Land which are not appropriate for future development (like low-lying areas, existing major water bodies, and other important current use) are properly noted and marked as "reserves".

## 5.2 Plan Description:

The landuse plan that has been prepared, taking into account the considerations mentioned above, will hopefully accommodate a population of 23039 in the year 2005 and will spread on an area of about 674 acres. In addition to that it will serve an estimated 48486 number of population in the catchment area. It will provide residential accomodation to the shahar population and all other facilities like commercial, industrial, education, administrative, recreational, health, socio-cultural, to both shahar area and catchment area population. The planning area will also accomodate other minor functions and services so as to meet most of the needs of the population. Proper land allocation of all these activities and functions are attempted, as far as possible, to attain desired healthy livable environment. Landuses proposed for different major categories are discussed in the following paragraphs. Summary of the proposed landuses are provided in Table-28.

### 5.2.1 Commerce & Industry:

#### 1.a. Commerce:

There are about 18.50 acres of land proposed for commercial use which is about 2.74% of the planning area. The proposals for commercial landuse include:

- ° Extension and improvement of existing bazar in Sachna mouza.
- ° New shopping area development in Kamlabaj mouza (near the upazila complex).

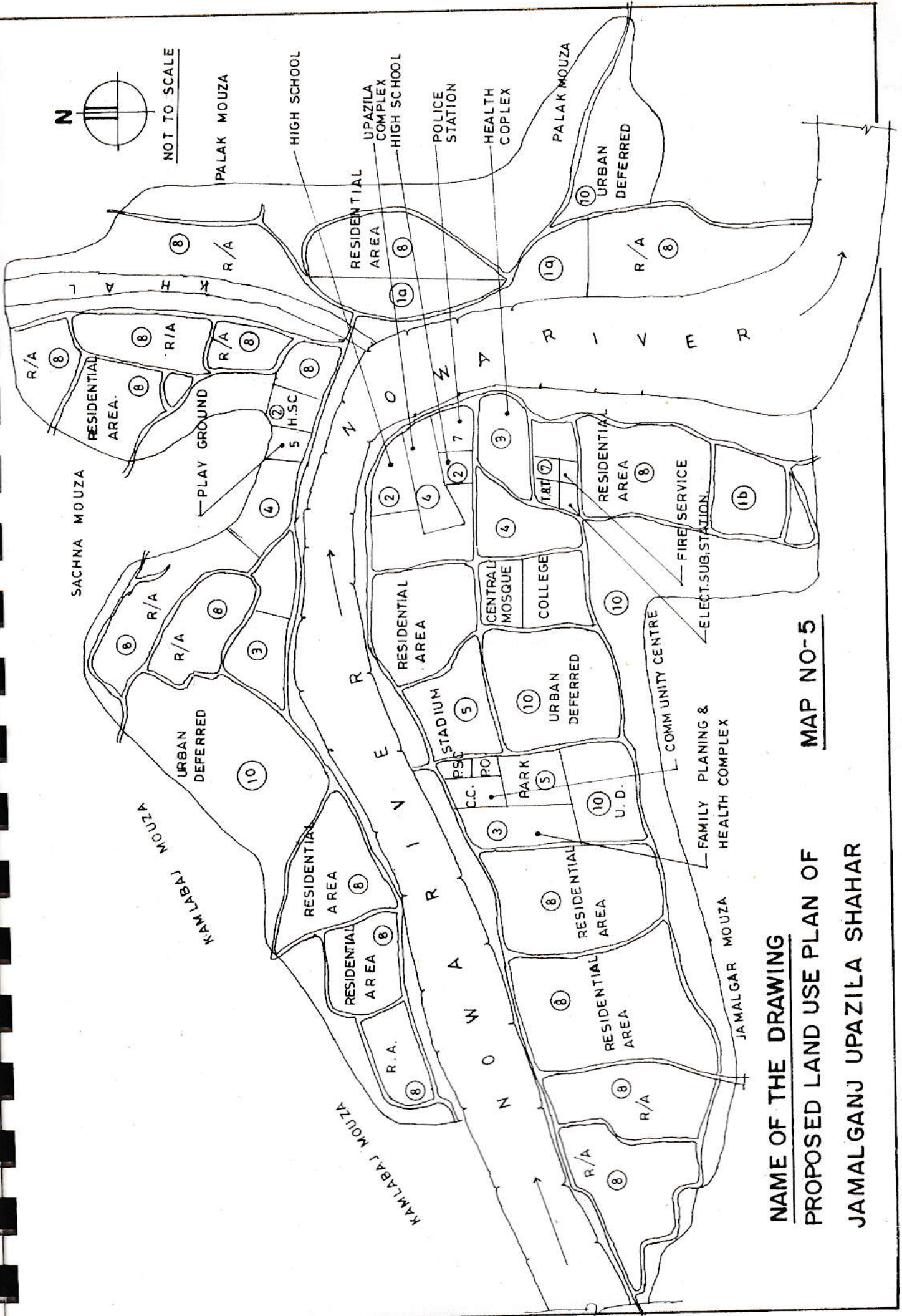
1.b. Industry:

Industrial landuse comprises of scattered saw mills, rice mills, oil mill etc. with an area of about 0.48 acres. While any large scale industrial establishment is difficult to foresee in the upazila. BUT according to the provision standards, 120.87 acres of land will be needed by the year 2005 A.D. However one block of land is proposed to be under this category. About 7.00 acres of land in Jamalgar mouza is proposed for agro-based and handicrafts establishments. So total about 7.48 acres of land proposed for this category or 1.12% of the total planning area.

TABLE-28

Landuse Pattern of the Planning Area of Jamalganj Upazila Shahar-2005 A.D.

Functions	Land Requirement as per TOR	Existing Landuse 1988 (A)	Area Additionally proposed (B)	Total Planned area in Acres(A+B)	% of the total planned area
1. Commerce & Industry:	120.78	8.20	10.30	18.50	2.74
1.a. Commerce	120.78	0.48	7.00	7.48	1.11
1.b. Industry	53.07	11.85	10.40	22.25	3.30
2. Education:					
- Primary school	12.81	4.85	5.40	10.25	
- Secondary school	20.13	6.00	4.00	10.00	
- College	20.13	1.00	1.00	2.00	
3. Health:	36.23	6.60	2.50	9.10	1.35
- Dispensary, Mat, Childcare/Clinic	16.10	-	2.50	2.50	
- Health Centre/Hospital	20.13	6.60	-	6.60	
4. Administration/Judiciary	12.00	15.75	12.60	28.35	4.21
5. Recreation:	46.11	1.00	13.30	14.30	2.12
- Parks, Open space	32.03	-	3.30	3.30	
- Cinema, Closed space	2.01	-	1.00	1.00	
- Sports stadium	12.07	1.00	9.00	10.00	
6. Socio-Cultural:	32.20	14.09	7.70	21.79	3.23
- Community Centre	4.02	-	1.70	1.70	
- Religious Facilities	8.05	3.09	2.00	5.09	
- Graveyard/Cemetery	20.13	11.00	4.00	15.00	
7. Urban Services:	16.09	2.70	5.20	7.90	1.17
- Post Offices	2.01	.70	1.50	2.20	
- Telephone Exchange	2.01	-	1.20	1.20	
- Police station	8.05	1.50	1.50	3.00	
- Bus/Rail station/Ghat	4.02	.50	.50	1.00	
- Fire station	-	-	0.50	0.50	
8. Residential	320.39	112.04	155.60	267.64	39.71
9. Road	67.40	22.98	68.90	91.88	13.63
10. Urban Deferred	67.40	-	65.20	65.20	9.68
11. Reserve (Water bodies)	-	119.65	-	119.65	17.75
12. Agriculture	-	358.70	-	-	-
Total =	-	674.00	-	674.00	100.00



**NAME OF THE DRAWING**  
**PROPOSED LAND USE PLAN OF**  
**JAMALGANJ UPAZILA SHAHAR**

**MAP NO-5**

### 5.2.2 Education:

According to the plan provisional standard of the TOR, the requirements of land for educational purpose are estimated as 53.87 acres approximately. But at present only 11.85 acres of land are used for these purpose. It may be assumed that some 22.25 (3.30%) acres of land will fulfill requirements of land for these purposes by 2005 A.D.

White the present education establishments are preserved and some of them are proposed to be expanded and improved, new facilities proposed are:

- The only Girls High School is proposed to be expanded and improved.
- One new secondary cum primary school is Telia Jamalpur mouza.
- One primary school also proposed in Telia Jamalpur mouza near the proposed stadium.
- One new vocational training institute cum High school for man womanearthe proposed playground.
- Existing college should be kept intact and proposed to be further developed.

### 5.2.3 Health:

According to the provision standard, 36.23 acres of land needed for health facilities. At present 6.60 acres of land are used for these purpose. It may be assumed that some 9.10 acres (1.35%) of land will require for these purposes by 2005 A.D.

The present upazila health complex in Telia Jamalpur mouza needs expansion and other facilities proposed are:

- One new health centre is proposed in Kamlabaj mouza.
- Establishment of one new maternity, childcare and family planning centre in Telia Jamalpur mouza is proposed.

#### 5.2.4 Administrative/Govt. Deptts. etc.:

Most of the establishment in this category are scattered. In order to organize them three blocks of land have been earmarked. One north of the upazila complex in the Kamlabaj mouza, one west of the upazila health complex in Telia Jamalpur mouza and one near the proposed playground in Kamlabaj mouza. At present only 15.75 acres of land are used for these purposes. It may be assumed that some 28.35 acres (4.21%) of land will require for these purposes by 2005 A.D.

#### 5.2.5 Recreation:

According to the provision standard, 46.11 acres of land needed for recreational facilities. But at present only 1.00 acre of land are used for these purposes. It may be assumed that some 14.30 acres (2.12%) of land will require for these purposes by 2005 A.D.

Existing recreational facilities are kept intact and proposed to be further developed. New facilities in this category include:

- ° One central park at the cross-section of the two most important Roads near the proposed stadium in Telia Jamalpur mouza.
- ° One sports stadium on the west of upazila complex and college adjacent to the 40'-0" wide road in Telia Jamalpur mouza.

#### 5.2.6 Socio-Cultural:

About 32.20 acres of land will be needed for these purposes according to the provision standard (TOR). At present about 14.05 acres of land used for these purposes. It may be assumed that some 21.79 acres (3.23%) of land will required for these purposes by 2005 A.D.

Important provisions proposed in this category include:

- ° Community centre cum public library along the proposed 40'-0" wide road in Telia Jamalpur mouza.

- Two blocks of existing graveyards are proposed to be expanded to take care of the future requirement.
- Existing religious facilities (mosques, mandirs, akhras , edgah etc.) are kept in their original locations and proposed to be improved.
- One central mosque and edgah are proposed to be located on the north of the existing college in Telia Jamalpur mouza.

#### 5.2.7 Urban Services:

According to the provision standard, 16.09 acres of land needed for these purposes by the year 2005 A.D. But at present only 2.70 acres of land are used for these pruposes. It may be assumed that some 7.90 acres (1.17%) of land will require for these purposes by 2005 A.D.

- Police station are kept undisturbed and proposed to be extension and improved.
- A new launch terminal is proposed to be located in Jamalgar mouza.
- New sites for post office, fire service and T&T are proposed along the 40'-0" wide road near the proposed site for community centre in Teliajamalpur mouza.

#### 5.2.8 Residential:

All the residential areas are organized around the existing cluster of homesteads. Virtually no virgin land is proposed for residential use. As such it is important that some kind of detail layout has to be prepared keeping the existing structures intact, as far as possible, in order to achieve desired density. Upazila Parishad must arrange the rehabilitation measures for the households, who will be evicted due to acquisition of land for public uses.

According to the provision standard, 320.39 acres of land needed for residential purposes by the year 2005 A.D. But at present 112.04 acres of land are used for these purposes. It may be assumed that some 267.64 acres (39.7%) of land will require for these purposes by 2005 A.D.

#### 5.2.9 Roads:

Only one road is proposed to be 60'-0" wide in the planning area. It is the road that links the upazila shahar with the zila shahar and other upazilas of Sunamganj zila. The other major roads (40'-0" wide) which runs north-south are expected to link the upazila shahar with major portion of the upazila in the south. Rest of the roads are 24'-0" wide tertiaries. Only major ones are identified. When detail plans for each specific zone will be prepared a good number of tertiaries will be identified. About 91.88 acres of land are kept for these purposes or 13.63% of the total planning area.

#### 5.2.10 Urban Deferred:

In order to accommodate the fluctuation in the forecasts made, urban deferred land are identified and properly marked on the plan. Current use of these land must continue, as long as they are not actually needed. Approximately 65.20 acres of land are kept as urban deferred which is 9.68% of the total planning area.

#### 5.2.11 Reserves Land (Water Bodies):

Apart from the existing river, water bodies in the proposed built-up area are reserve land. About 119.65 acres of land are kept reserve land which is 17.75% of the total planning area.

## PROGRAMMING AND IMPLEMENTATION

Some of the programming and implementation issues of the landuse plan are discussed in this chapter. Development of such a huge number of upazila centres throughout Bangladesh is rather a monumental task for everybody concerned. Availability and mobilization of financial resources, adequate number of training manpower and appropriate organisations structure to carryout the work are some of the major problems. To share the burden recognise these practice limitations, give due consideration during plan preparation and finally should come up with appropriate measures to implement the proposals.

### 6.1 Priority Actions and Cost Implication

#### 6.1.1 Priority Actions

Even if an individual centre is considered, total amount of work that has to be done is really huge. It is not possible to list them down and priorities. But some of the projects which need early action are listed below:

- All the land proposed for public uses should be earmarked and any kind of further development by private sector, should be prohibited. But these land must continue their present use as long as they are not physically acquired and developed.
- Pre-condition for development in any designated zone is the detail layout of that area. This is to ensure that the area is put into its fullest capacity.
- The main throughfares need early development. They will not only shape the future township the way it is desired, but also gear up private sector activities.

- Development of commercial areas (markets, shops bazars, etc.) should get priority as they might lead to earning opportunities for the Upazila Parishad. But pre-condition for their development is the market feasibility study.
- Designated residential areas, within the proposed buildup area, will be developed gradually when the demand for such development is felt, following the specified priorities of the blocks. The consultant likes to suggest a different approach in developing the residential areas. The existing practice in this country is the acquisition of land first by urban development agency (in this case Upazila Parishad) and finally selling them at cost prices. Instead of doing that, it is better to develop these areas in collaboration with present land Owners. This attitude will reduce the problems of public acquisition and compensation, resettlement problem of eficted land Owners etc. One of the most widely regarded technique of such approach, "Land Pooling and Readjustment", is worth mentioning here.
- The reserve land (water bodies, tanks, canels) deserve some considerations also instead of leaving them the way they are, they should be developed (excavation, linked, landscaping) so that they can be used for drainage, psiculture and recreational purpose.

#### 6.1.2 Cost Implication

Most uneasy component of upazila development program is the magnitude of financial resources needed. It really troubles the imagination weather it will be possible to finance urban-type development eventhough the consultant has tried utmost to minimise the cost.

It is also very difficult to pinpoint the exact amount of financial resource heeded for Jamalganj upazila centre from a rather conceptual landuse plan. Most important component not available at this stage is the percent of covered area in each type of landuse. But it is needless to mention that alternate cost effective development approaches has to be evaluated and utilised. One important component

of physical development at upazila level is the cost of earth filling. Upazila Parishad can evaluate the possibility of dyke and pump system for big percals of land.

## 6.2 Phasing and Urban Deferred

The year 2005 is tentatively designated as the horizon year for Jamalganj upazila shahar landuse plan. Considering present year, it has about 18 years plan period in which development proposals have to be implemented in different phases. But the plan period and consequently the target year should not be considered to strictly as the plan is a broad guideline to control and guide the self-generated development activities. Development proposals for each phase should be mainly on the basis of previous phases performance, future prospect and guidelines from the plan.

Tentatively the plan period can be divided into four phases. Development activities can be quantified (in terms of percentage) for each phase to give some indication. The guideline for such quantification is the population projection and projection priorities.

TABLE -29  
Development Activities in different phases for  
Jamalganj Upazila Shahar

Sector	Phase				Total
	1988-90	1990-95	1995-2000	2000-2005	
Commerce	20	40	30	10	100
Industry	-	20	30	50	100
Education	20	50	15	15	100
Health	20	50	20	10	100
Administration	30	40	20	10	100
Recreation	20	35	25	20	100
Urban Services	20	40	20	20	100
Roads	20	40	20	20	100
Residential	20	40	20	10	100

Note: All figures indicates percentage.

The present landuse plan is prepared on the basis of medium projection of population. Due to various unforeseen circumstances, it might so happen that a little bit of more land is required for different uses. To tackle that kind of situation. "Urban Deferred" land are identified and properly marked on the plan. They are located in such a manner that even if they are not required at the end of the plan period, there would not be any vacant lot or "without purposes" land within the proposed builtup area.

### 6.3 Development Control

Some of the existing situation deserves worth mentioning before discussing about the possible control mechanism.

- "The Local Government (Upazila Parishad and Upazila Administrative Re-organisation) Ordinance-1983" does not provide statutory backing to the upazila landuse plans and any provision to take preventive measures/actions against contrary, unauthorized development both by private and public sector.
- Upazilas which are under the landuse plan preparation program are beyond the administrative boundaries of existing metropolitan and municipal towns. As such there does not exist any development control measure.

At such a situation, most general suggestion that can be made is the formulation and adoption of appropriate development control mechanism for the upazila centres. Regulations regarding building type and height, set back, density, plot coverage, preservation of historic sites and various form of taxes should be incorporated in such a mechanism. It would not be wise to suggest existing urban regulations for the upazila centres. A set of more appropriate regulations should be formulated considering the socio-economic situation and enforcement problems for the upazila centres.

Some specific suggestions could be made regarding development control of upazila centres.

- The proposed build-up area could be designated as "Development Promotion Area" where all kinds of development will be preferred and given incentive as long as they are not contrary to the proposed landuse plan. And rest of the study area could be regarded as "Development Control Area" where premature urban development has to be restricted.
- Within the development promotion area all development are subjected to control by regulation and all the measures should be enforceable by law.
- Assuming that all public sector activities would be in confirmation with the proposals made in the landuse plan, they would only be subject to normal approval from Upazila Parishad.

Development control mechanism should not only take care of regulations but also manpower at upazila level and above. Following suggestions are found feasible.

- There should be at least one person in the Upazila Parishad, who understands the preliminaries of development control like understanding the plan, evaluating proposals, field check during execution etc. As the Upazila Engineer is partially qualified in this respect he/she should be given one or two months intensive training by UDD to make up the rest.
- UDD should extend its establishment upto, at first, old district level and then for two or three districts to provide technical advice to Upazila Parishads.

#### 6.4 Monitoring and Review

The proposals made for the physical development and improvement of Jamalganj upazila shahar are rather guidelines than fixed set set of rules. The proposals are based partly on the basis of present governments development efforts at upazila level and greatly on the expectation that private sector activities will be geared up due to government efforts. As the private sector activities can not be forecasted accurately, it generates certain amount of uncertainty. This factors alone makes it necessary to monitor the plan closely. And a periodical review becomes inevitable.

So it is recommended that the progress in the implementation of the proposed plan or any change or deviation should be noted and marked on the plan by the Upazila Parishad. The Upazila Parishad should seek advice, consultation from UDD in case of difficulty in the implimentation of the plan.

It would have been wise to say that on the basis of yearly monitoring report, the landuse plan should be reviewed in every five year. But review, revision, updating is as cumbersome and time-consuming process as preparing new proposals. Since there is acute shortage of qualified planners to do so, it is suggested that review, revision will be done after 5 years.