

URBAN DEVELOPMENT DIRECTORATE
MINISTRY OF WORKS
GOVERNMENT OF THE PEOPLES REPUBLIC OF BANGLADESH

LANDUSE / MASTER PLAN

COMPANIGANJ UPAZILA SHAHAR

SYLHET ZILA

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MAY 1991

PLANNERS AND ASSOCIATES
77, MOTIJHEEL COMMERCIAL AREA
DHAKA - 1000.

" যাহার জন্য প্রযোজ্য "

কোম্পানীগঞ্জ উপজেলা শহরের ভূমি ব্যবহার স্যান দেখলাম ।
তদ্বিষয়ে উপজেলায় হাঙ্গরাতাল, হেলিপ্যাড, বাধ ও রাস্তাঘাট সহ
উন্নয়ন প্রস্তাব গুলি সরকারী বিধি মোতাবেক বাস্তবায়িত হোক এই
সুপারিশ করছি ।

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উপজেলা নির্বাহী অফিসার,
কোম্পানীগঞ্জ উপজেলা
পিলেট ।

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CHAPTER - ONE

1.0 INTRODUCTION

The decision of the Government regarding administrative decentralisation upto Upazila (sub-district) level is commensurable with the socio-economic conditions obtaining in Bangladesh. The country is predominantly rural and roughly 90% of the population live in rural country-side and almost all of them are to survive on agriculture. Development efforts through various sectors from central places at higher level are not adequate to distribute the fruits of development to the common masses. In the recent Government's policy each Upazila centre will be the focal point of all administrative, commercial, and economic activities. Thus, the development of Upazila centre is the government's key strategy for social, economic and infrastructural upliftment of the whole Upazila region. So, the Upazila Shahar land use plan is envisaged to accommodate all socio-economic, administrative and infrastructural services for the Upazila region or the hinter land and development control of the subject area. Eventually, the plan would cover the Upazila region beyond the shahar boundary in phases.

1.1 OBJECTIVES AND METHODOLOGY

Objectives :

The objectives of the study are as follows :

- i. To prepare a viable landuse plan for the Upazila shahar upto 2000 A.D. based on existing landuse and socio-economic survey of the study area.
- ii. To determine a catchment area or zone of influence of the study area in respect to administrative, health, commercial, education etc. facilities.
- iii. To find out a hierarchy of settlements within the Upazila.
- iv. To suggest, guide and control physical development of the study area of the upazila shahar in a planned manner.

1.2 Methodology and Study Design :

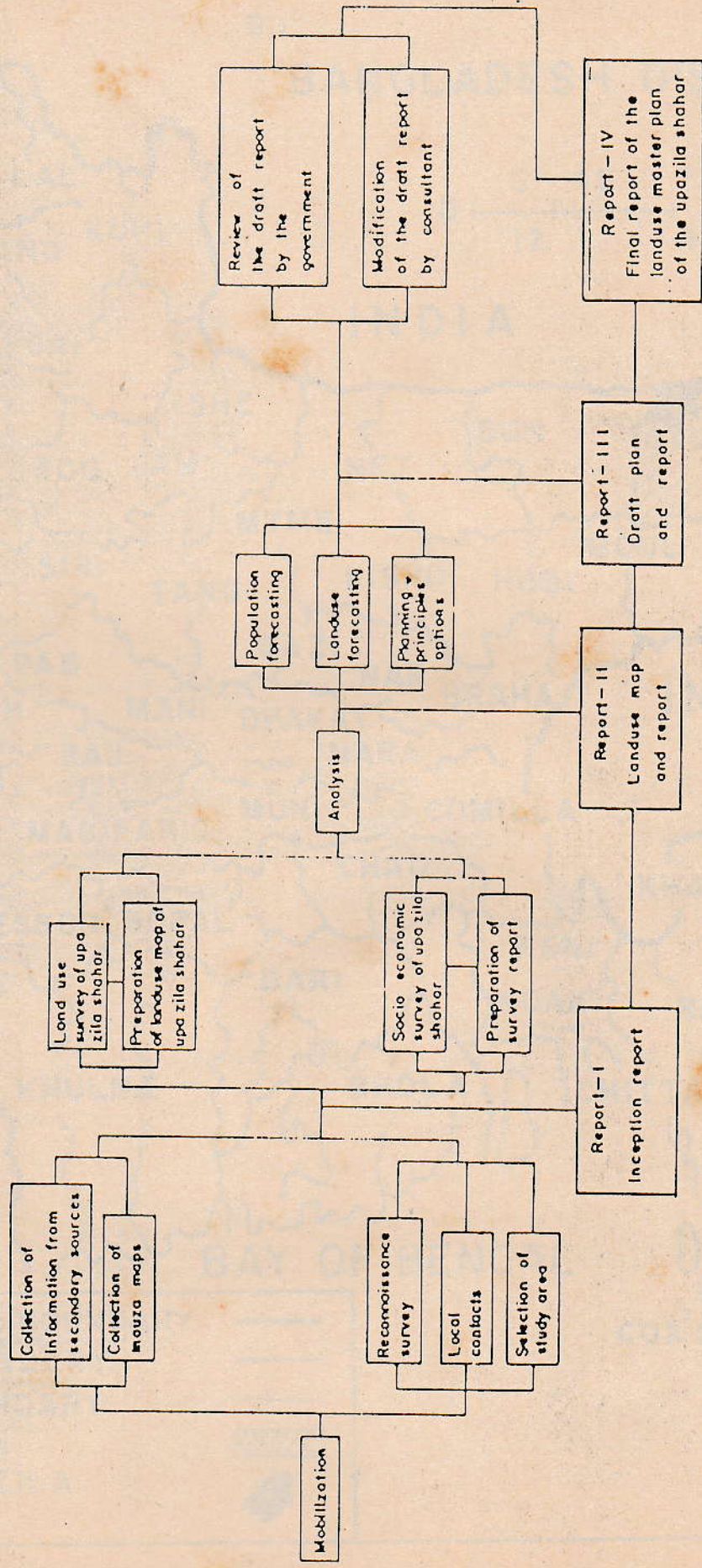
To fulfil the above objectives of the study, the consultant have designed a detailed methodological outline in conducting surveys which is essential for landuse plan for the Upazila shahar. One type of survey is socio-economic and the other is landuse survey, in addition to it, detail survey of town service centre with indication of land forms and man made structures.

The socio-economic survey questionnaire was first prepared and adopted after pre-testing in the field. Due attention was

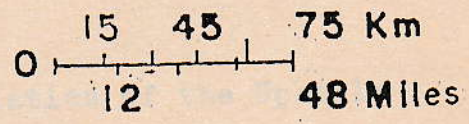
taken to get clear idea of the socio-economic conditions prevailing. Selection of households for the survey was done by random sampling covering at least 5% of the households in the study area. Check was made in the field during survey for further accuracy.

On the other hand, existing landuse survey map was prepared on cadastral survey (C.S.) maps of 1" = 330'-0" scale. Town service centre map covering about 200 acres of land was prepared in 1:1000 scale incorporating contours from BWDB's maps of the area. All man-made structures were also shown in details. The study area was zoned for convenience. Surveyors and investigators were assigned to individual zones for land use survey. Having done so the maps with plan proposals to be submitted to govt. officials and respective Upazila Chairman for their comments. Then final maps to be prepared according to the instructions laid down in the TOR of the project.

FLOW DIAGRAM SHOWING THE METHODOLOGY OF PLANNING



BANGLADESH DISTRICTS



INTERNATIONAL BOUNDARY	
REGIONAL BOUNDARY	
DISTRICT BOUNDARY	
SUBJECT ZILA	
SUBJECT UPAZILA (COMPANIGANJ)	

CHAPTER - TWO

2.0 THE UPAZILA IN ITS DISTRICT CONTEXT

2.1 Location and Physical Characteristics of the Upazila

The name of the upazila is Companiganj, the Thana came into existence in 1976. The upazila headquarter is at a distance of 60 Km (37 miles) from the district headquarter Sylhet. The upazila lies between $24^{\circ}58'$ and $25^{\circ}11'$ north latitude and $91^{\circ}41'$ and $91^{\circ}53'$ east longitude.

It is bounded in the north by Khasia and Jointia Hills of the Indian state of Assam, in the south by Kotwali (sadar) upazila, in the east by Gowainghat Upazila and in the west by Chattak and Dowarabazar upazila. It comprises a total area of 290.2 sq. Km. (112.1 sq. mile) including an area of 4.9 sq. Km. of river.

The whole upazila is covered by the Surma-Kushiyara floodplains of the grey firm clays of the phagu soil series in the north-west and scattered Gowainghat grey silty loams in the south and along the Surma river valley.

2.2 Population and Settlement Distribution

According to population census 1981, the population of the Companiganj upazila is 53293, whereas Sylhet district population is 565543, upazila population consists of 27747 males and 25546 females. There are 109 males for every 100 females in the upazila as against 105 for the district. About 0.9 percent of the district population lives in this upazila in an area of 2.3 percent of the district. The population density of the upazila as calculated in 1981 census shows that there are 184 persons per sq. Km. as against 445 persons for the district and 605 persons for the nation. About 48.8 percent of the total population belong to the ages less than 15 years, whereas 45.8 percent of the total population are above 17 years of age. Dependency ratio for this upazila is found to be 109 for every 100 population of age group 15-64. The upazila statistics shows that the upazila has 8421 married women in the fertile age group of 15-44.

According to 1981 population census there are 8432 households in the upazila as against 932710 households of the district. About 99.4 percent of the total households of the upazila are dwelling units and the rest are institutional and business/industrial units. The

average household size in dwelling units is found to be 6.3 as against 6.0 for the district and 5.7 for the nation. There are only 164 tribal households in the upazila. The structural pattern of dwelling units show that 83.5 percent of the total dwelling units in the upazila on Katcha, 15.3 percent an semi-pucca and 1.2 percent an pucca. About 94.0 percent of the dwelling units an owned by the owner occupier.

There are 101 villages in the upazila out of which 77 (about 76.2 percent) are small villages with a maximum of 100 households and 23 (about 22.8 percent) are medium villages with more than 100 but less than 501 households.

The urban area of this upazila covers 9.2 sq. Km of area with 4863 population. According to 1981 census, 9.1 percent of the total population of the upazila lives in urban area in 3.2 percent of the upazila area. There are 111 males for every 100 females in this urban locality with a density of 528 persons per sq. Km. The upazila population accounts for only 1.0 percent of the district urban population.

The following table shows the population, household of the upazila by sex and density, with respect to Sylhet Zila figures.

Table 2.1 : Household, population by sex and density, 1981

Upazila/ Zila	House- hold	Population				Av. Densit size y per H/H sq. mile
		Male	Female	Both	Sex ratio	
Companiganj	8432	27747	25546	53293	108.6	6.3 888
Sylhet	279046	916203	861581	1777784	106.3	6.4 1369

Source : B.B.S.

The following table shows the unionwise settlement pattern and density of population and areas.

Table 2.2 : Unionwise Settlement Distribution, Density of the area, 1981

Union	Area (acre)	Household	Population	Density per sq. mile
Islampur Uttar	20910	3970	24358	745
Nandirgaon	5433	909	6323	744
Rustampur	5569	869	5228	600
Telikhal	15829	2684	17384	702
Companiganj	47744 *	8432 *	53293 *	714

*(including other urban/
rural areas)

Source : B.B.S.

The following table shows distribution of population according to age and sex in the study area. From the collected data it is observed that in the age group of (18-64) accord the highest position 45%, next to it is 33% in the age group of (0-9) years. The age group of (65+) accupies the lowest percent of population 3%. The dependency rate as calculated from socio-economic survey in the study area is 55%. Table shows population distribution within the study area in Companiganj.

Table 2.3 : Age-Sex Distribution

Age group	Male	%	Female	%	Total	% of the Total
(0-9)	26	32.5	25	33.33	51	33%
(10-17)	15	18.75	14	18.67	29	19%
(18-64)	36	45.0	34	45.33	70	45%
(65+)	3	3.75	2	2.67	5	3%
Total	80		75		155	100

Source : Survey

Migration : It is difficult to get information on migration at the upazila level. From socio-economic survey within the upazila it was observed that only 5 families have been migrated in the shahar area for last six years, they came from outside the Sylhet district, are mostly from Comilla district in search for business. Seasonal migration is observed in shahar area for stone, sand and wood trading.

2.3 Economic Performance and Transport Linkages

Economy and Employment : The economy of the upazila is pre-dominated by agricultural sector. This sector engaged 13344 labourer out of total 15989 labour force, i.e., this sector shares 83.45% of total labour force. Whereas, manufacturing sector shares only 0.5%, business sector shares 3.5% and other non-agricultural activities shares 12.55% of total labour market. Sylhet district shares 7.3% of total agricultural labour force of Bangladesh.

Agriculture : Agriculture is the main source of income and employment for the vast majority of the people. The upazila has a net cropped area of 24000 acres with a cropping intensity of 150, against 150 for Sylhet district and 148 for Bangladesh index (1982-83). Total production of rice in the upazila in 1981-82 season were 28000 mds. in Boro crop, out of which local variety was 16000 mds.

Table 2.4 : Daily Wage Rate of Agri Labour (Tk.)

Year	Sylhet	B.D.
1989-81	15.00	15.97
1981-82	15.42	15.48
1982-83	22.00	16.93

Source : B.B.S.

During survey , it was gathered that wage rate varies seasonally, but year round average ranges from Tk.12.00- Tk.25.00.

From household questionnaire survey in the study area it was observed that highest p.c. of household having montly bracket of Tk. 501-2000. The following table shows the income distribution pattern of the study area.

Table 2.5 : Income-Distribution Pattern

Monthly Income (Tk.)	No. of household	% of the household
Less - 500	23	15
501 - 2000	62	40
2001 - 3500	31	20
3501 - 5000	23	15
5001 Above	16	10
	155	100

Source : Survey

Transportation Linkage : The upazila headquarter is connected with the Zila headquarter by almost earthened road of 17 miles (27.36 Km.), out of which 5 Km pucca road is now broken due to flood. In rainy season journey by country boat is preferred than road. The basic means of transports available in the upazila are country boat, bi-cycle, rickshaw and buffalo carts. Union Parishads are connected with the upazila headquarter by kutch roads and waterways. Country boad plays a vital role in the communication network of the upazila, specially in the rainy season. One rope-way for carrying stones from India is operating.

2.4 Social Infrastructure

Markets/Commerce : These are 9 weekly markets (hats)/ bazars in this upazila. This indicates that there is one hat/bazar for every 5921 persons in the upazila. One the other hand, there are 35 daily bazars and 245 weekly or bi-weekly hats in the Sylhet district.

Education : General literacy rate (5 yrs & over) of the upazila according to 1981 census is 9.0%, where 13.8 for males and 3.8 for females as against the district rate of 19.9% for both sex, 26.4 for male and 13.1 for female, and national rate for literacy is 23.8%. The literacy rate for all ages is 7.4 percent for 1981. There are 2196 households (about 26.0%) with at least one literate person and 576 households (about 6.8%) with at least one literate female in the upazila. In the upazila, there are 6 high/junior high schools, 8 madrashas and 33 primary schools, as against district figures of 492 ; 3403 and 280 respectively. There is no college in the upazila.

Health : In the upazila, there are 1 hospital (not completed) and 2 health-cum-family planning centres. But in Zila there are 10 upazila health complexes with 310 beds, 23 Charitable dispensary and 310 upazila based dertors available.

Other Facilities : Among other facilities in the upazila, there is one post office, one telegraph office and one dak banglow and rest house, while those of 160 post offices, 20 telegraph offices and 11 rest houses in the Zila available. There are 2 commercial bank branches and 2 Grameen bank branches. There are 225 mosques/maqtabs as against 9235 for the district. There is one immigration check post, 3 Bangladesh Rifles out posts, one forest office, one custom office and 2 stone carey offices in the upazila. There are 870 tube-wells installed sofar for drinking according to B.B.S. (1982), which is 8.5% of the total no. of tube-wells in the district. There are no cinema hall or auditorium for cultural agglomeration.

2.5 Current Development Projects :

The upazila parishad has undertaken some projects for the development of upazila and particularly for the upazila shahar. The important projects are as follows :-

- a) Construction of earthened road from Telikhal to Taimurnagar
- b) Construction of embankment in Jahaj khali river
- c) Construction of new telegraph office building

- d) Construction of High School at Shamshernagar
- e) Repairing and development of local roads around upazila parishad complex

2.6 Synthesis : Identification of Hierarchy of Settlements in the Upazila.

To determine the hierarchy of settlements within the upazila as a whole, as per instructions of TOR provided by UDD, potential and possible growth centre within the upazila were identified. Attention was given to population, economic activities, transport linkage, social infrastructure and other characteristics of the upazila to determine the hierarchy of settlements.

It is necessary to identify all the settlements areas within the upazila to determine the hierarchy of settlements in the upazila. In the present study, mauza has been taken as an unit of settlement, each mauza has been ranked through the set rules of scoring. The distribution of score points and ranking of settlements has been made on the basis of population, economic activities, social infrastructural provision, transport linkages and other related characteristics, and also an interview was

made through cross-section of the society. The score codes used for determination of hierarchy of settlements have been shown in the following table. It was identified from the scoring method and interview, that the following growth centres are prominent in the upazila which are ranked as below.

<u>Name of Settlement according to Hierarchy</u>	<u>Category/Score</u>
Shamshernagar (Companiganj H.Q.including)	A (50 +)
Parua	B (35 +)
Kalasadhak	C (30 +)
Nijgaon	D (20 +)

Table 2.6 : Scoring and ranking of settlements by weighted attributes in the upazila.

Population 1981/ Services	Wgt. score	Mausa :	Shamsher- nagar (Company- Genj H. Q. including)	Kalsedhak	Nitgson	Parua	Ranking of Scores
<u>A. Population :</u>							Category A = 50 + " B = 35 + " C = 30 + " D = 20 "
1. 0-1000	4		8	8	6	8	
2. 1001-2000	6						
3. 2001-4000	8						
<u>B. Services :</u>							
4. College	12						
5. High School	10		10			10	
6. Madrasa	5		5	5	5	5	
7. Girls' H/Sch.	5						
8. Pry. School	5			3	3	3	
9. Bank	3		3	3			
10. Electricity	8						
11. Hat/Basar	12		12	12	12	12	
12. Rice Mill	5						
13. Telegraph	5		5				
14. Post office	2		2				
15. Health Centre	5		5				
16. Cottage Industry	5						
Total :	100	50	31	26	38		

CHAPTER - THREE

3.0 THE UPAZILA HEADQUARTER

3.1 Definition of Sphere of Influence/Attractiveness :

Defining the catchment area or zone of influence of the centre is not an easy task with the introduction of more facilities at the centre, or with the transfer of facilities and services to the lower centres, the zone of influence of the upazila centre will not remain static overtime. However, induced attraction, govt. commitments for the area, peoples desires etc. were the main basis to draw the zone of influence of the upazila centre. It may here be mentioned that infrastructural development like new transport linkage, change of river courses etc. will considerably change the shape of influence zone of the upazila centre.

However, it can be easily understood that the sphere of influence of the upazila shahar is the immediate hinterland which depends upon the centre for administrative, financial, educational, health, recreational and for other service facilities. A discussion in this regard has been made with the local elites, govt. officials, public representatives and general peoples to

know the surrounding areas where from the people came to the centre. It was a concensus that in a commuting distance people generally came to the upazila centre (about 2 miles radius from the upazila centre). It is almost a normal 2-3 miles walking distance. In accordance with the above concensus and considering existing influence of nearby lower order centres, the zone of influence of the upazila shahar has been delineated covering following mauzas

Table 3.1 : Area and Population of Catchment Area

Name of Mauza	Total area		Involved area		Total population	Involved population
	Acre	(Hect.)	Acre	(Hect.)		
Companiganj	858	(347.22)	858	(347.22)	1747	1747
Telikhal	1025	(414.81)	1025	(414.81)	2050	2050
Shamshernagar	745	(301.50)	745	(301.50)	1285	1285
Taimurnagar	2275	(920.68)	2048	(828.81)	4863	4377
			4676	(1892.34)	9459	

Source : Sylhet District Statistics, 1981

3.2 Definition of Shahar Area

As per terms of reference for the preparation of land-use plan for the upazila shahar, the existing buildable area of the upazila shahar/headquarter and future potential urban land requirements to be considered. It is expected that the area would not exceed a radius of three-fourth mile from headquarter. In Companiganj upazila, an area of 2.25 sq. mile equivalent to 5.82 sq. Km. or 582 hectare (1438 acre) of land was undertaken, keeping in view of the present and future economic, social and commercial growth of the study area of the upazila shahar. The study area consists of 4 mauzas. According to 1981 population census the total population of the study area is 1455.

The shahar area has been determined on the basis of existing landuse, development trend and physical dev. potentiality

Table 3.2 : Area and Population of the Study Area

Sl. No.	Name of the Mauza	Total Area		Involved Area		Population of the involved study area	
		Acre	Hect.	Acre	Hect.	1981	1974
1.	Companiganj	858	347.22	218	88.22	443	183
2.	Telikhal	1025	414.81	480	194.26	205	154
3.	Shamshernagar	745	301.50	312	126.26	321	276
4.	Taimurnagar	2275	920.68	428	173.21	486	418
				1438	581.95	1455	1031

3.3 Existing Landuse, Facilities and Utilisation Characteristics

Determination of existing landuse is the most important for guided development of the area. In upazila centre, new facilities and activities are going to take place. In this regard, existing landuse survey would be able to understand present situation and to estimate the future need of land according to projected tune of activities. The following table represents the details of generalised landuse of different categories following the TOR within the study area.

Table 3.3 : Existing Landuse of Companiganj Upazila Shahar.

Sl. No.	Broad Landuse	Detail Land Use	Area		%
			Acre	Hect.	
1.	Agriculture	Agril. cultivation, Agril. Farm, others	1162.18	470.33	80.82
2.	Commerce & Industry	Markets, Shops	5.78	2.34	.40
3.	Education	Primary school Secondary school Madrasha	2.57	1.04	.18
4.	Health	Upazila health Complex, Health Centre	4.38	1.77	0.30
5.	Administration	UNO Complex, Govt. & Semi-Govt. Office, other offices	13.47	5.45	0.94
6.	Recreation	Cinema Hall, Club, Play ground, Park	-	-	-
7.	Socio-cultural	Mosque, Eidgah	0.16	0.06	0.01
8.	Urban Services	Post Office, T & T, Police Station	11.41	4.62	0.79
9.	Residential	Private Houses Govt. Housing	106.81	43.23	7.43
10.	Tank & Water Bodies	Tank, Khal/River	121.24	49.06	8.43
11.	Road	Major, Secondary & Local.	10.00	4.05	0.70
			<u>1438.00</u>	<u>581.95</u>	<u>100.00</u>

Land Use Description by Mauzas :

The detail description of existing landuse of Companiganj Upazila Shahar by mauzas are described below.

Table 3.4 : Land Use description of Upazila Shahar by Mauzawise existing facilities.

<u>Mauza</u>	<u>Existing facilities</u>
Shamshernagar	: Bazar, Shops, Bank, Post Office, Health Complex, Godown, Helipad, Residence, Schools, Madrasha.
Taimurnagar	: Police Station, Upazila Parishad Complex, Residences, Agriculture.
Telikhal	: Dak Banglow, Residences, Rev. Office, Agriculture.
Companiganj	: Residences, Agriculture.

Agriculture and Forestry :

Most of the land within the study area is under agricultural use represents 80.82 % of the total area. This excludes ponds and waterbodies and the total under this category constitutes 1162.18 acres.

Commerce and Industry :

This type of land use is mainly confined to bazars/hats near police station which includes small shops, retail trading and other commercial uses. The percentage of land under this use within the study area is only 0.40, found in Shamshernagar mouza.

Education :

Education institutes like Primary & High schools & Madrashes situated within the study area have acquired only 2.57 acres of land which comprises 0.18 percent of total study area, found in Shamshernagar mouza.

Health :

Health category uses like health centre and buildable hospital accounts for 4.38 acres of land which comprises 0.30 percent of land of the total study area, particularly in Shamshernagar mouza.

Administration :

Administrative zone is situated to some central side of the study area. The upazila complex and other govt. offices under this category represents 0.94 percent of the total land within the study area, particularly in Taimurnagar mouza.

Recreation :

No remarkable recreation facilities like club, play ground, Park are found in the upazila shahar.

Socio-cultural :

Socio-cultural services includes community centre, religious facilities, crematory, public library etc. mainly mosques are found under this category comprises 0.01 percent of the total study area, in Shamshernagar mouza.

Urban Services :

This service includes post office, telephone office, police station, bus terminal etc. The area under this category of use comprises only 0.79 percent of total study area. Police station situated in Tamurnagar mouza and other urban services are found in Shamshernagar mouza.

Residential :

Private residential use of land exists within the study area in scattered pattern in the study area. Private residences are mainly dwelled by the local peoples though a very few beside river-side areas have been rented seasonally, when peoples from other areas come to deal trading. It is found that 7.43 % of the total area are being used under residential activity within the study area. Private Residences are exclusively found in Companygonj mouza, than other mouzas.

Roads :

In the study area an eroded semi-pucca road and almost all kutchha local roads cover an area of 10.0 acres of land. A new alignment of proposed road is under plan to construct shortly.

Tank & Water bodies :

There are number of Khals and rivers which covers an area of 121.24 acres of land, constituting 8.43 % of the total area.

3.4 Physical Opportunities and Constraints :

Potential areas for development : Companiganj upazila is situated on north-western side of Sylhet Sadar and badly communicated. For the growth of crop production, fishery, orange plantation and stone collection the upazila is a potential one. Marketing and communication facilities is poor, development of roads is needful to support timely supply of goods and commodities and thereby promoting economy and employment situation of the upazila.

Map of buildable areas of upazila shahar for future development shows mauza, Shamsheernagar and Taimurnagar is suitable. During flood all roads are damaged, so necessary attention to be given to construct roads for embankment purposes also.

Areas liable to flooding : Companiganj upazila shahar is surrounded by beels and depressed lands of Surma-Kushiara floodplains. Besides a very few comparatively high lands near upazila complex and bazar areas, all lands are susceptible to flooding. It is also understood from the physical

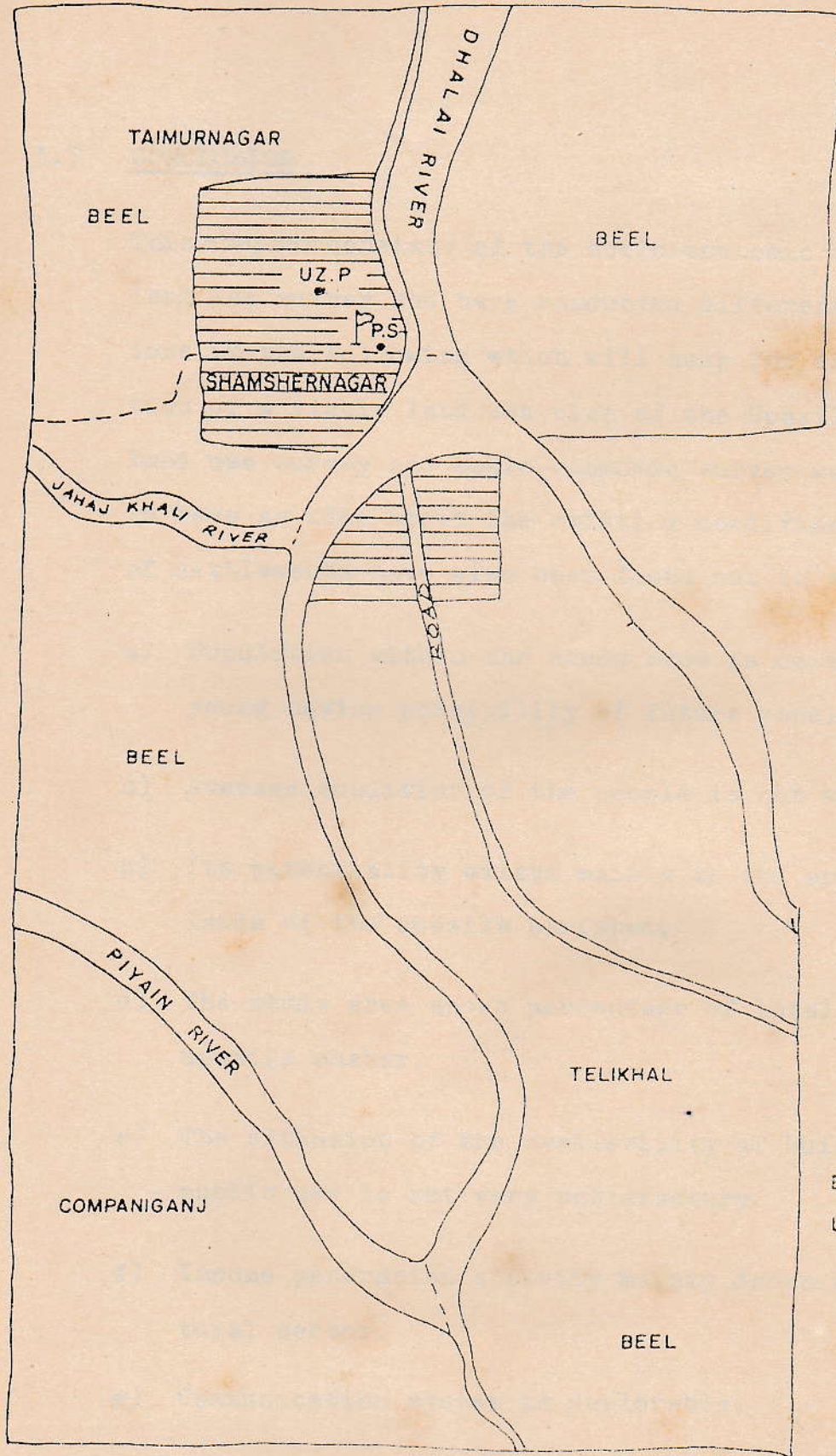
studies that due to heavy rainfall in northern Jainitia hills and lack of proper management of distributory canals/ rivers, the major areas of the upazila faces physical development constraints.

Constraints for other reasons : Major difficulty in the upazila headquarter is undeveloped transportation system. Only a earthened broken road is available. Boat facility is preferred during rainy season. In considering the land values for development, are high within the upazila headquarter. Development by private sector is not encouraging. For physical development low lying areas required huge earth filling landuses around the upazila shahar started changing from agriculture to non-agriculture recently. These accordingly attract towards concentration in upazila shahar. As observed, land value considerably increasing recently. The following table shows land value in the Shahar area.



Table 3.5 : Land value in the Upazila Shahar area by uses

Land by Use	Price in Taka per acre
Upazila Complex	2,00,000
Educational Area	1,50,000
Commercial Area	3,00,000
Residential Area	2,00,000
Agricultural Area	1,00,000

Source : Survey.



SCALE : 1 : 15000

BUILDABLE LAND : 
LIABLE TO FLOOD: 

SCHEMATIC CONCEPT PLAN OF
COMPANIGANJ UPAZILA SHAHAR

3.5 CONCLUSION

This chapter consists of the socio-economic survey and land use survey and have conducted different observations in the following which will help for the preparation of a viable land use plan of the Upazila Shahar. Land use survey and socio-economic survey were conducted to have an idea about the existing conditions. Hierarchy of settlements have also been found out in the upazila.

- a) Population within the study area is considerably young having possibility of future population boom.
- b) Average condition of the people is not worthy.
- c) Its potentiality exists mainly in and around high lands of the upazila parishad.
- d) The study area shows percentage of total landuses of upazila shahar.
- e) The situation of the availability of buildable land for public use is not very satisfactory.
- f) Income generation activity mainly depends on agricultural sector.
- g) Communication system is deplorable.

CHAPTER - FOUR

4.0 FORECASTS

4.1 Population, Household Structure and Density :

Within Sphere of Influence :

Population : Population projection is very essential for determining the extent of social services and for land use that will need to be provided in the upazila shahar itself. Thus, attempt has been taken to forecast population upto the year 2000 A.D. The population has been projected at high, medium and low levels. In case of determining population growth rates time in between two census years has been considered for the serviced population.

Table 4.1 : Population and Growth Rate Composition of the Catchment Area

Name of Mauza	Total Population			Involved Population			G.R. of Inv. Pop.		
	1961	1974	1981	1961	1974	1981	61-74	74-81	61-81
Companiganj	822	731	1747	822	731	1747			
Telikhal	1168	1545	2050	1168	1545	2050	6.82	4.07	5.85
Shamshernagar	837	1107	1285	837	1107	1285			
Taimurnagar	230	4189	4863	207	3770	4377			
				3034	7153	9459			

The annual growth rate within the sphere of influence between 1961 to 1974 is 6.82 assuming the high fertility. The medium growth rate assuming medium fertility and medium mortality has been found at 5.85. The low growth rate has been fixed at 4.07 between 1974 to 1981 assuming low fertility & mortality. With those growth rates the population will be projected at 5 years interval upto the year 2000 A.D. taking 1981 population as base.

Table 4.2 : High, Medium and Low Projection of Population within the Sphere of Influence 1985 to 2000 A.D.

Year	High growth rate 6.82	Medium Growth rate 5.85	Low Growth rate 4.07
1981	9459	9459	9459
1985	12316	11874	11096
1990	17128	15778	13544
1995	23822	20966	16534
2000	33132	27859	20185

For the preparation of the landuse plan the low growth rate has been taken because this shows relatively present trend of locality, which is also closest to national growth rate and medium growth rate is much higher than national figure.

Household Structure : The household Structure in the sphere of influence is expressed here in terms of number of persons per household from medium level of growth rate of household at 6% and accordingly populations projected by 2000 A.D. are assumed to forecast household sizes, taking 1981 as base year.

Table 4.3 : Forecasting of Household size in the Sphere of Influence upto 2000 A.D.

Pop./ H.H	1981	1985	1990	1995	2000
Population	9459	11096	13544	16534	20185
H/H. Nos.	1632	2060	2757	3690	4938
H/H. Sizes	5.7	5.4	5.0	4.48	4.08

This shows the trend of declining size of households. As the average household size in the upazila is 6.3, the study shows decling figure.

Population Density : Considering the projected populations from 1985 to 2000, the density of population per acre of the sphere of influence are found as follows..

Table 4.4 : Gross Density of Population over the area of sphere of Influence upto year 2000.

PoP./Area	1981	1985	1990	1995	2000
Area in acre	4676	4676	4676	4676	4676
Population	9459	11096	13544	16534	20185
Density per acre	2.02	2.37	2.89	3.53	4.31

Within Shahar Area :

Population : The growth rate from 1961 to 1974 is 4.89. The growth rate from 1974 to 1981 is 5.04 and the growth rate from 1961 to 1981 is found 4.94.

Table 4.5 : Population and Growth Rate Composition of the Shahar Area

Name of Mduza	Total Population			Involved Population			G.R. of Inv. Pop.		
	1961	1974	1981	1961	1974	1981	61-74	74-81	61-81
Compani-ganj	822	731	1747	206	183	443			
Telikhal	1168	1545	2050	117	154	205	4.89	5.04	4.94
Shamsher-nagar	837	1107	1285	208	276	321			
Taimur-nagar	230	4189	4863	23	418	486			
	3057	7572	9945	554	1031	1455			

The high, medium and low projection have been made for the upazila shahar also. High fertility and low mortality, medium fertility, and low fertility and high mortality are assumed for high, medium and low growth rates, respectively. The high, medium

and low growth rates for the upazila shahar are assumed as 5.04, 4.94 and 4.89 respectively. Assuming those, the future increase of population of the shahar have been determined, by high, medium and low projection rates upto 2000 A.D. at 5 years interval considering 1981 as base year.

Table 4.6 : High, Medium and Low Projection of Population of the Upazila Shahar

Year	High Growth Rate 5.04	Medium Growth Rate 4.94	Low Growth Rate 4.89
1981	1455	1455	1455
1985	1771	1764	1761
1990	2265	2245	2236
1995	2896	2857	2838
2000	3703	3637	3604

For the preparation of landuse plan, the medium growth rate projected population is to be considered as it seemed much gentle rate over longrange of time and medium fertility.

Household Structure : The household structure in the shahar areas is expressed in terms of number of persons per household from medium level of forecasted population.

Table 4.7 : Forecasting of Household Sizes in the Shahar Area

Pop./H.H.	1981	1985	1990	1995	2000
Population	1455	1764	2245	2857	3637
H/H. Nos.	253	311	404	525	682
H/H. Sizes	5.75	5.67	5.55	5.44	5.33

Here the household sizes have been assumed a declining trend assuming an incremental consciousness on adoption of family planning in the people of the shahar area.

Density : Considering the medium range of projection, the density per acre has been worked out for the shahar area as follows.

Table 4.8 : Gross Density of Population over Shahar Area upto 2000 A.D.

Pop./Area	1981	1985	1990	1995	2000
Area in acre	1438	1438	1438	1438	1438
Population	1455	1764	2245	2857	3637
Density per acre	1.01	1.22	1.56	1.98	2.52

Aspects of Migration: It is hoped that the migration will increase gradually in the shahar area. Presently, no reliable series data on migration aspects of upazila shahar are available to carry out an intensive study. From the field survey in the study area, it was observed that only 1.15% of households are from other districts have settled there in the occupation of collection of stones, sand and log trading. Again seasonal migration is also observed by the labourers, or in trading by boat peoples, but no reliable series data are available. Now, if we assume that @ 1.15% of the people are migrants, then consequetively in the years 1990, 1995 and 2000, there are 25, 32 and 41 peoples would be migrants respectively, out of medium projected populations.

Table 4.9 : Migrants and Projected Population

Year	Population in total	Migrants	Population
1985	1784	20	1764
1990	2270	25	2245
1995	2889	32	2857
2000	3678	41	3637

4.2 Labour Force And Employment :

Determination of labour force and employment is essential for the preparation of any development plan. For that purpose forecasting of labour force and employment of the shahar population upto year 2000 A.D. have been made.

Table 4.10 : Forecasting of Labour Force of Shahar, 1985 to 2000 A.D.

Population	1985	1990	1995	2000
Shahar Population	1764	2245	2857	3637
Population(over 10 Yrs + are 66%)	1164	1482	1885	2400
Labour force(as 45.9% of population)	810	1030	1311	1669

N.B. Calculated from B.B.S. Mauza and Thana Statistics, 1981.

Employment : The Agri. sector shares about 83.45% of total labour force, which is largest one. Whereas, manufacturing sector shares only 0.5%, business sector shares 3.5%, and other non-agricultural activities shares 12.55% of total labour force in upazila area. But it can be assumed that in the agricultural labour employment there are over employment and also under employment, again seasonal unemployment is characterised in this sector. Agril, daily wage rate is ranges from Tk.12 to Tk.20 only. With the generation of activities based on upazila shahar, it can be hoped that in future employment scope will be increased.

4.3 Land Requirements and Provision Standard :

Design population is the basis for measuring land requirements in the upazila landuse plan. The following table gives the design population for the upazila shahar.

Table 4.11 : Design Population for Housing and Other Services

Population	1985	1990	1995	2000
Design Population for Housing (Shahar pop. plus migration)	1784	2270	2889	3678
Design Population for other service (Catchment population)	11096	13544	16534	20185
Assumed migration in Catchment area @ 1.5%	166	203	248	303
Total (Catchment area) population	11262	13747	16782	20488

CHAPTER - FIVE

5.0 LAND USE PLAN

5.1 Planning Approach, concept, planning principle :

The Planning approach considers two principles for the Upazila Shahar.

The status of the Upazila and the Upazila Shahar in terms of economic in the context of the Zila and the special development situation is characterised by linear development.

The existing land use map shows that the Shahar has so far been developed on both side of the river of the Shahar and the new developments are taking place at some outlying areas.

Adapted planning approach :

have been adapted.

The present state of converting agricultural land for housing may not be wise. It may be useful to lay down the provision of access and basic services before these rural type residential areas which are presently consisted and unaccessible or inadequate by accessible.

Concept :

Preparation of land use plan involve different stages. The prior condition of the preparation of the rational land use plan is to collect correct socio-economic information and existing land use of the study area. The data on flood characteristics, economic level of people and historical importance of the town, water supply, drainage, sanitation, electricity, telephone and housing have been collected from the field level. The trend of future township is also important. On the whole, any kind of investment whether economic or social should be based on the well thought out land use plan prepared for long term basis which can also be revised periodically in every 5 to 10 years basis. This will also ensure the cost minimum different schemes based on the land use plan.

Planning Principles :

In proposing the draft land use plan, the following principles seem to have been rational in the prospective of the Upazila Shahar.

- i) The administrative boundary of the Upazila is considered.
- ii) An area of about 1438 acres are taken for the prospective township of the Upazila Shahar in and around the Upazila Parishad complex.
- iii) The Physical condition of the Upazila as well as the study area are considered important.

- iv) The socio-economic conditions of the study area are considered vital.
- v) The land level is considered as important element.
- vi) The existing nature of developments are mostly kept intact.
- vii) The value of land is also considered.
- viii) The reserved of the area are taken into consideration.
- ix) The concept of zoning is also considered as far as practicable.
- x) The road linkage are proposed considering the various importance of different roads.
- xi) Different essential services have been proposed in the vicinity of large residential area, primary School, mosque and commercial services.

5.2 Plan Description :

Major perspectives : The study and the land use plan have been following major perspectives :

Social and physical infrastructure development are based on the projected population of the Shahar and the sphere of influence, future economic development at Upazila level.

These have actually governed the land uses and the regional and local transportation net work have also induced land uses and localized them. The land use plan is described below :

In the preparation of the land use proposal, it has been tried to the best to keep the existing situation undisturbed. The broad land use has been prepared on an area of 1438.00 acres equivalent to 581.95 hectares. The road side development has been proposed have to save the additional cost for new road linkages and considering the low lying character of land. All the services and facilities are proposed on an area of 240.94 acres of land inclusive of existing land use. Most of the land in and around Upazila complex which comprise about 72 percent of the total area are kept for agricultural uses. Areas have been earmarked for different functional uses like government administration, residence, commerce, industries etc. Which may be required by the beginning of the next century.

Agriculture: The agricultural land occupise 72.28 percent of the planning area. These will serve as open space and will help to keep the environment free from **pollution**. In all the mauzas of the Shahar area, the agricultural land are scattared.

Commence: An area of total 10.80 acres are proposed for the commercial activities which include markets and shops. The existing markets and shops are kept intact. The shops along the road side are not proposed for demolition but new shopping area is proposed along side on an area of 0.75%.

Industry: Considering the transportation facilities for incoming of the raw materials and outgoing of finished products industrial estate of 5.0 acres have been proposed by the side of the major road which has connected to district headquarter in Telikhal Mauza.

Education: Some new educational institutions have been proposed. Considering the financial constraint, with a few institutions, extension of the existing institutions have been suggested which will meet the demand of the growing population up to the year 2000 A.D. A new College is proposed in Telikhal Mouza.

A total area of 12.92 acres of land use proposed for educational institutions which comprises 0.90 percent of the total area.

Health: Existing Upazila health complex and a dispensary has been extended to meet the growing demand for health care up to the year 2000 A.D. in the Upazila Shahar and its catchment area. A total area of 4.38 acres of land has been proposed for the health services which comprises 0.30% (acres) of the total area.

Administration: Besides, the administrative centre of the Upazila complex, there are also other government and semi-government offices in different mouzas of the Upazila Shahar with some extension a total of 5.0 acres of land has proposed for Upazila complex, total area of 18.47 acres proposed for administration comprises 1.28 percent of the total area in Taimurnagar Mauza.

Recreation: Recreation includes cinema hall, play ground, stadium and park. As there are ^{no} play grounds in all the educational institutions, so new one is proposed. By the side of Mainroad in an area of 5.0 acres has been suggested.

Socio-cultural: Socio-cultural activities includes community centre, religious facilities and cemetery. A total of 4.16 acres of land which comprises 0.29 percent of the total area has been proposed for these facilities. Cemeteries are suggested by the side of the river in Shamshernagar Mauza.

Residential: Except the existing settlement areas of the Upazila Shahar, one new housing estate for the government employees have been proposed. The housing areas are sub-zoned in different mouzas which covers an area of 156.81 acres and the government employees housing estate has been proposed north of Upazila complex. The existing housing areas will remain undisturbed. A total area of 156.81 acres of land comprising 10.90 percent of the total area have been proposed for the residential purposes.

Urban Services: For urban services a total of 13.91 acres of land have been proposed which is 0.97 percent of the planned area. Urban services include post office, telephone exchange, police station, ferry ghat, bus stand is proposed to the eastern end of the road connecting to Sylhet. It will save the town from congestion. A T&T, Post office have been proposed and a Comty. Centre have been proposed near staff quarter.

Urban Deffered: An area of 30 acres which is 2.08 percent of the planned area has been kept under deffered which will be used gradually as the town expands mostly by the year 2000 A.D. The specific purpose of this deffered is not mentioned in the plan. The area may be used for the expansion of the administration and important Office use in the west of upazila complex.

Reserve: An area of 121.24 acres which is 8.43 percent of the planned area has been kept reserve. The reserve area include ponds, haors, river area etc.

Roads : A Major road have been proposed to be 60' wide which will connect the district road and the secondary road of 40' ft. width have been proposed for linkage within the Upazila. The local roads have been proposed which are of 24' ft. width for use of the village and other primary uses in an area of 15.92 acres.

TABLE : 46 :
TABLE : 5.1

FUNCTIONAL USES AND ESTIMATED LAND REQUIREMENTS UPTO 2000 A.D.
ACCORDING TO THE PROVISION STANDARD

Functional uses	Design Population	As per TOR provision	Land Req. as per TOR(Acr.)	Existing Area		In %	Proposal (including Existing Area)		Prop. in %
				Acre	Hectare		Acre	Hectare	
1. Commerce & Industry :									
a. Commerce	20185	1.5 Acre/ 1000 served	30.29	5.78	2.34	0.40	10.80	4.37	0.75
b. Industry	"	"	"	-	-	-	5.0	2.02	0.35
2. Education :									
i) Primary/ Nursery	3678	2 acres/ 5000 served	14.91 1.47	2.57 0.23	1.04 0.09	0.18	12.92 0.73	5.23 0.30	0.90
ii) Secondary School	20185	5 acres/ 20,000 servd.	5.04	1.72	0.70		3.89	1.57	
iii) Madrasa/ Vocational	"	5 acres/ 30,000 "	3.36	0.62	0.25		3.30	1.34	
iv) College	"	5 acres/ 20,000 servd.	5.04				5.00	2.02	
3. Health:									
i) Upazila Health complex	"	5 acres/ 20,000 Served	9.07 5.04	4.38 4.07	1.77 1.65	0.30	4.38 4.07	1.77 1.65	0.30
ii) Dispensary/ Maternity Child Care Clinic	"	1 acre/ 5000 Served	4.03	0.31	0.12		0.31	0.12	
4. Administration:	"	12 acres per Upazila	12.0	13.47	5.45	0.94	18.47	7.47	1.28

Functional uses	Design Population	As per TOR provision	Land Req. as per TOR (Acr.)	Existing Area		In %	Proposal (including Existing Area)		Prop. in %
				Acre	Hectare		Acre	Hectare	
<u>8. Residential:</u>	3678	100 person/ac. (net density)	<u>36.78</u>	<u>106.81</u>	<u>43.23</u>	7.43	<u>156.81</u>	<u>63.46</u>	10.90
<u>9. Urban deffered:</u>		10% of total buildup area	<u>143.00</u>	-	-		<u>30.00</u>	<u>12.15</u>	2.09
<u>10. Reserves:</u>		Pond, River etc.		<u>121.24</u>	<u>49.06</u>	8.43	<u>121.24</u>	<u>49.07</u>	8.43
<u>11. Roads:</u>				<u>10.0</u>	<u>4.05</u>	0.70	<u>15.92</u>	<u>6.44</u>	1.11
Major	60'						3.00	1.21	
Secondary	40'			9.46	3.83		11.84	4.79	
Local	24'			0.54	0.22		1.08	0.44	
<u>12. Agriculture:</u>		Cultivation/ Ag. Farming		1162.18	470.33	80.82	1039.39	420.64	72.28
Total :				<u>1438.00</u>	<u>581.95</u>	<u>100.0</u>	<u>1438.0</u>	<u>581.95</u>	<u>100.0</u>

Land requirements by provision standards :

On the basis of designed population the following development projects are identified and land requirements are determined for housing and other services and facilities on the basis of provisions standard suggested in the terms of reference. But these provision standards are not strictly followed but adopted with modifications. The preceding table gives a list of identified projects and land requirements for the period 1990 to 2000 A.D.

The Upazila is very interior area on the north-eastern side of the country. The maximum people of this Upazila are illeterate. Population planning and birth control is not encouraging. We have justified from our study the existing area must be expanded because population upto 1990 to 2000 A.D. will be increased more or less double. So we have decided 11 percent (156.81 acre) land requirements for housing within the upazila shahar. For the development of the upazila shahar, emphasis will be given sectoral development which will involve deconcentration of activities. In order to ensure planned development of these activities in future, a physical planning framework will be required to ensure better utilization of land to help promote planned development.

CHAPTER - SIX

6.0 PROGRAMMING AND IMPLEMENTATION

6.1 Priority Actions, Cost Implications :

Priority actions : Development of a large number of Upazila and Zila Shahars throughout Bangladesh is a very tough job for the Government of this poor country. Mobilization of financial and other resources is a typical problem. Availability of external resources is not easy. The international fund giving organizations will found the projects out of which cost can be recovered easily. Considering this view the following priorities are relevant.

- a) Development of revenue earning project sites.
- b) Development of accesses.
- c) Acquisition and development of proposed road and commercial spaces.

The spaces and sites for different uses are shown in the land use map. The revenue earning projects like improvement of commercial and industrial areas will get highest priority. The residential area will be developed gradually with the increase of economic activities. Expansion of utility services and facilities will then get the preference and comes in the areas of priority action.

The Upazila administration is still under a process of organisation and the physical facilities for the upazila complex are required to be created on priority basis for developing an efficient upazila administration. A sizeable proportion of the block allocation of funds to upazila is likely to be spent in such priority schemes. As the population in the upazila headquarters area is growing, construction of structures are rapidly increasing and density of population is increasing. This process will require some of the urban services such as pure water supply and

drainage systems are to be provided on priority basis. One of the important tasks of the upazila administration will be preparation of separate master plans for the essential services maintaining the proposed road as noted above and direct the available resources for creating such facilities on the phased programme. Investment in construction of roads within the upazila headquarters is another essential priority action. Apart from the growing traffic in the shahar, the rapid construction activities sectors will trend to create problems day by day in maintaining the proposed alignment of roads and natural drainage unless the land is acquired for the purpose of roads with essential width.

The main objective will be guidance of development in such a way that creation of slums and unhygienic areas are avoided as far as possible in a suitable where provision of adequate urban facilities such as sewerages, drainage etc. , lag behind the increase in population density. In housing sector there most important tasks will be the development of standards and introduce an effective system of regulation to ensure that and construction activities are carried out in conformity with the general landuse and physical plan of the shahar. In this regard it may be borne in mind that private owners would desire to increase the level of density and to raise the revenue income and thereby to pay for the municipal services.

Cost Implications :

Resource constraint is one of the great barriers towards implementation of the land use plan of the Upazila Shahar. So in preparing the plan, it is essential to keep in mind about the cost of the proposed services and utilities. In this respect, care has been taken to work out the estimated cost of structures and roads in context of the Upazila.

For this purposes, material and labour cost in the local level have been collected and the average rate of construction of buildings and roads have been estimated which may help in decision making for the implementation of different projects. A table has been given below showing the estimated rates of different types of construction.

TABLE : 6.1 Cost implications of buildings and roads

Types of construction	Estimated rates (per sft.)
Pucca Building	550/-
Semi-Pucca Building	325/-
Pucca road including earth filling.	300 (per Rft.)
Kutcha Road	80/- (per Rft.)
Land development cost with services and facilities (per acre)	2,00,000/-

Priority action :

Considering the resource constraints, the proposals of the plan have been listed in priority actions starting from 1991. A list of the priority action programme is given below :

- i) Earth filling is necessary for any construction in and around the upazila shahar because the general land elevation is below the flood level. The shahar has been developed in the linear pattern along the side of the river and roads.
- ii) Government and semi-government offices in different mauzas of the upazila shahar with some extension a total of 3 acre land has been proposed for upazila complex have been listed in priority action, starting from 1991.

- iii) Major roads which has been proposed to be 60' wide and the secondary road of 40' wide and the local road have been proposed to be 24' ft. width have been proposed for linkage with different upazila & union have been listed in priority action, starting from 1991.
- iv) Nursery School, Primary School, electrical sewerage and water supply have been listed in first priority action.

6.2 Phasing :

The list of priority actions mentioned earlier have been divided in the three phases consisting of 5 years each starting from 1991 i.e.

First Phase	:	1991-1995
Second Phase	:	1996-2000

Phase wise establishment of different services and activities are given in the following table :

TABLE : 6:2: Phasing

First Phase 1991-1995	Second Phase 1996-2000
a) Government Offices and residence	a) College
b) Nursery School and Primary School.	b) Technical School.
c) Community Centre	c) Agricultural School.
d) Roads	d) Modern Shopping Centre.
e) Electrical, Sewerage and Water supply.	e) Rest House/Dakbanglow.
f) Bus Station/Ghat	f) Park
g) Embankment	g) Clinic

Urban defered :

Urban deferred areas are shown on the plan. These areas would be utilized when necessary, specially, if actual population exceeds medium forecasting.

6.3 Development Control :

It is obviously true that, development control will be the most important element of plan implimentation esp-ecially in a situation of investment limitations. The provision of the plan relating to development of infrastruc-tures and urban services will not possibly keep pace with the tempo of development and the infrastructures will not be available in time. There after, landuse decisions for investment will tend to be arbitrary and haphazard. Devel-opment in housing is also likely to be unplanned. In order to overcome these problems and effective development control system has to be evolved and proper machinary have to be created for its implementation.

To ensure timely implementation of the plan provisio-ns the implementing authority must have some legal power. The plan should be approved by the Government. To implement the Upazila plans on an uniform basis there should be some rules and regulations containing powers to acquire land and to impose development control etc. like East Bengal Build-ing Construction Act-1952 or Town improvement Act etc. there should be a committee consisting of people's representatives, other development and administrative officers under the authority of the Upazila parishad to control landuse provisions and to review it from time to time.

The most important requirement will be proper instit-utional development for further detailed planning and development of appropriate standards for regulation of physical development activities. This will include

introduction of system of mandatory planning permission from the upazila administration for both public and private development schemes. Here also have another important consideration is the recovery of municipal services costs. This would gradually improve the financing budget of the urban authority on the one hand, induce the private developers to raise density levels to improve their income and capacity to consume and pay for adequate services.

6.4 Monitoring review :

In the proposed land use plan the development of all the sectors have been incorporated. The upazila parishad and the sector development agencies are responsible to carryout these development activities.

A well Co-ordination is needed among the development agencies and monitoring is essential at local, regional and national levels. The upazila parishad who are the care taker of the plan at the local level should monitor the progress of various sectors to the higher levels of the government.

The development of upazilla centre is the Government's key strategy for social, economic and infrastructural upliftment of the upazila region. It forms an integral part of the national policy of social-economic development and contributes to the national development efforts. A sizeable portion of the development budget of the upazila comes from the national budget. The allocation of fund will consequently be linked with the priorities of schemes at upazila level and the total fund requirement at a particular time. The allocation will also depend upon the performance and absorbing capacity of each upazila. This will necessiate review and monitoring of the implementation of the plan.

Conclusion and recommendation :

Conclusion : Upazila Land Use Plan is a very important concept for the plan development of the Shahar. So, this Land Use Plan has been prepared for an area of surrounding upazila headquarters. For this purpose, it is necessary to find out the potentiality of the upazila whether these can be properly utilized. So, land use survey and socio-economic survey were conducted to have an idea about the existing condition. Hierarchy of settlement has also been found out in the upazila.

The proper implementation of the plan will depend mostly on the people's participation and the willingness to follow different proposals set-forth in it and also the sincerity of the agencies responsible for doing it. The financial and resource constraint may be a handicap for the full implementation of the plan. Annual flood also affect in the upazila shahar which will also act as a hindrance to the plan.

Recommendation :

The land use plan has been prepared for a long term period which may be implemented by the year 2000 A.D. or beyond. The financial and resource constraint together with the large number of proposals cannot be implemented all at a time. Therefore, the identification of the priority programmes will help to recommend the following measures for its effective implementation.

1. The government offices and staff quarters has been proposed near upazila centre are of immediate priority for the development of the shahar.
2. A Bus Stand is proposed and a major road connecting to Sylhet are also of vital important.
3. Relivant effective legislation should be enacted for implementation of the plan.
4. A Upazila planning Officer should be appointed from among the planning graduates who can better deal with the implementation of such plan.