

## **CHAPTER 1 INTRODUCTION**

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### **1.1 General**

The world is incubating the largest wave of urban growth in the history and the population growth is spurred more than half the world's population in towns and cities. World population has grown exponentially in the 20th century from around 1.6 billion in 1900 to around 6.1 billion today, with each additional billion people being added more rapidly than the last (Cohen, 2006). The vast majority of this growth has occurred in the developing world which is mainly concentrated in Africa and Asia, and most of the new growth occurs in smaller towns and cities.

Although the population growth rate of Bangladesh has somewhat decreased to moderate level in recent era, it has experienced as one of the world's most densely populated country. The country is going to witness a rapid spread of urbanization over the next decade but there are fewer resources to response this change. According to an estimate, by 2020, nearly every other man, woman and child will live in an urban area (World Bank ed., Bangladesh 2020). At its birth, Bangladesh had an urban population less than 5 million. By 1990, this had increased to 22.4 million and a decade and a half later, urban population stood at 42.3 million. At an annual growth rate of 3.7%, urban population growth in Bangladesh has been higher than all other countries in South Asia barring Nepal (Rahman, 2014). Bangladesh's urban population has been growing at a yearly average rate of 6 percent since independence, at a time when the national population growth was 2.2 percent. As a result, urban population has grown six-fold, compared with a 70 percent increase in rural population (World Bank, 2007).

Urbanization refers to the process by which rural areas become urbanized as a result of economic development and industrialization. Demographically, the term urbanization denotes the redistribution of populations from rural to urban settlements over time. However, it is important to acknowledge that the criteria for defining what is urban may vary from country to country, which cautions us against a strict comparison of urbanization cross-nationally. The fundamental difference between urban and rural is that urban populations live in larger, denser, and more heterogeneous cities as opposed to small, sparser, and less differentiated rural places.

The urbanization and development relationship is inevitable for developing countries like Bangladesh. Urbanization is interlinked with the economic development, social development and environmental protection. The urbanization of the developing world began to accelerate in late twentieth century (Timberlake, 1987), although there was no clear trend in overall urban growth in less developed countries due to inconsistent definition of urban and the lack of quality in their census data. From experiencing of Bangladesh, it has been observed as predominately rural nation but urban is now kept in pace. The following table gives a notion about the urbanization trend of Bangladesh.

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**Table: Trends of Urbanization in Bangladesh**

Census year	Total national population (million)	Growth rate of national population (%)	Total urban population (million)	Level of urbanization (%)	Decadal increase in urban population (%)	Annual Exponential Growth rate of urban population (%)
1951	44.17	0.50	1.82	4.33	18.38	1.69
1961	55.22	2.26	2.64	5.19	45.11	3.72
1974	76.37	2.48	6.27	8.87	137.57	6.66
1981	89.91	2.32	13.23	15.18	110.68	10.66
1991	111.45	2.17	20.87	19.63	57.79	4.56
2001	123.10	1.47	28.61	23.10	37.05	3.15
2011	150.04	1.37	33.55	23.30	17.27	1.59
2011*	150.40	1.37	42.11	28.40	47.19	4.12

*Source: Government of Bangladesh: Bangladesh Population Census, 1991. BBS, 2003 1981; Report on Urban Areas, 1997; and Preliminary Report.*

Urbanization worldwide has been observed to be an effective agglomeration of economic growth and socio-cultural development. In pure economic terms, urbanization contributes significantly to the national economy. Even in Bangladesh (at 28 percent urban), this sector contributes to more than 60 percent of the GDP. This has grown from as low as 25 percent in 1972-73 and 45 percent in 1995-96 (Islam, 2005). This trend obviously may lead one to delineate that urbanization on a macro-scale would be beneficial to the economy of Bangladesh. Urbanization also impacts social development in terms of higher literacy rate, improvement in the quality of education, and better health indicators. To keep pace with greater urbanization, some institutional or developmental change is necessary to utilize the resources. A well-documented and visionary constitution is needed to survive with the change and to make the urban and rural place liveable.

### 1.2 The Context of Ramu Upazila

By considering the imminent change, the present urban exercise has been taken in Ramu Upazila, Cox's Bazar District by Urban Development Directorate (UDD) namely "Preparation of Development Plan for Fourteen Upazilas". The project might have potential for development within the next 20 years up to 2033 A.D. The development plan will be comprised of five tier plans (sub-regional, structure, urban, rural and action area) to address the challenges, opportunities and immediate interventions.

## **CHAPTER 2**

### **POPULATION PROJECTION**

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#### **2.1 Introduction**

Demographic factors are essential components of both the causes of and responses to future economic, environmental, and social change or development. In a country, population can increase or decrease upon which the whole development can vary. For the better implication of Government policies, it is necessary to know the current population as well as future growth of population of the country or an area with sufficient aspects. For that reason, the role of population projection is inevitable for utilizing the scarce resources. To serve major economic and social objectives of the society, population projection is momentous to sustain planning of a region.

#### **2.2 Population Projection**

Population projection is a scientific approach to fathom the future population growth by making certain assumptions, using the related past available data at the point of time. To forecast the future population several methods have been used. Some are very sophisticated and rigorous while others are simple and less sophisticated. The primary needs of the people cannot be gauged rationally without regard to the expected size and composition of the population, at the same time national resources cannot be appraised adequately without considering population size and structure. Many studies rely on a projection assumed to be the “most likely” outcome, and for this reason it seems widely agreed that it is important to provide users with such a projection. However, while it seems equally important to provide users with an indication of the uncertainty associated with the most likely projection. But there is no generally accepted approach to characterize this uncertainty (Ezra, 2001). For that reason, population projection can switch depending on the situation. Projections for small areas are more uncertain because of greater possibility of migration which is totally uncertain. Uncertainty also depends on some external factors such as war, epidemic, HIV/AIDS, climate change, natural hazards.

#### **2.3 Methods of Population Projection**

After knowing the present and past census data, the following methods can be applied to project the population for desired year.

- ❖ Arithmetical Increase Method
- ❖ Geometrical Increase Method
- ❖ Incremental Increase Method
- ❖ Exponential Growth Method
- ❖ Compound Rate of Growth Method
- ❖ Cohort Component Method

## **2.4 Review of Projection Methods**

In the development of a rural area or city or region, designing of different factors or provisions such as water supply or sanitation scheme is based on the projected population which is estimated for the design period. Any underestimated value will make system inadequate for the purpose intended; similarly, overestimated value will make it costly. For determining a better projection for 20 years, the following methods are reviewed and on the basis of observation the best method has been adopted for the population projection of Ramu Upazila for next 20 years.

### **1. Arithmetical Increase Method**

The arithmetic method is suitable for large and old city with considerable development. If it is used for small, average or comparatively new cities, it will give lower population estimate than actual value. In this method, the average increase in population per decade is calculated from the past census reports. This increase is added to the present population to find out the population of the next decade.

### **2. Geometrical Increase Method**

In this method, the percentage increase in population from decade to decade is assumed to remain constant. Geometric mean increase is used to find out the future increment in population. Since this method gives higher values and hence should be applied for a new industrial town at the beginning of development for only few decades.

### **3. Incremental Increase Method**

This method is modification of arithmetical increase method and it is suitable for an average size town under normal condition where the growth rate is found to be in increasing order. While adopting this method the increase in increment is considered for calculating future population. The incremental increase is determined for each decade from the past population and the average value is added to the present population along with the average rate of increase.

### **4. Cohort Component Method**

The standard used in projecting populations is the Cohort Component Method. This method projects the population in a way that duplicates how populations grow or decline. For projection, the following data will be required:

1. Base population by age and sex
2. Time series of life expectancy at birth by sex
3. Times series of total fertility rates and fertility rates by age of mother
4. Time series on net migration, total net amount and/or by age and sex

## 5. Exponential Growth Method

The exponential growth is assumed to occur on a continuous basis. Geometric extrapolation is desirable for short intervals and it will be adoptable more when forecasting for a new city and geometric rates are preferable to arithmetic rates for the extrapolation of decreases in population over a series of years.

## 6. Compound Growth Method

A compound rate of growth is more realistic in terms of national experience, because most population increase is due to natural increase rather than to an increase in net migration. When working with smaller level of geographic area such as state or country, the role of migration becomes increasingly important factor in respect of population change. Population growth due to net migration is not necessarily better described by compound growth rate method and in fact, growth due to migration is likely to occur at sporadic periods following perceived economic opportunities in the area. The estimate obtained with compound growth rate assumption varies by a variable absolute amount from year to year but by a fixed percentage from year to year.

### 2.5 Justification of Methods Selection

After reviewing the projection methods, it has been determined that three methods out of six as mentioned above are comparatively suitable for the population projection of Ramu Upazila. The justifications of selected methods are given below:

**Table 2.1: Justifications of Reviewed Projection Methods**

Methods	Data Sufficiency or Adaptability	Justification
<b>Cohort Component method</b>	1) Requires more detailed data <ul style="list-style-type: none"> <li>• Fertility and mortality rates by tenure are approximations</li> <li>• Needs a census for full validation</li> </ul> 2) Inflow/outflow concept are more difficult to interpret 3) Issues of consistency such as all tenure household projection	As Ramu Upazila is under Cox's Bazar Zila, the required data such as birth rate, death rate and migration rate cannot be adoptable in Upazila level. So, the related data are available in either country or region or division or district. The use of such average data may create inconsistent result.
<b>Arithmetical Increase Method</b>	Simple method and it will generate projection based on previous censuses.	It is adaptable for short time and results are generated based on decade and gives low projection for developing areas. In Ramu Upazila, the projection will be done for next 20 years, thus the projection may not provide the desired result.
<b>Incremental Increase Method</b>	This method is modification of arithmetical increase method and it is suitable for an average size town under normal condition where the growth rate is found to be in increasing order.	Though Ramu Upazila has increased growth rate, the growth rate will be more varied for future developments.

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Methods	Data Sufficiency or Adaptability	Justification
<b>Geometrical Increase Method</b>	Previous census data and more decadal census data will create the result more accurate and it is suitable for new area is to be developed.	As it gives the higher values, in adverse situation it may not correct. In respect of Ramu Upazila where new development will be taken place, it is suitable for projection.
<b>Compound Growth Method</b>	This method is viable for long term projection. This method delineates the future projection more accurately if net migration rate is not high enough.	In Ramu Upazila, net migration is negligible compared to Bangladesh. As the projection is done on compound rate and under different circumstances it will create far better projection for long term period.
<b>Exponential Growth Method</b>	Based on previous census, it will be suitable for short period, large population and historically high growth rate.	In Ramu Upazila, it is suitable for projection from 5 to 10 years. After considering merits, it can be accepted for population projection.

### 2.6 Validation of the Projection Method

Based on justification, Comparative Growth Rate Method, Exponential Growth Rate Method and Geometrical Increase Method have been accepted to project the future population of Ramu Upazila for next 20 years. The projected population for Ramu Upazila as a whole are outlined below:

**Table 2.2: Projected Population based on BBS, 1991-2011.**

Compound Growth Method	Geometrical Growth Method	Exponential Growth Method
Growth Rate-2.35	Geometrical Mean -1.26	Growth Rate-2.32
Population of Ramu Upazila will be <b>444485</b> (Year, 2033)	Population of Ramu Upazila will be <b>475173</b> (Year, 2035)	Population of Ramu Upazila will be <b>424070</b> (Year, 2033)

*Source: Projected by Planning Team based on BBS, 1991-2011*

Ramu Upazila has the population of 266640 based on the census of BBS, 2011. For projecting 20 years, Compound and Exponential methods have given the same result. As Geometrical method gives the projection based on decade, for next 2 decades from 2011 the projected population is 475173 which is larger than the other two methods based on census from 1991 to 2011.

For the better projection, the census data of BBS for 1981-2001 has cross checked. If it has been taken the base year 1981 and target year 2001, the growth rate has been calculated for the separate methods and on the basis of calculated growth rate the population of Ramu Upazila in 2011 would have been according to the Compound, Geometrical and Exponential respectively 260212, 259434 and 259990. So, the three methods have been given almost the same results. In fact, the growth rates of three methods from 1981 to 2001 have not been observed in 2011. If it has been considered the growth rate from 1991 to 2001, the calculated population projection would have been 245379 and 245340 in 2011 respectively for Compound and Exponential growth method. And considering the latest growth rate on the basis of 1991 and 2001 is quite satisfactory and result has tended to the actual population in 2011. In this case, Geometrical method cannot be applied as it requires minimum three

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decades. Lastly, it has been seen that the population of Ramu Upazila according to the BBS, 2011 is 266640. So, it is clear that the growth rate is increasing after 1991. As a result, in any times of period Compound and Exponential will give more valid data than Geometrical Method. The projection of Ramu Upazila will be done for 5 years' intervals which will be given the next 20 years as Exponential is more accurate for short time period and Geometrical is bounded for decades and short time period. After reviewing all methods, Compound Growth rate method is the best for projecting population of Ramu Upazila but it has also been observed that compound growth rate method will be more accurate if it can count more deriving factors in determining its compound growth rate. The following table summarized the projected results for adopted three methods and outlined the best method.

**Table 2.3: Cross Checking according to BBS Data and Projection for 2011**

Compound Growth Method	Geometrical Growth Method	Exponential Growth Method	Remarks
Population in 2011 would be <b>260212</b> (1981-2001)	Population in 2011 would be <b>259434</b> (1981-2001)	Population in 2011 would be <b>259990</b> (1981-2001)	Almost same result and three methods are perfect.
Population in 2011 would be <b>245379</b> (1991-2001)		Population in 2011 would be <b>245340</b> (1991-2001)	For any time period, only two methods are compatible.
Can provide result for long term period		Adaptable for short time period	Compound rate give comparatively better result than Exponential and suitable for any period and will provide more better result if attributing factors count.

*Source: Projected by Planning Team based on BBS, 1981-2001*

### 2.7 Adopted Population Projection Method

Compound Growth Method has been applied for population projection of Ramu Upazila. The formula is outlined below:

$$P_n = P_o (1 + r)^n$$

Where,

$P_o$  = Population in the base year

$P_n$  = Population in the projected year

$n$  = Number of intermediate years

$r$  = Annual rate of growth

#### 2.7.1 Basic Assumptions

- The recent trend of change of development are expected to be continued into future
- The existing population, growth rate, density, literacy rate, urbanization rate reveal that Ramu Upazila will be developed in near future
- For determining the growing trend of development, it is necessary to calculate viable growth rate for projecting population for next 20 years.

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### **2.7.2 Attributing Factors**

There are several factors which may vary the population projection are:

- Increase due to births
- Decrease due to deaths
- Increase/decrease due to migration
- Increase due to annexation

### **2.7.3 Results**

Population projection has been conducted based on the following factors and techniques:

- The base year for such above mentioned projection is 2011 as per available census data.
- Future population is estimated for the future year 2018, 2023, 2028 and 2033 considering 20 years planning period.
- Population projection based on age specific group per the influential areas.
- Finally, Compound Population Projection is used to conduct the Population Projection. Projected growth rate will be considered after reviewing different attributing factors.

## **2.8 Determination of Compound Growth Rate**

Population and demographic change are among the most prominent measures to delineate growth and its likely impact on land uses in a community. Therefore, it is helpful to recognize the community's population and growth trends in preparing a realistic and meaningful Master Plan or Development Plan. If it has been projected well, the projection will be resulted in cost efficiency in providing facilities which is necessary for an Upazila. The determination of growth rate will be followed by following ways:

- Calculation of observed compound growth rate based on the census year 1981, 1991, 2001 and 2011.
- Factor Analysis which can vary our projection result.
- Analysis of Natural Birth Rate and Decadal Growth Rate.
- Growth rate determination on the basis of sector wise analysis for Urban, Suburban and Rural area.

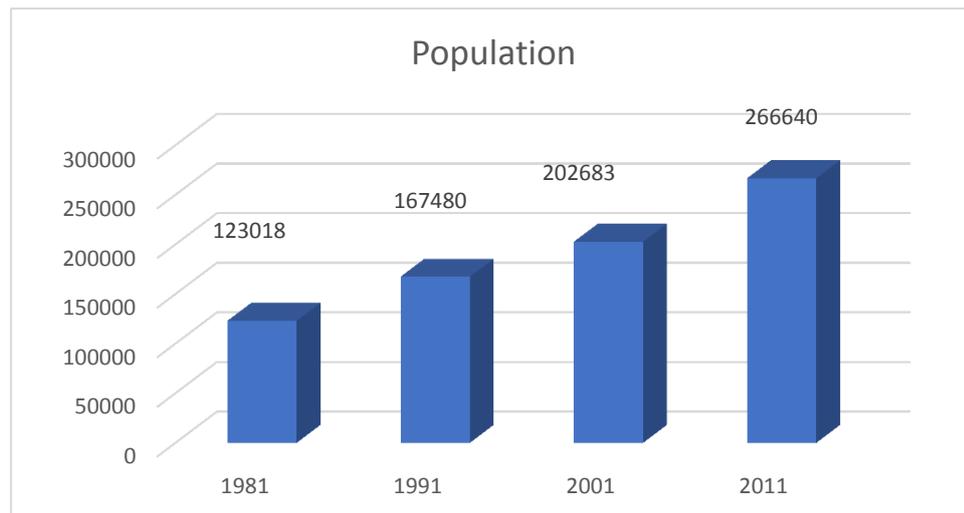
### **2.8.1 Calculation of Observed Compound Growth Rate**

Ramu Upazila is experiencing the positive population growth and population is increasing gradually every year. It has been seen that population is increasing from decade to decade gradually and it also indicates that different factors are prominent thus increase the population. The bar chart represents the population of previous four censuses.

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**Figure 2.1: Number of Population from 1981 to 2011**

*Source: BBS, 1981-2011.*

Population is expecting the different population growth in every year in Ramu Upazila. As the population census has been done in every 10 years, it has been enabled to get decadal growth rate of Ramu Upazila. Based on previous census, the following growth rates have been calculated on the basis Compound Growth Rate Method.

**Table 2.4: Calculation of Compound Growth rate**

Year	Compound Growth Rate	Remarks
1981-2011	2.61%	Medium
1991-2011	2.35%	Low
2001-2011	2.78%	High

*Source: Projected by Planning Team based on BBS, 1981-2011.*

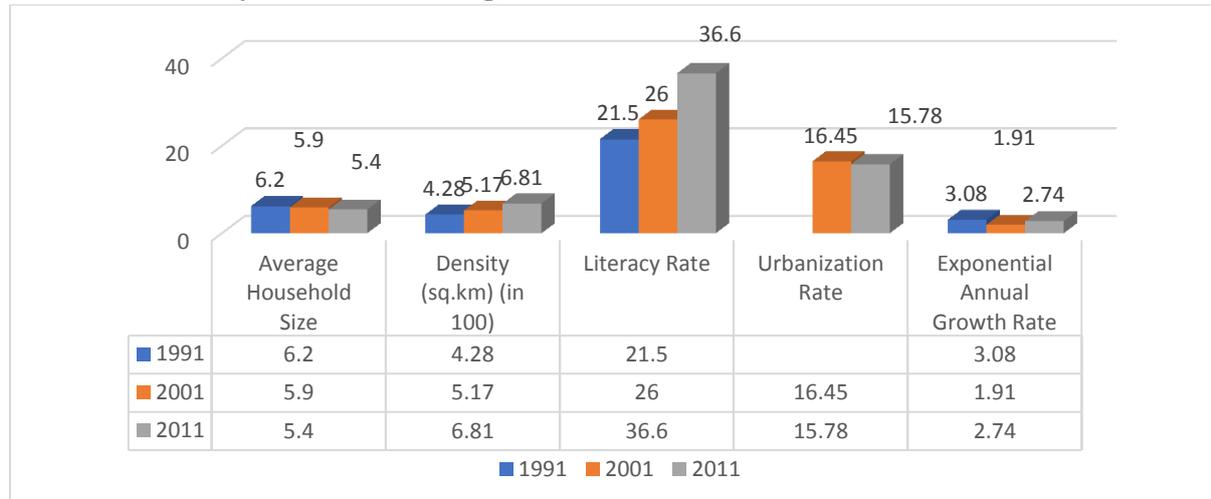
From the above table, the population growth rate will be lower if it has been considered the previous four decadal census. The growth rate is considerably higher which 2.61% is for Ramu Upazila if it has been taken the last two censuses. The last three censuses have also indicated the growth rate is closer to the last two censuses which is 2.35%. From the above table, it is clear that the recent growth rate is higher than previous censuses. And the growth rate is increasing greatly after 1991. And it can be said that the growth rate 2.61% on the basis of base year 1981 will not imply in near future so it is rephrased as lower growth rate. If it takes base year 1991 and 2001, the population growth rate is respectively 2.35% and 2.78%. So, the population growth rate is gradually increasing after 1991. So, it has been taken the recent growth rate for the population projection but not the exactly 2.78% because it is gradually increasing not steadily increasing. So, the growth rate will be considered greater than 2.78% for the population projection of Ramu Upazila.

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### 2.8.2 Factors Analysis for Determining Growth Rate

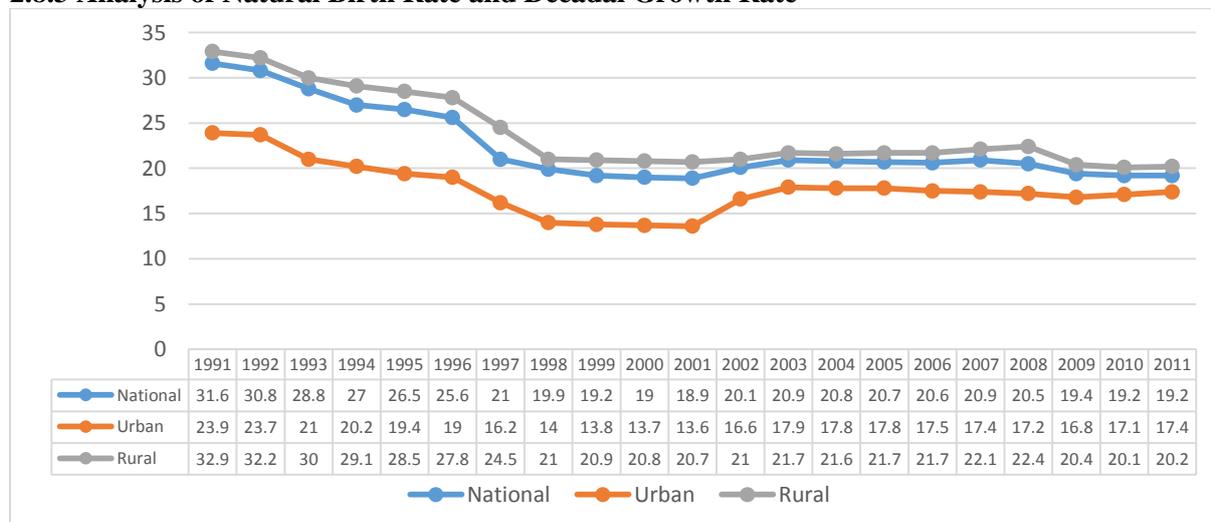


**Figure 2.2: Different Attributing Factors from 1991 to 2011**

Source: BBS, 1991-2011.

The above chart represents some factors which have impact on the population distribution or change. This can vary the growth rate so that the population projection may fluctuate. From the chart, it has been shown that average household size is decreasing but density is increasing in last three census which imply that people agglomeration is increasing as increased opportunities, employments or service facilities. Population is increasing and urbanization is also going on the pace now at the rate of 15.78 based on BBS,2011. It suggests that population is increasing due to different attributing factors. Though the literacy rate apparently has decreased from 2001 to 2011, it is visible that more than 30% population is now getting access to the educational opportunity than the before. If an area has higher density, lower average household size but increased population, higher literacy rate and urbanization also keeping its pace, the growth rate will not be as same as the previous census. It has been shown that the recent annual growth rate is 2.74% according to the BBS, 2011 and calculated compound growth rate is 2.78 % (**Table: 2.4**). The growth rate for projecting population for next 20 years will be amenable to consider more than 2.78 % according to the above attributing factors.

### 2.8.3 Analysis of Natural Birth Rate and Decadal Growth Rate



**Figure 2.3: Crude Birth Rate (CBR) per 1000**

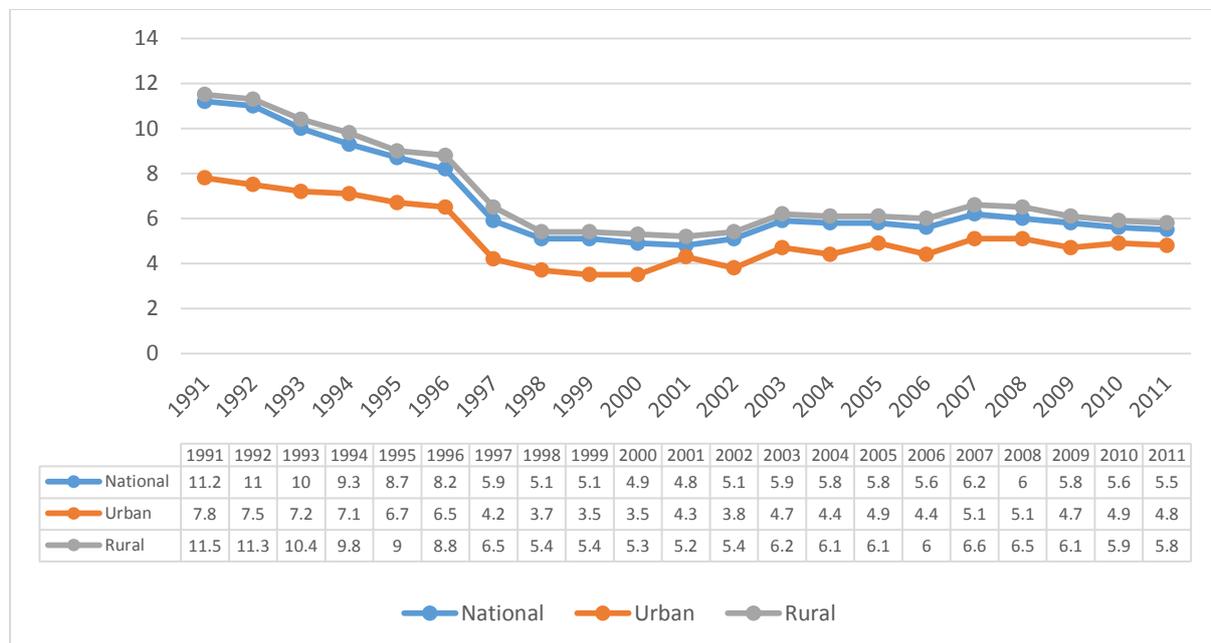
Source: SVRS, BBS, 2011.

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The above figure represents the Crude Birth Rate per 1000 in Bangladesh where the data is aligned according to the National, Urban and Rural area. The current CBR is 19.2 nationally, 17.4 at urban area and 20.2 at rural area.

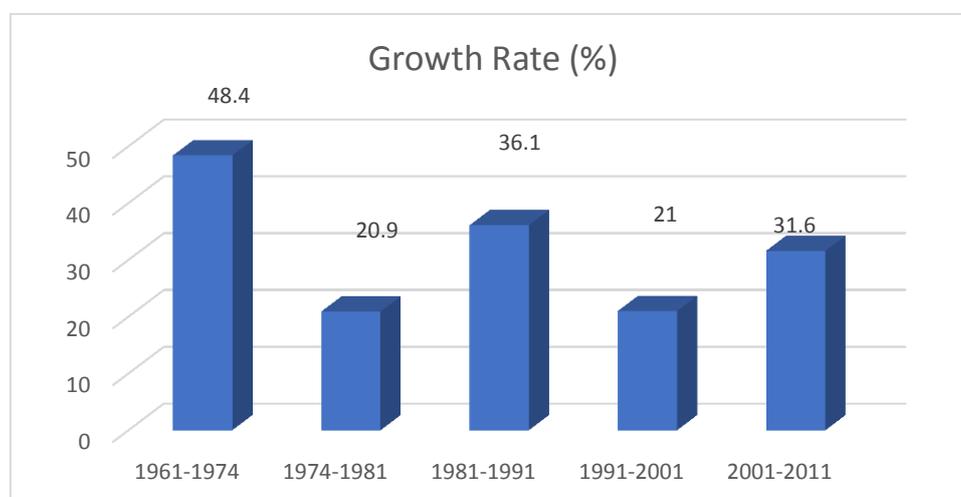


**Figure 2.4: Crude Death Rate (CDR) per 1000**

Source: SVRS, BBS, 2011

The line graphs represent the Crude Death Rate per 1000 in Bangladesh from 1991-2011. The graph is indicating CDR respectively in urban and rural. On an average, the current crude death rate is 5.5 in national which is 4.8 and 5.8 respectively in urban and rural area.

From the CBR and CDR Figure, it has been shown that natural growth rate in Bangladesh is 1.37. And the urban natural growth rate and rural natural rate is respectively 1.26 and 1.44. As Ramu Upazila is located at a distant region in Cox's Bazar Zila, it is advisable that the natural growth rate can be maximum limit after ignoring net migrants.



**Figure 2.5: Decadal Growth Rate (%)**

Source: BBS, 2011

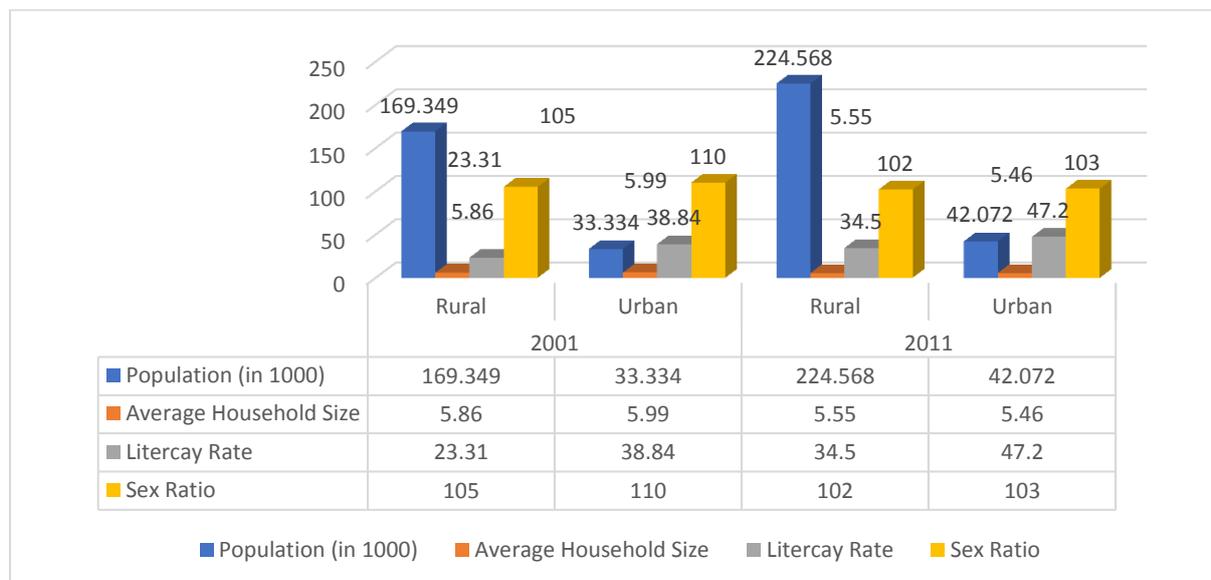
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From the above bar diagram, it has been shown that decadal growth rate was higher indiscriminately before 1981 but population growth rate was lower between 1974- 1981. After 1981, population is increasing gradually where it has been seen that 36.1,21 and 31.6 respectively for 1981-1991, 1991-2001 and 2001-2011. But between 1991-2001 population growth rate was lower than 1981-1991 & 2001-2011. So, population is marking a steep accretion for last three decades.

### 2.8.4 Sector wise Analysis for Determination of Growth Rate



**Figure 2.6: Attributing Factors in Influential Areas**

Source: BBS, 2001 & 2011

From the chart, it has been shown that population is increasing in every jurisdictional area such as rural, urban based on the BBS 2001 and 2011. Literacy rate is higher at urban area in 2001 and 2011. Sex ratio is fluctuating in every jurisdiction area at different period. As Ramu Upazila has a considerable number of population in urban and rural, different agglomeration of average household size, varying sex ratio and literacy rate, it will be advisable to consider separable growth rate for urban and rural because of deriving factors in different areas.

### 2.8.5 Area wise Change of Growth Rate

Ramu Upazila has 11 Unions (Formed in 1983) during the census of 2001. In 2011, it has 11 Unions. The following table represents the area wise population change rate according to the adjustment of 2001 and 2011 census.

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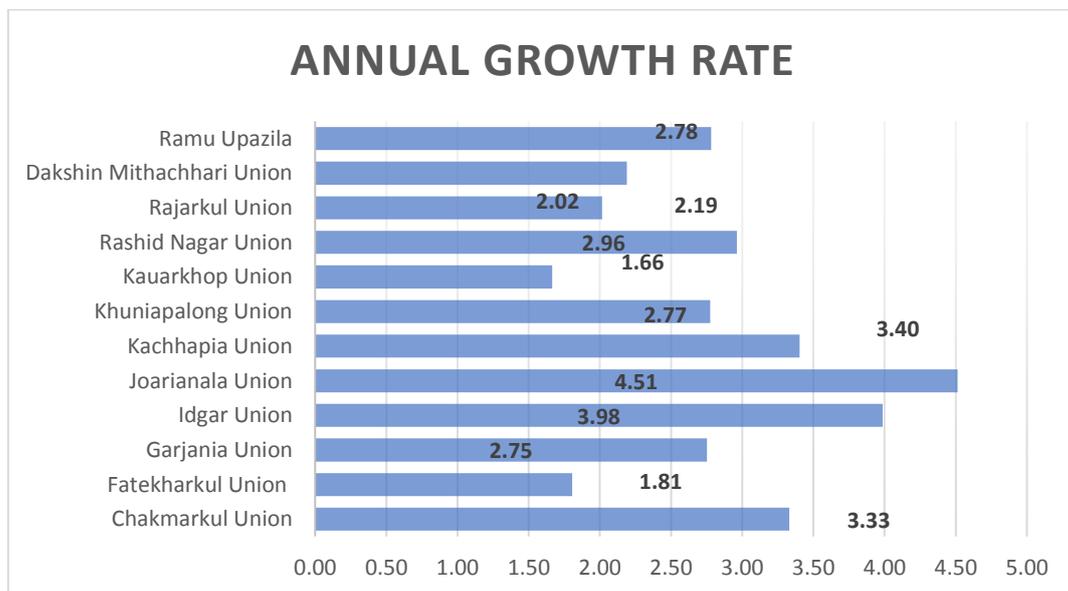
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**Table 2.5: Percentage of Change in Unions and Upazila**

Union	Population (2001)	Population (2011)	Increase	% Change
Chakmarkul Union	11845	16438	4593	39
Fatekharkul Union	25560	30569	5009	20
Garjania Union	17266	22651	5385	31
Idgar Union	12391	18315	5924	48
Joarianala Union	17575	27323	9748	55
Kachhapia Union	20277	28336	8059	40
Khuniapalong Union	27620	36315	8695	31
Kauarkhop Union	20353	24004	3651	18
Rashid Nagar Union	12352	16538	4186	34
Rajarkul Union	16507	20153	3646	22
Dakshin Mithachhari Union	20937	25998	5061	24
Ramu Upazila	202683	266640	63957	32

Source: Estimated by Planning Team based on BBS, 2001-2011.

From the table, it is seen that Ramu upazila and Unions have the increasing population. It is seen that different areas are expecting different population. For projecting population, it is advisable that different growth rate should be taken based on the above table different annual growth rates have been observed which is shown in below figure.



**Figure 2.7: Annual Growth Rate in Unions and Upazila**

Source: Estimated by Planning Team based on BBS, 2001-2011.

From the figure, it is seen that Ramu upazila has the annual growth rate of 2.78. The Unions have the annual growth more than 2%.

As it is seen that growth rates are varied according to the influential areas, it is clear that different separable growth rates have to be identified and the following table represents the annual growth rate according to the influential areas namely Urban and Rural areas.

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**Table 2.6: Change of Annual Growth Rate in Influential Areas**

Union/Pourashava	Population (2001)	Population (2011)	Growth Rate
<b>Urban</b>	<b>33334</b>	<b>42072</b>	2.36
<b>Rural</b>	<b>169349</b>	<b>224568</b>	2.86
<b>Ramu Upazila</b>	<b>202683</b>	<b>266640</b>	2.78
Fatekharkul (Urban)	24788	29266	1.67
Joarianala (Urban)	8546	12806	4.13
Chakmarkul Union	11845	16438	3.33
Garjania Union	17266	22651	2.75
Idgar Union	12391	18315	3.98
Fatekharkul (Rural)	772	1303	5.37
Joarianala (Rural)	9029	14517	4.86
Kachhapia Union	20277	28336	3.40
Khuniapalong Union	27620	36315	2.77
Kauarkhop Union	20353	24004	1.66
Rashid Nagar Union	12352	16538	2.96
Rajarkul Union	16507	20153	2.02
Dakshin Mithachhari Union	20937	25998	2.19

Source: Estimated by Planning Team based on BBS, 2001-2011.

The above table represents the recent growth rate 2.36 for Urban areas and 2.86 for Rural areas. At a glance, it is seen that highest growth rate 4.86 has been observed at Joarianala (Rural) and 4.13 at Joarianala (Urban) Union. The population was higher at rural areas and Ramu Upazila

### 2.8.6 Adjustment and Determination of Compound Annual Growth Rate

From previous analysis, it is clear that some area has extensive growth rate where developments and other facilities have increased. As different attributing factors are visible and prominently increasing the opportunities which may mark the inflow in near future.

**Table 2.7: Determination of Growth Rate**

Union	Population (2001)	Population (2011)	Increase	% Change	CAGR	Compound Growth Rate
Ramu Urban (Fatekharkul Union, Joarianala Union)	43135	57892	14757	34	0.029862	<b>2.99</b>
Ramu Rural (9 Union)	159548	208748	49200	31	0.027243	<b>2.72</b>
Ramu Upazila	202683	266640	63957	32	0.027805	2.78

Source: Estimated by Planning Team based on BBS, 2001-2011.

### 2.9 Population Projection and Distribution

Ramu Upazila is now growing in diverse sites and its development will be flourished in near future. After considering different aspects, it has been considered low, medium and high growth rate respectively in Urban and Rural areas. The following table represents the projected population on the basis of low, medium and high growth rate in the respective areas.

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**Table 2.9: Projected Population according to the Different Growth Rate**

Jurisdiction Area	Compound Annual Growth Rate		
	Low	Medium	High
Urban	2.74	2.99	3.01
Rural	2.70	2.72	2.75
Justification	As usual growth rate	Calculated Growth Rate	1% adjustment for attributing factors

Source: Projected by Planning Team based on BBS, 2011.

The recent compound annual growth rate of rural areas of Ramu Upazila is 2.74 and 2.70 which is then adjusted on the basis of different criteria and three different viable growth rates have been calculated for three influential areas. If it is considered overall development of Ramu Upazila, it will be optimised that the medium growth rate will be allowable to indicate the future growth. For the projection of future population in Ramu Upazila, medium growth rates have been determined for Urban and Rural areas and the projected results are summarised in below tables respectively Urban Rural Areas.

**Table 2.10: Projected Population of Ramu Upazila (with Urban & Rural)**

Jurisdiction Area	Population (Base Year 2011)	Growth Rate	Year 2018	Year 2023	Year 2028	Year 2033
Urban	42072	Low-2.74	35754	38158	40724	43462
		Medium-2.99	35779	38204	40793	43557
		High-3.01	35829	38294	40930	43746
Rural	224568	Low-2.70	304563	324560	345870	368580
		Medium-2.72	304773	324945	346451	369382
		High-2.75	305195	325716	347616	370990
Ramu Upazila	266640	Low	340317	362719	386595	412043
		Medium	340552	363149	387244	412939
		High	341023	364010	388546	414736

**Table 2.11: Projected Population in Rural Areas (Ramu Upazila)**

Unions	Annual Growth Rate	Years	0-4	5-9	10-14	15-19	20-24	25-29	30-49	50-59	60-64	65+	Total
Chakmarkul Union	2.72	2011 (Base Year)	1973	2219	2334	1956	1594	1414	3189	789	378	592	16438
		2018	2380	2678	2817	2360	1924	1706	3848	952	456	714	19835
		2023	2722	3062	3221	2699	2200	1951	4401	1089	522	817	22683
		2028	3113	3502	3684	3087	2516	2231	5033	1245	597	934	25941
		2033	3560	4005	4213	3530	2878	2551	5755	1424	682	1068	29666
Fatekharkul Union	2.72	2011 (Base Year)	152	143	141	149	122	120	302	96	34	44	1304
		2018	184	173	170	179	148	145	365	116	41	53	1574
		2023	210	198	194	205	169	165	417	133	47	61	1800
		2028	241	226	222	234	193	189	477	152	53	70	2058
		2033	275	259	254	268	221	216	546	174	61	80	2354
Garjania Union	2.72	2011 (Base Year)	3624	3851	3081	1993	1857	1971	3964	1110	476	725	22651
		2018	4373	4646	3717	2405	2241	2378	4783	1339	574	875	27332
		2023	5001	5314	4251	2751	2563	2719	5470	1532	656	1000	31257

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Unions	Annual Growth Rate	Years	0-4	5-9	10-14	15-19	20-24	25-29	30-49	50-59	60-64	65+	Total
Idgar Union		2028	5719	6077	4861	3146	2931	3110	6255	1752	751	1144	35746
		2033	6541	6949	5560	3597	3352	3556	7154	2003	858	1308	40879
		2011 (Base Year)	2546	3040	2656	1740	1593	1484	3443	861	385	568	18315
		2018	3072	3669	3204	2099	1923	1790	4155	1039	464	685	22100
		2023	3513	4195	3665	2401	2199	2047	4751	1188	531	783	25274
		2028	4018	4798	4191	2746	2515	2341	5434	1358	607	896	28903
Joarianala Union		2033	4594	5487	4793	3140	2876	2677	6214	1554	694	1025	33053
		2011 (Base Year)	2003	2250	1989	1582	1307	1248	2642	726	305	479	14532
		2018	2417	2715	2400	1909	1577	1506	3188	876	368	578	17535
		2023	2764	3105	2744	2184	1803	1723	3646	1002	421	661	20053
		2028	3161	3551	3139	2497	2062	1970	4169	1145	481	756	22932
Kachapia Union		2033	3615	4061	3589	2856	2358	2253	4768	1310	550	865	26225
		2011 (Base Year)	4449	4789	3825	2692	2352	2267	5157	1332	595	878	28336
		2018	5368	5778	4616	3248	2838	2735	6223	1607	718	1060	34192
		2023	6139	6608	5279	3715	3245	3128	7117	1838	821	1212	39102
		2028	7021	7557	6037	4248	3712	3577	8139	2102	939	1386	44717
Khuniapalong Union		2033	8029	8642	6904	4858	4245	4091	9307	2404	1074	1585	51139
		2011 (Base Year)	5593	6065	5120	3450	3523	3159	6464	1416	654	908	36351
		2018	6748	7318	6179	4163	4251	3812	7800	1709	789	1095	43864
		2023	7717	8369	7066	4761	4861	4360	8920	1954	902	1253	50163
		2028	8826	9571	8081	5444	5559	4986	10201	2235	1032	1433	57366
Chakmarkul Union		2033	10093	10945	9241	6226	6357	5702	11666	2556	1180	1638	65604
		2011 (Base Year)	3361	4081	3409	2352	2040	1896	4585	1104	528	648	24004
		2018	4055	4924	4113	2839	2462	2288	5532	1332	637	782	28965
		2023	4637	5631	4704	3246	2816	2617	6327	1524	729	894	33124
		2028	5303	6440	5379	3712	3220	2993	7235	1743	833	1023	37881
Rashid Nagar Union		2033	6065	7364	6152	4245	3682	3422	8274	1993	953	1170	43321
		2011 (Base Year)	2381	2596	2431	1720	1588	1356	3010	761	281	413	16538
		2018	2874	3133	2933	2075	1916	1636	3632	918	339	499	19956
		2023	3286	3583	3355	2373	2191	1871	4154	1050	388	571	22821
		2028	3758	4097	3837	2714	2505	2140	4750	1201	444	652	26099
Rajarkul Union		2033	4298	4686	4387	3104	2865	2447	5432	1373	507	746	29846
		2011 (Base Year)	2499	2962	2862	1915	1874	1773	4091	1068	423	685	20153
		2018	3015	3575	3453	2310	2262	2140	4937	1289	511	827	24318
		2023	3448	4088	3949	2642	2586	2447	5645	1474	584	946	27810
		2028	3944	4675	4516	3021	2958	2799	6456	1686	668	1081	31803
Dakshin Mithachhari Union		2033	4510	5346	5165	3455	3382	3201	7383	1928	764	1237	36371
		2011 (Base Year)	3458	4212	3848	3016	2132	2054	4602	1274	494	910	25998
		2018	4172	5082	4643	3639	2572	2478	5553	1537	596	1098	31371
		2023	4771	5812	5310	4162	2942	2834	6350	1758	682	1256	35876
		2028	5457	6646	6072	4759	3364	3241	7262	2010	780	1436	41028
	2033	6240	7601	6944	5443	3847	3707	8305	2299	891	1642	46919	

Source: Projected by Planning Team based on BBS, 2011.

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**Table 2.12: Projected Population in Urban Areas (Ramu Upazila)**

Ramu Urban	Annual Growth Rate	Years	0-4	5-9	10-14	15-19	20-24	25-29	30-49	50-59	60-64	65+	Total
<b>Fatekharkul</b>	2.99	2011 (Base Year)	3102	3512	3717	3424	3131	2663	6292	1639	644	1141	29266
		2018	3813	4316	4568	4208	3849	3273	7733	2014	791	1403	35969
		2023	4418	5001	5293	4876	4460	3793	8961	2334	917	1625	41678
		2028	5119	5795	6133	5650	5167	4395	10383	2704	1062	1883	48292
		2033	5931	6715	7107	6547	5987	5092	12031	3134	1231	2182	55957
<b>Joarianala</b>	2.99	2011 (Base Year)	1716	1947	1882	1447	1229	1024	2139	653	295	474	12806
		2018	2109	2392	2314	1779	1511	1259	2628	803	362	582	15739
		2023	2444	2772	2681	2061	1751	1459	3046	930	419	675	18237
		2028	2832	3212	3106	2388	2029	1691	3529	1078	486	782	21131
		2033	3281	3722	3599	2767	2351	1959	4089	1249	563	906	24485

Source: Projected by Planning Team based on BBS, 2011.

## **CHAPTER 3**

### **DEVELOPMENT RELATED POLICIES, LAWS AND REGULATIONS**

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#### **3.1. Introduction**

National policies and laws broadly cover the aspects of intervention necessary for the development of the diverse areas within an Upazilla. The related policies and laws are considered in the Preparation of Development Plan for Fourteen Upazilas and its sector wise development. This review highlights the important legal issues in acts, rules and regulations relevant to planning.

The aim of the project is to prepare five tier of development plan such as- Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan to facilitate the improvement of infrastructure and services of the upazilla.

These plans include several sectoral components such as- socio-economic, housing, population, urban and rural economy, hydrology, geology, disaster, environment, agriculture etc.

Objectives of the study

- The aim of the policy review is to highlight the special features of the relevant legal documents.
- Point out necessary areas of intervention to make them effective facilitators for future regional development.
- Issue identification and attention that need for actions.

#### **3.2. Terminology**

##### **Policy**

A policy is a deliberate system of principles to guide decisions and achieve rational outcomes. A policy is a statement of intent, and is implemented as a procedure or protocol. The declared objectives that the government seeks to achieve and preserve in the interest of national community.

##### **Law**

Law is a system of rules that are enforced through social institutions to govern behavior. Laws can be made by a collective legislature or by a single legislator, resulting in statutes, by the executive through decrees and regulations, or by judges through binding precedent, normally in common law jurisdictions

Planning law must clearly define the extent and content of the rights of the Government and the people. Thus, legislative measures can help to frame policies for best use of land and its policies to control. Law should aim at a clear definition of the responsibilities and functions of various Government departments and its respective powers.

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### **Act**

An Act is the final form of any legislation passed by a legislature.

### **Sub-Regional Plan**

Sub-Regional Plan of the study area would be prepared for 20 years according to the guidelines of national policies, formulated and integrated different sectoral strategies at sub regional level, spatially interpreted sectoral strategies at sub regional level, formulated Conservation Plan at sub regional level and formulated Development Plan.

It is also necessary to figure it out the economic disparity by using “shift-share analysis” or “input-output analysis” technique among the Upazila within districts under study for drawing the future socio-economic development scenario.

The sub-region may overlap local authority boundaries relating more to specific problems than administrative convenience. It is a more localized area with its own particular structure, problems and potentials.

### **Structure Plan**

The term Structure Plan is derived from British planning practice but has been internationally adopted. The principal components of such a plan are:

- An inventory of existing physical, demographic, economic, social and infrastructure features.
- An analysis of the major existing problems.
- An estimation of trends and changes likely in future (for the next 20 years).
- The identification of the major constraints on and opportunities for development.
- Consideration of the major development options and policies.
- An indication of the most suitable areas for such development.
- The identification of the priorities in each sector and the major activities needed to implement the development strategy.

The structure plan concentrates on the broad structure of the Upazila and is not concerned with the details of physical layout or individual development details which cannot be implemented until the later stages of the planning period.

### **Urban Area Plan**

Urban Area Plan (UAP) provides an interim mid-term strategy for 10 years and covers for the development of urban areas within the project area. Generally, UAP contains an explanatory report, resource maps, interim management report, planning rules, urban area plan and a multi-sectoral investment program.

### **Rural Area Plan**

Rural Area Plan (RAP) provides a long-term strategy for 20 years and covers for the development of rural areas within the project area. Generally, RAP contains an explanatory report, resource maps, conservation and management report, planning rules, rural area plan and a multi-sectoral investment program.

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### **Action Area Plan**

The Action Area Plan (AAP) guides land use and infrastructure within the area potential for immediate intervention based on public demand and necessity. It is prepared on 5 years interval. The preparation of Action Area Plan (AAP) will be formulated through participatory approach involving the local people. It will contains problem analysis using participatory approach, stakeholder analysis, Potential analysis (Basic and derived potentials), Identification of possible projects, Priority ranking of projects, Strategy formulation for prioritized projects. Action Area Plan will provide prioritized projects consisting location of project, goal & objectives, activities, tasks, actors, resources, cost and assumptions/constraints.

The action plan consists of three parts, a summary of resources available, project selection and project evaluation. The analysis of available resources looks at the past availability of funds, insofar as this is possible for such a recent institution as an Upazila and attempts to assess funds likely to be available for the Upazila itself for development in the action plan period.

### **3.3 Reviewed Policies, Acts and Rules**

Policy document usually follows a staged approach for development. Identify specific issues that could trigger the need for a policy review or new policy development or an identification of policy gap. The list of reviewed policies, acts and rules are given below:

1. Climate Change Policies
2. The Sendai Framework for Disaster Risk Reduction 2015-2030
3. Quito Implementation Plan for the New Urban Agenda
4. Sustainable Development Goals (SDG)
5. The United Nations Framework Convention on Climate Change
6. Seventh Five Year Plan((FY2016 – FY2020)
7. National Urban Sector Policy, 2011
8. National Land Use Policy 2001
9. National Housing Policy, 2008 (Draft)
10. Population Policy 2004
11. National Environment Policy 1992
12. Disaster Management Act 2012
13. National Plan for Disaster Management 2008-2015
14. The Climate Change Strategy and Action Plan 2009
15. Industrial Policy 2005
16. National Tourism Policy 1992
17. National Agriculture Policy, 1999
18. National Forest Policy 1994
19. National Fisheries Policy 1998
20. National Water Policy 1999
21. Bangladesh National Building Code (BNBC) 1993
22. The Building Construction Act 1952
23. Building Construction Rules 1996
24. Private Residential Land Development Rule-2004
25. Real Estate Development and Management Act 2010
26. Burning of Bricks (Control) Act 1989
27. National policy for safe water supply and sanitation 1998

**3.4 Five Tier Plan wise policy Review****3.4.1 Framework of Five Tier plan****Table 3.1: Strategy and Time Frame of Five Tier Plan**

<b>Five Tier Plan</b>	<b>Duration</b>	<b>Strategy</b>
Sub-Regional Plan	20 years	Long term
Structure Plan	20 years	Long term
Urban Area Plan	10 years	Mid-term
Rural Area Plan	20 years	Long term
Action Area Plan	5 years	Short term

Among 22 policies, the policies are reviewed according to duration and strategy. So, according to duration and strategic point of view some policies are shortlisted.

**Table 3.2: List of policies according to five tier plan**

<b>Five Tier Plan</b>	<b>Review policies</b>
<b>Sub-regional Plan</b>	<ul style="list-style-type: none"> <li>• Climate Change Policies</li> <li>• The Sendai Framework for Disaster Risk Reduction 2015-2030</li> <li>• National Agriculture Policy 1999</li> <li>• Climate Change Strategy 2009</li> <li>• Disaster Management Act 2012</li> <li>• National Plan for Disaster Management 2008-2015</li> <li>• Population Policy 2004</li> <li>• National policy for safe water supply and sanitation 1998</li> <li>• National Water policy 1999</li> <li>• Industrial Policy 2005</li> <li>• National Urban Sector Policy 2011</li> <li>• National Fisheries Policy 1998</li> </ul>
<b>Structure Plan</b>	<ul style="list-style-type: none"> <li>• Climate Change Policies</li> <li>• The Sendai Framework for Disaster Risk Reduction 2015-2030</li> <li>• Quito Implementation Plan for the New Urban Agenda</li> <li>• Sustainable Development Goals (SDG)</li> <li>• The United Nations Framework Convention on Climate Change</li> <li>• National Agriculture Policy 1999</li> <li>• Climate Change Strategy 2009</li> <li>• National Plan for Disaster Management 2008-2015</li> </ul>

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Five Tier Plan	Review policies
	<ul style="list-style-type: none"><li>• Population Policy 2004</li><li>• National policy for safe water supply and sanitation 1998</li><li>• The Building Construction Act, 1952</li><li>• National Water policy 1999</li><li>• Industrial Policy 2005</li><li>• National Urban Sector Policy 2011</li><li>• National Fisheries Policy 1998</li></ul>
<b>Urban Area Plan</b>	<ul style="list-style-type: none"><li>• Quito Implementation Plan for the New Urban Agenda</li><li>• Sustainable Development Goals (SDG)</li><li>• Climate Change Strategy 2009</li><li>• National policy for safe water supply and sanitation 1998</li><li>• The Building Construction Act, 1952</li><li>• National Water policy 1999</li><li>• National Urban Sector Policy 2011</li><li>• Bangladesh National Building Code 1993</li></ul>
<b>Rural Area Plan</b>	<ul style="list-style-type: none"><li>• Population Policy 2004</li><li>• National policy for safe water supply and sanitation 1998</li><li>• National Water policy 1999</li></ul>
<b>Action Area Plan</b>	<ul style="list-style-type: none"><li>• Quito Implementation Plan for the New Urban Agenda</li><li>• Sustainable Development Goals (SDG)</li><li>• National Agriculture Policy 1999</li><li>• Climate Change Strategy 2009</li><li>• National Plan for Disaster Management 2008-2015</li><li>• Population Policy 2004</li><li>• National policy for safe water supply and sanitation 1998</li><li>• The Building Construction Act, 1952</li><li>• National Water policy 1999</li><li>• Industrial Policy 2005</li><li>• Burning Bricks Act 1989</li><li>• National Urban Sector Policy 2011</li><li>• National Fisheries Policy 1998</li><li>• Seventh Five Year Plan</li></ul>

(To find the key issues please see the Appendix- A)

The issues or the key factors which identify in these policies according to five tier plan are listed in Appendix A.

### 3.5 Sector wise policy Review

In the project, the survey was conducted according to the following sectors:

1. PRA (Participatory Rural Appraisal)
2. Socio-economic Survey
3. Agricultural Survey
4. Formal-informal Economic Survey
5. Physical Features Survey
6. Landuse Survey
7. Topographic Survey
8. Photogrammetric works Survey
9. Traffic and Transportation Survey
10. Geological & geophysical Survey
11. Hydrological Survey

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But in the policy review from the 11 sectors, some sectors are merged as they are identified as same category. So as per the benefits of policy review and for the asperity of work, the sectors are categorized. And same policies are reviewed in different sectors so to remove repeatness, the sectors are categorized.

**Table 3.3: Sectors are categorized as per policy review**

<b>Sectors</b>	<b>Agriculture</b>
	<b>PRA and Socio-Economic, Formal-informal Economic Sector</b>
	<b>Geology</b>
	<b>Hydrology</b>
	<b>Transport</b>
	<b>Physical, Landuse and Topographic Features</b>

**Table 3.4: Summary of Policies according to sectors**

Sector Wise Policy List					
Agriculture Sector	PRA and Socio-Economic Formal-informal Sector	Physical, Landuse and Topographic Features	Geology	Hydrology	Transport
1. National Agriculture Policy 1999	1. National Agriculture Policy 1999	1. National Agriculture Policy 1999	1. Climate Change Strategy 2009	1. Population Policy 2004	1. Population Policy 2004
2. Climate Change Strategy 2009	2. Climate Change Strategy 2009	2. Climate Change Strategy 2009	2. National Plan for Disaster Management 2008-2015	2. National Water policy 1999	
3. National Plan for Disaster Management 2008-2015	3. Disaster Management Act 2012	3. National Plan for Disaster Management 2008-2015	• The Sendai Framework for Disaster Risk Reduction 2015-2030	3. National Urban Sector Policy 2011	
4. Population Policy 2004	4. National Plan for Disaster Management 2008-2015	4. Population Policy 2004	3. The United Nations Framework Convention on Climate Change	4. National Fisheries Policy 1998	
5. Safe Water Supply and Sanitation 1998	5. Population Policy 2004	5. The Building Construction Act, 1952		• Climate Change Policies	
6. National Water policy 1999	6. Safe Water Supply and Sanitation 1998	6. National Water policy 1999		5. The United Nations Framework Convention on Climate Change	
7. Seventh Five Year Plan	7. National Water policy 1999	7. Industrial Policy 2005			
8. National	8. Industrial Policy 2005				
	9. National Urban Sector Policy				

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Sector Wise Policy List					
Agriculture Sector	PRA and Socio-Economic Formal-informal Sector	Physical, Landuse and Topographic Features	Geology	Hydrology	Transport
Environment Policy 1992 9. Industrial Policy 2005 10. National Urban Sector Policy 2011 11. The United Nations Framework Convention on Climate Change	2011 10. Seventh Five Year Plan(FY2016 – FY2020) • Quito Implementation Plan for the New Urban Agenda • Sustainable Development Goals (SDG)	8. Burning Bricks Act 1989 9. National Urban Sector Policy 2011 10. National Fisheries Policy 1998 11. Seventh Five Year Plan (FY2016 – FY2020)			

(To find the key issues please see the Appendix- B)

Among the 26 policies, the sectors are identified. So, here is the summary of the sectors which are identified among the policies.

**Table 3.5: Summary of sectors according to policies**

Policy	Sector
<b>National Agriculture Policy 1999</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> </ul>
<b>Climate Change Strategy 2009</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Geology</li> </ul>
<b>Disaster Management Act 2012</b>	<ul style="list-style-type: none"> <li>• Formal-informal Sector</li> </ul>
<b>National Plan for Disaster Management 2008-2015</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Geology</li> </ul>
<b>Population Policy 2004</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Transport</li> <li>• Hydrology</li> </ul>

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<b>Policy</b>	<b>Sector</b>
<b>Safe Water Supply and Sanitation 1998</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> </ul>
<b>The Building Construction Act, 1952</b>	<ul style="list-style-type: none"> <li>• Physical, Landuse and Topographic Features</li> </ul>
<b>National Water policy 1999</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Hydrology</li> </ul>
<b>Industrial Policy 2005</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Formal-informal Sector</li> </ul>
<b>Burning Bricks Act 1989</b>	<ul style="list-style-type: none"> <li>• Physical, Landuse and Topographic Features</li> </ul>
<b>National Urban Sector Policy 2011</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Formal-informal Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Hydrology</li> </ul>
<b>National Fisheries Policy 1998</b>	<ul style="list-style-type: none"> <li>• Physical, Landuse and Topographic Features</li> <li>• Hydrology</li> </ul>
<b>Seventh Five Year Plan(FY2016 – FY2020)</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> </ul>
<b>National Land Use Policy 2001</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Hydrology</li> <li>• Transport</li> </ul>
<b>Climate Change Policies</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Geology</li> <li>• Hydrology</li> </ul>
<b>The Sendai Framework for Disaster Risk Reduction 2015-2030</b>	<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Physical, Landuse and Topographic Features</li> <li>• Geology</li> <li>• Hydrology</li> </ul>
<b>Quito Implementation Plan for the New Urban Agenda</b>	<ul style="list-style-type: none"> <li>• PRA and Socio-Economic Formal-informal Economic Sector</li> <li>• Physical, Landuse and Topographic Features</li> </ul>

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Policy	Sector
<b>Sustainable Development Goals</b>	<ul style="list-style-type: none"><li>• Agriculture</li><li>• PRA and Socio-Economic Formal-informal Economic Sector</li><li>• Physical, Landuse and Topographic Features</li><li>• Geology</li><li>• Hydrology</li></ul>
<b>The United Nations Framework Convention on Climate Change</b>	<ul style="list-style-type: none"><li>• Agriculture</li><li>• Geology</li><li>• Hydrology</li></ul>

(To find the key issues please see the Appendix- B)

## **CHAPTER 4**

### **SHIFT SHARE ANALYSIS**

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#### **4.1 Introduction**

Shift share is a standard regional analysis method that attempts to determine how much of regional job growth can be attributed to national trends and how much is due to unique regional factors. Shift share helps answer why employment is growing or declining in a regional industry, cluster, or occupation (EMSI, 2011). To conduct shift share analysis, regional job growth has been divided into three components: (1) national share component, (2) industry mix component, and (3) regional shift component. In addition, a time frame (start year and end year) is required to perform shift share analysis, since shift share deals with job growth over time.

The aim of the project is to prepare five tier of development plan such as- sub-regional plan, structure plan, urban area plan, rural area plan and action area plan to facilitate the improvement of infrastructure and services of the Upazila. The study also tends to find out how much of the change in a given industry happens due to some unique competitive advantage that the region possesses. The study also tends to find out competitiveness and potentiality of the sector itself.

#### **4.2 Objectives**

- 1) To determine the contribution of different sectors in the growth of Ramu Upazila by using shift share components from year 2003 to 2013.
- 2) To compare the regional growth status of the Ramu Upazila and also identify progressive and less progressive industries with respect to the employment of the selected industrial sectors.

#### **4.3 Concept of Shift Share Analysis**

Shift share analysis is a regional economic growth tool. This process helps in order to determine the trend of local economy, prioritizing the industry which has to developed, use of public funds efficiently. The dynamic and changing regional economies have been capturing the attention of policy makers, community leaders, and researchers (McNamara 1991; Knudsen, 2000.). However, a regional economy consists of firms and industries with a variety of economic potentials. Growth or decline in any of these sectors occurs by technological innovation, capital and labor productivity, location, changes in product demand, and shifts in input costs, which directly or indirectly affect the overall growth of the economy (Gebremedhin and Lass, 1995; Bartik 2004). As various sectors affect economic growth of a particular region differently, understanding the comparative advantage of these sectors becomes important in development decisions of the region (Deming, 1996; Melachroinos, 2002).

As a regional planning tool shift share analysis explores the scenario of economic growth of a region which is generated by a national growth in that sector, supportive industry mix and comparative advantage of that particular region. The shift-share analysis divides the change in local industry employment into three components:

- National share (NS)
- Proportionality Shift /Industry mix (IM)
- Local Share/Regional Shift/Differential Shift (RS)

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### National Share (NS) Component

Share of regional job growth attributable to growth of the national economy. The share of local job growth can be attributed to growth of the national economy. Specifically, if the nation as a whole is experiencing employment growth ("a rising tide lifts all boats"), one would expect total national growth to exert a positive growth influence on the local area.

### Industry Mix (IM)/Proportionality Shift Component

The industrial mix or proportionality shift component reflects differences in industry "mix" between the local and national levels. The mix-factor examines how national growth or decline of a particular industry translates into local growth or decline of that industry. It illustrates how much growth can be attributed to the region's mix of industries. Also estimates how many jobs were created/not created in each industry due to differences in industry and total national growth rates

### Regional Shift (RS)/Differential Shift Component

This share of local job growth describes the extent to which factors unique to the local area have caused growth or decline in regional employment of an industrial group. Even during periods of general prosperity, some regions and some industries grow faster than others do. This component usually attributed to some local comparative advantage such as natural resources, linked industries or favorable local labor situations. It identifies how many jobs are created/not created as a result of the region's competitiveness and the region's progressive and less progressive industries.

### Calculation of shift share components

The shift share component for each industry in the region has been determined using the following formulas:

$$\text{National Share, } N_j = \sum_i [ E_{ij0} (E_t/E_o) - E_{ij0} ]$$

$$\text{Proportionality Shift Component, } P_j = \sum_i [(E_{it}/E_{io}) - (E_t/E_o)] E_{ij0}$$

$$\text{Differential Shift Component, } D_j = \sum_i [(E_{ijt}/E_{ij0}) - (E_{it}/E_{io})] E_{ij0}$$

$$\text{Total Regional Growth, } G_j = E_{jt} - E_{jo} = N_j + P_j + D_j$$

$$\text{Total Net Shift Component, } (P+D)_j = E_{jt} - (E_t/E_o) E_{jo} = G_j - N_j$$

Where,  $E_j$  = total employment in region j

$E$  = total national employment

o, t = initial and terminal period

i = industry subscript

**Identification of fast growing and slow growing sectors**

In the above equations, if the proportionality shift component is found to be positive, the region is specialized in nationally fast growing sectors and if this component is negative, the region is specialized in nationally slow growing sectors.

**Identification of progressive and less progressive sectors**

The progressive and less progressive sectors of a region are identified from the differential shift component. The progressive sectors for a region has been identified by the positive differential shift component and the less progressive sectors have been identified by the negative differential shift component. Positive differential shift component for an industry implies the region has advantage (e.g. natural resources, favorable location and an efficient labor market) for flourishing of the industry. Differential shift component with negative value means there exists locational disadvantage for the industry to grow in the region.

The economic growth of the Upazila has been compared in terms of national share component, industry mix component and regional shift component and growth rate for every industrial sector.

**4.4 Scope of the Study**

Shift share is a standard regional analysis method that attempts to determine how much of regional job growth can be attributed to national trends and how much is due to unique regional factors. It helps answer why employments are growing or declining in a regional industry, cluster, or occupation. It is the tool to study the components of economic growth. Its popularity is mainly its simplicity and easy to use. Here its scopes are mention below that -

- Showing the connection between different regions and their success.
- Polarizing the indication of regional growth rate decline if negative and increase if positive.
- Differentiating in the sectoral structure of regions on the differences in their success.
- Identifying the progressive and less progressive industries.

**4.5 Analysis**

There have been used the employment data of 2003 and 2013 representing the time for economic growth and economic crisis respectively. Data for employment growth in Ramu Upazila and the national employment growth in Bangladesh have been taken from the Economic Census District Report – Cox's Bazar 2001 & 2003 and 2013 respectively from Bangladesh Bureau of Statistics.

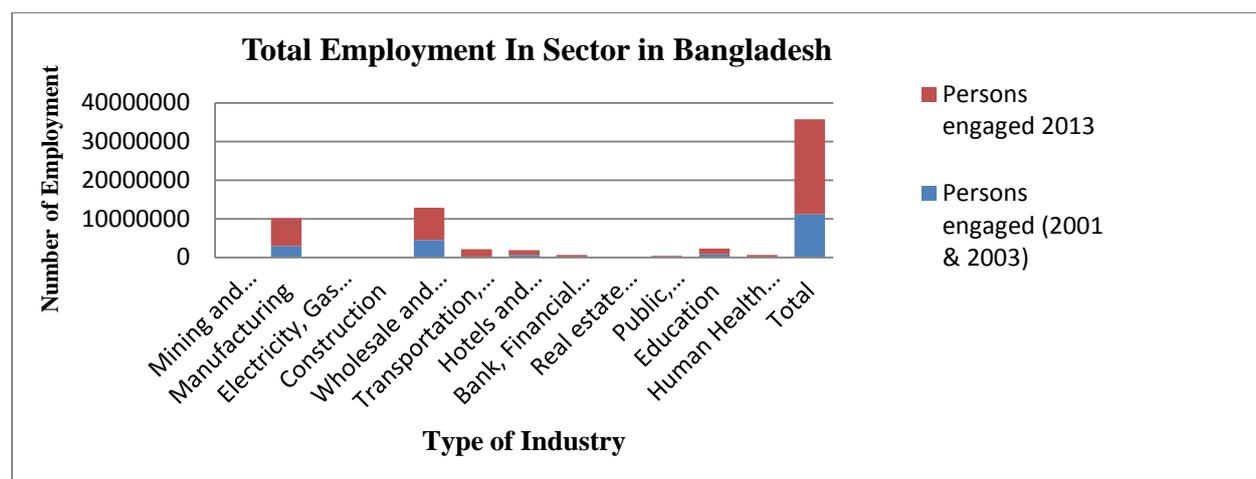
National growth rate with comparison to the growth rate of Ramu Upazila in the following chart shows that national growth rate of industrial sector wise category.

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### National growth rate analysis



**Figure 4.1: Distribution of industries according to growth of employment in national level between 2001 & 03 and 2013**

The figure shows that employment growth rate increases in 2013 in respect of 2001 & 03. The figure shows that manufacturing and wholesale retail industries are the most fast growing industries among all the industries in the national context. The employment generations in these sectors are higher than any other sectors over the years.

### Shift Share Analysis in Ramu Upazila

In sector wise analysis, the aim is to compare the employment growth rate of each sector in Ramu Upazila in respect of Bangladesh. Employment growth rate has been calculated for each sector of this Upazila with respect to the national employment of that sector.

**Table 4.1: Employment Data for Ramu Upazila: 2003 and 2013.**

Employment Category	2003	2013	Change in Jobs	% Change
Mining and quarrying	0	81	81	-
Manufacturing	2805	3597	792	0.28
Electricity, Gas and water supply	0	4	4	-
Construction	3	0	-3	-1.00
Wholesale and Retail Trade, Repair of motor vehicles & motorcycle	4452	11323	6871	1.54
Transportation, storage and communication	53	244	191	3.60
Hotels and Restaurants	1066	1593	527	0.49
Bank, Financial and insurance Activities	69	430	361	5.23
Real estate activities	47	0	-47	-1.00
Public, administration and Defense, Compulsory Social security	195	542	347	1.78
Education	852	1613	761	0.89
Human Health and Social work	179	359	180	1.01
<b>Total</b>	<b>10859</b>	<b>21918</b>	<b>10065</b>	<b>1.02</b>

Source: BBS, Economic Census 2003 & 2013

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According to the analysis, from table 1 it shows that the Upazila only added 10065 jobs during the period of a decade (2003-2013). This suggests that the area is not performing compared with the national average.

**Table 4.2:** Shift Share Components of Ramu Upaila in context of national: 2003 and 2013.

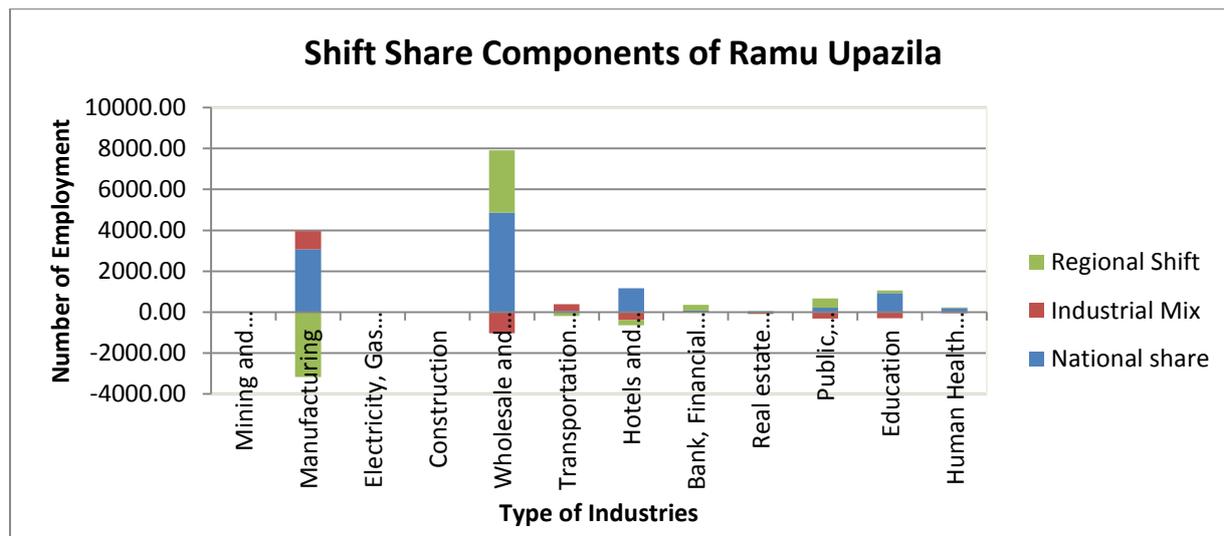
Employment Category	National share	Industrial Mix	Regional Shift	Total Regional Growth	Net Shift
Mining and quarrying	0	0	0	0	0
Manufacturing	3068	898	-3175	792	-2276
Electricity, Gas and water supply	0	0	-	0	0
Construction	3	-2	-4	-3	-6
Wholesale and Retail Trade, Repair of motor vehicles & motorcycle	4870	-1032	3033	6871	2001
Transportation, storage and communication	58	326	-193	191	133
Hotels and Restaurants	1166	-369	-270	527	-639
Bank, Financial and insurance Activities	75	-2	288	361	286
Real estate activities	51	-82	-16	-47	-98
Public, administration and Defense, Compulsory Social security	213	-322	455	347	134
Education	932	-303	132	761	-171
Human Health and Social work	196	-51	35	180	-16
<b>Total</b>	<b>10633</b>	<b>-938</b>	<b>285</b>	<b>9980</b>	<b>-653</b>

Source: BBS, Economic Census 2003 & 2013

From Table 2 it shows that the overall national growth component shows that, if the local economy was identical to the national economy, then the number of jobs in the county should have grown by 10633 between 2003 and 2013.

Mining and quarrying, electricity, gas and water supply and sectors added less jobs than expected if they performed at the national average. Obviously, the changes (gains or losses) in employment that occur at the local level do not exactly follow the overall national trend.

The overall industrial mix component of -938 means that Ramu Upazila has nearly 938 less jobs than it would have if its structure was identical to the nation. However, mining and quarrying, human health and social work, construction, hotels and restaurants, real estate activities, public, administration and defense, compulsory social security, education, wholesale and retail trade, repair of motor vehicles & motorcycle sectors are growing slowly. The negative industrial mix means that the local economy grew faster if there is national influence. According to the local share component, 285 new jobs in Ramu Upazila are generated.



**Figure 4.2: Distribution of industries according to shift share components in Ramu Upazilla**

The analysis has been carried out by comparing the change values of the national share, proportionality shift, differential shift and regional growth with respect to the total employment in the respective region considering employment data in the year 2003 and 2013

In Ramu Upazilla, most of employment growth has been generated because of national employment growth. Regional Shift/ Differential shift has a very mild impact on regional employment growth but Proportionality shift/industrial mix has negatively influenced in employment growth. It could be recognized that employment in this Upazillahas grew more slowly than the nation because of industrial mix effects.

In Ramu Upazila, differential shift for bank, financial and insurance activities has a positive value which implies that this sector has been nourishing in this Upazila for any local advantage. This advantage is may be the large quantity of in Ramu which generates many employments in this sector. Employment growth of this sector is also fast growing in this Upazila than the national employment growth in the sector. Because the services of wholesale and retail trade, repair of motor vehicles & motorcycle, public, administration and defense, compulsory social security sectors have been also increased. Besides education and human health and social work sector also increased for regional shift and others have negative impact.

In this figure, it shows that except Transportation, storage and communication and manufacturing sector, all other sectors have negative industrial mix component. So, these sectors have some slow growing industries which generate employment at a lower rate.

**Sector wise Analysis**

The aim of sector wise analysis is to compare the employment growth of each sector in Ramu Upazila. From the calculation it could be easily recognized that which sector is progressive and which sector is less progressive in this sector by using Net Shift Component. If the value of Net Shift Component is positive it indicates regional growth of this sector is better than national growth. If the value is negative, it indicates less regional growth of this sector than national growth. Table 1 shows progressive and less progressive sectors of Ramu Upazila as per Shift-share analysis. Net Shift

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Component for Ramu Upazila provides negative value which means overall economic growth of Ramu Upazila is less progressive than national growth.

**Table 4.3: Progressive and Less Progressive Sectors of Ramu Upazila.**

Activity Sector	Progressive	Less Progressive
Mining and Quarrying		✓
Manufacturing		✓
Electricity, Gas, Water, Steam, and Air Conditioning Supply		✓
Construction		✓
Wholesale and Retail Trade, Repair of Motor Vehicles & Motorcycles	✓	
Transportation, Storage, Information and Communication	✓	
Accommodation and Food Services Activities (Hotel & Restaurants)		✓
Financial and Insurance Activities	✓	
Real estate activities		✓
Public Administration and Defense	✓	
Education		✓
Health and Social Works		✓
<b>Total</b>		✓

It is important to keep in mind that this is a descriptive tool rather than a diagnostic one. The shift-share analysis does not tell us why some local industries are more competitive and why some are less competitive—differences may be due to technology, management, or worker productivity. A more in-depth analysis of local versus national industries is required to sort out the sources of these differences. Potential factors could include access to natural resources, local wage rates, workforce productivity, or regional transportation networks.

## CHAPTER 5

### PLANNING STANDARD REVIEW

**TABLE: RECOMMENDED STANDARD FOR MAJOR LAND USES**

Types of Land Uses	Recommended Standard
<b>1. Residential</b>	
General residential	150 persons/1 acre
Real Estate-Public/Private	200 population/ 1 acre
<b>2. Roads</b>	
Upazila primary roads	70 feet and above
Upazila secondary roads	40 feet
Upazila local/Tertiary roads	32 feet
Access Road	20 feet
<b>3. Education</b>	
Nursery	0.5 acre/10,000 population
Primary School/ kindergarten	2.00 acres/5000 population
Secondary/High School	5.00 acres /20,000 population
College	10.00 acres/20,000 population
Vocational Training Centre	5 - 10 acres / Upazila
Other	5.00 acres / 20,000 population
<b>4. Open Space</b>	
Play field/ground	3.00 acres/20,000 population
Park	1.00 acre /10000 population
Neighborhood park	1.00 acre /10000 population
<b>5. Recreational</b>	
Stadium/sports complex	5 – 10 acres/Upazila HQ
Cinema/ Theatre	1.0 acre /20,000 population
<b>6. Health</b>	
Upazila health complex	10 -20 acres/Upazila HQ
health centre/Maternity clinic	1.00 acre/ 5,000 population

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<b>Types of Land Uses</b>	<b>Recommended Standard</b>
<b>7. Community Facilities</b>	
Mosque/Church/Temple	0.5 acre /20,000 population
Eidgah	1.0 acre/20,000 population
Graveyard	1.00 acre /20,000 population
Community centre	1.00 acre /20,000 population
Police Station	3 – 5 acres/Upazila HQ
Police Box/outpost	0.5 acre/ per box
Fire Station	1.00 acre/ 20,000 population
Post office	0.5 acre /20,000 population
<b>8. Utilities</b>	
Water supply	1.00 acre /20,000 population
Gas	1.00 acre /20,000 population
Solid waste disposal site	5– 10 acres/Upazila HQ
Waste transfer station	0.25 acres/per waste transfer station
Electric sub-station	1.00 acre/20,000 population
Telephone exchange	0.5 acre/20,000 population
Fuel Station	0.5 acre/20,000 population
Others	-
<b>9. Commerce and Shopping</b>	
Wholesale market	1.0 acres/ 10000 population
retail sale market	1.0 acres/ 1000 population
Corner shops	0.25 acre/per corner shop
Neighborhood market	1.00 acre/per neighborhood market
Super Market	1.50 – 2.50 acres/per super market
<b>10. Industry</b>	
small scale	1.50 acres /1000 population
Heavy Industry	5.0 acres /10000 population
<b>11. Transportation</b>	
Bus terminal	1.0 acre /20,000 population
Truck terminal	0.50 acre /20,000 population
Launch/steamer terminal	1.00 acre /20,000 population

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<b>Types of Land Uses</b>	<b>Recommended Standard</b>
Rickshaw/van/Tempoo stand	0.25 acre /one baby taxi/tempo stand
Passenger Shed	0.25 acre /one baby taxi/tempo stand
Others	-
<b>12. Administration/Govt. Service</b>	
Upazila complex	10-15.00 acres
Paurashava office	3 – 5 acres
Others	-

## **CHAPTER 6**

### **SUB-REGIONAL AND STRUCTURE PLAN**

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#### **6.1 Sub-Regional Plan**

##### **6.1.1 Nature of Sub-regional plan**

###### **I) Strategic Plan at Sub-Regional Level**

Strategic plan determines a long-term vision for the development of an area where the area is going over the next several years as say 20 years, how it's going to there and how it will know if it got there or not. The strategic plan includes the clear goal envisioning the future growth and developments which will be directed with country's development activities and different policies of the country. Country's development systems can be enhanced by developing a clear vision, objectives, strategies and detailed actions plans. It enables a global sense of purpose and direction capable of guiding implementers in making everyday choices what actions should be taken to produce the expected results. Strategic plan identifies the following steps:

- Assesses needs and resources;
- Defines a target audience and a set of goals and objectives;
- Plans and designs coordinated strategies with evidence of success;
- Logically connects these strategies to needs, assets, and desired outcomes;
- Measures and evaluates the process and outcomes.

Strategic Plan would be prepared for 20 years for Ramu Upazila according to the guidelines form which will dictate the development plan such policies as National policies, Formulated and Integrated different sectoral strategies at sub regional level, spatially interpreted sectoral strategies at sub regional level, formulated Conservation Plan at sub regional level and formulated Development Plan.

###### **II) Regional Structure Zoning Category**

Zoning generally allows the authority to control the use of land and development of land. Zoning is an important tool for guiding the private development, so that land is used in a way that promotes both the best utilization of the land and the prosperity, health and welfare of the residents. Naturally, Zoning is enacted by the law by following respective procedures. Regional Structure Zoning is comprehensive planning process that allows a city or region to develop a plan for creating and maintaining a desirable environment and safe and healthy

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community. Once a plan is adopted, it guides local officials in making their day to day decisions and becomes a factor in their decision-making process. By creating zoning categories that separate uses, the city assures that adequate space is provided for each use and that a transition area or buffer exists between distinct and incompatible uses. Adequate separation of uses prevents congestion, minimizes fire and other health and safety hazards, and keeps residential areas free of potential commercial and industrial nuisances such as smoke, noise and light.

Regional Structure Zoning can be adopted by ensuring the following mundane purposes:

- ✓ Minimising adverse effect resulting from the inappropriate location or use of sites and structures,
- ✓ Conserving limited land resources and encouraging their efficient use.

To carry out the purposes and provisions of the project within the context of the Regional Structure Plan, the following land zoning category would be followed:

- Main flood flow zone
- Sub flood flow zone
- Forest
- Agricultural land
- Urban area
- Rural settlements
- Industrial moderate hazards
- Industrial low hazards
- Water supply protection zone
- Restricted flood protection reserve
- Restricted military / public safety
- Restricted special

### III) Conservation Plan

A conservation plan can be a vision for the future ecological health of an area. It typically includes reference to a natural resources inventory, a description of important features and an action plan to protect these features over a long period of time.

Major land use pressure is heavily depending on the ecosystems and resources of the existing nature. Land-use conflicts and clearly unsustainable uses may be found in planning areas. There is a clear need for broad-based, multi-sectoral and long term development management, including community-based initiatives in sanitation, biomass preservation and

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collective management of natural resources, including more detailed priorities such as ecosystem preservation of fisheries habitat, maintenance of biological diversity and productivity, forestry management, containment of saltwater intrusion and population risk management. Also needed are institutional and regulatory actions.

Contrary to some current impressions, conservation and economic development are not conflicting ideas. In fact, well-planned conservation-oriented development will add to the general economic and social prosperity of a coastal community, while bad development will sooner or later have a negative effect. With innovative management based upon sustainable use, communities may be able to achieve a desirable balance without serious sacrifice to either short-term development progress or longer-term conservation needs. In broad sense, Conservation Plan would cover ecology and environment, land forms: forest, wetland, rivers and agricultural land, Major infrastructures, area of archaeological/ anthropological interest. Conservation plan will derive the following issues:

- ✓ Articulate the most important natural features within the Geographic Area.
- ✓ Flourish conservation of these important natural features.
- ✓ Dictate local government or private voluntary to develop land conservation planning
- ✓ Document conservation priorities and recommend policies in Upazila Development Plan
- ✓ Suggest viable regulatory process for some resources and features.

### **Objectives**

- Control unauthorized development throughout the city.
- Providing suitable economic base for future growth of the city.
- To provide a rational land use pattern in order to protect and conserve agricultural land and other unproductive land as well as the water bodies.
- To develop selected areas with infrastructural facilities.
- Ensuring sustainability without violating the environmental concerns.

## **6.2 Structure Plan**

### **6.2.1 Conceptualization of Structure Plan**

Structure plan typically shows how broad scale development or change in a Geographical area will be physical organized on the ground. It provides long term statutory framework to

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guide the development and redevelopment of land which contains a development concept and policies by establishing the general pattern for land use, densities, major roads and utilities with the goal of ensuring that subdivision or development occur in an orderly, economic and efficient manner. The Structure Plan consists of a report and plans that comprises of a broad policy guideline. The report is supported by a number of maps of 1:10,000 scales.

The term Structure Plan is derived from British planning practice but has been internationally adopted. The principal components of such a plan are:

- An inventory of existing physical, demographic, economic, social and infrastructure features.
- An analysis of the major existing problems.
- An estimation of trends and changes likely in future (for the next 20 years).
- The identification of the major constraints on and opportunities for development.
- Consideration of the major development options and policies.
- An indication of the most suitable areas for such development.
- The identification of the priorities in each sector and the major activities needed to implement the development strategy.

The structure plan concentrates on the broad structure of the Upazila and is not concerned with the details of physical layout or individual development details which cannot be implemented until the later stages of the planning period. In those areas and sectors where action is anticipated or proposed within a relatively short time however, more detail may be needed than is provided in the structure plan. Such appropriate level of detail is provided in the action plan

### **Objectives**

- (i) The main objective of Structure Plan is to demarcate the future growth areas and set a strategy for future development of Ramu Upazila.
- (ii) To identify the urban areas and different rural centres of the upazila; and determine the planning requirements for the urban area, rural centers and rural area.
- (iii) Identification of urban growth area based on analysis of patterns and trends of development, and projection of population, land use and economic activities for next 20 years
- (iv) Formulation and Integration of different sectoral strategies for the Upazila.

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### 6.3 Description of the Project Area

Situated at the southernmost point of Bangladesh, Cox's Bazar is home to the longest beach in the world. It's a beautiful district, surrounded by scenic views of mountains and the sea. The district is comprised of 8 Upazilas; Ramu Upazila is one of these upazilas. This upazila of Cox's Bazar is oldest human habitation and once it was a center place for king of the Arakan and Mog. Ramu Upazila is comprised of 11 unions and due to its natural and geographical location, the Upazila is at risk from various natural and man-made hazards.

**Table 6.1: Study Area Demarcation**

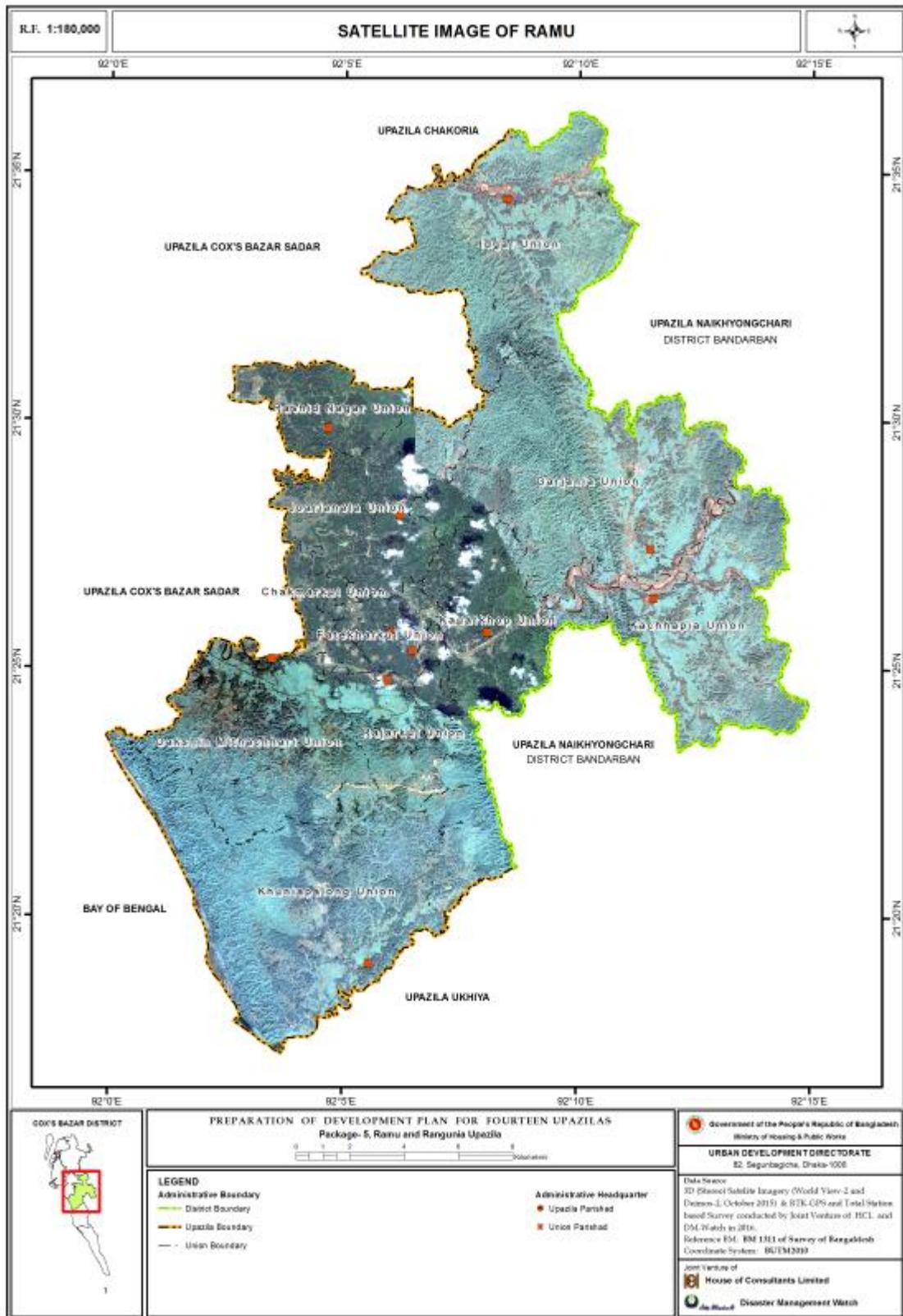
Study Area Demarcation						
Union	Area (sq.m)	Area (sq.km)	Area (Acre)	Percentage (%)	Population (2011)	Density
Chakmarkul	7315604.61	7.32	1807.73	1.90	16438	9
Dakshin Mithachhari	40987889.47	40.99	10128.33	10.66	25998	3
Fatekharkul	9919859.24	9.92	2451.25	2.58	30569	12
Garjania	64240739.42	64.24	15874.23	16.71	22651	1
Idgar	52189948.39	52.19	12896.44	13.58	18315	1
Joarianala	27984051.74	27.98	6915.01	7.28	27323	4
Kachhapia	43806742.08	43.81	10824.88	11.40	28328	3
Kauarkhop	24986894.91	24.99	6174.40	6.50	24004	4
Khuniapalong	76794154.69	76.79	18976.25	19.98	36304	2
Rajarkul	20417604.81	20.42	5045.30	5.31	20153	4
Rashid Nagar	15765539.14	15.77	3895.75	4.10	16538	4
<b>Total</b>	<b>384409028.50</b>	<b>384.41</b>	<b>94989.54</b>	<b>100.00</b>	<b>266621</b>	

Source: Field Survey, 2016

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

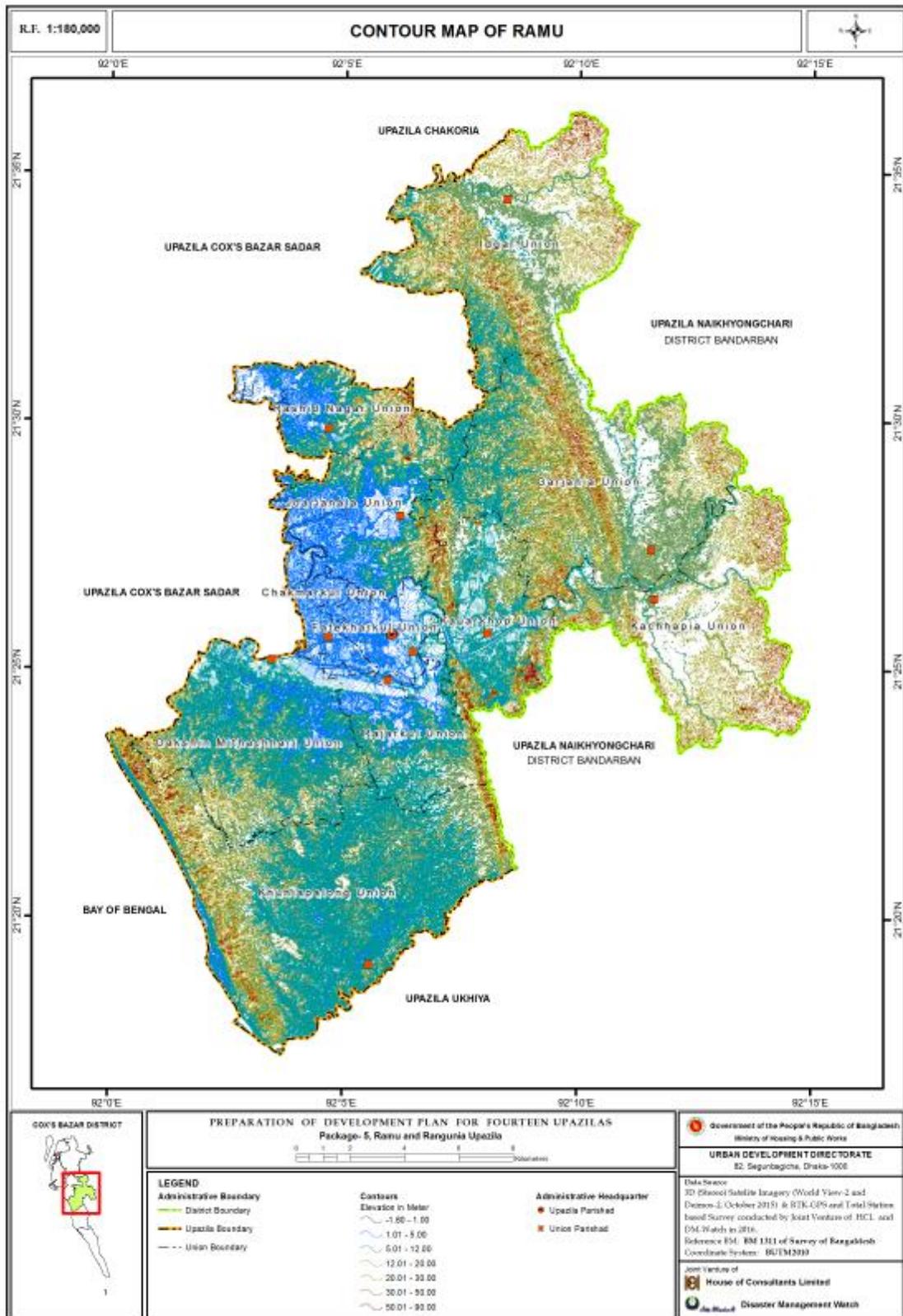


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.1: Satellite Image of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

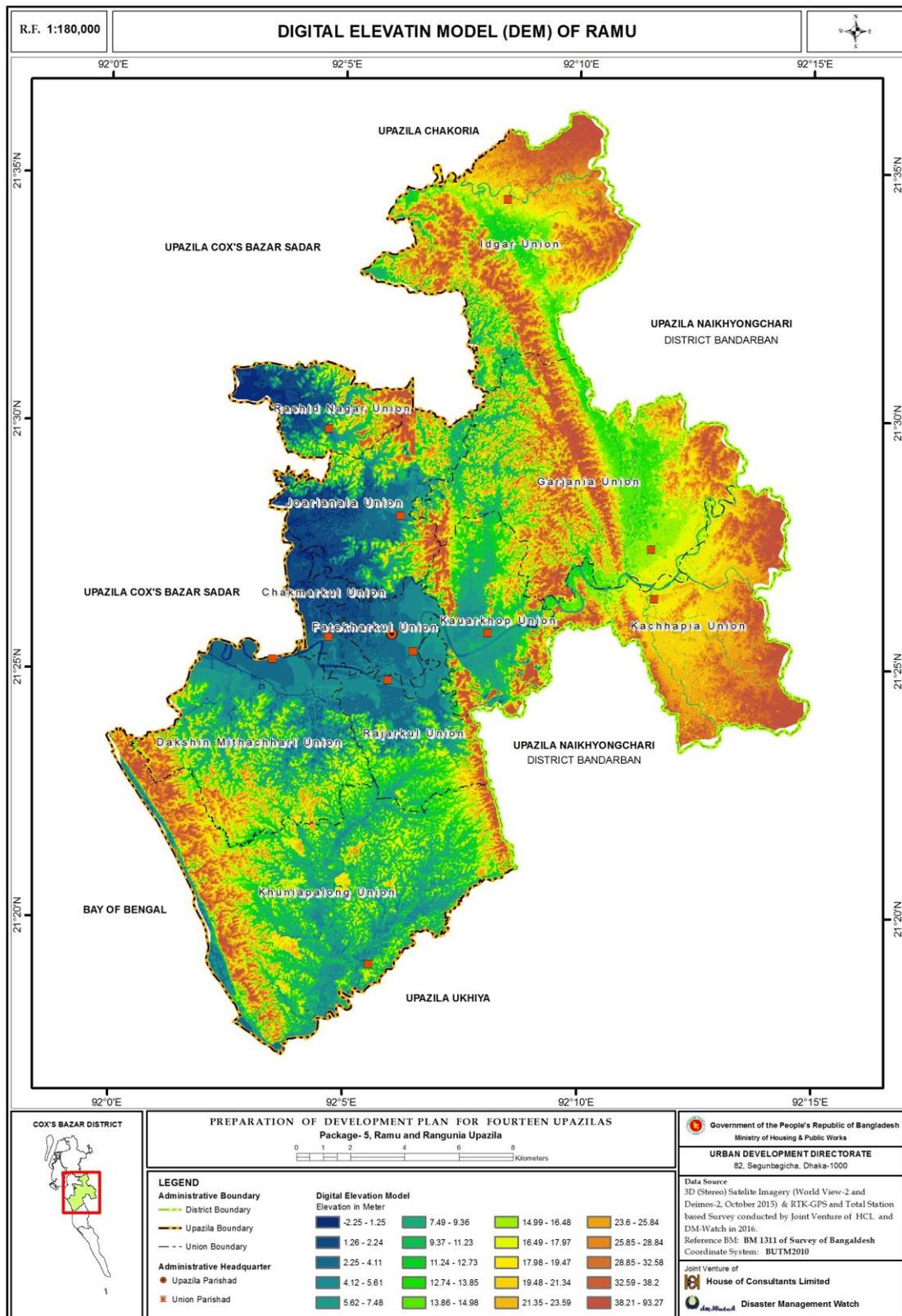


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.2: Contour Map of Ramu Upazila

# Draft Final Plan – Ramu Upazila

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

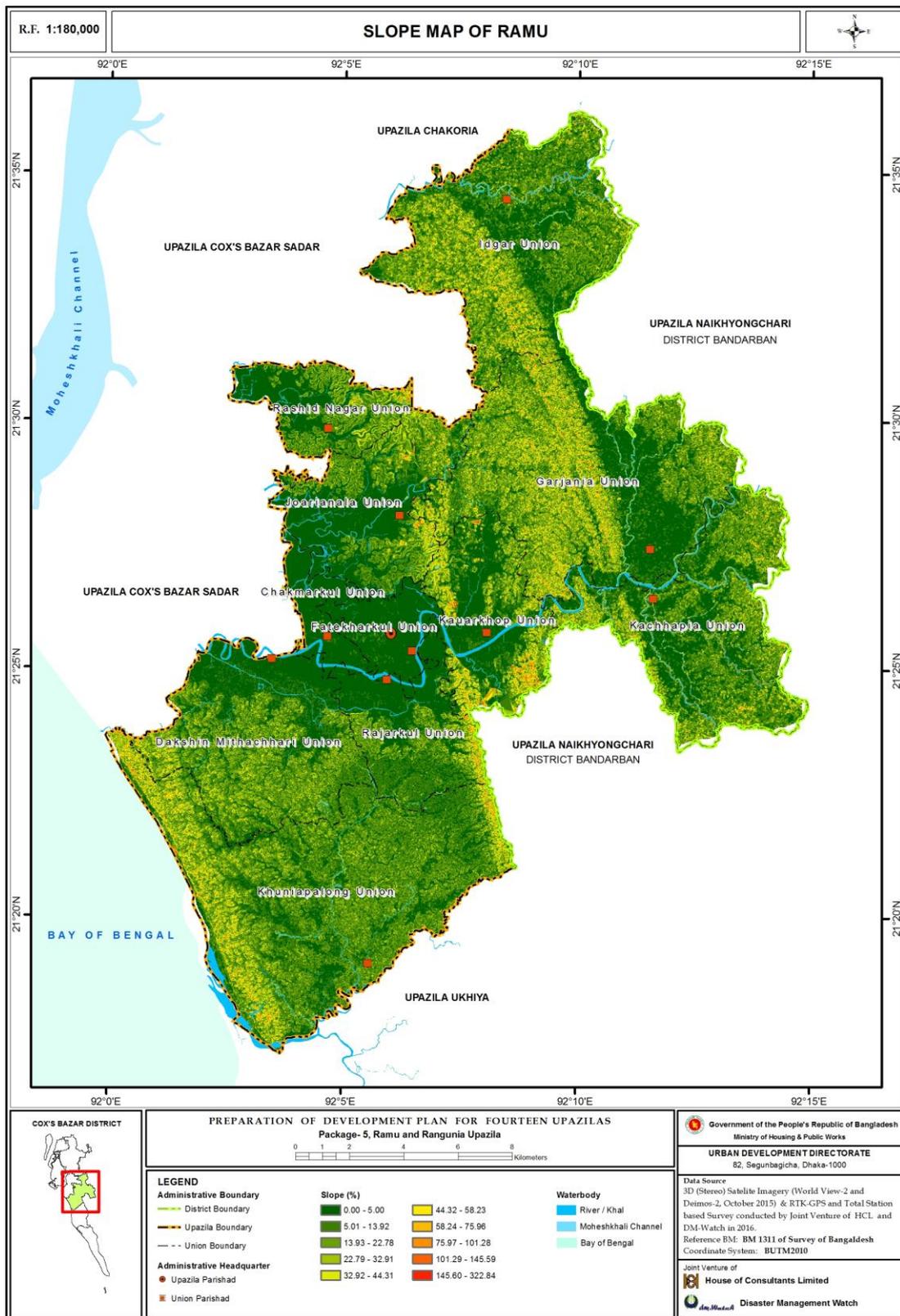


Source: Prepared by Consultant Team Based on Field Survey, 2016  
**Map 6.3: Digital Elevation Model (DEM) of Ramu Upazila**

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Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

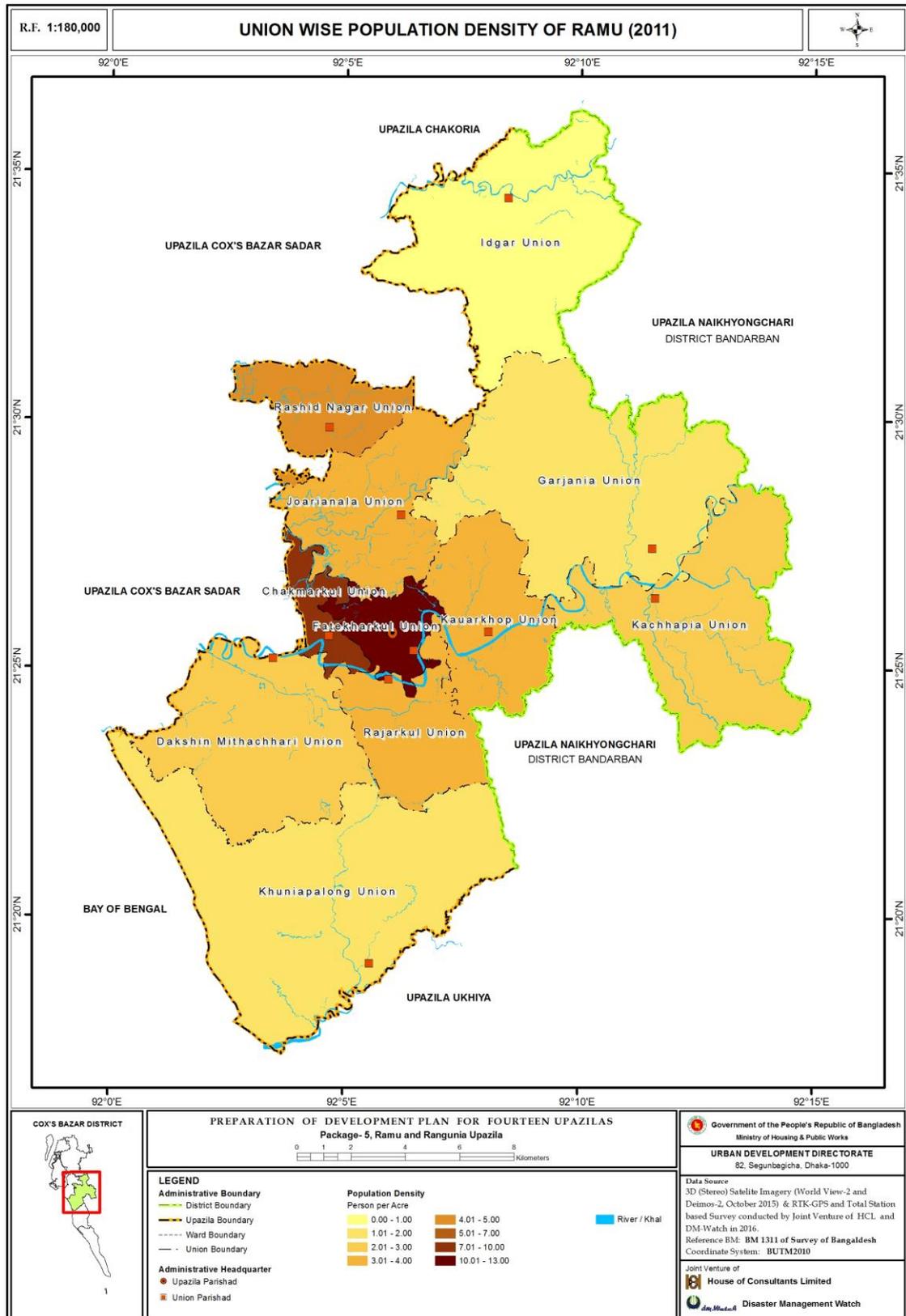


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.4: Slope Map of Ramu Upazila

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Preparation of Development Plan for Fourteen Upazilas

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.5: Union wise Population Density in Ramu Upazila (2011)

## Draft Final Plan – Ramu Upazila

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

### 6.4 Thematic Maps

In order to prepare the structure plan and sub-regional plan for Ramu Upazila upazila 8 types of survey has been conducted. These surveys are : Participatory Rural Appraisal (PRA), Socio-Economic survey, Agricultural survey, Formal-Informal Economic survey, Traffic and Transportation survey, Geological survey, Physical feature, land use, Topographical survey and photographic works and Hydrological survey. The derived data from that survey has represented in different thematic maps.

#### 6.4.1 Existing Land Use

The existing land use statistics has been summarized in the below table:

**Table 6.2: Existing Land use**

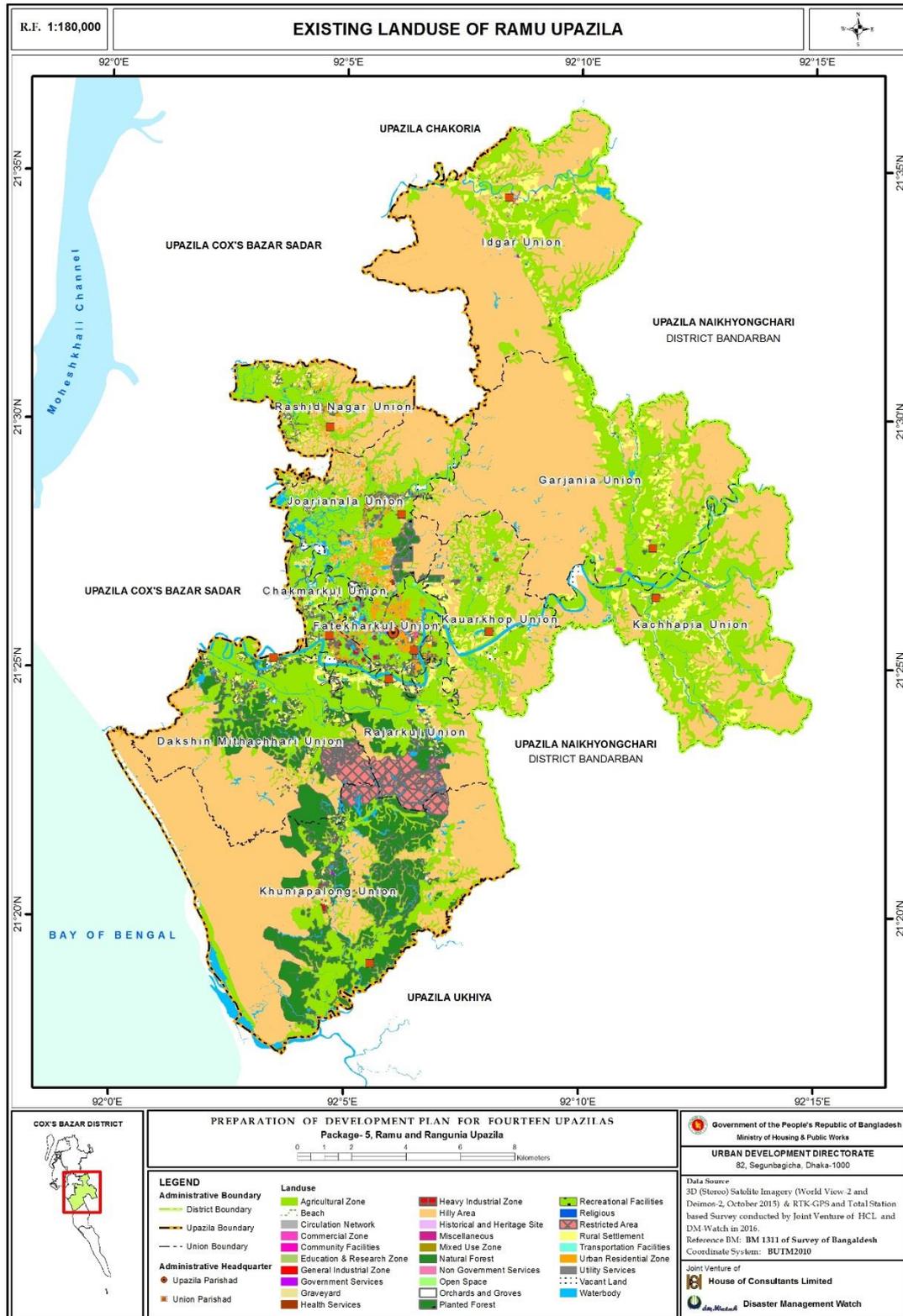
Existing Land use					
Land use	Area (Sq. Meter)	Area (Sq. Kilometer)	Area (Hectare)	Area (Acre)	%
Agricultural Zone	116729878.24	116.73	11672.99	28844.58	30.37
Beach	1462155.40	1.46	146.22	361.31	0.38
Circulation Network	2380183.47	2.38	238.02	588.16	0.62
Commercial Zone	643148.15	0.64	64.31	158.93	0.17
Community Facilities	32654.51	0.03	3.27	8.07	0.01
Education & Research Zone	273929.55	0.27	27.39	67.69	0.07
General Industrial Zone	25024.42	0.03	2.50	6.18	0.01
Government Services	96557.07	0.10	9.66	23.86	0.03
Graveyard	275089.06	0.28	27.51	67.98	0.07
Health Services	53897.11	0.05	5.39	13.32	0.01
Heavy Industrial Zone	997832.32	1.00	99.78	246.57	0.26
Hilly Area	194472208.25	194.47	19447.22	48055.13	50.59
Miscellaneous	5022.42	0.01	0.50	1.24	0.00
Mixed Use Zone	205164.74	0.21	20.52	50.70	0.05
Natural Forest	25938801.37	25.94	2593.88	6409.62	6.75
Non Government Services	6284.31	0.01	0.63	1.55	0.00
Open Space	109233.10	0.11	10.92	26.99	0.03
Orchards and Groves	582311.96	0.58	58.23	143.89	0.15
Planted Forest	1640096.66	1.64	164.01	405.28	0.43
Recreational Facilities	10944.23	0.01	1.09	2.70	0.00
Religious	285305.18	0.29	28.53	70.50	0.07
Restricted Area	434486.48	0.43	43.45	107.36	0.11
Rural Settlement	18885115.46	18.89	1888.51	4666.61	4.91
Transportation Facilities	36488.61	0.04	3.65	9.02	0.01
Urban Residential Zone	4596248.88	4.60	459.62	1135.76	1.20
Utility Services	8435.65	0.01	0.84	2.08	0.00
Vacant Land	1320859.27	1.32	132.09	326.39	0.34
Water body	12893440.99	12.89	1289.34	3186.04	3.35
<b>TOTAL</b>	<b>384400796.88</b>	<b>384.40</b>	<b>38440.08</b>	<b>94987.51</b>	<b>100.00</b>

Source: Field Survey, 2016

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Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.6: Existing Landuse of Ramu Upazila

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

### 6.4.2 Existing Circulation Network

From the Physical feature survey the road network of the study area has been summarized in the below table:

**Table 6.3: Existing Circulation Network**

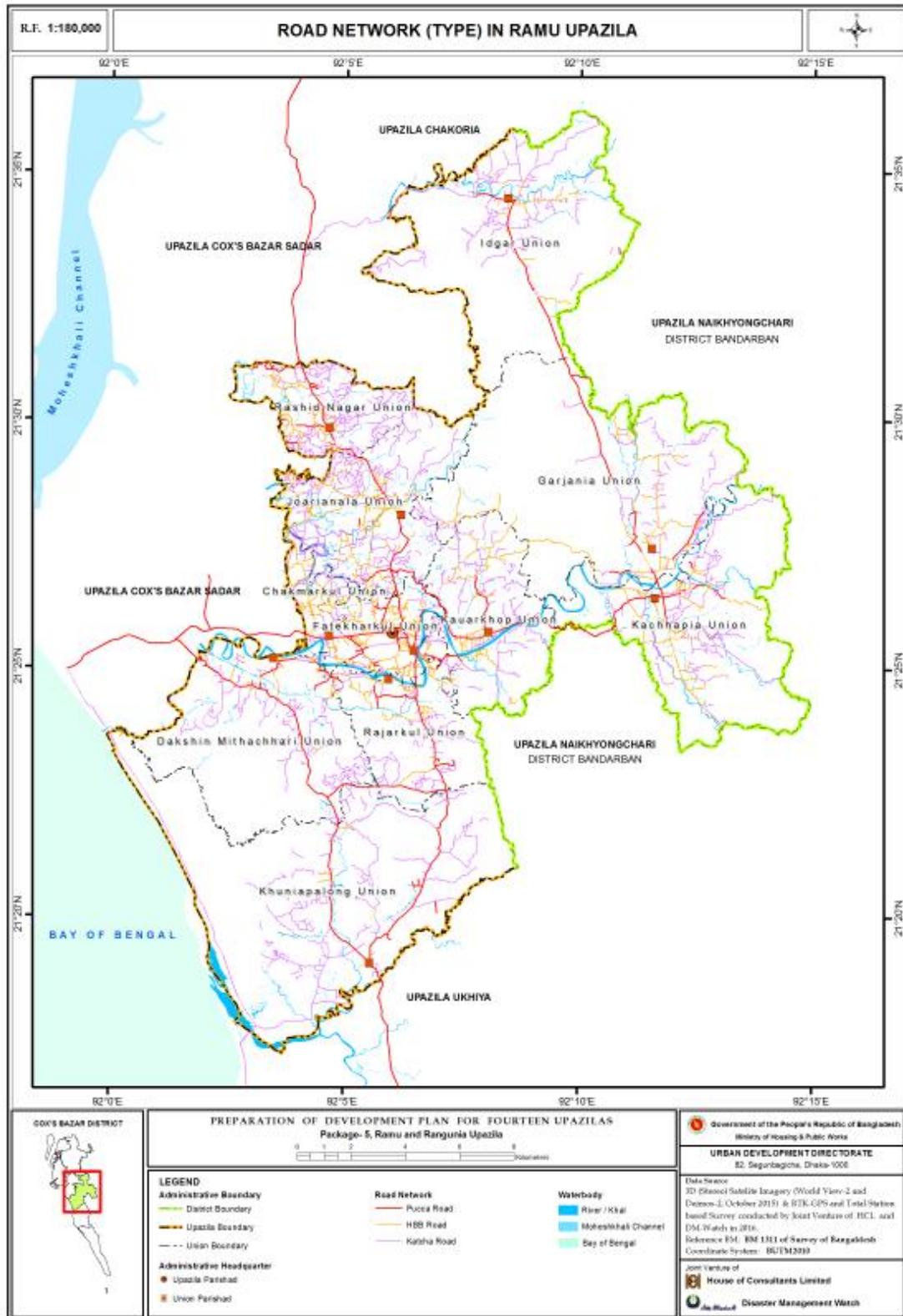
Union	Type	Length in meter	Length in kilometer	Total	Percentage
Chakmarkul Union	HBB	21365.35	21.37	54.81	6.11
	Katcha	20779.81	20.78		
	Pucca	12662.17	12.66		
Dakshin Mithachhari Union	HBB	9618.25	9.62	71.63	7.98
	Katcha	46342.95	46.34		
	Pucca	15664.63	15.66		
Fatekharkul Union	HBB	34794.84	34.79	63.33	7.06
	Katcha	14320.33	14.32		
	Pucca	14212.90	14.21		
Garjania Union	HBB	28669.10	28.67	79.12	8.82
	Katcha	38923.15	38.92		
	Pucca	11531.93	11.53		
Idgar Union	HBB	10789.93	10.79	74.87	8.35
	Katcha	56261.42	56.26		
	Pucca	7819.38	7.82		
Joarianala Union	HBB	38906.64	38.91	129.16	14.40
	Katcha	79560.91	79.56		
	Pucca	10696.01	10.70		
Kachhapia Union	HBB	28799.60	28.80	85.44	9.53
	Katcha	47522.39	47.52		
	Pucca	9121.96	9.12		
Kauarkhop Union	HBB	21998.33	22.00	74.56	8.31
	Katcha	42699.17	42.70		
	Pucca	9859.52	9.86		
Khuniapalong Union	HBB	3268.02	3.27	107.31	11.96
	Katcha	86907.60	86.91		
	Pucca	17132.91	17.13		
Rajarkul Union	HBB	17671.41	17.67	59.53	6.64
	Katcha	28933.50	28.93		
	Pucca	12921.53	12.92		
Rashid Nagar Union	HBB	18686.56	18.69	97.26	10.84
	Katcha	58091.70	58.09		
	Pucca	20479.22	20.48		
<b>Total</b>		<b>897013.15</b>	<b>897.01</b>	<b>897.01</b>	<b>100</b>

Source: Field Survey, 2026

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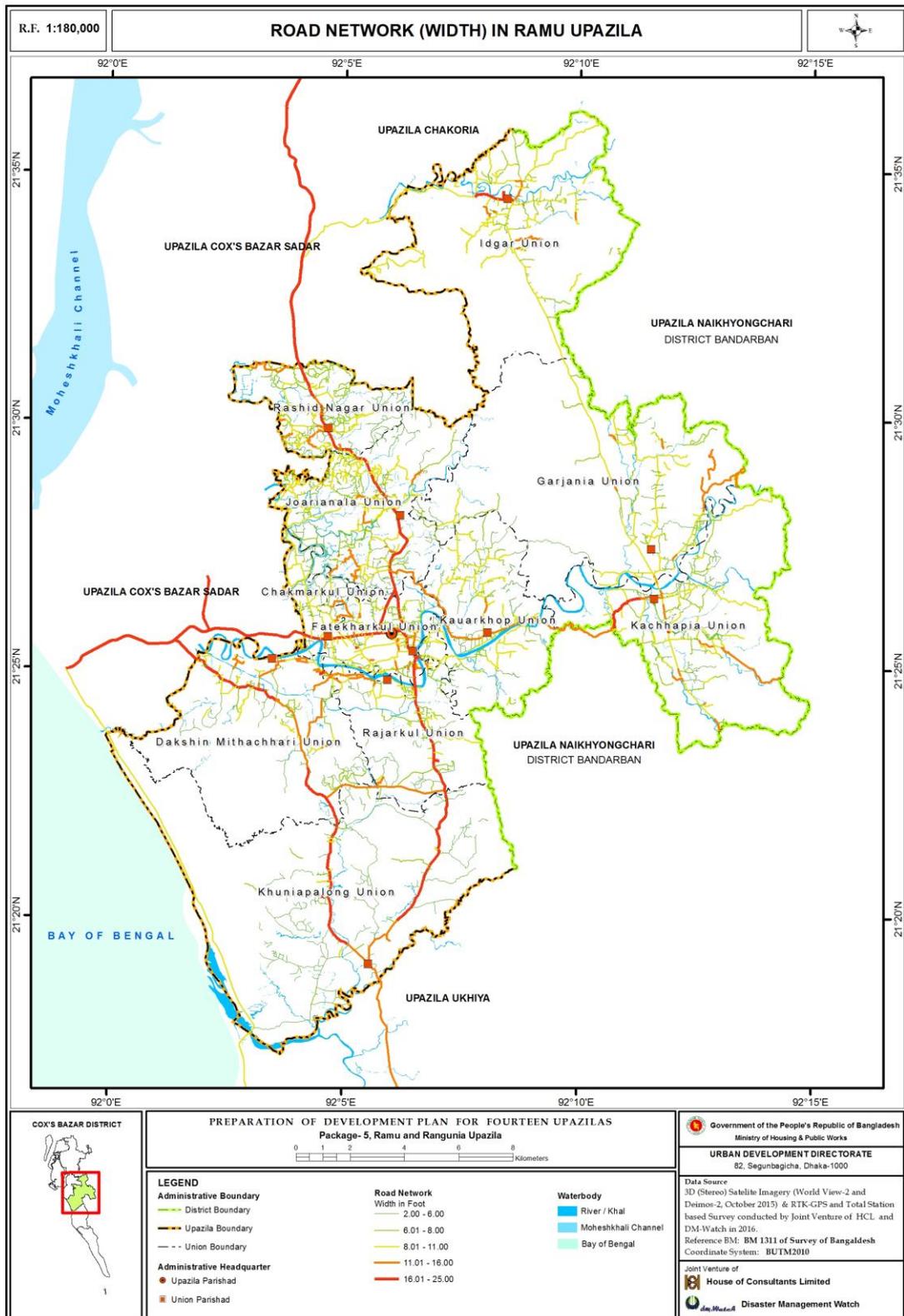
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.7: Existing Road Network (Type) of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)



Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.8: Existing Road Network (Width) of Ramu Upazila

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

### 6.4.3 Structure Type in Ramu Upazila

According to the interpretation of satellite image and field survey there are 36025 structures within the Ramu Upazila Upazila. The statistic has been shown below in the table:

**Table 6.4: Structure Type in Ramu Upazila Upazila**

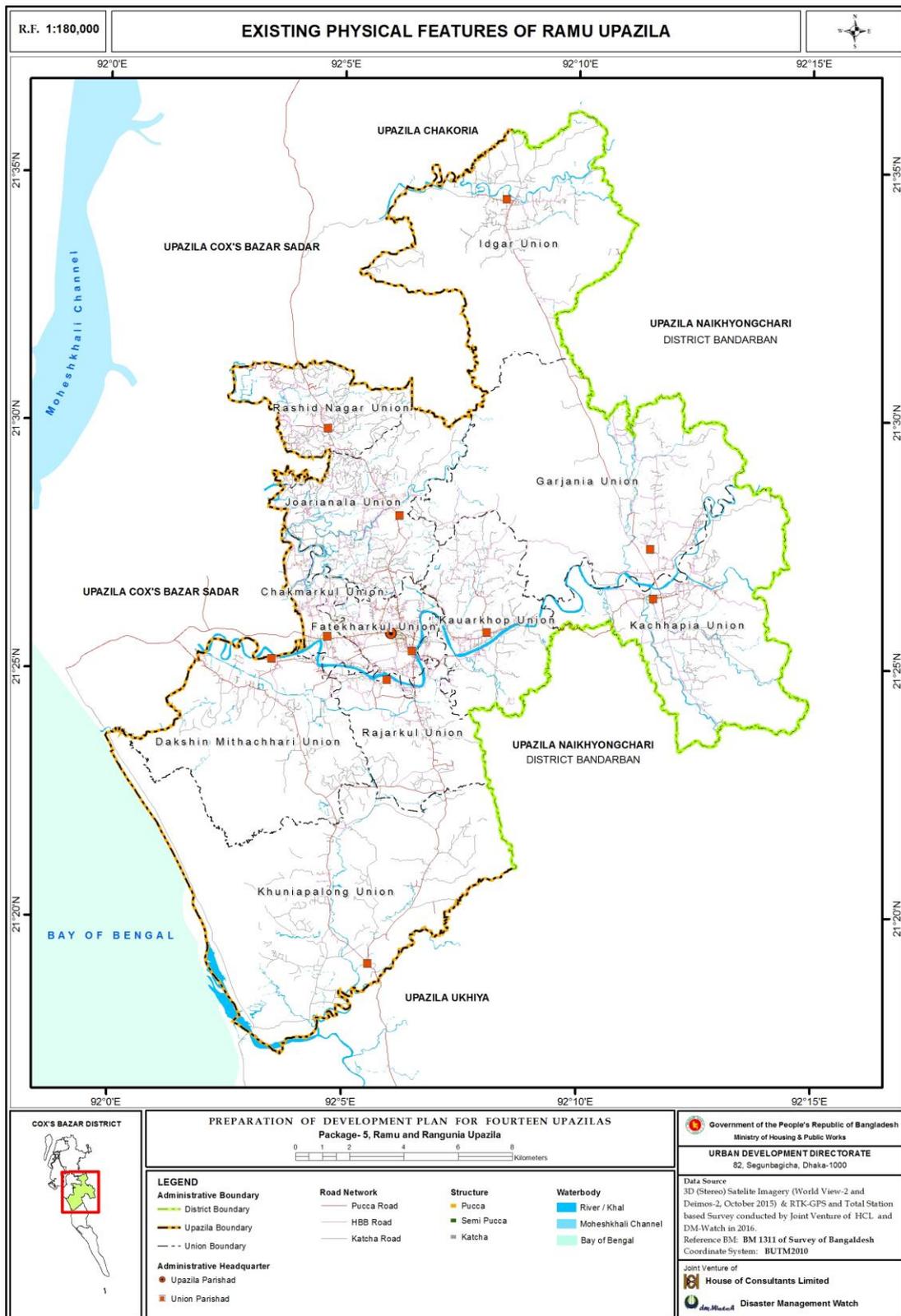
Union	Structur Type	No. of Structure	Total	Percentage
Chakmarkul	Katcha	1282	2819	7.83
	Pucca	468		
	Semi Pucca	1044		
	Under Construction	25		
Dakshin Mithachhari	Katcha	838	1692	4.70
	Pucca	164		
	Semi Pucca	684		
	Under Construction	6		
Fatekharkul	Katcha	2368	5825	16.17
	Pucca	855		
	Semi Pucca	2559		
	Under Construction	43		
Garjania	Katcha	1938	2734	7.59
	Pucca	62		
	Semi Pucca	733		
	Under Construction	1		
Idgar	Katcha	1161	2202	6.11
	Pucca	120		
	Semi Pucca	919		
	Under Construction	2		
Joarianala	Katcha	3727	5245	14.56
	Pucca	473		
	Semi Pucca	1036		
	Under Construction	9		
Kachhapia	Katcha	2221	3382	9.39
	Pucca	157		
	Semi Pucca	999		
	Under Construction	5		
Kauarkhop	Katcha	3482	4601	12.77
	Pucca	178		
	Semi Pucca	929		
	Under Construction	12		
Khuniapalong	Katcha	323	1232	3.42
	Pucca	15		
	Semi Pucca	893		
	Under Construction	1		
Rajarkul	Katcha	1605	2702	7.50
	Pucca	158		
	Semi Pucca	927		
	Under Construction	12		
Rashid Nagar	Katcha	2260	3591	9.97
	Pucca	283		
	Semi Pucca	1034		
	Under Construction	14		
<b>Total</b>		<b>36025</b>	<b>36025</b>	<b>100</b>

Source: Field Survey, 2016

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Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.9: Physical Feature of Ramu Upazila

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### 6.4.4 Cropping Pattern and Intensity of Ramu Upazila Upazila

Cropping pattern of 11 unions of Ramu Upazila has been identified through consultation with the Sub-Assistant Agricultural Officer. From the consultation it has been found that there are single cropping, double cropping and triple cropping land which comprises 2.51%, 19.11% and 8.74% of total area respectively.

**Table 6.5: Cropping Intensity**

Cropping Intensity	Acre(sq.m)	Area(Acre)	Percentage
Single	9660866.41	2387.25	2.51
Double	73468832.14	18154.54	19.11
Triple	33600178.76	8302.78	8.74

*Source: Field Survey, 2016*

### 6.4.5 Vegetation

The vegetation scenario of Ramu Upazila has been summarized in the table given below:

**Table 6.6: Vegetation Scenario**

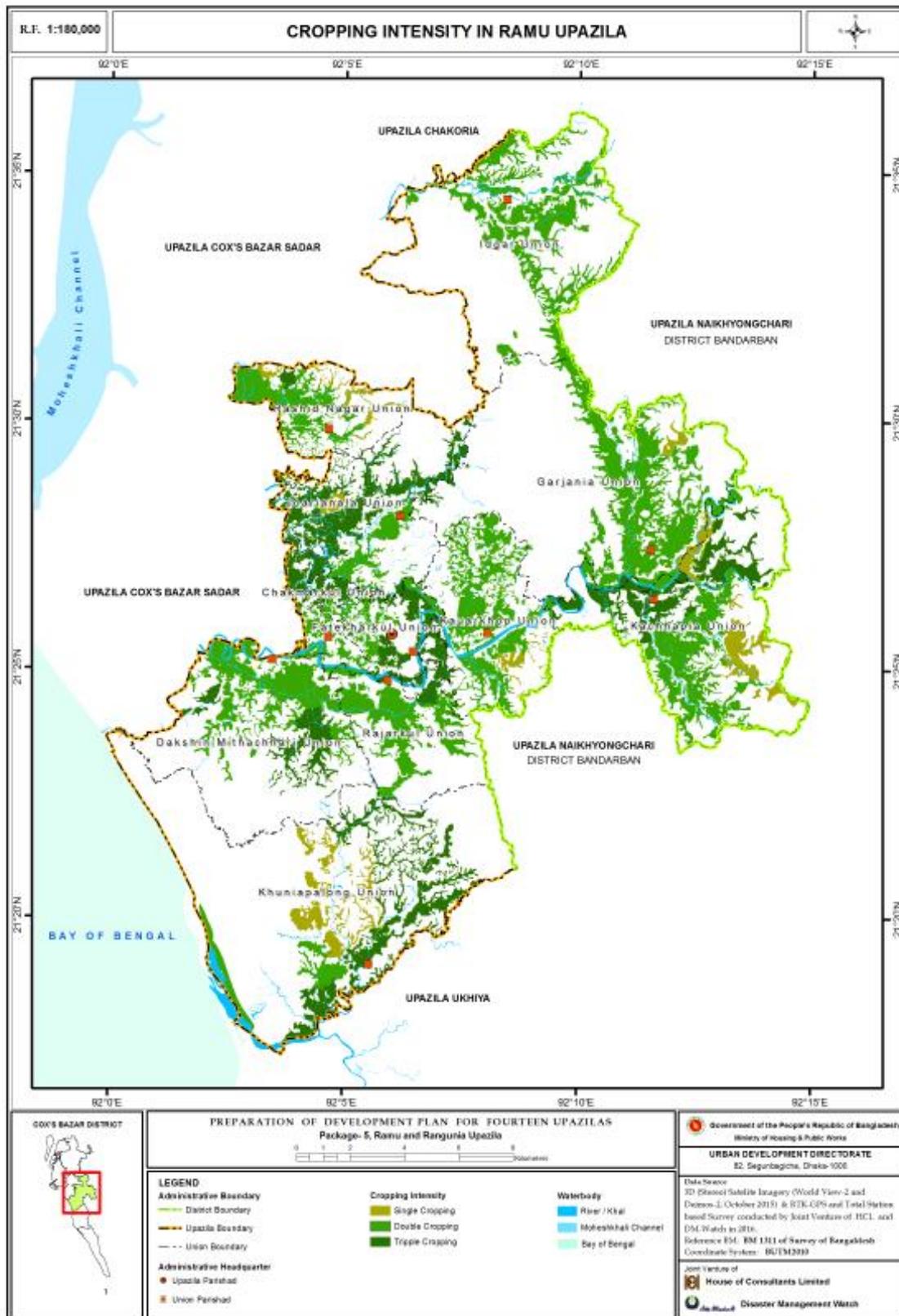
Vegetation	Area (sq. m)	Area(Acre)	Area(sq. km))	Percentage
Natural Forest	186439459.7	46070.2	186.44	48.50
Planted Forest	1640096.66	405.28	1.64	0.43
Orchards and Groves	582311.96	143.89	0.58	0.15

*Source: Field Survey, 2016*

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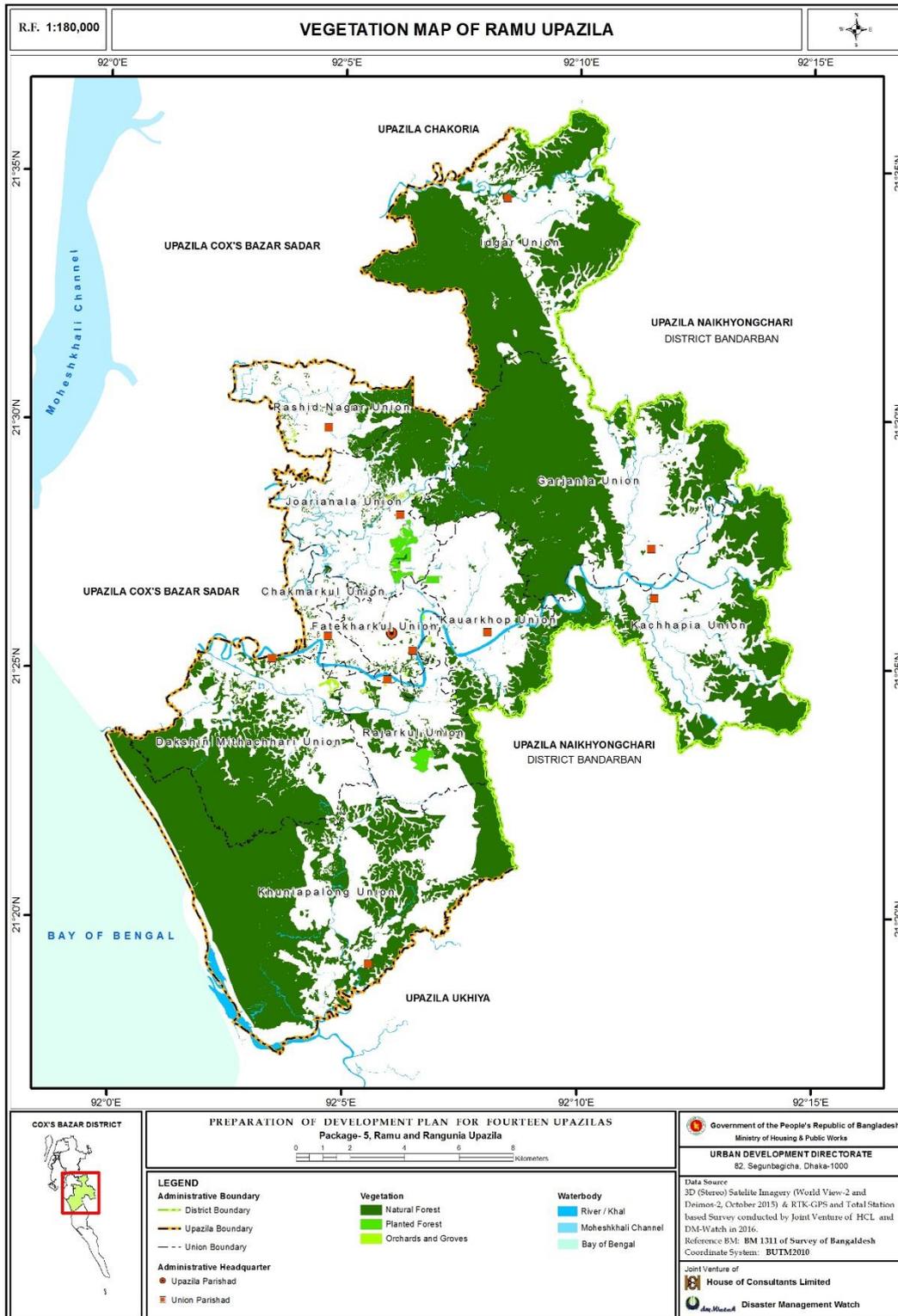


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.10: Cropping Intensity of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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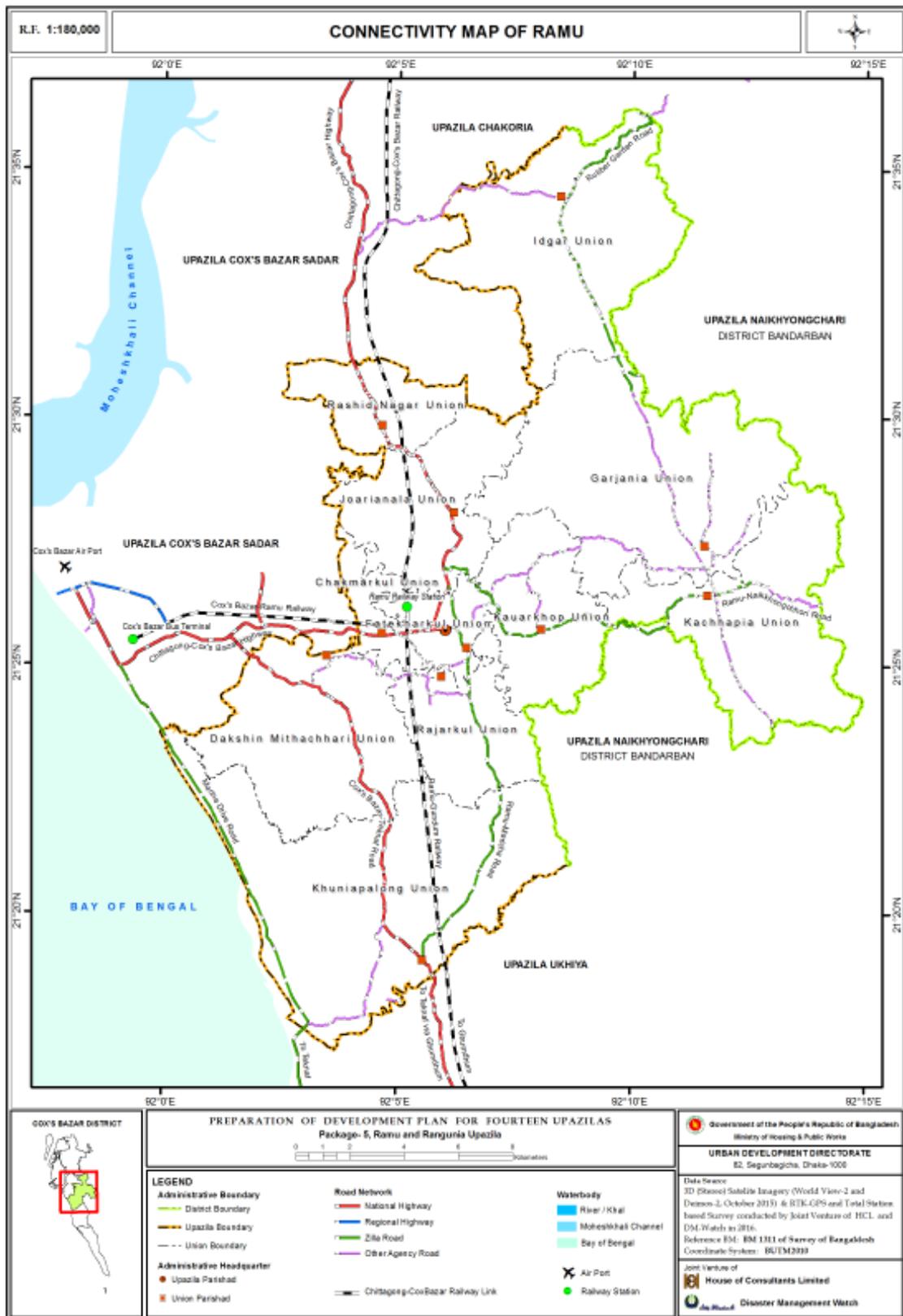


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.11: Vegetation Scenario of Ramu Upazila

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Preparation of Development Plan for Fourteen Upazilas

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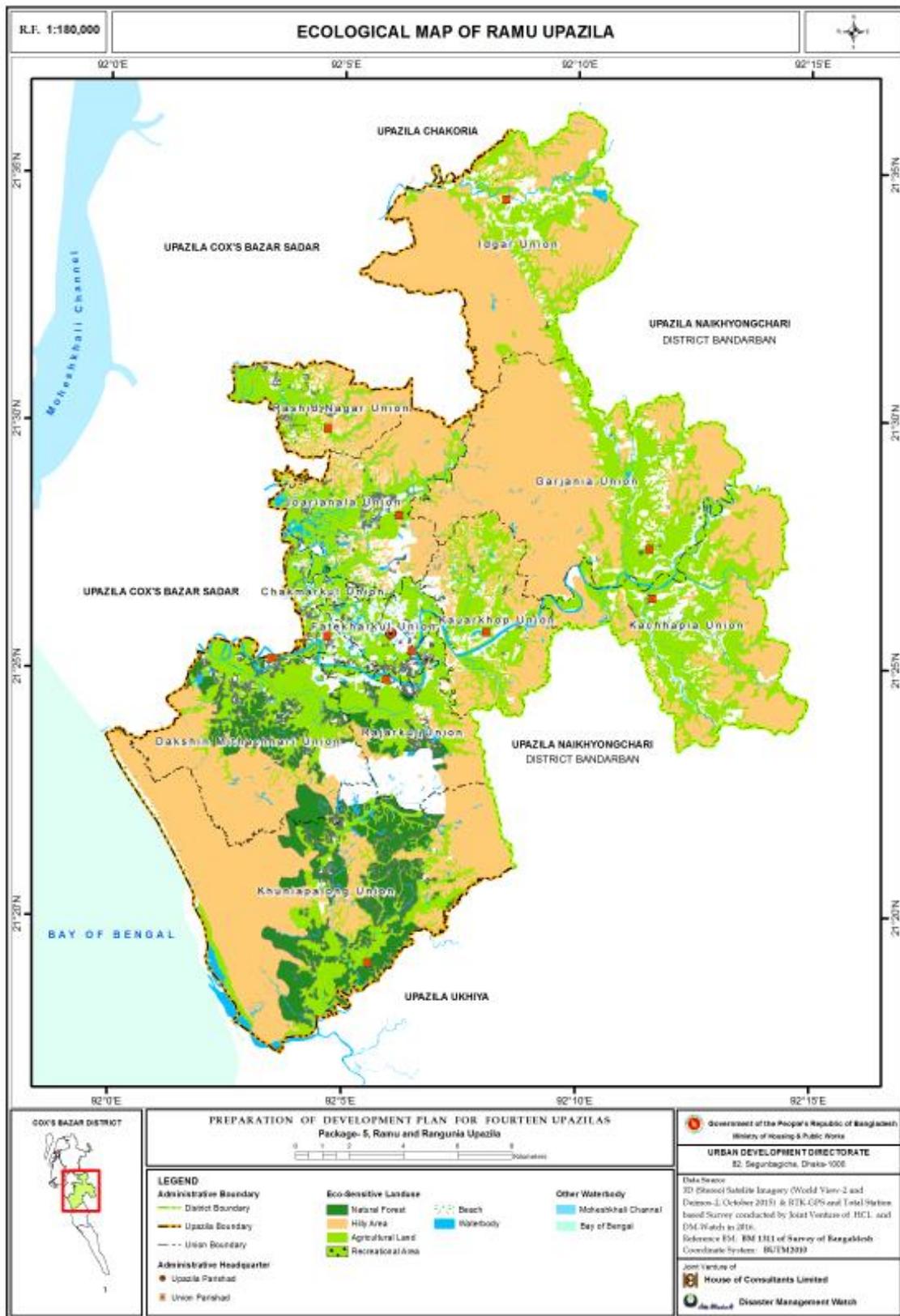


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.12: Connectivity Map of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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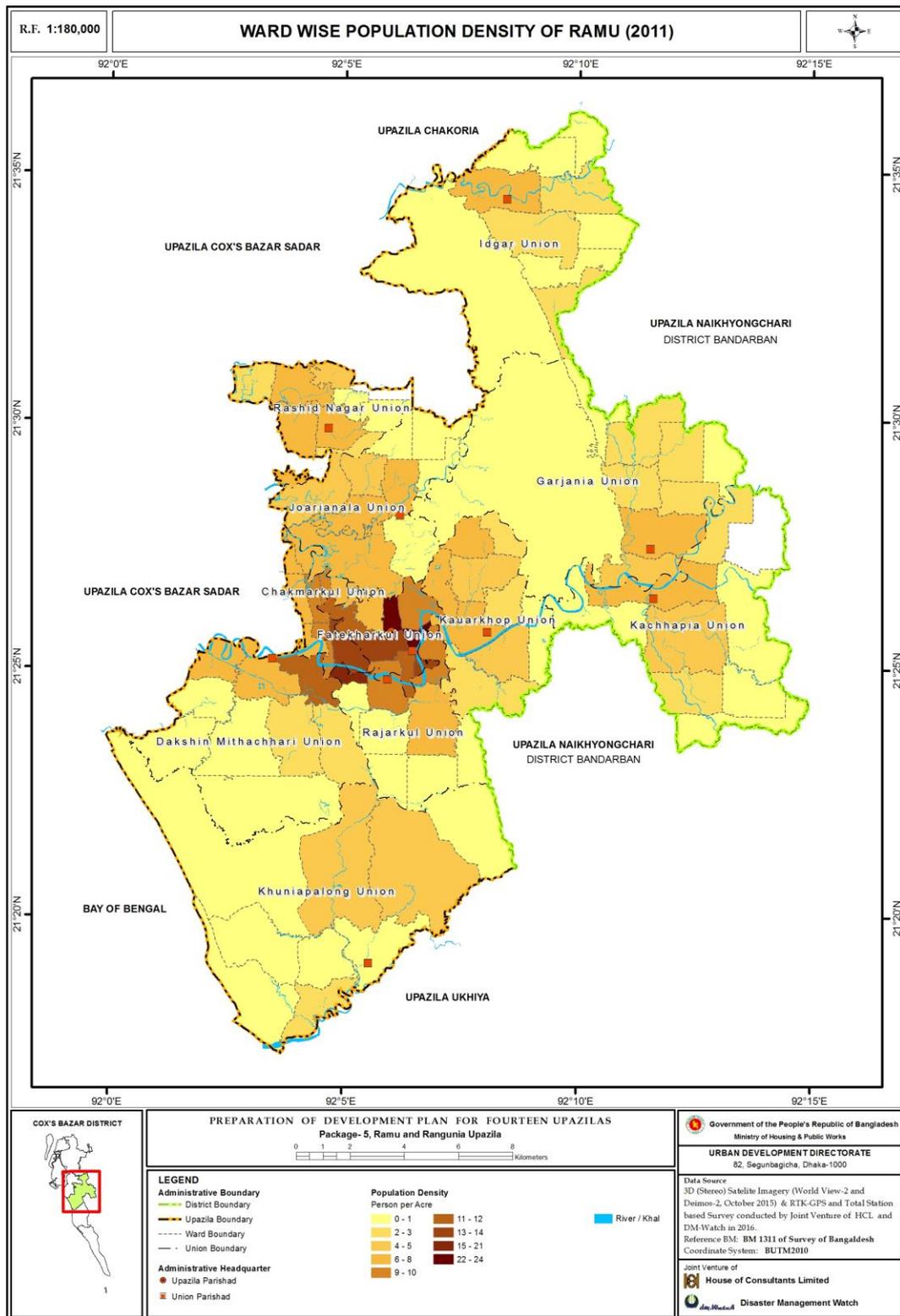


Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.13: Ecology of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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Source: Prepared by Consultant Team Based on Field Survey, 2016  
Map 6.14: Ward Wise Population Density in Ramu Upazila (2011)



## Draft Final Plan – Ramu Upazila

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### 6.5 Flooding Scenario

The project area has been divided into five categories depending on the flooding scenario which are 1<sup>st</sup> degree flooded area, 2<sup>nd</sup> degree flooded area, 3<sup>rd</sup> degree flooded area, 4<sup>th</sup> degree flooded area and 5<sup>th</sup> degree flooded area. The statistics has been summarized in the table:

**Table 6.7: Different Flooding Scenario**

<b>Different Flooding Scenario</b>				
<b>Flooded Land Category</b>	<b>Area(sq.m)</b>	<b>Area(sq.km)</b>	<b>Area(Acre)</b>	<b>Remarks</b>
1st Degree Flooded area	100	0.00	0.02	
2nd Degree Flooded area	9992500	9.99	2469.20	
3rd Degree Flooded area	10744900	10.74	2655.12	
4th Degree Flooded area	5974900	5.97	1476.43	Sub Flood Flow Zone
5th Degree Flooded area	4406400	4.41	1088.85	Main Flood Flow Zone
<b>Total</b>	<b>31118800</b>	<b>31</b>	<b>7690</b>	

*Source: Field Survey, 2016*



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### 6.6 Geology

For the identification of the geologically suitable area of Ramu Upazila Upazila an analysis has been adopted where PGA, soil type, shear wave data area used. On the basis of the survey data and analysis geological suitable area has been identified. With the compilation of these three criteria micro zonation map has been derived.

**Table 6.8: Foundation Layer**

Foundation Layer	Area(Sq.m)	Area(Acre)
Very Poor	562500	139.00
Poor	14937500	3691.14
Moderate	58437500	14440.22
Good	82125000	20293.53
Very Good	21437500	5297.32

*Source: Field Survey, 2016*

**Table 6.9: PGA**

PGA	Area(Sq.m)	Area(Acre)
1st Degree Sensitive	32000000	7907.37
2nd Degree Sensitive	99187500	24509.77
3rd Degree Sensitive	46312500	11444.07

*Source: Field Survey, 2016*

**Table 6.10: Shear Wave**

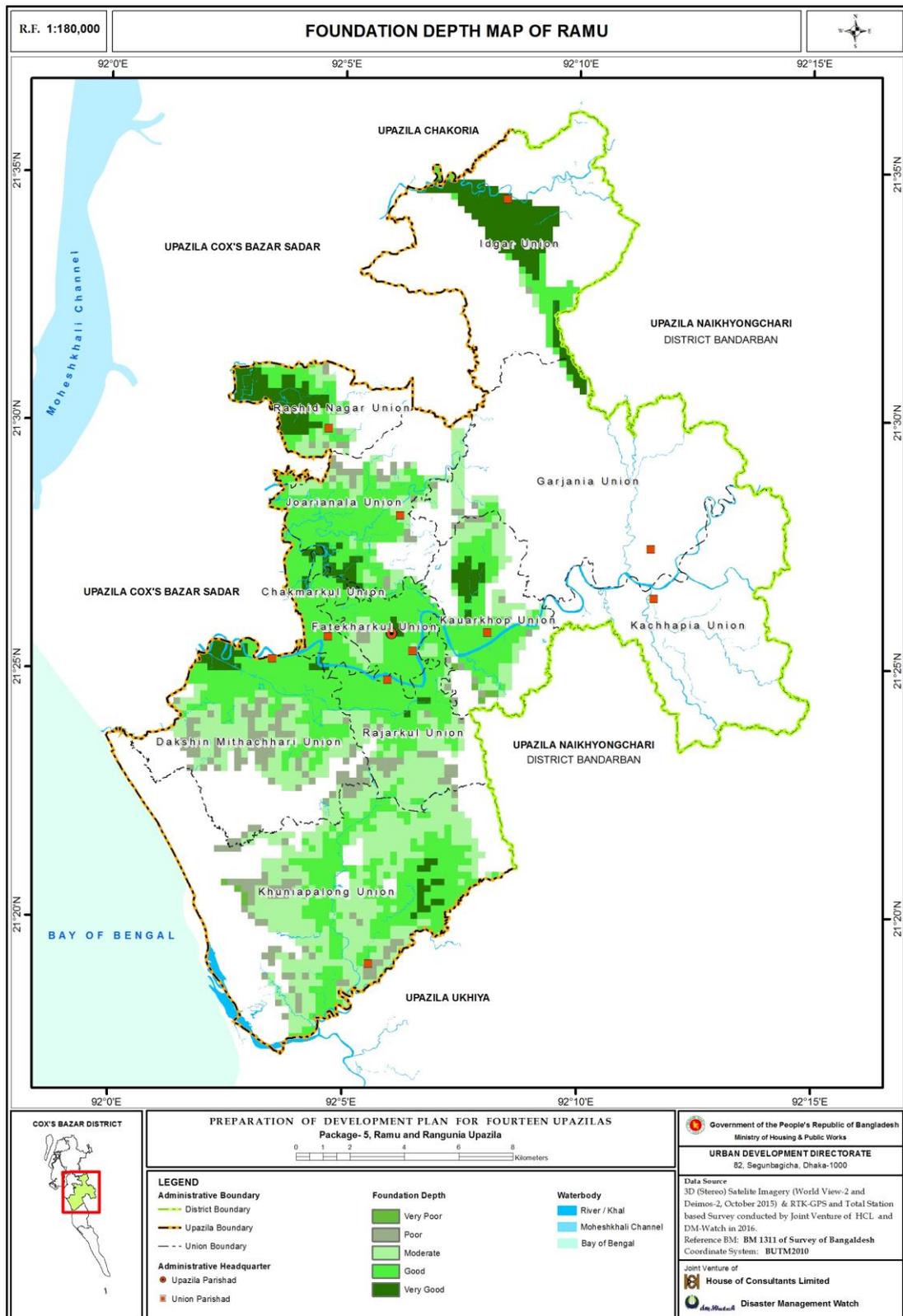
Shear Wave	Area(Sq.m)	Area(Acre)
Very Poor	10687500	2640.94
Poor	79312500	19598.55
Moderate	55500000	13714.35
Good	32000000	7907.37

*Source: Field Survey, 2016*

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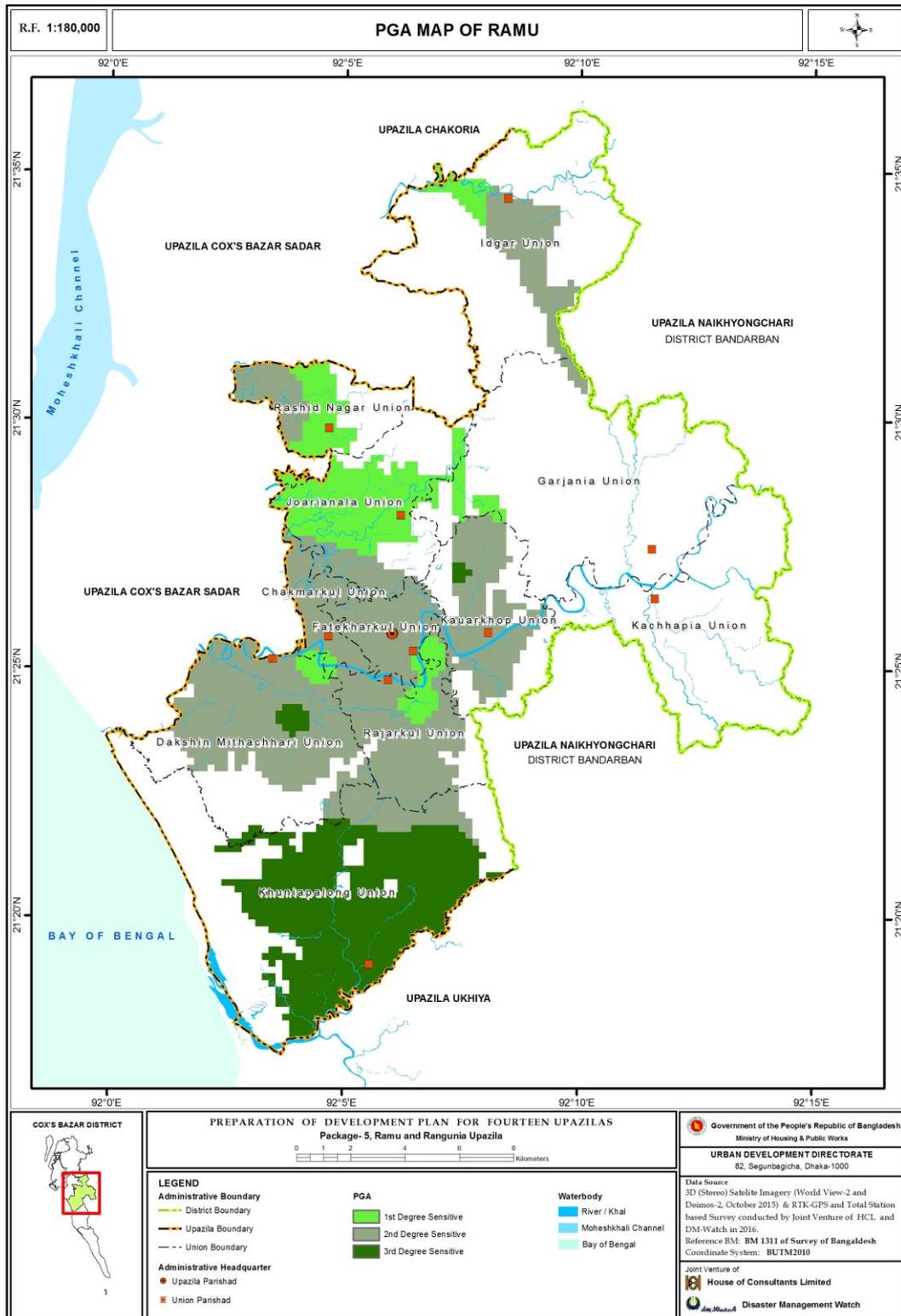
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.17: Foundation Type of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)



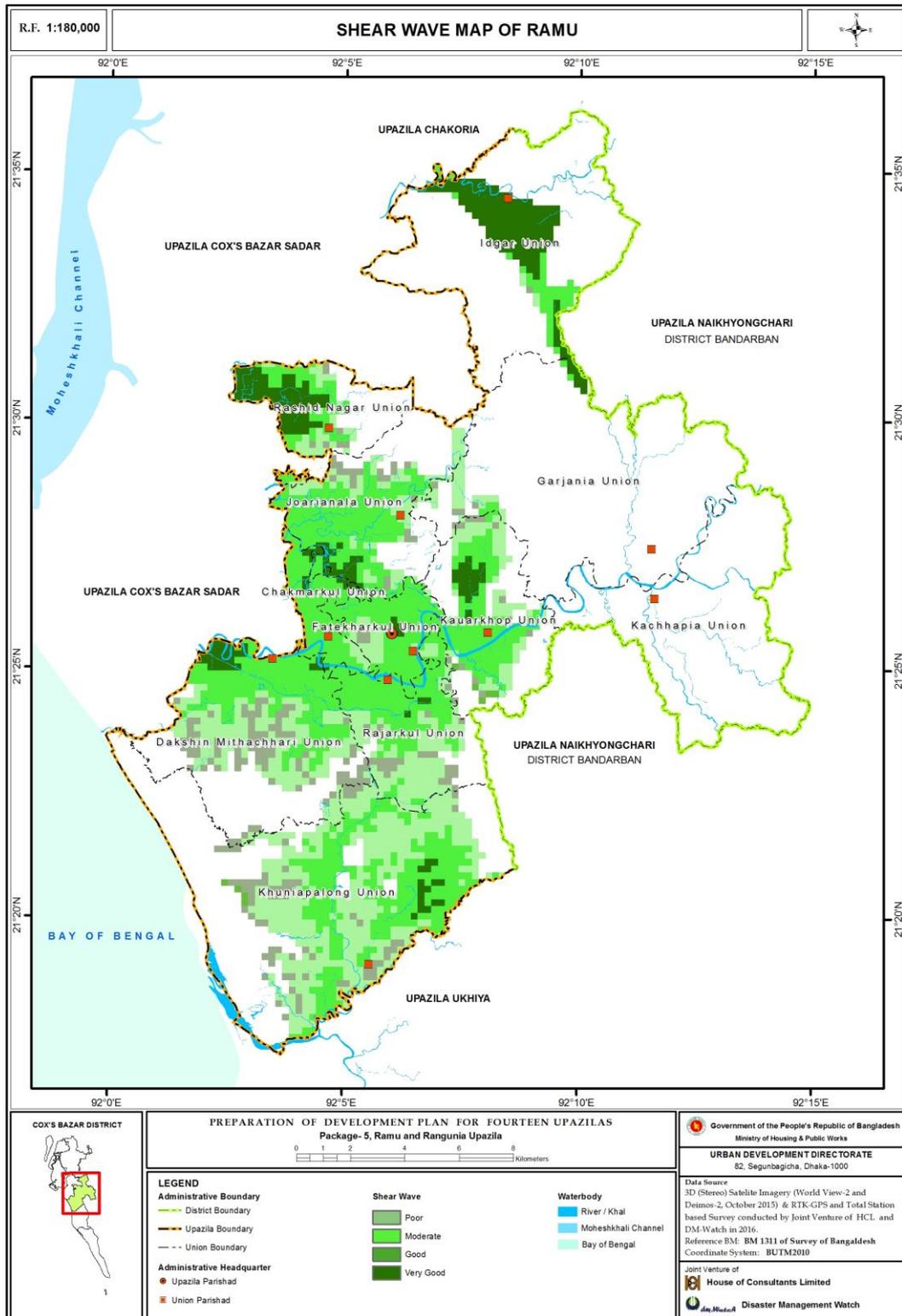
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.18: PGA of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)



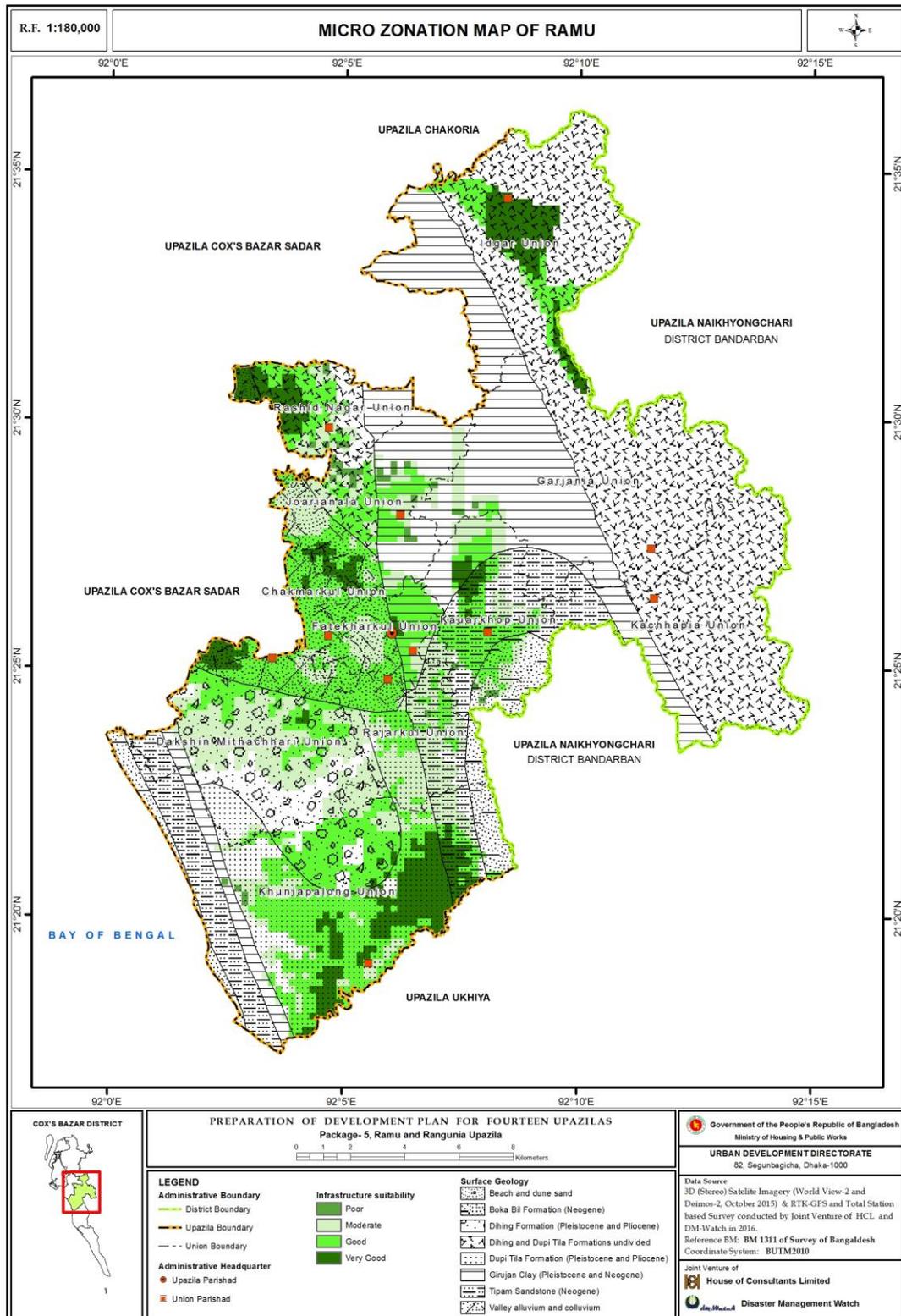
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.19: Shear Wave of Ramu Upazila

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)



Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.20: Micro zonation map of Ramu Upazila

## Draft Final Plan – Ramu Upazila

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

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### 6.7 Suitability Analysis

For the plan preparation of Ramu Upazila Upazila suitability analysis is an essential step. Through this analysis suitable area for agriculture, urban and infrastructure development will be identified. In this step firstly undesirable area for planning this is the area with slope more than 5%.

#### 6.7.1 Consideration of Affecting Factors for Planning

There are some affecting factors to plan the Ramu Upazila Upazila. The factors are slope more than 5%, main flood flow zone and sub-flood flow zone. In these three types of areas development cannot take place. But these areas can be used for other purposes such as agriculture, afforestation, water retention area etc. Any kind of development is prohibited in this 69.71% area which comprises slope more than 5 %, main and Sub-flood flow zone.

**Table 6.11: Consideration of Affecting Factors for Planning**

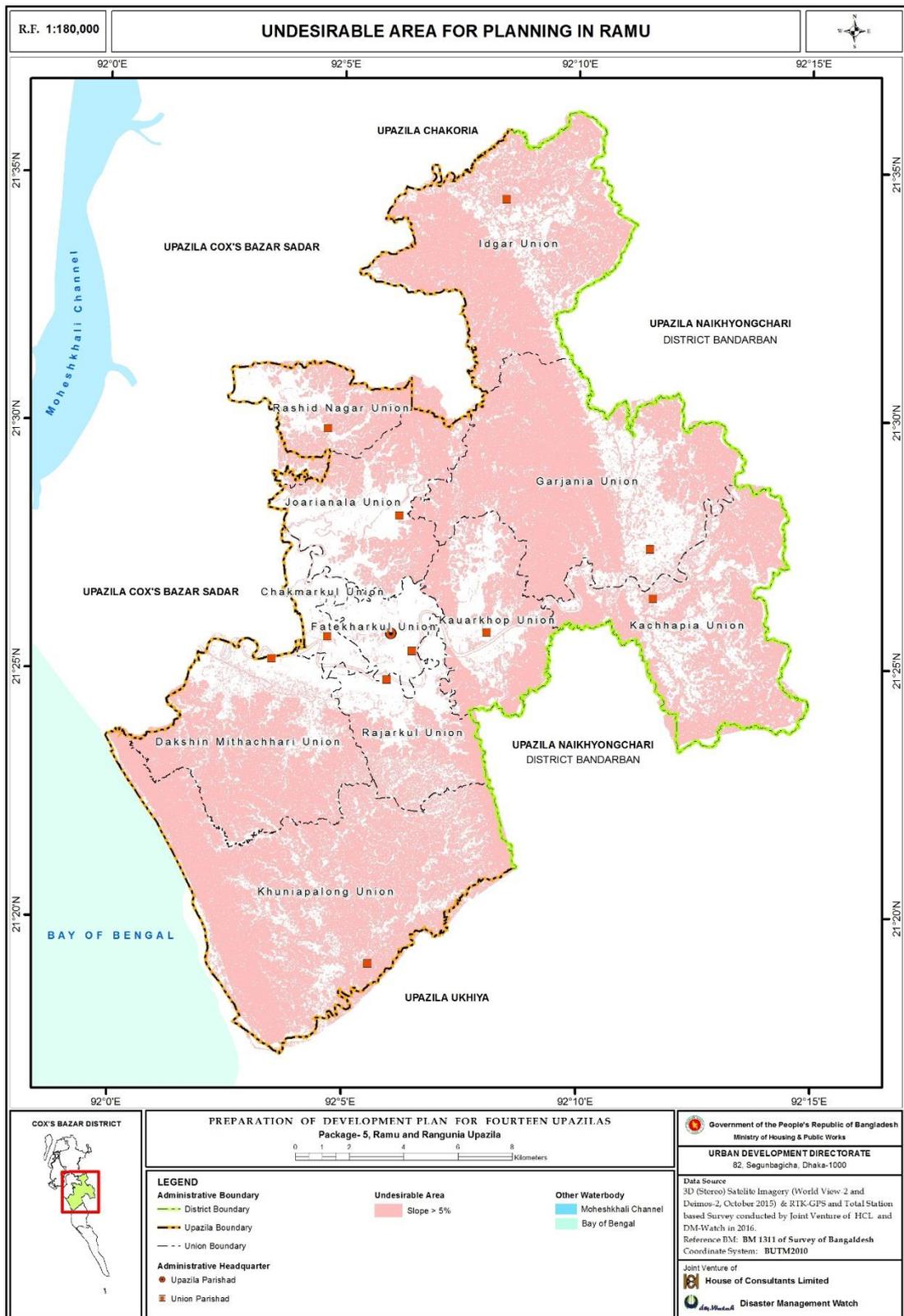
Consideration of Affecting Factors for Planning				
Factors	Area (sq.m)	Area (sq.km)	Area (Acre)	Percentage
Slope more than 5%	257599100	257.60	63654.12	67.01
Main Flood Flow Zone	4406400	4.41	1088.85	1.15
Sub Flood Flow Zone	5974900	5.97	1476.43	1.55

*Source: Field Survey, 2016*

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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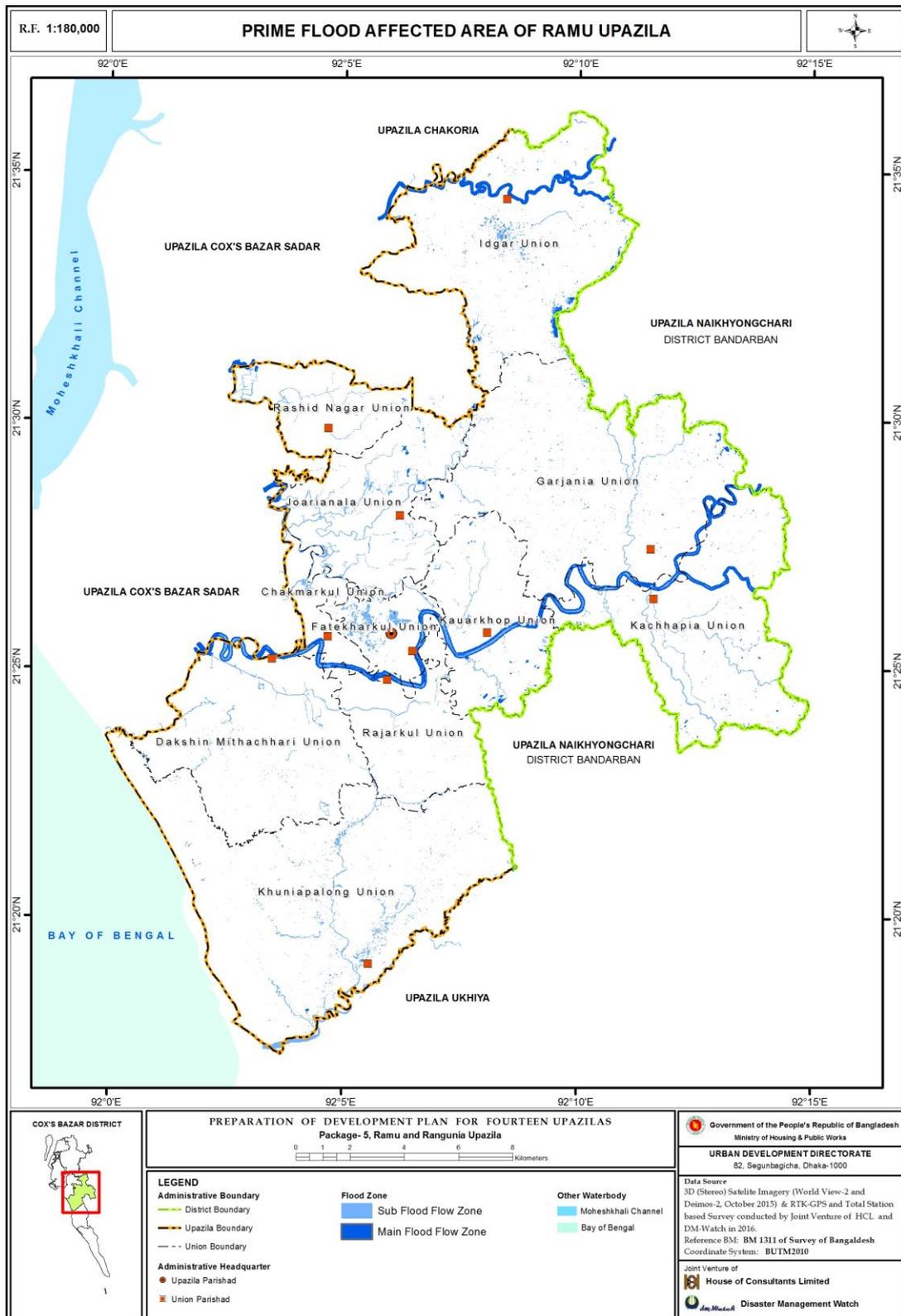
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.21: Undesirable Area for Planning

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.22: Prime Flood Affected Area of Ramu Upazila

**6.7.2 Agricultural suitability**

To identify the best suitable area for agriculture an analysis has been done. It is derived from the data of water depth, slope and cropping intensity. The main reason of this analysis is to identify the most suitable agricultural land for conservation. The statistic has been given below:

**Table 6.12: Agricultural Suitability**

<b>Agricultural Suitability</b>			
<b>Category</b>	<b>Area (sq. m)</b>	<b>Area(Acre)</b>	<b>Percentage</b>
Poor	5625000	1389.97	1.46
Moderate	40000000	9884.22	10.41
Good	30125000	7444.05	7.84

*Source: Field Survey, 2016***6.7.3 Urban Suitability**

For the identification of the urban suitable area some criteria has been fixed which are slope less than or equals to 5%, DEM, Geological suitability and major road. In which areas these four criteria has met the consideration those areas are the urban suitable areas. From the analysis it is found that 31.89% Of the project area are urban suitable.

**Table 6.13: Urban Suitability**

<b>Urban Suitability</b>				
<b>Category</b>	<b>Area(sq.m)</b>	<b>Area(sq.km)</b>	<b>Area(Acre)</b>	<b>Percentage</b>
Poor	1750000	1.75	432.43	0.46
Moderate	17750000	17.75	4386.12	4.62
Good	31812500	31.81	7861.04	8.28
Very Good	27875000	27.88	6888.06	7.25

*Source: Field Survey, 2016***6.7.4 Geological Suitability**

In order to identify the area for zoning an analysis has been carried out. For this analysis the criteria are shear wave, PGA and foundation layer. From this analysis most and least suitable areas for infrastructure has been identified which will help for further development.

**Table 6.14: Infrastructure Suitability**

<b>Infrastructure Suitability</b>			
<b>Category</b>	<b>Area (sq. m)</b>	<b>Area (Acre)</b>	<b>Percentage</b>
Very Poor	2562500.00	633.21	0.67
Poor	56500000.00	13961.45	14.70
Moderate	87500000.00	21621.72	22.76
Good	30937500.00	7644.82	8.05

*Source: Field Survey, 2016*

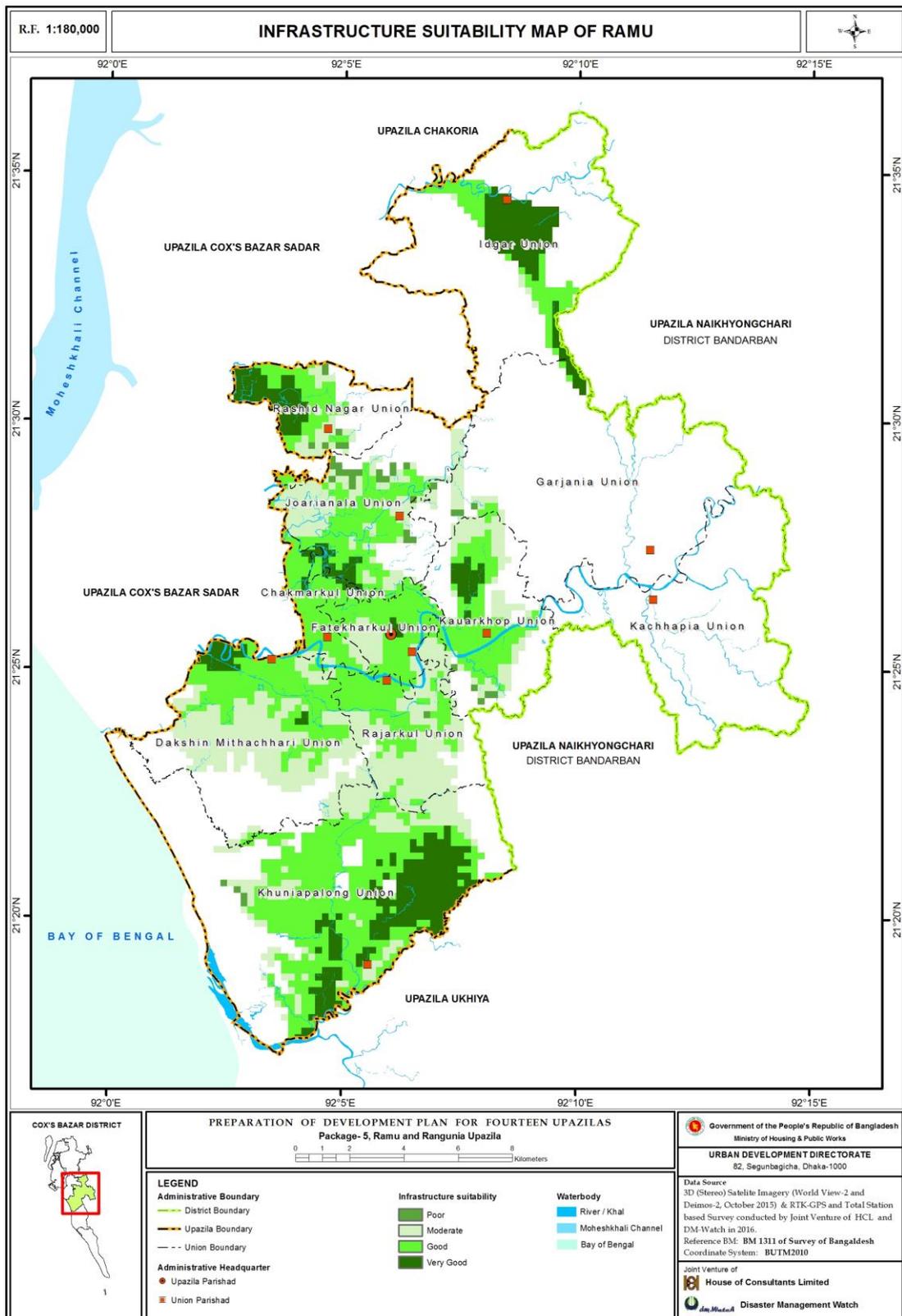




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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.25: Infrastructure Suitability of Ramu Upazila

## **Draft Final Plan – Ramu Upazila**

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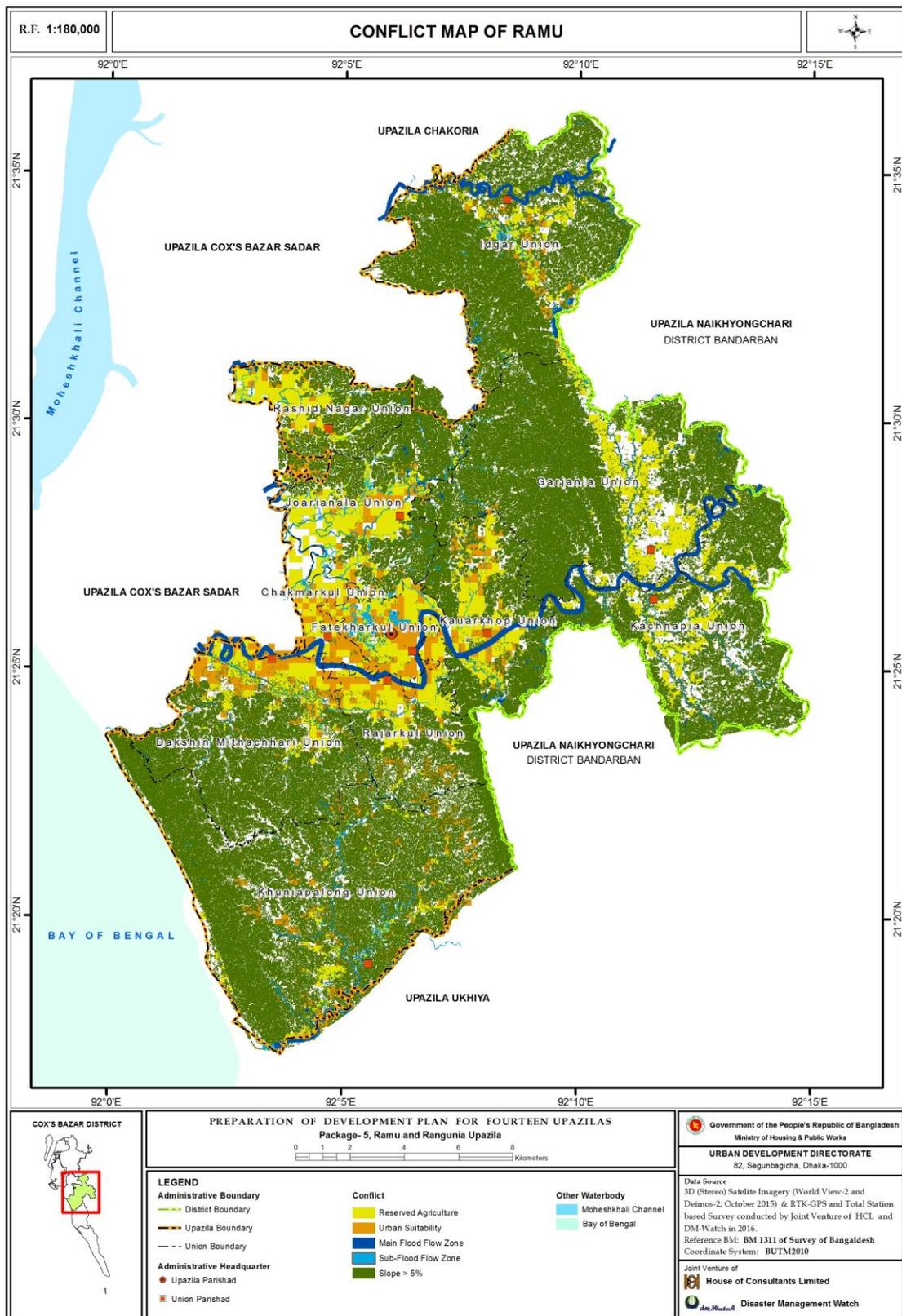
### **6.8 Conflict Map**

After the identification of suitable areas a conflict map has derived by compiling agricultural suitable area, urban suitable area and infrastructure suitable area as well as the prime flood affected areas and undesirable area for planning. This conflict map is the base for structure plan preparation of Ramu Upazila which will help for zoning.

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.26: Conflict Map of Ramu Upazila

## Draft Final Plan – Ramu Upazila

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### 6.9 Proposed Road

In Ramu Upazila after observing the existing circulation network new roads are proposed. Three types of roads are proposed which are primary, secondary and tertiary.

#### Primary Road

Roads connecting the adjacent Upazila Headquarters and other important growth centres are primary roads.

#### Secondary Roads

Roads connecting the unions with the Upazila Headquarter are secondary roads.

#### Tertiary Roads

Roads connecting the villages, urban areas and growth centres are called tertiary roads.

The statistics of proposed road and affected structures due to buffer has been given below in the Table 6.15

**Table 6.15: Proposed Road and No. of Affected Structure**

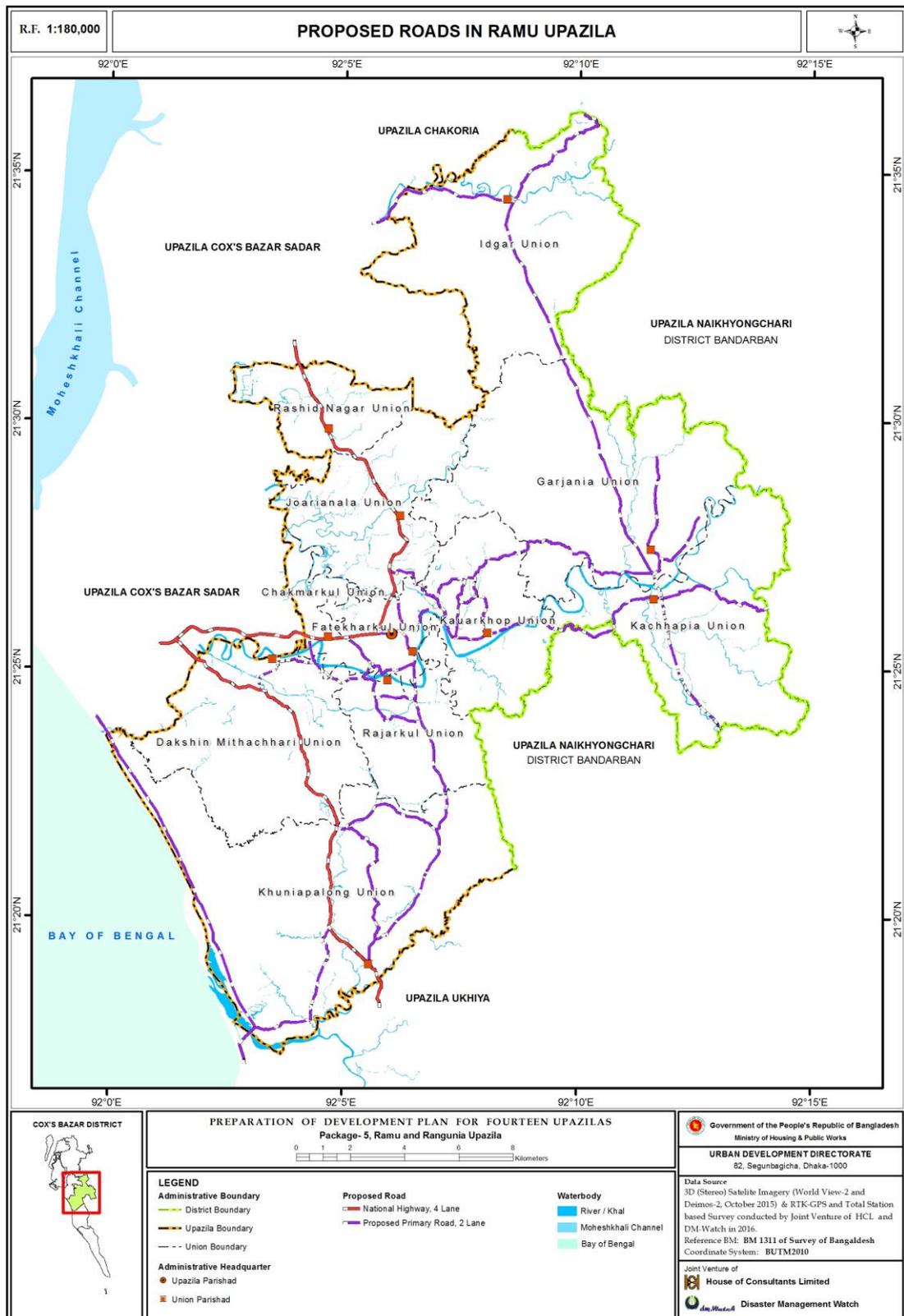
Road Category	Lane	Road Width	No. of Affected Structure			
			Pucca	Semi Pucca	Katcha	Total
National Highway	4	21.6 meter or 70 feet	24	46	79	149
Primary Road	2	12.1 meter or 40 feet	108	297	496	901
<b>Total Affected Structure</b>			132	343	575	1050

*Source: Field Survey, 2016*

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.27: Proposed Roads in Ramu Upazila

## Draft Final Plan – Ramu Upazila

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### 6.10 Water Supply Protection Zone

Water supply protection zone comprises river, canal/chara/khal. 50 meter buffer from the edge of the rivers, 3 meter buffer from the chara/khal will be preserved for water supply protection zone.

Due to buffer some structures get affected. The statistics of affected structures are given below in the table (6.16):

**Table 6.16: Water Supply Protection Zone and No. of Affected Structure**

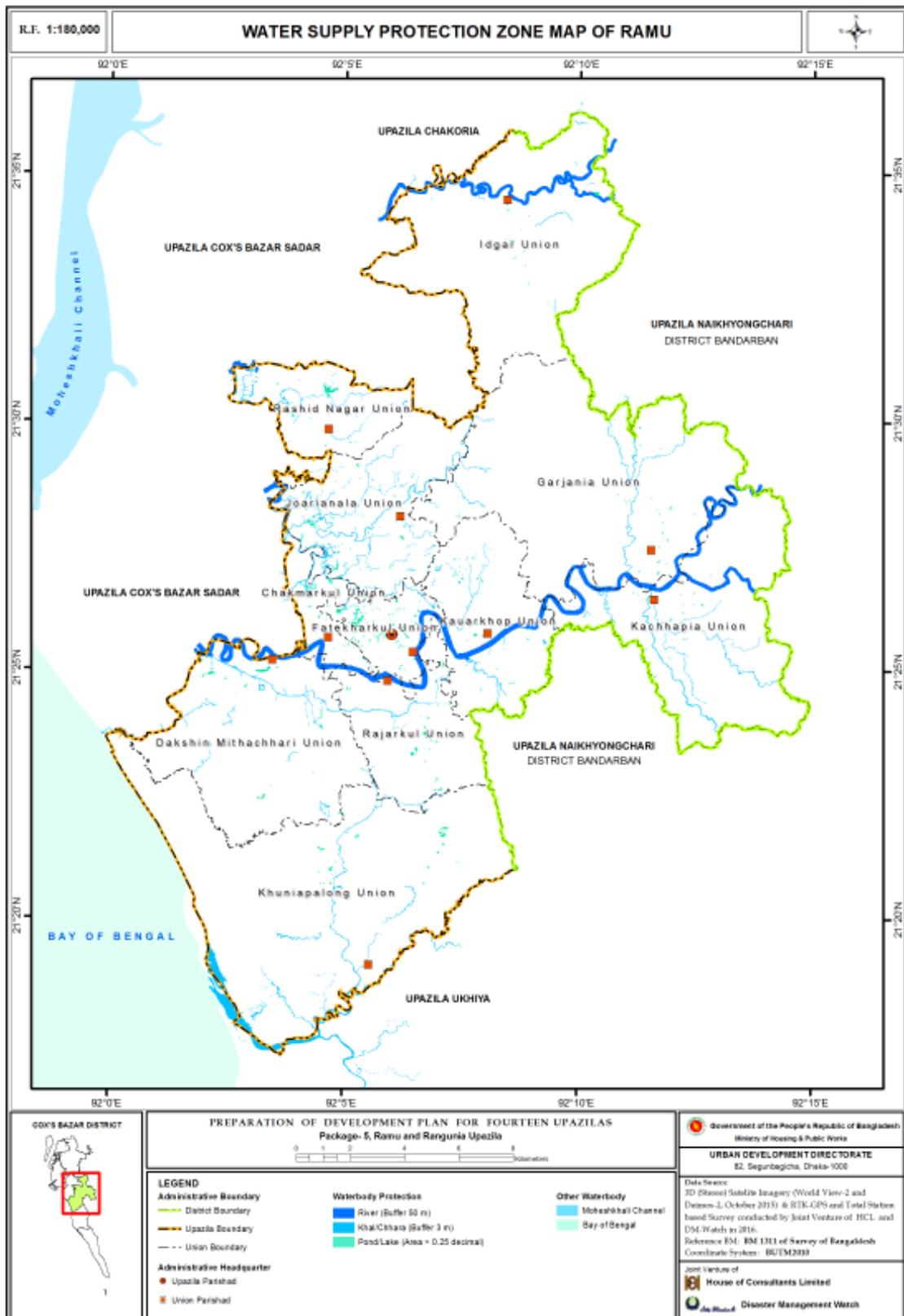
Category	Buffer Width	No. of Affected Structure			
		Pucca	Semi Pucca	Katcha	Total
Bakkhali River	50 meter	78	201	896	1175
Chara/Khal/Canal	3 meter	3	9	52	64
<b>Total Affected Structure</b>		81	210	948	1239

*Source: Field Survey, 2016*

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.28: Water Supply Protection Zone of Ramu Upazila

## **6.11 Structure Plan Preparation**

### **Restricted Special**

Any kind of development is prohibited in the hilly areas whose slope is more than 5 %. These areas will be declared as reserved forest. Restricted special zone comprises the reserved forest and the eco-park.

### **Urban Settlement and Rural Settlement**

Depending on the urban suitability analysis a future urban settlement zone has been identified. This area will be identified as urban settlement zone. In future this area will be developed as an urban area where different types of development works will take place for the betterment of the project area.

The areas where the density of population is relatively low and located outside the paurashava area are declared as rural settlement. Another significant of these areas is agricultural land.

### **Agriculture**

From the agricultural suitability analysis the most suitable area for agriculture has been identified and those areas are declared as agriculture zone.

### **Circulation Network**

Depending on the existing roads circulation network has been proposed. The proposed circulation network is divided into primary, secondary and tertiary road. These roads have been proposed in order to save some prime areas of structure plan zoning. These roads serve the major areas of the project area.

### **Main Flood Flow Zone**

After the hydrology analysis it is derived that areas where water depth from the surface above 1.8meter or 5.9 feet are declared as main flood flow zone.

### **Sub Flood Flow Zone**

After the hydrology analysis it is derived that areas where water depth from the surface 0.9 meter to 1.8meter or 2.9 feet to 5.9 feet are declared as sub flood flow zone.

## Draft Final Plan – Ramu Upazila

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### Restricted Military

Restricted military comprises the army cantonment and BGB area.

### Water Supply Protection Zone

Water supply protection zone comprises river, canal/chara/khal.50 meter buffer from the edge of the rivers, 3 meter buffer from the chara/khal will be preserved for water supply protection zone.

### Water body

The water bodies which area is more than 0.25 acre are shown in the structure plan.

**Table 6.17: Area Coverage of Structure Plan Zoning**

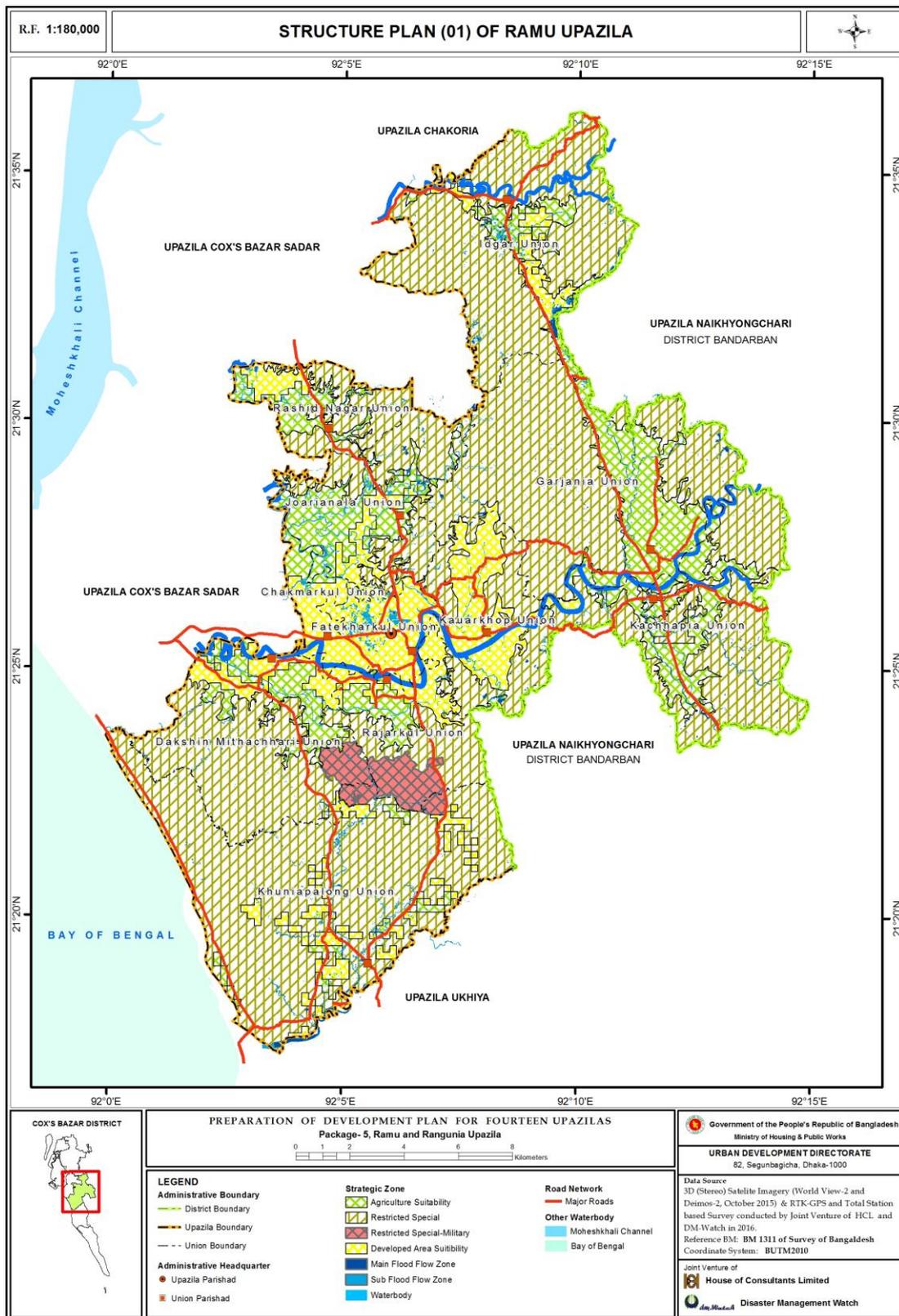
Zoning	Area(sq. m)	Area(sq.km)	Area(Acre)	Percentage
Agriculture Suitability	50052527.71	50.05	12368.25	13.02
Circulation Network	2557551.047	2.56	631.98	0.67
Main Flood Flow Zone	981729.6752	0.98	242.59	0.26
Restricted Special	250119017.6	250.12	61805.76	65.07
Restricted Special-Military	7338723.289	7.34	1813.44	1.91
Rural Settlement	28301482.7	28.30	6993.45	7.36
Sub Flood Flow Zone	2178013.09	2.18	538.20	0.57
Urban Settlement	19539314.01	19.54	4828.27	5.08
Water Supply Protection Zone	17592824.77	17.59	4347.28	4.58
Waterbody	5747844.603	5.75	1420.32	1.50
Total	384409028.50	384.41	94989.54	100.00

*Source: Field Survey, 2016*

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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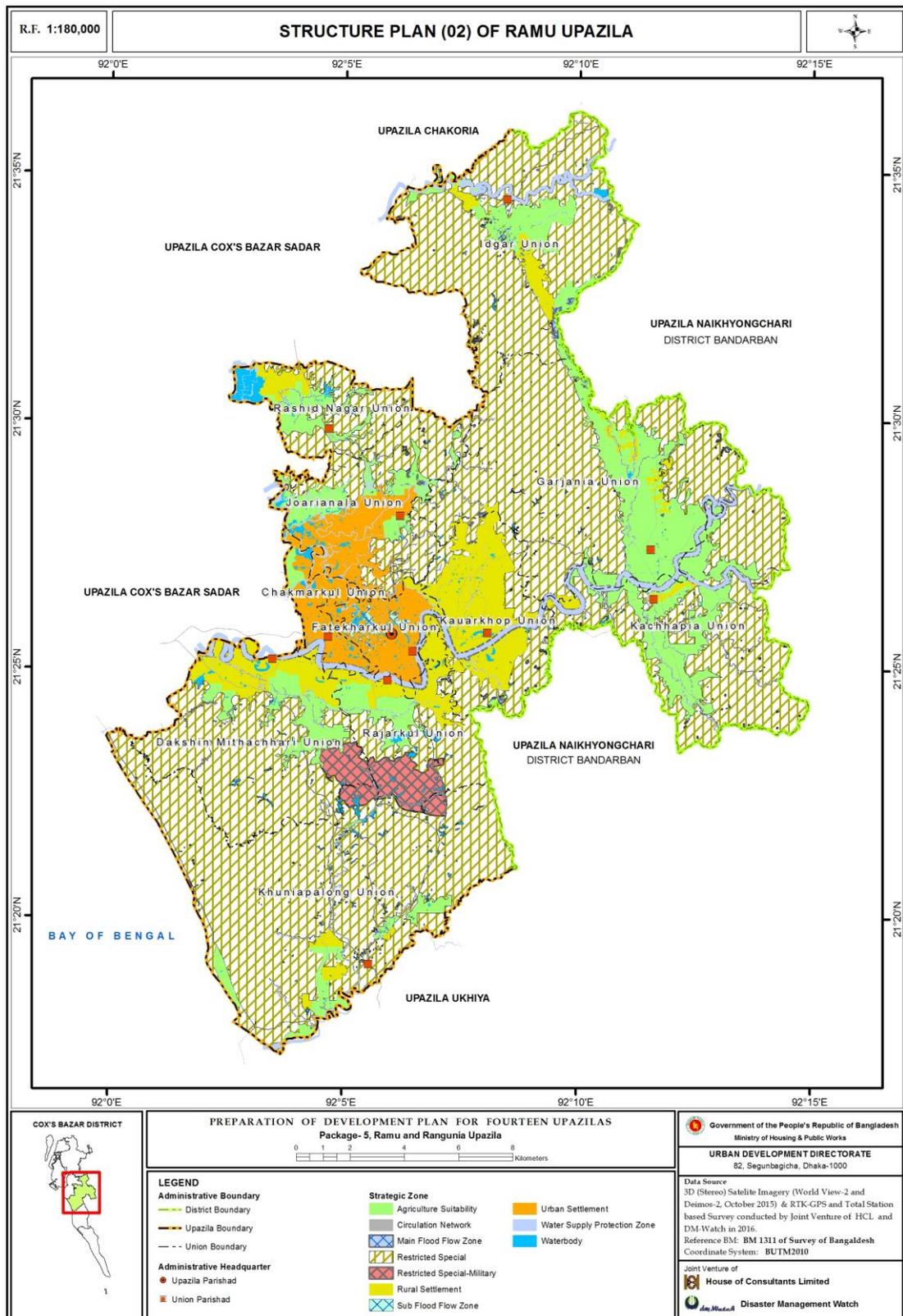
Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.29: Structure Plan (01) of Ramu Upazila

# Draft Final Plan – Ramu Upazila

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.30: Structure Plan (02) of Ramu Upazila

### **6.11.1 Policies for Structure Plan of Ramu Upazila**

#### **Components of Structure Plan**

1. Restricted Special
2. Urban Settlements
3. Rural Settlements
4. Agriculture
5. Circulation Network
6. Flood Flow, Water Body and Water Supply Protection Zone
7. Restricted Military
8. Geology
9. Tourism Development
10. Economic Development

#### **Policies for Structure Plan**

##### **Restricted Special**

Policy 1: Protect and preserve available hilly area.

Policy 2: Protect and preserved forest on the hilly area.

##### **Urban Settlements**

Policy 1: Promote urban area to buildable lands.

Policy 2: Restrict urban growth in seismic and flood prone zones.

Policy 3: Provide better transportation connectivity throughout urban areas linking rural hinterlands.

Policy 4: Provision of appropriate infrastructure and service facilities (road, drain, bridge, culvert, water supply, sewerage and sanitation, garbage disposal, energy, education and health etc.) with equity to the urban dwellers.

##### **Rural Settlements**

Policy 1: Save agriculture lands in rural areas by encouraging nucleated/clustered villages.

Policy 2: Provision of better infrastructure and service facilities to the rural dwellers.

Policy 3: Promote integrated rural development connecting growth centres and villages.

##### **Agriculture**

Policy 1: Save and protect at least double and triple cropped agriculture lands.

Policy 2: Keep suitable agriculture lands free from any kind of encroachments particularly from human settlements.

Policy 3: Ensure surface water irrigation keeping water bodies (canals and rivers) active for the sustainable agriculture development.

Policy 4: Protect existing agricultural set-up keeping production uninterrupted in the project area.

## **Draft Final Plan – Ramu Upazila**

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

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### **Circulation Network**

Policy 1: Connect union headquarters, market places, growth centres and hats/bazars through better transportation network.

Policy 2: Establishment of hierarchy among primary, secondary and tertiary roads.

Policy 3: Encourage development of sidewalk and bicycle lane/route.

Policy 4: Ensure integration of bus, rail and water transportation networks.

### **Flood Flow, Water Body and Water Supply Protection Zone**

Policy 1: Protect main flood flow zone from encroachment.

Policy 2: Discourage development on the influence area of main flood flow zone.

Policy 3: Protect existing and newly buildable urban growth from river erosion.

Policy 4: Ensure utilization of surface water for irrigation and supply of water to the urban residents.

### **Restricted Military**

Policy 1: Restrict the entire area for security purpose.

Policy 2: Discourage additional development in this restricted zone.

### **Geology**

Policy 1: Discourage development of urban and industrial agglomeration, headquarters, market place and growth centres in seismic hazard prone zone.

Policy 2: Promote and ensure alternation utilization (e.g. agriculture, forestry) in geologically vulnerable zone.

### **Tourism Development**

Policy 1: Promote tourism as a mean of economic development.

Policy 2: Encourage creation of tourist spots such as eco-park (Himchhari), wild-life sanctuary (Idgor) and safari park (Khuniapalong) at the restricted special area without disturbing nature.

### **Economic Development**

Policy 1: Promote technology-driven agriculture practices for intensive and extensive cultivation.

Policy 2: Encourage agro-based industries through agricultural development.

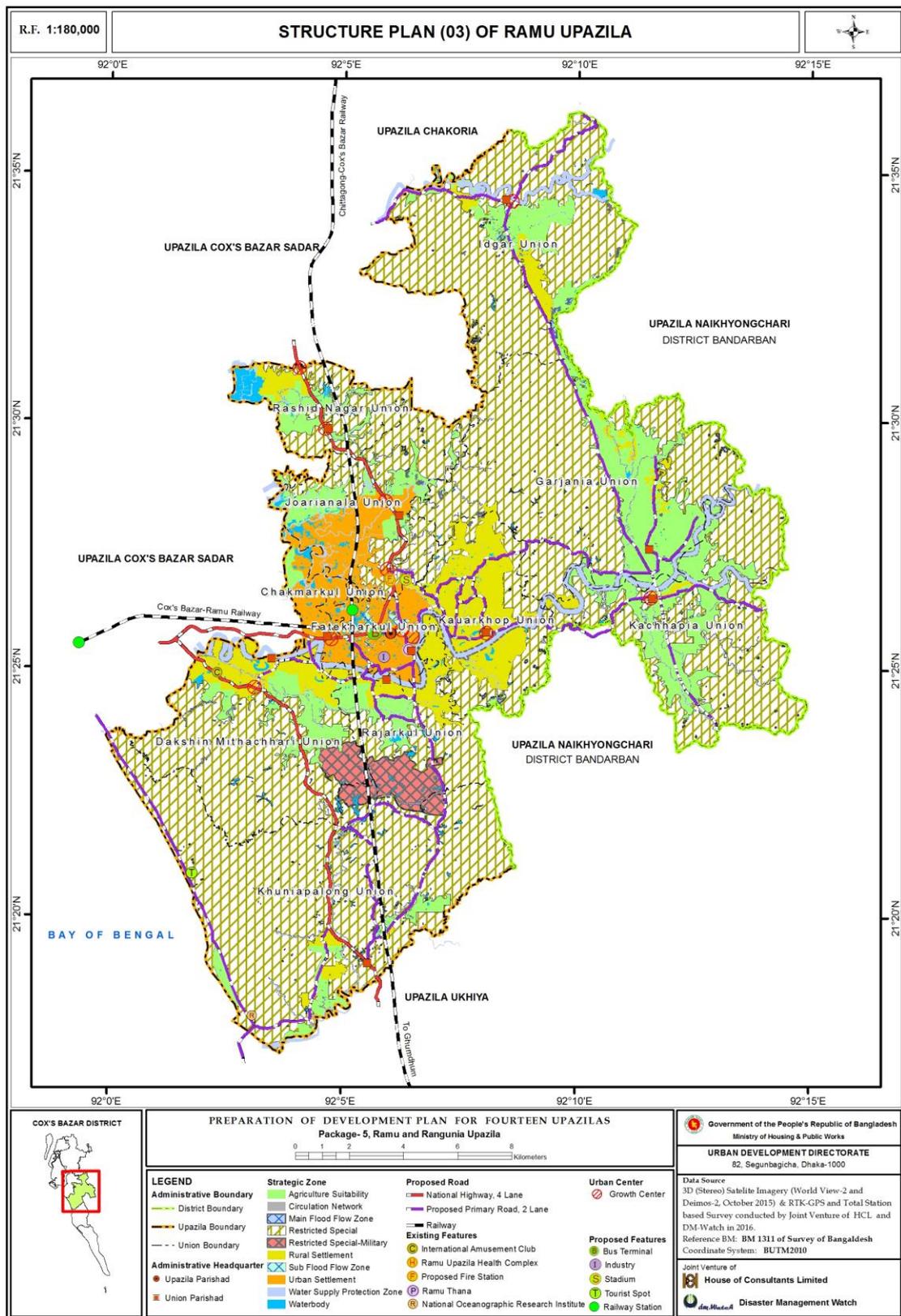
Policy 3: Develop advanced rural marketing mechanism for the quick shipment of agri-products.

Policy 4: Ensure proper utilization of grey zone so as to generate employment opportunity to the local people.

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.31: Structure Plan (03) of Ramu Upazila

## **6.12 Sub-Regional Plan for Ramu Upazila**

### **Components of Sub-regional Plan**

1. Connectivity and Transportation Network
2. Biodiversity and Nature Conservation
3. Community Resilience through Disaster Management

### **Policies for Sub-regional Planning**

#### **Connectivity and Transportation Network**

Policy 1: Prioritize inter- (Chakaria-Ramu-Cox's Bazar) and intra- (Fatekharkul-Kacchapia-Garjania Bazar) regional connectivity.

Policy 2: Accelerate high standard road links through widening of primary and secondary and construction of new tertiary roads.

Policy 3: Build an integrated (land, rail and water) transportation network.

Policy 4: Protect Ramu Upazila from negative impacts such as haphazard urban growth, informal settlements, waterlogging etc. by Trans Asian Railway Connectivity.

#### **Biodiversity and Nature Conservation**

Policy 1: Conserve natural/environmental resources like hills, reserve forests and water bodies.

Policy 2: Conserve ecosystem through the delineation or demarcation of eco-sensitive zones.

Policy 3: Execute land use planning for the enhancement of ecosystem and species diversity.

#### **Community Resilience through Disaster Management**

Policy 1: Identification of seismic hazard prone zones.

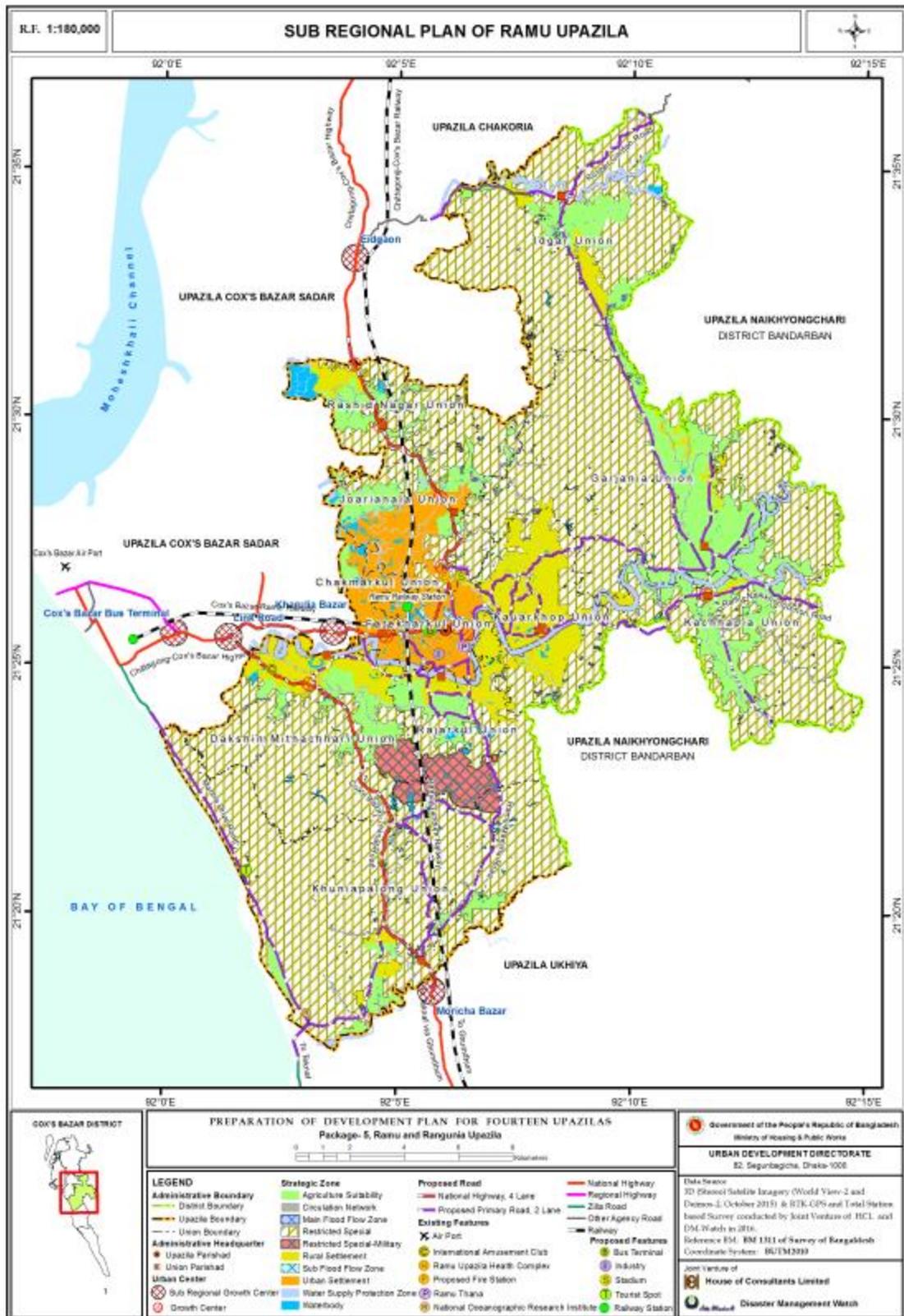
Policy 2: Identification of flood hazard prone zones and river erosion areas.

Policy 3: Provision and implementation of a risk sensitive land use planning.

# Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

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Source: Prepared by Consultant Team Based on Field Survey, 2016

Map 6.32: Sub Regional Plan of Ramu Upazila

## **CHAPTER 7 URBAN AREA PLAN**

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### **7.1 Conceptualization of Urban Area Plan**

Urban Area Plan is concerned with the planned sustainable development of the urban area of a town or settlement and the protection of its environs. In establishing the limits of the urban area, this Plan is complacent of existing development, projects approved for development but not yet built, and of development in progress. Urban Area Plan includes those areas which require economic, physical and social renewal and for areas likely to be subject to large scale development over the lifetime of the plan.

### **7.2 Extent and Nature of Urban Area Plan**

Urban Area Plan (UAP) provides an interim mid-term strategy for 10 years and covers for the development of urban areas within the project area. Generally, UAP contains an explanatory report, resource maps, interim management report, planning rules, urban area plan and a multi-sectoral investment program. The Urban Area Plan has been comprised as follows:

1. Existing Land Use Survey
2. Survey of Development Activities
3. Population Survey
4. Traffic and Transportation Survey
5. Industrial Surveys
6. Recreational and Open Space
7. Utility Facilities
8. Growth of the Town
9. Health Facilities
10. Educational Facilities
11. Shopping
12. Municipal Budget
13. Municipal Achievements
14. Disposal Services
15. Physical Feature Surveys

Ramu Upazila has no Pourashava but some certain areas have great impact of urban growth. According to the structure plan, Fatekharkul, Chakmarkul and some part of Joarianala is experiencing probable urban growth. Urban Area Plan is included Transport Network, Drainage Plan and Future Facilities. In this chapter, Future Demand has been calculated as per derived planning standard and proposal has been made based on existing facilities (Please See Appendix-C). The future service allocation proposals has been outlined in this chapter.

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Chakmarkul Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Education</b>	Primary School/ kindergarten	5000	2	6	12	Ward-03 (1); Ward-04(1); Ward-06 (1); Ward-08 (1); Ward-09 (2)
	Secondary /High School	20000	5	1	5	
	College	20000	10	1	10	
<b>Open Space</b>	Play field/ground	20000	3	1	3	
	Neighborhood park/Park	10000	1	3	3	Ward-09 (1)
<b>Health</b>	Health centre/Maternity clinic	5000	1	6	6	Ward-03 (1); Ward-04(1); Ward-06 (1); Ward-08 (1); Ward-09 (2)
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	1	0.5	
	Eidgah	20000	1	1	1	
	Graveyard	20000	1	1	1	
	Community centre	20000	1	1	1	
	Post office	20000	0.5	1	0.5	
<b>Utilities</b>	Water supply	20000	1	1	1	
	Gas	20000	1	1	1	
	Electric sub-station	20000	1	1	1	
<b>Commerce and Shopping</b>	Wholesale market	20000	1	1	1	
	Retail sale market	20000	1	1	1	
	Corner Shop	2500	0.25	12	3	Ward-01 (1); Ward-02 (1); Ward-03 (2); Ward-04 (1); Ward-05 (1); Ward-06 (1); Ward-07 (1); Ward-08 (1); Ward-09 (4);
	Neighborhood Market	10000	1	3	3	Ward-09 (1)

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Chakmarkul Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Industry	Small scale	1000	1.5	30	45	Ward-01 (2); Ward-02 (2); Ward-03 (4); Ward-04 (3); Ward-05 (2); Ward-06 (3); Ward-07 (2); Ward-08 (3); Ward-09 (9);
	Heavy Industry	10000	5	3	15	Ward-09 (1)
Transportation	Bus terminal	20000	1	1	1	
	Truck terminal	20000	0.5	1	0.5	

Fatekharkul Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Education	Primary School/ kindergarten	5000	2	12	24	Ward-02(1); Ward-03 (1); Ward-04 (2); Ward-05 (1); Ward-06 (2); Ward-07 (2); Ward-08 (1); Ward-09 (1)
	Secondary/High School	20000	5	3	15	Ward-04 (1)
	College	20000	10	3	30	Ward-04 (1)
Open Space	Play field/ground	20000	3	3	9	Ward-04 (1)
	Neighborhood park/Park	10000	1	6	6	Ward-04(1); Ward-05 (1); Ward-06 (1); Ward-07 (1); Ward-08 (2); Ward-09 (1)
Health	Health centre/Maternity clinic	5000	1	12	12	Ward-02(1); Ward-03 (1); Ward-04 (2); Ward-05 (1); Ward-06 (2); Ward-07 (2); Ward-08 (1); Ward-09 (1)

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Fatekharkul Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	3	1.5	Ward-04 (1)
	Eidgah	20000	1	3	3	Ward-04 (1)
	Graveyard	20000	1	3	3	Ward-04 (1)
	Community centre	20000	1	3	3	Ward-04 (1)
	Post office	20000	0.5	3	1.5	Ward-04 (1)
<b>Utilities</b>	Water supply	20000	1	3	3	Ward-04 (1)
	Gas	20000	1	3	3	Ward-04 (1)
	Electric sub-station	20000	1	3	3	Ward-04 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	3	3	Ward-04 (1)
	Retail sale market	20000	1	3	3	Ward-04 (1)
	Corner Shop	2500	0.25	23	5.75	Ward-01(1);Ward-02 (2);Ward-03 (1);Ward-04 (5);Ward-05 (3);Ward-06 (3);Ward-07 (4);Ward-08 (2);Ward-09 (3);
	Neighborhood Market	10000	1	6	6	Ward-04(1);Ward-05 (1);Ward-06 (1);Ward-07 (1);Ward-08 (2);Ward-09 (1)
<b>Industry</b>	Small scale	1000	1.5	58	87	Ward-01 (2);Ward-02 (5);Ward-03 (3);Ward-04 (11);Ward-05 (6);Ward-06 (9);Ward-07 (9);Ward-08 (6);Ward-09 (7)
	Heavy Industry	10000	5	6	30	Ward-04(1);Ward-05 (1);Ward-06 (1);Ward-07

## Draft Final Plan – Ramu Upazila

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<b>Fatekharkul Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
						(1);Ward-08 (2);Ward-09 (1)
<b>Transportation</b>	Bus terminal	20000	1	3	3	Ward-04 (1)
	Truck terminal	20000	0.5	3	1.5	Ward-04 (1)

## **CHAPTER 8 RURAL AREA PLAN**

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### **8.1 Conceptualization of Rural Area Plan**

Rural Area Plan enables planning policies in rural areas that are below the strategic level of Development Plan and are more local in nature. It also includes those rural areas which require economic, physical and social renewal and for areas likely to be subject to large scale development over the lifetime of the plan.

### **8.2 Extent and Nature of Rural Area Plan**

Rural Area Plan (RAP) provides a long-term strategy for 20 years and covers for the development of rural areas within the project area. Generally, RAP contains an explanatory report, resource maps, conservation and management report, planning rules, rural area plan and a multi-sectoral investment program. In the present project, Content of Rural Area Plan has been comprised as follows:

1. Existing Land Use Survey
2. Survey of Development Activities
3. Population Survey
4. Traffic and Transportation Survey
5. Industrial Surveys
6. Agricultural
7. Sources of Potable Water
8. Power Supply
9. Growth of the village
10. Health Facilities
11. Educational Facilities
12. Hats/Bazars/Shopping
13. Sanitation Facilities
14. Graveyard/Cremation Facilities
15. Physical Feature Surveys

Rural Area Plan is included Transport Network, Agricultural Land Development and Future Facilities. In this chapter, Future Demand has been calculated as per derived planning standard and proposal has been made based on existing facilities (Please See Appendix-D). The future service allocation proposals has been outlined in this chapter.

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Khuniapalong Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Education</b>	Primary School/ kindergarten	5000	2	13	26	Ward-01 (1); Ward-02 (5); Ward-04 (1); Ward-05 (1); Ward-08(4)
	Secondary/ High School	20000	5	3	15	Ward-02 (1), Ward-08 (1)
	College	20000	10	3	30	Ward-02 (1), Ward-08 (1)
<b>Open Space</b>	Play field/ground	20000	3	3	9	Ward-02 (1), Ward-08 (1)
	Neighborhood park/Park	10000	1	7	7	Ward-02(3); Ward-08(2)
<b>Health</b>	Health centre/Maternity clinic	5000	1	13	13	Ward-04 (1); Ward-03 (1); Ward-02 (1); Ward-06 (1); Ward-09 (1)
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	3	1.5	Ward-02 (1), Ward-08 (1)
	Eidgah	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Graveyard	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Community centre	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Post office	20000	0.5	3	1.5	Ward-02 (1), Ward-08 (1)
<b>Utilities</b>	Water supply	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Gas	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Electric sub-station	20000	1	3	3	Ward-02 (1), Ward-08 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	3	3	Ward-02 (1), Ward-08 (1)

**Draft Final Plan – Ramu Upazila**

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Khuniapalong Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
	Retail sale market	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Corner Shop	2500	0.25	26	6.5	Ward-01(1); Ward-02 (11); Ward-03 (1); Ward-04 (2); Ward-05 (1); Ward-07 (1); Ward-08 (8); Ward-09 (1)
	Neighborhood Market	10000	1	7	7	Ward-02(3); Ward-08(2)
<b>Industry</b>	Small scale	1000	1.5	66	99	Ward-01(3); Ward-02 (27); Ward-03 (2); Ward-04 (4); Ward-05 (3); Ward-06 (1); Ward-07 (2); Ward-08 (21); Ward-09 (2);
	Heavy Industry	10000	5	7	35	Ward-02(3); Ward-08(2)
<b>Transportation</b>	Bus terminal	20000	1	3	3	Ward-02 (1), Ward-08 (1)
	Truck terminal	20000	0.5	3	1.5	Ward-02 (1), Ward-08 (1)

<b>Dakshin Mithachhari Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Education</b>	Primary School/ kindergarten	5000	2	9	18	Ward-01(1); Ward-02 (3); Ward-03(1); Ward-04 (1); Ward-06 (1); Ward-07 (1)
	Secondary/High School	20000	5	2	10	Ward-02 (1)
	College	20000	10	2	20	Ward-02 (1)

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Dakshin Mithachhari Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Open Space</b>	Play field/ground	20000	3	2	6	Ward-02 (1)
	Neighborhood park/Park	10000	1	5	5	Ward-01 (1); Ward-02 (1); Ward-04 (1); Ward-07 (1)
<b>Health</b>	Health centre/Maternity clinic	5000	1	9	9	Ward-01(1); Ward-02 (3); Ward-03(1); Ward-04 (1); Ward-06 (1); Ward-07 (1)
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	2	1	Ward-02 (1)
	Eidgah	20000	1	2	2	Ward-02 (1)
	Graveyard	20000	1	2	2	Ward-02 (1)
	Community centre	20000	1	2	2	Ward-02 (1)
	Post office	20000	0.5	2	1	Ward-02 (1)
<b>Utilities</b>	Water supply	20000	1	2	2	Ward-02 (1)
	Gas	20000	1	2	2	Ward-02 (1)
	Electric sub-station	20000	1	2	2	Ward-02 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	2	2	Ward-02 (1)
	Retail sale market	20000	1	2	2	Ward-02 (1)
	Corner Shop	2500	0.25	19	4.75	Ward-01 (3); Ward-02 (6); Ward-03 (2); Ward-04 (3); Ward-05 (1); Ward-06 (1); Ward-07 (2); Ward-08 (1)

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Dakshin Mithachhari Union-Proposed Facilities</b>						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
	Neighborhood Market	10000	1	5	5	Ward-01 (1);Ward-02 (1);Ward-04 (1);Ward-07 (1)
<b>Industry</b>	Small scale	1000	1.5	47	70.5	Ward-01 (9);Ward-02 (14);Ward-03 (4);Ward-04 (7);Ward-05 (2);Ward-06 (3);Ward-07 (6);Ward-08 (2)
	Heavy Industry	10000	5	5	25	Ward-01 (1);Ward-02 (1);Ward-04 (1);Ward-07 (1)
<b>Transportation</b>	Bus terminal	20000	1	2	2	Ward-02 (1)
	Truck terminal	20000	0.5	2	1	Ward-02 (1)

<b>Kauarkhop Union-Proposed Facilities</b>						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
<b>Education</b>	Primary School/ kindergarten	5000	2	9	18	Ward-02(1);Ward-03 (1);Ward-04(1);Ward-05 (1);Ward-05 (1);Ward-07(1);Ward-08 (2);Ward-09 (1);
	Secondary/High School	20000	5	2	10	Ward-08 (1)
	College	20000	10	2	20	Ward-08 (1)
<b>Open Space</b>	Play field/ground	20000	3	2	6	Ward-08 (1)
	Neighborhood park/Park	10000	1	4	4	Ward-02 (1);Ward-03 (1);Ward-04 (1);Ward-07 (1);Ward-08 (1)
<b>Health</b>	Health centre/Maternity clinic	5000	1	9	9	Ward-02(1);Ward-03 (1);Ward-04(1);Ward-05 (1);Ward-05 (1);Ward-07(1);Ward-08 (2);Ward-09 (1);
<b>Community</b>	Mosque/Chu	20000	0.5	2	1	Ward-08 (1)

## Draft Final Plan – Ramu Upazila

Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

<b>Kauarkhop Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Facilities</b>	rch/Temple					
	Eidgah	20000	1	2	2	Ward-08 (1)
	Graveyard	20000	1	2	2	Ward-08 (1)
	Community centre	20000	1	2	2	Ward-08 (1)
	Post office	20000	0.5	2	1	Ward-08 (1)
<b>Utilities</b>	Water supply	20000	1	2	2	Ward-08 (1)
	Gas	20000	1	2	2	Ward-08 (1)
	Electric sub-station	20000	1	2	2	Ward-08 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	2	2	Ward-08 (1)
	Retail sale market	20000	1	2	2	Ward-08 (1)
	Corner Shop	2500	0.25	17	4.25	Ward-01(1);Ward-02 (2);Ward-03 (2);Ward-04 (3);Ward-05 (1);Ward-07 (3);Ward-08(4);Ward-09 (1);
	Neighborhood Market	10000	1	4	4	Ward-02 (1);Ward-03 (1);Ward-04 (1);Ward-07 (1);Ward-08 (1)
<b>Industry</b>	Small scale	1000	1.5	43	64.5	Ward-01 (2);Ward-02 (5);Ward-03 (5);Ward-04 (7);Ward-05 (3);Ward-06(1);Ward-07 (6);Ward-08 (11);Ward-09 (3)
	Heavy Industry	10000	5	4	20	Ward-02 (1);Ward-03 (1);Ward-04 (1);Ward-07 (1);Ward-08 (1)
<b>Transportation</b>	Bus terminal	20000	1	2	2	Ward-08 (1)
	Truck terminal	20000	0.5	2	1	Ward-08 (1)

<b>Garjania Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Education</b>	Primary School/ kindergarten	5000	2	8	16	Ward-01 (1);Ward-03 (2);Ward-04 (1);Ward-05 (1);Ward-08 (1)

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Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

Garjania Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
						(2); Ward-09 (1)
	Secondary/High School	20000	5	2	10	Ward-08 (1)
	College	20000	10	2	20	Ward-08 (1)
<b>Open Space</b>	Play field/ground	20000	3	2	6	Ward-08 (1)
	Neighborhood park/Park	10000	1	4	4	Ward-03(1); Ward-08 (1); Ward-09 (1);
<b>Health</b>	Health centre/Maternity clinic	5000	1	8	8	Ward-01 (1); Ward-03 (2); Ward-04 (1); Ward-05 (1); Ward-08 (2); Ward-09 (1)
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	2	1	Ward-08 (1)
	Eidgah	20000	1	2	2	Ward-08 (1)
	Graveyard	20000	1	2	2	Ward-08 (1)
	Community centre	20000	1	2	2	Ward-08 (1)
	Post office	20000	0.5	2	1	Ward-08 (1)
<b>Utilities</b>	Water supply	20000	1	2	2	Ward-08 (1)
	Gas	20000	1	2	2	Ward-08 (1)
	Electric sub-station	20000	1	2	2	Ward-08 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	2	2	Ward-08 (1)
	Retail sale market	20000	1	2	2	Ward-08 (1)
	Corner Shop	2500	0.25	16	4	Ward-01(2); Ward-02 (1); Ward-03 (3); Ward-04 (2); Ward-05(2); Ward-07 (1); Ward-08(5); Ward-09(2);
	Neighborhood Market	10000	1	4	4	Ward-03(1); Ward-08 (1); Ward-09 (1);
<b>Industry</b>	Small scale	1000	1.5	41	61.5	Ward-01 (4); Ward-02 (1); Ward-03 (6); Ward-04 (4); Ward-05 (5); Ward-07(2); Ward-08 (12); Ward-09

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Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

Garjania Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
						(6);
	Heavy Industry	10000	5	4	20	Ward-03(1);Ward-08(1);Ward-09(1);
Transportation	Bus terminal	20000	1	2	2	Ward-08(1)
	Truck terminal	20000	0.5	2	1	Ward-08(1)

Idgar Union Proposed Facilities							
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)	
Education	Primary School/ kindergarten	5000	2	7	14	Ward-02(2);Ward-05(1);Ward-07(2)	
	Secondary/High School	20000	5	2	10	Ward-02(1)	
	College	20000	10	2	20	Ward-02(1)	
Open Space	Play field/ground	20000	3	2	6	Ward-02(1)	
	Neighborhood park/Park	10000	1	3	3	Ward-02(1);Ward-05(1);Ward-07(1)	
Health	Health centre/Maternity clinic	5000	1	7	7	Ward-02(2);Ward-05(1);Ward-07(2)	
Community Facilities	Mosque/Church/Temple	20000	0.5	2	1	Ward-02(1)	
	Eidgah	20000	1	2	2	Ward-02(1)	
	Graveyard	20000	1	2	2	Ward-02(1)	
	Community centre	20000	1	2	2	Ward-02(1)	
	Post office	20000	0.5	2	1	Ward-02(1)	
Utilities	Water supply	20000	1	2	2	Ward-02(1)	
	Gas	20000	1	2	2	Ward-02(1)	
	Electric sub-station	20000	1	2	2	Ward-02(1)	
Commerce and Shopping	Wholesale market	20000	1	2	2	Ward-02(1)	
	Retail sale market	20000	1	2	2	Ward-02(1)	
	Corner Shop	2500	0.25	13	3.25	Ward-01(1);Ward-02(5);Ward-05(2);Ward-07(3);Ward-08(1);Ward-09(1)	
	Neighborhood Market	10000	1	3	3	Ward-02(1);Ward-05(1);Ward-07(1)	
Industry	Small scale	1000	1.5	33	49.5	Ward-01	

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

						(2);Ward-02 (12);Ward-03(1);Ward-05 (5);Ward-07 (8);Ward-08 (2);Ward-09 (2)
	Heavy Industry	10000	5	3	15	Ward-02 (1);Ward-05 (1);Ward-07 (1)
<b>Transportation</b>	Bus terminal	20000	1	2	2	Ward-02 (1)
	Truck terminal	20000	0.5	2	1	Ward-02 (1)

<b>Joarianala Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
<b>Education</b>	Primary School/ kindergarten	5000	2	14	28	Ward-01 (2);Ward-02 (1);Ward-06 (2);Ward-07(3);Ward-09(6);
	Secondary/High School	20000	5	4	20	Ward-07(1);Ward-09(1);
	College	20000	10	4	40	Ward-07(1);Ward-09(1);
<b>Open Space</b>	Play field/ground	20000	3	4	12	Ward-07(1);Ward-09(1);
	Neighborhood park/Park	10000	1	7	7	Ward-01(1);Ward-02(1);Ward-06(1);Ward-07(1);Ward-09(3);
<b>Health</b>	Health centre/Maternity clinic	5000	1	14	14	Ward-01 (2);Ward-02 (1);Ward-06 (2);Ward-07(3);Ward-09(6);
<b>Community Facilities</b>	Mosque/Church/ Temple	20000	0.5	4	2	Ward-07(1);Ward-09(1);
	Eidgah	20000	1	4	4	Ward-07(1);Ward-09(1);
	Graveyard	20000	1	4	4	Ward-07(1);Ward-09(1);
	Community centre	20000	1	4	4	Ward-07(1);Ward-09(1);
	Post office	20000	0.5	4	2	Ward-07(1);Ward-09(1);
<b>Utilities</b>	Water supply	20000	1	4	4	Ward-07(1);Ward-09(1);
	Gas	20000	1	4	4	Ward-07(1);Ward-09(1);
	Electric sub-station	20000	1	4	4	Ward-07(1);Ward-09(1);

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Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

Joarianala Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	4	4	Ward-07(1);Ward-09(1);
	Retail sale market	20000	1	4	4	Ward-07(1);Ward-09(1);
	Corner Shop	2500	0.25	28	7	Ward-01(4);Ward-02 (3);Ward-06 (4);Ward-07 (5);Ward-08 (1);Ward-09 (12)
	Neighborhood Market	10000	1	7	7	Ward-01(1);Ward-02(1);Ward-06(1);Ward-07(1);Ward-09(3);
<b>Industry</b>	Small scale	1000	1.5	70	105	Ward-01 (10);Ward-02 (7);Ward-05 (1);Ward-06 (10);Ward-07 (13);Ward-08(1);Ward-09(29);
	Heavy Industry	10000	5	7	35	Ward-01(1);Ward-02(1);Ward-06(1);Ward-07(1);Ward-09(3);
<b>Transportation</b>	Bus terminal	20000	1	4	4	Ward-07(1);Ward-09(1);
	Truck terminal	20000	0.5	4	2	Ward-07(1);Ward-09(1);

Kachapia Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
<b>Education</b>	Primary School/ kindergarten	5000	2	10	20	Ward-02(4);Ward-03 (1);Ward-05(1);Ward-08 (1);Ward-09 (4);
	Secondary/High School	20000	5	3	15	Ward-02(1);Ward-09 (1)
	College	20000	10	3	30	Ward-02(1);Ward-09 (1)
<b>Open Space</b>	Play field/ground	20000	3	3	9	Ward-02(1);Ward-09 (1)

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Preparation of Development Plan for Fourteen Upazilas

Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

Kachapia Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
	Neighborhood park/Park	10000	1	5	5	Ward-09(2);Ward-02 (2)
<b>Health</b>	Health centre/Maternity clinic	5000	1	10	10	Ward-02(4);Ward-03 (1);Ward-05(1);Ward-08 (1);Ward-09 (4);
<b>Community Facilities</b>	Mosque/Church/Temple	20000	0.5	3	1.5	Ward-02(1);Ward-09 (1)
	Eidgah	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Graveyard	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Community centre	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Post office	20000	0.5	3	1.5	Ward-02(1);Ward-09 (1)
<b>Utilities</b>	Water supply	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Gas	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Electric sub-station	20000	1	3	3	Ward-02(1);Ward-09 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Retail sale market	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Corner Shop	2500	0.25	20	5	Ward-01 (1);Ward-02 (7);Ward-03 (1);Ward-05 (1);Ward-08 (2);Ward-09 (7)
	Neighborhood Market	10000	1	5	5	Ward-09(2);Ward-02 (2)

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Package 05-(Ramu Upazila, District-Cox's Bazar and Rangunia Upazila, District-Chittagong)

Kachapia Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Industry	Small scale	1000	1.5	51	76.5	Ward-01(2);Ward-02 (19);Ward-03(4);Ward-05(3);Ward-06(1);Ward-07(1);Ward-08(5);Ward-09(18)
	Heavy Industry	10000	5	5	25	Ward-09(2);Ward-02 (2)
Transportation	Bus terminal	20000	1	3	3	Ward-02(1);Ward-09 (1)
	Truck terminal	20000	0.5	3	1.5	Ward-02(1);Ward-09 (1)

Kauarkhop Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Education	Primary School/ kindergarten	5000	2	9	18	Ward-02(1);Ward-03 (1);Ward-04(1);Ward-05 (1);Ward-05 (1);Ward-07(1);Ward-08 (2);Ward-09 (1);
	Secondary/High School	20000	5	2	10	Ward-08 (1)
	College	20000	10	2	20	Ward-08 (1)
Open Space	Play field/ground	20000	3	2	6	Ward-08 (1)
	Neighborhood park/Park	10000	1	4	4	Ward-02 (1);Ward-03 (1);Ward-04 (1);Ward-07 (1);Ward-08 (1)
Health	Health centre/Maternity clinic	5000	1	9	9	Ward-02(1);Ward-03 (1);Ward-04(1);Ward-05 (1);Ward-05 (1);Ward-07(1);Ward-08 (2);Ward-09 (1);
Community Facilities	Mosque/Church/Temple	20000	0.5	2	1	Ward-08 (1)
	Eidgah	20000	1	2	2	Ward-08 (1)

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<b>Kauarkhop Union-Proposed Facilities</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
	Graveyard	20000	1	2	2	Ward-08 (1)
	Community centre	20000	1	2	2	Ward-08 (1)
	Post office	20000	0.5	2	1	Ward-08 (1)
<b>Utilities</b>	Water supply	20000	1	2	2	Ward-08 (1)
	Gas	20000	1	2	2	Ward-08 (1)
	Electric sub-station	20000	1	2	2	Ward-08 (1)
<b>Commerce and Shopping</b>	Wholesale market	20000	1	2	2	Ward-08 (1)
	Retail sale market	20000	1	2	2	Ward-08 (1)
	Corner Shop	2500	0.25	17	4.25	Ward-01(1);Ward-02(2);Ward-03(2);Ward-04(3);Ward-05(1);Ward-07(3);Ward-08(4);Ward-09(1);
	Neighborhood Market	10000	1	4	4	Ward-02(1);Ward-03(1);Ward-04(1);Ward-07(1);Ward-08(1)
<b>Industry</b>	Small scale	1000	1.5	43	64.5	Ward-01(2);Ward-02(5);Ward-03(5);Ward-04(7);Ward-05(3);Ward-06(1);Ward-07(6);Ward-08(11);Ward-09(3)
	Heavy Industry	10000	5	4	20	Ward-02(1);Ward-03(1);Ward-04(1);Ward-07(1);Ward-08(1)
<b>Transportation</b>	Bus terminal	20000	1	2	2	Ward-08 (1)
	Truck terminal	20000	0.5	2	1	Ward-08 (1)

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Rajarkul Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Education	Primary School/ kindergarten	5000	2	7	14	Ward-01 (2); Ward-02 (2); Ward-07 (1); Ward-09(1);
	Secondary/ High School	20000	5	2	10	Ward-02(1)
	College	20000	10	2	20	Ward-02(1)
Open Space	Play field/ground	20000	3	2	6	Ward-02(1)
	Neighborhood park/Park	10000	1	4	4	Ward-01 (1); Ward-02 (1); Ward-07(1); Ward-09 (1)
Health	Health centre/Maternity clinic	5000	1	7	7	Ward-01 (2); Ward-02 (2); Ward-07 (1); Ward-09(1);
Community Facilities	Mosque/Church/Temple	20000	0.5	2	1	Ward-02(1)
	Eidgah	20000	1	2	2	Ward-02(1)
	Graveyard	20000	1	2	2	Ward-02(1)
	Community centre	20000	1	2	2	Ward-02(1)
	Post office	20000	0.5	2	1	Ward-02(1)
Utilities	Water supply	20000	1	2	2	Ward-02(1)
	Gas	20000	1	2	2	Ward-02(1)
	Electric sub-station	20000	1	2	2	Ward-02(1)
Commerce and Shopping	Wholesale market	20000	1	2	2	Ward-02(1)
	Retail sale market	20000	1	2	2	Ward-02(1)
	Corner Shop	2500	0.25	15	3.75	Ward-01(3); Ward-02 (5); Ward-04 (1); Ward-07 (3); Ward-07 (3); Ward-09 (2)
	Neighborhood Market	10000	1	4	4	Ward-01 (1); Ward-02 (1); Ward-07(1); Ward-09 (1)
Industry	Small scale	1000	1.5	36	54	Ward-01 (8); Ward-02 (12); Ward-04(1); Ward-06 (1); Ward-07

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Rajarkul Union-Proposed Facilities						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
						(7);Ward-08 (1);Ward-09(6);
	Heavy Industry	10000	5	4	20	Ward-01 (1);Ward-02 (1);Ward-07(1);Ward-09 (1)
Transportation	Bus terminal	20000	1	2	2	Ward-02(1)
	Truck terminal	20000	0.5	2	1	Ward-02(1)

Rashid Nagar Union Proposed						
Facilities	Category	Population	Standard Area per acre	No. of Facilities	Provided Area (acre)	Location Ward (No. of Facilities)
Education	Primary School/ kindergarten	5000	2	6	12	Ward-01 (1); Ward-02 (1); Ward-08 (1); Ward-09 (2)
	Secondary/High School	20000	5	1	5	
	College	20000	10	1	10	
Open Space	Play field/ground	20000	3	1	3	
	Neighborhood park/Park	10000	1	3	3	Ward-02(1); Ward-08 (1); Ward-09(1)
Health	Health centre/Maternity clinic	5000	1	6	6	Ward-01 (1); Ward-02 (1); Ward-08 (1); Ward-09 (2)
Community Facilities	Mosque/Church/Temple	20000	0.5	1	0.5	
	Eidgah	20000	1	1	1	
	Graveyard	20000	1	1	1	
	Community centre	20000	1	1	1	
	Post office	20000	0.5	1	0.5	
Utilities	Water supply	20000	1	1	1	
	Gas	20000	1	1	1	
	Electric sub-station	20000	1	1	1	
Commerce and Shopping	Wholesale market	20000	1	1	1	
	Retail sale market	20000	1	1	1	
	Corner Shop	2500	0.25	12	3	Ward-01 (1); Ward-02 (3); Ward-03 (1);

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<b>Rashid Nagar Union Proposed</b>						
<b>Facilities</b>	<b>Category</b>	<b>Population</b>	<b>Standard Area per acre</b>	<b>No. of Facilities</b>	<b>Provided Area (acre)</b>	<b>Location Ward (No. of Facilities)</b>
						Ward-07 (1); Ward-08 (3); Ward-09 (3)
	Neighborhood Market	10000	1	3	3	Ward-02(1); Ward-08 (1); Ward-09(1)
<b>Industry</b>	Small scale	1000	1.5	30	45	Ward-01 (3); Ward-02 (7); Ward-03 (2); Ward-07(1); Ward-08 (7); Ward-09 (9)
	Heavy Industry	10000	5	3	15	Ward-02(1); Ward-08 (1); Ward-09(1)
<b>Transportation</b>	Bus terminal	20000	1	1	1	
	Truck terminal	20000	0.5	1	0.5	

## **CHAPTER 9 ACTION AREA PLAN**

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### **9.1 Conceptualization of Action Area Plan**

Action Area Plan is not a statutory plan and it provides detail consideration of areas that are required consolidated planning in order to ensure a coordinated approach in development. Action Plan assists to clarify what resources are required to achieve the goal, formulate a timeline for when specific tasks need to be completed and delineate what resources are required.

### **9.2 Extent and Nature of Action Area Plan**

The Action Area Plan for Ramu Upazila is a separate document covering the first five-year period of the structure plan. It examines, in the context of the structure plan, those items that might be implemented in this period and thus contains more detail on a more limited range of subjects than the structure plan. It tries to provide the Upazila with guidance in deciding between priorities.

The Action Area Plan (AAP) guides land use and infrastructure within the area potential for immediate intervention based on public demand and necessity. It is prepared on 5 years' interval. The preparation of Action Area Plan (AAP) will be formulated through participatory approach involving the local people. It will contain problem analysis using participatory approach, stakeholder analysis, Potential analysis (Basic and derived potentials), Identification of possible projects, Priority ranking of projects, Strategy formulation for prioritized projects. Action Area Plan will provide prioritized projects consisting location of project, goal & objectives, activities, tasks, actors, resources, cost and assumptions/constraints.

The action plan consists of three parts, a summary of resources available, project selection and project evaluation. The analysis of available resources looks at the past availability of funds, in so far as this is possible for such a recent institution as an Upazila and attempts to assess funds likely to be available for the Upazila itself for development in the action plan period. Project selection summarises existing guidelines as they affect five-year plans and lists the criteria used in selection before identifying priorities in each sector and proposing projects to address these priorities.

Project evaluation looks at projects, which might be locally funded over the five-year period, given budgetary and other constraints, looks at projects which cannot be locally funded but which might be considered by national agencies operating locally and makes preliminary assessments of larger scale projects, which would need larger investment.

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The purpose of a plan is to lessen uncertainty about what presently exists and what is likely to happen in future and to provide a basis for different agencies, public and private, to proceed on the basis of a common goal by providing a framework for overall development.

The structure plan examined the existing situation, drew attention to key problems, assessed likely changes and their implications and proposed how some major problems might be tackled. Very briefly, the structure plan notes an anticipated population increase of some 30% in the Upazila by the end of the plan period and assesses the implications of this growth. Amongst its major proposals are the needs for more modern inputs to sustain agricultural productivity, the need for new non-agricultural jobs, improved infrastructure. It concentrates on the framework and not the details of layout or individual development. Where action is proposed within a relatively short time however, more detail may be needed than is provided in the structure plan. The structure plan identified the major actions needed to bring about development in accordance with its recommendations. Its final chapter consists of a development programme, listing, for five-year phases, the projects needed in each sector to bring about development along the lines proposed. This programme for the first five-year period forms the starting point for the action plan.

The objective of the action plan is to evaluate those projects, which should be implemented during the first five years' life of the structure plan. It thus contains more detail on a more limited range of subjects.

It consists of four parts:

- ✓ Project Selection
- ✓ Project Evaluation
- ✓ Analysis of Resource
- ✓ Establishing Priorities

Action Area Plan will reflect the immediate public demand which has been drawn from Participatory Rural Appraisal (PRA). Two or Three bankable projects will be proposed in next phase. Preliminarily, Tourism Development of Himchari and Establishment of Industry have been considered for allowable bankable project. The detail outline of these project will be derived in next phase of planning. The summarized PRA demand has been outlined below:

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**Table 9.1: PRA Demand of Ramu Upazila**

Unions	PRA Demand 1	PRA Demand 2	PRA Demand 3	PRA Demand 4	PRA Demand 5
<b>Idgor Union</b>	Education	Transport	Health facilities	River Erosion	
<b>Garjania Union</b>	Transport	River Erosion	Electricity	Health facilities	Education
<b>Kocchopia Union</b>	Electricity	Transport	Education	Health	River Erosion
<b>Kawarkhop Union</b>	River Erosion	Transport	Education	Electricity	
<b>Fatekharkul Union</b>	River Erosion	Drainage	Transport	Education	Gas
<b>Jowarianala Union</b>	Employment Opportunity	Education	Transport	Water Logging	Electricity Connection
<b>Rajarkul Union</b>	River Erosion	Transport	Education	Agriculture Development	
<b>Daskhin Mithachari Union</b>	River Erosion	Transport	Hill Cutting		
<b>Khuniar Palong Union</b>	Transport	Health facilities	Education	Employment Opportunity	
<b>Chakmarkul Union</b>	Flood	Transport	Health	Education	Employment Opportunity
<b>Rashid nagar Union</b>	Transport	Flood	Employment Opportunity	Electricity Connection	

*Source: Field Survey, 2015*

### 9.3 Priority Development Projects for Ramu Upazila

Some development activities are to be undertaken in Ramu Upazila on priority basis within the first five years of the plan period. These are listed below:

**Table 9.2: Priority Development Projects for Ramu Upazila**

SL	Project Name	Project Location
1.	Increasing police outpost	Idgar Union
2.	Construction of New Roads	Idgar Union and near Ramu Bihar Temple
3.	Salt Cultivation	Rashidnagar
4.	Alternative Production in Tobacco Land	Garjania, Kacchapia
5.	Creation of Wildlife Sanctuary for Elephant	Khuniapalong, Idgar
6.	Hotel, Motel Zone at Tourist Spot	Himchari
7.	Industrial Park	Fatekharkul
8.	Construction of Road Ramu to Garjania	
9.	Creation of Bus Terminal and Truck Terminal	

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10.	River Bank Embankment in Bakkhali River	
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### **CHAPTER 10 CONCLUSION**

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Final draft plan of Ramu Upazila will give a guideline to develop the area according to the demand perceived by the PRA survey of local people. The five-tier: sub-regional, structure, urban, rural and action area plans will be effective tools for planned development of most of the areas in Ramu. The planned urban and integrated rural development will require infrastructure and service facilities that can be done by the proper utilization of such urban and rural area plan. This in turn will make a positive impact on economic growth, social progress and environmental sustainability in the whole region. Ramu Upazila must avail this opportunity for its progress in future by implementing the Development Plan done by UDD under the Ministry of Housing and Public Works.