SUB-REGIONAL AND STRUCTURE PLAN

Sub-Regional Plan

Nature of Sub-regional plan

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 Rangunia 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 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 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.

Structure Plan

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 statuary framework to 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 Rangunia 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

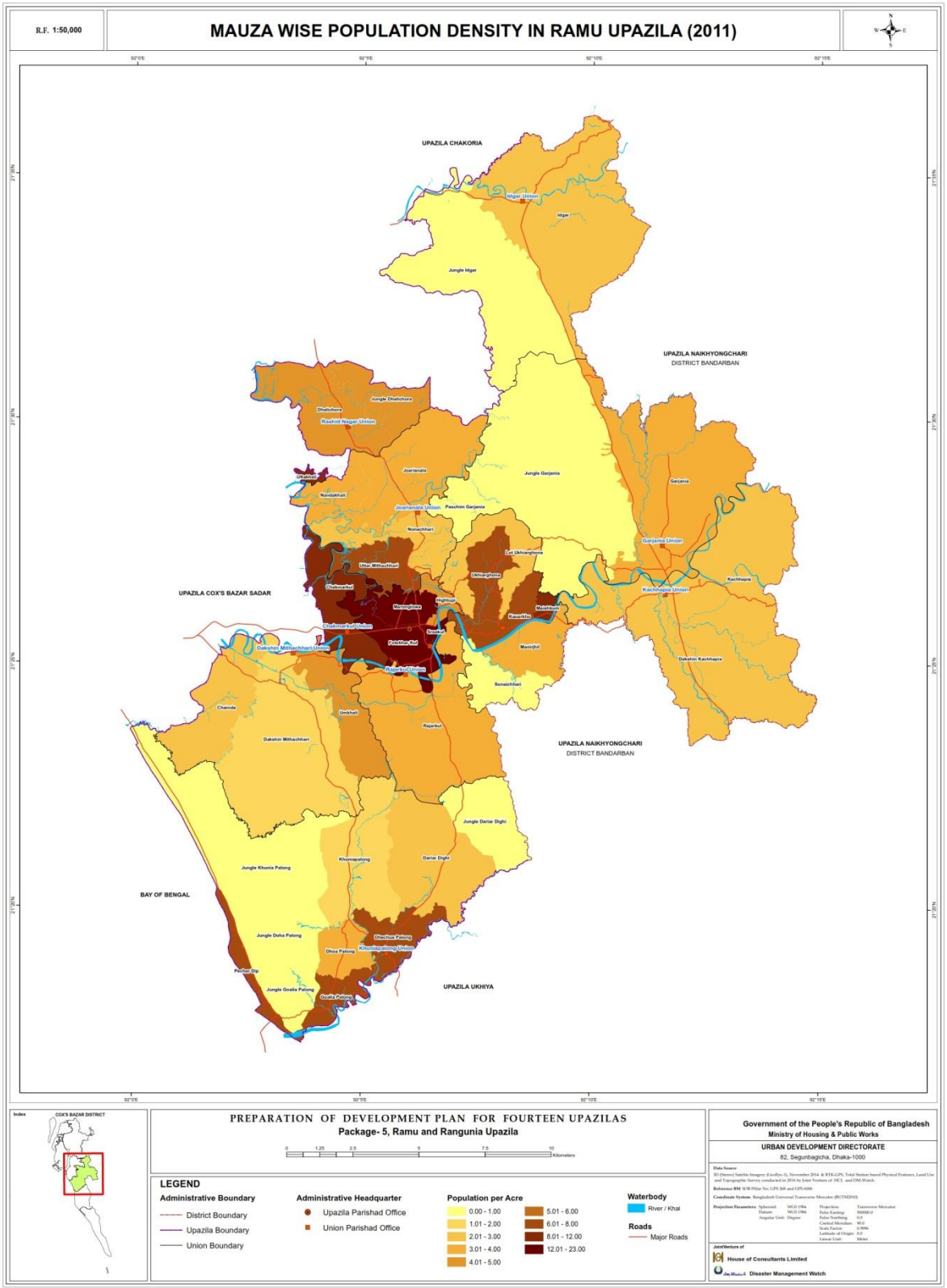
(iv) Formulation and Integration of different sectoral strategies for the Upazila.

Description of the Project Area

Situated at the southernmost point of Bangladesh, Cox's Bazaar 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 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 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: **Study Area Demarcation**

Study Area Demarcation						
Union	**Area(sq.m)**	**Area (sq.km)**	**Area (Acre)**	**Percentage**	**Population (2011)**	**Density**
Chakmarkul Union	7315604.61	7.32	1807.73	1.90	16438	9
Dakshin Mithachhari Union	40987889.47	40.99	10128.33	10.66	25998	3
Fatekharkul Union	9919859.24	9.92	2451.25	2.58	30569	12
Garjania Union	64240739.42	64.24	15874.23	16.71	22651	1
Idgar Union	52189948.39	52.19	12896.42	13.58	18315	1
Joarianala Union	27984051.74	27.98	6915.01	7.28	27323	4
Kachhapia Union	43806742.08	43.81	10824.88	11.40	28328	3
Kauarkhop Union	24986894.91	24.99	6174.40	6.50	24004	4
Khuniapalong Union	76794154.69	76.79	18976.25	19.98	36304	2
Rajarkul Union	20417604.81	20.42	5045.30	5.31	20153	4
Rashid Nagar Union	15765539.14	15.77	3895.75	4.10	16538	4
Total	**384409028.50**	**384.41**	**94989.54**	**100.00**	**266621**	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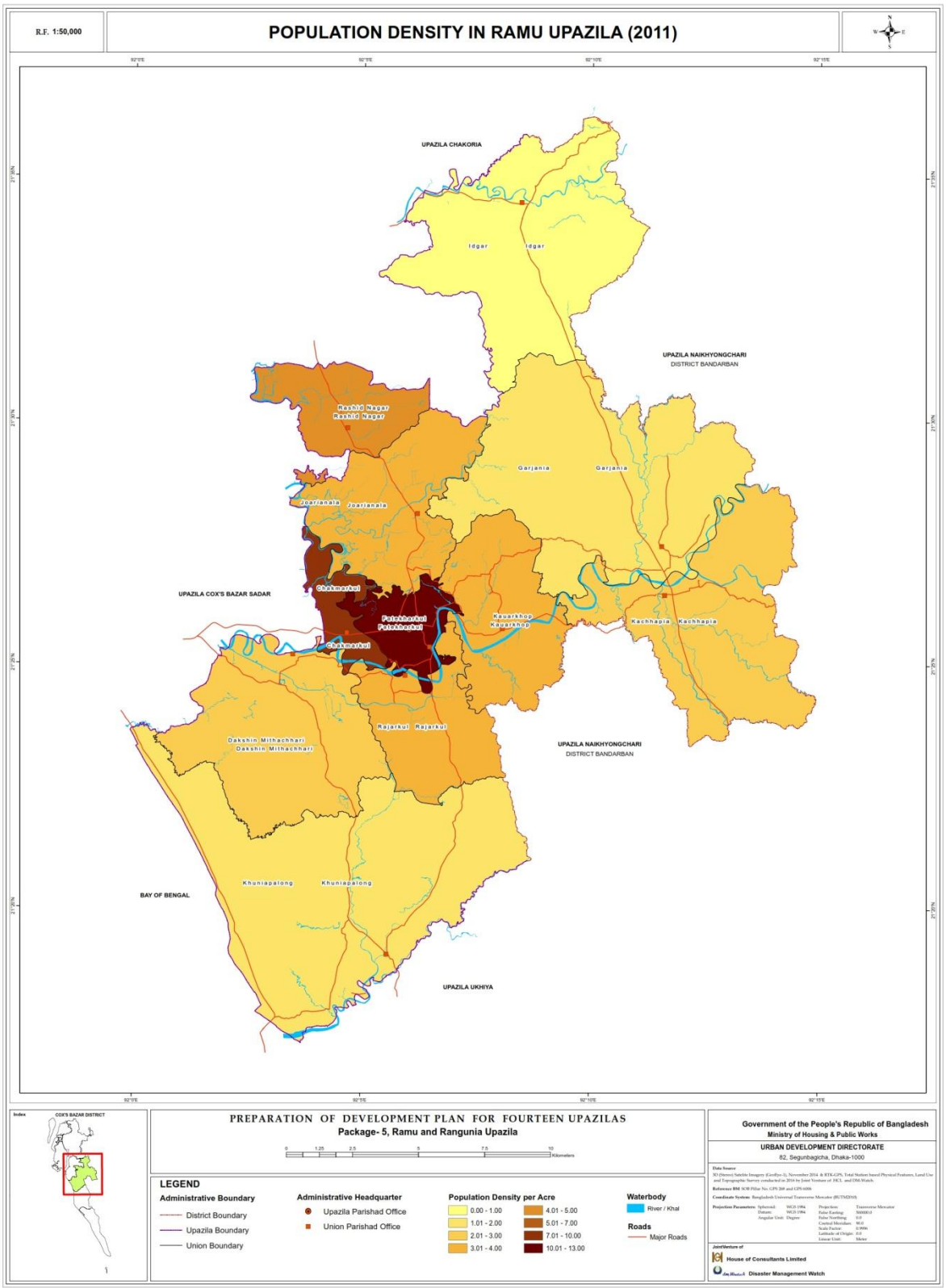
MAUZA WISE POPULATION DENSITY IN RAMU UPAZILA (2011)
UPAZILA CHAKORIA
Idgar Union
Idgar
Jungle Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Dhalchhora
Rashid Nagar Union
Jungle Dhalchhora
Joarianala
Joarianala Union
Paschim Garjania
Jungle Garjania
Garjania
Garjania Union
Nonachhari
Uttar Mithachhari
Uchiarghona
Kachhapia
Kachhapia Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Dakshin Mithachhari Union
Rajarkul Union
Dakshin Kachhapia
Sonaichhari
Chainda
Umkhali
Rajarkul
Dakshin Mithachhari
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Jungle Darial Dighi
Khumopalong
Darial Dighi
Jungle Khunia Palong
BAY OF BENGAL
Jungle Duha Palong
Dhechua Palong
Khuniapalong Union
Dhua Palong
Jungle Goalia Palong
Goalia Palong
UPAZILA UKHIYA
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
Kilometers
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Population per Acre
0.00 - 1.00
1.01 - 2.00
2.01 - 3.00
3.01 - 4.00
4.01 - 5.00
5.01 - 6.00
6.01 - 8.00
8.01 - 12.00
12.01 - 23.00
Waterbody
River / Khal
Roads
Major Roads
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Joint Venture of
House of Consultants Limited
Disaster Management Watch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POPULATION DENSITY IN RAMU UPAZILA (2011)
UPAZILA CHAKORIA
Idgar
Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar
Rashid Nagar
Garjania
Garjania
Joarianala
Joarianala
Chakmarkul
UPAZILA COX'S BAZAR SADAR
Fatekhorkul
Fatekhorkul
Chakmarkul
Kauarkhop
Kauarkhop
Kachhapia
Kachhapia
Rajarkul
Rajarkul
Dakshin Mithachhari
Dakshin Mithachhari
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong
Khuniapalong
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
Kilometers
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Population Density per Acre
0.00 - 1.00
1.01 - 2.00
2.01 - 3.00
3.01 - 4.00
4.01 - 5.00
5.01 - 7.00
7.01 - 10.00
10.01 - 13.00
Waterbody
River / Khal
Roads
Major Roads
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Data Source:
Projection Parameters:
Spheroid: WGS 1984
Datum: WGS 1984
Angular Unit: Degree
Projection: Transverse Mercator
False Easting: 500000.0
False Northing: 0.0
Central Meridian: 90.0
Scale Factor: 0.9996
Latitude of Origin: 0.0
Linear Unit: Meter
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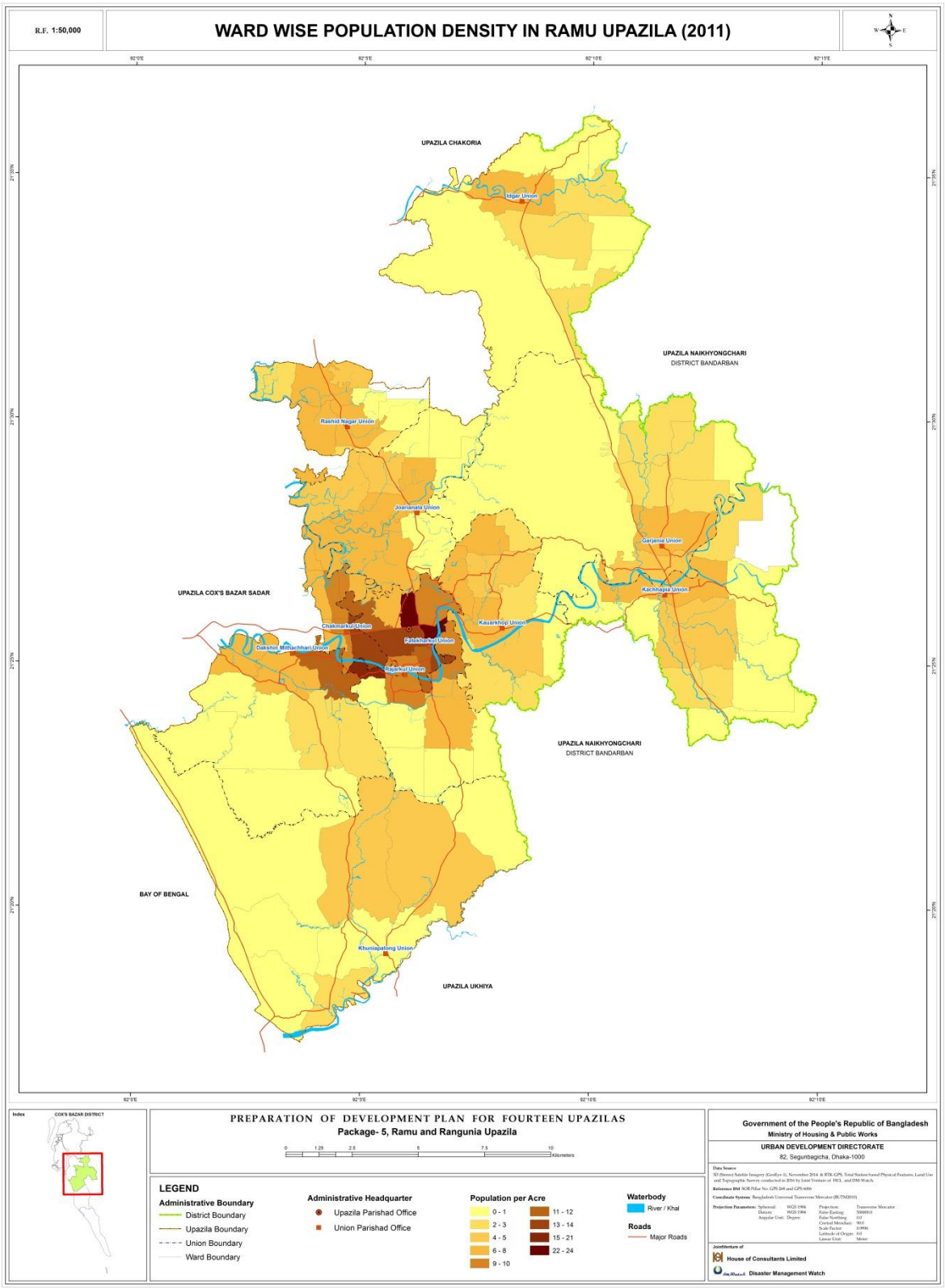
Disaster Management Watch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WARD WISE POPULATION DENSITY IN RAMU UPAZILA (2011)
92°0'0"E
92°5'0"E
92°10'0"E
92°15'0"E
21°30'0"N
21°25'0"N
21°20'0"N
21°15'0"N
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Joerianala Union
Garjania Union
Kachhapia Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Kauarkhop Union
Pokkharkul Union
Dakshin Mithachhari Union
Rajarkul Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
Khuniapalong Union
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
0 1.25 2.5 5 7.5 10 Kilometers
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Ward Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Population per Acre
0 - 1
2 - 3
4 - 5
6 - 8
9 - 10
11 - 12
13 - 14
15 - 21
22 - 24
Waterbody
River / Khal
Roads
Major Roads
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Data Source
Reference DM
Coordinate System: Bangladesh Universal Transverse Mercator (BUTM2010)
Projection Parameters: Spheroid: WGS 1984 Projection: Transverse Mercator
Datum: WGS 1984 False Easting: 5000000
Angular Unit: Degree False Northing: 0.0
Central Meridian: 90.0
Scale Factor: 0.9996
Latitude of Origin: 0.0
Linear Unit: Meter
Joint Venture of
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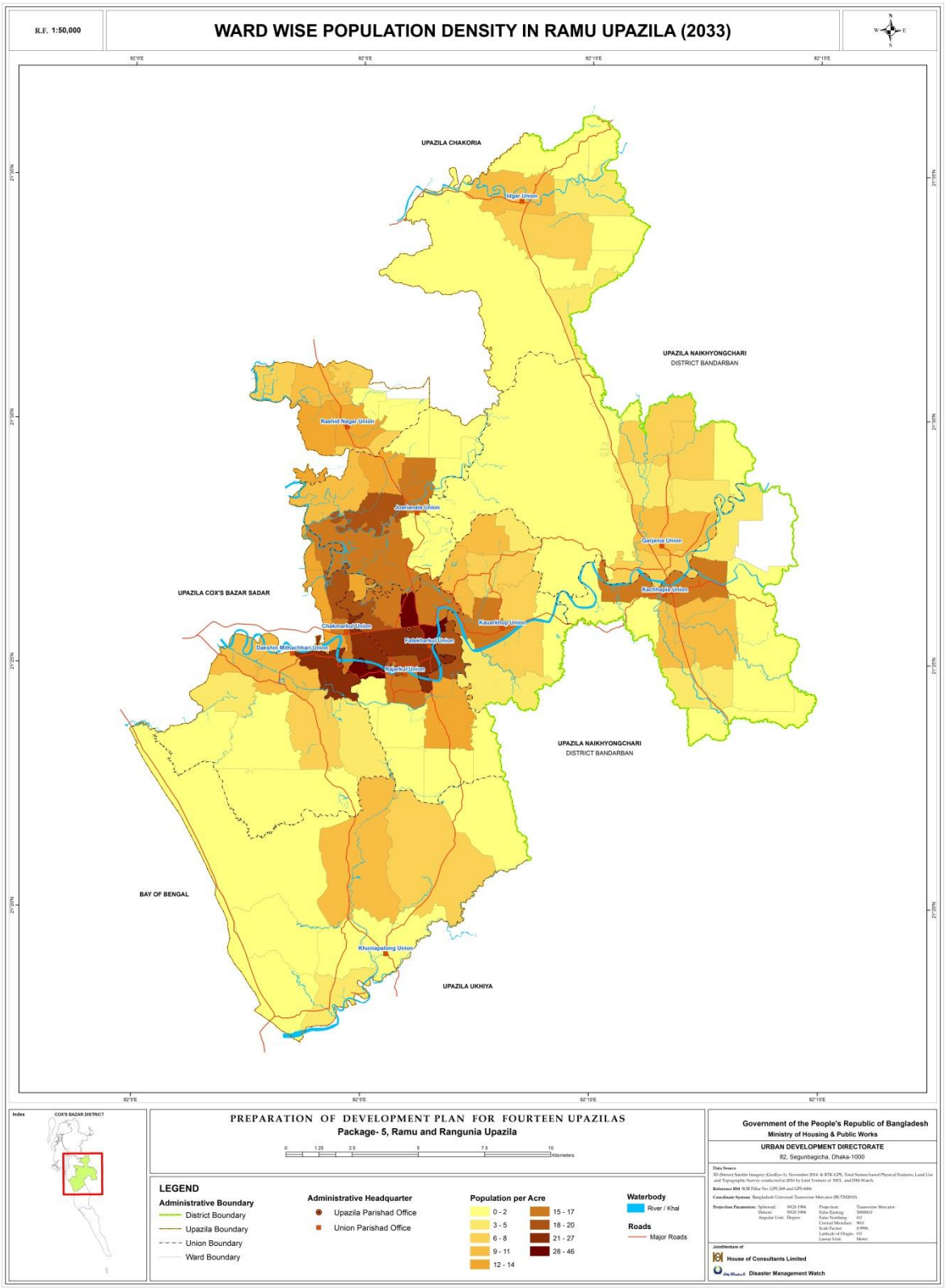
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WARD WISE POPULATION DENSITY IN RAMU UPAZILA (2033)
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Joarianala Union
Garjania Union
Kachhapia Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Kauarkhop Union
Pokkharia Union
Dakshin Mithachhari Union
Rajarkul Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
Khuniapalong Union
UPAZILA UKHIYA
92°0'0"E
92°5'0"E
92°10'0"E
92°15'0"E
21°35'0"N
21°30'0"N
21°25'0"N
21°20'0"N
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
0 1.25 2.5 5 7.5 10 Kilometers
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Ward Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Population per Acre
0 - 2
3 - 5
6 - 8
9 - 11
12 - 14
15 - 17
18 - 20
21 - 27
28 - 46
Waterbody
River / Khal
Roads
Major Roads
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Data Source
Reference DM
Coordinate System: Bangladesh Universal Transverse Mercator (BUTM2010)
Projection Parameters: Spheroid: WGS 1984 Projection: Transverse Mercator
Datum: WGS 1984 False Easting: 5000000
Angular Unit: Degree False Northing: 0.0
Central Meridian: 90.0
Scale Factor: 0.9996
Latitude of Origin: 0.0
Linear Unit: Meter
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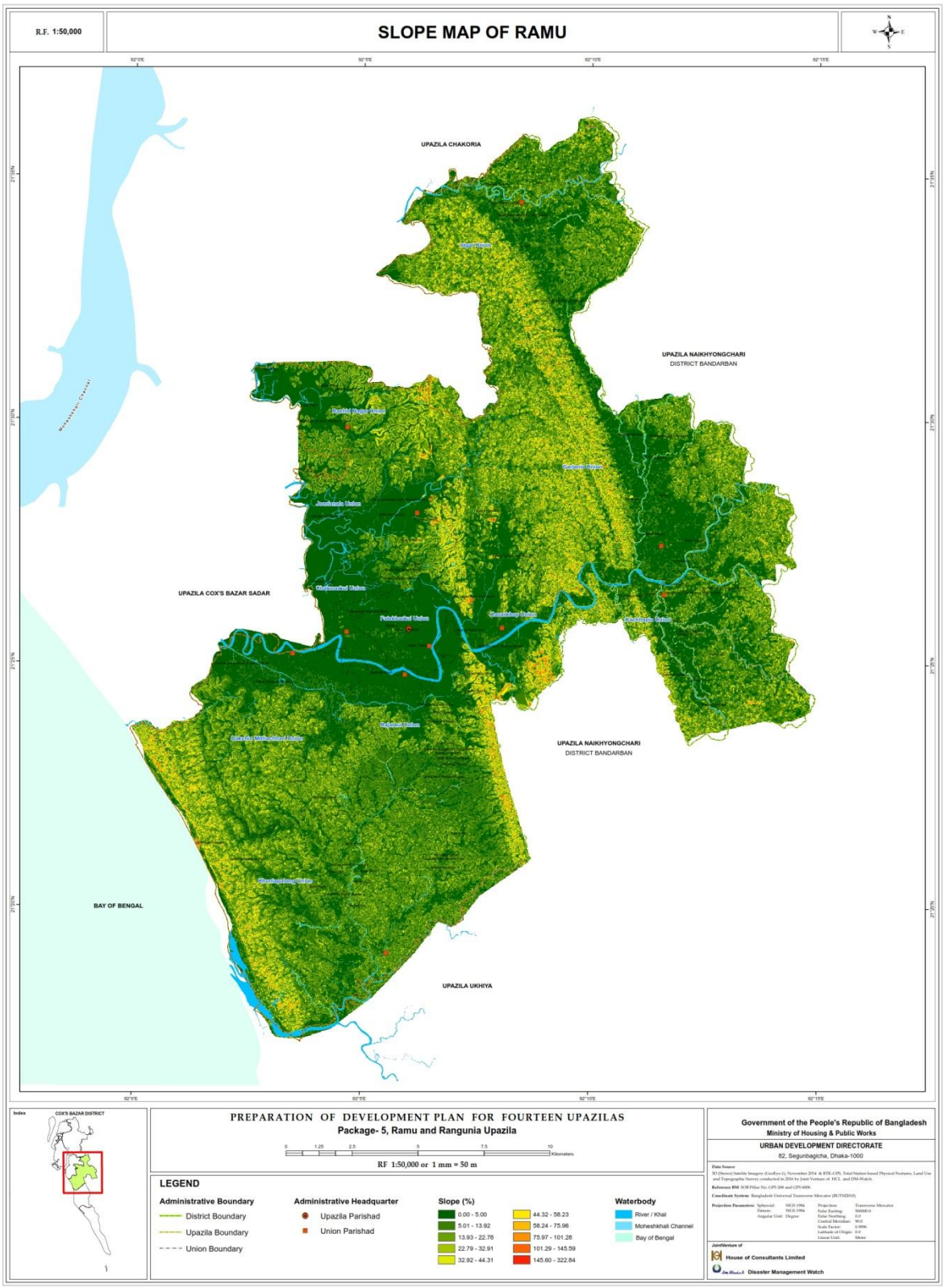
Thematic Maps

In order to prepare the structure plan and sub-regional plan for Ramu 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.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SLOPE MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Slope (%)
0.00 - 5.00
5.01 - 13.92
13.93 - 22.78
22.79 - 32.91
32.92 - 44.31
44.32 - 58.23
58.24 - 75.96
75.97 - 101.28
101.29 - 145.59
145.60 - 322.84
Waterbody
River / Khal
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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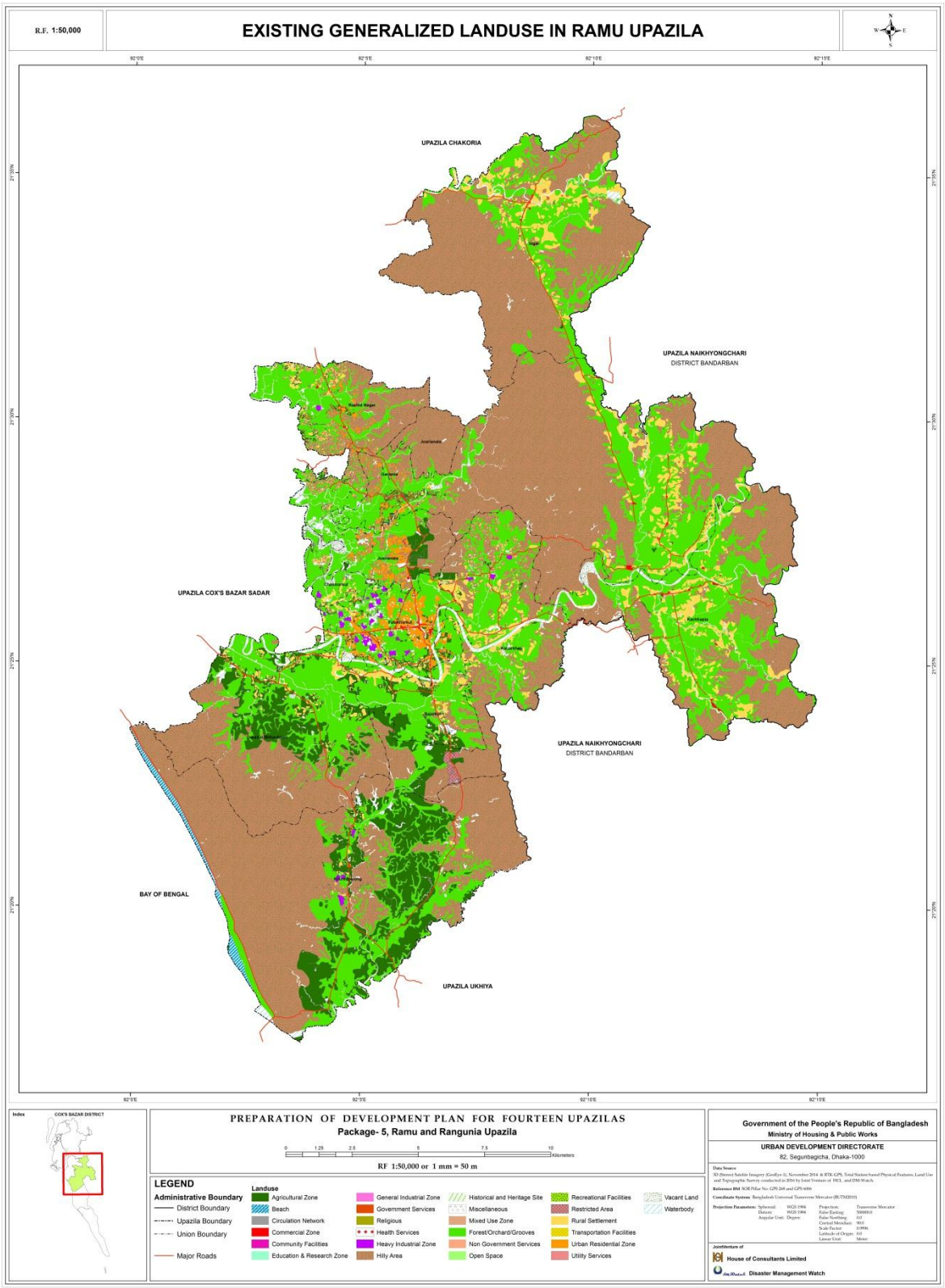
Existing Land Use

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

Table: Existing Land use

Existing Land use					
Land use	**Area (Sq. Meter)**	**Area (Sq. Kilometer)**	**Area (Hectare)**	**Area (Acre)**	**Percentage**
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
TOTAL	**384400796.88**	**384.40**	**38440.08**	**94987.51**	**100.00**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EXISTING GENERALIZED LANDUSE IN RAMU UPAZILA
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Major Roads
Landuse
Agricultural Zone
Beach
Circulation Network
Commercial Zone
Community Facilities
Education & Research Zone
General Industrial Zone
Government Services
Religious
Health Services
Heavy Industrial Zone
Hilly Area
Historical and Heritage Site
Miscellaneous
Mixed Use Zone
Forest/Orchard/Grooves
Non Government Services
Open Space
Recreational Facilities
Restricted Area
Rural Settlement
Transportation Facilities
Urban Residential Zone
Utility Services
Vacant Land
Waterbody
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
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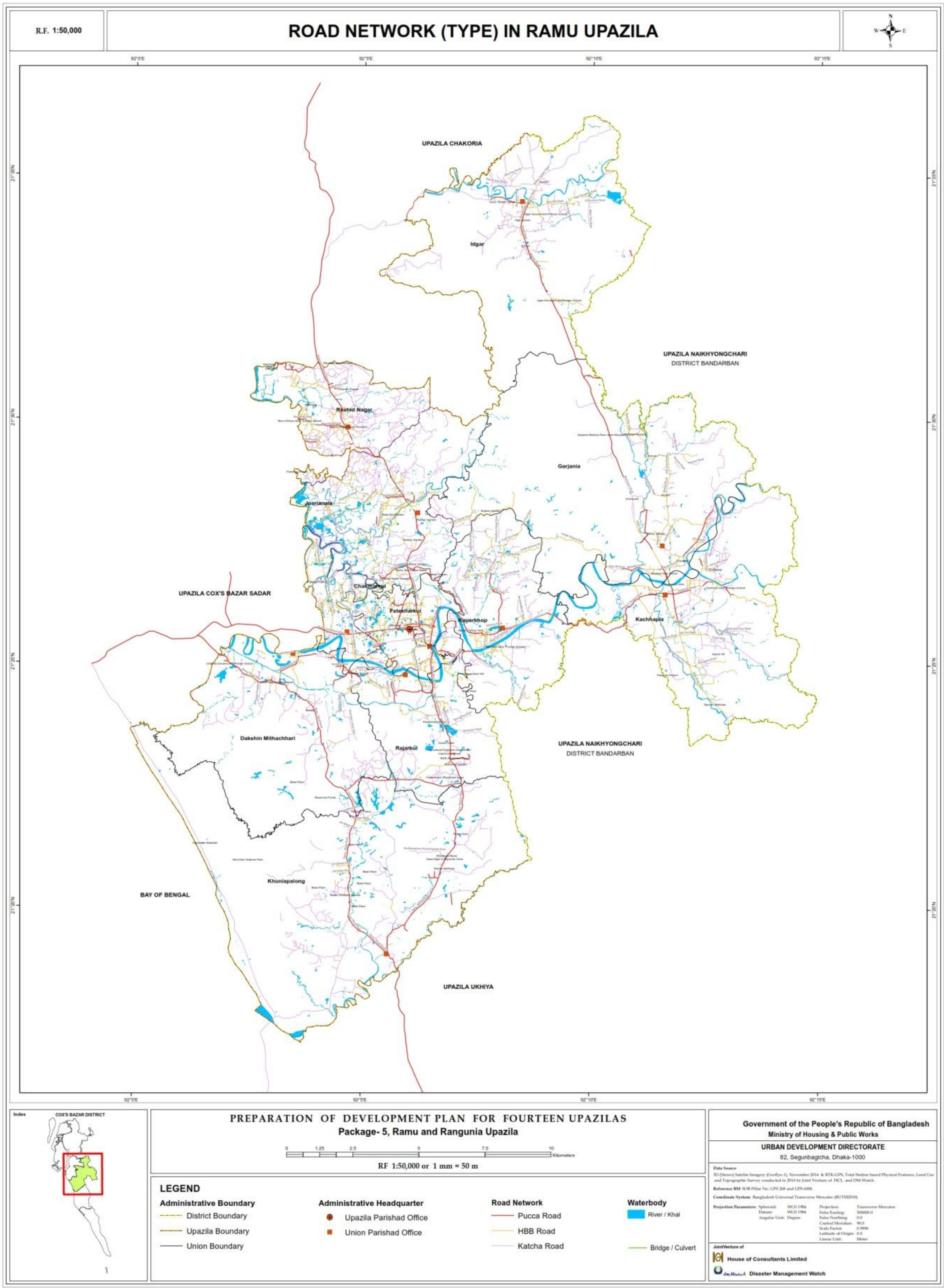
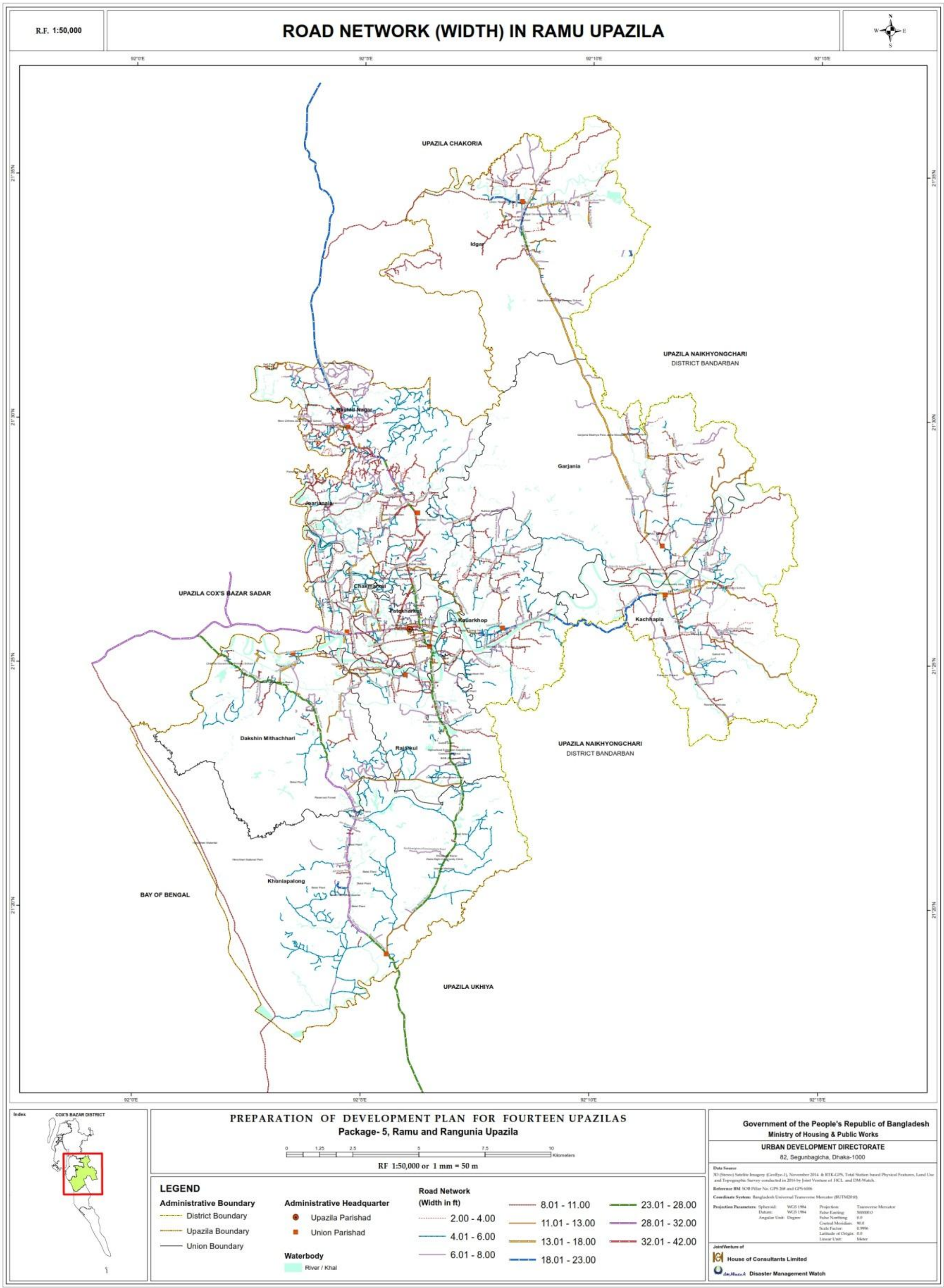
Existing Circulation Network

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

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

	Katcha Road	58091.70	58.09		
	Pucca Road	20479.22	20.48		
Total		**897013.15**	**897.01**	**897.01**	**100**


R.F. 1:50,000
ROAD NETWORK (TYPE) IN RAMU UPAZILA
UPAZILA CHAKORIA
Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar
Garjania
Joarianala
UPAZILA COX'S BAZAR SADAR
Chakmarkul
Fatekharkul
Kauarkhop
Kachhapia
Dakshin Mithachhari
Rajarkul
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong
BAY OF BENGAL
UPAZILA UKHIYA
92°0'E
92°5'E
92°10'E
92°15'E
21°35'N
21°30'N
21°25'N
21°20'N
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
0
1.25
2.5
5
7.5
10
Kilometers
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Road Network
Pucca Road
HBB Road
Katcha Road
Waterbody
River / Khal
Bridge / Culvert
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
JointVenture of
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
ROAD NETWORK (WIDTH) IN RAMU UPAZILA
UPAZILA CHAKORIA
Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Garjania
UPAZILA COX'S BAZAR SADAR
Kachhapia
Dakshin Mithachhari
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong
BAY OF BENGAL
UPAZILA UKHIYA
92°0'E
92°5'E
92°10'E
92°15'E
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
Kilometers
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Waterbody
River / Khal
Road Network
(Width in ft)
2.00 - 4.00
4.01 - 6.00
6.01 - 8.00
8.01 - 11.00
11.01 - 13.00
13.01 - 18.00
18.01 - 23.00
23.01 - 28.00
28.01 - 32.00
32.01 - 42.00
Joint Venture of
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Disaster Management Watch

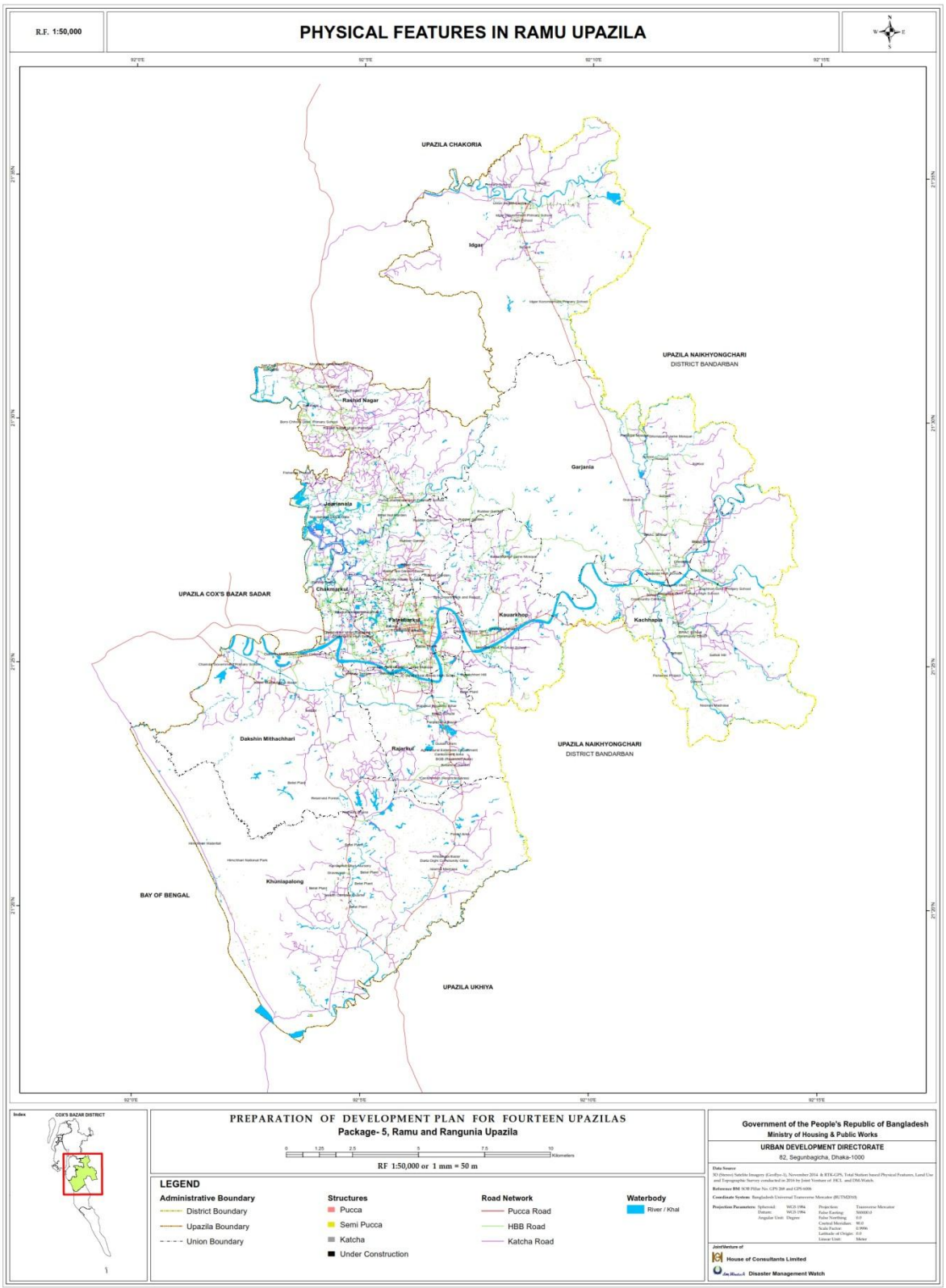
Structure type in Ramu Upazila

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

Table: Structure Type in Ramu Upazila

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

	Under Construction	12		
Rashid Nagar Union	Katcha	2260	3591	9.97
	Pucca	283		
	Semi Pucca	1034		
	Under Construction	14		
Total		**36025**	**36025**	**100**



Cropping Pattern and Intensity of Ramu Upazila

Cropping pattern of 11 unions of Ramu 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.

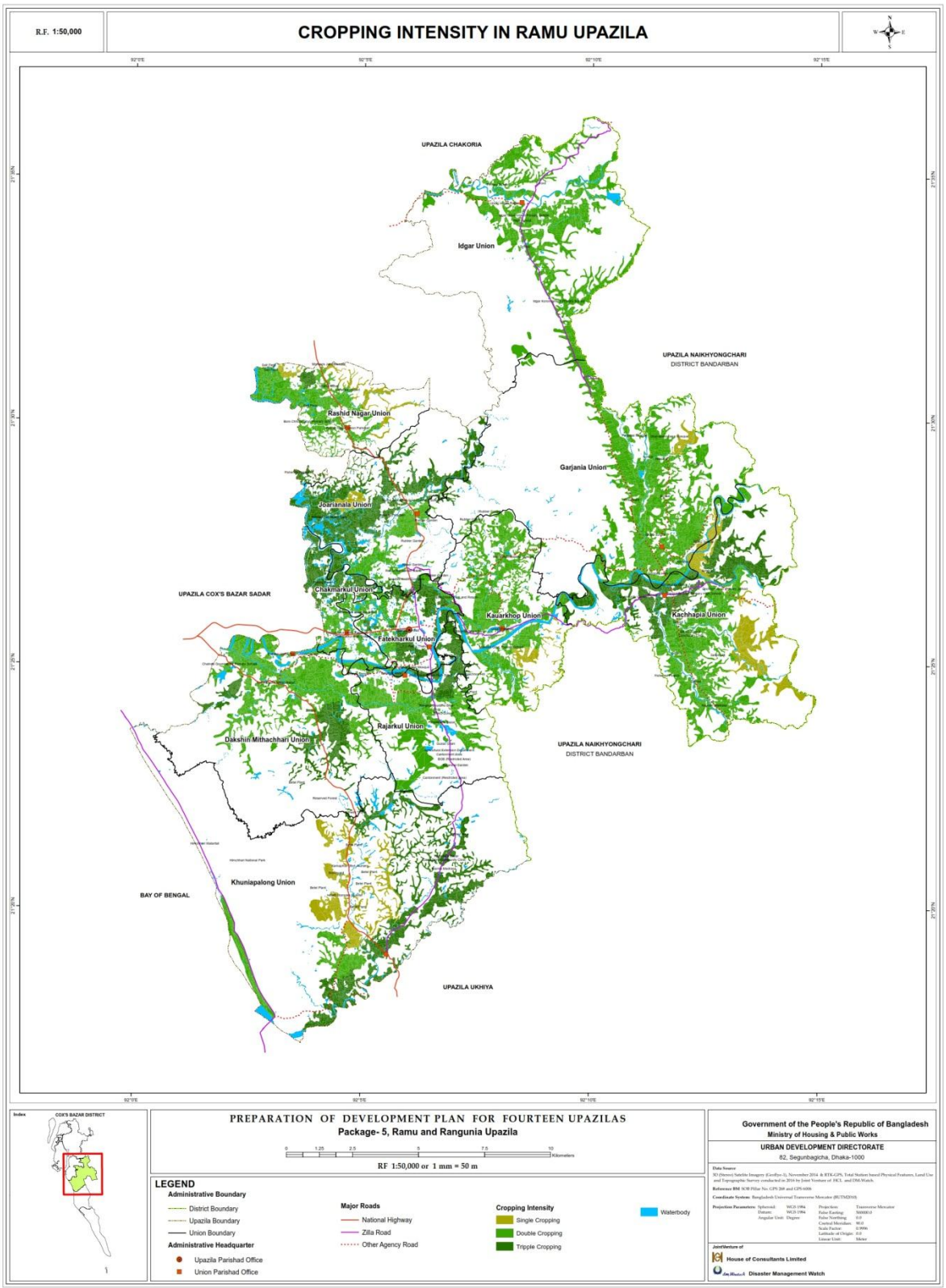
Table: Cropping Intensity

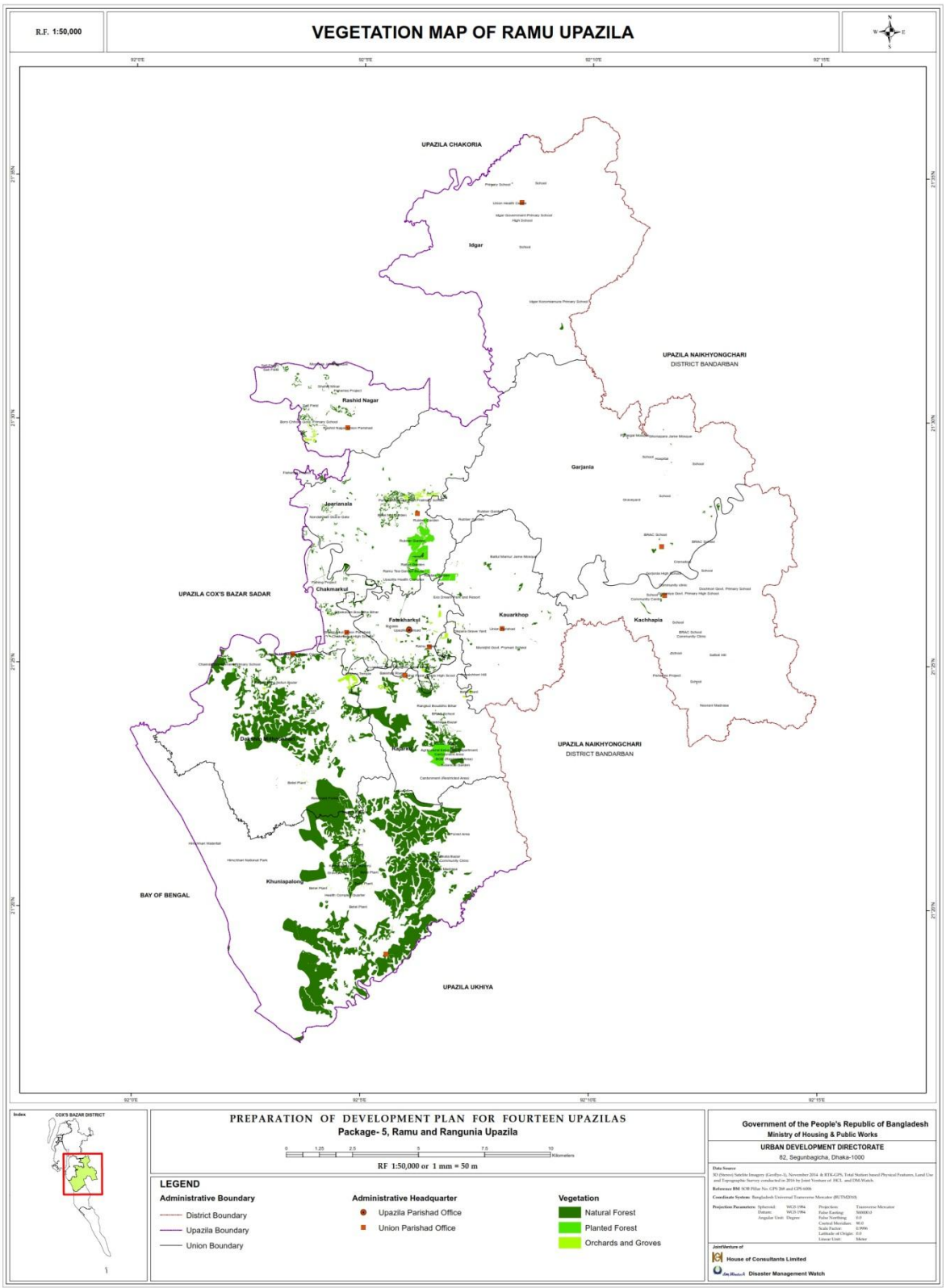
Cropping Intensity	Acre(sq.m)	Area(Acre)	Percentage
Single	9660866.41	2387.25	2.51
Double	73468832.14	18154.54	19.11
Triple	33600178.76	8302.78	8.74

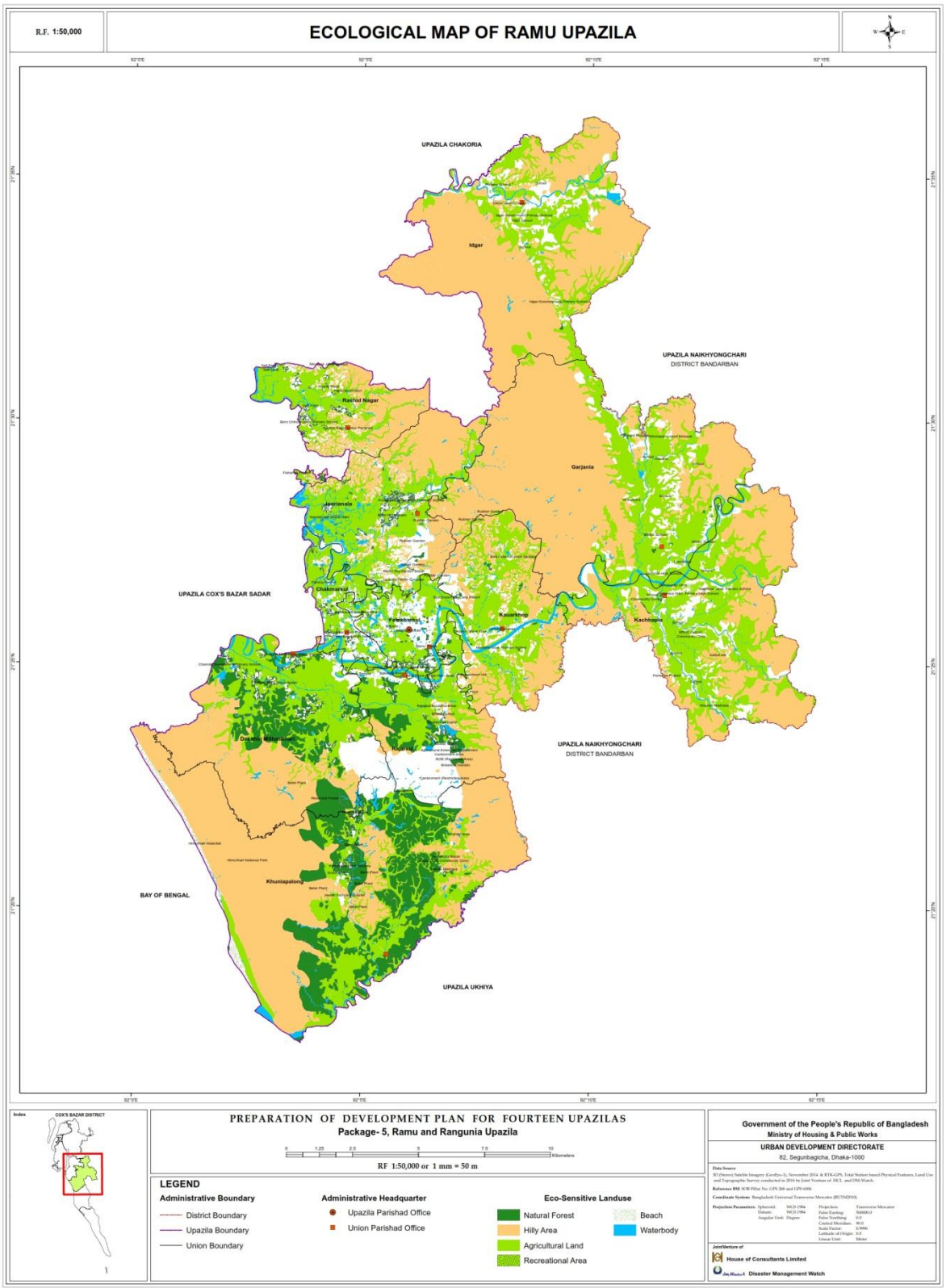
Vegetation

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

Vegetation	Area(Sq.m)	Area(Acre)
Natural Forest	25938801.37	6409.62
Planted Forest	1640096.66	405.28
Orchards and Groves	582311.96	143.89


R.F. 1:50,000
CROPPING INTENSITY IN RAMU UPAZILA
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
Chakmarkul Union
UPAZILA COX'S BAZAR SADAR
Kauarkhop Union
Kachhapia Union
Fatekharkul Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Major Roads
National Highway
Zilla Road
Other Agency Road
Cropping Intensity
Single Cropping
Double Cropping
Tripple Cropping
Waterbody
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Joint Venture of
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
VEGETATION MAP OF RAMU UPAZILA
UPAZILA CHAKORIA
Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar
Garjania
Joarianala
Chakmarkul
UPAZILA COX'S BAZAR SADAR
Fatekharkul
Kauarkhop
Kachhapia
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Vegetation
Natural Forest
Planted Forest
Orchards and Groves
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
ECOLOGICAL MAP OF RAMU UPAZILA
UPAZILA CHAKORIA
Idgar
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar
Garjania
Joarianala
UPAZILA COX'S BAZAR SADAR
Chakmarkul
Kaiurkhop
Kachhapia
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Eco-Sensitive Landuse
Natural Forest
Hilly Area
Agricultural Land
Recreational Area
Beach
Waterbody
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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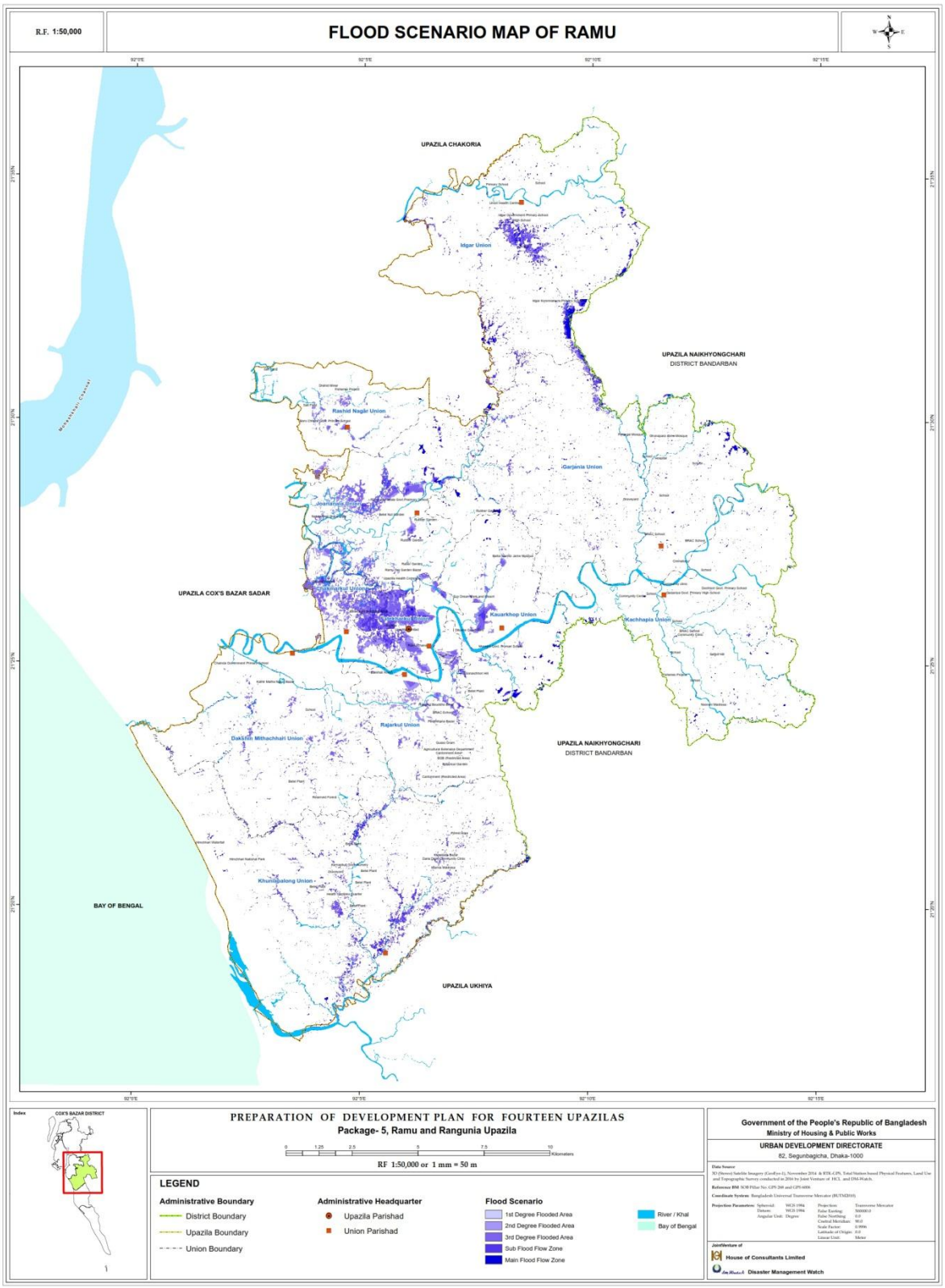
Disaster Management Watch

Flooding Scenario

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

Table: Different Flooding Scenario

Different Flooding Scenario				
Flooded Land Category	**Area(sq.m)**	**Area(sq.km)**	**Area(Acre)**	**Remarks**
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
Total	31118800	31	7690	


R.F. 1:50,000
FLOOD SCENARIO MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
UPAZILA COX'S BAZAR SADAR
Kauarkhop Union
Kachhapia Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Flood Scenario
1st Degree Flooded Area
2nd Degree Flooded Area
3rd Degree Flooded Area
Sub Flood Flow Zone
Main Flood Flow Zone
River / Khal
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch

Geology

For the identification of the geologically suitable area of Ramu 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: Foundation Layer

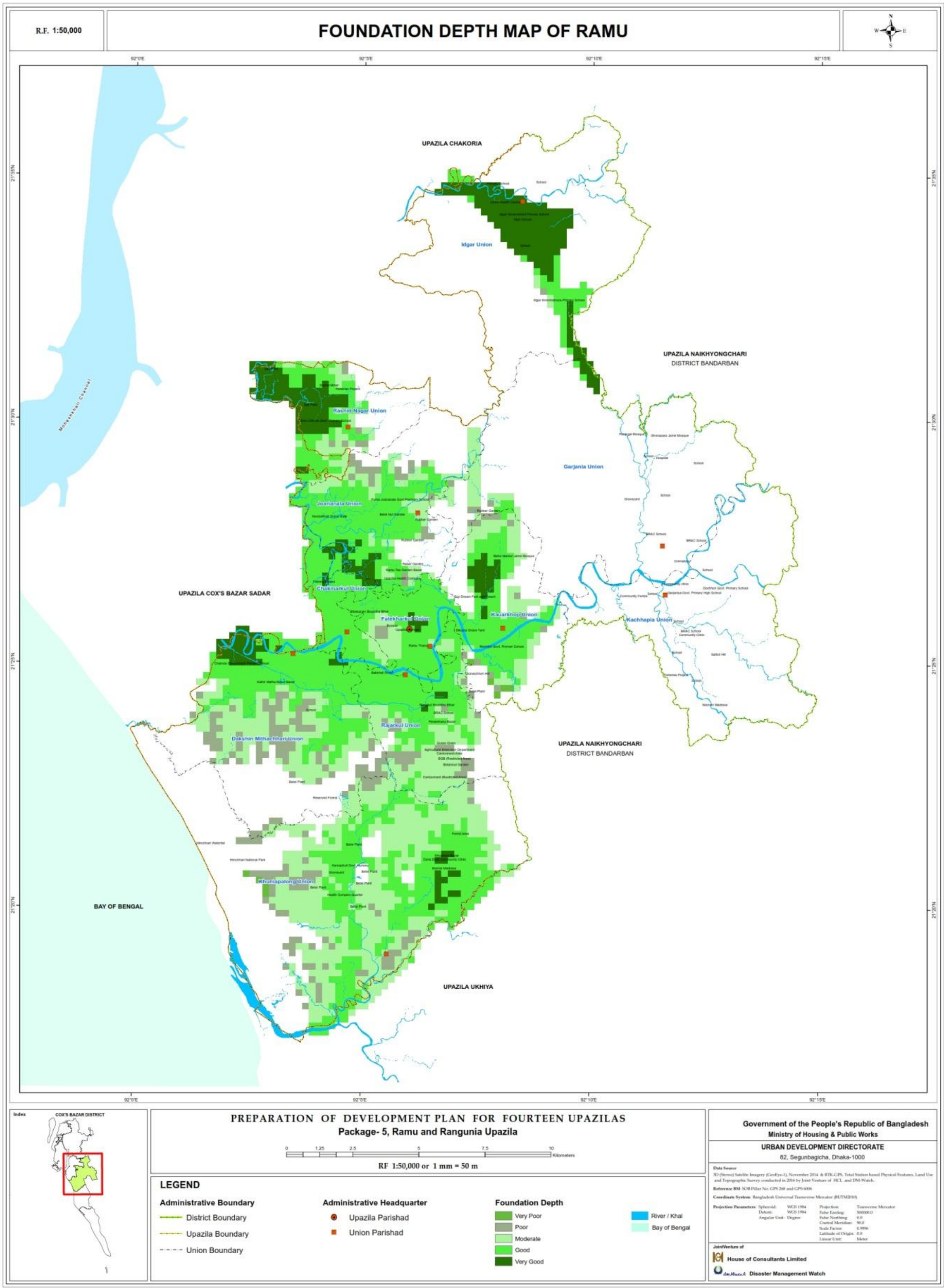
Foundation Layer	Area(Sq.m)	Area(Acre)
Very Poor	562500	139.00
Poor	14937500	3691.14
Moderate	58437500	14440.22
Good	82125000	20293.53
Very Good	21437500	5297.32

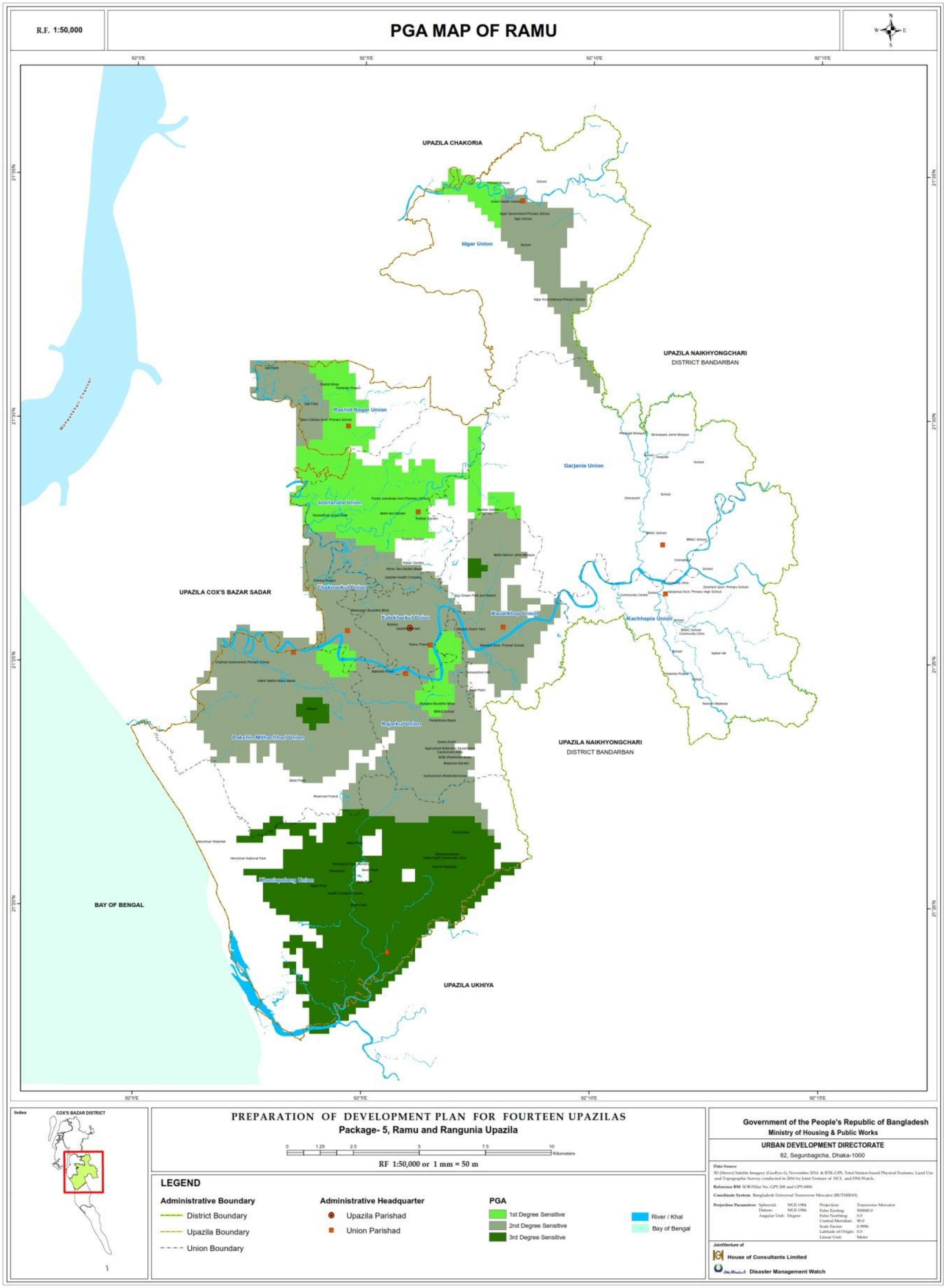
Table: **PGA**

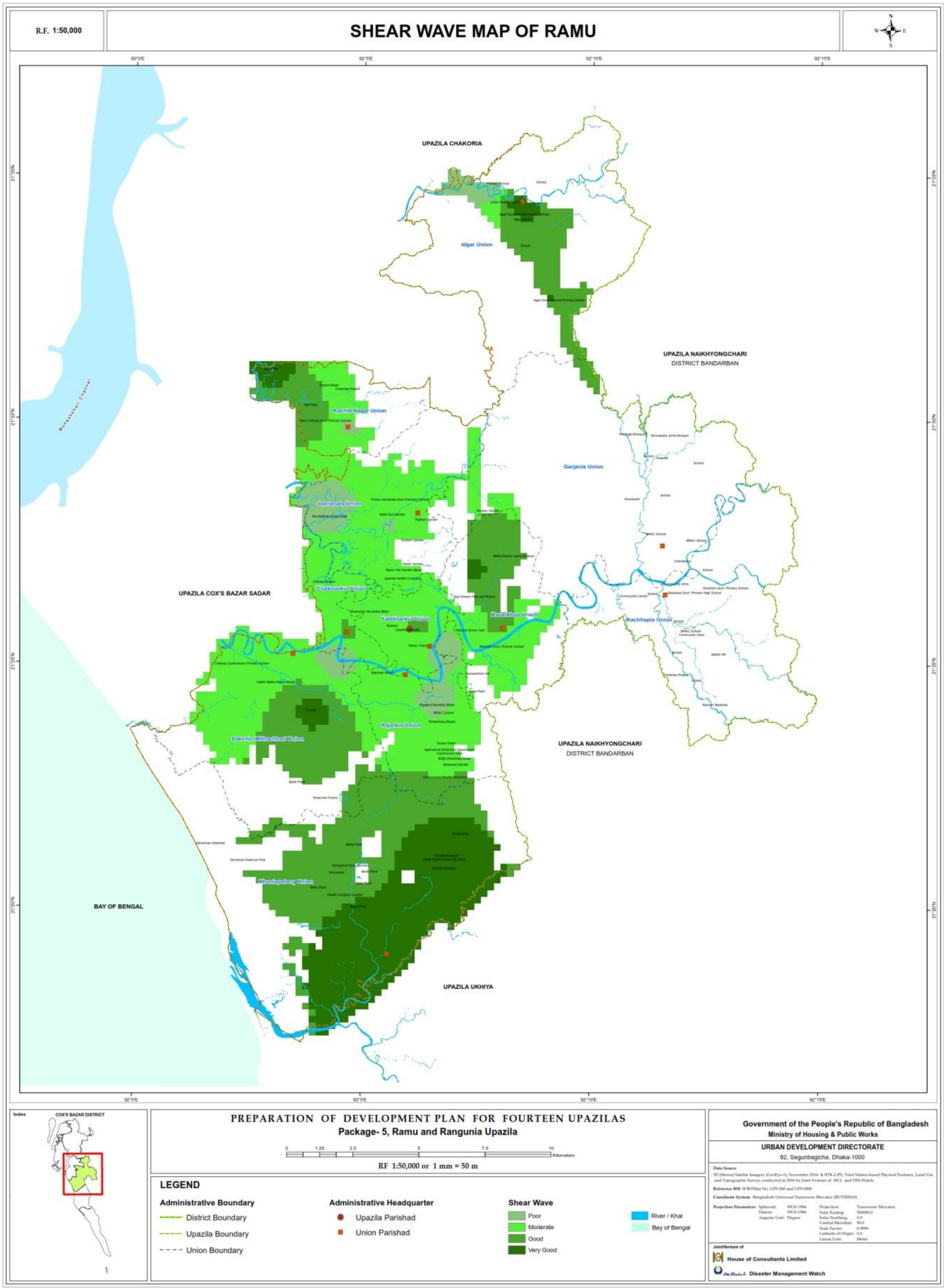
PGA	Area(Sq.m)	Area(Acre)
1st Degree Sensitive	32000000	7907.37
2nd Degree Sensitive	99187500	24509.77
3rd Degree Sensitive	46312500	11444.07

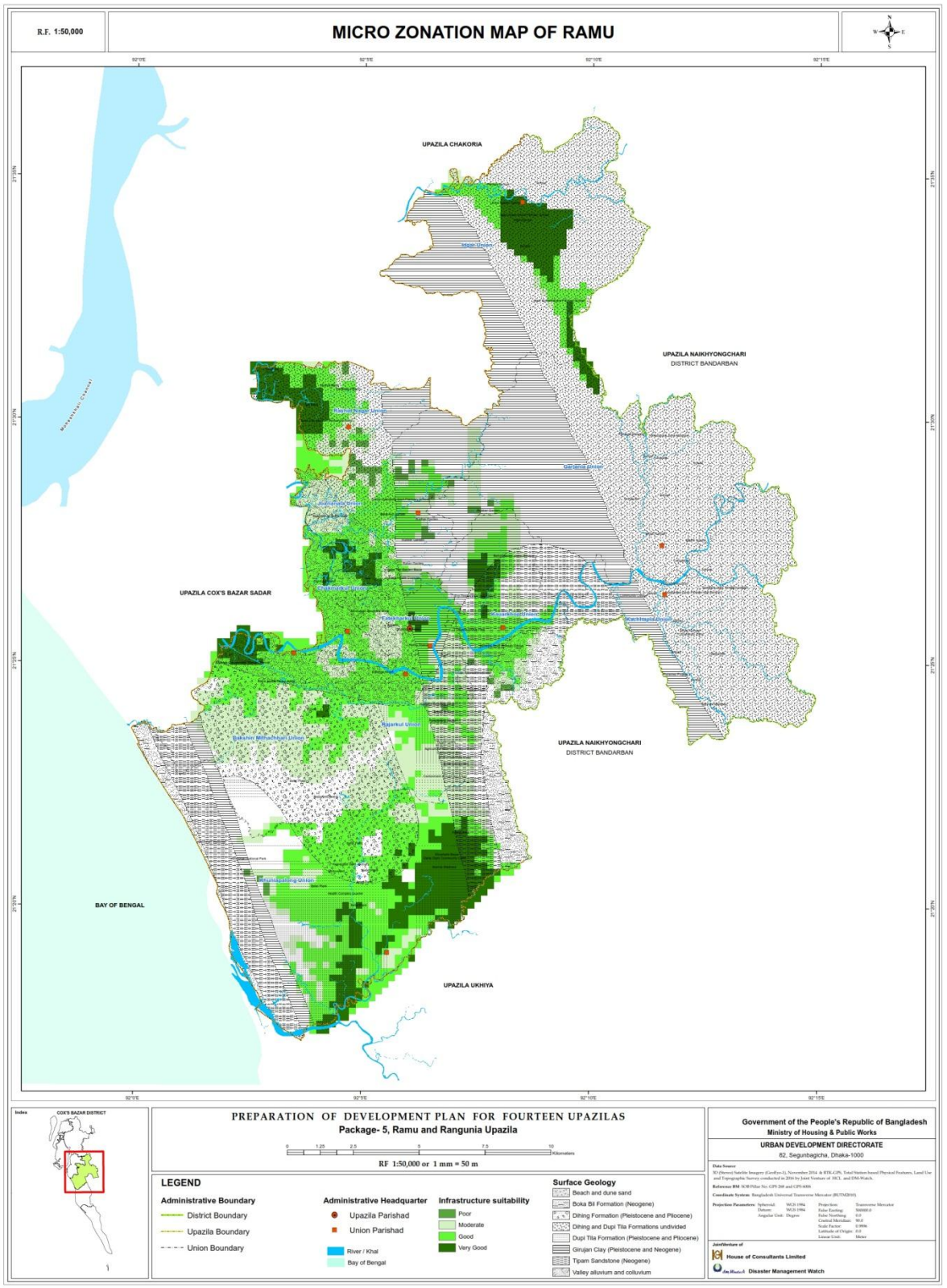
Table: **Shear Wave**

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


R.F. 1:50,000
FOUNDATION DEPTH MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Fatekharkul Union
Kauarkhop Union
Kachhapia Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Foundation Depth
Very Poor
Poor
Moderate
Good
Very Good
River / Khal
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
Jointventure of
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
PGA MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Fatekharkul Union
Kauarkhop Union
Kachhapia Union
Dakshin Mithachhari Union
Rajarkul Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
PGA
1st Degree Sensitive
2nd Degree Sensitive
3rd Degree Sensitive
River / Khal
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
SHEAR WAVE MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Fatekharkul Union
Kaurkhop Union
Kachhapia Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Shear Wave
Poor
Moderate
Good
Very Good
River / Khal
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch


R.F. 1:50,000
MICRO ZONATION MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
River / Khal
Bay of Bengal
Infrastructure suitability
Poor
Moderate
Good
Very Good
Surface Geology
Beach and dune sand
Boka Bil Formation (Neogene)
Dihing Formation (Pleistocene and Pliocene)
Dihing and Dupi Tila Formations undivided
Dupi Tila Formation (Pleistocene and Pliocene)
Girujan Clay (Pleistocene and Neogene)
Tipam Sandstone (Neogene)
Valley alluvium and colluvium
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch

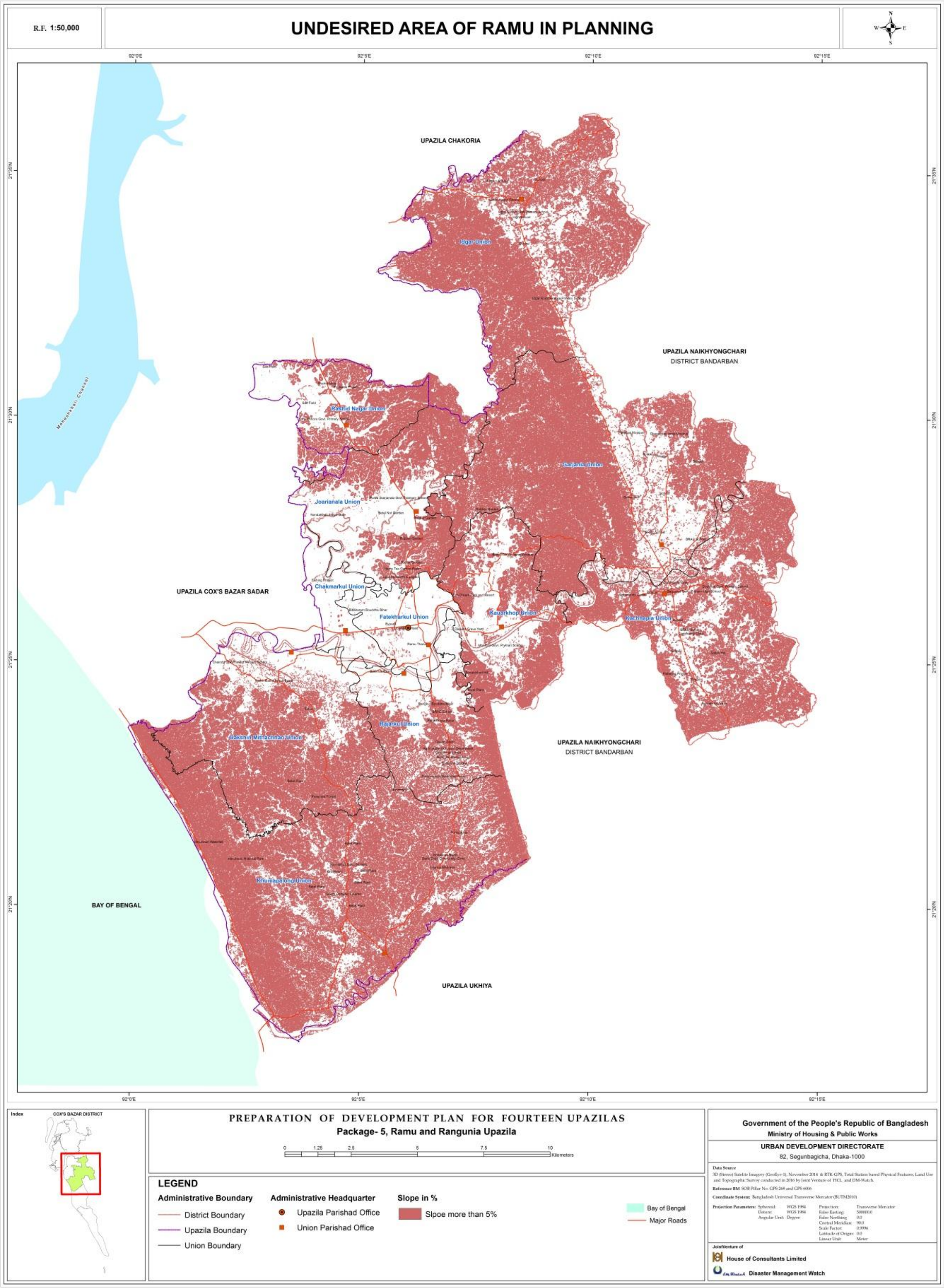
Suitability Analysis

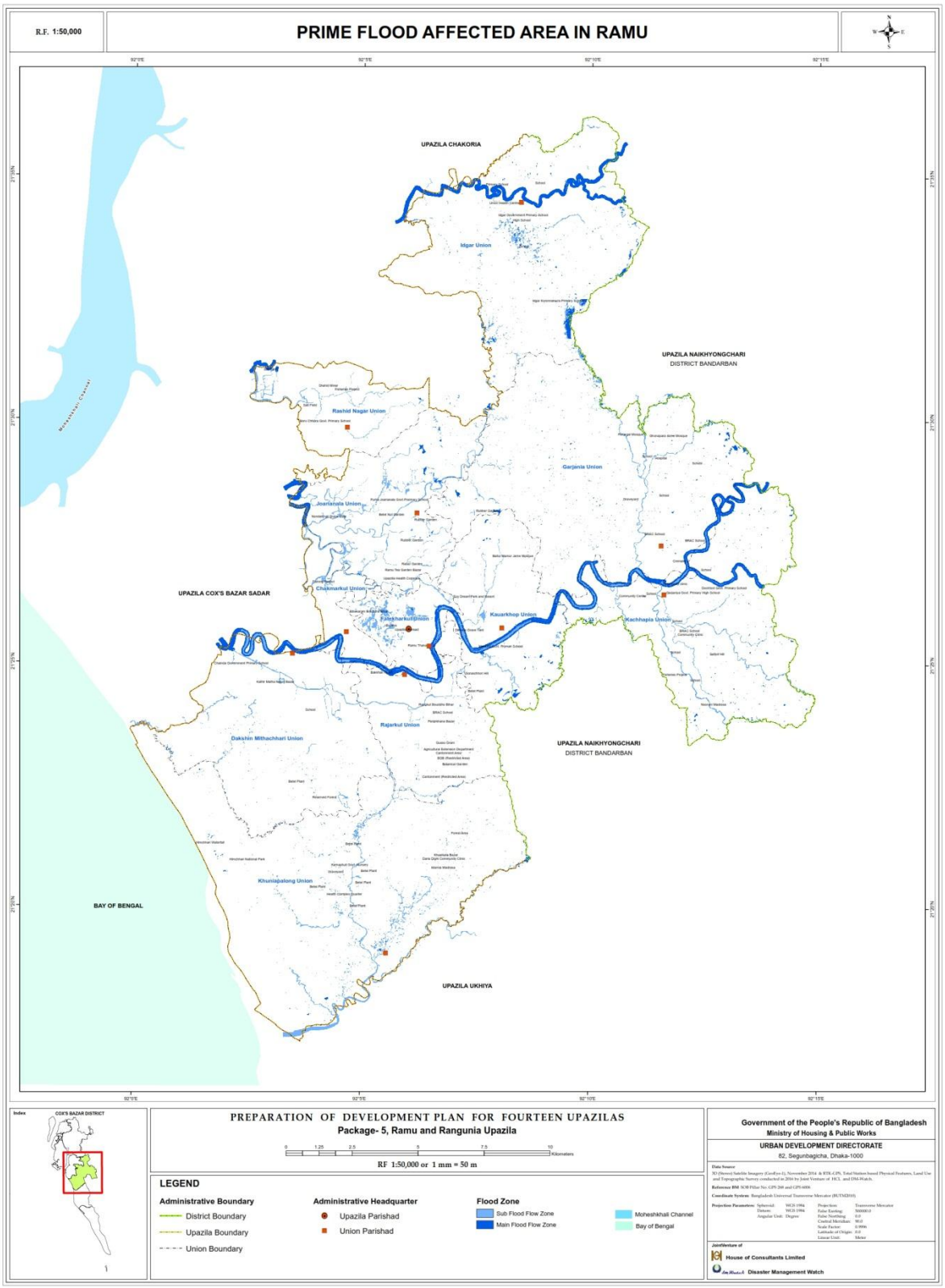
For the plan preparation of Ramu Upazila suitability analysis is an essential step. Through this analysis suitable area for agriculture, urban and infrastructure development will be identified. In this step firstly undesirable area for planning this is the area with slope more than 5%.

Consideration of Affecting Factors for Planning

There are some affecting factors to plan the Ramu 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.

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


R.F. 1:50,000
UNDESIRED AREA OF RAMU IN PLANNING
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
Joarianala Union
Chakmarkul Union
Fatekharkul Union
Kauarkhop Union
Rashid Nagar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
92°0'E
92°5'E
92°10'E
92°15'E
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
Kilometers
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad Office
Union Parishad Office
Slope in %
Slpoe more than 5%
Bay of Bengal
Major Roads
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
JointVenture of
House of Consultants Limited
Disaster Management Watch

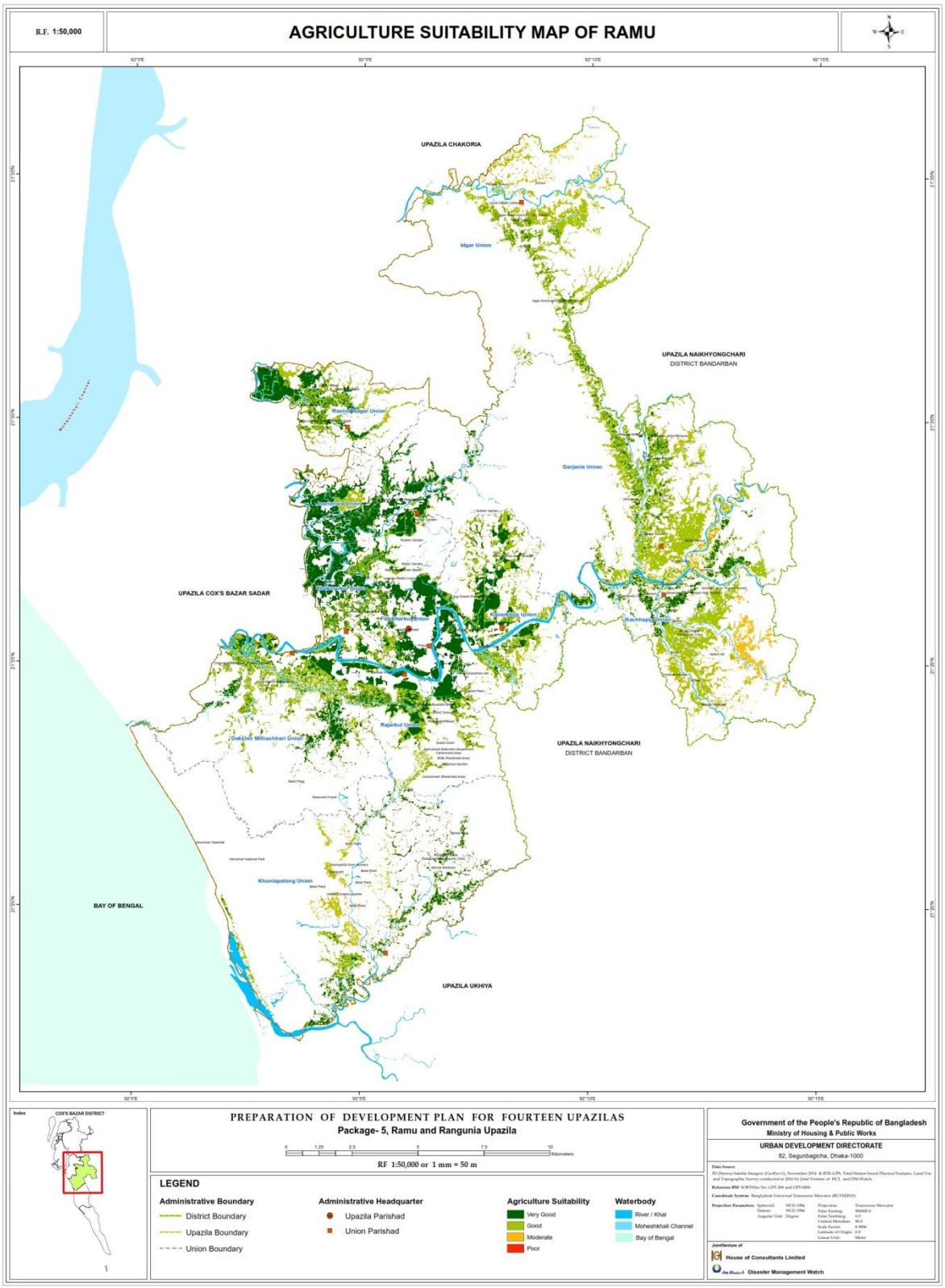

R.F. 1:50,000
PRIME FLOOD AFFECTED AREA IN RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
Chakmarkul Union
Falcharkul Union
Kauarkhop Union
Kachhapia Union
UPAZILA COX'S BAZAR SADAR
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khuniapalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Flood Zone
Sub Flood Flow Zone
Main Flood Flow Zone
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
House of Consultants Limited
Disaster Management Watch

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: **Agricultural Suitability**

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

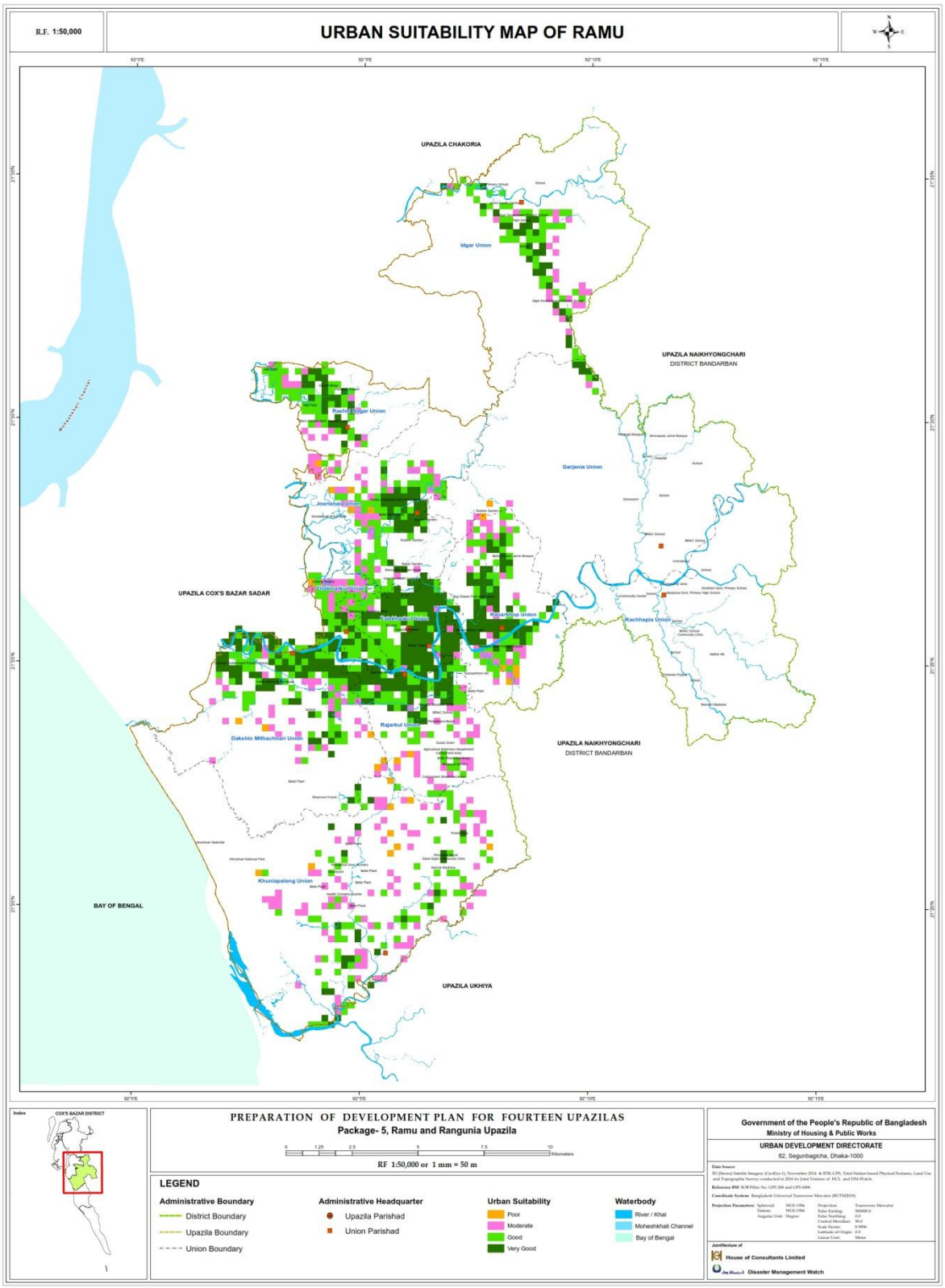


Urban Suitability

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% 0f the project area are urban suitable.

Table: **Urban Suitability**

Urban Suitability				
Category	**Area(sq.m)**	**Area(sq.km)**	**Area(Acre)**	**Percentage**
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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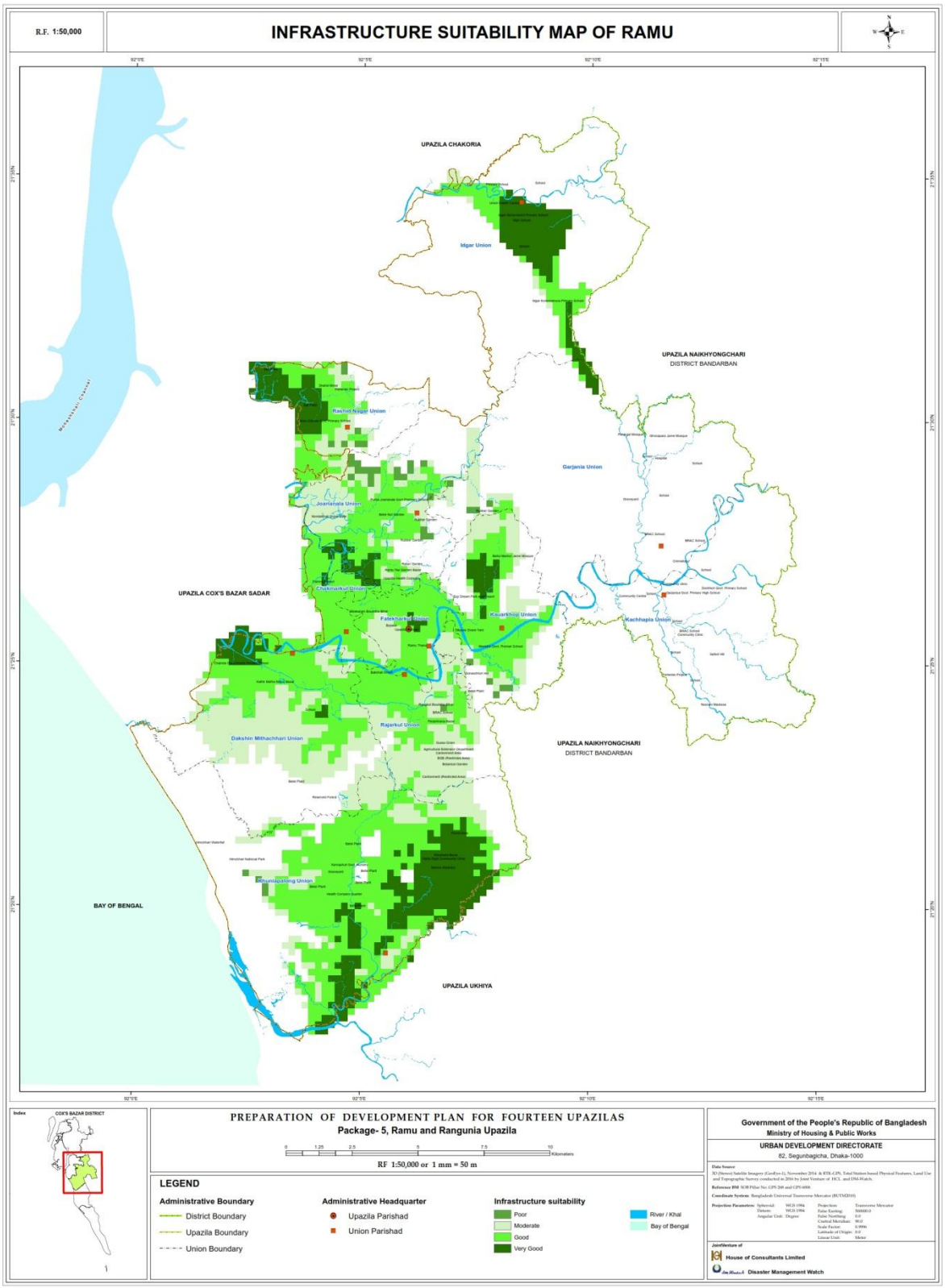
URBAN SUITABILITY MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashidnagar Union
Garjania Union
Joarianala Union
UPAZILA COX'S BAZAR SADAR
Chakmarkul Union
Baishahari Union
Kiyarkhop Union
Kachhapia Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Khunialpalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Urban Suitability
Poor
Moderate
Good
Very Good
Waterbody
River / Khal
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
JointVenture of
House of Consultants Limited
Disaster Management Watch

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: **Infrastructure Suitability**

Infrastructure Suitability			
Category	**Area (sq.m)**	**Area (Acre)**	**Percentage**
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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INFRASTRUCTURE SUITABILITY MAP OF RAMU
UPAZILA CHAKORIA
Idgar Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Rashid Nagar Union
Garjania Union
Joarianala Union
Chekmaikul Union
UPAZILA COX'S BAZAR SADAR
Falekhali Union
Kauarkhola Union
Kachhapia Union
Rajarkul Union
Dakshin Mithachhari Union
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
Baishpalong Union
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Infrastructure suitability
Poor
Moderate
Good
Very Good
River / Khal
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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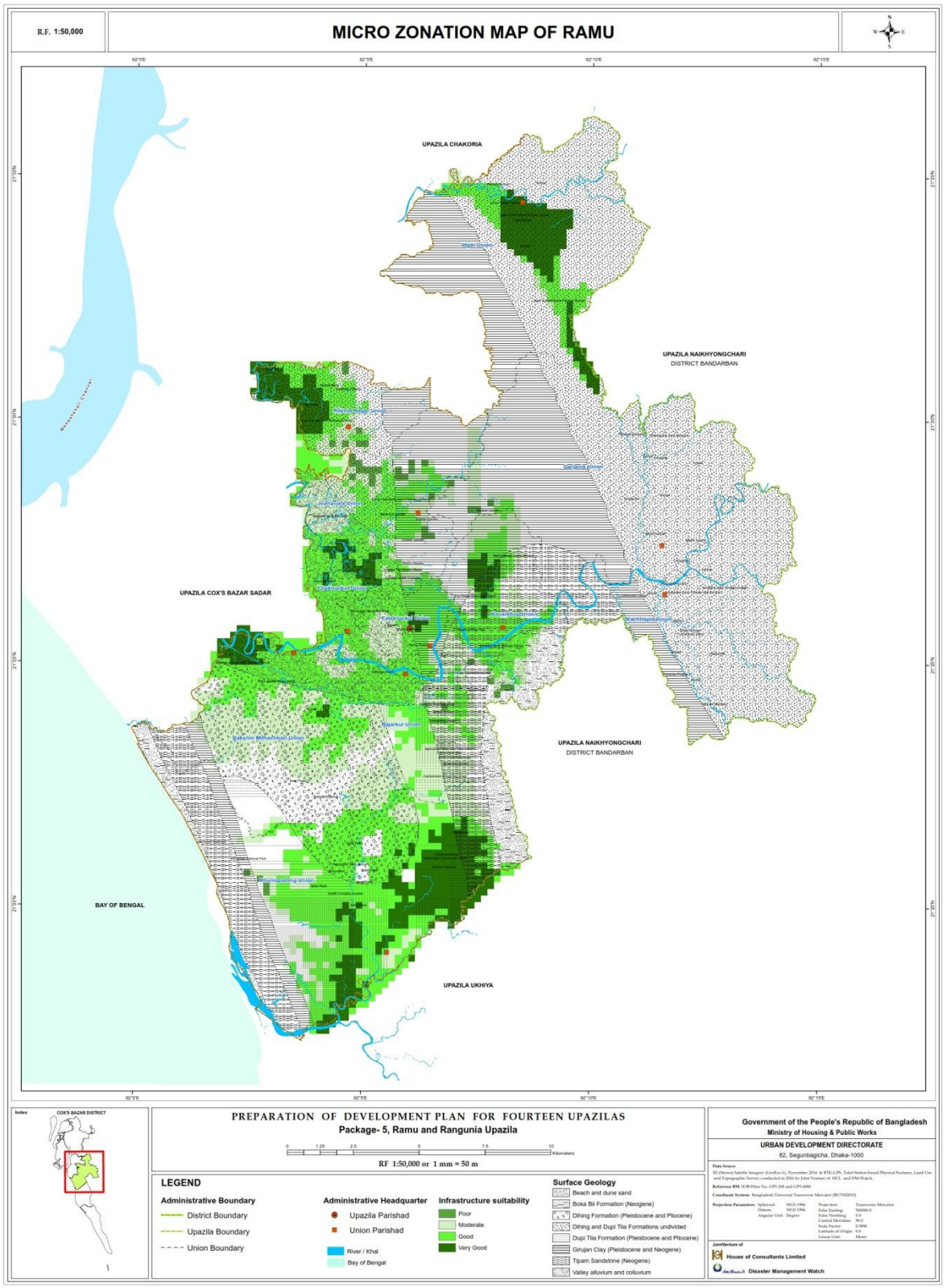
Disaster Management Watch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MICRO ZONATION MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
River / Khal
Bay of Bengal
Infrastructure suitability
Poor
Moderate
Good
Very Good
Surface Geology
Beach and dune sand
Boka Bil Formation (Neogene)
Dihing Formation (Pleistocene and Pliocene)
Dihing and Dupi Tila Formations undivided
Dupi Tila Formation (Pleistocene and Pliocene)
Girujan Clay (Pleistocene and Neogene)
Tipam Sandstone (Neogene)
Valley alluvium and colluvium
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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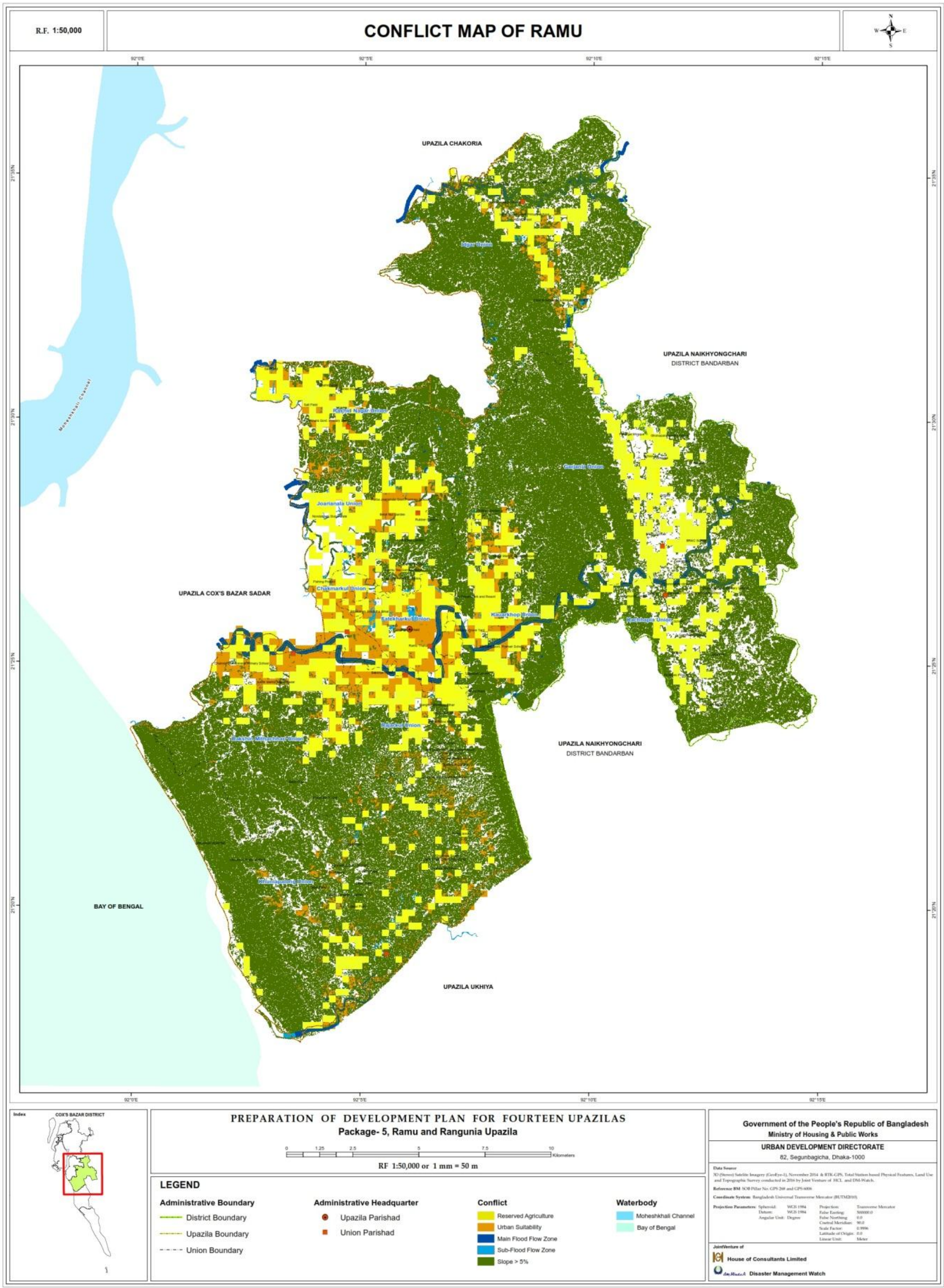
Disaster Management Watch

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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CONFLICT MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Conflict
Reserved Agriculture
Urban Suitability
Main Flood Flow Zone
Sub-Flood Flow Zone
Slope > 5%
Waterbody
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
82, Segunbagicha, Dhaka-1000
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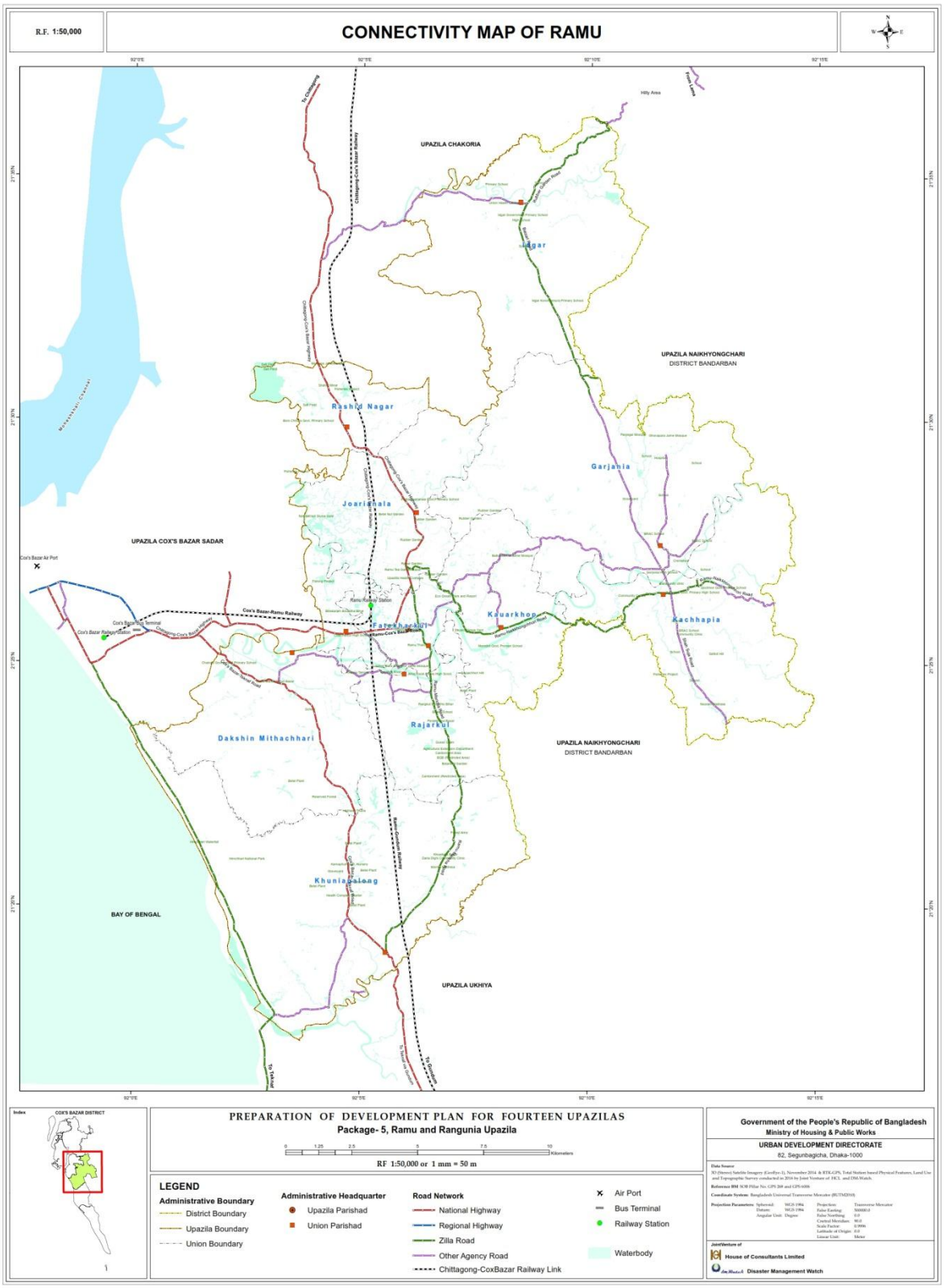
Disaster Management Watch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CONNECTIVITY MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA UKHIYA
BAY OF BENGAL
Rashid Nagar
Joarianala
Garjania
Farekharkul
Kauarkhop
Kachhapia
Rajarkul
Dakshin Mithachhari
Khuniapalong
Cox's Bazar Air Port
Cox's Bazar-Ramu Railway
Chittagong-Cox's Bazar Railway
Hilly Area
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Road Network
National Highway
Regional Highway
Zilla Road
Other Agency Road
Chittagong-CoxBazar Railway Link
Air Port
Bus Terminal
Railway Station
Waterbody
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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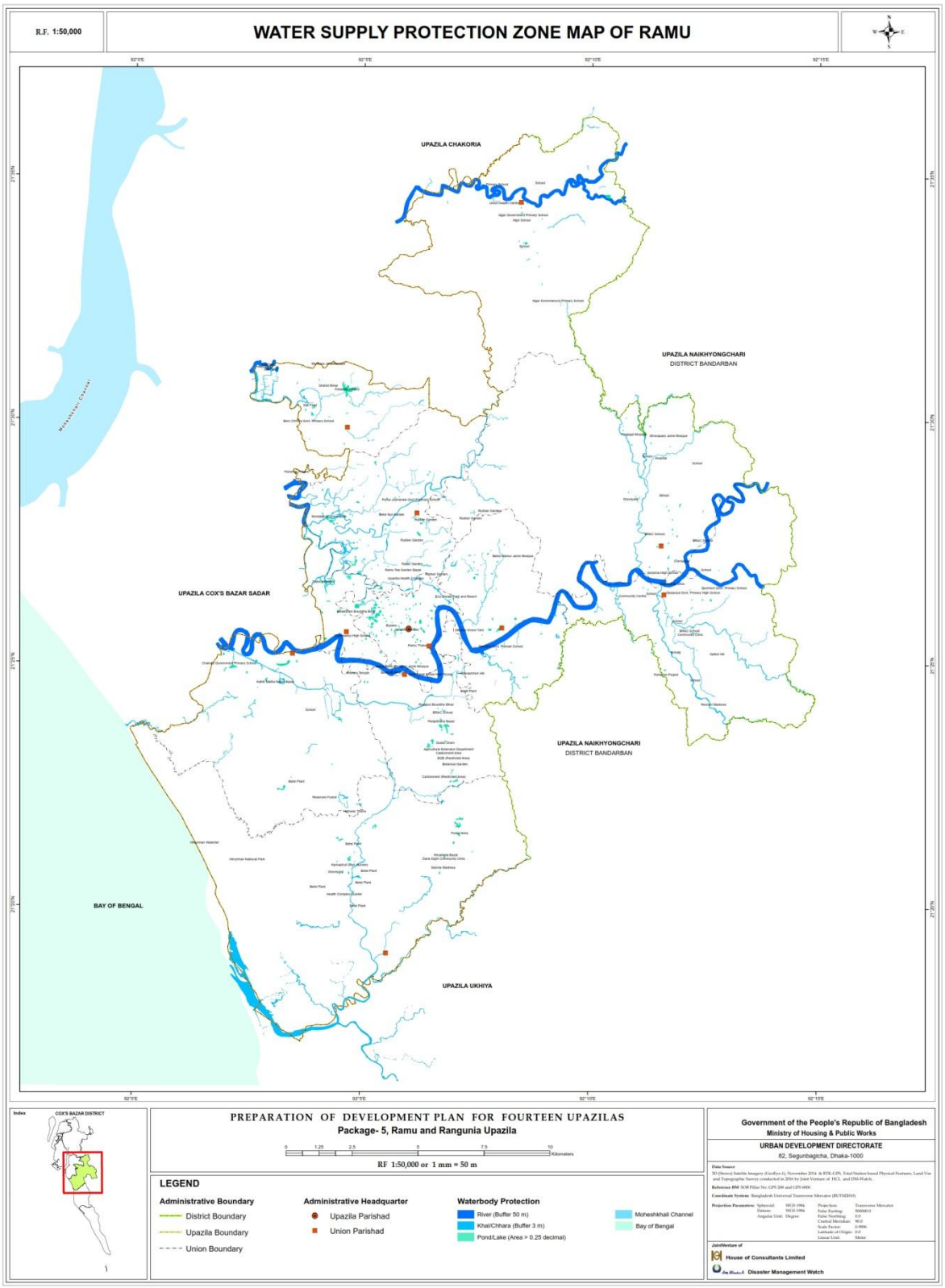
Disaster Management Watch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WATER SUPPLY PROTECTION ZONE MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
Package- 5, Ramu and Rangunia Upazila
RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Waterbody Protection
River (Buffer 50 m)
Khal/Chhara (Buffer 3 m)
Pond/Lake (Area > 0.25 decimal)
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
URBAN DEVELOPMENT DIRECTORATE
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Disaster Management Watch

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

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.

Rural settlement

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.

Restricted Military

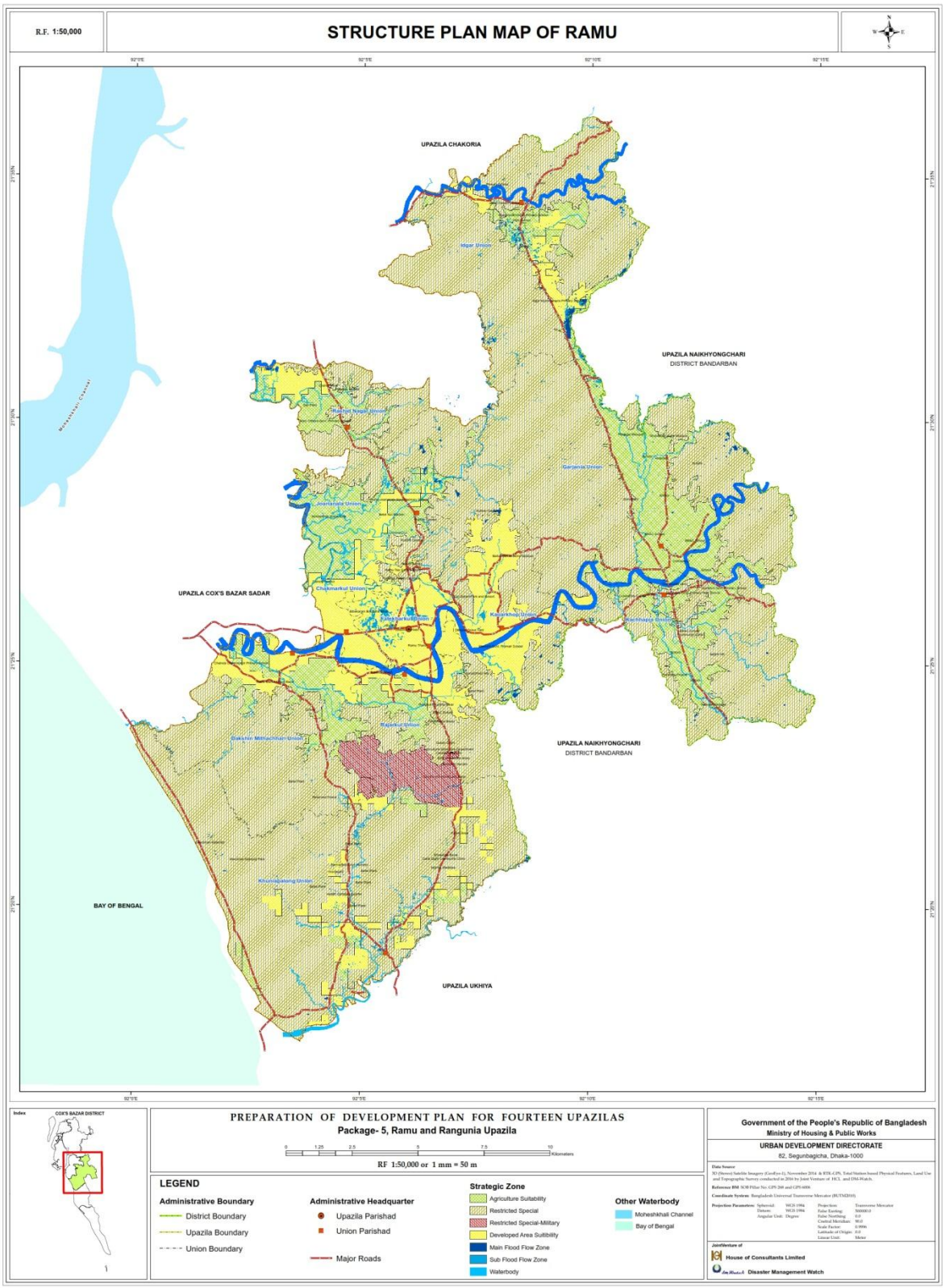
Restricted military comprises the army cantonment and BGB area.

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 than0.25 acre are shown in the structure plan.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STRUCTURE PLAN MAP OF RAMU
UPAZILA CHAKORIA
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
UPAZILA COX'S BAZAR SADAR
UPAZILA NAIKHYONGCHARI
DISTRICT BANDARBAN
BAY OF BENGAL
UPAZILA UKHIYA
Index
COX'S BAZAR DISTRICT
PREPARATION OF DEVELOPMENT PLAN FOR FOURTEEN UPAZILAS
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RF 1:50,000 or 1 mm = 50 m
LEGEND
Administrative Boundary
District Boundary
Upazila Boundary
Union Boundary
Administrative Headquarter
Upazila Parishad
Union Parishad
Major Roads
Strategic Zone
Agriculture Suitability
Restricted Special
Restricted Special-Military
Developed Area Suitibility
Main Flood Flow Zone
Sub Flood Flow Zone
Waterbody
Other Waterbody
Moheshkhali Channel
Bay of Bengal
Government of the People's Republic of Bangladesh
Ministry of Housing & Public Works
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Disaster Management Watch