

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

LAND USE PLAN
MADHABPUR UPAZILA SHAHAR
HABIGANJ ZILA

JUNE, 1990

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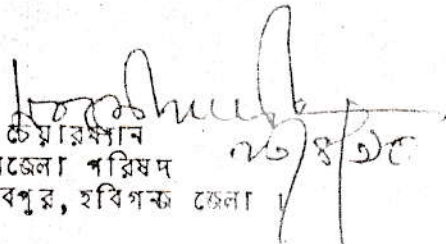
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" প্রত্যয়ন পত্র "
=====

প্রত্যয়ন করা যাইতেছে যে, পরিচালকের দপ্তর নগর উন্নয়ন অধিদপ্তর
সেগুনবাগিচা, ঢাকার স্মারক নং- ডব্লিউ- ৩৫২/৮৮(২৬)-২০০৫ তাং-৮/০৩/৮৯ইং
মাধ্যমে মেসার্স এম, এন, আলম এন্ড এ্যাসোসিয়েট, ডি, আই, টি, এনেকা বিল্ডিং
দিলকুশা বামিজিয়াক এলাকা, ঢাকা। অত্র মাধবপুর উপজেলা পহরের ভূমি ব্যবহার/
মাফটার প্র্যান প্রনয়নের জন্য পরামর্শদানকারী হিসাবে নিয়োগ প্রাপ্ত হইয়া ভূমি ব্যবহার/
মাফটার প্র্যান প্রনয়নের কাজটি সন্মোষণক ভাবে সম্পূর্ণ করিয়াছেন। তাহাদের
এই কাজের জন্য মাধবপুর উপজেলার জনসাধারণ ঊপকৃত হইবেন। উক্ত সংস্থা
তাহাদের চুড়ানু বিল পাওয়ার অধিকারী।

আমি উক্ত সংস্থার মংগল কামনা করি।


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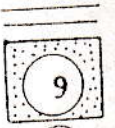
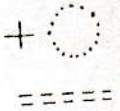
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SYMBOLS AND ABBREVIATIONS USED IN LEGEND
OF MAPS AND IN THE TEXT OF REPORT III.

| | |
|-------------------------------------|---|
| 1. Agriculture | A |
| 2. Forestry and Hills | F |
| 3. Commerce and Small Industry | 1a |
| 4. Heavy and Medium Industry | 1b |
| 5. Primary Educational Institutions | 2P |
| 6. Secondary Schools | 2S |
| 7. Colleges | 2C |
| 8. Madrasha | 2M |
| 9. Technical Institutions | 2T |
| 10. Hospital and Health Complex | 3HX |
| 11. Health Centre Maternity | 3HC |
| 12. Upazila Complex | UNO |
| 13. Judiciary | 4CT |
| 14. Power Development Board | 4PDB |
| 15. Water Development Board | 4WDB |
| 16. Open Space | 5 |
| 17. Stadium | 5STD |
| 18. Play Ground | 5PG |
| 19. Cinema Hall | 5CM |
| 20. Community Centre | 6CC |
| 21. Religious Land | 6RLG |
| 22. Cemetary | 6CMT |
| 23. Post Office | 7PO |
| 24. Telephone Exchange | 7TE |
| 25. Police Station | 7PS |
| 26. Bus Station | 7BUS |
| 27. Others | OTHER |
| 28. Residential (Existing) |  |
| 29. Residential (Proposed) |  |

- 30. Additional Land Requirement
- 31. Road (Existing)
- 32. Road (Proposed)
- 33. Urban Deffered
- 34. Resêrves
- 35. Rivers and Khals
- 36. Water body Lake
- 37. Tank, Embankment



CHAPTER - I1. INTRODUCTION

1.1 Contents of the Report.

Report III or the Draft Plan has been prepared after detailed Socio-economic and Land Use Survey. The Draft Plan contains background information of the upazila, methodology, existing survey data, forecasts, Programming and phases of implementation of the plan along with the future Land Use Plan of the Upazila Shahar for the year 2000 A.D. The first three chapters contain background information, methodology and existing survey data while the remaining three chapters contain forecasts, Land Use Plan, Programming and implementation details. The Land Use Plan has been prepared after profound analysis of the various survey data and is shown in the Figure No. 4 as per TOR.

1.2 Urban Development Strategy.

From the time of administrative reorganisation, the upazila has been considered as the focal point of local administration. Upazila is now considered as the lower level of administrative unit where the policy of integrated development strategy can be implemented. Therefore, it will be possible to prepare development plans in an integrated manner and implement them more efficiently and with greater participation of the local people. The government for social, economic and infrastructural upliftment of the upazila region included both rural and urban development /in it. This policy reflects the national policy of bringing development administration and service facilities to the door steps of the rural masses and to ensure better delivery of government services to the people.

1.3 Importance of Physical Planning

In implementation of the development strategy the socio-economic policies are translated into physical targets. Investment in sectoral development involving diversification of activities tend to give rise to unplanned physical developments in space which create various urban problems. This process also results in inefficient land use through utilization of land in inappropriate locations. Moreover, the comprehensive planning which

is the prerequisite for sectoral co-ordination cannot be overlooked in upazila development.

It is, therefore, important that physical and land use plans should be prepared for the upazila at the earliest possible time for each upazila to ensure orderly development of the upazila shahar area. It is expected, Land use/Master plan of the upazila will provide the necessary physical planning framework for guidance of future physical development in the upazila upto 1995 and beyond. Consequently, a better utilization of land will be ensured in the upazila shahar and basic infrastructures necessary for all sectoral developments will be provided in a planned manner.

1.4 Scope of Consultancy Services

The scope of work included in the terms of reference have been used as guidelines for the course of action performed during this phase of the consultancy work.

Development of the upazila shahar will be greatly influenced by the development of the upazila as a whole. Therefore, for preparation of a land use plan for the upazila shahar, study of the demographic, socio-economic and physical characteristics, availability of human settlements and their distribution, transport linkages etc. in the whole upazila area will be necessary. In order to study the present situation and future growth of the upazila shahar, delineation of the boundary of the existing upazila shahar and that of the study area, the extent of the catchment area of the upazila shahar and determination of the total population which is likely to be served by the upazila shahar will be necessary.

Then within the study area existing land use survey including recording the topographical features, land use zones, pattern of distribution of public and private developments, and study of the existing drainage channels, flooding characteristics, are included in the tasks of the consultant.

1.5 Methodology

In the Report 1 a broad and general methodology was proposed for the whole of the consultancy work. In Report II, however, a brief description was given as to how the task of collection and socio-economic and land use survey were conducted and their results prepared were clearly described.

In this phase of work we have tried to recast the main information once again encompassing the tasks of forecasts of the demographic and other socio-economic variables based on the information collected through survey works conducted in the past.

We have also employed our best efforts and attention in preparing a land use plan for a flood prone area like Madhabpur Upazila headquarters area for the target year of 2,000 AD.

A brief description about programming and implementation of the Land use plan along with priority action and cost implication has been given as guidance with a view to phasing and implementing the Land Use plan.

A system of development control with necessary procedure for according planning permission to new development has also been suggested.

1.6 Background information and Resourch potentials of Zila and the Upazila.

1.6.1 General Information

1.6.1.1 Zila Level Information.

| | |
|------------------------------------|--|
| Name of the Zila | = Habigonj. |
| Total Area | = 2580 sq.km. (996 sq. miles). |
| Land Area | = 2321 sq.km (896 sq. miles). |
| River Area | = 140 sq.km (54 sq. miles). |
| Reserve Forest | = 119 sq.km (46 sq. miles). |
| Total Population | = 1277366 (1981). |
| Population Density | = 495 per sq.km (1283. per sq. miles). |
| Number of Household | = 223060 Nos. |
| Number of Upazila | = 8 Nos. |
| Number of Unions | = 77 Nos. |
| Number of Mouza | = 1303 Nos. |
| Number of Villages | = 2307 Nos. |
| Per Capita availability of land | = 0.49 acres. |

1.6.1.2 Upazila Level Information.

| | |
|------------------------|---|
| Name of Upazila | = Madhabpur |
| Total Area | = 295 sq.km (114 sq. miles). |
| Total population | = 241771 (1989). |
| Population Density | = 819 persons per sq.km (2120 persons per Sq Mile) |
| No of Unions | = 11 |
| No of Mouzas | = 187 |
| No of Villages | = 288 |
| No of Households | = 43,960 |
| Ave Size of Households | = 5.5 persons |

1.6.2 Urban Area Information.

| | |
|----------------------------------|------------------------------|
| Urban area of the upazila (1981) | = 4.7 sq.km. (1.81 sq.mile). |
| Urban Population | = 771 (1981). |
| Number of Urban Centres | = 1 No. |

1.6.3 Agriculture.

a) Land Category.

| | |
|----------------|--------------|
| Total Area | = 280 sq.km. |
| Land Area | = 277 sq.km. |
| Reserve Forest | = 3 sq.km. |

b) Agricultural Production year 1981-82.

| <u>Name of Crops</u> | <u>Cultivated Area</u> (in acres). | <u>Production</u> |
|----------------------|---------------------------------------|-------------------|
| Aus Rice | 22000 | 13653 Tons. |
| Amon Rice | 49000 | 24558 " |
| Boro | 24000 | 14264 " |
| Wheat | 5000 | 3884 " |
| Jute | 2140 | 6959 Bales. |
| Tea | 5459 | 2042 Tons. |
| Pineapple | 120 | 695 " |
| Sweet Potato | 500 | 76255 " |
| Potato | 145 | 833 " |

c) Land Utilisation and Intensity of Cropping (1981-82).

| | |
|-----------------------|----------------|
| Total Area | = 69120 acres. |
| Current fallow | = 1210 " |
| Single Crop | = 21765 " |
| Double Crop | = 24051 " |
| Triple Crop | = 869 " |
| Net Crop | = 46685 " |
| Gross | = 72474 " |
| Intensity of Cropping | = 155%. |

| d) <u>Irrigation by means</u> | <u>Area Irrigated in Acres (1981-82)</u> |
|-------------------------------|--|
| Power Pump | 1500 |
| Tubewell | 200 |
| Doon | 100 |
| Canal | 50 |
| Total | 1850 |

1.6.4 Industry and Employment.

| | |
|---------------------------|------------------|
| a) Agricultural Cropping | = 37834 persons. |
| Agricultural Non-cropping | = 615 " |
| b) Manufacturing | = 4025 " |
| c) Business | = 3665 " |
| d) Others | = 11222 " |

1.6.5 Education (1982).

| a) <u>Institution</u> | <u>Number</u> | <u>Number of Students</u> |
|-----------------------|---------------|---------------------------|
| College | 2 | 500 |
| High Schools | 16 | 3281 |
| Jr. High Schools | 1 | 80 |
| Primary Schools | 97 | 21419 |
| Madrasha | 6 | 369 |

b) Literacy (1981).

| <u>Age 5 yrs and above</u> | <u>No. of Persons</u> | <u>Literacy Rate</u> |
|----------------------------|-----------------------|----------------------|
| Male | 19934 | 24.5 |
| Female | 8593 | 10.7 |
| Total | 28527 | 17.6 |

1.6.6 Religious Institutions (1989).

| | |
|--------|------------|
| Mosque | = 245 Nos. |
| Mandir | = 7 Nos. |

1.6.7 Storage Facilities (1982).

| | | |
|-----------------|---------|---------------------|
| a) Food Godown | = 6 Nos | Capacity 2750 tons. |
| b) Fertilizer " | = 1 " " | 500 " |
| c) Jute Godown | = 5 " " | 250 " |
| d) Other | = 1 " " | 50 " |

1.6.8 Communication.

| | | |
|---------------------|---|-----------|
| a) Roads - Metalled | = | 33 miles. |
| Semi-metalled | = | 8 " |
| Non-metalled | = | 158 " |
| b) Bus Stoppage | = | 5 |
| c) Railway Station | = | 9 |

1.6.9 Physical Facilities.

a) Rural Electrification.

| | | |
|----------|---|--------|
| Union | = | 2 Nos. |
| Villages | = | 100 " |

b) Services & Facilities.

| | | |
|-------------------------------|---|-----------|
| Post Office | = | 21 Nos. |
| Telegraph Office | = | 2 " |
| Bank Branch | = | 10 " |
| Daily Bazar | = | 2 " |
| Weekly/Bi-weekly Bazar | = | 26 " |
| Tubewell (for drinking water) | = | 1414 Nos. |
| Upazila Health Complex | = | 31 beds. |
| Charitable Dispensary | = | 4 Nos. |
| Missionary Hospital | = | 4 " |
| Cinema Hall | = | 2 " |
| Registered Club | = | 1 " |
| Public Library | = | 1 " |
| Dak Banglow/Rest House | = | 3 " |

Ref : Sylhet District Statistics, 1983 - B.B.S. and Madhabpur
Upazila Office, Madhabpur, Hobigonj.

CHAPTER TWO

2. THE UPAZILA IN ITS DISTRICT CONTEXT

2.1 Location and Physical Characteristics.

2.1.1 Location.

Madhabpur upazila is located on the south-western part of the newly created Habiganj District. The Upazila Shahar is on the other hand situated on south western part of the same district.

The Upazila of Madhabpur lies between longitude $91^{\circ}16'E$ and $91^{\circ}25'E$ and latitude $23^{\circ}58'N$ and $24^{\circ}16'N$. The upazila Headquarters Area under the present study lies between longitude $91^{\circ}17'24'E$ and $91^{\circ}18'48''E$ and latitude $24^{\circ}4'51''N$ and $24^{\circ}7'N$. The development in the shahar area is found to have occurred on plain land and within one and a half miles on both sides of a pucca road. Main market centre, Bus Station, Health Complex, Upazila Complex are located on the west side and Police Station, Stadium and Halipad are located on the east side of the road.

Map No. M1_b shows the subject upazila and Habiganj Zila within Bangladesh as a whole. The Zila Map No. M1_a shows the boundary of the Upazila, upazila headquarters area principal transport network along with other important features of the district in 1" = 4 miles (1:250000) scale.

Map No. M1_c shows the Madhabpur upazila headquarters, main transport linkages, important towns around the subject upazila shahar.

2.1.2 Physical characteristics of the Habiganj Zila are mostly characterised by flood plains of various soil formation. The western part of the zila is characterised by silty grey soil or silty clay loam of the old Meghna estuarine Flood plain. The upazilas of Ajmiriganj, Bahubal, Baniachang, Habiganj, Lakhai, Madhabpur and Nabiganj belong to this groups. Most of plain land maintains contours ranging from 12 feet to 25 feet.

In the southern part of the zila especially in the Chunarughat upazila dense mixed forests with trees and bamboo are located. There forests and hill ranges run from south towards north with peak heights of 218 feet and less.

At the edge of these forest and small hills is plain land with contour height from 15 to 20 feet. Most of Tea Gardens are located in these areas.

Rivers and Khals

Some important rivers and khals are also flowing through the zila. Among these Kushiyara river originating in the Indian territory and flowing with its numerous tributeries through Sylhet and Moulvibazar zila, is important.

The Table 1 below shows broad classification of land on topographical and land use category in Habiganj Zila.

Table 1 : Broad Classification of Land on Topographical and Land Use Category in Habiganj Zila.

| Name of Upazila/ Zila | Total | | Land Area | | Reserve Forest | | River Area | |
|-----------------------------|-------|------|-----------|------|----------------|-----|------------|-----|
| | Sq. | Sq. | Sq. | Sq. | Sq. | Sq. | Sq. | Sq. |
| | mile | km. | mile | km. | mile | km. | mile | km. |
| Madhabpur. | 108 | 280 | 107 | 277 | 1 | 3 | - | - |
| Azmiriganj. | 83 | 215 | 67 | 173 | - | - | 16 | 42 |
| Bahubal. | 89 | 231 | 77 | 200 | 10 | 26 | 2 | 5 |
| Baniachang. | 192 | 497 | 164 | 425 | - | - | 28 | 72 |
| Chunarughat. | 192 | 497 | 160 | 415 | 28 | 72 | 4 | 10 |
| Habiganj. | 95 | 246 | 92 | 238 | - | - | 3 | 8 |
| Lakhal. | 76 | 197 | 76 | 197 | - | - | - | - |
| Nabiganj. | 161 | 417 | 153 | 396 | 7 | 18 | 1 | 3 |
| Habiganj Zila. | 996 | 2580 | 896 | 2321 | 46 | 119 | 54 | 140 |

Source : District Statistics, Sylhet, BBS, 1983.

2.1.3 Physical Characteristics of Madhabpur Upazila.

Madhabpur upazila with a total area of 280 sq.km. or 108 sq.mile is situated on the South-western corner of the Zila. Most of the upazila area is covered by agricultural plainland. The eastern part of the upazila is characterised by a number of small and low sloping hills with dense mixed forests. These sloping low hills having their ends in the plain land are usually used for tea plantation. As a result a number of tea gardens exist in these areas. A few number of small marshy land areas are also existing

in the upazila where boro cultivation is done. Rest of the agricultural land as used for other crop cultivation.

2.1.4 Analysis.

Table 1 shows that about 90 percent of the total area of the zila is plain land and only 4.6% is forest land. The area of land covered by rivers and khals in the zila is 5.4% of the total area.

The situation in the Madhabpur upazila area is better than the whole zila. More than 98 percent of the area is plain land and only 3 sq.km. area is covered with forest.

2.2 Population and Settlement Distribution.

2.2.1 Population and Settlement in the Zila Region.

The population and settlements are observed to have^{/been} concentrated in the village form along road side and river banks. The zila area mainly being plain land area, the settlements are scattered over the whole area in the form of villages or towns. Most of the towns are observed to have^{been} located at the junctions of some communication routes.

Table 2 shows the distribution of settlements in the Habiganj Zila and Madhabpur upazila and Table 3 shows the upazilawise population of Habiganj Zila.

Table 2 : Distribution of Settlements in the Zila Habiganj and Upazila Madhabpur.

| Name of the Area | Municipal | Upazila | Other | Rural Settlements | |
|--------------------|------------------|---------|-----------------|-------------------|------------------|
| | Town/Zila Shahar | Shahar | Growth Centre * | No. of Mouza | No. of Villages. |
| Habiganj Zila. | 1 | 8 | 120 | 1303 | 2307 |
| Madhabpur Upazila. | - | 1 | 28 | 187 | 288 |

* Note : Growth Centres include hats and bazars and Union headquarters.

Ref : District Statistics, Sylhet, B.B.S., 1983 and Upazila Parishad Office, Madhabpur.

Table 3 : Upazilawise Population of Habiganj Zila (1981).

| Name of Upazila/ Zila | Area in sq.km. (sq. mile) | Population | | | No.of House Hold | Density per sq. km.(sq. mile) | Per Capita availability of land in acres |
|--------------------------|------------------------------------|----------------|---------------|---------------|------------------------|--|---|
| | | Total | Male | Female | | | |
| Madhabpur | 280 (108) | 194710 | 97595 | 97115 | 35433 | 695 (1803) | 0.35 |
| Azmiriganj | 215 (83) | 74094 | 38028 | 36066 | 12163 | 345 (893) | 0.71 |
| Bahubal | 231 (89) | 116604 | 58723 | 57881 | 22433 | 505 (1310) | 0.48 |
| Baniachang | 497 (192) | 204007 | 103675 | 100332 | 33780 | 410 (1062) | 0.60 |
| Chunarughat | 497 (192) | 202267 | 101311 | 100956 | 34408 | 407 (1054) | 0.60 |
| Habiganj | 246 (95) | 178713 | 91027 | 87686 | 32042 | 726 (1881) | 0.34 |
| Lakhal | 197 (76) | 90309 | 44343 | 45966 | 16396 | 458 (1188) | 0.53 |
| Nabiganj | 417 (161) | 216662 | 108616 | 108064 | 36405 | 519 (1346) | 0.47 |
| Habiganj | 2580 (996) | 1277366 | 643318 | 634048 | 223060 | 495 (1283) | 0.49 |

Ref : District Statistics, Sylhet, B.B.S. 1983.

According to Table No. 3 Baniachang and Chunarughat Upazila are jointly ranking biggest in size but Nabiganj upazila has the highest number of population in the zila. On the other hand highest density of population exists in Habiganj upazila (726 persons per sq.km.) while maximum per capita availability of land is observed in Azmiriganj upazila.

2.2.1.1 Religious Divisions of Population.

Different religious communities are observed to have been living in the zila. Among them Muslims and Hindu Communities dominate all over the zila region. Table 4 shows the upazilawise population distribution on the basis of religion.

2.2.1.2 Previous Population of the Zila.

In order to ascertain the growth and to determine future population, data on population at certain base periods are necessary. We collected data on population from secondary sources from the published records of 1961, 1974 and 1981 National population census of Bangladesh both for Zila and Upazila level information represented in Table - 4.

Table 4 : Population of Habiganj Zila in 1961, 1974 and 1981.

| Name of Upazila/ Zila | Population of 1961 | | | Population of 1974 | | | Population of 1981 | | |
|-----------------------------|--------------------|--------|--------|--------------------|--------|--------|--------------------|--------|--------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Madhabpur Upazila | 123272 | 61864 | 61408 | 161674 | 81684 | 79990 | 194710 | 97595 | 97115 |
| Habiganj Zila | 852862 | 432784 | 420078 | 1082485 | 549258 | 533227 | 1277366 | 643318 | 634048 |

Source : National Population Census Reports of 1961, 1974 and 1981.

2.2.2 Population of Madhabpur Upazila.

2.2.2.1 Area, Household and Male/Female Division.

Madhabpur upazila consists of eleven unions and 187 Mouzas. The Mouzas, Villages and Settlements are almost evenly distributed all over the upazila area except the eastern side where the tea gardens exist. The distribution of population in different mouzas and unions varied with the variation of their area having

correlation with each other. Table 6 and Table 7 below show the Unionwise and Mouzawise population of Madhabpur Upazila in 1981.

Table 5 : Area and Population of different Unions of Madhabpur Upazila (1981).

| Upazila/ Union | Area | | Population | | | Density of population per acre. |
|----------------------|-------------|--------------|---------------------|--------|----------------|---------------------------------------|
| | In Acres | In HECTRE | No. of Household | Total | Male Female | |
| Adadir Union | 3430 | 1388.66 | 2370 | 12635 | 6209 6426 | 3.68 |
| Bagasura Union | 5590 | 2263.16 | 3451 | 17664 | 8864 8800 | 3.16 |
| Bahara Union | 7622 | 3085.83 | 3834 | 21066 | 10391 10675 | 2.76 |
| Bulla Union | 5508 | 2229.96 | 2182 | 12732 | 6270 6462 | 2.31 |
| Chattain Union | 5078 | 2055.87 | 2819 | 15192 | 7531 7661 | 2.95 |
| Chewmohani Union | 8023 | 3248.18 | 4100 | 21889 | 10781 11108 | 2.73 |
| Dharmaghar Union | 6977 | 2824.70 | 3099 | 17420 | 8765 8655 | 2.50 |
| Jagadishpur Union | 5768 | 2335.22 | 2924 | 16486 | 8306 8180 | 2.86 |
| Madhabpur Union | 5844 | 2365.99 | 3540 | 20320 | 18418 9902 | 3.47 |
| Noyapara Union | 8373 | 3389.88 | 3188 | 17762 | 9139 8623 | 2.12 |
| Shahajahan- pur | 9682 | 3919.84 | 3926 | 21544 | 10921 10623 | 2.22 |
| Madhabpur Upazila | 71895 | 29107.29 | 35433 | 194710 | 97595 97115 | 2.70 |

Source : Bangladesh Population Census 1981, Community Tables of all Thanas of Sylhet District, Part-1, PP 62-72.

2.2.2.2 Age Structure of Population

Table 6 Shows the division of population by age which is important for planning purposes.

Table 6 : Age Structure of Population of Madhabpur Upazila (1981).

| Name of Union | Population | | | | | |
|-------------------|------------|-------------|-------------|---------------|---------------|-------------|
| | Total | 0 - 4 years | 5 - 9 years | 10 - 17 years | 18 - 64 years | 65 and over |
| Adaur Union | 12635 | 2121 | 1808 | 2269 | 5960 | 477 |
| Bagasura " | 17644 | 2962 | 2913 | 2883 | 8277 | 629 |
| Bahara " | 21066 | 3537 | 3217 | 3823 | 9716 | 773 |
| Bulla " | 12752 | 2141 | 2406 | 2133 | 5546 | 506 |
| Chhatian " | 15192 | 2551 | 4917 | 2642 | 7051 | 582 |
| Chowmohani " | 21889 | 3675 | 2366 | 3778 | 10153 | 809 |
| Dharmagha " | 17420 | 2925 | 2625 | 3220 | 7960 | 690 |
| Jagadishpur | 16486 | 2768 | 2539 | 3071 | 7472 | 636 |
| Madhabpur | 20320 | 3412 | 2978 | 3558 | 9637 | 735 |
| Noyapara | 17762 | 2982 | 2854 | 3457 | 8009 | 460 |
| Shahjahanpur | 21544 | 3617 | 3119 | 4294 | 9856 | 658 |
| Madhabpur Upazila | 194710 | 32691 | 30299 | 35128 | 89637 | 6955 |
| Percent of Total | 100% | 16.79% | 15.56% | 18.04% | 46.04% | 3.57% |

Source : Bangladesh Population Census 1981, Community Tables of all Thanas of Sylhet District, Part 1, PP.243 - 253.

2.2.2.3 Labour Force.

Majority of the economically active population in the Madhabpur Upazila are engaged in household and agricultural activities. A sizeable number of people in the upazila are engaged in industrial, business activities and other activities. Table 10 shows the occupational classification and labour force in Habiganj Zila.

2.2.3. Migration

Migration played little role in the growth of population during last two decades. After independence of the country in 1971 intra-regional migration effect in towns has been tremendous due to undertaking of programmes of large scale developmental activities in the urban centres. Table 7 shows the Upazila-wise growth of population in the Habiganj Zila and Table 8 shows the Union-wise growth of population in Madhabpur Upazila between 1961 and 1981.

Table 7 : Growth of Population of Habiganj Zila between 1961 and 1981 variation with percentage.

| Upazila/ Zila | Population | | | Percentage Variation | | |
|------------------|------------|---------|---------|----------------------|-------------------|-------------------|
| | 1961 | 1974 | 1981 | 1974 over 1961 | 1981 over 1974 | 1981 over 1961 |
| Azmiriganj | 51143 | 62258 | 74094 | 21.73 | 19.01 | 44.88 |
| Bahubal | 83021 | 99794 | 116604 | 20.20 | 16.85 | 40.45 |
| Baniachang | 138351 | 173884 | 204007 | 25.68 | 17.32 | 47.46 |
| Chunarughat | 128373 | 171297 | 202267 | 33.44 | 18.08 | 57.56 |
| Habiganj | 118772 | 151494 | 178713 | 27.55 | 17.97 | 50.47 |
| Lakhai | 66083 | 79624 | 90309 | 20.49 | 13.42 | 36.66 |
| Madhabpur | 123232 | 161674 | 194710 | 31.20 | 20.43 | 58.00 |
| Nabiganj | 143717 | 182460 | 216662 | 26.96 | 18.75 | 50.76 |
| Habiganj Zila. | 852692 | 1082485 | 1277366 | 26.95 | 18.00 | 49.80 |

Source : Sylhet District Statistics, 1983, B.B.S.

Table 8 : Growth of Population of Madhabpur Upazila between 1961 and 1981 with percentage variation.

| Union/ Upazila | Population | | | Percentage Variation | | |
|-----------------------|------------|--------|--------|----------------------|-------------------|-------------------|
| | 1961 | 1974 | 1981 | 1974 over 1961 | 1981 over 1974 | 1981 over 1961 |
| Adaur Union | 8390 | 10556 | 12635 | 25.82 | 19.69 | 50.60 |
| Bahara | 13471 | 17592 | 21066 | 30.59 | 19.75 | 56.38 |
| Bagasura | 9766 | 15648 | 17664 | 60.23 | 12.88 | 80.87 |
| Bulla | 8264 | 10590 | 12732 | 28.15 | 20.23 | 54.07 |
| Chhatian | 11189 | 13330 | 15192 | 19.13 | 13.97 | 35.78 |
| Chowmohani | 13398 | 17595 | 21889 | 31.32 | 24.40 | 63.37 |
| Dharmagha | 10567 | 13741 | 17420 | 30.04 | 26.77 | 64.85 |
| Jagadishpur | 11490 | 14331 | 16486 | 27.73 | 15.04 | 43.48 |
| Madhabpur | 12786 | 14732 | 20320 | 15.22 | 37.93 | 58.92 |
| Noyapara | 11069 | 14793 | 17762 | 33.64 | 20.07 | 60.47 |
| Shahjahanpur | 12882 | 18766 | 21544 | 45.68 | 14.80 | 67.24 |
| Madhabpur Upazila. | 123272 | 161674 | 194710 | 31.15 | 20.43 | 57.95 |

Source : Bangladesh Population Census of 1961, 1974 and 1981, B.B.S.

Table 9 shows the net migration of population in the Zila and Upazila between 1974 and 1981.

Table 9 : Net Migration of Population in the Zila and Upazila between 1974 and 1981.

| Upazila/ Zila | Natural growth of population between 1974 and 1981 | Census Popula- tion in 1981 | Net Migration between 1974 and 1981 |
|----------------------|--|--------------------------------|---|
| Madhabpur Upazila | 190350 | 194710 | 4360 |
| Habiganj Zila | 1274482 | 1277366 | 2884 |

Source : Calculated from Population Census Data of 1974 and 1981.

2.2.4 Analysis

The distribution of population and settlements characteristics of Habiganj Zila and Madhabpur Upazila have been greatly influenced by the topographical and land use characteristics. Habiganj Zila is densely populated area compared to other zilaa of plain land varies area. Population density in different upazilas of Habiganj Zila from a minimum 345 person per square kilometers to 695 persons per sq. km. with the zila average of 495 persons per sq.km. in 1981.

In 1981 Madhabpur upazila had population density of 695 persons per sq.km. compared to zila average of 495 persons and national average of 605 persons per sq.km. In different unions of Madhabpur upazila density ranges between a minimum of 524 persons to a maximum 910 persons per square kilometer.

The age composition of population in the upazila shows that 16.52% of the total population are below 5 years of age live in the zila region whereas 16.79 percent of the people of the same age group live in the Madhabpur upazila population between 5 years and 9 years in the upazila constitute 15.56 percent and population between 10 and 17 years constitute 18.04 percent while population between 18 and 64 years of age constitute 46.04 percent of the total population in the upazila.

The distribution of religious composition of people is found to vary markedly in different parts of the upazila. In all the

the unions of the upazila, Muslims form the majority group by religion in comparison to Hindu Community. In some unions such as Shahjahanpur Madhabpur and Noyapara unions the ratio of the Hindu population is remarkably high in comparison to other unions. For example in Dharmagha union the number of Hindu population 866 which is 4.97 percent of the total population of the union while 46.40 percent of the total population are Hindu in Shahjahanpur union.

2.3 Economic Performance and Transport Linkages.

2.3.1 Employment and Underemployment.

2.3.1.1 Occupational Classification at the Zila Level.

The employment and under employment situation relating to zila and upazila can be better understood by studying the occupational size of labour force, type of dominant economic activity and employment characteristics. Table 10 below shows the occupational classification of people at the zila level and table 11 shows the employment situation at the zila and upazila level.

Table 10 : Occupational Classification of Labour Force in Habiganj Zila (1981).

| Upazila/ Zila | Popula- tion above 10 year of age (%) | Occupation | | | | | | | |
|---------------------------------|--|-----------------|-------------------|----------------------|------------------------------|------------------------------|------------------------------|----------------------|--------------------|
| | | Not Working | | House Hold (%) | Culti- va- tion (%) | Agri- Non- Crop (%) | Manu- fac- ture (%) | Busi- ness (%) | Oth- ers (%) |
| Atten- ding School (%) | Not Atten- ding School (%) | | | | | | | | |
| Madhabpur | 131720 (100) | 8057 (6.11) | 14843 (11.27) | 51459 (39.07) | 37834 (28.72) | 615 (0.47) | 4025 (3.06) | 3665 (2.78) | 1122 (8.52) |
| Habiganj Zila | 861310 (100) | 52403 (6.04) | 110133 (12.79) | 327278 (38.00) | 242987 (28.21) | 12398 (1.44) | 17255 (2.00) | 28350 (3.29) | 7050 (8.19) |

Source : Bangladesh Population Census 1981, Community Table of all Thanas of Sylhet District Part - 1.

Table 11 : Population Employed and Seeking Employment in 1981.

| Category | Total | Madhabpur Upazila | | Habiganj Zila | |
|--------------------|--------------------------------------|---|-----------------------|---|-----------------------|
| | popu- lation in the Upazila | Total population above 10 years of age | | Total population above 10 years of age | |
| | | Employed | Seeking Employment | Employed | Seeking Employment |
| Male and Female | 194710 | 108820 | 22900 | 698774 | 162536 |

Source : Bangladesh Population Census, 1981.

Table 12 below shows the number of economically active population of greater Sylhet District including Habiganj Zila in 1981.

Table 12 : Number of economically active population by age and sex - 1981.

| Age Group | Total Popula- tion | Economically Active Population | | | | | |
|---------------------|--------------------------|--------------------------------|---------------|--------|---------------|-----------|---------------|
| | | Male | | Female | | Both Sex. | |
| | | Number | % of Total | Number | % of Total | Number | % of Total |
| 10 - 14 | 747903 | 162266 | 10.9 | 11972 | 11.0 | 174238 | 10.9 |
| 15 - 19 | 505961 | 185375 | 12.4 | 13085 | 12.0 | 198460 | 12.4 |
| 20 - 24 | 427321 | 167482 | 11.2 | 14112 | 13.0 | 181594 | 11.3 |
| 25 - 29 | 421411 | 179657 | 12.0 | 15026 | 13.8 | 194683 | 12.2 |
| 30 - 34 | 350986 | 155643 | 10.4 | 13365 | 12.3 | 169008 | 10.5 |
| 35 - 39 | 320732 | 158481 | 10.6 | 11669 | 10.7 | 170150 | 10.6 |
| 40 - 44 | 257251 | 122599 | 8.2 | 9505 | 8.7 | 132104 | 8.2 |
| 45 - 49 | 189972 | 98733 | 6.6 | 6176 | 5.7 | 104909 | 6.5 |
| 50 - 54 | 177730 | 86862 | 5.8 | 5519 | 5.1 | 92381 | 5.8 |
| 55 - 59 | 96960 | 50293 | 3.5 | 2430 | 2.2 | 52723 | 3.4 |
| 60 - 64 | 128671 | 57978 | 3.8 | 3088 | 2.8 | 61066 | 3.8 |
| 65 + | 193065 | 68350 | 4.6 | 2938 | 2.7 | 71288 | 4.4 |
| Total (10 yrs +) | 3817963 | 1493719 | 100.0 | 108885 | 100.0 | 1602604 | 100.0 |

Source : Sylhet District Statistics, 1983, B.B.S.

2.3.1.2 Analysis : More than 66 percent of economically active population in Habiganj Zila are engaged in agricultural and household activities (Table 10). Only 2 percent of the economically active population are engaged in manufacturing and 3.29 percent are engaged in business activities. The activities in agriculture are spread over the whole area. It is observed that Crude and Refined activity rates of the male population was overwhelmingly higher than that of the female .

The distribution of economically active population in the age groups 10 - 14 to 40 - 44 were more or less uniformly distributed for both sexes (Table 12).

In Madhabpur Upazila majority of the economically active population are engaged in agricultural and household activities. 17.38 percent of the total population over 10 years of age are grouped as not working including the students (6.11%). 39.07 percent of the economically active population are engaged in household works which is an indicative of under-employment or disguised unemployment prevailing in the upazila.

2.3.2 Income and Expenditure.

2.3.2.1 Due to non-availability of recorded data on household income and expenditure the same have been presented on the basis of daily wage rates of different categories of labour in Sylhet District in the last five years of which relevant data are available. Table 18 shows the annual daily wage rates of workers of different categories between the financial year 1977-78 and 1981-82.

Table 13 : Annual Daily Wage Rates of Workers by Type.

| Type | Skilled/ Unskilled | (In Taka). | | | | |
|---------------------|-----------------------|------------|---------|---------|---------|---------|
| | | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 |
| Agricultural Labour | Skilled | 11.51 | 15.98 | 23.08 | 24.36 | 25.13 |
| | Unskilled | 9.71 | 11.00 | 13.47 | 15.27 | 16.63 |
| Fisherman | Skilled | 11.90 | 17.17 | 30.00 | 35.00 | 37.72 |
| | Unskilled | 9.76 | 11.00 | 14.36 | 15.18 | 21.54 |
| Bakery Workers | Skilled | 15.00 | 16.95 | 20.00 | 20.42 | 22.73 |
| | Unskilled | 11.00 | 11.70 | 12.00 | 12.25 | 15.91 |
| Fitter | Skilled | 17.00 | 20.80 | 25.00 | 27.33 | 35.41 |
| | Unskilled | 11.30 | 13.75 | 16.00 | 16.33 | 19.45 |
| Turner | Skilled | 17.24 | 20.02 | 27.00 | 28.83 | 35.00 |
| | Unskilled | 10.62 | 17.73 | 20.00 | 20.00 | 22.00 |
| Line-man | Skilled | 11.70 | 16.56 | 20.00 | 20.00 | 21.54 |
| | Unskilled | 9.65 | 11.31 | 12.00 | 12.27 | 15.00 |
| Forestry Labour | Skilled | 18.83 | 20.50 | 31.66 | 39.25 | 42.27 |
| | Unskilled | 12.73 | 15.23 | 18.50 | 23.25 | 26.27 |
| Casual Labour | Skilled | 13.00 | 17.50 | 24.00 | 25.00 | 24.73 |
| | Unskilled | 9.00 | 10.80 | 15.00 | 15.00 | 16.64 |
| Compositor | Skilled | 15.00 | 17.85 | 20.00 | 21.45 | 22.55 |
| | Unskilled | 9.50 | 11.96 | 12.00 | 12.00 | 15.00 |
| Book Binder | Skilled | 16.00 | 16.56 | 20.00 | 21.44 | 22.73 |
| | Unskilled | 10.00 | 11.18 | 12.00 | 12.66 | 16.54 |

Source : Sylhet District Statistics, 1983, B.B.S.

It is seen in Table 13 that the wage rates are low in Sylhet District region. As a result income earned by persons engaged in different professions and trades are low. This feature combined

with high level of unemployment and under employment make the total household income of workers class of people relatively low.

2.3.2.2 Expenditure.

Either published or recorded data on expenditure of household at Zila and Upazila levels are not available. Due to low levels of wages earned by the workers it is quite reasonable to assume that the subsistence level of livelihood of majority of households in the district, keeps the levels of expenditure low.

2.3.3 Agriculture and Forestry.

2.3.3.1 Land Classification.

High percentage of agricultural and culturable waste land is an indication for an agricultural based economy in the zila. Table 14 below shows the classification of land according to use (1982).

Table 14 : Classification of Land According to Category (1982).

| Upazila/ Zila | (Area in Acres). | | | | |
|------------------|-------------------|--------------|--------------|---------------|---------------------|
| | Reserve Forest | Char Area | Khas Land | River Area | Culturable Waste |
| Azmiriganj | - | 6000 | 10000 | 4000 | 150000 |
| Bahubal | 6675 | 15 | 826 | 400 | 1500 |
| Baniachang | - | 91 | 824 | 775 | 19800 |
| Chunarughat | - | 112 | 21250 | 20000 | 1200 |
| Habiganj | - | - | 935 | 752 | 21300 |
| Lakhal | - | 200 | - | 800 | 200 |
| Madhabpur | 350 | - | 3158 | - | 1430 |
| Nabiganj | - | - | 13872 | 4410 | 6000 |
| Habiganj Zila | 7025 | 6418 | 50865 | 31137 | 201430 |

Source : District Statistics, Sylhet, 1983, B.B.S.

2.3.3.2 Land Utilisation in Agriculture.

It is important as well as interesting to know the utilisation of land in agriculture and forestry and level of production in the Zila for identifying the areas of development potentials and depicting investment in appropriate areas enhancing the pace of development. Table 15 shows the land utilisation and intensity

of cropping in the Habiganj Zila and Table 16 shows the level of production of major crops in the Zila region.

Table 15 : Land Utilisation of Intensity of Cropping in the Habiganj Zila in 1981-82.

(Figures in Acres)

| Upazila/ Zila | Total Area | Current Fallow | Cropped Area | | | Total Cropp- ed area | | Inten- sity of Cropping |
|-------------------|---------------|-------------------|--------------|--------|--------|-------------------------|--------|-------------------------------|
| | | | Single | Double | Triple | Net | Gross | |
| Azmiriganj. | 53120 | 1613 | 18926 | 12026 | 1025 | 31977 | 46053 | 144.02 |
| Bahubal | 56960 | 7041 | 14478 | 10932 | 1464 | 26874 | 40734 | 151.57 |
| Baniachang | 122880 | 4177 | 53938 | 16398 | 5125 | 75461 | 102109 | 135.31 |
| Chunarughat | 122240 | 40 | 37851 | 27330 | 6424 | 71605 | 111783 | 156.11 |
| Habiganj | 60800 | 8064 | 17033 | 13119 | 7175 | 37327 | 64796 | 173.59 |
| Lakhai | 48000 | 2413 | 28389 | 5466 | 746 | 34601 | 41559 | 120.11 |
| Madhabpur | 69120 | 1210 | 21765 | 24051 | 869 | 46685 | 72474 | 155.24 |
| Nabiganj | 102400 | 4838 | 42583 | 15305 | 487 | 58375 | 74654 | 127.89 |
| Habiganj Zila. | 635520 | 29346 | 234963 | 124627 | 23315 | 382905 | 554162 | 144.73 |

Source : Sylhet District Statistics, 1983, B.B.S.

Table 16 : Area and Production of Major Crops (1981-82) in Habiganj Zila.

| Upazila/ Zila | Rice | | Mustard | | Jute | | Tobacco | |
|---------------------------------|--------|--------|---------|-------|-------|-------|---------|-------|
| | A | P | A | P | A | P | A | P |
| | 1 | 2 | 3 | 4 | 5 | | | |
| Madhabpur | 96000 | 514232 | 264 | 71.9 | 2140 | 258.9 | 330 | 87.4 |
| Habiganj Zila | 602000 | 326511 | 1976 | 577.6 | 4025 | 508.5 | 1710 | 452.6 |
| Upazila as % of the Zila. | 15.95 | 15.75 | 13.36 | 12.49 | 53.17 | 50.9 | 19.30 | 19.31 |

| Pine Apple | | Potato | | Tea (1980-81) | |
|------------|-------|--------|-------|---------------|------|
| A | P | A | P | A | P |
| 6 | 7 | 8 | | | |
| 120 | 672.7 | 506 | 2837 | 5459 | 2042 |
| 750 | 4328 | 3284 | 19529 | 21592 | 8828 |
| 16.0 | 15.54 | 15.41 | 14.53 | - | - |

Source : Sylhet District Statistics, 1983, B.B.S.

2.3.3.3 Irrigation Facilities.

Information on the provision of irrigation facilities and other agricultural inputs in the Zila as well as in the Upazila level will be necessary in order to determine the level of services available and the scope for further improvement in the agricultural production and for increasing of employment opportunities in the Upazila in the sector. Table 17 shows the number of Irrigation equipment used in 1981-82 in the Habigonj Zila.

Table 17 : Number of Irrigation Equipment used in 1981-82 in Habigonj Zila.

| Name of Zila | Name and Number of Equipment Used | |
|---------------|-----------------------------------|-----|
| | DTW | STW |
| Habigonj Zila | 20 | 75 |

The irrigation facilities and the level of fertilizer and pesticide etc. indicate that the level of use of these inputs is low and there are prospects of achieving higher production level with improvement in the use of the inputs in agricultural sector. And this expected achievement is likely to provide additional employment opportunities and higher income to the people of the upazila. As regards the use of agricultural inputs some 311 tons of chemical fertilizers was distributed in Madhabpur Upazila in 1979-80 which was 2.82 percent of the total tonnage distributed in Habiganj Zila in that year.

2.3.3.4 Analysis.

Table 20 shows that Madhabpur Upazila had 46685 acres of net cropped area out of 69120 acres of total area which is 67.54% of the total and the intensity of cropping was 155.24% in 1981-82. The amount of cultivable waste land is only 2.06% of the total area.

As regard the production of rice, Jute, Mustard, Tobacco, Pineapple and Potato the upazila production was quite notable. From the table 21 we may find that the production of rice was 15.75% and that of jute was 50.9% of the total production in the Zila region in 1981-1982.

2.3.4 Non - Agriculture.

2.3.4.1 Industry.

Industrial and commercial activities in the upazila as well as in the zila are mainly based by the agricultural and forestry products. Most of the industries are cottage industries and greater portion of the total employment is limited to the family members.

Due to some helpful conditions like easy availability power resources, low-priced land, cheap labour and well built communication system some big industries like Saiham Textile Mill, factory for making handles of umbrella have been localised in Noapara within the upazila area. Table 18 shows in number of some of the important cottage industries in 1981.

Table 18 : Number of some important cottage industries, investment in Taka, Persons Employed in 1981.

| Name of Industry | Madhabpur Upazila | | | | | Habigonj Zila | | | | |
|-------------------|-------------------|------------------------|---------|----------|-------|---------------|------------|---------|----------|---------|
| | No. of Unit | Investment in (000)Tk. | Hir- ed | Fa- mily | Total | No. of Unit | Investment | Hir- ed | Fa- mily | To- tal |
| Rice | 43 | 298 | 78 | 72 | 150 | 309 | 18211 | 695 | 466 | 1161 |
| Oil | 44 | 534 | 73 | 139 | 152 | 84 | 844 | 14 | 234 | 248 |
| Saw Mill | 2 | 263 | 21 | 1 | 22 | 7 | 1309 | 104 | 13 | 107 |
| Biscuit Bakery | 4 | 65 | 9 | 10 | 19 | 25 | 849 | 167 | 46 | 213 |
| Tailor | 119 | 1324 | 127 | 211 | 338 | 642 | 4831 | 481 | 1128 | 1689 |
| Sweets | 41 | 392 | 198 | 18 | 216 | 140 | 1616 | 511 | 189 | 820 |
| Wooden Furniture. | 76 | 579 | 65 | 363 | 428 | 367 | 2404 | 360 | 1101 | 1461 |
| Total | 329 | 3455 | 511 | 814 | 1325 | 1574 | 30064 | 2332 | 3167 | 5699 |

Source : Sylhet District Statistics, 1983, B.B.S.

2.3.4.2 Fishery

Due to non-existence of big rivers, big haors or water bodies in the upazila area production of fish is small in the upazila. As a result very small number of people are engaged in this profession.

2.3.4.3 Analysis

Table 18 showing the type of industries, investment and labour engaged in cottage industries indicates the respects of expansion of cottage industries in the upazila and zila which depend mainly on the agricultural based raw-materials for their production.

2.3.5 Transport and Communication.

The Zila headquarters and some of the upazila headquarters including Madhabpur, Sreemangal Upazilas are well connected by railway and road way with the major cities of Bangladesh. Other upazilas are connected with the Zila headquarters by roadway but the latter transport routes are not very satisfactory. At present there is no air transport facility in the zila and upazilas. Table 19 shows the position of different types of roads in the Zila.

As regards other means of communication i.e. post and telecommunications system entire zila region has limited facilities. The upazila headquarters are also connected with the telecommunications system but the standard of service is yet to be improved. Direct nation wide dialling system from Zila headquarters with the capital has recently been introduced.

Table 19 : Existing Roads in Habiganj Zila (1982).

| Upazila/Zila | Pucca | Semipucca | Kutchha | Total (In mile) |
|---------------|--------|-----------|---------|-----------------|
| Azmiriganj | - | 3.22 | 64.37 | 67.59 (42) |
| Bahubal | 24.14 | - | 127.14 | 123.00 (64) |
| Baniachang | - | 1.61 | 104.61 | 106.22 (66) |
| Chunarughat | 32.19 | 4.83 | 120.70 | 159.72 (98) |
| Habiganj | 40.23 | 80.47 | 321.87 | 442.57 (225) |
| Lakhal | - | - | 40.23 | 40.23 (25) |
| Madhabpur | 19.31 | 12.87 | 254.28 | 283.24 (176) |
| Nabiganj | 22.53 | - | 225.31 | 247.84 (154) |
| Habiganj Zila | 138.40 | 103.00 | 1258.51 | 1451.63 (902) |

Source : Sylhet District Statistics, 1983, B.B.S.

2.3.6 Analysis : In view of the existence of well-built transport and communication system of the Zila headquarters with rest^{is} of the country as well as some upazila, the system as a whole/satisfactory except the few upazilas where pucca roads connecting zila headquarters are yet to be developed.

2.4 Social Infra-structures.

2.4.1 Markets.

Habiganj Zila area as a whole constitute a good market area but rural in nature; except in the urban areas. In the upazila areas the most of the markets occur weekly or biweekly. These are mainly meant for selling agricultural outputs. Of course, markets in the Zila or Upazila headquarters area sit almost daily and finished goods are bought and sold. Table 20 shows the distribution of markets in different upazilas of Habiganj Zila.

Table 20 : Distribution of Markets in Habiganj Zila, 1982.

| Upazila/ Zila | Number of Daily Bazar | Number of Weekly or Bi-weekly Bazar. |
|------------------|--------------------------|---|
| Azmiriganj | 2 | 2 |
| Bahubal | 2 | 12 |
| Baniachang | 5 | 15 |
| Chunarughat | 5 | 20 |
| Habiganj | 5 | 8 |
| Lakhai | 3 | 7 |
| Madhabpur | 2 | 18 |
| Nabiganj | 8 | 22 |
| Habiganj Zila. | 32 | 104 |

Source : Sylhet District Statistics 1983, B.B.S.

2.4.2 Commercial Activities.

Commercial activities are confined mainly to marketing areas. Agricultural goods are mainly gathered at the different growth centres where the traders collect them and then export them to bigger centres within or outside upazila or Zila. As regards storage facilities, rice and fertilizer storage godowns have been constructed by public organisation at the upazila headquarters area.

2.4.3 Educational Sector.

The existing situation with respect to number of literate persons census is given in the Table 21A and number of educational institutions and the number of students in the Zila of Habiganj are given in Table 27.

Table 21A: Number of Literate Persons and Literacy Rate in Habiganj Zila in 1981.

| Upazila/ Zila | Literate Persons 5 years + | | | Literacy Rate | | |
|-----------------------|----------------------------|--------|--------|---------------|------|--------|
| | Total | Male | Female | Total | Male | Female |
| Madhabpur Upazila. | 28527 | 19934 | 8593 | 17.6 | 24.5 | 10.7 |
| Habiganj Zila. | 189373 | 129222 | 60151 | 17.8 | 24.0 | 11.4 |

Source : Sylhet District Statistics, 1983, B.B.S.

Table 21 : Educational Institutions and Number of Students in the Habiganj Zila, 1982.

| Upazila/ Zila | Primary | | Secondary | | College | | Madrasha | | G.S. Kendra | |
|-------------------|-------------------|--------------------|-------------------|--------------------|------------------------|-------------------------|-------------------------|-------------------------|-----------------------|-------------------------|
| | No. of Schools | No. of Students | No. of Schools | No. of Students | No. of Coll- age | No. of Stu- dents | No. of Madra- sah | No. of Stu- dents | No. of Ken- dra | No. of Stu- dents |
| Azmiri- ganj. | 42 | 6047 | 8 | 1475 | - | - | 6 | 350 | 5 | 110 |
| Bahubal | 80 | 10110 | 6 | 1300 | - | - | 12 | 1928 | 7 | 150 |
| Bania- chang. | 104 | 16479 | 15 | 2815 | 1 | 150 | 5 | 735 | 15 | 325 |
| Chunaru- ghat. | 109 | 13157 | 12 | 2620 | 1 | 98 | 15 | 1430 | 15 | 145 |
| Habiganj | 114 | 14524 | 16 | 3880 | 2 | 450 | 4 | 550 | 4 | 200 |
| Lakhai | 48 | 7715 | 4 | 657 | - | - | 5 | 300 | 6 | 133 |
| Madhabpur | 95 | 13491 | 17 | 3361 | 1 | 200 | 2 | 369 | 12 | 255 |
| Nabiganj | 160 | 19523 | 12 | 2934 | - | - | 23 | 3412 | 13 | 310 |
| Habiganj Zila | 752 | 101046 | 90 | 19042 | 5 | 898 | 72 | 9074 | 77 | 1628 |

Source : Sylhet District Statistics, 1983, B.B.S.

2.4.4 Health and Social Welfare.

Information on public health and social welfare in the Habiganj Zila information on existing Medical Institutions, Family Planning facilities and Social Service facilities have been collected. Table 22 shows the Medical Institutions and Table 23 shows the Family Planning Services available in the Zila.

Table 22: Existing Medical Institutions in Habiganj Zila, 1982.

| Upazila/ Zila | Upazila Health Complex | | Charities Dispan- sary | Missionary Hospital | | Other Health Centre |
|------------------|---------------------------|------|------------------------------|------------------------|-----|---------------------------|
| | No. | Bed. | | No. | Bed | |
| Azmiriganj | 1 | 31 | 2 | - | - | - |
| Bahubal | 1 | 31 | 1 | - | - | 2 |
| Baniachang | 1 | 31 | 1 | - | - | - |
| Chunarughat | 1 | 31 | 1 | - | - | 12 |
| Habiganj | 1 | 31 | 2 | - | - | - |
| Lakhai | 1 | 31 | 1 | - | - | - |
| Madhabpur | 1 | 31 | 4 | 4 | - | - |
| Nabiganj | 1 | 31 | 5 | - | - | - |
| Habiganj Zila | 8 | 248 | 17 | 4 | - | 14 |

Source : Sylhet District Statistics 1983, B.B.S.

Table 23 : Family Planning Clinical Centres in Habiganj Zila, 1982.

| Upazila/ Zila | Steriliza tion centre | Mobile Centre | Injection Centre | M.R. Centre | Family Planning Welfare Centre |
|-----------------------|--------------------------|------------------|---------------------|----------------|-----------------------------------|
| Madhabpur Upazila. | 1 | 3 | 1 | 1 | 3 |
| Habiganj Zila. | 9 | 8 | 9 | 9 | 6 |

Source : Sylhet District Statistics, 1983, B.B.S.

2.4.5 Other Urban Services and Utilities.

Services and facilities throughout the zila region have most been poorly developed due to un-development of communication facilities every where. Table 24 shows a comparative statement of the existing provisions of some of the important service facilities in the area.

Table 24 : Number and Location of Service Facilities in the Habiganj Zila, 1982.

| Upazila/ Zila | Tube Well drink- ing water | Vill- age Elec- tri- fied | Post Offi- ce | Tele- graph Offi- ce | Rest House | Banks Branch | Cinema Halls | Regis- tered Clubs | Pub- lic Libra- ry |
|------------------|---|---|-----------------------|----------------------------------|----------------|------------------|------------------|----------------------------|--------------------------------|
| Azmiriganj | 540 | 17 | 4 | 1 | 1 | 5 | - | - | - |
| Bahubal | 559 | 7 | 11 | - | 2 | 6 | - | - | 2 |
| Baniachang | 1340 | 6 | 9 | 1 | 1 | 5 | - | - | - |
| Chunarughat | 1494 | 37 | 10 | 2 | 1 | 4 | - | - | - |
| Habiganj | 2000 | 10 | 19 | 1 | 2 | 19 | 2 | 15 | 1 |
| Lakhai | 677 | - | - | - | - | - | - | - | - |
| Madhabpur | 1414 | 100 | 21 | 1 | 2 | 9 | 1 | 1 | 1 |
| Nabiganj | 1458 | 4 | 22 | 1 | 1 | 16 | 1 | 4 | 1 |
| Habiganj Zila | 9482 | 181 | 96 | 7 | 10 | 64 | 4 | 20 | 5 |

Source : District Statistics, Sylhet, 1983, B.B.S.

2.5 Current Development Project (Priority Projects).

2.5.1 Development projects in the upazila are implemented by the Upazila Parishad as well as by the various government development and other organisation. The project implemented by the Upazila Parishad through the Development Assistance Fund under the ADP can be divided into three broad categories, such as socio-economic infra-structure, physical infra-structure and agricultural infra-structure. Under the Food for Works Programme (FWP) and Rural Works Programme (RWP) mainly the rural road construction programme is executed.

The Roads and Highways Department (R&H), the Power Development Board (PDB, the T&T Board etc. execute projects under their respective department. Table 25 shows the different priority projects under execution by various agencies.

Table 25 (Contd.)

| Name of Projects | Implementing Agency | Location | Cost in Taka | Year of Comment | Year of Completion | Remarks |
|---|---------------------|-------------|--------------|-----------------|--------------------|-----------------|
| Construction of Pucca bridge in Harashpur Road. | Upazila Parishad | Harashpur | 463000.00 | 1988-89 | 1989-90 | 66% completed. |
| Construction of Pucca bridge in Kalikapur Bazar Road. | --do-- | Kalikapur | 268000.00 | 1988-89 | 1989-90 | 60% completed. |
| Renovation work is Jagadish Health Sub-Centre. | --do-- | Jagadishpur | 43000.00 | 1988-89 | 1989-90 | 100% completed. |
| Renovation work of Bulla Primary School. | --do-- | Bulla | 123000.00 | 1988-89 | 1989-90 | 50% completed. |

Source : Upazila Parishad Office, Madhabpur.

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

2.6.1 Existing Situation and Future Trends.

The analysis of the existing demographic, socio-economic and geo-physical condition in the Habiganj Zila and in different upazilas within it reveal the nature and conditions of physical infra-structural development, size - distribution of human settlements in the zila region and the levels of socio-economic services development in the different settlements in the area. The analysis also reveal the prospects as well as trends of future growth and development in different fields. The comparative trends of development occurred in different fields of the upazila under study also indicate the future trend of development in the area. The potential resources, especially the agricultural resources together with the situational condition of the upazila in question indicate that Madhabpur upazila shahar is likely to grow rather rapidly.

2.6.2 Situation within the Madhabpur Upazila.

The distribution of human settlements, development of various socio-economic services and physical infra-structure at different areas within the upazila have been greatly influenced by the geo-physical condition of it.

As a result, the human settlements and socio-economic services are almost evenly distributed in different unions as well as mouza centres. The prospects of future growth of these small centres as well as the levels of socio-economic activities are not different from each other. As the future growth and development of each of these centres and settlements will influence the growth of the upazila shahar area, so it is necessary to determine the hierarchy of settlements in the upazila with respect to size of population, socio-economic activities, existing services and facilities available at various settlements and growth centres.

2.6.3 Identification of Hierarchy of Settlements in the Upazila.

Identification of the hierarchy of settlements within the upazila with respect to the Criteria mentioned in the previous paragraphs will help preparation of land use plan of the upazila shahar in many ways. For example, the levels of various services and facilities available at different areas will determine the dependence on various services and facilities provided in the upazila shahar area. Secondly, identification of hierarchy of settlements is also necessary for determination of catchment area or Zone of influence of the Upazila Shahar. It will also be necessary to plan for development of various services at different areas based on the levels of services available at different centres.

The methodology followed for determination of hierarchy of settlements in the upazila involved collection of data on a number of specified demographic, physical and socio-economic characteristics of each of the centres through field survey. Then different comparative weights were assigned to each criteria in accordance with its importance.

Then each of these centres were compared with the total score it obtained as per weights assigned to each criteria, Table 26 shows the rank order of the hierarchy of settlements in the Madhabpur Upazila. The important settlements as well as the centres are shown on Map M2. .

2.6.4 Analysis

Table 26 shows the analysis of the hierarchy of settlements in the Madhabpur Upazila. Some of the important urban services and facilities are observed to have concentrated in a few centres of the upazila. The union centres comprising the upazila shahar area i.e. Madhabpur received the highest score and the other union centres received the next order of ranking. The volume of economic activities and services facilities in these centres are less than the headquarters area. The hierarchy of various centres can be grouped as follows :

Group A with score 25 and above with provision of higher number of urban services.

Group B with score 15 to 24 with limited urban services.

Group C with score less than 15 with poor urban services.

The hierarchy of settlement as grouped above have been shown in the Map No. M2 .

Table - 26 :

| Description of the Criteria | Weightage | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|-----------|---|--------------------|--------------------|----------------------|----------------------|-------------------|----------------------|-------------------------|--------------------|-------------------|----------------------|
| | | Adaur Union | | | | | | | | | | |
| | | Na- gor pur | Sam- pad pur | Sul- tan pur | Baga- shu- ira | Bak- har nagor | Fa- teh pur | Hari- tala ira | Ka- hu- ka ira | Kali- ka pur | Ma- nik pur | Purai kala pur |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | 1 | - | - | - | - | - | 1 | - | 1 | - |
| 1001 - 5000 | 2 | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | 2 |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Light Industry | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Market: Daily | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Weekly | 2 | - | - | - | 2 | - | - | - | - | - | - | - |
| Bank | 2 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Hospital | 2 | - | - | - | 1 | - | - | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Clubs | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Cinema Hall | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Graveyard | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | - | 1 | - | - | - | - | - | - | 1 |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 1 |
| Secondary School | 2 | - | - | - | 2 | - | - | 2 | - | 2 | - | - |
| College | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Madrasha | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| Telegram Office | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Total Score</u> | | 1 | 1 | 3 | 15 | 3 | 3 | 5 | 2 | 5 | 1 | 4 |
| <u>Rank Order</u> | | C | C | C | B | C | C | C | C | C | C | C |

Table - 26 :

| Description of the Criteria | Weight | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|--------|---|--------------------|-------------------|--------------------|--------------------|--------------------|------------------|---------------------|-------------------|--------------|--------------|
| | | Bahara Union | | | | | | | | | | |
| | | Sa- ha- pur | Af- zal- pur | Ala- da pur | Ana- yet pur | Ash- rot pur | Au- lia- bad | Ba- ra pur | Bha- bani pur | Bo- ran pur | Dul- gaon | Deo- gaon |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | - | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | - |
| 1001 - 5000 | 2 | - | 2 | - | - | - | - | 2 | - | - | - | 2 |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Light Industry | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Market: Daily | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Weekly | 2 | - | - | - | - | - | - | 2 | - | - | - | - |
| Bank | 2 | - | - | - | - | - | - | 2 | - | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Hospital | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Clubs | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Cinema Hall | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Graveyard | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | - | - | - | - | 1 | - | - | - | 1 |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | 1 | 1 | - | - | - | 1 | 1 | - | - | - | 1 |
| Secondary School | 2 | - | 2 | - | - | - | - | 2 | - | - | - | - |
| College | 3 | - | - | - | - | - | - | 3 | - | - | - | - |
| Madrasha | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Telegrams Office | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | 1 | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Total Score | | 2 | 5 | 1 | 1 | 1 | 2 | 21 | 1 | 1 | 1 | 4 |
| Rank Order | | C | C | C | C | C | C | B | C | C | C | C |

| Description of the Criteria | Weightage | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|-----------|---|----------|-----------|-----------|----------|-------------|----------|-----------|----------|----------|----------|
| | | Bahara Union | | | | | Bulla Union | | | | | |
| | | Panihatal | Rajajpur | Sunbidpur | Sundalpur | Talpur | Banswar | Banay | Bullala | DhanKura | MajhSail | Malla |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | - | 1 | - | 1 | - | - | - | - | - | 1 |
| 1001 - 5000 | 2 | - | 2 | - | 2 | - | 2 | 2 | 2 | 2 | 2 | - |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | - | - | 1 | - | - | - |
| Light Industry | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| Market: Daily | 1 | - | - | - | - | - | - | - | 2 | - | - | - |
| Weekly | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Bank | 2 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Hospital | 2 | - | - | - | - | - | - | - | 1 | - | - | - |
| Community Centre | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| Clubs | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Cinema Hall | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| Graveyard | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | - | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Secondary School | 2 | - | - | - | - | - | - | - | 2 | - | - | - |
| College | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Madrasha | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| Telegrams Office | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Total Score | | 1 | 3 | 1 | 3 | 2 | 3 | 3 | 14 | 3 | 3 | 2 |
| Rank Order | | C | C | C | C | C | C | C | B | C | C | C |

Table - 26 :

| Description of the Criteria | Weightage | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|-----------|---|--------------------|------------------|---------------|--------------------|-------------------|---------------------|------------|---------------|----------------|----------------------|
| | | Bulla Union | | | | | Chattain Union | | | | | |
| | | Ma- mud- pur | Pai- la bari | Pa- tu- li | Ujail- pur | Cha- tta- in | Das- Pa- ra | Ek- tiar- pur | Pia- im | Rame- ssar | Saku- chail | Sim- uil- ghar |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | 1 | - | 1 | - | - | - | - | - | - | - |
| 1001 - 5000 | 2 | - | - | 2 | - | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Light Industry | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Market: Daily | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Weekly | 2 | - | - | - | - | 2 | - | - | - | - | - | - |
| Bank | 2 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Hospital | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Clubs | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Cinema Hall | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Graveyard | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | - | - | 1 | 1 | - | - | - | - | - |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Secondary School | 2 | - | - | - | - | 2 | - | - | - | - | - | - |
| College | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Madrasha | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | 1 | - | - | - | - | - | - |
| Telegrams Office | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Ghat.</u> | | | | | | | | | | | | |
| Total Score | | 2 | 2 | 3 | 2 | 16 | 4 | 3 | 2 | 3 | 3 | 3 |
| Rank Order | | C | C | C | C | B | C | C | C | C | C | C |

Table - 26 :
(Contd.)

| Description of the Criteria | Weightage | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|-----------|---|--------|------------|-------------|----------|---------------|------------|-------------|----------|---------------|------------|
| | | MADHABPUR UNION | | | | | | NOYAPARA | | | | |
| | | Gunti | Harlia | Hari-syama | Jual-bhanga | Kuta-nia | Madhabpur-rba | Mir-pu-gar | Sul-na-abad | Baik-pur | Ben-taga-Dola | Itari-tala |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | 1 | - | 1 | 1 | - | - | 1 | - | 1 | 1 |
| 1001 - 5000 | 2 | - | - | 2 | - | - | - | 2 | - | 2 | - | - |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | 4 | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Light Industry | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Market: Daily | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Weekly | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Bank | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| <u>Social Infrastructure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Hospital | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Clubs | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Cinema Hall | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Graveyard | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | 1 | - | - | 1 | - | - | - | - | - |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 |
| Secondary School | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| College | 3 | - | - | - | - | - | 3 | - | - | - | - | - |
| Madrasha | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Telegrams Office | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Total Score</u> | | 2 | 2 | 4 | 1 | 1 | 33 | 3 | 2 | 3 | 2 | 1 |
| <u>Rank Order</u> | | C | C | C | C | C | A | C | C | C | C | C |

Table - 26 :

(Contd.)

| Description of the Criteria | Weight | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|--------|---|-----------------------------|------------------|---------------------|--------------------|----------------------|-------------------|-------------------|--------------------|----------------------|----------------------|
| | | NOYAPARA UNION | | | | | SHAHJAHANPUR | | | | | |
| | | Ita kho la | Jaga dish 'pur T. est | Kur ak 'ma | Mad aray 'pur | Nol ayn 'pur | Naya para 'pur | Ra tan 'pur | Sha ha 'pur | Bha nda 'pur | Bira apur 'pur | Chand pur 'pur |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | - | - | 1 | 1 | - | - | 1 | - | - | 1 | 1 |
| 1001 - 5000 | 2 | 2 | 2 | - | - | 2 | 2 | - | 2 | 2 | - | - |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry. | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Light Industry | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Market: Daily | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Weekly | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Bank | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Hospital | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Clubs | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Cinema Hall | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Play Ground | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Graveyard | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Mosque/Temple | 1 | - | - | - | - | - | 1 | - | - | 1 | - | - |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Secondary School | 2 | 2 | - | - | - | - | 2 | - | - | - | - | - |
| College | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Madrasha | 1 | 1 | - | - | - | - | - | - | - | - | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | - | 1 | - | - | - | - | - |
| Telegraphic Office | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | 2 | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Total Score | | 6 | 3 | 2 | 1 | 3 | 22 | 2 | 3 | 4 | 1 | 1 |
| Rank Order | | C | C | C | C | C | B | C | C | C | C | C |

Table - 26 : Hierarchy of Settlements and Growth Centres in
(Contd.) Madhabpur Upazilla in 1989.

| Description of the Criteria | Weightage | Name of the Settlement and Score Obtained | | | | | | | | | | |
|--------------------------------|-----------|---|----------|-------------|--------|----------|--------|---------|--------------|---------|--------|------------------|
| | | SHAHJAHANPUR UNION | | | | | | | | | | |
| | | Ekti ar pur | Inat pur | Jah hia bad | Lo lid | Para man | Ra tan | Sah nag | Shah hahapur | Sul tan | Sur na | Surma Tea Estate |
| <u>Population</u> | | | | | | | | | | | | |
| Below - 1000 | 1 | 1 | 1 | - | - | 1 | - | 1 | - | - | - | - |
| 1001 - 5000 | 2 | - | - | 2 | 2 | - | 2 | - | 2 | 2 | 2 | - |
| 5001 - 10000 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| 10001 - above | 4 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Socio-economic activity</u> | | | | | | | | | | | | |
| Medium Industry ² . | 2 | - | - | - | - | - | - | - | - | - | - | 1 |
| Light Industry | 1 | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Market: Daily | 1 | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Weekly | 2 | - | - | - | - | - | - | - | 2 | 1 | 1 | - |
| Bank | 2 | - | - | - | - | - | - | - | 2 | - | - | - |
| <u>Social Infra-structure</u> | | | | | | | | | | | | |
| Health Centre | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | 1 | 1 |
| Hospital | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Community Centre | 1 | - | - | - | - | - | - | - | 1 | - | 1 | 1 |
| Clubs | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 | - |
| Cinema Hall | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| Play Ground | 1 | - | - | - | - | - | - | - | 4 | - | - | - |
| Graveyard | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Mosque/Temple | 1 | 1 | - | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 |
| <u>Educational</u> | | | | | | | | | | | | |
| Primary School | 1 | - | - | 1 | 1 | - | 1 | - | 1 | 1 | 1 | 1 |
| Secondary School | 2 | - | - | - | - | - | - | - | 2 | - | - | 2 |
| College | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Madrasha | 1 | - | - | - | - | - | - | - | 1 | 1 | - | - |
| <u>Urban Services</u> | | | | | | | | | | | | |
| Post Office | 1 | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Telegraph Office | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Telephone Exchange | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Elec. Sub-Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Bus Station | 1 | - | - | - | - | - | - | - | 2 | - | - | - |
| Rly. Station | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Steamer/Launch Ghat. | 1 | - | - | - | - | - | - | - | - | - | - | - |
| <u>Total Score</u> | | 2 | 1 | 4 | 3 | 2 | 5 | 1 | 20 | 8 | 9 | 14 |
| <u>Rank Order</u> | | C | C | C | C | C | C | C | B | C | C | C |

3. THE UPAZILA HEAD QUARTERS

3.1 Definition of Sphere of Influence/Attractiveness.

3.1.1 Objectives.

With a view to preparing a land use plan/Master plan for the upazila shahar within a time-frame, the size of the population to be served by the urban services and facilities, employment opportunities etc. and the land acquired for making provision for such services and facilities are required to be ascertained. So, the size of population of the settlements dependent on the services and other provisions of the town and the extent of spatial distribution of such settlements which forms the sphere of influence or catchment area is to be determined.

3.1.2 Assumptions and Criteria for Definition of Catchment Area.

The catchment area for the upazila shahar will depend on the situational distance of the settlements and the level of services available in them as well as on the existence of the means of transport and communication in that region. Administratively the total area of the upazila which forms the catchment area, while for socio-economic services like education, health, employment, commerce, recreation etc. the criteria for determination of the catchment area of a centre are dependent on the level of services provided in it and distance and means of transport and communication available from bigger ones to smaller centres.

For instance the whole of the Madhabpur Upazila forms catchment area for administrative and judicial services provided in the Madhabpur Upazila shahar, while about one-fifth part of the total area of the Upazila at the northern side is beyond the catchment area for socio-economic services provided in the upazila shahar. Because it is easier and advantageous to get socio-economic services from local as well as nearly important centres like Shahjibazar and Shaistaganj. For socio-economic services and facilities the catchment area for the Upazila Shahar includes all the unions except Bagashura Union, Chattain Union (part), Nayapara Union (part). (Map No. M2).

In determination of the catchment area the following elements may be taken into consideration :

- a) The whole of the upazila may be considered as the catchment area for the services administered by the Upazila administration but limited within upazila boundary i.e., the administration law and order enforcing establishment, the judiciary services etc.
- b) Provision of services which can be enjoyed by the people depending on the opportunities and not limited by the territorial jurisdiction such as health services, educational institutions, markets, recreational facilities etc.
- c) The provisions and services which cater for the immediate and daily needs of the people. The provisions serve the people within a relatively short distance from the town and the distance depend on the level and standard of the particular provision, existing similar service in other adjacent locations and the transport and communications facilities to the location of the service from the settlement served.
- d) The existing services and facilities in adjacent settlements may reduce the dependence on some provisions in the upazila shahar and thus have an effect of lowering down the attractiveness of the upazila shahar with respect to that facility.

In determining the catchment area of Madhabpur Upazila Shahar ^{the} major road links connecting Sylhet, Comilla and other major cities ^{/of} Bangladesh with Madhabpur Upazila Shahar were taken into consideration. A sizeable part of about one-fifth of the upazila area is more dependent on important centres like Habiganj Shaistaganj Shahjibazar for their advantageous location and nearness to the areas rather than Madhabpur Upazila Shahar for socio-economic services like education health, commerce etc. As a result, the part of the upazila having better link with the nearby important centres will be outside the catchment area of Madhabpur Upazila Shahar.

3.1.3 Method Followed for Determination of Catchment Area.

The situation relating to the conditions of various existing provisions in different settlements within the upazila and in the settlements and centres outside the upazila, their size, capacity and standards were examined along with the physical constraints

as well as transportation facilities and the most suitable settlements which were likely to be attracted by the facilities of Madhabpur upazila shahar have been determined. The boundary of this catchment area has been shown in the Map No. M2 (Upazila Map).

3.1.4 Settlements within the Catchment Area and their Population.

It is necessary to determine existing size of population of settlements in the catchment area and their future growth within the plan period. Table 27 shows the names of the Settlements and their respective population. This population figure will be used in the forecast of population in the Upazila Shahar.

3.1.5 Analysis.

Out of the eleven unions of the Madhabpur Upazila Bagasura Union and part of Nayapara and Chattain Union are well connected with Habiganj town and other nearby town like Shaistaganj and Shahjibazar. As a result, population of this area have better access to these centres than their own upazila shahar Madhabpur for socio-economic services. Therefore, this area has been excluded from the catchment area of Madhabpur Upazila Shahar.

Table 27 : Settlements (Unionwise) their size and Population within the Catchment Area (1981).

| Name of Union | Total Area | | Area within the Catchment Area | | Total Number of Population (1981) | Population of the Catchment Area (1981) |
|-----------------|------------|----------|--------------------------------|----------|-----------------------------------|---|
| | In Acre | In Ha | In Acre | In Hect. | | |
| Adaur | 3430 | 1388.66 | 3330 | 1348.18 | 12635 | 11864 |
| Bahara | 7622 | 3085.83 | 7622 | 3085.83 | 21066 | 21066 |
| Bulla | 5508 | 2229.96 | 5508 | 2229.96 | 12732 | 12732 |
| Chowmohani | 8023 | 3248.18 | 8023 | 3248.18 | 21889 | 21889 |
| Dharmaghar | 6977 | 2824.70 | 6977 | 2824.70 | 17420 | 17420 |
| Jagadishpur | 5768 | 2335.22 | 5768 | 2335.22 | 16486 | 16486 |
| Madhabpur | 5844 | 2365.99 | 4530 | 1834.01 | 20320 | 10639 |
| Noyapara | 8333 | 3373.68 | 5385 | 2180.16 | 17762 | 11601 |
| Shahjahanpur | 9682 | 3919.84 | 9682 | 3919.84 | 21544 | 21544 |
| Catchment Area. | 61187 | 24772.06 | 56825 | 23006.07 | 161854 | 145241 |

Source : Field Survey and Population Census, 1981, B.B.S.

3.2 Definition of the Shahar Area.

3.2.1 Objectives.

The objective of defining the Upazila Shahar area is to fix up an area in space within which an in-depth study can be carried out for analyses of various features, elements and functions of the existing built up area which fulfils the condition of an urban area. In the process of preparation of a land use plan for the Upazila Shahar, it is necessary to study the characteristics of a wider area beyond the existing built up area in order to examine the prospects of future urban expansion. This area will be termed as the Study Area for the purpose.

3.2.2 Assumption and Criteria.

In defining the Shahar area it was assumed that there was no official delineation of Madhabpur upazila shahar due to non-existence of any municipality there. Therefore, boundary of the existing upazila shahar has been fixed for the purpose of analysis of the town on the basis of various conditions which fulfil the definition of an urban area in Bangladesh. These criteria include the distribution of offices of the administrative departments and service organisations, concentration of non-agricultural activities, higher population densities, provision of urban services etc. The study area on the other hand, has been fixed on the basis of availability of suitable land for urban development around the existing town, the physical constraints and other relevant factors which affect the urban spatial expansion. The study area includes the existing upazila shahar area is defined in this paragraph. The boundaries of the existing upazila shahar and that of the Study area have been shown in the Map M-3a, and areas included in the existing upazila shahar and in the study area have been given in Table 28 and Table 29 respectively.

Table 28 : Areas included in the Madhabpur Upazila Shahar, 1989.
(Built up area)

| Name of Mouza | Total Area | | Area included in the Upazila Shahar | | Population 1981 | |
|------------------|------------|---------|--|---------|-----------------|-----------------------------------|
| | Acre | Hectare | Acre | Hectare | Total | Population of the Shahar area. |
| Katiara | 281 | 114 | 273 | 111 | 771 | 771 |
| Madhabpur | 675 | 273 | 533 | 216 | 7407 | 7407 |
| Chandura | 274 | 111 | 169 | 68 | 1183 | 1183 |
| Gumtia | 367 | 149 | 179 | 72 | 1091 | 1091 |
| Total | 1597 | 647 | 1154 | 467 | 10452 | 10452 |

Source : Field Survey, 1989.

Table 29 : Areas included in the Study Area, 1989.

| Name of Mouza | Total Land Area | | Land Area included in the Study Area | | Population of 1981 | |
|------------------|-----------------|---------------|---|---------------|--------------------|----------------------|
| | Acre | Hect. | Acre | Hectare | Total | In the Study Area |
| | Katiara | 281 | 113.77 | 281 | 113.77 | 771 |
| Madhabpur | 675 | 273.28 | 675 | 273.28 | 7407 | 7407 |
| Gomtia | 367 | 148.58 | 367 | 148.58 | 1091 | 1081 |
| Chandura | 274 | 110.93 | 274 | 110.93 | 1183 | 1183 |
| Total | 1597 | 646.56 | 1597 | 646.56 | 10452 | 10452 |

Source : Field Survey 1989.

3.2.3 Analysis.

a) Madhabpur Upazila Shahar Area.

The existing Madhabpur Upazila Shahar is mainly built on either side of a major pucca road connecting Ashuganj, Birpasha with the major Sylhet - Chittagong highway at Jagadishpur. The Shahar has developed along the axis of the road. The main market area, Health Complex, Upazila Office Complex, Bus Station, Girl's High School and the College are situated on the right side and the Dak Banglow, Police Station, Helipad and Stadium are on the right side of the road. On both sides of the main road necessary plain and suitable land is available adjacent to the built-up area for the future expansion of the town covering the mouza Gomtia on the north and Chandura mouza in the east.

b) The Study Area.

The study area extends beyond the existing built-up areas of the Madhabpur upazila shahar towards north and north-west and eastern areas of Madhabpur East and Chandura Mouzas.

3.3 Existing Land Use, Facilities and Utilisation Characteristics.

3.3.1 Demographic and Household Information.

3.3.1.1 Population and Household of the Upazila.

According to 1981 population Census Report the number of population of Madhabpur Upazila was 194710. The upazila is divided into 11 Unions. Out of the 11 Unions 8 Unions in full and parts of one union have been included in the catchment area and four mouzas have been included in the study area of the upazila shahar of Madhabpur. Table 30 shows the area, population and household of the 11 unions of the Upazila.

Table 30 : Area, Population and Household of Madhabpur Upazila (1981).

| Unions | Area | | Population | | | Household | Population Density per sq.km. | Size of Household |
|--------------------|-------|--------|------------|-------|--------|-----------|-------------------------------|-------------------|
| | Acre | Sq.Km. | Total | Male | Female | | | |
| Adaur | 3430 | 13.88 | 12635 | 6209 | 6426 | 2370 | 910 | 5.33 |
| Bagasura | 5590 | 22.62 | 17664 | 8864 | 8800 | 3451 | 780 | 5.12 |
| Bahara | 7622 | 30.85 | 21066 | 10391 | 10675 | 3834 | 683 | 5.49 |
| Bulla | 5508 | 22.29 | 12732 | 6270 | 6462 | 2182 | 571 | 5.83 |
| Chattain | 5078 | 20.55 | 15192 | 7531 | 7661 | 2819 | 739 | 5.39 |
| Chowmohani | 8023 | 32.47 | 21889 | 10781 | 11108 | 4100 | 674 | 5.34 |
| Dharmaghor | 6977 | 28.24 | 17420 | 8765 | 8655 | 3099 | 617 | 5.62 |
| Jagadishpur | 5768 | 23.34 | 16486 | 8306 | 8180 | 2924 | 706 | 5.64 |
| Madhabpur | 5844 | 23.65 | 20320 | 10418 | 9902 | 3540 | 859 | 5.74 |
| Noyapara | 8373 | 33.89 | 17762 | 9139 | 8623 | 3188 | 524 | 5.57 |
| Shahjahanpur | 9682 | 39.18 | 21544 | 10921 | 10623 | 3926 | 550 | 5.49 |
| Madhabpur Upazila. | 71895 | 290.96 | 194710 | 97595 | 97115 | 35433 | 669 | 5.50 |

3.3.1.2 Population and Household in the Study Area.

The information collected from secondary sources in the study area on population and household have been tabulated in Table 31.

Table 31: Population and Household Information in the Study Area (1981).

| Name of Settlement/Mouza | Area | | Population | | | | | Household | Population Density per sq.km | Household Size (1981) |
|--------------------------|------|-------|------------|------------|------------|------|--------|-----------|------------------------------|-----------------------|
| | Acre | Sq.km | 1961 Total | 1974 Total | 1981 Total | Male | Female | | | |
| Katiara | 281 | 1.14 | 487 | 615 | 771 | 376 | 395 | 142 | 676 | 6.43 |
| Madhabpur | 675 | 2.73 | 2755 | 3749 | 7407 | 3904 | 3503 | 1296 | 2713 | 5.72 |
| Gomtia | 367 | 1.49 | 471 | 643 | 1091 | 555 | 536 | 170 | 732 | 6.42 |
| Chandura | 274 | 1.10 | 633 | 756 | 1183 | 583 | 600 | 197 | 1075 | 6.00 |
| Total : | 1597 | 6.46 | 4346 | 5763 | 10452 | 5418 | 5034 | 1805 | 1618 | 5.79 |

Source : Population Census Reports of Bangladesh 1961,1974,1981, B.B.S.

3.3.1.3 Age Structure of the Population.

Table 31A shows the age structure of population in the study Area.

Table 31A: Age Structure of Population in the Study Area (1981).

| Age Groups | Number of Population | Percent |
|-------------|----------------------|---------|
| 0 - 9 | 3175 | 30.38 |
| 10 - 17 | 1902 | 18.20 |
| 18 - 64 | 5073 | 48.53 |
| 65 and over | 302 | 2.89 |
| Total | 10452 | 100.00 |

Source : Bangladesh Population Census 1981. Community Tables of all Thanas of Sylhet District Part.

3.3.2 Topographical Condition.

3.3.2.1 Topographical Condition in the Upazila Area.

Except a portion in the north-eastern side the whole upazila consists of plain land maintaining a normal contour heights ranging from 15 to 20 feet. The north-eastern side is a part of hill ranges of peak heights from 200 feet to 100 feet. A good number of small rivers locally known as Chharas originating from the hill ranges along the eastern areas flow mostly towards west. These small rivers normally get dry in the winter, drains out the rain water when they are filled with. If the rainfall is normal, there is no risk of flood. As most of the rain water comes from the hilly regions of India and

Bangladesh, so when rainfall is heavy in the upper hilly regions, there is occasional flood of short duration.

Along the eastern side of the upazila, at the gentle slopes of the small hills there exists a number ^{of} tea gardens. Rest of the land in the upazila is used for human settlements, vegetation and agricultural purposes.

3.3.2.2 Topographical condition in the Study Area.

The Study Area covers the existing Shahar area and its prospective environs. The development of the existing shahar has occurred on both sides of the pucca road connecting the Chittagong - Sylhet highway. The main market area, upazila offices, Health Complex, High School and the College are situated on west side of the main road while, a health clinic, police station, residential area are located on the eastern side of the main road.

3.3.3 Flood Characteristics in the Study Area.

Two water channels, one Khasti river flowing north to south making anatural boundary on the west another Sonai river flowing east-west direction by the study area have mingled with khasti river near the main marketing area and has been flowing towards further west. These water channels along with their subsidiaries normally get dry in the winter. When rains come they are filled with rain water and act as navigable channels for transportation purpose.

3.3.4 Existing Drainage Channels.

3.3.4.1 Drainage in the Upazila.

The whole of the upazila area is drained by a good number of small khals or Chharas originating in the neighbouring hilly areas in the east and flow towards west. These Chharas or Khals carry mostly rain water and get dry in the winter. As a result these khals are navigable for small boats only in the rainy season.

3.3.4.2 Drainage Channels in the Shahar Area.

Due to non-existence of big rivers in the upazila area road and railway transport system have become the principal means of transport and communication. For this reason the development of the upazila shahar occurred on the both sides of the main road. However

two small rivers one in the western side, known as Khasti river another in southern side of the upazila shahar known as Sonai river function as the principal means of drainage of the Shahar area. The drainage channels are shown in the Map M-3.

3.3.5 Transport and Communication.

Atmost whole of the upazila area is plain except a small portion in the east where a number of tea gardens exists on the gentle slopes of small hills with peak height 100 to 200 feet. Moreover, due absence of big rivers in the upazila area, the upazila has been well connected by highway and railway line with most of the important cities of Bangladesh like, Comilla, Chittagong, Sylhet, Dhaka etc. The upazila shahar area is also connected with the union offices by footpath level roads.

The upazila shahar is connected by telephone and telegraph network. There are 20 post offices in upazila including the one in the shahar area. Category and milèage of of transport net work in the upazila and study area are given on the Table 32.

Table 32: Category and Mileage of the existing transportation route in the Upazila and the Study Area.

| Name of Area | Roads | | | Railway line (in km.) | River Route (in km.) |
|--------------|-------------------|-------------------------|--------------------|--------------------------|-------------------------|
| | Pucca (in km.) | Brick Paved (in km.) | Katcha (in km.) | | |
| Study Area | 5 | 0.15 | 10.86 | - | - |
| Upazila Area | 55 | 8.00 | 260.00 | - | - |

Source : Field Survey and District Statistics, Sylhet, B.B.S. 1983.

3.3.6 Agriculture and Forestry.

Madhabpur Upazila is predominantly an agricultural area. Out of 69 Thousand acres of total land 44 thousand acres of land in net is used for crop production which is about 64 percent of the total. With respect to land utilisation in 1981-82 out of total 69120 acres, 1210 acres were current fallow. 21765 acres were single cropped, 24051 acres were double cropped and 869 acres were trip-ple cropped are with intensity of cropping of 132.55 percent.

Table 33 shows the major crops, area cultivated and amount of production in 1981-82.

Table 33 : Major Crops, area cultivated and amount of production in Madhabpur Upazila in 1982.

| Major Crops | Area Cultivated | | Production in Metric Ton |
|--------------|-----------------|----------|-----------------------------|
| | Acres | Hectares | |
| Rice | 93000 | 37652 | 49898 |
| Mustard | 264 | 107 | 72 |
| Ground nut | 45 | 18 | 20 |
| Onion | 18 | 7 | 69 |
| Turmeric | 30 | 12 | 30 |
| Jute | 1185 | 480 | 259 |
| Tobacco | 330 | 133 | 87 |
| Tomato | 60 | 24 | 223 |
| Potato | 506 | 205 | 2837 |
| Sweet Potato | 145 | 59 | 833 |

Source : Sylhet District Statistics, B.E.S., 1983.

Irrigation facilities in the upazila is poor. In 1981-82 only a total of 1850 acres of land in the upazila of which 1570 acres of land was irrigated by means of sower pump and Dons, cand, other means.

Out of the various Rabi and Kharif crops the items which have a significant proportion of production in comparison to other upazilas have been considered as major crops of the upazila.

Hilly land, forest and small Chharas cover small portion of the land area of the Upazila. About 1000 acres of land was covered by forest and chharas. Jackfruit, pineapple were important forest products having significant production in comparison to other upazila. Table 34 shows the major forest products in Madhabpur upazila in 1981-82.

Table 34: Major Forest Products in Madhabpur Upazila, 1981-82.

| Major Products | Area under Production | | Production in Metric Ton |
|----------------|-----------------------|----------|-----------------------------|
| | Acres | Hectares | |
| Pineapple | 120 | 48 | 673 |
| Jackfruit | 180 | 73 | 1422 |

Source : Sylhet District Statistics, B.B.S., 1983.

The study area consists of plain land of which a major part is in agricultural use. The agricultural land adjacent to the existing Shahar has enhanced the possibilities of expansion of the township toward the north-western as well as south-eastern side of the study area. The north-western side of the study area adjacent to the existing built up area on the main road is very prospective for development of township. Two small rivers one on the south side named Sonai river and another Khasti river on the west and north sides have naturally bounded the study area. The amount of agricultural land within the study area is 1128 acres.

3.3.7 Commerce and Industry.

3.3.7.1 Commercial and Industrial Activity in the Upazila.

Commercial activities are concentrated in Shahar area and in some important growth centres in different unions. A daily bazar sits in the Shahar area. Two daily bazars including one in the Shahar area and 18 weekly/bi-weekly hats and bazars sit at different areas. The industrial activities are limited to cottage industries which are mainly carried out by the individual household. But due to some helpful reasons some big industrial units like Saiham Fabrics, Tea gardens and industries have been localised within the upazila area.

3.3.7.2 Commercial and Industrial Activities in the Study Area.

The main commercial activities are concentrated in the bazar area near the Police Station, Katcha Bazar, Crocery and Stationery, Cloth, Medicine, Golden Ornaments, Banks, Hotel and Restaurants etc. are among the main areas of activities.

3.3.8 Occupation and Employment.

The occupational classification according to 1981 Population Census in the Madhabpur Upazila is shown in Table 35. These information relate to the population of 10 years of age and above in the upazila. The number of persons in the "not working" group includes persons attending educational institutions.

Table 35 : Occupational Classification of Population in the Madhabpur Upazila in 1981.

| Union/ Upazila | Total Po- pulation above 10 years of age | Not Work- ing | House Hold | Cul- tiva- tion | Agri- Non- Crop | Manu- fac- ture | Busi- ness | Others |
|-----------------------|--|---------------------|---------------|-----------------------|-----------------------|-----------------------|---------------|--------|
| Adaur | 8706 | 1390 | 3588 | 2725 | 138 | 40 | 416 | 409 |
| Bagasura | 11789 | 2100 | 4549 | 3500 | 38 | 253 | 193 | 1156 |
| Bahara | 14312 | 2342 | 6313 | 4319 | 6 | 10 | 390 | 932 |
| Bulla | 8185 | 1004 | 3732 | 2935 | 29 | 15 | 126 | 344 |
| Chattain | 10275 | 1392 | 4569 | 3113 | 83 | 7 | 325 | 786 |
| Chowmohani | 14740 | 2237 | 6292 | 4641 | 8 | 6 | 344 | 1212 |
| Dharmaghar | 11870 | 1831 | 5057 | 3623 | 1 | 5 | 244 | 1104 |
| Jagadishpur | 11179 | 1724 | 4554 | 3517 | 122 | 31 | 271 | 960 |
| Madhabpur | 13930 | 2317 | 5400 | 4356 | 64 | 24 | 646 | 1123 |
| Nayapara | 11926 | 2616 | 3485 | 2187 | 60 | 906 | 433 | 2239 |
| Shahjahanpur | 14808 | 3947 | 3920 | 2918 | 66 | 2728 | 277 | 952 |
| Madhabpur Upazila. | 131720 | 22900 | 51459 | 27834 | 615 | 4025 | 3665 | 11222 |

Source : Population Census 1981, Community Tables of all Thanas of Sylhet District, Part I.

Table 36 shows the occupational Structure of Population surveyed within the studt area.

Table 36 : Occupational Structure of the Surveyed Population in the Study Area, 1989.

| Age Groups | Surve- yed Popula- tion | Percen- tage of total | Occupation | | | | | | |
|------------|----------------------------------|--------------------------------|------------------------|-----------------------|--------------------|---------------|--------------|--------------|--------|
| | | | House- Hold Work | Agri- cul- ture | In- dus- try | Busi- ness | Ser- vice | Stu- dent | Others |
| 0-4 | 165 | 11.60 | 0 | 0 | 0 | 0 | 0 | 0 | 165 |
| 5-9 | 233 | 16.39 | 0 | 0 | 0 | 0 | 0 | 32 | 201 |
| 10-14 | 169 | 11.88 | 28 | 12 | 0 | 5 | 2 | 60 | 62 |
| 15-19 | 179 | 12.59 | 28 | 20 | 2 | 10 | 9 | 68 | 42 |
| 20-24 | 118 | 8.30 | 20 | 50 | 2 | 5 | 11 | 10 | 20 |
| 25-29 | 120 | 8.44 | 56 | 40 | 0 | 10 | 6 | 0 | 8 |
| 30-34 | 95 | 6.68 | 43 | 42 | 0 | 5 | 1 | 0 | 4 |
| 35-39 | 80 | 5.63 | 34 | 30 | 1 | 3 | 6 | 0 | 6 |
| 40-44 | 67 | 4.71 | 25 | 35 | 1 | 4 | 2 | 0 | 0 |
| 45-49 | 31 | 2.18 | 10 | 20 | 0 | 0 | 0 | 0 | 1 |
| 50-54 | 53 | 3.73 | 18 | 30 | 0 | 3 | 1 | 0 | 1 |
| 55-59 | 41 | 2.88 | 15 | 25 | 0 | 0 | 0 | 0 | 1 |
| 60-64 | 29 | 2.04 | 9 | 18 | 0 | 0 | 0 | 0 | 2 |
| 65 + | 42 | 2.95 | 22 | 20 | 0 | 0 | 0 | 0 | 0 |
| Total | 1422 | 100.00 | 308 | 342 | 6 | 45 | 38 | 170 | 513 |

Source : Field Survey.

3.3.9 Income and Expenditure.

i. Situation in the Upazila.

Household work and agricultural activities are major occupation for the people of the upazila. Agricultural based occupations, therefore, are the main source of income of the people of the upazila. Information on agriculture have been recorded in previous sections of this report.

ii. Income and Expenditure of the People of the Study Area.

The main commercial area of Madhabpur Upazila is included in the study area. For this reason trade and commerce constitute a source of the sizeable proportion of the total income of the people in the study area. Besides, a large segment of the people of the study area are engaged in agricultural activity

which forms an important source of income. Table 37 shows the results of a field survey of households carried out for determination of the income pattern of people in the study area.

Table 37 : Income Pattern of Households in the Study Area in 1986.

| Annual Income Range in Taka | Number of Sample Households | Percentage of Total |
|-----------------------------|-----------------------------|---------------------|
| 5000 and less | 0 | 0.00 |
| 5001 - 10000 | 5 | 2.22 |
| 10001 - 15000 | 18 | 8.00 |
| 15001 - 20000 | 33 | 14.67 |
| 20001 - 25000 | 42 | 18.67 |
| 25001 - 30000 | 23 | 10.22 |
| 30001 - 35000 | 22 | 9.78 |
| 35001 - 40000 | 13 | 5.78 |
| 40001 - 45000 | 16 | 7.11 |
| 45001 - 50000 | 15 | 6.67 |
| 50001 - 60000 | 12 | 5.33 |
| 60001 - 80000 | 22 | 9.78 |
| 80001 - 100000 | 4 | 1.77 |
| 100000 & above. | 0 | 0.00 |
| Total | 225 | 100.00 |

Source : Field Survey 1989.

iii. Table 38 shows the level of income based on occupational classification in the study area.

Table 38 : Level of Income of the Earning Members based on Occupational Classification in the Study Area.

| Occupation | Number of persons engaged | Total Annual of Earning members of Household in Tk. | Average Annual income of an earning member |
|--|---------------------------|---|--|
| Agriculture | 248 | 5532543 | 22308 |
| Service | 27 | 892500 | 33055 |
| Business | 70 | 1945517 | 27793 |
| Others | 1 | 36000 | 36000 |
| Total Number of surveyed Population | 346 | 8406560 | 24296 |

Source : Field Survey, 1989.

3.3.10 Education.

a) Table 39 shows the Unionwise location of the educational institutions in the upazila.

Table 39 : Educational Institution in Madhabpur Upazila in 1989.

| Name of Union | College | | H. Schools & Jr. H. School | | P. School | | Madrasha | | Technical Institution | |
|--------------------|----------------|-----------|----------------------------|-----------|----------------|-----------|------------------|-----------|-----------------------|-----------|
| | No. of College | Stu-dents | No. of Sch-ool | Stu-dents | No. of Sch-ool | Stu-dents | No. of Mad-rasha | Stu-dents | No. of Ins. | Stu-dents |
| Adaur | - | - | - | - | 5 | 1080 | - | - | - | - |
| Bagasura | - | - | 3 | 604 | 8 | 1639 | - | - | - | - |
| Bahara | 1 | 300 | 2 | 675 | 11 | 2093 | - | - | - | - |
| Chattian | - | - | 1 | 386 | 9 | 1950 | - | - | - | - |
| Chowmohani | - | - | 2 | 712 | 12 | 2550 | - | - | - | - |
| Dharmag. | - | - | 3 | 964 | 10 | 2740 | 1 | 112 | - | - |
| Jagadishpur | - | - | 1 | 256 | 6 | 1233 | - | - | - | - |
| Madhabpur | 1 | 200 | 2 | 1539 | 12 | 2303 | 1 | 270 | - | - |
| Nayapara | - | - | 1 | 277 | 7 | 1305 | 1 | 105 | - | - |
| Shahjahanpur | - | - | 2 | 540 | 8 | 1716 | - | - | - | - |
| Bulla | - | - | 1 | 264 | 9 | 1610 | - | - | - | - |
| Madhabpur Upazila. | 2 | 500 | 18 | 6217 | 97 | 20219 | - | 487 | - | - |

Source : Field Survey 1989.

b) Table 40 shows the number of Educational Institutions in the Study Area.

Table 40 : Educational Institutions in Study Area.

| Name of Area | College | | High School | | Jr. High School | | Primary School | |
|--------------|----------------|-----------|------------------|-----------|-----------------|-----------|------------------|------------|
| | No. of College | Stu-dents | No. of H. School | Stu-dents | No. of School | Stu-dents | No. of P. School | Stu-dents. |
| 1 | 2 | 3 | 4 | 5 | | | | |
| Study Area. | 1 | 200 | 2 | 1539 | - | - | 2 | 1086 |

| Madrasha | | Technical Institution | |
|-----------------|-----------|------------------------------|----------|
| No. of Madrasha | Stu-dents | No. of Technical Institution | Students |
| 6 | | 7 | |
| 1 | 270 | - | - |

Source : Field Survey 1989.

c) Literacy in the Upazila.

Table 41 : Number of Literate Persons and Literacy Rate in Madhabpur Upazila 1981.

| Name of Union | Total Population | | | Literate persons of | | | Literacy Rate % . | | |
|--------------------|------------------|-------|--------|---------------------|-------|--------|-------------------|-------|--------|
| | 5 yrs. and above | | | 5 yrs. and above | | | | | |
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Adaur | 10514 | 5167 | 5347 | 1464 | 1039 | 425 | 13.92 | 20.31 | 7.95 |
| Bagasura | 14682 | 7368 | 7314 | 2323 | 1669 | 654 | 31.76 | 22.65 | 8.94 |
| Bahara | 17529 | 8646 | 8883 | 3250 | 2230 | 1020 | 18.54 | 25.79 | 11.48 |
| Bulla | 10611 | 5226 | 5385 | 1740 | 1176 | 564 | 16.40 | 22.50 | 12.14 |
| Chattain | 12641 | 6265 | 6376 | 1856 | 1336 | 520 | 14.68 | 20.95 | 8.16 |
| Chowmohani | 18214 | 8971 | 9243 | 3012 | 2106 | 906 | 16.54 | 23.48 | 9.80 |
| Dharmaghor. | 14495 | 7293 | 7202 | 3070 | 2153 | 917 | 21.18 | 29.52 | 12.73 |
| Jagadish- pur. | 13778 | 6942 | 6836 | 2717 | 1835 | 882 | 19.72 | 26.43 | 12.90 |
| Madhabpur | 16908 | 8669 | 8239 | 3500 | 2400 | 1100 | 20.70 | 27.68 | 13.35 |
| Nayapara | 14780 | 7605 | 7175 | 2692 | 1922 | 770 | 18.21 | 25.27 | 10.73 |
| Shahjahan- pur. | 17927 | 9087 | 8840 | 2903 | 2068 | 835 | 16.19 | 22.76 | 9.45 |
| Madhabpur. | 162079 | 81239 | 80840 | 28527 | 19934 | 8593 | 17.60 | 24.54 | 10.63 |

Source : Bangladesh Population Census 1981, Community Tables of all Thanas of Sylhet District Part - 1.

d) Literacy in the Study Area.

Table 42 : Number of Literate Persons and Literacy Rate in the Study Area.

| Name of Area | Total Population | | | Literate Persons | | | Literacy Rate %. | | |
|--------------|------------------|------|--------|--------------------|------|--------|------------------|-------|--------|
| | (Surveyed) | | | 5 yrs. & above age | | | | | |
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Study Area. | 1422 | 847 | 575 | 273 | 178 | 95 | 19.20 | 21.02 | 16.52 |

Source : Field Survey, 1989.

3.3.11 Health.

a) Health Facilities in the Upazila.

In general the health services and facilities are poor in the upazila. There is one public health centre in the upazila shahar area which provides indoor and outdoor treatment facilities and also execute family planning programme. In other areas of the

upazila the level of health services are also inadequate Table 43 shows the existing level of health services facilities in the upazila.

Table 43 : Level of Health Service facilities in the Madhabpur Upazila, 1982.

| Level of Health Services | No. of Institution | No. of Doctors (M.B.B.S.) | No. of Nurses | No. of Beds | No. of other family Planning Personnel. |
|--------------------------|--------------------|---------------------------|---------------|-------------|---|
| Health Complex. | 1 | 6 | - | 31 | 65 |

Sources : Sylhet District Statistics, 1983, B.B.S.

b) Health Facilities in the Study Area.

Table 44 : Level of Health Service Facilities in the Study Area.

| Level of Health Services | No. of Institution | No. of Doctors | No. of Nurses | No. of Beds | No. of Family Planning personnel. |
|--------------------------|--------------------|----------------|---------------|-------------|-----------------------------------|
| Upazila Health Complex. | 1 | 9 | 5 | 31 | 18 |

Sources : Field Survey, 1989.

3.3.12 Administrative and Government Departments in the Shahar Area.

Among the Government and Administrative Offices, the Police Station, Main Market area, Health Complex are located in the Katiara Mouza. The Upazila Complex is located in the Madhabpur Mouza^{/in} which the College is located in Madhabpur East Mouza. Table No. 45 shows the offices and areas of land occupied by each administrative unit.

Table 45 : Names of Government Offices and the area of land under their possession.

| Name of Office | Location | Area | |
|---------------------------|------------------------------|-------|---------|
| | | Acre | Hectare |
| Upazila Parishad Complex. | Madhabpur and Katiara Mouza. | 10.00 | 4.05 |
| Madhabpur Police Station. | Madhabpur | 3.31 | 1.34 |
| Post Office. | Madhabpur | 0.20 | 0.08 |
| Dak Banglow | Madhabpur | 0.91 | 0.37 |
| Upazila Food Godown | Madhabpur | 0.93 | 0.38 |
| Gas Field | Madhabpur | 8.60 | 3.48 |
| Telephone Exchange | Madhabpur | 1.08 | 0.44 |
| Upazila Health Complex. | Katiara | 6.78 | 2.74 |
| Madhabpur Union Office. | Madhabpur East. | 2.40 | 0.97 |

Sources : Field Survey, 1989.

3.3.13 Residential Areas in the Study Area.

In the Study Area, most of the private residential houses are located in Madhabpur East, Chandura and Katiara Mouzas. The Government residential houses which are mostly pucca and located near the Upazila Complex within the Madhabpur Mouza. Table 46 shows the various categories of housing by tenure and ownership and Table 47 shows the type and Structure of dwelling units in the Study Area.

Table 46 : Categories of Housing by Tenure and Ownership in 1989.

| Categories | No. of Dwelling Unit | Percentage of Total. |
|------------------------------------|----------------------|----------------------|
| Owner occupied | 206 | 91.56 |
| Private Rental | 14 | 6.22 |
| Government Rental | 5 | 2.22 |
| Total in the Study Area (Surveyed) | 225 | 100.00 |

Sources : Field Survey, 1989.

Table 47 : Dwelling Units by Type and Structure in the Study Area in 1989.

| Type of Dwelling Units | No. of Units | Percentage of the total |
|------------------------------------|--------------|-------------------------|
| Pucca/Good | 12 | 5.33 |
| Semipucca/Medium | 19 | 8.45 |
| Kutchra/Poor | 194 | 86.22 |
| Total in the Study Area (Surveyed) | 225 | 100.00 |

Source : Field Survey 1989.

3.3.14 Socio Cultural.

In the study area there are about 6795 Muslims, 3646 Hindus, 11 Buddhists. The concentration of Muslim population is found in Madhabpur, Chandura and Gomtia Mouzas the majority Hindu people live in the Katiara Mouza.

The religions institutions and social services facilities for respective religions commities are found to have been established near or within the concentration of population of each commity. Table 48 shows the social services and facilities and religious institutions in the Study Area in 1989.

Table 48 : Existing Religious Institutions and Social Services Facilities in the Study Area 1989.

| Area | Mos-que | Hindu Temple | Buddist Pagoda | Christian Church | Muslim Grave Yard | Community Centre | Public Library | Idgah |
|------------|---------|--------------|----------------|------------------|-------------------|------------------|----------------|-------|
| Study Area | 10 | 5 | - | - | 8 | - | - | 3 |

Source : Field Survey, 1989.

3.3.15 Urban Services

Table 49: Existing Urban Services in the Study Area, 1989.

| Type of Urban Services | Location |
|----------------------------------|-----------------|
| Post Office and Telegraph Office | Madhabpur |
| Telephone Exchange | Madhabpur |
| Bus Stand/Shelter | Madhabpur Mouza |
| Railway Station | None |

Source: Field Survey, 1989

3.3.16 Recreational Facilities.

The recreational facilities available in the Study Area are shown in the Table 50.

Table 50: Existing Recreational Facilities in the Study Area, 1989.

| Type of Facility | Number | Location |
|------------------|--------|-----------------------|
| Stadium | 1 | Madhabpur (Proposed) |
| Club | 2 | Madhabpur |
| Cinema Hall | 1 | Madhabpur (Proposed). |

Source : Field Survey, 1989.

3.3.17 Urban Reserves.

The urban reserves consisting of good agricultural land, ponds etc. can be distinctly identified within the Shahar and study areas. On the left and right sides of the study area there exist two vast tracts of land suitable for agricultural use stretching north to south in the Katiara, Gomia and Chandura Mouzas. There are a good number of big ponds covering more than 25 acres of land provides good opper tunities for fish cultivation.

3.3.18 Existing Land Uses

The results of the land use survey of the study area have been shown on the map M3a (Existing Land Use Map). A consolidated statement of Existing Land Use of the study area has also been prepared and shown in the Table 51.

Table 51: Existing Land Use of the Study Area.

| Category | Study Area | | | Shahar Area (Built up area) | | |
|-----------------|------------|---------|------------|-----------------------------|---------|------------|
| | Acre | Hectare | % of Total | Acre | Hectare | % of Total |
| Residential | 317.85 | 128.68 | 19.90 | 317.85 | 128.69 | 27.54 |
| Commerce | 17.00 | 6.88 | 1.06 | 17.00 | 6.88 | 1.47 |
| Industry | 0.60 | 0.24 | 0.04 | 0.60 | 0.24 | 0.05 |
| Educational | 14.64 | 5.93 | 0.92 | 14.64 | 5.93 | 1.27 |
| Admin/Judiciary | 18.86 | 7.64 | 1.18 | 18.86 | 7.64 | 1.64 |
| Health | 3.81 | 1.54 | 0.24 | 3.81 | 1.54 | 0.33 |
| Recreation | 3.77 | 1.53 | 0.24 | 3.77 | 1.53 | 0.33 |
| Socio-cultural | 3.83 | 1.55 | 0.24 | 3.83 | 1.55 | 0.33 |
| Urban Services | 4.87 | 1.97 | 0.30 | 4.87 | 1.97 | 0.42 |
| Roads | 57.00 | 23.08 | 3.57 | 54.00 | 21.86 | 4.68 |
| Reserves | 25.00 | 10.12 | 1.57 | 20.00 | 8.10 | 1.73 |
| Agricultural | 1129.77 | 457.40 | 70.74 | 694.77 | 281.28 | 60.21 |
| Total | 1597.00 | 646.56 | 100.00 | 1154.00 | 467.21 | 100.00 |

Field Survey in 1989

3.4 Physical Opportunities and Constraints.

3.4.1 Potential Areas for Future Urban Development.

Except the main marketing area the development of the existing shahar area is almost a new experience. The existing shahar developed on both sides of major road connecting big towns of Bangladesh. There exists sufficient plain land on all direction of the road to meet the demand for land for a upazila shahar. However, the Chunk of plain land is surrounded by natural barriers like rivers on the north, west and south sides. The expansion of the shahar will be difficult beyond this limit. On the eastern side the development of the shahar can occur upto a kilometer beyond which the development will be hampered due to the existence of a lowlying marshy land. In view of the present situation and development trend, the new development of the shahar will be prospective around the upazila complex and along the main road. The continuity of development with the present built up areas will also ensure optimum utilisation of land and at the same time will make provisions of Urban Services and facilities less expensive. This will also ensure an efficient functioning of the shahar.

3.4.2 Areas Liable to Major Flooding.

The upazila shahar area is normally free from flood hazards. Floods in this area generally depend on the rainfall in the area and rainfall in the nearby Indian territory. If there is heavy rainfall in the above mentioned areas the rivers in the area which are mostly small may overflow inundating parts or whole of the shahar area. However, adequate flood protection measures can save the shahar from flood hazards.

3.4.3 Areas of High Yielding Agricultural Production.

Land areas of high yielding agricultural production in the study area although not limited, good agricultural land should not be lavishly used for urban expansion. For optimum utilisation of the land, a harmonic and well thought land use plan is necessary for the area.

3.4.4 Obstacles to Urban Expansion.

South-eastern corner part of the study area within Madhabpur East and Chandura Mouza is low and very suitable for fish cultivation. This portion is also suitable for boro-cultivation. Development of road system and extension of services in this part will be costlier than any other part. However in consideration to the flood risks and loss of agricultural land. This area may be used exclusively for agricultural purposes.

C H A P T E R - 4

4.0 FORECASTS.

4.1 Population, Household, Density.

4.1.1 Population forecast in the Upazila, Catchment Area and Upazila Shahar.

For the purpose of preparation of land use planning future growth of population in the Upazila catchment area of the Upazila Shahar are required to be calculated separately.

4.1.2 Past Trends of Population Growth.

Data on past trends of population growth is important for forecasting of future population Table 52 shows the growth of population in the Study Area and its catchment area compared to the upazila, regional and national figures between 1961 to 1981 censuses and the annual average rate of population growth.

Table 52 : Growth of population between 1961 and 1981 in Study area catchment, upazila, zila and Bangladesh.

| Name of Area | Population | | | Growth Rate % per annum (in av.) | | |
|------------------------|------------|---------|---------|----------------------------------|---------|---------|
| | 1961 | 1974 | 1981 | 1961-74 | 1974-81 | 1961-81 |
| Madhabpur | | | | | | |
| Study Area* | 4346 | 5763 | 10452 | 2.51 | 11.62 | 7.02 |
| Catchment Area* | 93654 | 121668 | 145241 | 2.30 | 2.77 | 2.75 |
| Upazila Area | 123272 | 161674 | 194710 | 2.40 | 2.92 | 2.90 |
| Habiganj Zila | 852862 | 1082485 | 1277366 | 2.07 | 2.57 | 2.49 |
| Bangladesh (in 000) | 50840 | 71479 | 88507 | 3.12 | 3.40 | 3.70 |

* Population of Madhabpur Study Area and its Catchment Area for the year 1961, 1974 and 1981 was calculated in proportion to the area within them.

Source : Census Reports of 1961, 1974 and 1981 B.B.S.

Analysis : Table 52 shows that the rate of growth of population in the Study Area was abnormally high in seventies. However, due to the present administrative decentralisation policy which is being followed at present and due to the rapid urbanisation process occurring in the upazila shahar area immigration within the upazila (Migration from the catchment area to the shahar area) is likely to continue to take place with increasing rapidity and the rate of population growth will be higher than that due to natural growth.

Considering all circumstances, we are of the opinion that the rate of population growth in Habiganj Zila region will continue to grow at the national growth rate as has been projected upto the year 2000 A.D. But in the national population projection an assumption of declining fertility and mortality has been adopted. Table-53 shows the national population projects upto the year 2000 A.D.

Table-53: Projected Population of Bangladesh as on July 1, 1980-2000.

| Year | Projection I(High) | | Projection II(Medium) | | Projection III(Low) | |
|------|---------------------|----------------------------|-----------------------|----------------------------|---------------------|----------------------------|
| | Population (000) | Growth Rate % per annum | Population (000) | Growth Rate % per annum | Population (000) | Growth Rate % per annum |
| 1980 | 88507 | | 88507 | | 88507 | |
| 1985 | 100054 | 2.61 | 100468 | 2.70 | 100200 | 2.64 |
| 1990 | 112865 | 2.56 | 113005 | 2.49 | 111300 | 2.21 |
| 1995 | 127086 | 2.52 | 126341 | 2.36 | 121999 | 1.92 |
| 2000 | 142141 | 2.36 | 139693 | 2.11 | 131695 | 1.58 |

Ref. Adopted from the Table of National Population
Projection given in the Statistical Year Book, 1989, R.B.S.

4.1.3 Population Projection of Madhabpur Upazila and Catchment Area.

In view of the circumstances described earlier the following rates of growth have been used for calculation of future population of Madhabpur Upazila and of the Catchment area of Madhabpur Upazila Shahar for various level of projections.

Table- 54 : Population Projection of Madhabpur Upazila and the Catchment Area of Upazila Shahar.

| Year | C a t c h m e n t A r e a | | | Upazila Area | | |
|------|-----------------------------|---------------------------|-------------------------|------------------------|---------------------------|-------------------------|
| | Projection I (High) | Projection II (Medium) | Projection III (Low) | Projection I (High) | Projection II (Medium) | Projection III (Low) |
| 1981 | 145241 | 145241 | 145241 | 194710 | 194710 | 194710 |
| 1885 | 165210 (2.61%) | 164728 (2.55%) | 164326 (2.50%) | 221481 (2.61%) | 220834 (2.55%) | 220296 (2.50%) |
| 1990 | 187467 (2.56%) | 186283 (2.49%) | 183304 (2.21%) | 251319 (2.56%) | 249731 (2.49) | 245738 (2.21%) |
| 1995 | 212308 (2.52%) | 209326 (2.36%) | 201590 (1.92%) | 284622 (2.52%) | 280623 (2.36%) | 270252 (1.92%) |
| 2000 | 238571 (2.36%) | 232361 (2.11%) | 218027 (1.58%) | 319830 (2.36%) | 311504 (2.11%) | 292287 (1.58%) |

Ref: Adopted as per national population projection.
Statistical Year Book, 1989, B.B.S. (The upper figure indicates population and the rate of growth in brackets)

4.1.4 Population Projection of the Study Area

Due to the policy of decentralisation of administration of the government, huge public and private investment in various forthcoming infra-structural of development in recent years notably, government's investments on socio-economic and physical infra-

structural development at the upazilas, have quickened the urbanisation process in the upazila headquarters centre. As a result, the growth of township has been markedly rapid and the tempo is likely to continue in future. This process of urbanisation has a reflection on the rate of population growth in the area. So, the rate of population growth in the shahar area will be higher than that of the whole upazila area because in-migration within upazila (from peripheral areas to the headquarters centre) will occur due to the said urbanisation process.

Assumptions:

The rate of population growth in the Madhabpur Upazila headquarters Area as has been observed during the last two Census periods, is also assumed to grow at the same rate in future. The rate of population growth in the upazila headquarter area was much higher than the national growth rate (Table 52) due to migratory effect. The development activities in the upazila headquarter area, both in government and private sectors are also expected to continue in future and the rate of migration to the upazila headquarter area will not be perhaps less than the rate occurred during the last two census periods. So the present rate of population growth in the upazila headquarter area is assumed to remain constant from 1981 onwards upto 2000 A.D.

Analysis:

In the Table three separate growth rates of population in the upazila headquarter area (Study Area) are observed. The average growth rate between 1961-74 was 2.51% per annum which seems to be low while the rate of population growth between 1974-81 was 11.62% per annum. This rate seems to be high. The rate of population growth between 1961-81 period was 7.02% which may be said to be a medium growth rate. However, these three rates of population growth have been used to calculate the Projected Population of the Study Area.

Due to rapid urbanisation during 1974-81 census period and onward, in-migration (migration from upazila periphery to headquarter area) was tremendous and the rate of population growth was high.

The medium rate of population growth (7.02% during 1961-81 period) is also expected to continue at least upto 2000 A.D. So the number of population shown in the medium projection has been used for planning purposes.

Table-55: Projected Population of the Study Area.

| Projection | Years | | | | |
|-------------------|-----------|------------------|------------------|------------------|------------------|
| | 1981 | 1985 | 1990 | 1995 | 2000 |
| | (G. Rate) | | | | |
| High Projection | 10452 | 18109 (11.62) | 31376 (11.62) | 54362 (11.62) | 94190 (11.62) |
| Medium Projection | 10452 | 14673 (7.02) | 20599 (7.02) | 28918 (7.02) | 40597 (7.02) |
| Low Projection | 10452 | 11831 (2.51) | 13392 (2.51) | 15159 (2.51) | 17159 (2.51) |

Source : Calculated by the Consultant. (The upper figure indicates population and the rate of growth in brackets).

4.1.5 Household Structure.

Household structures in the zila region and in the upazila area do not usually change because of the social system prevailing in the rural areas. In spite of marked urbanisation process that is likely to take place in the upazila headquarters area, the household structure is not likely to undergo a marked ^{change} because of the influence of rural economy prevailing in the shahar area. Thus the present household size prevailing in the shahar area may be assumed to be remaining the same in future years.

Table-56 and Table-56A show the projected household structure of population of the Catchment area and the shahar area respectively.

According to 1981 census the average size of household was 5.49 persons in the upazila. In the shahar area the average size of household was 5.79 persons. It is assumed that the average size of household will continue to remain the same during the period 1981-2000 A.D. due to the reasons stated above while the household size in the catchment area is expected to be 5.50 persons per family.

Table 56 : Projected Household Structure in the Catchment Area
(Medium Projection)

| | 1981 | 1985 | 1990 | 1995 | 2000 |
|------------------|--------|--------|--------|--------|--------|
| Total Population | 145241 | 164728 | 186283 | 209326 | 232361 |
| No of Households | 26407 | 29950 | 33870 | 38059 | 42247 |
| Household Size | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 |

Source: Adopted by the Consultants from published statistics.

Table 56A : Household Structure of the Projected Population of
the Study Area (Medium Projection).

| | 1981 | 1985 | 1990 | 1995 | 2000 |
|------------------|-------|-------|-------|-------|-------|
| Total Population | 10452 | 14673 | 20599 | 28918 | 40597 |
| No of Households | 1805 | 2534 | 3558 | 4994 | 7011 |
| Household Size | 5.79 | 5.79 | 5.79 | 5.79 | 5.79 |

Source: Calculated by the Consultants from the Published Statistics and field survey data.

4.16 Density

The density of projected population of the catchment area and that of the Upazila shahar area are given in Tables 57 and 57A respectively.

Table 57 : DENSITY of the Projected Population of the Catchment Area (Medium Projection)

| | 1981 | 1985 | 1990 | 1995 | 2000 |
|----------------------------|------------------|------------------|------------------|------------------|------------------|
| Area in Acre (Hectares) | 61187 (24772) | 61187 (24772) | 61187 (24772) | 61187 (24772) | 61187 (24772) |
| Total Population | 145241 | 164728 | 186283 | 209326 | 232361 |
| Density/Acre (Hectares) | 2.37 (5.86) | 2.69 (6.65) | 3.04 (7.52) | 3.42 (8.45) | 3.79 (9.38) |

Source: Calculated by the Consultants from published statistics and survey data.

Note: The density of population in the Shahar area comes to be low. This is because urban land uses are fairly distributed and large agricultural low areas had to be included in the total shahar area.

Table - 57A : Density of the Projected Population of the Study Area.

| | 1981 | 1985 | 1990 | 1995 | 2000 |
|----------------------------|------------------|------------------|------------------|------------------|------------------|
| Area in Acre (Hectares) | 1597 (646.56) | 1597 (646.56) | 1597 (646.56) | 1597 (646.56) | 1597 (646.56) |
| Total Population | 10452 | 14673 | 20599 | 28918 | 40599 |
| Density/Acre (Hectares) | 6.54 (16.17) | 9.19 (22.69) | 12.90 (31.86) | 18.11 (44.73) | 25.42 (62.79) |

Source : Calculated by the Consultant from published statistics and field survey data.

4.1.7 Migration

In-migration played an important role in the growth of population in the Upazila Shahar area. In the government sector increased number of government offices and establishments started during the eighties and side by side private development also took place which resulted in high rate of population growth which is also expected to continue in future.

4.2 Labour Force and Employment

Data on Labour Force and Employment are not readily available for Upazila Shahar Area. However, data on occupational classification and Labour Force given in the Table 35 and 36 may be used in forecasting labour force and employment level in the upazila.

Assumption

It is assumed that labour force in some occupations will continue to decrease while there will be an increment in some occupations. For instance, the number of people grouped as 'not working' who are mostly school going age will gradually decrease because of the Government Policy of universal primary education.

Secondly, disguised unemployment at present prevailing in agricultural sector - the number of people engaged in this sector will gradually decrease because of increase in employment opportunities in the industrial sector due to its continuous development.

The following Table (Table-58) shows the projection of labour force for the upazila upto the year 2000 A.D.

Table-58 : Projected Labour Force and Employment situation in the Upazila.*

| | 1981 | 1985 | 1990 | 1995 | 2000 |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Total Population | 194710 | 220834 | 249731 | 280623 | 311504 |
| Total Labour Force 10 years and above (%) | 131720 (100.00) | 149393 (100.00) | 168942 (100.00) | 189840 (100.00) | 210731 (100.00) |
| i. Not working | 22900 (17.38) | 23903 (16.00) | 23652 (14.00) | 20882 (11.00) | 18966 (9.00) |
| ii. Household work | 51459 (39.07) | 58368 (39.07) | 660057 (39.07) | 74170 (39.07) | 82333 (39.07) |
| iii. Cultivation | 37834 (28.72) | 42905 (28.72) | 48520 (28.72) | 51257 (27.00) | 52683 (25.00) |
| iv. Agriculture Non. Crop | 615 (0.47) | 1345 (0.90) | 2534 (1.50) | 4746 (2.50) | 8429 (4.00) |
| v. Manufacture | 4025 (3.06) | 5229 (3.50) | 7264+ (4.30) | 10441 (5.50) | 14224 (6.75) |
| vi. Business | 3665 (2.78) | 4482 (3.00) | 5913 (3.50) | 7594 (4.00) | 9483 (4.50) |
| vii. Others | 11222 (8.52) | 13161 (8.81) | 15053 (8.91) | 20750 (10.93) | 24613 (11.68) |

Source : Calculated by the consultant from published statistics and field study.

4.3 Land Requirements and Planning Standard.

Land requirements for the upazila shahar have been determined on the basis of the standards provided in the TOR. Accordingly Land Use Plan has been prepared for the upazila shahar after ascertaining the requirement of land for each sector to meet the demand for a forecast population at 2000 A.D. given in the Table - 55 Table - 59 below shows the requirements of land upto the year 2000 A.D. with requirements at five year intervals.

Table - 59 : Land Requirements for Madhabpur Upazila Shahar in 2000 A.D.
SA= Study Area (Pop. 40597)
CA= Catchment Area (Pop. 232361)

| Sector. | Standard Provision | Land Required as per Provision in 2000 A.D. in Acre(Ha.) | Existing Land use of the Study Area in acre (Ha.) | Proposed Land use in 2000 A.D. in acre (Ha.) | Percentage of the total (Proposed Area) |
|-------------------------------|-------------------------|--|---|--|---|
| 1. Agriculture. | - | - | 1130.62 (457.74) | 683.11 (276.56) | 42.77 |
| 2. Commerce and Industry(CA). | 1.5 acre/ 1000 popn. | 348.00 | - | - | - |
| a. Commerce | - | - | 17.00 | 49.00 | - |
| b. Industry | - | - | 0.60 | 20.00 | - |
| | Total | 348.00 (140.89) | 17.60 (7.13) | 69.00 (27.93) | 4.32 |
| 3. Education. | | | | | |
| a. Primary (SA). | 2.00, acre 5000 | 16.00 | 3.80 | 11.00 | |
| b. Secondary(CA). | 5.00, acre 20000 | 58.00 | 6.80 | 25.30 | |
| c. College (CA). | 5.00 acre 20000 | 58.00 | 4.04 | 17.15 | |
| | Total | 132.00 (53.44) | 14.64 (5.93) | 53.45 (21.64) | 3.35 |
| 4. Health (CA). | | | | | |
| a. Dispensary | 1.00, acre 5000 | 46.00 | 0.15 | 8.20 | |
| b. Health Complex. | 5.00 acre 20000 | 58.00 | 3.66 | 12.36 | |
| | Total | 104.00 (42.10) | 3.81 (1.54) | 20.56 (8.32) | 1.29 |
| 5. Administration | 12.00 acre. | 12.00 | 18.86 | 36.00 | 2.25 |

| Sector. | Standard Provision | Land Required as per Provision in 2000 A.D. in Acre(Ha.) | Existing Land use of the Study Area in Acre (Ha.) | Proposed Land use in 2000 A.D. in acre (Hac.) | Percentage of the total (Proposed Area). |
|-----------------------------|-----------------------------------|--|---|---|--|
| 6. Recreation. | | | | | |
| a. Park, Open space (SA). | 1.00 acre/ 1000 | 40.50 | - | 40.00 | |
| b. Sports Stadium (CA). | 3.00 acre/ 20000 | 35.00 | 3.77 | 8.40 | |
| c. Cinema (CA). | 0.5 acre/ 20000 | 6.00 | - | 6.50 | |
| | Total | 81.5 (32.99) | 3.77 (1.53) | 54.90 (22.22) | 3.44 |
| 7. Socio-cultural. | | | | | |
| a. Community Centre. | 1.00 acre/ 20000 | 2.03 | - | 2.00 | |
| b. Religious. | 0.5 acre/ 5000 | 4.05 | 1.35 | 6.12 | |
| c. Graveyard. | 5.00 acre/ 20000 | 10.15 | 2.48 | 11.40 | |
| | Total | 16.23 (6.57) | 3.83 (1.55) | 19.52 (7.90) | 1.22 |
| 8. Urban Services. | | | | | |
| a. Post Office(SA). | 0.5 acre/ 20000 | 1.02 | 0.20 | 1.00 | |
| b. Telephone Exchange (SA). | 0.5 acre/ 20000 | 1.02 | 1.08 | 1.08 | |
| c. Police Station. | 2.00 acre/ 20000 | 31.00 | 3.59 | 13.18 | |
| d. Bus, Ghat, Rly. Station. | 1.00 acre/ 20000 | 11.00 | - | 5.00 | |
| e. Others (Fire) (SA). | 1.00 acre/ 20000 | 2.00 | - | 3.20 | |
| | Total | 46.04 (18.64) | 4.87 (1.97) | 23.46 (9.50) | 1.47 |
| 9. Road | 5 to 10 percent. | 140.00 (56.68) | 57.00 (23.07) | 140.00 (56.68) | 8.77 |
| 10. Residential (SA). | 100 person/ acre. | 405.00 (163.97) | 317.00 (128.34) | 410.00 (165.99) | 25.67 |
| 11. Urban Deferred. | Approx. 10% of the built-up area. | - | - | 62.00 | 3.88 |
| 12. Reserves. | - | - | 25.00 (10.12) | 25.00 (10.12) | 1.57 |
| Total | | | 1597.00 (646.56) | 1597.00 (646.56) | 100.00 |

- 5 LAND USE PLAN
- 5.1 Approach, Concept, Planning Principle.
- 5.1.1 Approach.

Introduction of the Upazila system of administration is an unique attempt towards achievement of the objectives of national development within a decentralised framework. The system of centralised development planning process has the inherent weakness of a sense of detachment from the people especially when they are distributed in different parts of the country. In Bangladesh, in general and in the low lying flood plains in particular, human settlements are distributed in localities which are often isolated by poor communication system, handicapped by poor socio-economic facilities and poorly served by distantly based units of administration. Feeling of detachment and communication gaps do not help public participation in the planning and development process in one hand and severely hampers efficiency of the development process on the other.

In the new system of upazila administration an alternative method of pursuing the process of development has been attempted where greater participation of local people in development and administration will be ensured and endeavours will be made to tackle the local problems locally.

The planning process having been an integral part of the development process, has an important role to play in the development process.

Therefore, the right approach should be to organise and establish the upazila land use process to suit the decentralised framework and initiate the process of planned development of the Shahar area of Madhabpur upazila headquarters area which is fast growing as a upazila shahar is required to be brought under the upazila planning process with proper development of its potentials and resources.

5.1.2 The Concept.

Generally a town is a compact area with higher density of population where the people are mostly engaged in non-agricultural activities. In course of growth of a town whether natural or influenced by particular historical events, it definitely attains a shape overtime depending on the nature of topography, transport and communication facilities in the locality and availability of resource potential including land. Future growth of a town also depends on the administrative and commercial importance of it . Whatever may be its initial extent the development of the town will definitely take place in accordance with the socio-economic exigencies of the time. Madhabpur Shahar is no exception to it. An urban area is already existing at the H.Q. of Madhabpur upazila. Conceptually it is the nucleus of the upazila Shahar of Madhabpur which is intended to be developed under a proper land use planning frame work.

Madhabpur upazila shahar grew overtime on the northern bank of the Sonai river taking a linear shape in east-west direction along the bank of the Sonai river. In course of time the town needed for the development and it developed towards north-east - south-west direction along the Dhaka-Sylhet highway. On the northern side of the town a big chunk of land with moderately high elevation is surrounded by relatively low agricultural land which needs to be included in the town area. Towards the east of the existing town homesteads are unevenly distributed on relatively high land interspaced by agricultural land. Until recently, this area was thinly populated but now this area has come under heavy pressure of development. This trend of development can be encouraged for an efficient Land Use in the shahar area. Moreover, there is trend of the town to expand towards the north and the west of the existing area. This situation of existing Land Use in the town and future prospects envisaged there create ample scope for better future Land Use allocation in the shahar. Accordingly, a schematic plan showing the Land Use of the proposed upazila shahar has been drawn in the figure M 3b.

Sectoral Concept

a Administrative and Judiciary:

The present location of the Upazila complex is at a safer distance from the international borderline. The upazila complex is expected to grow at its present location on the available land space adjacent to it in Madhabpur Mouza.

b Police Station:

It is an important government organisation. Its services are un-questionably required for maintaining law and order and smooth administration at the upazila level. So, efficient services of the Police personnel can be expected only if the police station is located within a reasonable distance from the administrative and judiciary functional institutions. In case of Madhabpur the P S is not far from the upazila complex. It can be retained in its location with extension of area.

c Education:

At present five primary schools, two high schools, two madrasahs and a college are functioning in the shahar area. The location of the primary schools are scattered in various areas so that the children can easily avail of primary education within a quarter to half a kilometer distance. By the plan period three more primary schools - two in Madhabpur mouza, another at Chandira mouza will be required and some of the existing schools shall have to be extended to accommodate the growing number of pupils.

The objective can be attained through allocation of more land to the present schools. Two new high schools will also be required which has been proposed to be located, one near the college another toward north of the gas complex in Madhabpur mouza. The Madhabpur high school if extended toward further north can cater for local as well as regional, educational needs. The present college is suggested to be developed at its present location providing adequate land towards further west.

(d) Commerce and Industry

The present commercial area at the Madhabpur Bazar is inadequate. In view of the scarcity of land adjacent to the present market area further extension is not possible at the present location. So far market development new sites need to be provided. One near Guntia Primary School another near the college is considered to be good sites for the purpose. The tendency of development of shops along the main roads create loss of traffic and other problems and therefore be discouraged. Planned market and shopping centres should be provided. Industrial land use has been proposed at the south-western side of the proposed shahar area. The present locations of small industries establishment should be encouraged to move to the new industrial estate for efficient functioning.

(e) Socio-Cultural

Land area for socio-cultural services seems to be sufficient at present. By 2000 A.D. an additional 15.69 acres of land will be required to meet the future demand. However, the land space for graveyard -at the present location providing requisite area of land has been proposed in the plan.

(f) Urban Services

Almost all the urban services at presents are available in the shahar area. Among them location of the post office is required to be shifted. A land space for the post office has been provided in the proposed plan near the health complex towards north direction.

The Telephone Exchange should be retained at its present location. A suitable site for the bus station can be found on the eastern side of the Upazila Complex. A land space for fire service can be suitably provided on the Dhaka-Sylhet highway near the Tehsil Office.

(g) Recreation

The land area under use of this sector is insufficient at present. One new land spaces in Madhabpur Mouza have been proposed to be used as open space. As regards land space for sports, the stadium the present land space in Madhabpur east Mouza has been proposed. Two new land spaces for the cinema halls have been proposed in Madhabpur mouza in order to improve service delivery of this item by the plan period.

(h) Health Services

Land area for health services is also insufficient at present. The present health centre has been proposed to be extended towards the northern direction. And an area of 20.56 acres land has been proposed for this purpose. Four land spaces for health centre have been proposed at Madhabpur and Chandua mouzas to meet the land requirements of adequate health services to the people by the plan period. Among the spaces one near the college, another near Ganganagar Primary School, one adjacent to Idgah and the fourth lies adjacent to Girls High School.

(i) Urban Deffered

Five land spaces have been proposed to be reserved as urban deffered in the proposed plan. Of these one space of 21.23 acres at the west end of the shahar area, one at Madhabpur of about 25 acres towards north of the Idgah.

(j) R o a d s

Three types of roads have been proposed in the proposed plan. The total length of 60 feet wide is 12.77 Km, 40 feet wide road 11.47 Km and that of 24 feet wide road is 13.98 Km.

(k) Residential.

In addition to the present use of the land under this sector a land space of 59.00 acres of land has been proposed for a housing estate towards east of the upazila complex. Although the existing residential areas within the shahar, if properly developed, can cater for the housing needs during the plan period, a carefully planned housing estate will demonstrate govt. policy decision on housing and serve as a model for planned housing area development in the shahar area.

5.1.3 Planning Principles

Madhabpur Upazila Shahar grew on the plain land. The major portion of the existing shahar area is on west side of the Dhaka-Sylhet highway. The shahar area grew mainly along the main highway connecting major cities of the country. Plain land of useable elevation for shahar development is available along both sides of the main highway. As a result, development of Madhabpur shahar mainly depends on the high land available on both sides of the roads. The high yielding agricultural land is costly and excessive use of this land will bring about heavy social costs. So, we have tried to avoid the wastage of the agricultural land in the shahar area to the farthest limit.

In the proposed land use plan of the shahar, we have finally selected an area of 1597.00 acres (646.56 ha) in order to meet the requirement of land to provide all kinds of services and facilities at the target year of 2000 A.D.

Sectoral distribution in these proposed land use plan of Madhabpur Upazila Shahar is given in Table-60.

Standards of Provision:

In order to provide all kinds of services and facilities to the projected population, the requirement of land use has been ascertained as per TOR.

5.2 Plan Description

1. The proposed shahar area.

The proposed Madhabpur upazila shahar comprises of Madhabpur, Katiara, Gumtia and Chandura mouzas covering an area of 1597.00 acres on the Dhaka-Sylhet highway. The proposed shahar area covers the whole part of the existing built-up area of 1154.00 acres with an additional land area of 443 acres of the same mouzas. A detailed description of the proposed land use plan of the shahar area is given below:

(a) Administrative and Judiciary:

The proposed upazila complex located in the Madhabpur mouza area have been allocated an area of 36.00 acres. This comprises an additional area of 17.14 acres over 18.86 acres in existing use. This is expected to cater for the land requirement within the plan period.

(b) The existing Police Station located on the eastern side of the Bazar area is proposed to be retained at the existing site. A total land area of 13.18 acres has been allocated in order to cater for the land requirement within the plan period.

(c) Education:

The locations of existing primary schools within the proposed shahar area seems to have not been properly distributed and established to meet

the present demand for primary education. It is observed that the area of land under their possession is insufficient to meet the requirement of land for the purpose at the target year of 2000 A.D. In order to meet the new demands expected to be created due to expansion of the existing shahar area three new primary schools two at Madhabpur and another at Chandua have been proposed. Two high schools in Madhabpur mouza will be insufficient for large number of students in future. So, a proposal to establish two new high schools in Madhabpur have been given in the land use plan totalling land allocation for high school education 25.30 acres for the plan period. An area of 17.15 acres of land has been allocated for college education. In the Draft Land Use Plan an area of 53.45 acres of land in total has been allocated for education sector.

(d) Residential

The residential housing (mostly private) has developed mainly along the main road on the moderately elevated land maintaining contours 15 and above. Madhabpur, Kutiara, Gumti are the areas of population with higher density.

In the land use plan development of a housing estate of 59.00 acres of land has been proposed in the Madhabpur mouza. The distribution of land for housing development will create opportunities for development of self-contained residential neighbourhood areas with related facilities such as educational institutions, recreational space religious spaces, shops and other urban services within a reasonable distance. People from the housing areas will also be able to attend their work places easily.

e) Health

The existing use of land under this sector amounts to 3.81 acres. But by the plan period an additional 16.75 acres of land will be necessary to meet the land requirement by the period. Accordingly, the present health complex has been proposed to be extended towards further north covering an area of 12.76 acres in Madhabpur mouza area.

f) Commerce and Industry

At present there is 17.60 acres of land in use under this sector. By the plan period a total 69.00 acres of land will be necessary to meet the requirement of land in the sector. So additional 51.40 acres of land has been allocated at different location in the proposed plan. The proposed area of land for commercial purpose is 49.00 acres and that of industrial use is 20.00 acres. The land for industrial use has been proposed at western side of the proposed shahar area. Four new market places covering 32.00 acres of land has been proposed while the previous Madhabpur Bazar alongwith other shopping centres shall continue to function as before.

g) Recreation

The area of land under use of this sector at present is less than the requirement. So, an additional 51.13 acres of land will be necessary to meet the demand for land by the plan period. So considering the probable public necessity three new locations have been proposed to be used as recreation centres. An area of 20.00 acres of land to the east of proposed housing estate have been proposed to be used as open space. The existing Stadium will continue to function as usual at its same location with an extended area of 2.83 acres.

h) Socio-Cultural

The existing area of land under use of this sector is 3.83 acres. A total of 19.52 acres of land will be necessary to meet the requirement of land by the plan period. The institutions at their present locations will continue to function as before.

i) Urban Services

Among the locations of urban services one new post office site has been proposed to be located in Madhabpur covering 4.06 acre of land while 3.20 acres of land has been proposed to be allocated for Fire Service Station in Madhabpur on the main highway. The land for telephone exchange has been proposed at the same location covering an area of 1.08 acres.

j) Road Network

At present principal means of communication is the road transport. The pucca road passing through Madhabpur shahar has connected major cities of the country. There is ample scope for improvement of road network for better circulation. Three types of roads have been suggested to be developed. Major arterial roads are of 60 feet reserve and 30 feet surface pavement, secondary roads of 40 feet land reserve and 20 feet surface pavement and local road of 24 feet land reserve and 12 feet surface pavement.

k) Summary of Land Use Provision

Land allocation for different land use categories have been provided to meet the land requirements for the population of Madhabpur Upazila Shahar for the plan period. The land use plan provides for the locations of social, administrative, economic, circulatory and other appropriate uses for a planned development of the upazila shahar. A consolidated statement of the land use provisions has been given in Table-60.

Table-60: Sectoral distribution of land in the Land Use Plan of the Madhabpur Upazila Shahar (in percent).

| Sl.No. | Sectors | Area of land allocation In acre (ha) | Percent of the total |
|--------|------------------------------|---|----------------------|
| 1 | Residential | 410.00 | 25.67 |
| 2 | Administrative/ Judiciary | (165.99) 36.00 (14.57) | 2.25 |
| 3 | Education | 53.45 (21.64) | 3.35 |
| 4 | Health | 20.56 (8.32) | 1.29 |
| 5 | Commerce & Industry | 69.00 (27.93) | 4.32 |
| 6 | Recreation | 54.90 (22.22) | 3.44 |
| 7 | Socio-Cultural | 19.52 (7.90) | 1.22 |
| 8 | Urban Services | 23.46 (9.50) | 1.47 |
| 9 | Roads | 40.00 (56.55) | 8.77 |
| 10 | Agricultural | 683.11 (276.56) | 42.77 |

(Contd. Table-60)

| Sl.No. | Sectors | Area of land allocation In acre (Ha) | Percent of the total |
|---------|-----------------|--|-------------------------|
| 11 | Hills & Forests | 0 | 0 |
| 12 | Urban Deffered | 62.00 (25.10) | 3.88 |
| 13 | Reserves | 25.00 (10.12) | 1.57 |
| TOTAL = | | 1597.00 (646.56) | 100.00 |

Note: Inclusion of higher percentage of agricultural land appear to have lowered down the percentage of other land uses compared to the total.

6.0 PROGRAMMING AND IMPLEMENTATION

6.1 Priority Actions, Cost Implications.

In order to make the upazila administration a well organised and efficient administrative unit, the physical facilities in a number of sectors especially those related to the Institution building activities are required to be created on a priority basis. Moreover, creation of development infra-structures will act as the prime mover for socio-economic development in the Upazila. In view of the present necessity government investment in construction of office buildings for the upazila administration and essential physical infra-structures especially in road construction have priorities over other general development investments. A sizeable proportion of the block allocation of funds to upazila may be spent in such priority schemes. There are a number of sectors where relatively heavier investment is required for building up infra-structural facilities and may involve other government departments. For instance construction of major roads and bridges, supply of electricity, major flood control and drainage system etc. have to be linked with the development budget of the concerned departments.

Due to rapid population growth in the shahar area the density of population will increase. As a result construction activity will increase to provide housing facilities to cater for the residential and other needs. This process of rapid urbanisation will require urban services like water supply, sewerage and drainage systems on priority basis. One of the important tasks of the upazila shahar administrative authority will be preparation of separate master plans for the essential services as noted above and direct the available resources for creating such facilities on a phased programme.

Government investment in construction of roads within the Upazila Shahar area is another essential priority action. In view of the problems land acquisition in areas of growing density of population, it is advisable to acquire land along major road alignments before the areas become densely populated and cover partial width with permanent and durable surfacing which can be widened with availability of necessary funds for the purpose. This will help to preserve the planned alignment of roads and at the same time meet the immediate needs.

Another important task of the upazila authority is to handle the programme of housing sector development. The planning office should develop housing standards and introduce an effective system of regulation to ensure that all construction activities are carried out in conformity with the general land use and physical plan of the town. The main objective will be guidance of development in such a way that creation of slums & unhygienic areas are avoided as far as possible in a situation where provision of adequate urban facilities such as sewerage, drainage etc. lag behind the increase in population density.

Implementation of the proposed plan should necessarily be carried out in a phased programme. The phases are likely to correspond to the National Five Year Development Plan extending over 1990 - 95. 1995-2000 etc. The current development schemes already in hand should be put on priority list for early and timely completion. Besides, the new schemes proposed and some of the schemes drawn on the basis of the priority areas should be incorporated.

The phasing of implementation of the plan is proposed to correspond with the National Five Year Plan periods but the priorities of implementation of the schemes have to be reviewed and adjusted annually in order to suit the prevailing situation and in keeping the overall objectives in view. Table 61 shows the phasing of priority projects upto the year 2000 A.D.

Table 61 : List of Projects for Development of Socio-economic infrastructures and Institutions.

Projects for Implementation by 1995 (on going and new)

A. Economic Infrastructure.

1. Transportation.

- a) 60 feet or 18.29 metre wide road construction with 30 feet or 9.14 metre pavement from girls' school point to Gomia Chanduā and Madhabpur. Total length 5,130 metres.
- b) 40 feet or 12.19 metre wide road construction with 20 feet or 6.09 metre pavement from Madhabpur east road to North-South road. Total length 5,129 metres.

A Economic Infrastructures (contn)

- 1.c
 - i Construction of a new road from Upazila complex towards North.
 - ii Construction of a new road passing on the West side of B A D C site.
 - iii Construction of road connecting Upazila complex with Guntia Mouza. Total length 6,035 metre, width 7.31 metre.
- 2 Construction of a new market near the college.

B Social Infrastructures

- i Community Centre
- ii Post Office
- iii Telegraph and Telephone Offices
- iv Stadium
- v Land Development for Housing
- vi Fire Station
- vii
 - a) Secondary Schools at Madhabpur
 - b) College Development
 - c) Primary School at Chandura.

Project for Implementation between 1995 and 2000.
(On going and new)A Economic Infrastructures

- 1 Transportation
 - a) 60 feet or 18.30 metre road construction with 30 feet or 9.15 metre pavement of Guntia to College road and Madhabpur east to Chandura road. Total length 7,644 metre.
 - b) 40 feet or 12.19 metre wide road construction with 20 feet or 6.10 metre pavement of Chandura and Guntia mouza. Total length 6337 metres.
 - c) 24 feet or 7.31 metre road construction with 12 feet or 3.66 metre pavement in remaining Guntia,- Madhabpur and Chandura mouzas. Total length 7,946 metres.

2 Social/Housing/Institutional Infrastructures

- i Community Centre at Gomia
- ii Open Space Development/Sports and Games
- iii Fire Service Station
- iv Secondary School near College Para
- v College Development
- vi Technical Training Centre
- vii Hospital/Medical Centre
- viii Government Office Buildings/Staff Quarters
- ix Cemetary/Graveyard

Cost Implications

Government has already invested a large sum of money in erecting the administrative and judiciary buildings, Semi-government offices, godown etc. within the proposed shahar area. But the development of socio-economic infra-structure in the eastern ^{& northern} parts of the shahar area is still inadequate and a massive programme of development has to be taken up for implementation on priority basis. In order to determine the investments required by different government departments and other agencies it is necessary to prepare a phased programme of implementation of priority projects. Table 61 shows such a program for Madhabpur upto the year 2000 A.D.

At present the system of block allocation of fund on year to year basis has a number of drawbacks. Firstly, the allocation is quite inadequate compared to the needs. In other words major portion of the available fund is used up either in works which are maintenance in nature or in continuing the projects started earlier. Secondly, larger projects requiring higher capital investment cannot be accommodated within the available funds. Consequently, a systematic implementation of the development plan of the Upazila Shahar cannot be ensured. For instance, in order to ensure a good traffic circulation system in the Upazila Shahar and to attract private development in certain parts of the shahar more than one major roads of the development plan is needed to be constructed on a priority basis which may require capital investment which is many times greater than the annual block allocation given to the upazila. Thirdly, the upazila development budget takes into consideration, balanced distribution of the upazila fund throughout the upazila. Therefore, only a limited proportion of the development budget can be utilized for the development works of the Upazila Shahar area.

Therefore, a better financing system is required to be evolved for proper implementation of the Upazila Shahar development plan. This system will involve other departments of the government and their programme in different sectors will be geared to the implementation of the Upazila Shahar development plan. This system will be monitored and co-ordinated through the planning unit of the upazila administration.

However, during the transition period between the existing system and the new system, a phased programme of priority projects may be prepared and executed in an effort toward implementation of the Upazila Shahar Development Plan. A list of such phased programme is given in Table 61.

6.2 Phasing, Urban Deffered.

With the growth of population in the Upazila Shahar and in its catchment area demand for socio-economic services and facilities will gradually increase. Popular demand for such services and facilities shall have to be met by providing more and more of them. A gradual increase in the extent of the socio-economic services and facilities may cope with the situation. This can be done by phased implementation of the plan over a long period of time. In fact, the plan contains sufficient flexibility to accommodate changes that are likely to occur overtime due to socio-economic changes taking place during the period of implementation. But in case the threshold population is reached before the plan period, additional land requirements may be necessary to meet the demands for expansion of existing services or for creation of new services for the additional population. Moreover, extra land may be required for new land uses or for other development purposes. Land provided under the heading of Urban Deffered is intended to cater for these requirements.

62. acres of land at different locations within the proposed Madhabpur Shahar area has been kept reserved as urban deffered in order to meet any additional land requirement for urban services or to accommodate the needs of a growing population upto 2000 A.D.

Description of the Urban Deffered Land Allocation

Another 21.23 acres space on South-West side of the Shahar in Katiara area is adjacent to residential areas. As a result this land is likely to be used for extension of residential accommodation.

Reserves

Lakes, ponds etc covering an area of 25.00 acres (10.12 ha) have also been termed as reserve area.

6.3 Development Control

In a country like Bangladesh there is always a shortage of necessary funds for investment in the public sectors. As a result the finest plan prepared for the human happiness can hardly see the fact of its implementation due to the scarcity of funds. The implementation of the provisions of the plan relating to development of infrastructures and urban services is unlikely to keep pace with the extent and rapidity of development activities both in the public and private sectors, and the required infrastructures will not be available in time. Consequently, Land Use decisions for investment will tend to be arbitrary and haphazard and development will take place in inappropriate locations. Housing sector development will also likely to be unplanned. Light industries, commercial organisations will grow up violating the zoning principles. All these will create enormous problems of traffic congestion, unhygienic environment etc. and tend to frustrate the area of planned development of the upazila shahar. In order to overcome all these problems, effective development control systems have to be evolved and proper machinery have to be created for its implementation.

It is essential that a proper institution is developed for further detailed planning and for development of an appropriate standards for regulation of physical development activities in the upazila shahar area.

This will include introduction of a system of mandatory planning permission from the upazila shahar planning authority for both public and private development schemes. Necessary legal support will be required which can be purposefully arranged by the controlling ministry at the national level. The jurisdiction of the East Bengal Building Construction Act with amendments may be extended over the Upazila Shahar area. The post of an Authorised Officer may be created in the Upazila along with a planning office. This department of the Upazila Parishad will perform an important role not only in checking unplanned and haphazard growth but also help in ensuring appropriate land use in the Upazila Shahar. The role played by the planning and authorisation department of the Upazila Parishad will encourage new development through the positive planning process whereby by initiatives for establishment of new housing estates, new industrial estates for small and cottage industries etc. will be taken both in public and private sectors. The land use and development control systems will provide guidance to proper physical development and ensure appropriate land use for different purposes in the Upazila Shahar.

The Development control system mentioned above will require legal support which may involve new legislation as well as notifications from the concerned ministries of the government.

6.4 Monitoring, Review.

The development of upazila 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 socio-economic development and contributes to the national development efforts. The question of upazila centre development has gained much importance in the minds of policy makers at the national level. As a result, a sizeable portion of the development budget of the upazila comes from the national budget. The allocation of fund from national budget is invariably linked with priorities of schemes at the upazila level and the total fund requirement at a particular time. The allocation of fund also depends upon the performance or

development activity and absorbing capacity of the concerned upazila. This will necessitate review and monitoring of the implementation of the land use plan.

The upazila planning authority will be required to review the priority fixed to cope with the changed situation. Review of the performance of the policies adopted, achievements of the schemes undertaken towards implementation of the plan will be required for monitoring and feed back purposes for adjustment and for adoption of better performance standards.

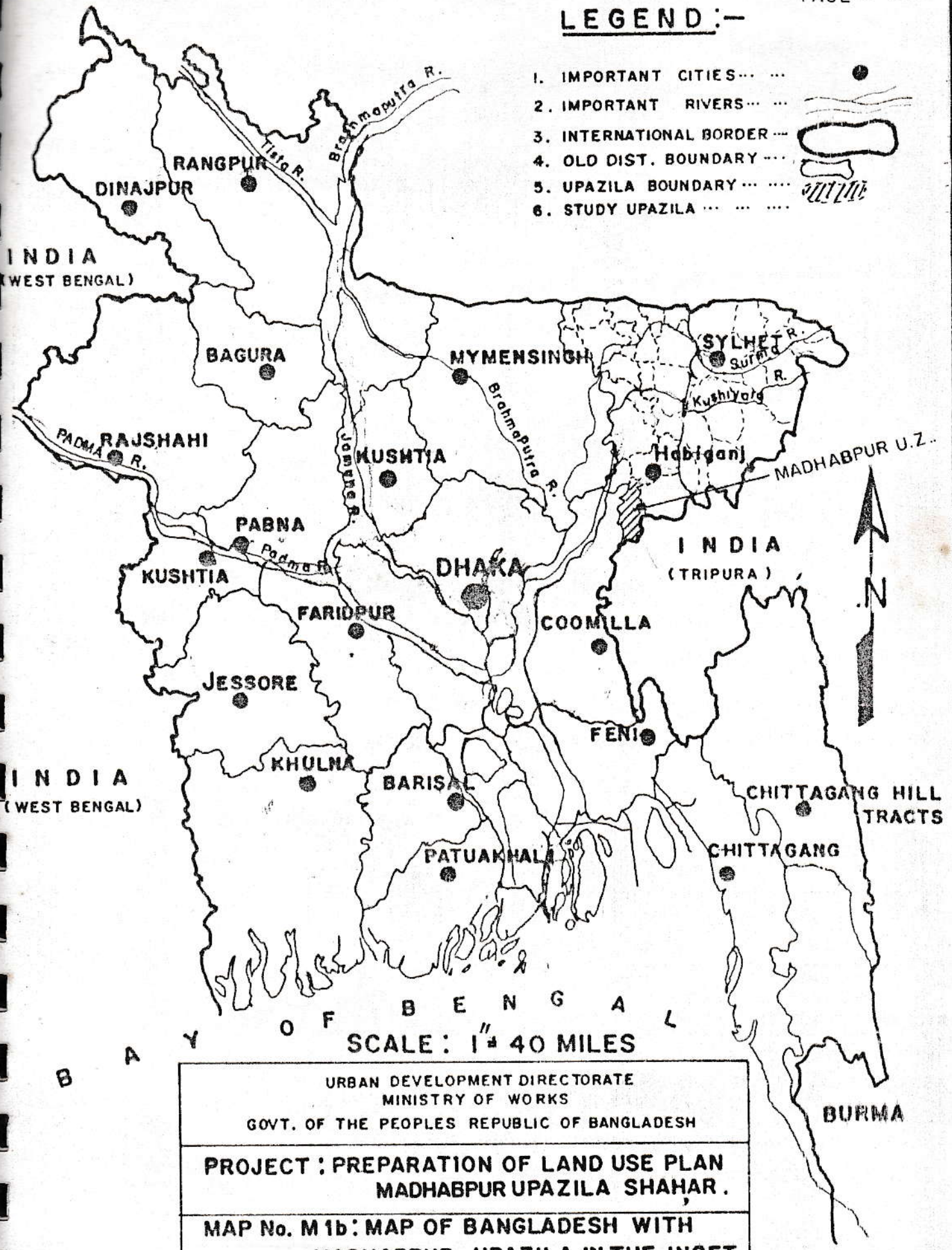
The land use zones shown in the proposed plan will provide guidelines for possible future allocation of land to different sectoral uses. This is one of the best possible location of land use for a particular purpose. But it provides a broad outlines and contain sufficient flexibility for accommodation and adjustment. The upazila planning authority should develop a in-built mechanism within its administrative set up to keep the plan in continuous review and updating with changing circumstances.

The process of review and monitoring of the development regulation system is an essential element in raising the performance level of implementation of the Upazila Plan. Appropriate level and areas of investment for integrated development of the Upazila Shahar will largely depend upon a well co-ordinated system of review and regulation. Unless continuous evaluation of the development activities taking place in the upazila over time is carried out, uncontrolled development will be the result and there is every possibility that desired achievement of the development plan will not be obtained. One important aspect of the uncontrolled development process is the slow rate of development. Unless the areas of quicker action and priority investment are identified in time and regulated other sectors of development will suffer and growth is likely to be slow. On the other hand, evaluation of performance, monitoring and feed back from national level down to the upazila level will ensure integrated development of the Upazila Shahar and the development activities at the Upazila level will play its desired role in the national development.

The physical development unit suggested for the upazila will perform this function at the Upazila level.

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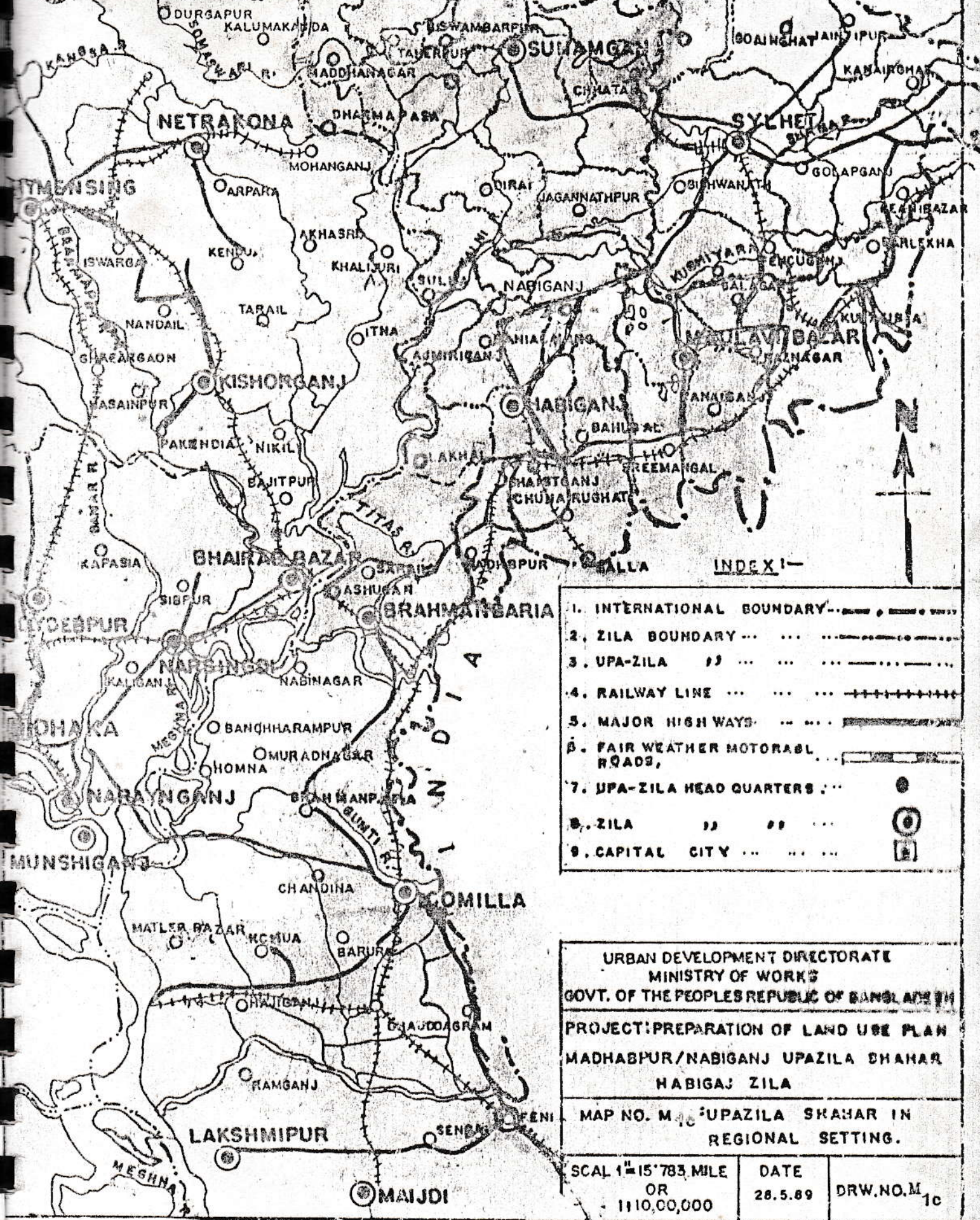
- 1. IMPORTANT CITIES ●
- 2. IMPORTANT RIVERS [Symbol]
- 3. INTERNATIONAL BORDER [Symbol]
- 4. OLD DIST. BOUNDARY [Symbol]
- 5. UPAZILA BOUNDARY [Symbol]
- 6. STUDY UPAZILA [Symbol]



URBAN DEVELOPMENT DIRECTORATE
 MINISTRY OF WORKS
 GOVT. OF THE PEOPLES REPUBLIC OF BANGLADESH

PROJECT : PREPARATION OF LAND USE PLAN
 MADHABPUR UPAZILA SHAHAR.

MAP No. M 1b : MAP OF BANGLADESH WITH
 MADHABPUR UPAZILA IN THE INSET.



- INDEX:-**
- 1. INTERNATIONAL BOUNDARY
 - 2. ZILA BOUNDARY
 - 3. UPA-ZILA
 - 4. RAILWAY LINE
 - 5. MAJOR HIGHWAYS
 - 6. FAIR WEATHER MOTORABLE ROADS,
 - 7. UPA-ZILA HEAD QUARTERS
 - 8. ZILA
 - 9. CAPITAL CITY

URBAN DEVELOPMENT DIRECTORATE
 MINISTRY OF WORKS
 GOVT. OF THE PEOPLES REPUBLIC OF BANGLADESH
 PROJECT: PREPARATION OF LAND USE PLAN
 MADHABPUR/NABIGANJ UPAZILA SHAHAR
 HABIGAJ ZILA

MAP NO. M/10 UPAZILA SHAHAR IN REGIONAL SETTING.

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