

**People's Republic of Bangladesh  
Ministry of Local Government,  
Rural Development and Cooperatives,  
Local Government Division,  
Local Government Engineering Department**

**PREPARATORY SURVEY ON  
SOUTHERN CHATTOGRAM REGIONAL  
DEVELOPMENT PROJECT**

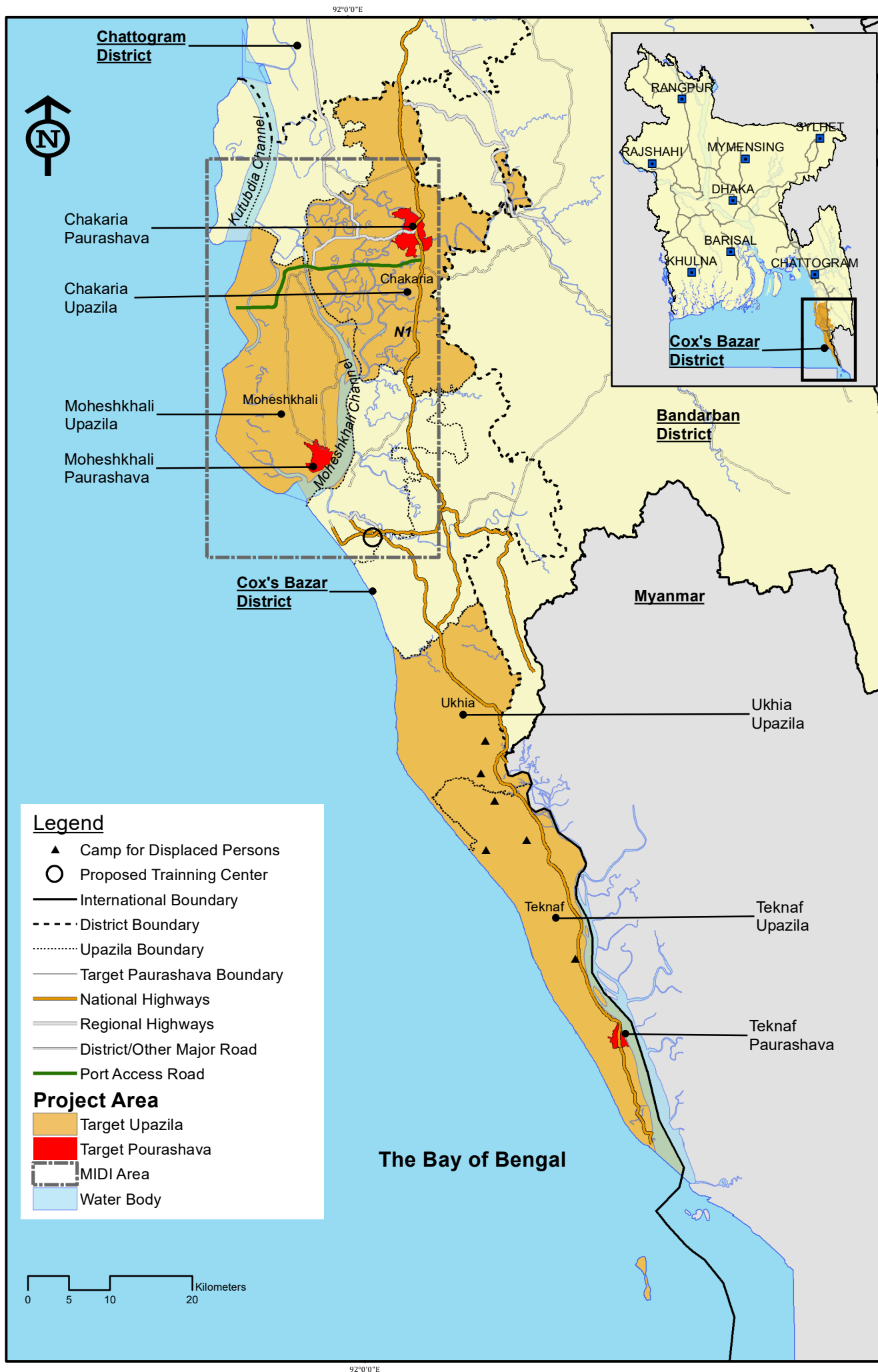
**FINAL REPORT  
(Advanced Version)**

**February 2022**

**Japan International Cooperation Agency (JICA)**

**Nippon Koei Co., Ltd.  
Koei Research & Consulting Inc.**

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<b>JR (P)</b>
<b>22-004</b>



**Project Area Map**

## EXECUTIVE SUMMARY

### 1. Introduction

#### 1.1 Background

People's Republic of Bangladesh has achieved GDP growth rate at around 6%/year on average since 2000 and its poverty rate decreased by a half in 16 years, reaching 24.3% in 2016. However, while the poverty rate of the urban area has been improved to 21.3 % owing to the continuous economic growth, that of the rural area including Cox's Bazar district is still high at 35.2 %. Therefore, the development of the local area has been the important policy challenge in Bangladesh.

In the Southern Chattogram Region, following the Bay of Bengal Industrial Growth Belt (Big-B), several projects in integrated infrastructure development have been planned and implemented, including Matabari Ultra Super Critical Coal-Fired Power Project (2014-2019, approved, JICA) and Matabari Port Development Project (2018-2019 Approved, JICA). The base site of these projects in Cox's Bazar district, is expected to be an area where will lead the growth of Bangladesh. The population of Cox's Bazar district and the surrounding area is estimated to increase by around 40 thousand in 2026 and around 110 thousand in 2041(JICA, 2019). On the other hand in the Cox's Bazar district around 900 thousand refugees from Rakhine State, Myanmar have migrated to Ukhia and Teknaf Upazilas since July 2017, deteriorating local resources such as domestic water, forest, farmland, employment and wages of local residents (UN, 2019). In the future, this significant increase of population and the insufficient basic infrastructure in Cox's Bazar and other neighboring districts will result in the serious problems including the deterioration of road condition by the increase of traffic and the decrease of public services for domestic water supply, medical care, education, solid waste collection and disposal, etc.

#### 1.2 Project Objectives and Survey Contents, and Projects to be formulated

The objectives of Southern Chattogram Regional Development Project (SCRDP) are to improve the living standard and enhance the quality of life in the southern Chattogram region through the development of public infrastructure, thereby contributing to the economic development and redress of disparities. To achieve the project objectives, the Survey will be made by the following subjects:

1. Assess current conditions and issues on the urban planning, infrastructure development, their O&M and the assistance from the international organizations and donors in Chattogram, Cox's Bazar and Bandarban districts in the Southern Chattogram region;
2. Select target local government institutions (LGIs), identify implementable subprojects, prepare long-list of subprojects, and their priority ordering;
3. Study and assess subproject's necessity, outline, preliminary design and cost estimate, implementation schedule, procurement and construction methods, implementation organizations, operation and maintenance system, environment and social consideration, etc. under the three (3) batched implementation; and
4. Assess implementation of the subprojects by Yen loan project, and implement necessary survey for loan appraisal.

The following table shows the original outline of the Project to be formulated in the Survey:

**Table 1.1 Outline of the Project to be formulated**

Items	Contents
Name	Southern Chattogram Region Development Project (the Project)
Purpose	The objective of the Project is to improve the living standard and enhance the quality of life in the southern Chattogram region by development of basic infrastructure, thereby contributing to the economic development and redress of disparities.
Component	<ol style="list-style-type: none"> <li>1) Infrastructure Development (including necessary equipment) <ul style="list-style-type: none"> <li>• Road and Bridges (renovation, up-gradation, construction, widening of existing roads, construction of bridges, etc.)</li> <li>• Drainage and irrigation (drainage ditch maintenance, small-scale irrigation facility development, river improvement, etc.)</li> <li>• Water supply facilities (water supply pipe system and maintenance, expansion, water purification facility maintenance, etc.)</li> <li>• Solid waste management facilities (construction landfill, improvement and expansion of current landfill and collection system, etc.)</li> </ul> </li> </ol>

Items	Contents
	<ul style="list-style-type: none"> <li>Township development infrastructures (land development, access road, drainage treatment, water supply system, etc.)</li> <li>Other public facilities (market, park, community clinic with cyclone shelter, medical facilities, school with cyclone shelter, cyclone shelter, street light, training center, multipurpose building, etc.)</li> </ul>
	2) Consulting service (implementation supervision, technical assistance)
Target District	Chattogram district*, Cox's Bazar district, Bandarban district*
Target LGIs	LGIs to be selected from the 3 districts above (Upazila, Paurashava)
Related Governments Institution	Competent Authority: LGD, Executing Agencies: LGED, Related Agencies: Upazila, Paurashava, Cox's Bazar Development Authority

Note: \* excluded from the project as a result of the survey.

Source: JICA Survey Team

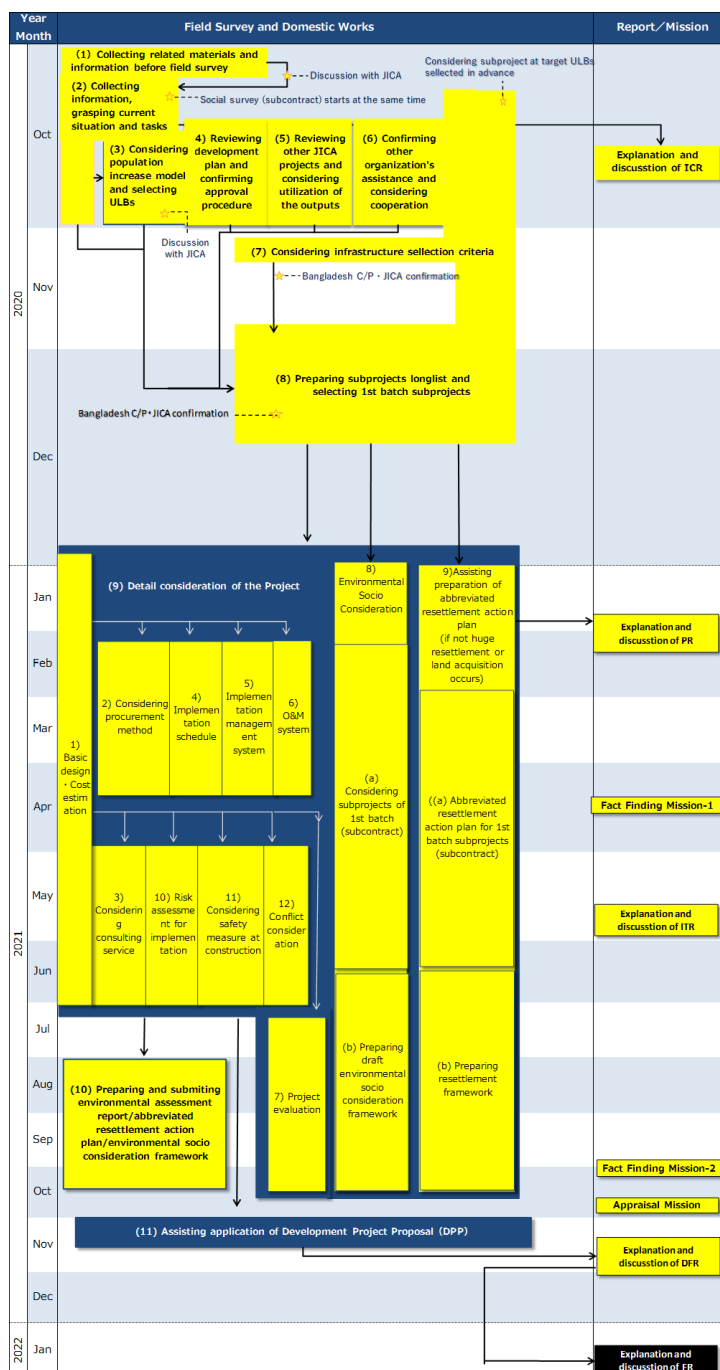
### 1.3 Survey Activities

After the contract of SCRDP Survey on 9th October 2020, the Survey was initiated. The Inception Report was submitted on 19th October 2020. The meeting with JICA was made on 14th October and 7th December 2020, and Inception meeting with LGED was made on 28th October 2020.

Due to COVID-19, the survey works had been implemented in Japan in the beginning of the project. From October 2020, local consultants were deployed and assigned for data collection, meetings with the respective LGIs, site investigation, etc. More specifically, the meetings with LGIs were made for requesting coordination, data collection, selection of target subprojects, etc. The Progress Report was in preparation accordingly and submitted to JICA in January 2021.

Through the site investigation and available data collected, shortage of available information for the preparation of drainage canal improvement projects was obvious due to the inflow of saline water to the canals and the reverse flow of drainage water from the rivers. The procurement of topographic map by 0.5m contour interval at selected area, route survey of drainage canals, and flood assessment were made in December 2020 after the approval of JICA

From February 2021, the foreign experts visited Bangladesh and continued survey works in Dhaka up to May 2021. During this period, the meetings between JICA survey team and each LGIs were conducted. Assessment for project formulation were also determined, including basic design, cost



Source: JICA Survey Team

**Fig1.1 Flow Chart of the Survey Works**



estimation, procurement methods, schedule for implementation, risk assessment, etc. Safety measures and conflicts were also considered. Interim Report was then prepared and submitted to JICA on 24th (English version) and 29th (Japanese version) May 2021. The meeting with LGED and JICA regarding to Interim Report was made on 14th June 2021.

From June 2021, Japanese experts visited Bangladesh again and continued remained survey works in Dhaka up to November 2021. During this period, field survey at Cox's Bazar district was conducted by local consultant under instruction of Japanese experts to confirm each sub-project's information. Supervision of subcontract survey (Initial Environmental Examinations, IEE and Abbreviated Resettlement Action Plan, ARAP) was also conducted in Dhaka.

Draft final report was prepared and submitted to JICA on 15<sup>th</sup> November 2021. Final report will be submitted on 28<sup>th</sup> February 2022.

## 2. Development and Planning of Southern Chattogram Region

### 2.1 Urbanization in Southern Chattogram Area

In Bangladesh, 35,094,684 persons live in urban area<sup>1</sup> in 2011, taking up 23.4% of the total population. If including the population of the urban agglomeration adjacent to City Corporation, the urban population ratio rises to 28%. In 2019, this ratio has reached 37.4%, according to the World Bank's Data<sup>2</sup>.

Due to the excursion of the metropolitan area and its surroundings which were already urbanized<sup>3</sup>, population variation in Chattogram District during 2001 to 2011 is -24.3%, below the national variation (-17.22%). Meanwhile, Cox's Bazar District has 15.9%, the most significant increase in Chattogram Division.

### 2.2 General Information

#### (1) Natural Conditions

Natural conditions of the three target districts are summarized as follow:

**Table 2.1 Natural Condition by District**

Item	Bandarban	Chattogram	Cox's Bazar
Climate	Sub-Tropical Monsoon		
Hydrology (River System)	Shankha (Sangu), Matamuhuria, Bakkhali	Karnafuli, Halda, Shankha (Sangu)	Matamuhuri, Bakkhali, Reju Khal, Naf, Moheshkhali channel, Kutubdia Channel
Topography (Elevation, MSL)			
Average	194.24 m	28.34 m	17.71 m
Maximum	983.9 m (Thanchi Upazila)	351.0 m (Sitakunda Upazila)	245.5 m (Teknaf Upazila)
Minimum	1.0 m (Naikhongchhari Upazila)	-2.5 m (Banshkhali Upazila)	-5.6 m (Ukhia Upazila)
Geology/Soil	Flood Plain Soils, Hill Soils		
Broad Land Use Classification (%)			
Land Area	39.0	68.5	69.5
Reserve Forest	60.9	21.0	24.0
Riverine Area	0.1	10.5	6.5
Flood Occurrence	No risks	Flood Plain of Karnafuli, Halda, Shankha (Sangu)	Flood Plain of Matamuhuri, Bakkhali, Reju Khal, Naf, Moheshkhali Channal

Source: JICA Survey Team

#### (2) Socioeconomic Conditions

Information regarding LGI, population, social structure, literacy rate, healthcare facilities, etc. in the three target districts was recorded.

<sup>1</sup> In the Population and Housing Census 2011, urban area consists of the areas covered City Corporations, Paurashavas, Upazila Headquarters and Cantonment Area.

<sup>2</sup> World Bank, 2019

<sup>3</sup> Negative variation is due to the definition change of urban area, which excludes the Statistical Metropolitan Area (SMA), Growth Center and some Other Urban Areas.

**Table 2.2 Socioeconomic Condition by District**

Item	Bandarban	Chattogram	Cox's Bazar
No. of LGIs			
CC	0	1	0
Upazila	7	15	8
Paurashava	2	4	15
Population			
BBS2011	388,335	7,616,352	2,289,990
2021(Estimated)	466,068	9,111,194	2,774,942
Pop. Density (people/km <sup>2</sup> )			
BBS2011	84	1,440	971
2021(Estimated)	101	1,723	1,176
Income Level (Monthly Income)	BDT 14,000 or more	BDT 26,000 - BDT 39,000	BDT 12,000 - BDT 28,000
Poverty Level (% of the poor household)	37.3 - 70.8	23.4 - 30.5	23.4 - 30.5
Social Structure (Predominant Economy)	Agriculture (71.3% of the Holdings)	Non-agriculture (71.7% of the Holdings)	Agriculture (44.2% of the Holdings)
Education (%) <sup>4</sup>			
Total	35.9	58.9	39.3
Male	40.3	61.1	40.3
Female	30.9	56.7	38.2
Health Complex (per 10,000 pop.)	1.7	1.59	1.67

Source: Statistical Yearbook Bangladesh 2019, District Statistics 2011, Bangladesh Bureau of Statistics (BBS), Bangladesh Poverty Assessment, 2019 (World Bank) Bandarban Paurashava M/P (2017 -2037), June 2019, (LGED), Chattogram Strategic Urban Transport M/P, November 2018 (WB), Cox's Bazar Urban Vulnerability Assessment, July 2020 (WFP)

### (3) Industries

Data showing industry situation in the three target districts is included in District Statistics 2011 and the Economic Census 2013. For agriculture, although there is the Agriculture Yearbook as a census, most of the part are contributed to the data by crop items, and therefore it is quite difficult to grasp the whole agriculture industry structure.

As mentioned above, major industry in Bandarban and Cox's Bazar is Agriculture; however, local investments in these two districts are not similar. 98 BDT million have been invested in 2014-2018 in Bandarban, and 56,889 BDT million in Cox's Bazar, respectively. Meanwhile, in Chattogram, workers are mostly in Wholesale & Retail Trade, Manufacturing, Hotel & Restaurant, with 268,239 BDT million of local investment. Foreign Direct Investment was also remarkably high in Chattogram district, at 8,630 USD millions from 2014 to 2018. In comparison, the invest amounts were only 744 and 1.2 USD million in Cox's Bazar and Bandarban. Chattogram was the only district to receive Japanese Investors' attention (25 investors, recorded by 2018).

### (4) Investment Environment/Plans

Chattogram District has seven economic zones (EZ) 5, one special economic zone (SEZ) 6 and four export processing zones (EPZ) 7, while Cox's Bazar District has seven EZs and three SEZs. Notably, four EZs and three SEZs out of them are being planned and developed in Moheshkhali of Cox's Bazar District, in connection with the Moheshkhali - Matarbari Integrated Infrastructure Development Initiative (MIDI).

## 2.3 Policies and Development Plans

### (1) Acts and Policies for Paurashava and Upazila Development

Acts as basic law for formulation of urban planning and infrastructure development for LGIs are mainly Local Government Act, 2009 and Urban and Regional Planning Act, 2017. Local Government Act (Paurashava), 2009, stipulates the Paurashava's responsibilities and empowers Paurashava to formulate urban planning M/P and develop the infrastructure, while Urban and Regional Planning Act, 2017 provides the discipline in land management to prevent unplanned urbanization, by requiring necessary clearance for the use of all public and private land.

<sup>4</sup> Literacy Rates of aged 7 years and above

<sup>5</sup> Economic Zone (EZ): Developed based on The Bangladesh Economic Zones Act, 2010

<sup>6</sup> Special Economic Zone (SEZ): Developed based on The Bangladesh Economic Zones Act, 2010

<sup>7</sup> Export Processing Zone (EPZ): Developed based on The Bangladesh Export Processing Zones Authority Act, 1980

## **(2) Available Development Plans**

### **1) National Plans**

1. Perspective Plan of Bangladesh 2021 – 2041: Road map for Upper Middle-Income Country (UMIC) status by 2031, and High-Income Country (HIC) status by 2041 with poverty approaching extinction. In its cross-cutting development strategies, Matarbari Coal Transshipment Terminal (CTT) project, the township development near the Moheshkhali-Matarbari Economic Zones, and Cox's Bazar and the coastline as ICT innovation-centric marine, aquaculture and wind energy technology innovation hubs are described.
2. National Urban Sector Policy 2011 (Draft, not yet approved as of Sep.2021): Framework for the social, economic, cultural and political-institutional sustainability. The policy envisages strengthening the beneficial aspects of decentralization and achieving the sustainable urban development.
3. 8th Five-Year Plan (FY 2021- FY 2025): First phase of Perspective Plan 2021-2041. The strategy for urban development and local government is emphasized out of 14 sectoral strategies, highlighting that rural development is important in the transformation to UMIC.
4. Bangladesh Delta Plan 2100 (BDP2100): Long term integrated and holistic plan taking a long-term view on water resource management, climate change and environmental challenges, with a view to supporting long-term development of Bangladesh.
5. My Village, My Town: A multidimensional plan to improve the quality of life in rural area. It seeks to extend urban facilities/infrastructure in every village, including roads, water supply, education, solid waste management (SWM), etc.

### **2) Regional Plans**

Urban planning system of Bangladesh has three-tiered structure which consists of Structure Plan (SP)<sup>8</sup>, Urban Area Plan (UAP)<sup>9</sup>, and Detailed Area Plan (DAP)<sup>10</sup>/Area Action Plan (AAP)<sup>11</sup>.

Currently, only 13 Paurashavas and 6 Upazilas have the M/Ps. Regarding the district level M/P, only Cox's Bazar District has the valid one. The ratio of LGIs with and without MP in 3 districts is not even. All LGIs in Paurashavas in Cox's Bazar District have the M/Ps, while this is a half in Bandarban and Chattogram District. None of LGIs in Upazila of Bandarban District has formed MP, compared to the MP formation of a fifth and a quarter of LGIs in Chattogram and Cox's Bazar Districts, respectively.

More details regarding the formulation status of the M/P in 21 Paurashavas and 30 Upazilas located in the three target districts can be found in Table 2.3.1 (in the Main text).

## **(3) Development Projects under MIDI**

### **1) Development Projects of Bangladesh Government**

In 2018, the Government of Bangladesh has started new development initiative called MIDI, which aims to construct "Logistic Hub", "Power & Energy Hub" and "Waterfront Industry Hub" in Moheshkhali Upazila. While the Matarbari Port and Matarbari Coal Power Plant are being developed, economic zones, power plants, LNG terminals, etc. are planned in its surrounding area which is expected to become an overall industry accumulation area,

Focuses are on the development of power plants and transmission lines (12 projects), roads and highways (7 projects), and major ports (6 projects).

<sup>8</sup> Structure Plan (SP): 20-year plan which shows future urban structure (Strategic planning zone, etc.).

<sup>9</sup> Urban Area Plan (UAP): 10-year plan with the proposals of land use plan, transportation and traffic management plan, and drainage and environmental plan.

<sup>10</sup> Detailed Area Plan (DAP): 20-year plan which shows the detailed land use under the Structure Plan.

<sup>11</sup> Action Area Plan (AAP): 5-year plan with detailed land use by ward with sectoral plan and infrastructure facilities.

## 2) Township Development

In the updating M/Ps (draft) of Paurashava of Chakaria and Moheshkhali, new township developments are proposed to accommodate the population increase and provide the necessary urban service facilities for the increasing labor population.

Due to the close relation to the infrastructure development in the region and the selection of sub projects in this survey, contents of the proposed township development will be examined later in Section 3.9 and Section 6.5 of the Summary.

## 3. Selection and Assessment of Target Areas

### 3.1 Assessment and Selection Procedure

In the selection of candidate LGIs for subprojects, it is necessary to understand the urbanization burden caused by population growth in the Southern Chattogram region, and the need for infrastructure development to solve them. Therefore, first, after narrowing down the LGIs whose population are expected to increase in the future, identify the LGIs with a high need for infrastructure development.

In the forecast of population growth, which is the primary narrowing down, it is necessary to reflect not only natural growth but also social growth. Therefore, JICA Survey Team considered the main factors that cause social growth in the Southern Chattogram Region, namely, MIDI development and the influx of displaced persons from Rakhine State, Myanmar.

In addition, the above two factors have a great influence on the examination of the necessity of infrastructure development for secondary narrowing down. Regarding the former, it is expected that the influx of workers and the location of related industries will occur in the hinterland along with the development. Regarding the latter, the burden on the government and existing infrastructure is increasing due to the influx of displaced persons. Therefore, in the second narrowing down, the selection criteria were set from the viewpoints of township development in the hinterland of MIDI and support of the host community for displaced persons.

### 3.2 Criteria I: Population Increase

#### (1) Natural Growth

Based on the population growth rate up to 2011, JICA Survey Team estimated the population of the three target districts up to 2041 by Upazila and Paurashava.

Chakaria and Teknaf Paurashavas in Cox's Bazar District would have the significantly higher population density in 2041, more than 10 times of the national average, because of their high growth rate. This would require a higher need for infrastructure development in both Paurashavas.

At the Upazila level, population growths in Cox's Bazar Sadar, Chattogram Metro, and Bandarban Sadar, which are the centers of the three districts, are remarkable, with an annual population growth rate of more than 1.2% in 2031/2041. The population density of Upazilas in Chattogram District in 2041 is highest among 3 districts, indicating that these Upazila belong to the Chattogram economic zone.

Bandarban District has a very low population density as a whole, due to the dominance of agricultural land and the limited number of urban areas. Therefore, the need for infrastructure development in Bandarban District to cope with population growth may be limited.

#### (2) Social Growth

In order to understand the social growth in population, it is necessary to identify the factors inducing migration and analyse their effects. Among the three target districts, Cox's Bazar District has two factors which already cause the in-migration, i.e., MIDI and influx of displaced persons from Rakhine state, Myanmar.

1) Population Increase derived from MIDI

Based on the land use plan report of MIDI<sup>12</sup>, LGIs around MIDI area<sup>13</sup> are estimated to have total population of 123,800 by 2041. Among them, newly and notably, Paurashavas of Chakaria and Moheshkhali need to absorb 75,000 by 2041. JICA Survey Team analyzed the situation in terms of new employment opportunities in the three target districts, by scrutinizing the relevant date from 2014 to 2018<sup>14</sup>.

Bandarban District has only 176 job opportunities, while the figures in Chattogram District and Cox's Bazar District are much higher, 16,646 and 7,780, respectively. 75% of total employment in Chattogram District is of the Boshundra Group's oil refinery plant in Sitakunda Upazila – located in the Chattogram economic zone. Meanwhile, 85% of total employment in Cox's Bazar District is of the LNG Storage and regasification capacity facility in Moheshkhali Upazila – a MIDI area in the district.

Since the need for qualified human resources - who can meet the energy-related field's requirements in terms of academic performance and experience are high, the employment of local people alone will not be enough.

2) Population Increase derived from the Supporters of displaced persons from Rakhine state, Myanmar

According to "District Development Plan for the Cox's Bazar" formulated in 2020 by LGED- UNDP, it is reported that many domestic and international organizations have entered the region to support the displaced persons, which consequently results in an influx of people expecting employment in these organizations.

### 3.3 Criteria II: MIDI Commuting Area

From the interview with LGI officials, Upazila/Paurashava of Chakaria and Moheshkhali are the only areas able to access MIDI area in 1.5 hours under the current transport network. Although, the commuting zone will be extended to reach Satkania and Lama in the future after improving the N1 bypass and developing the Matarbari Access Road, it takes time.

The migrants who seem to work for MIDI have begun to settle in two wards in the Chakaria Paurashava and the surrounding Upazila area (notably, Chakaria is one of the closest Paurashavas to the MIDI area). The origin of the inflow was the three target districts, especially the neighboring Upazilas or the Upazilas along the trunk road N1 which allows the access there easily. In order to examine where these migrants came from, JICA Survey Team analyzed the economic conditions, poverty rate and access to MIDI area.

#### (1) Economic Conditions

According to the Economic Census 2013, Bandarban and Cox's Bazar Districts have the largest number of cottage industry workers (50% in Bandarban and 62% in Cox's Bazar), while Chattogram District has the highest proportion of large-scale industry workers (40%).

Since the cottage industry is operated only in a small scale (by oneself or within the family), the mobility of these migrant groups is expectedly high in response to economic fluctuations and new business opportunities.

#### (2) Poverty Rate

According to the Poverty Maps of Bangladesh 2010 (BBS, World Bank, WFP), the poverty rate of Upazilas in Bandarban District is generally high among the three target districts as of 2010. On the other hand, many Upazilas in Chattogram District have low poverty rate, as a benefit from being in the economic bloc of Chattogram Metro.

<sup>12</sup> Land Use and Development Planning Survey of Moheshkhali and Matarbari Area in the People's of Republic of Bangladesh, 2019, JICA

<sup>13</sup> Moheshkhali Upazila, Cox's Bazar District

<sup>14</sup> Investment Application List of Bangladesh Investment Development Authority

Judging from its poverty rate in 2010, Cox's Bazar District is not as rich as Chattogram. It is unlikely that inhabitants will move to areas with higher poverty rates when moving in search of a better life. Therefore, it is natural to think that the new migrants identified in the Chakaria Paurashava have moved from the Paurashavas in Bandarban District and the Cox's Bazar District adjacent Upazilas in Chattogram District, which have the higher poverty rate than Chakaria Paurashava or the same.

It should be noted that the poverty rate as of 2016 in Cox's Bazar District has improved to the same level as in Chattogram District<sup>15</sup>, indicating that the economic development of Cox's Bazar District is progressing, which attracts job seekers from the above-mentioned areas.

### 3.4 Criteria III: Strategic Base (EZ)

The EZ/EPZ in Chattogram District are located mainly in the LGIs adjacent to Chattogram Metro and function in the economic zones linked to Chattogram port. On the other hand, EZ/EPZ in Cox's Bazar District are mainly located in MIDI area and surrounding area in Moheshkhali Upazila

These EZ/EPZ have high potential to become strategic base for industry and logistics connecting MIDI.

### 3.5 Criteria IV: Developable Land as Hinterland of MIDI

As mentioned in 2.3, Paurashavas of Chakaria and Moheshkhali have the new township development plans in their M/P (draft) revision. Since both Paurashavas are the commuting area to the MIDI area, they have a high geographical advantage compared to other areas. There is also a candidate site for the development in Moheshkhali Upazila, which locates along with a LGED road connecting Moheshkhali and Chakaria.

### 3.6 Criteria V: Influx of displaced persons from Rakhine state, Myanmar

In Cox's Bazar District, the 34 camps managed by UNHCR are located in 5 Unions in Ukhia and Teknaf Upazilas and the 192,908 households of displaced persons and the population of about 918,841<sup>16</sup> are registered as of December 2021.

### 3.7 Criteria VI: Emerging Urban Issues Due to Camps for Displaced Persons

District Development Plan for the Cox's Bazar reported that the influx of these supporters induced problems such as rent increase of offices and housing, conversion of farmland, damage of road pavement caused by relief supplies transport vehicles, etc. These problems need to be addressed urgently, along with other problems directly caused by the influx of displaced persons such as deforestation for fuel, wage reduction (due to influx of displaced persons into the unskilled labor market), burden of waste treatment in refugee camps, etc.

### 3.8 Selection of Target Areas

Following the selection criteria described in 3.1, LGIs satisfying the criteria were given scores (top three areas per Paurashava and Upazila were only given scores in terms of population density).

**Table 3.1 Result of the Assessment**

LGIs		Primary Narrowing Down			Secondary Narrowing Down					Total
		I. Population Increase			II. MIDI Commuting Area	III. Potential of Strategic Base	IV. Potential of Hinterland	V. Influx of Displaced Persons	VI. Host Community	
		MIDI Related	Influx of Displaced Persons' Supporter	Density						
Bandarban	Lama									0
Chatto-gram	Baroiyarhat			○						1
	Boalkhali									0
	Patia									0
	Satkania									0
	Hathazari			○						1
	Mirsharai					○				1
	Karnafuli			○						1
	Boalkhali									0
	Patia					○				1
	Satkania									0
Cox's Bazar	Anwara					○				1
	Moheshkhali	○			○		○			3
	Chakaria	○		○	○		○			4

<sup>15</sup> According to Bangladesh Poverty Assessment, 2019, World Bank, poverty rate range of Chattogram and Cox's Bazar District is 23.4%-30.5%.

<sup>16</sup> Rohingya Refugee Response/ Population Factsheet, Bangladesh Joint Government of Bangladesh-UNHCR 2021, as of December 2021

LGIs		Primary Narrowing Down			Secondary Narrowing Down					Total
		I. Population Increase			II. MIDI Commuting Area	III. Potential of Strategic Base	IV. Potential of Hinterland	V. Influx of Displaced Persons	VI. Host Community	
		MIDI Related	Influx of Displaced Persons' Supporter	Density						
	Teknaf		○	○						2
	Cox's Bazar Sadar			○						1
	Moheshkhali	○			○	○	○			4
	Chakaria	○			○		○			3
	Ukhia		○					○	○	3
	Teknaf		○			○		○	○	4
Other										0

Source: JICA Survey Team

No LGIs in Bandarban District satisfied any criteria. In Chattogram district, the Paurashavas and Upazilas which were given scores met a single criterion only. Meanwhile, the case in Cox's Bazar is different. Each Paurashava and Upazila is often scored from 3 to 4 criteria, suggesting the urgent need at the moment.

Also, LGIs proposed by LGED (Lama, Boalkhali, Patia, Satkania, Chakaria, Moheshkhali, Teknaf, Ukhia) were assessed.

Based on the assessment result, subprojects in this survey will be formed in the following three Paurashavas and four Upazilas:

- Paurashava: Chakaria, Moheshkhali, Teknaf
- Upazila: Chakaria, Moheshkhali, Teknaf, Ukhia

### 3.9 Development Plans and Direction of Target Area

The development directions of the selected LGIs in existing development plans are shown below:

#### (1) Chakaria and Moheshkhali Paurashavas

In Chakaria and Moheshkhali Paurashavas, UDCGP of JICA has updated the M/Ps (draft) in 2020, which were formulated in 2011, to reflect the impact of MIDI.

Land use zoning policy and development strategies are introduced in its Structure Plan with zoning categories. The policy is to start with efficient utilization (densification) of the core area and gradually proceed to the outer area. The development proposals focus on 5 sectors, including: Transport, Drainage, Solid Waste Management, Water Supply, and Urban Facilities, with different items to solve the according problems in each Paurashava.

In general, both Paurashavas planned to enhance the construction of road systems and terminals for bus and truck to establish a smoother connection among important areas inside/outside of the city including MIDI area. The proposals also aim to better the drainage system, waste disposal system, and a more effective water supply to the residents from the viewpoint of the improvement of the residents' quality of life. The need to develop facilities for education, health, and other community uses are also recognized.

#### (2) Teknaf Paurashava

In Teknaf Paurashava, UTIDP<sup>17</sup> of LGED has formulated the M/P in 2011 (approved in 2015). It has the same zoning in Structure Plan as well as Chakaria and Moheshkhali, i.e., core area, fringe area and peripheral area as developable zones. The proposed projects in the M/P focus on the same 5 sectors with slightly different emphasis, such as tourism.

#### (3) Upazilas

Unlike Paurashava, only a limited number of Upazilas have M/Ps or five- year plans, due to the scarce financial/human resources and the limited budget.

##### 1) Chakaria

Chakaria Upazila has no M/P or five-year plan. However, in the updating M/P (draft) of Chakaria Paurashava, a part of the township development area has been proposed. Moreover, there is a proposal

<sup>17</sup> Upazila Towns Infrastructure Development Project ,2008-2010, GOB

of the township development along the Matabari Access Road, which LGED conducted the Sector Development Plan Project to survey in detail with creation of a layout plan in 2021.

2) Moheshkhali

Moheshkhali Upazila has no M/P or five-year plan. However, it is calculated that the urbanization of Moheshkhali Paurashava will expand to the north due to the increasing population in the future. To prevent the adverse development, it is urgent to develop a new township. After conducting a field survey and listening to opinions from the Upazila officials, the mayor, and councillors of relevant LGIs, it was found that there was a suitable development site along the LGED road (Z-1004) leading to Chakaria, located in the north of Moheshkhali Paurashava.

Therefore, JICA Survey Team has made a proposal to Moheshkhali Upazila officials to select the site for township development.

3) Teknaf

Teknaf has a five-year plan with a view to improving the residents' quality of life through quality education, improved communication system, development of public health, creation of drug free society, creation of employment and modernization of agriculture.

4) Ukhia

Ukhia has a five-year plan with a view to ensuring the livelihood for Ukhia's people, by mean of developing communication & agricultural system, extended health care, quality education and overall infrastructural improvement while the ongoing Displaced persons from Rakhine state, Myanmar crisis is solved

#### **4. Governance of Target Paurashavas and Upazilas**

##### **4.1 Policy, Legal Framework and Governance System of Paurashava and Upazila**

###### **(1) Policy Framework**

The Perspective Plan of Bangladesh (2021-2041): Marking Vision 2041 a Reality (PP2041) provides a broad framework for the course of actions required to achieve "Vision 2041"<sup>18</sup>. PP2041 states that institutions are critical because they are the key determinants of the level of development. It sets four institutional pillars including i) governance, ii) democratization, iii) decentralization, and iv) capacity building. PP2041 suggests the preparation of a legal framework that will provide a clear guideline for the local governments about its function, jurisdiction, taxation, finance, budget account, electoral process, and central-local and local-local relationship. The 8th Five Year Plan emphasizes the capacity development of Upazilas and the appropriate coordination between Upazilas and concerned ministries to facilitate rural transformation under My Village-My Town.

###### **(2) Legal Framework**

Local Government (Municipality) Act, 2009 stipulates the functions of Paurashava, while Upazila Parishad Act, 1998 stipulates the functions of Upazilas.

###### **(3) Local Government Institutions in Bangladesh**

There are 8 divisions and 64 districts in Bangladesh. Each district is further subdivided into Upazilas. The area within each Upazila, except for those in urban areas, is divided into several Unions. Urban areas are administrated by urban local bodies (ULBs) named City Corporations (CCs) or Paurashavas.

###### **(4) Supervisory Authorities for Paurashava and Upazila**

The Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C) is the supervising authority for LGIs. Within the LGD, the Urban

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<sup>18</sup> "Vision 2041" is a national strategic plan to farther develop the socio-economic standing of Bangladesh, issued by Prime minister Sheikh Hasina and formulated by National Economic Council. It aims to transform the country from a lower middle-income country to an upper middle-income country by 2031, and a high-income country by 2041.



Development 2 Branch under “Urban Development” oversees Paurashavas, while Upazila Branch under “Administration” looks after Upazilas.

#### **(5) Overview of Paurashava and Upazila Administration**

##### **1) Paurashava**

There are 329 Paurashavas as of October 2020. These Paurashavas are further classified into A, B, and C categories based on the condition on the amount of own revenue and the share of tax collection.

##### **2) Upazila**

There are 492 Upazilas as of October 2020. Upazila Parishad is a middle-tier local government institution, consisting of Union Parishads and Paurashavas. Upazila Parishads are supposed to coordinate respective development needs of Unions and Paurashavas within its area. The 17 government departments are transferred to Upazila Parishads by the Upazila Parishad Act, 1998. The budgets of the transferred departments are still allocated from their respective department headquarters, and instructions are given by their upper authorities. Transferred line department officers move from one Upazila to another Upazila or another government unit in different tier of LGIs every few years.

#### **4.2 Organizational Structure, Staffing, and Committees of Paurashavas and Upazilas**

##### **(1) Organograms of Paurashavas and Upazilas**

##### **1) Paurashava**

Paurashava’s administration is headed by a mayor who is directly elected by the citizens of the Paurashava. Administrative body is consisted of Mayor’s Office, Chief Executive Officer (CEO) Office, and three departments, i.e., Engineering Department, Administration Department (Secretary), and Health, Family Planning and Conservancy Department. There are total 10 sections under these 3 departments.

##### **2) Upazila**

Upazila’s administration is headed by an Upazila Nirbahi Officer (UNO). The 17 government departments are transferred to Upazila Parishad by the Upazila Parishad Act, 1998. UNO and transferred line department officers implement activities based on the decision made by the Upazila Parishad comprising of elected representatives. These transferred departments officers carry out their duties under the command of their respective central line department without enough consultation and coordination within the Upazila.

##### **(2) Staffing Situation of Target Paurashavas and Upazilas**

##### **1) Paurashava**

The Number of staff is far below of planned number of staff (164 staff<sup>19</sup>). The ratio of actual numbers of staff toward the planned number is 32% (53 staff) in Chakaria Paurashava, 14% (26 staff) in Moheshkhali Paurashava, and 10% (16 staff) in Teknaf Paurashava. The shortage of the Engineering department staff is quite severe, especially in Moheshkhali Paurashava and Teknaf Paurashava<sup>20</sup>.

##### **2) Upazila**

The number of staff is far below the planned number in all the sectoral offices in all the target Upazilas. The ratio of actual numbers of staff toward the planned number are 64% in Chakaria Upazila, 56% in Moheshkhali, 41% in Teknaf Upazila, and 56% in Upazila. Three out of four Upazila LGED Offices have fewer than a half of planned number of staff, while the existing staff number of the remaining Upazila (Ukhia) is also far below the planned number (63% only).

<sup>19</sup> For Category A Paurashavas. According to the interview with the target Paurashavas.

<sup>20</sup> According to the interview with the target Paurashavas.

### **(3) Staff Recruitment of Target Paurashavas and Upazilas**

#### **1) Paurashava**

The LGD recruits all employees under Class I and II and appoints them to Paurashavas. All staff under Class III and IV are employed by Paurashava, although such recruitment can be only completed after its final verification by the LGD.

#### **2) Upazila**

Class I and II Officers of working at Upazila are recruited through the examination conducted by the Public Service Commission and appointed to several positions in the government system by respective line departments. They move to another Upazilas or other government units for some years. Other staff shall directly be recruited by Upazila Parishad.

### **(4) Paurashava Council / Upazila Parishad and Committees of Paurashavas and Upazilas**

#### **1) Paurashava**

Paurashava Council consists of i) mayor, ii) councilors, and iii) female councilors. They are elected through the direct vote of the citizens of the Paurashava. Important decision of Paurashava is made at the monthly council meeting. It is commonly observed that the decision on important matters is led by the officers of administration side without enough practical discussion at Paurashava Council meetings. Local Government (Municipality) Act, 2009 requires a Paurashava Council to establish 10 standing committees.

#### **2) Upazila**

Upazila Parishad consists of i) Chairman, ii) two Vice-Chairpersons, of whom one shall be female, iii) Chairman of every Union Parishad within the area of Upazila, iv) Mayor of every Paurashava, if any, within the jurisdiction of the Upazila, and v) Female Members of reserved seats. Chairman and two Vice-Chairpersons, and Union Parishad Chairmen are elected through the Upazila Parishad election and Union Parishad election, respectively. Upazila Parishad shall have the authority of ensuring proper implementation of all activities under Upazila Parishad Act, 1998. Upazila Parishad Act, 1998 requires a Upazila Parishad to establish 17 Upazila committees. However, committee meetings in most of the Upazilas are not held regularly as expected by the Upazila Parishad Act.

## **4.3 Budget and Financial Management**

### **(1) Budget Structure**

#### **1) Revenue Account and Development Account**

In order to capture the financial status of a LGI, it is required to observe revenue account and development account. Recurrent cost for Upazila administration is disbursed from the revenue account which mostly comes from the LGI's own revenue such as taxes, rates, and fees. Meanwhile, the expenditure for infrastructure development is from the development account whose main income is financial transfer from the central government called as ADP (Annual Development Program), and the funds from development partners. There is transfer of funds between revenue and development accounts. Revenue account transfers a part of its budget to development account for infrastructure development.

#### **2) Annual Development Program (ADP)**

There are three types of ADP, namely i) Block Grant, ii) DPP, and iii) Special. Certain amount of ADP is allocated to LGIs as ADP (Block Grant) for which a LGI has considerable discretion in deciding on its usage. The allocation of ADP block grants for Paurashavas is based on their categories, while for Upazilas the allocation is managed by the LGD following a formula based on population, land area, and fixed amount. ADP (DPP) is demand-based funding to LGIs for development funds. Part of ADP funds are allocated annually to implement development projects for which respective development project proposals (DPPs) have been approved by the government. ADP (Special) is to address emergencies or to meet urgent financial demand for project funding.

### 3) Sectoral Allocation of ADP in Upazilas

A guideline prepared by the LGD instructs the sectoral allocation of ADP in Upazilas, which is based on the respective local demands.

## (2) Financial Data of Target Paurashavas and Upazilas

### 1) Paurashava

There is a big financial capacity gap among the three target Paurashavas. Major sources of income are taxes, rates, and fees. The amount of revenue account fluctuates every year because of changes in the tax collection and other sources. The expenditure for infrastructure development and repair/maintenance is largely covered by ADP, despite the large contribution of the revenue budget surplus. The amount of ADP (Block Grant) fluctuates every year, and it is difficult for LGIs to predict the amount. In addition to the limited financial resources, there are many challenges for Paurashavas to plan and implement infrastructure development project on their own, with given their current organization, staff and capacities.

### 2) Upazila

The receipt of revenue account is not stable over the years as the amount of collected taxes and fees fluctuates every year. Since the income of development account is heavily dependent on the ADP, the budget size fluctuates sharply every year. Characteristic differences in expenditure can be observed in the portion of sectoral allocation.

## 4.4 Development Planning

### (1) Initiatives to Promote the Development Planning in Paurashavas and Upazilas

#### 1) Paurashava

Local Government (Paurashava) Act, 2009 specifies Paurashava's functions, including the preparation and implementation of development plans. Several projects of development partners have promoted the institutionalization of the practice of development planning in their target LGIs.

#### 2) Upazila

JICA's Upazila Integrated Capacity Development Project (UICDP, 2017-2022, JICA)<sup>21</sup> has been promoting development planning at Upazila level. Among the four target Upazilas, Teknaf and Ukhia Upazilas have formulated a Five-Year Plan with the support of UICDP.

### (2) Overview of Development Planning in Paurashavas and Upazilas

#### 1) Paurashava

"Operational Manual on Preparation and Implementation of Development Plan" prepared by the Strengthening Paurashava Governance Project (SPGP, 2014-2017, JICA)<sup>22</sup> provides the details of the procedure of formulating development plans.

#### 2) Upazila

"Guidelines for Upazila Integrated Development Planning" prepared by UICDP provide the details of the procedure of formulating development plans.

### (3) Citizens Participation

In Paurashavas, TLCCs (Town Level Coordination Committees) and WLCC (Ward Level Coordination Committee) are formed and function as a platform for citizens to participate in the development planning process and to oversee the development activities implemented by Paurashavas. At the Upazila level, though elected representatives form Union Parishads at each Union, there is another mechanism for citizens participation called UDCC (Union Development Coordination Committee).

<sup>21</sup> Implemented by LGD, Project Period: 2017-2022, Target LGIs: 10 Upazilas (1st Phase), 65 Upazilas 2nd Phase)

<sup>22</sup> Implemented by LGD, Project Period: 2014-2018, Target LGIs: 7 Paurashavas

## **4.5 Issues and Challenges in Governance of Paurashavas and Upazilas**

### **(1) Human Resource**

#### **1) Shortage of Manpower**

Constant shortage of manpower is the most severe problem for both Paurashavas and Upazilas. Lack of manpower in Engineering Department of Paurashavas / Upazila LGED Office is also a crucial problem. Hiring of contract staff or utilizing external consultants should also be considered.

#### **2) Insufficient Skills and Knowledge of Staff to Carry Out His/her Duties**

Staff generally lack the very basic knowledge to carry out their expected duties of the post. Not only the individual but also institutional capacity development toward the improvement of governance of whole LGI needs to be considered. Institutional capacity development may involve the development of guidelines for a series of procedures of infrastructure development and O&M, and its utilization in the LGIs staff's routine work throughout the project period.

### **(2) Financial Management**

#### **1) Unstable Financial Structure, Relying Heavily on ADP**

Since the financial source of development account relies heavily on the allocation of ADP, it is difficult for LGIs to formulate a realistic development plan and implement infrastructure projects based on it. Increasing financial source through tax and fees is one of the measures for LGIs to have financial discretion. Issues such as the insufficient willingness and capacity (including human resources) of tax collection and the lack of willingness to pay at the residents' side need to be tackled.

#### **2) Weak Financial Management and Reporting System**

Most LGIs do not prepare financial statement properly as required by acts and rules. Financial status of LGIs is not properly reported to the LGD.

### **(3) Coordination and Resource Allocation in Development Planning**

#### **1) Lack of Coordination, Prioritization of Resource Allocation**

LGIs do not prepare development plans. Paurashavas and Upazilas are weak in setting goals and priorities, estimating cost, identifying available financial resource, and ensuring stakeholders to work together. As a result, the development plans are like mere "wish lists" without any coordination, prioritization, and backing of financial resource. A well formulated medium-term development plan should be prepared and used as an effective tool for coordination and resource allocation with other stakeholders.

#### **2) Weak Capacity of Paurashava Council / Upazila Parishad**

The role of Paurashava Council or Upazila Parishad in development planning through coordination among stakeholders should be recalled. For Paurashava Council or Upazila Parishad to make correct decisions, it is essential to obtain the accurate information of the project implementation progress. Administrative procedure to monitor and evaluate LGIs' project administrative activities could lead to the effective usage of infrastructure fund.

### **(4) Ownership of the Project by the LGIs**

#### **1) Incentives for the Success of the Project**

As the mechanism to monitor and evaluate LGIs' project administrative activities is an effective measure to encourage LGIs to improve themselves, several initiatives of development partners have adopted this based on the pre-determined indicators related to governance. By introducing PBA mechanism in the project, each element of project activities can be effectively linked under the standardized indicators, and the project is smoothly implemented. On the other hand, considering that the Paurashavas and Upazilas targeted by the project are not sufficiently staffed and their capacity needs to be strengthened for the smooth implementation of the Project, it seems to be difficult to introduce PBA mechanism. It

would be desirable to strengthen the capacity of the staff of the project by focusing on the steady implementation of the individual sub-projects.

## 5. District Administration and LGED Field Office at District

### 5.1 District Administration

#### (1) Organization Structure of District

Administration body of District (Zila) is headed by a Deputy Commissioner (DC). Under DC, there are some Additional Deputy Commissioners (ADC) and an Additional District Magistrate who assists DC in respective areas of responsibility. DC supervises the activities of district offices of line departments and chairs the District Development Coordination Committee Meetings (DDCCM), in which all operational matters at the district level are discussed. A Deputy Director, Local Government (DDLG), as a member secretary of DDCCM, assists the DC. DDLG supervises all development activities undertaken by the Upazilas and Paurashavas and within the district.

#### (2) Services Provided by District

Zila Parishad Act stipulates the roles, responsibilities, and authorities of Zila Parishad. Section 12 of the Zila Parishad Act stipulates the compulsory functions and optional functions.

### 5.2 LGED

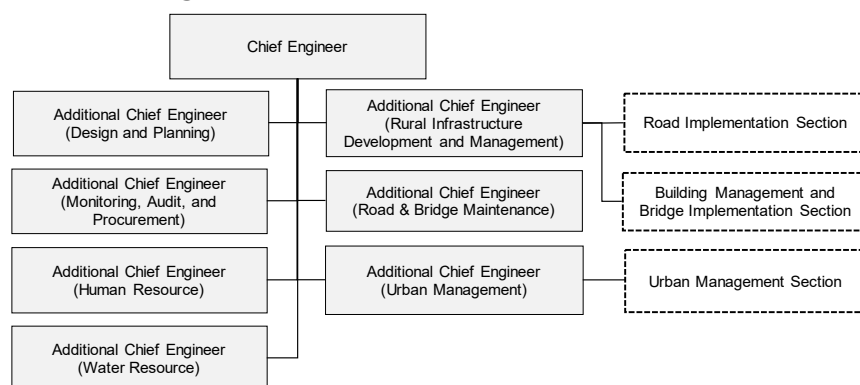
#### (1) Overview

The Local Government Engineering Department (LGED) supports the strengthening of rural economy through development of rural infrastructures. Currently, the LGED is mandated to cover rural development, urban infrastructure, and small-scale water resource development. The LGED is also engaged in providing technical assistance, governance improvement and capacity building of urban and local government.

#### (2) LGED Headquarters

The LGED is headed by a Chief Engineer. Under the Chief Engineer, seven (7) Additional Chief Engineers have respective areas of responsibility. Infrastructure development of ULBs including Paurashavas is looked after by an Additional Chief Engineer who oversees Urban Management, while infrastructure development of Upazilas is looked after by an Additional Chief Engineer who oversees Rural Infrastructure Development & Management. Figure below shows the organogram of LGED Headquarters.

**Figure 5.1 Organogram of LGED Headquarters**



Note: The figure shows organization structure under Additional Engineer (Rural Infrastructure Development & Management), and Additional Engineer (Urban Management), while the structure under other Additional Chief Engineers is omitted in the figure.

Source: Compiled by JICA Survey Team based on the information on the LGED Website.

#### (3) Field Offices of LGED

LGED has field offices across the nation to cover the activities of local infrastructure development at the field level. LGED has 8 Divisional Offices, 20 Regional Offices, 64 District Offices, and 494 Upazila

Offices. LGED also have Central Training Unit (CTU) in Dhaka and 20 Regional Training Centres (RTC) at Regional Offices to provide training.

### 5.3 Issues and Challenges in Coordinating Infrastructure Projects in District with Upazilas

#### (1) Infrastructure Project Management by Upazila Engineer

Upazila Engineers shall coordinate with both Upazila Parishad and LGED District Office during the whole process of project implementation including project selection, designing, procurement, construction and O&M, and it takes time generally. Since the roles and responsibilities between Upazila Parishad and LGED in the process are not regulated, it takes time to solve the problem.

#### (2) Monitoring of Upazila's Development Projects by District

Monitoring Upazila's infrastructure project is not properly conducted by district level. The District could not always keep track of the infrastructure development projects implemented by Upazilas.

#### (3) Information Sharing from LGED Office to Concerned Stakeholders

Details of infrastructure development projects are often not well recognized by the stakeholders including the Upazila Parishad Chairman and members. Documents of LGED such as infrastructure development plans prepared by the LGED need to be shared with the concerned stakeholders of the Upazila and be widely referred by each lined departments staff at Upazila.

## 6. Development Assistance and Need Assessment of Infrastructure Development

### 6.1 JICA's Governance Related Projects

#### (1) Overview

JICA has been implementing several projects to improve governance sector in Bangladesh, at both the national and local levels by choosing some target LGIs. The following table describes a summary of them.

**Table 6.1 Summary of JICA's Governance Related Projects**

Project Name	Project Period	Scheme	Executing Agency/Counter Part	Target government body
Northern Bangladesh Integrated Development Project (NOBIDEP)	2013-20	Loan	LGED	18 Paurashavas
Strengthening Public Investment Management System (SPIMS)	2014 Jul–2018 Jun (Phase 1) 2019 Aug– 2023 Jul (Phase 2)	Technical Assistance	Ministry of Planning	-
National Integrity Strategy Support Project (NISSP)	2014 - 2017	Technical Assistance	Cabinet Division	-
Strengthening Paurashava Governance Project (SPGP)	2014-18	Technical Assistance	LGD	7 Paurashavas
Inclusive City Governance Project (ICGP)	2014-20	Loan	LGED	5 CCs
Project for Capacity Development of City Corporations (C4C)	2016-21	Technical Assistance	LGD	4 CCs
Upazila Governance and Development Project (UGDP)	2016-23	Loan	LGD	500 Upazila
Upazila Integrated Capacity Development Project (UICDP)	2017-22	Technical Assistance	LGD	-10 Upazila (1 <sup>st</sup> Phase) -65 Upazilas (2 <sup>nd</sup> Phase)
National Integrity Strategy Support Project (NISSP) Phase 2	2019-2022	Technical Assistance	Cabinet Division	-
Urban Development and City Governance Project (UDCGP)	Not commenced yet	Loan	LGED	3CCs and 1 Paurashava

Source: JICA Survey Team based on Final Report, Precatory Survey on Urban Development and City Governance Project (partially modified)

JICA's SPGP<sup>23</sup> supported the governance capacity development of Paurashavas through the formulation of "National Strategy for Paurashava Governance Improvement (2016-2025)" and the development of several guidelines. SPGP also conducted training for the functionaries of target Paurashavas.

Urban Development and City Governance Project (UDCGP, JICA)<sup>24</sup> is a Yen loan Project that will be commenced soon after consultants are selected. UDCGP targets three CCs and one Paurashava and aims

<sup>23</sup> Implemented by LGD, Project Period: 2014-2018, Target LGIs: 7 Paurashavas

<sup>24</sup> Implemented by LGED, UDCGP is not commence yet as of February 2022, Target LGIs: 3 City Corporations and 1 Paurashava

to improve urban functions by strengthening city governance related to infrastructure development in the ULBs. Infrastructure development fund is planned to be allocated through Performance-Based Allocation (PBA) mechanism based on the performance evaluation of project activities of the ULBs.

UICDP<sup>25</sup> aims to establish a framework to improve comprehensive coordination capacity of Upazila Parishad. UICDP closely collaborates with the Upazila Governance Development Project (UGDP, 2015-2021, JICA) and support the governance capacity development of Upazilas. Ukhia and Teknaf Upazilas are one of the pilot Upazilas and the UICDP has been assisting the formulation of their Upazila development plans and its implementation.

UGDP<sup>26</sup> is a Yen loan project that aims to enhance the capacity of Upazila Parishads to deliver more effective and responsive public service to citizens through providing additional development fund and a series of capacity development to concerned stakeholders. UGDP adopts PBA mechanism for fund allocation among the selected Upazilas. Based on the performance assessment result, the selected Upazila Parishads will be entitled to average BDT 5 million in a year. UGDP implements its activities in close collaboration with UICDP. Ukhia and Teknaf Upazilas became the target Upazilas based in the fourth round of the performance assessment.

## (2) Review of Related ODA Loan Projects

ICGP, NOBIDEP, UGDP, and UDCGP introduced the performance-based approach (PBA) for allocating infrastructure subprojects. Review of these three projects related to governance and infrastructure from the viewpoint of PBA is summarized as below.

**Table 6.2 Summary of Related ODA Loan Projects**

Project Name	Issues and Outputs to be referred
ICGP	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>• Infrastructure development plan is considered not well understood properly and thus not shared and used with related organizations.</li> <li>• Subproject implementation is delayed.</li> </ul> <p><u>Output documents which can be referred to</u></p> <ul style="list-style-type: none"> <li>• Various guidelines including infrastructure development plan were prepared.</li> </ul>
NOBIDEP	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>• Formulation and execution of budget are not appropriately implementing.</li> <li>• Governance services (33 items) under Paurashava were not implemented well because of lack of fund and human resource.</li> </ul> <p><u>Output documents which can be referred to</u></p> <ul style="list-style-type: none"> <li>• Handbook and materials for training (subjects related to finance) developed by SPGP are utilized.</li> </ul>
UGDP	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>• Chronic delay is observed in the Infrastructure subprojects. Major reasons for the delay include low awareness and knowledge on Upazilas' administration among elected representatives, low coordination among Upazilas' key stakeholders, severe manpower shortage in Upazilas' administration, low frequency of Upazila committees' meetings, tendency to equally divide PBA fund among Unions, etc.</li> <li>• To ensure improvement of Upazila governance, the mechanism and setup introduced by UGDP such as Performance Assessment, Performance-based Allocation, and Upazila Development Facilitator need to be incorporated and institutionalized into the existing system of GoB.</li> </ul>
UDCGP	N/A (the project is not commenced yet)

Source: JICA Survey Team based on Final Report, Preparatory Survey on Urban Development and City Governance Project (partially modified)

## 6.2 Donor-funded Governance Related Projects (Paurashava / Upazila)

### (1) Overview

#### 1) Urban Governance Infrastructure Improvement Project (UGIIP, 2003-2021, ADB)<sup>27</sup>

ADB's UGIIP aims to strengthen urban governance and improve urban infrastructure and service delivery in Paurashavas. The UGIIP supports the improvement of Paurashava infrastructure in urban transport, drainage, water supply, sanitation, municipal facilities, and solid waste management through PBA strategy under the Urban Governance Improvement Action Program (UGIAP), a set of governance reform criteria critical to the success of the UGIIP. UGIIP also supports the capacity development of related officials to implement the UGIAP through various activities.

<sup>25</sup> Implemented by LGD, Project Period: 2017-2022, Target LGIs: 10 Upazilas (1st Phase), 65 Upazilas (2nd Phase)

<sup>26</sup> Implemented by LGD, Project Period: 2016-2023, Target LGIs: around 500 Upazilas

<sup>27</sup> Implemented by LGED, Project Period: 2001-2003 (Phase-1) / 2008-2016 (Phase-2) / 2014-2021 (Phase-3), Target LGIs: 27 Paurashavas (Phase-1) / 51 Paurashavas (Phase-2) / 30 Paurashavas (Phase-3)

2) Municipal Governance and Services Project (MGSP, 2014-2021, WB)<sup>28</sup>

World Bank's MGSP aims to improve the governance of Paurashavas and basic urban services and the capacity of Paurashavas to respond promptly and effectively to an eligible crisis or emergency. Infrastructure development is implemented, using the fund allocated to ULBs which are consisted of 2 sources: a base allocation and PBA fund provided to the ULBs that demonstrate improvements in basic urban services and urban governance. MGSP also provides technical assistance for designing of sub-projects and O&M plans, etc.

3) Efficient and Accountable Local Governance (EALG, 2017-2022, UNDP)<sup>29</sup>

UNDP's EALG aims to strengthen the capacities of local government and other stakeholders to foster the participatory local government service delivery for the SDGs. The activities of EALG include the strengthening of governance framework of Upazila Parishad for inclusive, effective, and accountable planning and improved service delivery.

**(2) Performance-based Approach in UGIIP and MGSP**

Performance-based approach is adopted in UGIIP and MGSP, and fund allocation based on evaluation is conducted. In the two projects, the approach monitors wide aspects of general governance from such as citizens awareness and participation, urban planning, recourse mobilization as well as public financial management and accountability. However, there is no monitoring and evaluation items concerning the detailed process of the infrastructure project implementation in UGIIP and MGSP. This is the significant difference from that of UDCGP.

Though performance-based approach will not be adopted in the project, proper project monitoring and evaluation mechanism with detailed assessment of each activity in the infrastructure subprojects will be introduced (Ref. the Section 10 Monitoring and Evaluation in the Summary).

**(3) Proceeding Infrastructure Related Projects in Target Areas**

1) Implementing Organizations and Projects

1. Paurashavas

The information regarding the implementing organizations and projects are collected from Chakaria, Moheshkhali and Teknaf Paurashava offices and analyzed. LGED is the main organization in road, bridge and drainage sectors, at present. Meanwhile, for water, sanitation and hygiene (WASH) sectors, NGOs are the main organizations.

2. Upazilas

Based on the information from Upazila LGED engineers, the implementing organization and projects in the target upazilas of Chakaria, Moheshkhali, Teknaf and Ukhia are analyzed. LGED is implementing 20 projects, of which 6 projects are donor funded, and the others are by GOB own fund. LGED at Upazilas has a leading function for planning and implementing of road, bridge, drainage, disaster management (including cyclone shelters) and other public facility.

In addition to LGED, eight (8) UN agencies and 109 NGOs are also implementing projects in accordance with 2020 Joint Response Plan for Displaced persons from Rakhine state, Myanmar Humanitarian Crisis. Under this scheme, the infrastructure development in WASH sector includes tube wells and secondary communal pits.

2) Proceeding Projects

1. Paurashavas

In terms of project number, many projects are implemented in Teknaf Paurashava. On the other hand, Chakaria Paurashava receives a large fund under Municipal Governance and Services Project. By sectors,

<sup>28</sup> Implemented by LGED, Project Period: 2014-2022, Target LGIs: 26 ULBs

<sup>29</sup> Implemented by LGD, Project Period: 2017-2021, Target LGIs: 18 Upazilas from 9 districts



the cost for sanitation and water supply sector is much smaller than that of road, bridge, and drainage sectors.

## 2. Upazilas

In terms of both number and cost, most projects are conducted in Teknaf and Ukhia Upazilas regardless the sectors. Teknaf and Ukhia Upazilas receive most fund from the donors in all sectors.

### 6.3 Need Assessment of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

#### (1) Overview of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

The three (3) executing agencies i.e., Coal Power Generation Company Bangladesh Limited (CPGCBL), Chattogram Port Authority (CPA) and Roads and Highways Department (RHD), are implementing MIDI projects funded by JICA. Only CPGDBL provided collective resettled area for affected households, while CPA and RHD provided or planned to provide the monetary compensation.

#### (2) Needs Assessment of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

A social survey was conducted by MIDI projects from November 29, 2020 to December 5, 2020 to assess infrastructure needs of affected household.

##### 1) Target Area

The survey was conducted at Sairar Dale Village, Matarbari Union, Moheshkhali Upazila where 44 households were resettled due to the construction of Matarbari Ultra Super Critical Coal-Fired Power Plant by CPGCBL.

##### 2) Conditions at Resettled Site

50 houses were constructed at Sairar Dale Village by CPGCBL for the 48 affected households, of which 44 households moved to the houses during September 2019 and July 2020. One unit of house consists of 3 rooms, kitchen, toilet, and tube well. The affected households are highly satisfied with the current residential conditions.

##### 3) Infrastructure Needs of Affected Households and Affected Area

The affected households at Sairar Dale Village and the Matarbari Union presented the need of following infrastructure development:

**Table 6.3 Infrastructure Needs of Sairar Dale Village and Matarbari Union**

Sairar Dale Village	Matarbari Union
- Rehabilitation of road connecting the village and school	- Water supply (deep tube well)
- Security boundary gate	- Rehabilitation of road
- School cum cyclone shelter	- Construction of hospital, school and Union Parishad building
- Drain	- Sluice gate and etc.
- Graveyard and etc.	

Source: Social Survey Team, JICA

### 6.4 Need Assessment of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

A social survey was conducted from November 15, 2020 to November 20, 2020 to assess infrastructure needs of host communities for Displaced persons from Rakhine state, Myanmar in Teknaf and Ukhia upazilas under subcontracted work. The outline of the survey is following:

**Table 6.4 Outline of the Survey**

Period	November 15 – 20, 2020
Target People and Groups	Upazila parishad chairmen, secretaries, Upazila engineers, residents in Ukhia and Teknaf Upazila and etcs
Methodology	Key Informant Interview: Upazila parishad chairmen, secretaries, Upazila engineers etc. Focus Group Discussion: Residents (Workers, Women, Teachers and etc.)

Source: Social Survey Team, JICA

General issues for host communities are mostly related to the increase of population, namely increasing road traffic and crime rate, insufficient ground water supply for drinking and irrigation, ineffective drainage facilities, lack of electricity, and ineffective solid waste management.

As infrastructure needs, there are requirements for road maintenance, canal improvement, more constructions of culverts/tube wells/drains, and electricity to markets in both Ukhia and Teknaf Upazilas. Besides, Teknaf Upazila also needs to construct cyclone shelters for disaster management. The solid waste systems in both Upazilas can meet the current capacity.

## **6.5 Need Assessment of Township Development**

### **(1) Township Development Planned in the Selected LGIs**

Paurashavas of Chakaria and Moheshkhali are expected to accommodate the increasing population resulting from MIDI. However, considering the population increase of natural growth in these areas, it is difficult to address the accommodation and infrastructure needs for both groups in the existing built-up area.

Although the updating M/Ps (draft) of Chakaria and Moheshkhali Paurashavas proposing the township development have just been updated, they need to be finalized by Paurashavas and approved by LGD to be the gazette legal plans, so then infrastructure development for the new townships can be started. If no action is taken, township development will not proceed in the short term. Therefore, at the same time, it is desirable to position these township developments in the MIDI Township Sector Development Plan (SDP) being developed by LGD as a driving force for the early realization of township development. Township development proposed in the updating M/Ps (draft) has been already mentioned in SDP, and all township development in Chakaria Paurashava is anticipated to start preparation by 2026.

### **(2) Planned and On-going Project in MIDI Area**

By 2026, three projects will start their operation in Matarbari area, i.e., Matarbari Ultra Super Critical Coal-Fired Power plant, Matarbari Port, and Matarbari Port Access Road. In addition, according to the industrial sector development plan by BEZA, three EZs in the short term and two EZs in the med term are planned around the Matarbari and Chakaria area.

It is conceivable that workers engaged in the mentioned above projects will live in the neighboring area of Matabari village or commute from Chakaria Paurashava using the Matarbari Access Road. It is also expected that further population influx will progress around Chakaria.

For Moheshkhali, BEZA is planning to establish an Economic Zone, from the south side of Moheshkhali Paurashava to the adjacent part of the MIDI development area s, so it is expected to attract more residents to come in the future.

## **6.6 Assessment of Existing Security and Safety Situations**

### **(1) Security Situations in Target Areas**

#### **1) General Information**

As of January 2021, Chattogram Hill Tracts is categorized as level 2 (do not travel except necessity and emergency case) by Ministry of Foreign Affairs in Japan and as level 3 (Reconsider Travel) by U.S. Embassy in Bangladesh. International consultants and experts who have contractual relationship with JICA directly are requested to follow JICA's security instruction.

#### **2) Security Situations in Cox's Bazar District**

According to Bangladesh Bureau of Statistics' publication in 2011, the criminal offences often happened in Chakaria Upazila, Cox's Bazar Sador, Ramu Upazila and Ukhia Upazilas, while the traffic accident mostly occurred in Chakaria and Ramu Upazilas.

#### **3) Security Situations around camps for displaced persons**

Due to the influx of displaced persons from Rakhine state, Myanmar to both Taknaf and Ukhia Upazilas, crime and criminal activity, like rubbery and drug trafficking, has increased. In the Focus Group Discussion conducted in the social survey, host communities considered this was a serious issue and demanded for the earliest possible repatriations of displaced persons. Restricted entrance to camps for

displaced persons is implemented and a recommended time for workers around the refugee camps to return to Cox's Bazar Sadar is announced.

4) Security Situations in Bandarban District

Prior approval from Ministry of Home Affairs Office of Public Safety, the Government of Bangladesh is required if an outsider plans to visit Bandarban district, due to its location in Chattogram Hill Tracts – a high-risk area and the conflict of the local ethnic minorities with the Government.

**(2) Safety Situations and Issues during Construction Work**

1) Overview

Based on a newspaper survey report published by Safety and Right Society in 2015, deaths in workplace accidents occurred the most in construction sector. Chattogram district has the second highest number after Dhaka district, accounting for a sixth of total deaths.

2) Safety Issues during Construction Work

From the interviews to LGED, LGIs and engineering consultants and construction site visits, there are two major issues in terms of safety during construction work in Bangladesh. The first issue is a safety plan in tender is not obligatory unless it is required explicitly in Tender Data Sheet (TDS) of Instruction to Tenderers. The second issue is, even if there is, the contractor or workers does not always follow the safety plan.

**7. Infrastructure Development and Priority Subprojects**

**7.1 Specific Policies of Infrastructure Development**

**(1) Development Direction of LGIs**

1) Chakaria Paurashava

1. Road and Bridge

The general development concept is to formulate outer ring road and inner ring road in the Paurashava for smooth mobility of traffic from one to another area. Then, NH-1, Eidomony to Cox's Bazar and Marine Drive will function as an arterial road, and RH-172 and Matabari Port access road will be a collector road, respectively.

2. Drainage

The drainage management plan in Chakaria Paurashava aims to construct a smooth and comprehensive drainage system/network, prevent encroachment, and raise public awareness of waste disposal.

3. Water Supply

Water source will be recommended to shift from groundwater to surface water in the future. It is also planned to construct water purification plant at Ward No.8 eastern side of the Chakaria Paurashava along the Matamuhuri River.

4. Solid Waste

To solve issues of waste management, development directions in Chakaria focus on the regional waste management between Paurashava and Upazila, 3R (Reuse, Reduce, Recycle) activities and community participation, expansion of waste collection activities, and the recycling, treatment and final disposal.

5. Other Public Facilities

Development direction of other infrastructures such as market, school and clinic are planned by Chakaria Paurashava, 2020, including the improvement of markets in poor conditions, development of primary schools having the function of cyclone shelter, and development of community clinics with the multi-function of cyclone shelter.

## 2) Moheshkhali Paurashava

### 1. Road and Bridge

The general development concept is to formulate outer ring road and inner ring road in the Paurashava, which will move the mass traffic volume coming from MIDI, Chakaria and Cox's Bazar. Z-1004 and U-2001 will function as an arterial road, and other major roads will collect local traffic and feed them to the arterial roads.

### 2. Drainage

Secondary and tertiary drains need improvement and connect properly, following the comprehensive drainage plan in Moheshkhali Paurashava. Also, considering the tide water level, it is necessary to consider required drainage facilities such as regulatory ponds, pump facilities, gates, etc. to discharge internal water.

### 3. Water Supply

Water source will be recommended to shift from groundwater to surface water in the future. However, since water purification plant will not be constructed due to the influence of surface water source's location in the Moheshkhali on the tide, it is planned to develop ground water source to meet the demand in the M/P by 2041.

### 4. Solid Waste

To solve issues of waste management, development directions in Moheshkhali includes the regional waste management between Paurashava and Upazila, the locations of future final disposal site (not near residential and commercial area in Paurashava), and the management of non-hazardous industrial waste from MIDI.

### 5. Other Infrastructure

Development directions of other infrastructures described in the M/P of Maheshkhali Paurashava require the renovation of old markets to modern facilities and the rehabilitation of public toilets under very bad condition with operational improvement by the sanitation and hygiene department in Paurashava.

## 3) Teknaf Paurashava

### 1. Road and Bridge

The NH-1 is virtually the lifeline of the region and has become more important to ensure smooth supply of relief in the Camp for displaced persons. However, due to traffic congestions caused by the large number of immigrants and its support organizations, road development project needs to be implemented to improve the existing road conditions.

### 2. Drainage

Due to its geographical location facing the sea, inundations in Teknaf Paurashava depend on tidal sea water level. Therefore, it is necessary to consider required drainage facilities such as regulatory ponds, pump facilities, gates, etc. to discharge internal water.

### 3. Water Supply

People in the Upazila are in a crisis of pure drinking water, especially Teknaf Paurashava, Sadar Baharchara and Saint Martin Unions. Teknaf Paurashava is one of the major LGIs to benefit from the priority rural water supply project by LGED, which is planned to install 200 more tube wells in the Upazila.

### 4. Solid Waste Management

The LGI collaborates with United Nation Development Program (UNDP) and the Swedish International Development Agency (SIDA) for the SWM project in Teknaf Paurashava. The develop directions of SWM recommended by UNDP/SIDA project includes the development of waste management systems through various activities such as awareness raising program and campaign, and private sector participation for waste management.

## 5. Other Infrastructure

Teknaf Paurashava has planned the development of markets, office buildings, parks, etc. Teknaf Paurashava needs to establish the facilities of market, public toilets, parks, healthy environment, and civic amenities due to the population growth and promoting economic activities.

### 4) Upazilas (Chakaria, Moheshkhali, Ukhia and Teknaf)

#### 1. Road and Bridge

For Chakaria and Moheshkhali Upazilas, the development of trunk roads such as NH-1 and RH172, together with the construction of arterial roads and collector roads to connect them, are required because of MIDI and smooth access among the Chakaria Paurashava, Moheshkhali Paurashava, and Cox's Bazar.

NH-1 and Marin Drive roads are main roads connecting Ukhia Upazila, Teknaf Upazila, and Cox's Bazar. These two roads are also used to transport human resources and products to refugees in Ukhia Upazila and Teknaf Upazila. However, due to the improper construction of the arterial road connecting the camps and NH-1 and Marin Drive Road, it is necessary to construct an integrated road network plan taking into consideration each scale of camp.

#### 2. Drainage

The drainage sector in each Upazila is basically facing the same issues as in Paurashavas; therefore, Upazila will also be required to create drainage network system properly in accordance with the level of drains, considering each drainage catchments.

#### 3. Water Supply

Water purification system and new tube wells are necessary in Chakaria, Moheshkhali Upazila, and Ukhia Upazila. In Teknaf Upazila, water treatment plant, reservoir and water networks need to be constructed, and old and broken tube wells shall be replaced.

#### 4. Solid Waste

In case of Ukhia and Teknaf, UNDP supports Camp Rohingya and its host community area to provide the waste collection service and landfill site. In Chakaria and Moheshkhali Upazilas, this service is not provided. Waste collection service should be provided for main generation sources such as markets, populated residential areas as well as development areas of MIDI.

#### 5. Other Public Facilities

The main economic activities of the Upazila are market operations located in different unions. The expansion of market areas and their capacity increase are needed due to the increasing demand. Other facilities such as school cum cyclone shelter are also needed.

## 7.2 Present Condition and Future Development Plan of Infrastructure at Target Areas

### (1) Road and Bridges

#### 1) Existing Condition

The pavement percentage in Chakaria, Moheshkhali, and Teknaf Paurashavas are generally similar, around 70%. In Upazila level, Moheshkhali, Ukhia, and Teknaf Upazilas have similar pavement percentage, around 42%, higher than that in Chakaria.

There are major issues of the existing roads and bridges in the target areas. In all Paurashavas and Upazilas, the connectivity between rural road and national road are not updated; quality of pavement is low; O&M is not implemented regularly; and it is necessary to have a detailed plan of access to MIDI and to other places, considering the flow of immigrants and new township residents. In Paurashavas, road surface is damaged due to rainwater cannot be drained effectively; roads are narrow and not interconnected; entrance to most building located along roads is encroached; and roads have short durability due to poor maintenance.

## 2) Existing O&M Activities

To progress urbanization rapidly under the MIDI, it is required to secure the appropriate number of staff and skilled engineers of Paurashava and Upazila LGIs, together with the increase increasing their capacity including O&M activity.

## 3) Development Plan

### 1. Development of Connectivity

The main purpose is to improve the connectivity of the road network in the target areas, including smoother access from the surrounding areas to main road and new access roads from main road to the proposed township.

### 2. Improvement for Specification of Road

Grade road shall be higher than the current grade, considering the observed issues and condition of O&M. Based on the development plan, the JICA Study team proposes to apply the typical high standard cross section, consisting of RCC pavement, walk way, side drain and solar panel street light.

## (2) Drainage and Flood Protection

### 1) Existing Condition

The rate of affected households by flood and water logging in Cox's Bazar district is 4.4%, which is much higher than Dhaka (0.1%) and Gazipur (1.1%) districts.

In the target areas, currently, there are two types of drains: natural and man-made. Natural drains were delineated by storm run-off, while the man-made ones were to drain out storm water and wastewater from the urbanized areas. Those drains are classified into the Primary, Secondary and Tertiary drains. Other than drain, the only available drainage facility is one sluice gate in Moheshkhali. No Flap gate, regulation pond, pumping station are installed.

Based on the field survey and interview to LGI engineers, major issues of the existing drainage system in all target areas are identified. In all Paurashavas and Upazilas, drains do not have sufficient flow capacity, especially not highly effective during high tide at monsoon. There lacks integrated urban planning, not enough proper operation and maintenance of drainage system due to inadequate funding. Low areas or those along the sea and/or river are easily submerged due to lack of drains and no embankment or dike. Public awareness of garbage is not high.

In Chakaria Upazila, the Matamuhuri River and some drains are used as an irrigation canal in the dry season. There are two rubber dams on Matamuhuri River to hold water for irrigation and prevent salinity intrusion by the tide.

## 2) Existing O&M Activities

According to the LGIs, Water Supply and Sewerage section will be newly organized in Engineering Division. Each Paurashava office intends to allocate 16 engineers into the Water Supply and Sewerage Section, while in each Upazila office, despite a plan to increase the number of staff, engineers will be only 4 persons.

After interviewing to each LGI, actual expense for the O&M of drainage system for the recent three years in Chakaria, Moheshkhali, and Teknaf Paurashavas are approximately BDT 25 million, BDT 6.8 million and BDT 6.5 million in average, respectively.

## 3) Development Plan

In order to solve the above issues, the following development direction shall be proposed:

### 1. Measures to Inland Water

Drains shall be well improved to flow storm water to downstream. To lessen the influence of tide, it is required to store storm water tentatively at a retention pond and/or to discharge by pump force. Pumping

stations should a specific kind of dike to prevent storm water over from the river or sea and install gate at the outlet.

## 2. Planning Condition for drains

In reference to the M/P for Chakaria Paurashava and Moheshkhali Paurashava, return period applied for priority drains in the Survey is proposed, and mostly for a 5-yr period. In reference to the Urban Drainage Manual, return period for tertiary, secondary, and primary drains are 1.1, 2, and 5 years, respectively. Return period for river is 10 years. Based on data from meteorological stations in the target areas, rainfall intensity is estimated as 72mm/hour at 2-year return period, 93 at 5 years and 109 at 10 years on average. Designed external water levels are estimated as +5.8mMSL in Chakaria Paurashava, +3.0 in Matabari Union of Moheshkhali Upazila, +2.9 in Moheshkhali Paurashava and +2.2 in Teknaf Paurashava.

## (3) Water Supply

### 1) Existing Condition

Tap water supply rate in Cox's Bazar district is 2.3%, much lower than the national average. No piped water supply system is available in Chakaria and Moheshkhali Paurashavas. Most people use water from their own tube wells.

Based on the field survey and interview to LGI engineers, major issues of the existing water supply in target areas are reported, including water demand is high than supply volume (notably, Moheshkhali Paurashava will face water shortage), no O&M experienced staff in Moheshkhali and Chakaria Paurashavas, damaged pump in Chakaria Paurashava, and unavailable water tariff system in all the target areas.

In Teknaf Paurashava and Upazila, there is no piped water supply system. Deep well installation requires digging up to 1000 feet (300m) in some cases. drinking water salinity and depleted water aquifer are also reported. In Teknaf Paurashava, seawater desalination plant with capacity of 10 m<sup>3</sup>/day is operated, and design work for surface water treatment plant was completed under World Bank funded project.

### 2) Existing O&M Activities

Engineers in Moheshkhali and Teknaf Paurashavas are limited. There are no water supply facilities such as pipelines and water purification plant in each target area. Operation and maintenance (O&M) work is limited to pump and the O&M staff is responsible for other tasks also.

### 3) Development Plan

In order to solve the above issues, the following development directions shall be proposed.

#### 1. Water Supply for Township Development

To provide accommodation for the increasing workers for MIDI, townships are planned in Moheshkhali Paurashava, Moheshkhali Upazila and border of Chakaria Paurashava and Upazila. Water supply demand is calculated based on the estimated residents in each township. Since townships are developed in stages, water demand is ensured in stages as well. Water source mostly is from groundwater (deep tube well).

## (4) Solid Waste Management

### 1) Existing Condition

Many residents dumped waste in backyard and roadsides. Based on the survey of existing conditions of solid waste management at the target areas, some major issues of Solid Waste Management (SWM) in target areas are identified. Scattering wastes along the road or canal is in all areas because the waste collection rate in Paurashavas is low, especially in Chakaria and Moheshkhali, and there is no collection service in Upazilas. The locations of dumping sites are along roads which are unsuitable in two Paurashavas. The staff, equipment and facilities of SWM are limited in Paurashavas and there is no SWM organization and no official solid waste collection and disposal system and no budget in Upazilas.

## 2) Existing O&M Activities

Due to the limited permanent staff and no manual and guideline, capacity and efficiency for solid waste management in Paurashavas are low at present. In Upazilas, there is no staff and budget for SWM. It is difficult to employ more operation staff for operation of collection, transportation and final disposal. outsourcing of SWM operation to PSPs will be adopted, and two or three staffs in LGIs of Chakaria and Moheshkhali will be necessary to manage the PSPs.

## 3) SWM Development Plan

In order to solve the above issues, the following development plan is proposed.

### 1. Expansion and Improvement of Waste Collection Service

The coverage of waste collection service will be expanded and its system will be improved in both Paurashavas and Upazilas of Chakaria and Moheshkhali. In residential area, the collection method by compactor vehicle will be applied. The collection frequency is set as every day for Paurashava and once or twice a week for Upazila due to the difference of population density.

In market area, containers will be provided for collection of market waste. In the area where a number of containers are necessary, T/Ss will be constructed. The collection frequency is set as once or twice a week with consideration of the container capacity.

### 2. Improvement and development toward sanitary landfill site

Sanitary landfill sites utilizing semi-aerobic landfill system will be developed for Chakaria and Moheshkhali to reduce the adverse environmental impacts caused by open dumping.

### 3. Implementation System (Cooperation between Paurashava and Upazila, Outsourcing to Private Sector)

Due to no suitable site for future final disposal in Paurashava, new landfill site will be developed in each Upazila in Chakaria and Moheshkhali for waste disposal of Paurashavas and Upazilas. The working group is proposed to cooperate with them regarding SWM system, especially landfill operation and maintenance between Paurashava and Upazila.

There is not enough operation and maintenance staff in LGI, especially no staff in Upazila. There are possible private companies for SWM activity; therefore, the outsourcing of SWM to private company has been proposed. Some staffs to manage the private company(s) will be allocated in Upazila and existing staffs will manage it in Paurashava. Under a contract with LGI, the services could be made by selected private company(s) with the introduction of waste collection service charge system under LGI's administrative order.

### 4. Financial Feasibility

The financial analysis for the proposed development plan has been implemented to confirm the financial feasibility through the comparison between the expenditure and the possible revenue by own revenue and other budget in each LGI and waste collection service fee. The result showed the financial feasibility within current revenue in case of Chakaria and with support of around one million BDT in case of Moheshkhali. In case of Chakaria and Moheshkhali Upazilas, the results showed the financial feasibility with support of a few hundred thousand BDT from the general budget of Upazilas.

## (5) Other Public Facilities

### 1) Existing Condition

Existing market facilities are old and poor condition and market-related facilities are not sufficiently developed. In the health sector, there is a lack of community clinics to provide minimum community health care. Local residents depend on medical facilities in Upazilas far from their villages. In the education sector, primary schools are not currently prepared for future population growth and mandatory primary education. In accordance with the disaster management policy, cyclone shelters are being constructed and most of the schools and clinics in the targeted areas are being used as cyclone shelters.



However, some of these buildings are deteriorating and it is difficult to maintain their structures for cyclones.

## 2) Existing O&M Activities

The operation and maintenance of the market is carried out by Municipal Market Section, Administration Department in Paurashavas and bazar committee chaired by UNO in Upazilas. The primary and public education offices of Upazila have jurisdiction over primary and secondary schools, and employ teachers and administrative staff. The health office in Upazila is responsible for the operation and management of all health facilities including community clinics.

## 3) Development Plan

Considering current situation of inadequate public facilities, the directions for planning the development of public facilities such as markets, schools, medical facilities, cyclone shelters and parks are shown as follows, based on the demand for public facilities and policies in each region.

### 1. Market

Market development should be based on the demand of future market users and the need to improve the current inadequate facilities. The improvement of buildings, water supply, drainage, electricity supply, toilets, solid waste storage, etc. are needed. If the existing market causes traffic congestion and environmental degradation, relocation of the market should be considered. The market facilities should have multi-purpose functions including leasable commercial areas, emergency shelters, and areas for training and social activities.

### 2. Cyclone Shelter

Cyclone shelters need to be developed for emergency evacuation of the local residents during cyclones, which have been increasing in intensity in recent years. The cyclone shelter will be an emergency facility that can be used as an elementary school, market facility, community clinic, meeting place, etc. during normal times. The building will be protected from floods and strong winds by a barrier of entrance doors and windows. The building will be designed with a lot of open space for easy access by evacuees in the event of a disaster, and a slope for access by the disabled.

### 3. School

An primary school will be built in each village. Considering the future population growth, the scale of the target existing elementary schools may not be sufficient, so the scale of the facilities will be planned to accommodate this. In addition to the functions of the elementary school, the facilities will have multi-purpose functions such as a meeting place for the local community, community activities, training facilities, cyclone shelters, etc. The school buildings will be durably constructed with consideration of rainfall and strong winds in coastal areas.

### 4. Medical

The development of clinics will be promoted in administrative districts and unions that do not have community clinics to care relatively minor illnesses. The community clinics need to be easily accessible to the local population and focused on the poor. In addition, there is a need to develop facilities that can be used as cyclone shelters in case of emergencies such as cyclones and floods.

### 5. Park

In line with the park development plan in Paurashavas, it is necessary to make effective use of fallow land and develop parks that can be used for multiple purposes by residents and tourists. For operation and maintenance, it is necessary to secure the necessary facility operation and maintenance expenses by introducing park entrance fees and facility use fees.

## **(6) Training Facility**

### **1) National Policy for Capacity development**

Human resource development and skilled manpower is an emphasis in the 8th 5-Year Development Plan of Bangladesh. A clear and well-informed vision about these issues is mentioned in the National Skill Development Policy, based on the National Skills Development Authority (NSDA) Act, 2018 and NSDA rules, 2020.

Ministry of Local Government, Rural Development and Cooperatives (MoLGRDC) plays a vital role in the provision of skill manpower. MoLGRDC has a firm intention to increase its capacity development budget (i.e., more training, new training center, and modern training and accommodation facility).

### **2) Existing Training Facilities under LGD and LGED**

Local Government Division (LGD) is conducting its capacity development program by its substantial component National Institute of Local Government (NILG). The facility of NILG in Dhaka does not provide sufficient capacity, compared to the enlarging demand of training provision. On the other hand, decentralization of training facility is badly needed.

The training activities under LGED are being conducted in Dhaka Central Training Unit (CTU) and 20 Regional Training Centers (RTCs) at 20 regions. RTCs have no accommodation and related facilities, except Chattogram RTC (only accommodation for 10 persons). Meanwhile, Dhaka CTU has minimum accommodation with capacity limited at 50 persons. It is recommended that Dhaka CTU shall be multi-functional and establish more regional training facilities. Decentralization of modern training facility was proposed due to the overloaded central training facility.

### **3) Execution of Past Training Programs for Chattogram Division.**

In the last three (3) years, nearly 50 training programs have been executed in Cox's Bazar and Bandarban districts, with the participation of more than 1,700 persons. Training programs include Administrative Training (governance, management, personal capacity building, etc.), engineering training (construction, procurement, project management, etc.) and miscellaneous (women employment, community-based organization, etc.).

### **4) Future Training Demand for Chattogram Division**

Demand of training, together with adequate facilities, is increasing. Training demand is estimated to cover various fields like administrative and engineering training, with the number of target trainees at nearly 4,500 persons. By 2035, this number can reach up to 6,200 persons involved in 180 training programs.

### **5) Necessity of Divisional Training Facility at Cox's Bazar.**

The Cox's Bazar divisional training center may be justifiable by the current status. Currently, training need is large due to less development of administrative capacity in Chattogram division. These conditions call for the establishment of a modern and well-equipped training center at Cox's Bazar, which will prompt the entire Chattogram divisional development and improve the administrative and technical skills of local officials and employees.

### **6) Planned Training Facility at Cox's Bazar**

#### **1. Location and Area**

LGED Divisional Training Center is proposed at Mohoripara (local name), Cox's Bazar under Cox's Bazar Sadar Upazila. It is directly connected to the Chattogram-Cox's Bazar highway. The transportation from each union in Cox's Bazar district and Chattogram, Bandarban district is convenient. The location of the site is far from the central business town, ensuring calm and quiet environment.

#### **2. Proposed Facility**

At least 45 accommodation rooms is proposed to be sufficient for daily operation and the demand of accommodation considering LGED standard average 30 participants for each training program and the

provision for guests from various non-governmental organizations. Some more supportive facilities are also being facilitated for the training and accommodation facilities.

### 3. Financial Justification

According to the demand estimation, the number of total training programs is 136 for the Divisional Training Center, including those for LGED, LGD, and some outsource. As per standard cost analysis of the training, total training budget in 2025 is estimated at round BDT 30 million. LGD will bear the cost of their administrative training at BDT 6 million. The other outsource also pay their own expenditure at around BDT 2 million for training purpose. The rest, BDT 22million, will be complemented by LGED.

The budget allocation in 2035 is estimated at BDT 29 million for LGED district and divisional training. Comparing with LGED divisional budget allocation in 2021/22 at BDT 20 million, incremental budget requirement will be BDT 3 million in 2025 and 9 million in 2035.

Based on the above future allocatable budget, the Divisional Training Center at Cox's Bazar is able to be operated financially.

## **(7) Heavy Equipment for O&M of Infrastructure Facilities**

### 1) Heavy Equipment managed by LGED Cox's Bazar District Office

The LGED district office, Cox's Bazar manages 14 equipment. Most of heavy equipment was used more than 20 years which is beyond their service life. Therefore, most of heavy equipment is out of order. The renting operation rate of workable equipment is limited at around 20%. Also, maintenance of heavy equipment is not carried out properly because of insufficient number of management staff and mechanical engineers, and limited budget allocation.

### 2) Issues on O&M Activities for Infrastructure Facilities in Target LGIs

Administrative staff and budget for O&M activities are not sufficient in the target LGIs. Also, target LGIs do not have enough amount of heavy equipment for O&M of infrastructure facilities. O&M activities for each infrastructure sector are not provided properly.

### 3) Necessity of Heavy Equipment for O&M of Infrastructure Facilities

In order to operate and maintain infrastructure facilities properly, heavy equipment is indispensable. Contractors in target LGIs are small and medium and in most of the cases, do not have heavy equipment of their own except in few cases. Contractors hire heavy equipment from LGED. On the contrary, since LGED Cox's Bazar has a few numbers of heavy equipment, procurement of heavy equipment is required. In addition, it is required to increase the number of human resources who properly operate and maintain heavy equipment and strengthen their capabilities.

### 4) Necessary Heavy Equipment for O&M of Infrastructure Facilities

Most of heavy equipment in Cox's Bazar LGED office is roller compactor for maintenance of road. Since various heavy equipment is indispensable for appropriate operation and maintenance of infrastructure facilities, JICA Survey team proposes to procure the following equipment: 1) bulldozer, 2) wheel dozer, 3) excavator, 4) roller compactor, 5) concrete mixer truck, 6) dump truck, 7) trailer.

### 5) Existing Situation on Machinery Workshop in the Target LGIs

Since there is no machinery workshop in the target LGIs, the heavy equipment is not maintained well. The construction works are very often hampered seriously, which result in cost overrun, more time-consuming and poor quality. JICA Survey team proposes construction of a machinery workshop as an option to solve these problems.

### 6) Challenges on Machinery Workshop Management

The management of the machinery workshop by LGED and the target LGIs is expected to increase the revenue of local governments. On the other hand, there are challenges such as the entry of competitor private companies into the target LGIs and the high difficulty of jointly management of LGED and LGIs.

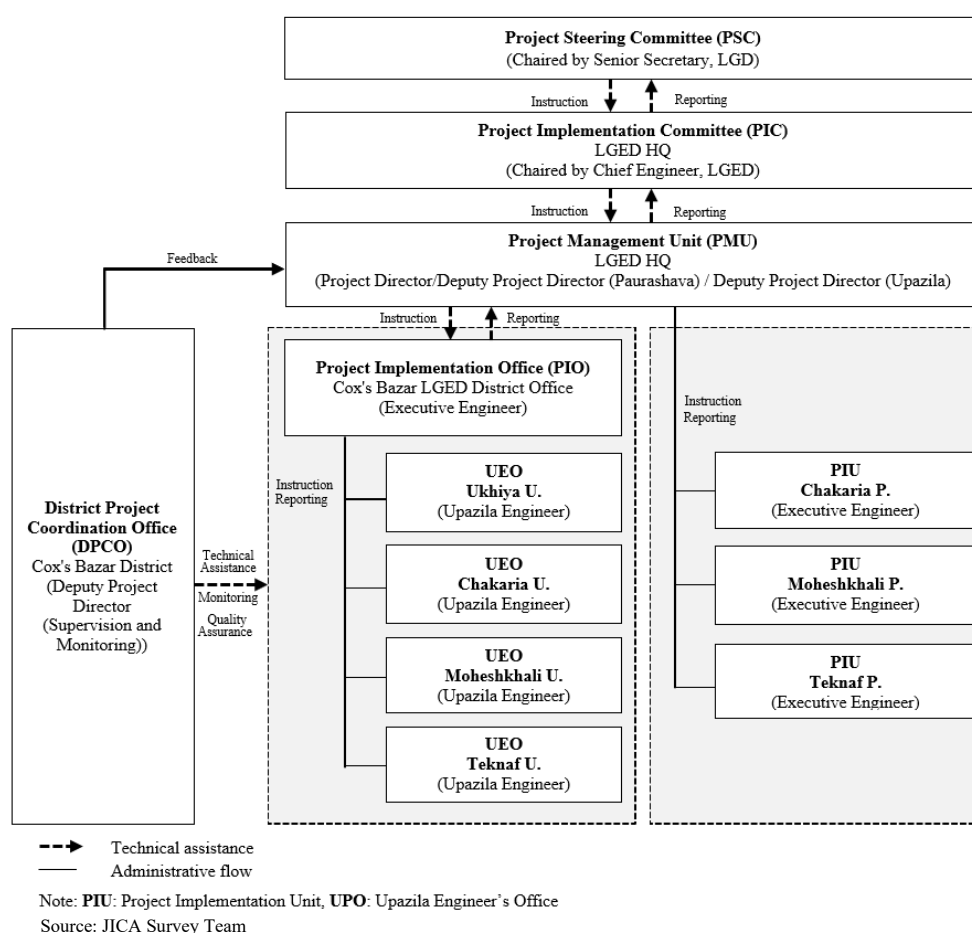


## 2) Overview of the Project Implementation Structure

Roles and activities of each organization are planned as follows.

- **Project Steering Committee (PSC):** PSC verifies the progress and issues of the project and ensures smooth coordination with other concerned ministries/divisions. PSC is chaired by Senior Secretary, LGD.
- **Project Implementation Committee (PIC):** PIC ensures the smooth implementation of the project by coordinating among the executing agencies and deciding the operational issues of the project. PIC is chaired by Chief Engineer, LGED.
- **Project Management Unit (PMU):** PMU ensures the overall implementation and administration of the project. PMU is set up in the LGED HQ and headed by a Project Director (PD) with the support of two (2) Deputy Project Directors (DPD) who are in charge of Paurashavas and Upazilas, respectively.
- **District Project Coordination Office (DPCO):** DPCO assists the activities by the PIUs, PIO, and UEOs to prepare subproject implementation plans and designs, to check and exam the expenditure, and to monitor subproject construction works, etc. DPCO shall be located at Cox's Bazar District Office. DPCO is headed by a Deputy Project Director (DPD) in charge of supervision and monitoring.
- **Project Implementation Office (PIO):** PIO ensures the management and administration of the subprojects at target Upazilas. PIO shall be set up in the LGED Office at Cox's Bazar District. PIO is headed by an Executive Engineer.
- **Project Implementation Unit (PIU):** PIU ensures the management of physical works and administration of the subprojects at target Paurashavas. PIUs shall be set up in the respective Paurashavas. PIU is headed by an Executive Engineer or an Assistant Engineer of permanent payroll.
- **Upazila Engineer's Office (UEO):** UEO ensures management of physical works and administration of the subprojects at field level of target Upazilas. UEO exists in the respective Upazilas and headed by a Upazila Engineer.

The organizational relation of the respective organizations with key personnel to be assigned is planned as follows:



**Figure 9.2 Overview of Implementing Organization and Key Staff Assignment**

Functions and staffing of each implementing organization are presented in Section 9.1, Main Report.

## (2) Institutional Setup within the Target Paurashava and Upazila

### 1) Paurashava

It is necessary to identify the responsible section/department and the in-charge committee in Paurashava Council for the management and the O&M of the infrastructure that shall be planned and developed under the project.

### 2) Upazila

It is necessary to identify the responsible office and the in-charge committee in Upazila Parishad for the management and O&M of the infrastructure that are planned and developed under the project.

### 3) Working Group for Paurashava-Upazila Coordination

Under the project, solid waste management facilities and township are planned to be jointly operated and managed by Paurashava and Upazila administrations. For the coordination between Paurashava and Upazilas, a working group shall be established by the concerned Paurashava and Upazila<sup>30</sup>.

## 9.2 Implementation Schedule of the Project

The Project will start in March 2023 and continue until June 2028, a period of five years and four months, if loan agreement is expected in February 2022.

<sup>30</sup> Establishment of a coordination (joint) committee is stipulated in the Article 106 of the Municipality (Paurashava) Act, and the Article 54 of the Upazila Parishad Act.

### 9.3 Procurement

Procurement method for the project is proposed based on the features of the project and the review result of current procurement method by implementing organization, LGED.

The procurement of goods and construction works by PIO and PIUs in the project shall apply the LCB based on the Bangladesh Public Procurement Act 2006 (PPA) and Public Procurement Rules 2008 (PPR), with amendments reflecting the Guidelines for Procurement under Japanese ODA. For the consultancy services, the proposed method of selection is the Quality- and Cost-Based Selection (QCBS). (EOI) is proposed to be in accordance with PPR/PPR.

### 9.4 Safety and Security Measures

#### (1) Safety and Security Measures

During the construction, contractors are recommended to take the following measures related to immobilized institutions and linear infrastructure: more security guards and gates, the installation of fences, CCTVs, lights, generators, signboards, and safety sears for workers.

For consultants, automobiles with shatterproof sheet in windows and experienced drivers should be arranged for transportation. Regarding safe and secure communication, cell phones installed Global Positioning System (GPS) with enough battery (and a separate battery) are advisable.

#### (2) Actions to be Taken by Each Party

considering the existing conditions as mentioned in Sub-section 6.6.2 Safety Situations, the following actions are proposed to secure safety in the detailed design and construction work in the project:

In the Appraisal/Design, UEO and PIU shall report necessary measures for safety and security for D/D and construction works, the costs of these measures are then estimated by PIO/PCO and are included in DPP by PMU.

In Tendering, for subprojects implemented in Upazilas and Paurashavas, PIO and PIU respectively require safety plans and the costs from the tenderers and then evaluate the tenders in terms of safety.

During the construction, UNO in Upazilas and Mayor in Paurashavas give approval to occupy roads and properties for construction (for subprojects implemented in Upazilas and Paurashavas, respectively) by the date stipulated in the contract. UEO and PIU monitor the safety measures taken by the contractors and instruct modification periodically during construction. After selecting contractors of subprojects in each batch, PIO/PCO shall organize contract management seminars including safety measures for the contractors.

### 9.5 Fund Flow

JICA's Advance Procedure is proposed in the disbursement of civil works and goods. Meanwhile, consultancy services shall apply JICA's Transfer Procedure.

### 9.6 Operation and Effect (O&E) Indicators and Project Effectiveness (First Batch Subprojects)

Operation and effect indicators of each sector are set as follows:

**Table 9.1 O&E Indicators**

Sector	O&E Indicators
Road and bridge	<ul style="list-style-type: none"> <li>Annual Average daily traffic volume (PCU/day)</li> <li>Traveling time (minute/10 km)</li> </ul>
Drainage/Flood Protection	<ul style="list-style-type: none"> <li>Area affected by flood and inundation (m<sup>2</sup>)</li> <li>Number of affected households</li> <li>Frequency of flood and inundation</li> </ul>
Water supply	<ul style="list-style-type: none"> <li>Water supply quantity (m<sup>3</sup>/day)</li> <li>Coverage ratio (%)</li> </ul>
Solid waste management	
Transfer station	<ul style="list-style-type: none"> <li>Collection quantity (ton/year)</li> <li>Waste collection rate (%)</li> </ul>
Landfill site	<ul style="list-style-type: none"> <li>Sanitary landfilling quantity (ton/year)</li> <li>Sanitary landfilling rate (%)</li> </ul>
Other Public infrastructure	
Market	<ul style="list-style-type: none"> <li>Number of stores (store)</li> <li>Trade amount (BDT/year)</li> </ul>

Sector	O&E Indicators
Clinic	<ul style="list-style-type: none"> <li>Number of outpatient (person/year)</li> <li>Time to clinic by residents in targeted area (minutes)</li> </ul>
School	<ul style="list-style-type: none"> <li>Number of pupils (disaggregated by gender) (person/year)</li> <li>Gross enrollment ratio (%)</li> </ul>
Cyclone shelter	<ul style="list-style-type: none"> <li>Capacity of the facilities per total population in the target area (%)</li> </ul>
Training center / Park	<ul style="list-style-type: none"> <li>Average Number of users (person/day)</li> </ul>

Note: O&E indicator for township development will be evaluated in accordance with each related sector.

Source: JICA Survey Team

As qualitative effect indicators, improvement of the quality of life of residents in the southern Chattogram region, economic development, and correction of disparities are set.

The economic internal rate of return (EIRR) was calculated to evaluate the economic investment efficiency, and it was confirmed that the subprojects had sufficient investment efficiency. The results of EIRR of 2<sup>nd</sup> and 3<sup>rd</sup> batch subprojects are reference value. The Loan Consultant should calculate the EIRR of 2<sup>nd</sup> and 3<sup>rd</sup> batch subprojects after the subprojects are finalized. In addition, the amount of greenhouse gas reduction was calculated for the subprojects.

## 9.7 Risk of the Project

The potential project risks are summarized in the following table.

**Table 9.2 Potential Project Risk**

Type of Risk	Description of Risks
1. Stakeholder Risk	Complaints from people who provide land or need to relocate
2. Executing Agency Risk	
2.1. Capacity Risk	Delay or insufficient staff assignment in project implementing organizations (e.g., PMU, PIO, UEO and PIU)
2.2. Governance Risk	Lack of coordination among project implementing organizations
2.3. Fraud & Corruption Risk	Fraud & corruption for selecting contractors at procurement stage
3. Project Risk	
3.1. Design Risk	Design failure due to insufficient detailed design
3.2. Program & Donor Risk	Selecting contractors without respecting JICA Procurement Guidelines
3.3. Delivery Quality Risk	Lack of safety and security management
4. Other Risk	Delay or damage due to cyclone, flood, or prolonged rainy season
5. Overall Risk Rating	If the countermeasures are implemented successfully, there will be no critical risk of high probability that may cause serious delay of the project or deteriorate the project's beneficial effects, since LGED has enough experience to implement this kind of project in nationwide. The key issue for the project implementation is to hire staff in project implementing organizations timely.

Source: JICA Survey Team

## 9.8 Linkage with other JICA/donor projects

To prevent the duplication of subprojects with other donor-funded projects, it is recommended for each LGI to prepare a subproject list, supported by project monitoring and evaluation experts to be hired under the Project. Then, in case of Upazila, each LGI shall submit the list monthly to LGED Cox's Bazar District Office, and in case of Paurashava, each LGI shall submit the list monthly to PMU. In case where there is a duplication, LGED Cox's Bazar District Office and PMU shall coordinate among concerned subprojects to resolve such duplication respectively.

It is also recommended to seek coordination and synergy effect with JICA and other donor funded projects, such as periodical information sharing at the implementation period.

## 9.9 Monitoring of the Project Implementation Progress / Administration Support

### (1) Reporting

Progress of the project implementation will be monitored by the respective project implementation organizations throughout the project period. Progress of the project implementation and the issues raised during the sub project implementation will be reported by "Progress Report" to the concerned project implementation organizations regular as shown in the table below. If serious delays of the progress or issues on the project implementation are identified in the process of the monitoring, PMU will take necessary action to solve the issue with the concerned organizations. PSC will be organized a project review meeting at least once a year to discuss the overall project progress and issues.

### (2) Project Administration Support

Due to the significant limitation of staff, budget, and capacity in the target LGIs (as stated in Chapter 4), administration supports are necessary for successful implementation.



Before the initiation of project investment, at Paurashava and Upazila levels, the followings are proposed for preparation: i) administrative process with respective roles of officers for subproject implementation and service delivery, ii) project operational manual with all related information, iii) contract terms/conditions as well as instructions for service delivery, iv) administrative procedures for the working group among target Paurashavas and Upazilas (if any), and v) necessary administrative orders and procedures for collection of solid waste fee from solid waste disposers. Besides, Upazilas need to develop the project administration, under coordination with PIO (LGED district office).

During the project implementation, administrative activities are planned for monitoring and evaluation, the results of this process are used to further revision and guidelines. Contracted service provider(s) are supervised and evaluated; their renewal of contract(s) will be based on the results. Also, it is recommended to prepare operation and maintenance guidelines including, but not limited to, responsible persons and departments with specific roles.

#### **10. Environmental and Social Considerations**

Considering that the Project lies in flood prone area and that a massive influx of population in an unplanned manner, it is expected that subprojects of each sector provide not only basic services but likely improve convenience and enhance the quality of local life. Numerous of them are also regarded as adaptation measures against climate change.

On the other hand, it is also true that some project components will likely cause certain adverse impacts, since enhancement of essential public infrastructures in the immediate neighborhoods of the target LGIs may directly affect land use. Certain number of subprojects are anticipated to cause land acquisition, asset loss or hew down of trees in the residential areas. Construction work will worsen, to some extent, air pollution, water pollution, soil pollution, noise and vibration and waste, accidents, and so on.

Based on the results of the environmental and social survey of the batch-1 subprojects, all potential impacts during the construction phase are considered being mitigated amenably to substantially with measures that are both available and feasible. Similarly, impacts in the operation phase could be avoided or greatly minimized by sensible design decisions. Some impacts, such as emissions and noise that will keep increasing throughout the construction period despite some mitigation measures, will be residual impacts for which mitigation will inevitably be less than fully satisfactory. It is considered that the impacts anticipated from this project will not rise to a level of magnitude, severity or complexity that would justify further detailed study and development of novel or specialized mitigation strategies. Social survey for the 14 batch-1 subprojects has also found that there would be no involuntary resettlement, although there anticipated land acquisition, asset losses such as primary structures and trees.

As per the batch-2 and batch-3, facing the fact that it remains uncertain if the listed subprojects are implemented, that they have not yet been designed in detail up to the level that allows procurement for construction work, and that it will be during the project implementation stage when they will fix the final list of subprojects within the limitation of the loan amount, it is difficult at this processing stage to assess and predict environmental and social impacts in a concrete manner, to propose mitigation measures or monitoring plan in the forms of official IEE, EMP or EIA. An Environment Assessment and Review Framework (EARF) and Resettlement Policy Framework (RPF) is thus prepared to adequately conduct screening based on the agreed criteria, and to conduct scoping, assess, review, and monitor the environmental impacts of subprojects. It includes anticipated environmental impacts caused by the project implementation, guiding principles for land acquisition and resettlement, and processes for future environmental assessment of subprojects, public consultation, information disclosure, grievance redress, institutional responsibilities of various agencies, and monitoring and reporting. Considering the possible reshuffle of subprojects from the shortlist, selection criteria from environmental and social perspectives are required, based on which PMU, PIU and PIO/UEO are to examine which subprojects can be included in the loan to ensure transparency and accountability.

## **11. Recommendation**

Based on the result of JICA SCRDP study, the following activities to be made by LGED, LGIs and JICA may be recommended for preparation and implementation of SCRDP.

### **11.1 LGED**

#### **(1) Preparation of DPP (Development Project Proforma/Proposal) by February 2022**

- District Commissioner (DC) Certificate on necessary budget for land acquisition and other compensation
- Estimation of the necessary GOB counterpart fund

#### **(2) Preparatory works and Project Implementation after DPP approval (completed by December 2022)**

- Approval of project staff assignment at PMU, DPCO, PIO, PIU and UEO
- Preliminary agreement of the Operation Guideline (OG) among LGIs based on the the Administration Procedure Manual drafted by JICA study team
- Certification process of IEE for the seven (7) subprojects in the Batch-1
- Compensation process for land and others for the seven (7) subprojects in the Batch-1
- DD and cost estimation for the seven (7) subprojects in the Batch-1

### **11.2 LGIs (Batch-1 Subproject, completed by December 2022)**

- Speedy process of DC and Ministerial Certification for land acquisition and other compensation
- Assignment of project staff at LGIs and initial guidance for project implementation
- Confirmation of the operation guideline (OG) of the Project at LGIs
- Supporting of IEE certificate and compensation process of land and others for the seven (7) subprojects in the Batch-1

### **11.3 JICA**

- Monitoring on organization set-up and assignment for project implementing by LGED and LGIs
- Monitoring on IEE certification, process of land and other compensation, and DD for the seven (7) subprojects in the Batch-1
- Early technical assistance for the residential development at the three target townships including PPP

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## List of Abbreviation

ADB	: Asian Development Bank
AA	: Agricultural Area
AAP	: Action Area Plan
ADB	: Asia Development Bank
ADC	: Additional Deputy Commissioner
ADLG	: Assistant Director Local Government
ADP	: Annual Development Programme
ARC	: Administrative Reform Committee
BADC	: Bangladesh Agricultural Development Corporation
BBS	: Bangladesh Bureau of Statistics
BC	: Bituminous Carpeting
BCS	: Bangladesh Civil Service
BDT	: Bangladesh Taka
BEPZA	: Bangladesh Export Processing Zones Authority
BEZA	: Bangladesh Economic Zones Authority
BIDA	: Bangladesh Investment Development Authority
BMDf	: Bangladesh Municipal Development Fund
BRAC	: Bangladesh Rural Advancement Committee
BSCIC	: Bangladesh Small and Cottage Industries Corporation
Big-B	: Bay of Bengal Industrial Growth Belt
BWDB	: Bangladesh Water Development Board
C4C	: Capacity Development for City Cooperation
CBD	: Central Business District
CBO	: Community Based Organization
CBP	: Cox's Bazar Paurashava
CC	: City Corporation
CDCC	: City Development Coordination Committee
CDIA	: Cities Development Initiative for Asia
CDU	: Capacity Development Unit
CEO	: Chief Executive Officer
CEIP-1	: Coastal Embankment Improvement Project - Phase 1
CEP	: Coastal Embankment Project
CG	: Community Group
CIP	: Capital Investment Plan
CISC	: City Information Service Center
CLCC	: City Level Coordination Committee
COVID-19	: Coronavirus Disease 2019
CPA	: Chittagong Port Authority
CPGCBL	: Coal Power Generation Company Bangladesh Limited
CPTU	: Central Procurement Technical Unit
CPU	: Comprehensive Planning Unit
CRC	: Citizen Report Card
CS	: Construction Supervision
CSCC	: Civil Society Coordination Committee
CSO	: Community Services Organization
CTU	: Central Training Unit
CUA	: Central Urban Area
CoxDA	: Cox's Bazar Development Authority
CuCC	: Cumilla City Corporation
DAE	: Department of Agricultural Extension
DANIDA	: Danish International Development Agency
DAP	: Detailed Area Plan
DC	: Deputy Commissioner
DD	: Detailed Design
DDCCM	: District Development Coordination Committee Meetings
DDLg	: Deputy Director, Local Government
DDP	: Detailed Development Plan
DFR	: Draft Final Report
DOE's	: Department of Environment
DPCBT	: Development Plan for Cox's Bazar Town, Sea Beach Up to Teknaf
DPHE	: Department of Public Health Engineering

DPP	: Development Project Proforma/Proposal
ePW3	: Standard e-Tender Document for Procurement of Works
EA	: Executing Agency
EALG	: Efficient and Accountable Local Governance
EAP	: Emergency Assistance Project
ECC	: Environmental Clearance Certificate
ECDM	: Environment, Climate and Disaster Management
ECNEC	: Executive Committee of the National Economic Council
ECRRP	: Emergency Cyclone Recovery and Restoration Project
EIA	: Environmental Impact Assessment
EMP	: Environment Management Plan
EOI	: Express of Interest
EPZ	: Export Processing Zones
EZ	: Economic Zone
FAR	: Floor Area Ratio
FD	: Finance Department
FDI	: Foreign Direct Investment
FF	: Fact Finding
FGD	: Focus Group Discussion
FM	: Financial Management
FMIS	: Financial Management Information Systems
FR	: Final Report
FS	: Feasibility Study
FY	: Financial Year
GAP	: Gender Action Plan
GCC	: Gazipur City Corporation
GED	: General Economic Division, Planning Commission under Ministry of Planning
GIS	: Geographic Information System
GMA	: Growth Management Area
GOB	: Government of Bangladesh
GOJ	: Government of Japan
GRC	: Grievance Redress Cell
HYSAWA	: Hygiene, Sanitation and Water Supply
IBRD	: International Bank for Reconstruction and Development
ICGIAP	: Inclusive City Governance Improvement Action Plan
ICGP	: Inclusive City Governance Project
ICRC	: International Committee of the Red Cross
IDA	: International Development Association
IDP	: Infrastructure Development Plan
IEE	: Initial Environment Examination
IFPQ	: Invitations for Pre-Qualification
IFT	: Invitations for Tender
ITR	: Interim Report
IUIDP	: Important Urban Infrastructure Development Project
JETRO	: Japan External Trade Organization
JICA	: Japan International Cooperation Agency
JPY	: Japanese Yen
KII	: Key Informant Interview
KOICA	: Korea International Cooperation Agency
LA	: Loan Agreement
LCB	: Local Competitive Bidding
LCS	: Least Cost Selection
LED	: Light-Emitting Diode
LEO	: Law Enforcing Unit
LGD	: Local Government Division
LGI	: Local Government Institution
LGED	: Local Government Engineering Department
LGU	: Local Government Unit
LIUPCP	: Livelihoods Improvement of Urban Poor Communities Project
LTM	: Limited Tendering Method
MCC	: Mass Communication Cell
MGC	: Maximum Ground Coverage
MGSP	: Municipal Governance Support Project
MIDI	: Moheshkhali-Matarbari Integrated Infrastructure Development Initiative

MoA	: Ministry of Agriculture
MM	: Men Month
MOF	: Ministry of Finance
MOLGC	: Ministry of Local Government and Cooperative
MP	: Member of Parliament
M/P	: Master Plan
MPM	: Mass Public Meeting
MSP	: Municipal Services Project
MoCHTA	: Ministry of Chittagong Hill Tract Affairs
MoPA	: Ministry of Public Administration
MoLGRD	: Ministry of Local Government, Rural Development and Co-operatives
MoWR	: Ministry of Water Resources
NCC	: Narayanganj City Corporation
NDCC	: North Dakota Century Code
NGO	: Non-Governmental Organizations
NH-1	: National Highway No.1
NIS	: National Integrity Strategy
NISSP	: National Integrity Strategy Support Project
NLTP	: National Land Transport Policy
NOA	: Notification of Award
NOBIDEP	: Northern Bangladesh Integrated Development Project
NSPGI	: National Strategy for Paurashava Governance Improvement
NWPo	: National Water Policy
O&M	: Operation & Maintenance
ODA	: Official Development Assistance
OEI	: Operation and Effect Indicators
OJT	: On the Job Training
OMA	: Outer Management Area
OTM	: Open Tendering Method
PBA	: Performance Based Approach
PCO	: Project Coordination Office
PDCA	: Plan Do Check Act
PDP	: Paurashava Development Plan
PEC	: Project/Proposal Evaluation Committee
PHC	: Primary Health Care
PIP	: Project Investment Plan
PIU	: Project Implementation Unit
PMF	: Public Financial Management
PMO	: Project Management Organization
PMO	: Prime Minister's Office
PMU	: Project Management Unite
PP	: Perspective Plan
PPA2006	: Public Procurement Act 2006
PPP	: Public Private Partnership
PPR	: Public Procurement Rules
PR	: Performance Review
PRLD	: Private Residential Land Development Rules, 2004
PSC	: Project Steering Committee
PSU	: Policy Support Unit
PTW	: Production Tube Well
PWD	: Public Works Department
QCBS	: Quality- and Cost-Based Selection
RAJUK	: Rajdhani Unnayan Kartripakkha
RCC	: Reinforced Cement Concrete
RAP	: Resettlement Action Plan
RB	: Road and Bridge
RFQ	: Request for Quotation
RHD	: Roads and Highways Department
RH-172	: Regional Highway 172
RMP	: Road Master Plan
RTC	: Regional Training Centres
SBSQ	: Selection Based on Consultant's Qualifications
SC	: Standing Committee
SCC	: Site Clearance Certificate

SDC	: Swiss Agency for Development and Cooperation
SDCC	: Sustainable Development and Climate Change
SDG	: Sustainable Development Goals
SDP	: Sector Development Plan
SEZ	: Special Economic Zone
SFB	: Selection under a Fixed Budget
SGI-CCT	: Strategy for Governance Improvement of City Corporations in Transition
SP	: Structure Plan
SPGP	: Strengthening Paurashava Governance Project
SPIMS	: Strengthening Public Investment Management System Project
SSS	: Single Source Selection
STD	: Standard Tender Document
SWM	: Solid Waste Management
SWOT	: Strengths, Weaknesses, Opportunities, Threats.
TDM	: Travel Demand Management
TDS	: Tender Data Sheet
TLCC	: Town Level Coordination Committee
TOR	: Terms Of Reference
UAP	: Urban Area Plan
UDCC	: Union Development Coordination Committee
UDCG	: Urban Development and City Governance
UDCGP	: Urban Development and City Governance Project
UDD	: Urban Development Directorate
UGDP	: Upazila Governance and Development Project
UGIIP	: Urban Governance Infrastructure Improvement Project
UICDP	: Upazila Integrated Capacity Development Project
UIIPF	: Urban Infrastructure Improvement Preparatory Facility
ULB	: Urban Local Body
UN	: United Nations
UNDP	: United Nations Development Programme
UNHCR	: The Office of the United Nations High Commissioner for Refugees
UNO	: Upazila Nirbahi Officer
UPDSC	: Urban Planning and Development Support Committee
USAID	: United States Agency for International Development
UTIDP	: Upazila Towns Infrastructure Development Project
VAT	: Value Added Tax
WASA	: Water Supply & Sewerage Authority
WARPO	: Water Resource Planning Organization
WASH	: Water, Sanitation and Hygiene
WB	: World Bank
WBA	: Ward Based Approach
WLCC	: Ward Level Coordination Committee
WSS	: Water Supply and Sanitation

## Measurement Units

### Length

mm = millimeter(s)  
cm = centimeter(s) (cm = 10 mm)  
m = meter(s) (m = 100 cm)  
km = kilometer(s) (km = 1,000 m)

### Extent

cm<sup>2</sup> = square centimeter(s) (1.0 cm × 1.0 cm)  
m<sup>2</sup> = square meter(s) (1.0 m × 1.0 m)  
km<sup>2</sup> = square-kilometer(s) (1.0 km × 1.0 km)  
ha = hectare(s) (10,000 m<sup>2</sup>)  
Acre = 0.4047 hectare(s) (4,047 m<sup>2</sup>)

### Volume

cm<sup>3</sup> = cubic centimeter(s)  
(1.0 cm × 1.0 cm × 1.0 cm, or 1.0 ml)  
m<sup>3</sup> = cubic meter(s)  
(1.0 m × 1.0 m × 1.0 m  
or 1.0 kl)  
L = liter (1,000 cm<sup>3</sup>)  
MCM = million cubic meter(s)

### Weight

g = gram(s)  
kg = kilogram(s) (1,000 grams)  
ton(s) = metric ton(s) (1,000 kg)

### Time

sec = second(s)  
min = minute(s)  
hr = hour(s)

### Others

ppm = parts per million  
° = degree  
°C = degrees Celsius  
% = percent  
mS = millisiemens

### Currency

US\$ = United State dollar(s)  
JPY = Japanese yen(s)  
BDT = Bangladeshi Taka(s)

### Exchange rate

USD 1 = JPY 110  
USD 1 = BDT 84.8  
BDT 1 = JPY 1.30  
(As of August in 2021)

## CHAPTER 1 INTRODUCTION

### 1.1 Background

People's Republic of Bangladesh has achieved GDP growth rate at around 6%/year on average since 2000 and its poverty rate decreased by a half in 16 years, reaching 24.3% in 2016. However, while the poverty rate of the urban area has been improved to 21.3 % owing to the continuous economic growth, that of the rural area including Cox's Bazar district is still high at 35.2 %. Therefore, the development of the local area has been the important policy challenge in Bangladesh.

In the Southern Chattogram Region, following the Bay of Bengal Industrial Growth Belt (Big-B), several projects in integrated infrastructure development have been planned and implemented, including Matabari Ultra Super Critical Coal-Fired Power Project (2014-2019, approved, JICA) and Matabari Port Development Project (2018-2019 Approved, JICA) . The base site of these projects in Cox's Bazar district is expected to be an area where will lead the growth of Bangladesh. The population of Cox's Bazar district and the surrounding area is estimated to increase by around 40 thousand in 2026 and around 110 thousand in 2041 (JICA, 2019). On the other hand in the Cox's Bazar district, around 900 thousand refugees from Rakhine State, Myanmar have migrated to Ukhia and Teknaf Upazilas since July 2017 where are deteriorating local resources such as domestic water, forest, farmland, employment and wages of local residents (UN, 2019). In the future, this significant increase of population and the insufficient basic infrastructure in Cox's Bazar and other neighboring districts will result in the serious problems including deterioration of road condition by increase of traffic and decrease of public services for domestic water supply, medical care, education, solid waste collection and disposal, etc.

### 1.2 Project Objectives and Survey Contents, and Projects to be formulated

The objectives of Southern Chattogram Regional Development Project (SCRDP) are to improve the living standard and enhance the quality of life in the southern Chattogram region through the development of public infrastructure, thereby contributing to the economic development and redress of disparities. To achieve the project objectives, the Survey will be made by the following subjects:

1. Assess current condition and issues on the urban planning, infrastructure development, their O&M and the assistance from the international organizations and donors at Chattogram, Cox's Bazar and Bandarban districts in the Southern Chattogram region;
2. Select target local government institutions (LGIs), identify implementable subprojects, prepare long-list of subprojects, and their priority ordering;
3. Study and assess subproject's necessity, outline, preliminary design and cost estimate, implementation schedule, procurement and construction methods, implementation organizations, operation and maintenance system, environment and social consideration, etc. under the three batched implementation; and
4. Assess implementation of the subprojects by ODA loan project, and implement necessary survey for loan appraisal.

The following table shows the original outline of the Project to be formulated in the Survey:

**Table 1.2.1 Outline of the Project to be formulated**

Items	Contents
Name	Southern Chattogram Region Development Project (the Project)
Purpose	The objective of the Project is to improve the living standard and enhance the quality of life in the southern Chattogram region by development of basic infrastructure, thereby contributing to the economic development and redress of disparities.
Component	<ol style="list-style-type: none"> <li>1) Infrastructure Development (including necessary equipment) <ul style="list-style-type: none"> <li>• Road and Bridges (renovation, up-gradation, construction, widening of existing roads, construction of bridges, etc.)</li> <li>• Drainage and irrigation (drainage ditch maintenance, small-scale irrigation facility development, river improvement, etc.)</li> <li>• Water supply facilities (water supply pipe system and maintenance, expansion, water purification facility maintenance, etc.)</li> <li>• Solid waste management facilities (construction landfill, improvement and expansion of current landfill and collection system, etc.)</li> <li>• Township development infrastructures (land development, access road, drainage treatment, water supply system, etc.)</li> <li>• Other public facilities (market, park, community clinic with cyclone shelter, medical facilities, school with cyclone shelter, cyclone shelter, street light, training center, multipurpose building, etc.)</li> </ul> </li> <li>2) Consulting service (implementation supervision, technical assistance)</li> </ol>
Target District	Chattogram district*, Cox's Bazar district, Bandarban district*
Target LGIs	LGIs to be selected from the 3 districts above (Upazila, Paurashava)

Items	Contents
Related Governments Institution	Competent Authority: LGD, Executing Agencies: LGED, Related Agencies: Upazila, Paurashava, Cox's Bazar Development Authority

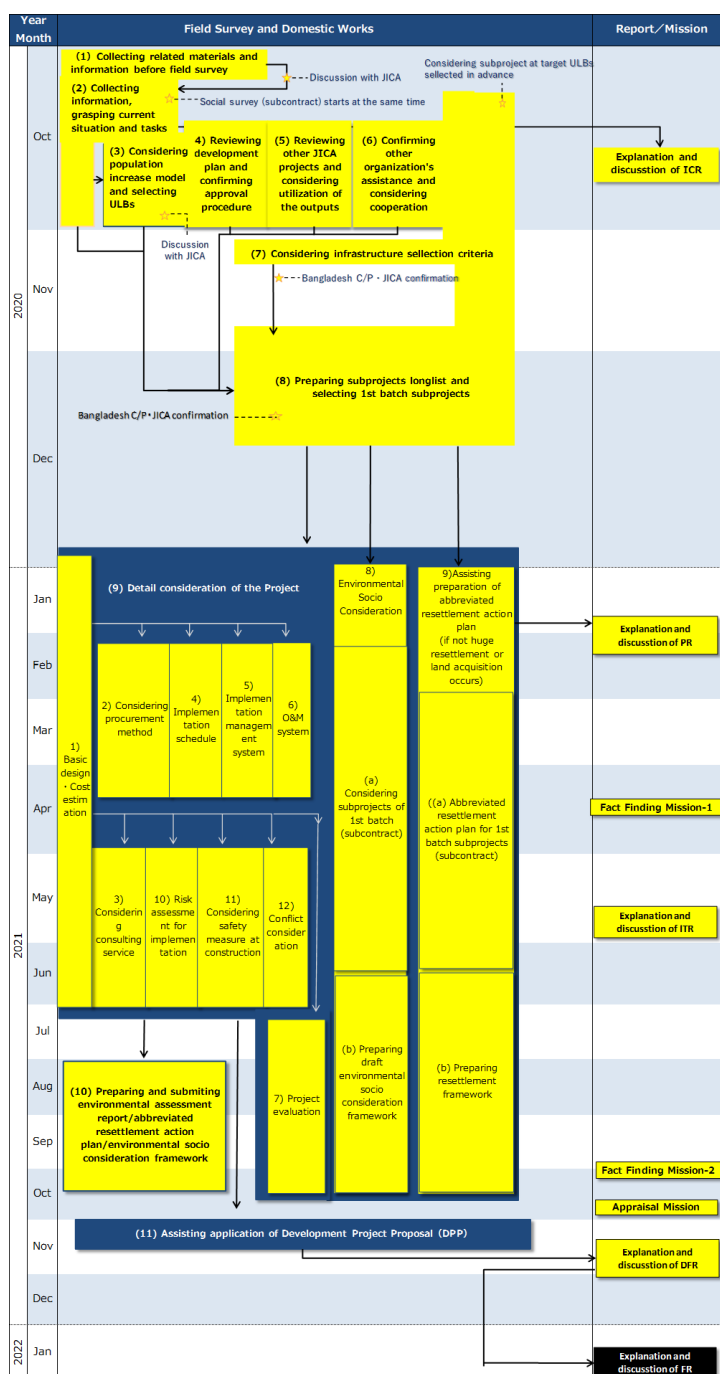
Note: \* excluded from the project as a result of the survey.  
Source: JICA Survey Team

### 1.3 Survey Activities

After the contract of SCRDP Survey on October 9 2020, the Survey was initiated. The Inception Report was submitted on October 19 2020. The meeting with JICA was made on October 14 and December 7 2020, and Inception meeting with LGED was made on October 28 2020.

Due to COVID-19, the survey works had been implemented in Japan in the beginning of the project. From October 2020, local consultants were deployed and assigned for data collection, meetings with the respective LGIs, site investigation, etc. More specifically, the meetings with LGIs were made for requesting coordination, data collection, selection of target subprojects, etc. The Progress Report was in preparation accordingly and submitted to JICA in January 2021.

Through the site investigation and available data collected, shortage of available information for the preparation of drainage canal improvement projects was obvious considering the inflow of saline water to the canals and the reverse flow of drainage water from the rivers. The procurement of topographic map by 0.5m contour interval at selected area, route survey of drainage canals, and flood assessment were made in December 2020 after the approval of JICA (Ref. Attachment 1.3.1). The Progress Report was prepared on the basis of the aforementioned activities and submitted in January 2021. The meeting with LGED and JICA regarding to Progress Report was made on March 1 2021.



Source: JICA Survey Team

**Fig1.3.1 Flow Chart of the Survey Works**

From February 2021, the foreign experts visited Bangladesh and continued survey works in Dhaka up to May 2021. During this period, the meetings between JICA survey team and each LGIs were conducted. Assessment for project formulation was also implemented including basic design, cost estimation, procurement methods, schedule for implementation, risk assessment, etc. Safety measures and conflicts were also studied. Interim Report was then prepared and submitted to JICA on May 24 (English version)



and May 29 (Japanese version) 2021. The meeting with LGED and JICA regarding to Interim Report was made on June 14 2021.

From June 2021, the foreign experts visited Bangladesh again and continued remained survey works in Dhaka up to November 2021. During this period, field survey at Cox's Bazar district was conducted by local consultant under instruction of Japanese experts to confirm each subproject's information. Supervision of subcontract survey (Initial Environmental Examinations, IEE and Abbreviated Resettlement Action Plan, ARAP) was also conducted in Dhaka.

Draft final report was prepared and submitted to JICA on November 15 2021. Final report will be submitted on 28<sup>th</sup> February 2022.

The schedule of survey work is shown in Attachment 1.3.2.

**Table 1.3.1 Survey Activities (as of 15<sup>th</sup> November 2021)**

Date	Contents	Remarks - Agenda
October 14 <sup>t</sup>	First meeting between JICA and survey team	Explanation and discussion on survey contents and approach
October 19	Submission of Inception Report	
October 28 <sup>t</sup>	Kick-Off meeting among LGED, JICA and survey team	Explanation on Inception report
October 31 – November 6	First field survey	Field survey done by the national staff on Governance, Drainage and Social survey
November 14 – December 18	Second field survey	Field survey made by the national staff on Governance, Urban planning, Road/Bridge, Drainage, Solid waste management and other public facilities
November 22	Meeting with Chakaria Paurashava and Upazila	Survey progress and results, and request for further information and data
November 23	Meeting with Moheshkhali Paurashava and Upazila	- do -
November 24	Meeting with Teknaf Paurashava and Upazila	- do -
November 25	Meeting with Ukhia Upazila	- do -
December 7	Progress meeting between JICA and survey team	Explanation and discussion on Progress Report
January 27 <sup>t</sup>	Submission of Progress Report	
February 25 <sup>th</sup>	Meeting with Chakaria Paurashava and Upazila	a) How the 1 <sup>st</sup> draft Sub Projects will operate & maintain, b) Limitations of local authority, c) Solid waste management, d) Private participation schemes, Township development and management, e) Future plan etc.
March 1 <sup>st</sup>	Meeting on Progress Report among LGED, JICA and survey team	a) Objectives of the Survey, b) Survey Progress, c) Selection of the target areas, d) Status of the governance of the target LGIs, e) Proceeding infrastructure related projects in the target LGIs; f) Need assessment of affected households by MIDI development, g) Host communities for Displaced persons from Rakhine state, Myanmar and township development; h) Issues of the current operation and maintenance for infrastructure, i) Selection process of priority sub-projects
March 2 <sup>nd</sup>	Meeting with Teknaf Paurashava, Moheshkhali Paurashava and Upazila	a) How the 1 <sup>st</sup> draft Sub Projects will operate & maintain, b) Limitations of local authority, c) Solid waste management, d) Private participation schemes, Township development and management, e) Future plan etc.
March 3 <sup>rd</sup>	Meeting with Chakaria Upazila	- do -
March 7 <sup>th</sup>	Meeting with Teknaf Upazila	- do -
March 8 <sup>th</sup>	Meeting with Ukhia Upazila	- do -
March 9 <sup>th</sup>	Meeting among LGED, JICA & survey team	a) Clarification and explanation from PR meeting on 1 <sup>st</sup> March 21, b) Selection process of the target areas; c) Population projection and township holding population in the future.
March 16 <sup>th</sup>	Meeting among all LGIs, Cox's bazar District LGED office and LGED HQ	a) Background of the Project, its objective and schedules, b) Challenges for sustainable O&M of Infrastructure and SWM activities, c) Coordination between Upazila and Paurashavas regarding the project activities (township development, SWM)
March 22 <sup>nd</sup> – April 12 <sup>th</sup>	1 <sup>st</sup> JICA Fact Finding Mission	a) Implementation schedule, b) Selection of the target areas, c) Priority of township development to be implemented, d) Selection of the priority sub projects (tentative), e) Implementation Structures (LGED/ Paurashava Upazila /PMU, f) Approval procedure of the sub projects
April 5 <sup>th</sup>	Meeting with Chakaria Upazila	a) Solid Waste Management (organization to be implemented, private participation, collection of charges, etc.), b) Township, c) Investment of basic infrastructure, d) Post investment: residential building, utilities inside, Management /operation and maintenance, PPP application, etc., e) Mechanical workshop, and equipment and machinery for SWM and infrastructure O&M (location, management, leasing and revenue, roles of LGIs), f) Additional survey and data collection (Request to LGIs)
April 6 <sup>th</sup>	Meeting with Moheshkhali Paurashava, Moheshkhali Upazila	- do -
April 7 <sup>th</sup>	Meeting with Teknaf Paurashava, Chakaria Paurashava	- do -
April 8 <sup>th</sup>	Meeting with Teknaf Upazila, Uikhia Upazila	- do -
April 14 <sup>th</sup>	Meeting with Moheshkhali Upazila	a) Sharing land price survey sheet, b) Machinery workshop photos and coordinate, c) Coordination organization between Paurashava and Upazila and, d) Private contractors' opinion
April 15 <sup>th</sup>	Meeting with Chakaria Paurashava & Upazila, Teknaf Paurashava	- do -
April 18 <sup>th</sup>	Meeting with Moheshkhali Paurashava, Teknaf Upazila, Uikhia Upazila	- do -

Bangladesh, Preparatory Survey on Southern Chattogram Regional Development  
Final Report

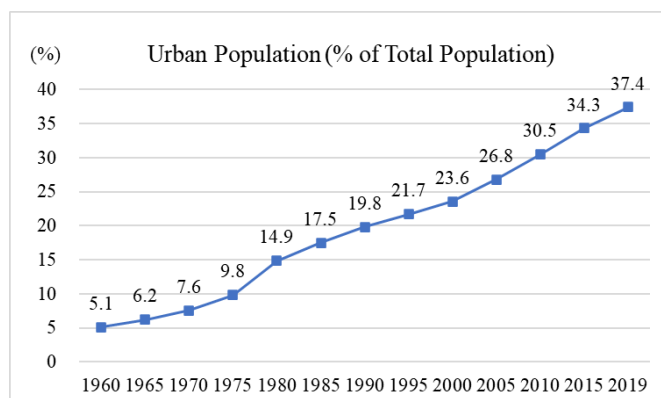
Date	Contents	Remarks · Agenda
April 19 <sup>th</sup>	Meeting with Chakaria Paurashava & Upazila	a) LGI coordination, b) Workshop, c) Compensation price (land, standing crops, tress etc.) by Mousa
April 20 <sup>th</sup>	Meeting with Moheshkhali Paurashava & Upazila, Teknaf Paurashava, Teknaf Upazila & Ukhia Upazil	- do -
May 24 <sup>th</sup>	Submission of Interim Report (English version)	
May 29 <sup>th</sup>	Submission of Interim Report (Japanese version)	
June 14 <sup>th</sup>	Meeting among LGED, JICA & survey team	Discussion on interim report
June 24 <sup>th</sup> – September	2 <sup>nd</sup> JICA Fact Finding Mission	a) Implementation schedule, b) Selection flow of priority sub-projects, c) Candidate sub-projects for all 3 batches, d) Implementation of the 1 <sup>st</sup> batch sub-projects, e) Implementing organization and key staff assignment, f) TOR and MMs of the consulting service, g) Project cost, h) Responsible organizations of O&M, i) IRR, operation and effect indicators and j) Environmental and social consideration
July 3 <sup>rd</sup>	Meeting with LGED	Discussion on workshop
July 6 <sup>th</sup>	Meeting with LGED	Discussion on training center
July 17 <sup>th</sup>	Meeting with Cox'sbazar dist. LGED office	Discussion on mouza rate, name, map, ownership identification and others.
July 28 <sup>th</sup>	Meeting with Teknaf Paurashava & Moheshkhali Upazila	Discussion on mouza map collection and land ownership identification.
July 29 <sup>th</sup>	Meeting with Ukhia and Teknaf Upazila	- do -
August 4 <sup>th</sup>	Meeting with Chakaria Paurashava & Moheshkhali Paurashava	Discussion on land compensation procedure and O&M
August 7 <sup>th</sup>	Meeting with Chakaria Upazila & Moheshkhali Upazila	- do -
August 8 <sup>th</sup>	Meeting with Teknaf Upazila & Teknaf Paurashava	- do -
August 10 <sup>th</sup>	Meeting with LGED	Discussion on workshop
August 22 <sup>nd</sup>	Meeting with Moheshkhali Paurashava & Moheshkhali Upazila	Discussion on land acquisition activities before DPP & Land process after DPP
August 23 <sup>rd</sup>	Meeting with Chakaria Paurashava & Chakaria Upazila	- do -
August 24 <sup>th</sup>	Meeting with Ukhia Upazila	- do -
August 25 <sup>th</sup>	Meeting with Teknaf Paurashava	- do -
August 30 <sup>th</sup>	Meeting with Teknaf Upazila	- do -
Sep 22 <sup>nd</sup> – 23 <sup>rd</sup>	Field survey	Field survey done by the national & international staff on Solid waste management
Sep 25 <sup>th</sup> - 26 <sup>th</sup>	Field survey	Field survey done by the national & international staff on Governance, Drainage etc.
October 4 <sup>th</sup>	Meeting among JICA, LGED & survey team	Discussion on township development

Source: JICA Survey Team

## CHAPTER 2 DEVELOPMENT AND PLANNING OF SOUTHERN CHATTOGRAM REGION

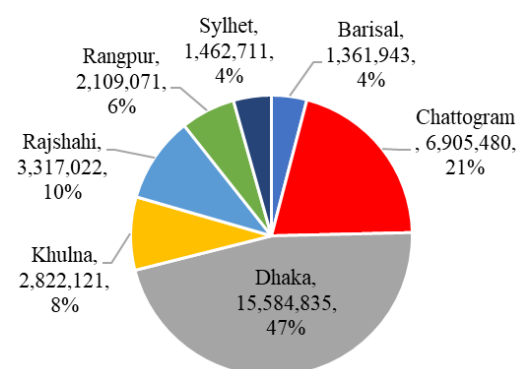
### 2.1 Urbanization in Southern Chattogram Area

In Bangladesh, a total of 35,094,684 persons lives in urban area<sup>1</sup> in 2011 and it takes up 23.4% of the total population. Including the population of the urban agglomeration adjacent to City Corporation, the urban population ratio rises to 28%. According to the World Bank's Data<sup>2</sup>, the urban population ratio is 37.4% in 2019.



Source: World Bank, 2019

**Figure 2.1.1 Urban Population Ratio in Bangladesh, 1960-2019**



Source: Population Housing Census 2011 Urban Area Report, Bangladesh Bureau of Statistics, 2011

**Figure 2.1.2 Urban Population by Division, 2011**

Population variation in Chattogram District during the decade 2001 to 2011 is -24.3%, below the national variation (-17.22%), due to excursion of the metropolitan area and its surroundings where were already urbanized<sup>3</sup>, while Cox's Bazar District has 15.9%, the most increased in Chattogram Division.

**Table 2.1.1 Variation of Urban Area and Population by District**

Area	Urban Area (km <sup>2</sup> )		Variation (%)	Urban Population		Variation (%)
	2011	2001		2011	2001	
Bangladesh	8,867.42	10,711.89	-17.22	33,563,183	29,255,627	14.72
Chattogram Division	2,462.29	3,251.63	-24.28	6,905,480	6,022,650	14.66
Bandarban District	214.18	290.37	-26.24	100,423	92,766	8.25
Chattogram District	450.88	1,254.89	-64.07	3,152,629	3,381,723	-6.77
Cox's Bazar District	148.38	127.99	15.93	499,011	272,395	83.19

Source: Population Housing Census 2011 Urban Area Report, Bangladesh Bureau of Statistics, 2011

### 2.2 General Information

#### 2.2.1 Natural Conditions

Natural conditions of the three target districts are summarized as follow:

**Table 2.2.1 Natural Condition by District**

Item	Bandarban	Chattogram	Cox's Bazar
Climate	Sub-Tropical Monsoon		
Hydrology (River System)	Shankha (Sangu), Matamuhuria, Bakkhali	Karnafuli, Halda, Shankha (Sangu)	Matamuhuri, Bakkhali, Reju Khal, Naf, Moheshkhali channel, Kutubdia Channel
Topography (Elevation, MSL)			
Average	194.24 m	28.34 m	17.71 m
Maximum	983.9 m (Thanchi Upazila)	351.0 m (Sitakunda Upazila)	245.5 m (Teknaf Upazila)
Minimum	1.0 m (Naikhongchhari Upazila)	-2.5 m (Banshkhali Upazila)	-5.6 m (Ukhia Upazila)
Geology/Soil	Flood Plain Soils, Hill Soils		
Broad Land Use Classification (%)			
Land Area	39.0	68.5	69.5
Reserve Forest	60.9	21.0	24.0
Riverine Area	0.1	10.5	6.5
Flood Occurrence	No risks	Flood Plain of Karnafuli, Halda, Shankha (Sangu)	Flood Plain of Matamuhuri, Bakkhali, Reju Khal, Naf, Moheshkhali Channal

Source: JICA Survey Team

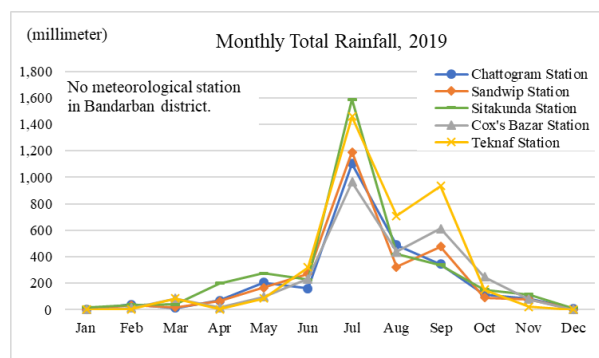
<sup>1</sup> In the Population and Housing Census 2011, urban area consists of the areas covered City Corporations, Paurashavas, Upazila Headquarters and Cantonment Area.

<sup>2</sup> World Bank, 2019

<sup>3</sup> Negative variation is due to the definition change of urban area, which excludes the Statistical Metropolitan Area (SMA), Growth Center and some Other Urban Areas.

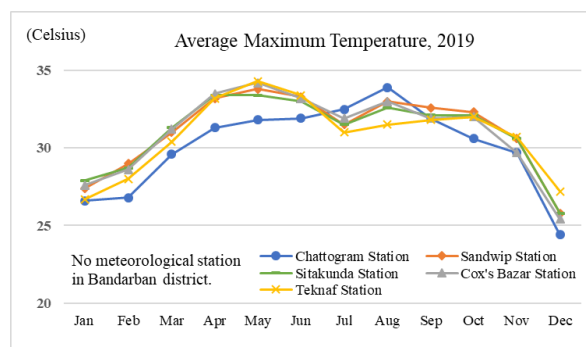
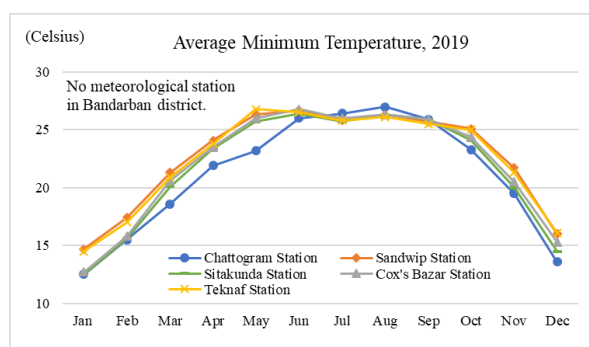
## (1) Climate

According to the Statistical Yearbook Bangladesh 2019, the climate of Bangladesh is generally classified as sub-tropical monsoon characterized by three distinct seasons, namely, Winter, Summer and Monsoon. Three target districts have same climate and therefore almost no big differences can be seen in temperature, however the rainfall during Monsoon is outstanding in Teknaf as coastal area as shown in Figure 2.2.1.



Source: Statistical Yearbook Bangladesh 2019, Bangladesh Bureau of Statistics

**Figure 2.2.1 Monthly Total Rainfall**



Source: Statistical Yearbook Bangladesh 2019, Bangladesh Bureau of Statistics (BBS)

**Figure 2.2.2 Monthly Average Temperature**

## (2) Hydrology

According to the Population Housing Census 2011, three rivers/channels flow in districts of Bandarban and Chattogram, while six flow in Cox's Bazar as follows:

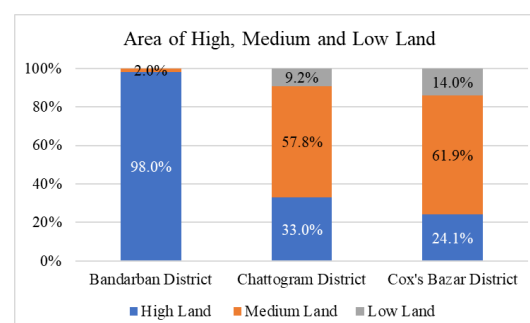
**Table 2.2.2 River Flows in Three Target Districts**

District	River/Channel	Upazilas in Basin
Bandarban	Shankha (Sangu), Matamuhuria, Bakkhali	Alikadam, Bandarban Sadar, Lama, Naikhongchhari, Rowangchhari, Rama, Thanchi
Chattogram	Karnafuli, Halda, Shankha (Sangu)	Anowara, Banskhali, Boalkhali, Chandanaish, Chattogram CC, Fatikchhari, Hathazari, Mirsharai, Patiya, Rangunia, Raozan, Satkania, Sitakunda
Cox's Bazar	Matamuhuri, Bakkhali, Reju Khal, Naf, Maheshkhali channel, Kutubdia channel	Chakaria, Cox's Bazar Sadar, Moheshkhali, Ramu, Teknaf, Ukhia

Source: District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

## (3) Topography

In Bangladesh, the land elevation is classified according to flooding depth of the landscape. High Land represents flood-free land and Medium Land consists of Medium High Land and Medium Low Land, of which flooding depth are 0.1-0.9 m and 0.91 -1.83 m, respectively. Low Land represents the land with flooding depth more than 1.83 m. Most of the area in Bandarban District is flood-free, while 67% of Chattogram District and 75.9% of Cox's Bazar District have the risk of being flooded, since they have a coastal area and major river basins.



Source: District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

**Figure 2.2.3 Area of High, Medium and Low Land**

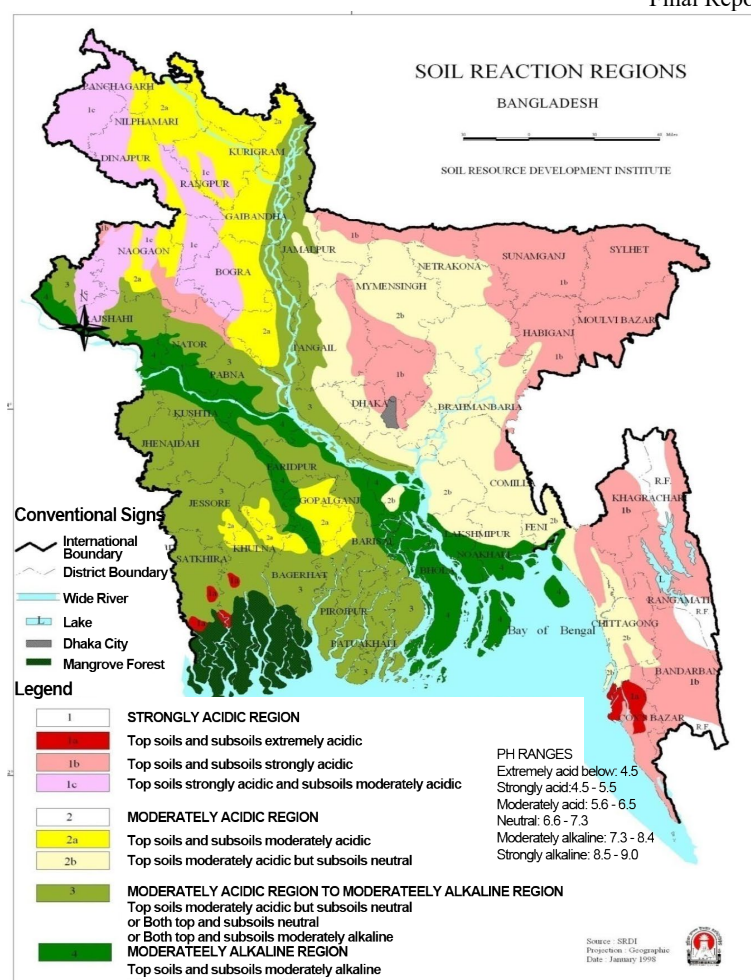
#### (4) Geology/ Soil

Soil Classification of the three target districts is roughly same as consisting of flood plain soil and hill soils. However, the category of “topsoil moderately acidic and subsoil neutral” can be found only in Chattogram District, which is the best soil for the agriculture.

**Table 2.2.3 Soil Type**

District	Soil Type
Bandarban	Flood Plain Soils (Grey Piedmont Soils, Brown Piedmont Soils), Hill Soils
Chattogram	Flood Plain Soils (Non-calcareous Alluvium, Calcareous Alluvium, Non-calcareous Gray Floodplain Soils, Calcareous Gray Floodplain Soils, Grey Piedmont Soils, Non-calcareous Brown Floodplain Soils, Brown Piedmont Soils), Hill Soils
Cox's Bazar	Flood Plain Soils (Non-calcareous Alluvium, Calcareous Alluvium, Acid Sulphate Soil, Non-calcareous Gray Floodplain Soils, Grey Piedmont Soils, Brown Piedmont Soils), Hill Soils

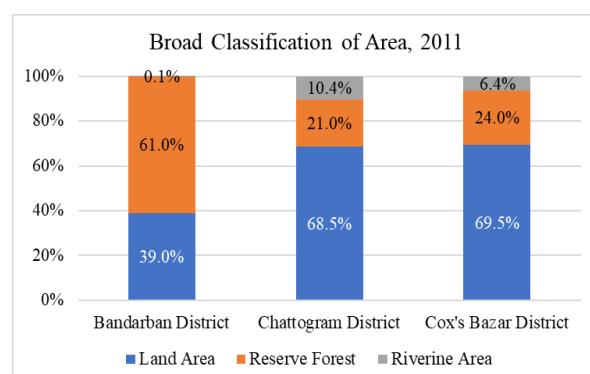
Source: Statistical Yearbook Bangladesh 2019, Bangladesh Bureau of Statistics (BBS)



Source: Agriculture Yearbook 2017-2018

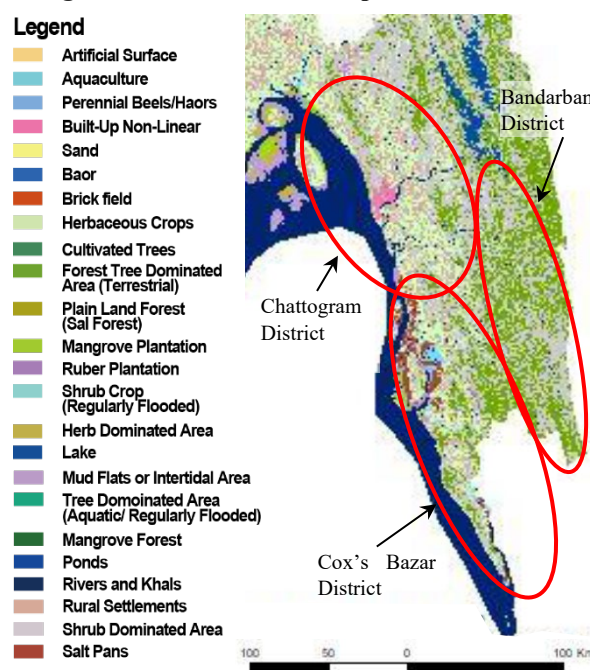
**Figure 2.2.4 Soil Reaction Map**

Regarding the broad classification of land, Bandarban District has an extremely high proportion of Reserve Forest and therefore small habitable area, while Chattogram and Cox's Bazar Districts show similar proportions of Land, Reserve Foest, and Riverine Area.



Source: District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

**Figure 2.2.5 Broad Classification of Area**



Source: Historical Land Cover Mapping of Bangladesh 2018

**Figure 2.2.6 Land Cover Map 2010**

## (5) Flood Occurrence

Flood affected area is found only in the coastal area of Chattogram and Cox's Bazar Districts among the three target districts. Such coastal area is vulnerable to the hazards such as tidal surge inundation resulted from cyclones, sea level rise and water logging (Ref. the Attachment 2.2.1).

In areas other than coastal area, overflowing from rivers due to vulnerable embankment and inundation due to poor drainage system including improper maintenance of drainage channels are very common in rural area of Bangladesh. Therefore, it is considered that similar inundation occurs along the main rivers in Chattogram and Cox's Bazar Districts, where most of the area locate in Medium Land and Low Land.

According to "District Development Plan for Cox's Bazar", the impacts are predicted to be very widespread in Cox's Bazar and estimation indicate that an area with 5,800 ha will be lost in 2030.

### 2.2.2 Socioeconomic Conditions

Socioeconomic conditions of the three target districts are summarized as follows:

**Table 2.2.4 Socioeconomic Conditions**

Item	Bandarban	Chattogram	Cox's Bazar
No. of LGIs			
CC	0	1	0
Upazila	7	15	8
Paurashava	2	4	15
Population			
BBS2011	388,335	7,616,352	2,289,990
2021(Estimated)	466,068	9,111,194	2,774,942
Pop. Density (people/km <sup>2</sup> )			
BBS2011	84	1,440	971
2021(Estimated)	101	1,723	1,176
Income Level (Monthly Income)	BDT 14,000 or more <sup>4</sup>	BDT 26,000 - BDT 39,000 <sup>5</sup>	BDT 12,000 - BDT 28,000 <sup>6</sup>
Poverty Level <sup>7</sup> (% of the poor household)	37.3 - 70.8	23.4 - 30.5	23.4 - 30.5
Social Structure (Predominant Economy) <sup>8</sup>	Agriculture (71.3% of the Holdings)	Non-agriculture (71.7% of the Holdings)	Agriculture (44.2% of the Holdings)
Education (%) <sup>9</sup>			
Total	35.9	58.9	39.3
Male	40.3	61.1	40.3
Female	30.9	56.7	38.2
Community/No. of NGOs	130	232	132
Social Services			
Health Complex			
Government	7	30	81
Non-government	-	137	22
Diagnostic Center	5	516	66
Health Center	27	205	60
Community Clinic	27	326	153
No. of Pond	1,685	73,884	10,637
No. of Stadium/ Playground	80	738	99
No. of Park	8	20	7

Source: Statistical Yearbook Bangladesh 2019, District Statistics 2011, Bangladesh Bureau of Statistics (BBS), Bangladesh Poverty Assessment, 2019 (World Bank) Bandarban Paurashava M/P (2017 -2037), June 2019, (LGED), Chattogram Strategic Urban Transport M/P, November 2018 (WB), Cox's Bazar Urban Vulnerability Assessment, July 2020 (WFP)

According to the Population Projection of Bangladesh Dynamics and Trends 2001-2061, population is increasing even in 2041, the end year of the long term in Moheshkhali - Matarbari Integrated Infrastructure Development Initiative (MIDI). JICA Survey Team made the trend estimation of the future population of the three target districts by using the average rate of increase in past actual values as shown in Figure 2.2.7.

<sup>4</sup> Bandarban Paurashava Master Plan (2017 -2037), June 2019, (LGED)

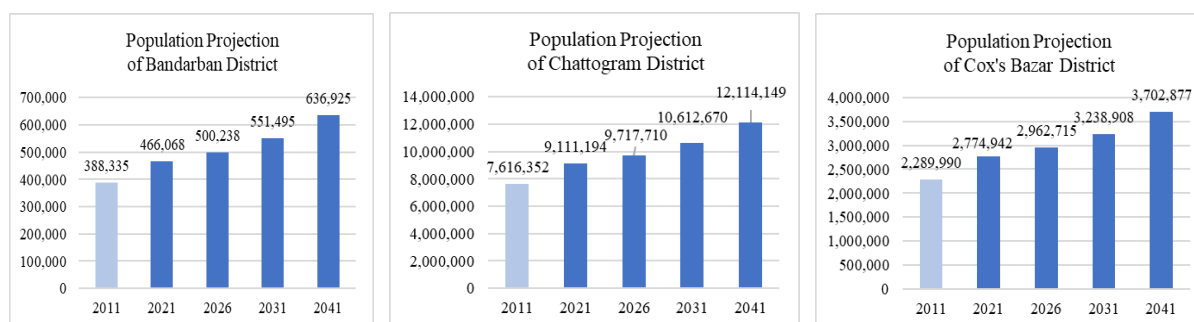
<sup>5</sup> Chittagong Strategic Urban Transport Master Plan, November 2018 (WB)

<sup>6</sup> Cox's Bazar Urban Vulnerability Assessment, July 2020 (WFP)

<sup>7</sup> Bangladesh Poverty Assessment, 2019 (World Bank)

<sup>8</sup> District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

<sup>9</sup> Literacy Rates of aged 7 years and above



Source: Statistical Yearbook Bangladesh 2019, Bangladesh Bureau of Statistics (BBS)

**Figure 2.2.7 Population Projection of the Target Districts**

## 2.2.3 Industries

Data showing industry situation in the three target districts is included in District Statistics 2011 and the Economic Census 2013. For agriculture, although there is the Agriculture Yearbook as a census, most of the part are contributed to the data by crop items, and therefore it is quite difficult to grasp the whole agriculture industry structure.

In Districts of Bandarban and Cox's Bazar, as well as the rest of Bangladesh, agriculture is the main industry, while Chattogram District's main industries are manufacturing and service industries (wholesale/ retail, hotels, etc.). This is largely due to the fact that Chattogram District has the most important/largest port and the Chattogram Metro which is the second largest city in the country after Dhaka.

The main agricultural products of Bangladesh are generally rice, potatoes and jute, and the same tendency can be seen in the three target districts. However, since there are many hills that are not suitable for agriculture in Bandarban District, the yield of the above-mentioned agricultural products is small, while tobacco cultivation is flourishing, accounting for 10% (30% depending on the variety) of the national production. In addition, for industries other than agriculture, the ratio of wholesale and retail is the highest in all districts. However, because industries other than agriculture are still scarce in Bandarban District, there are few employment opportunities and the degree of poverty is high.

**Table 2.2.5 Industrial Structure**

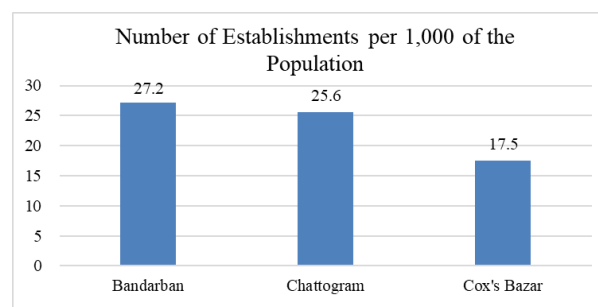
Item	Bandarban	Chattogram	Cox's Bazar
Major Industry including Commerce and Service	Agriculture	Wholesale & Retail Trade, Manufacturing, Hotel & Restaurant	Agriculture
Main Crops	Paddy, Cotton, Tobacco, Vegetables, etc.	Paddy, Betel Leaf, Potato, Corn, Turmeric, Tea, etc.	Paddy, Potato, Pulse, Onion, Garlic, Ginger, etc.
No. of Farm Holdings (2008)	45,423	367,514	148,271
No. of Establishment (2013)	16,149	380,550	95,614
No. of Employees (2013)	64,754	1,968,862	260,078
<b>Local Investment</b>			
Local Investment Amount (2014-2018/ BDT Million) (Major industry: Ratio of major industry to the whole investment)	98 (Manufacturing: 100%)	268,239 (Energy: 46.1%)	56,889 (Energy: 44.3%)
Registered No. of Employee of Local Investment (2014-2018) (Major industry: Ratio of major industry to the whole investment)	104 (Manufacturing: 100%)	3,824 (Manufacturing: 43.3%)	2,711 (Manufacturing: 57.6%)
<b>FDI (Foreign Direct Investment)</b>			
Foreign Investment Amount (2014-2018/ USD Million)	1.2	8,630	744
No. of Japanese Investors (2018)	0	27	0

Source: Agriculture Yearbook 2017-2018, District Statistics 2011, Economic Census 2013, JETRO



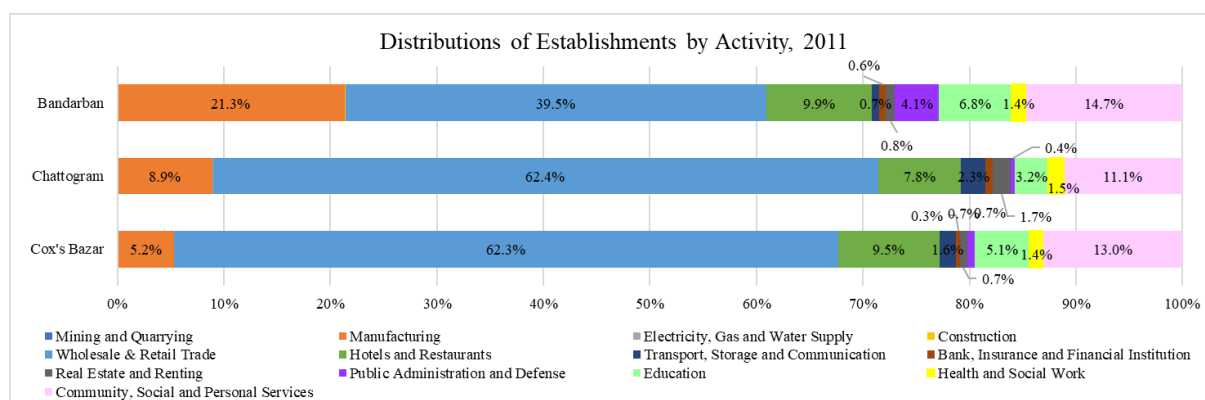
According to the ratio of agriculture related holdings, non-agricultural activities are still sparse in Bandarban District compared to other two districts. However, Figure 2.2.8 shows that the number of establishments per population in Bandarban District is the largest among the three target districts.

Regarding the industrial composition of each district, wholesale and retail trade emerge as the single largest activity in both of number of establishments and persons engaged in the target districts. Although the industrial distribution ratios of the number of establishments and the number of persons engaged are similar, Public Administration and Defense is the third most in Bandarban District and Hotels and Restaurants in Cox's Bazar District are the second most in the ratio of the number of persons engaged after wholesale and retail and manufacturing.



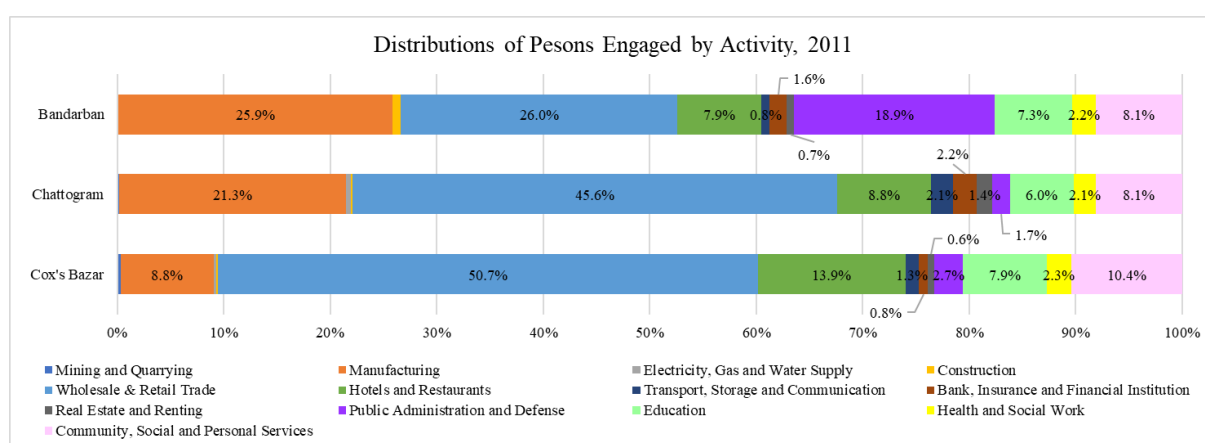
Source: District Statistics 2011

**Figure 2.2.8 Number of Establishments per 1,000 of the Population**



Source: District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

**Figure 2.2.9 Distributions of Establishments by Activity (2011)**



Source: District Statistics 2011, Bangladesh Bureau of Statistics (BBS)

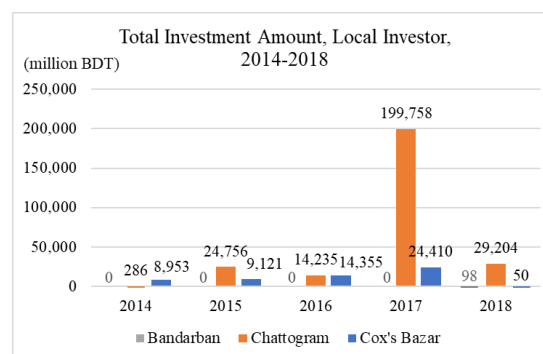
**Figure 2.2.10 Distributions of Persons Engaged by Activity (2011)**



## (1) Local Investment

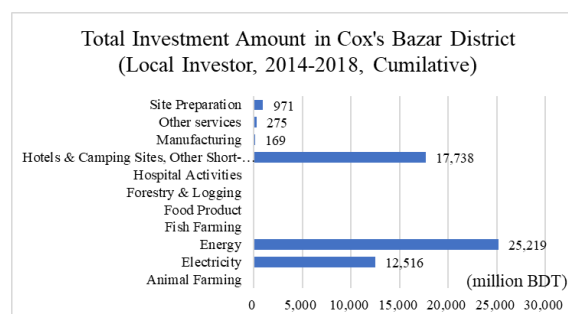
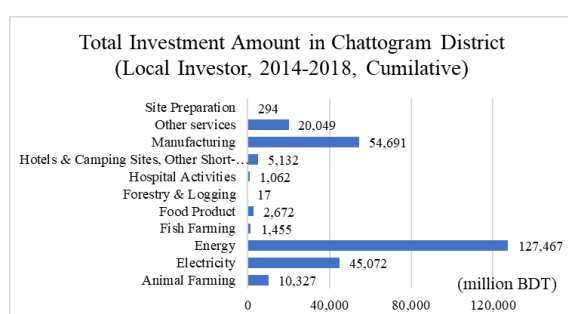
In order to understand the latest investment trend in the target districts, JICA Survey Team analysed the list of business registration with Bangladesh Investment Development Authority (BIDA), by extracting the investment after 2014 when the concept of Bay of Bengal Industrial Growth Belt (Big-B) was declared.

Local investment of Chattogram District is outstanding, because of the advantage of its metropolitan area. In Bandarban District, there is only one investment (BDT 97.6 million), manufacturing of rubber product during 2014 to 2018. In Chattogram and Cox's Bazar Districts, energy is the largest investment sector and the second largest as manufacturing and hotels and camping sites, respectively. The tendency of the local investment is in line with the distributions of persons engaged, particularly, the energy investments in Cox's Bazar District are MIDI related, since their location are Moheshkhali and Kutubjom.



Source: Prepared by JICA Survey Team based on information of BIDA

**Figure 2.2.11 Comparison of Total Local Investment of Target Districts**

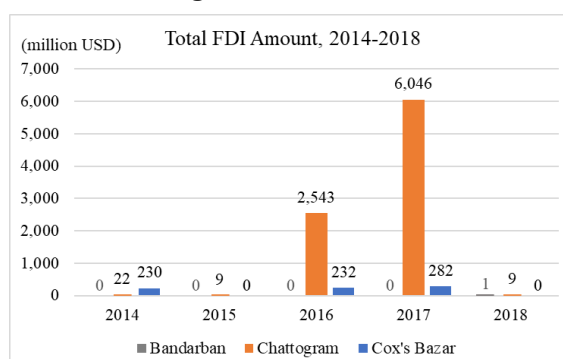


Source: Prepared by JICA Survey Team based on information of BIDA

**Figure 2.2.12 Total Local Investment of Target Districts**

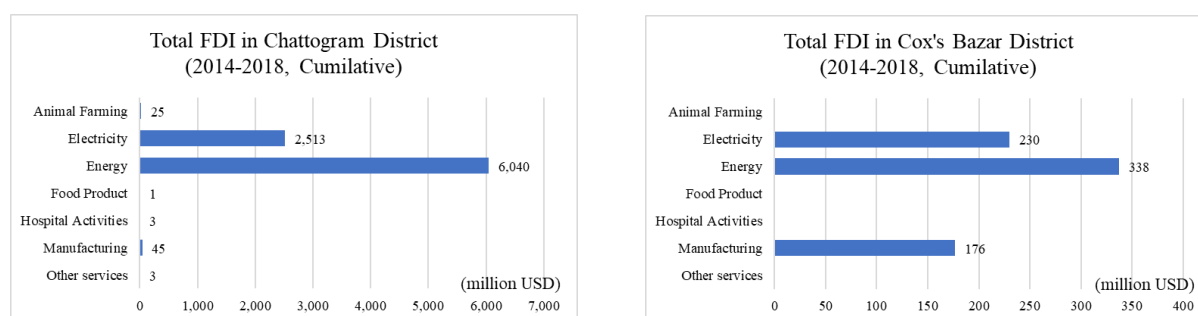
## (2) Foreign Direct Investment (FDI)

FDI of Chattogram District is outstanding among three target districts, by taking advantage of metropolitan area and many economic zones. In contrast, Bandarban District doesn't attract FDI enough, because of its hilly area and the remoteness to the airports/ports for export. There may be a possibility if the investment is limited to agriculture and forests, etc., as the one and only FDI in Bandarban District during 2014 to 2018 is food processing of Aloe Vera. The largest investment in Cox's Bazar District is energy and it consists of the foreign investors' portion of the two investments mentioned in the description of local investment.



Source: Prepared by JICA Survey Team based on information of BIDA

**Figure 2.2.13 Comparison of Total FDI of Target Districts**



Source: Prepared by JICA Survey Team based on information of BIDA

**Figure 2.2.14 Total FDI of Target Districts**

According to JETRO<sup>10</sup>, there are 27 Japanese companies located in Chattogram District, while no Japanese companies located in Bandarban and Cox's Bazar Districts as of May 2018.

**Table 2.2.6 Classification of Japanese Companies by Location (as of May 2018)**

District	Location	Classification
Chattogram	City	Sheet steel processing (1), Fisheries (1), BPO (1), Food processing (1), Fertilizer manufacturing (1), Bamboo product manufacturing (1), Pet food manufacturing (1), Kendo training armor manufacturing (1), Gas Appliance manufacturing (1),
	EPZ	Apparel (2), Rope manufacturing (2), Lens processing (5), Car parts manufacturing (2), Metal manufacturing (1), Real estate consulting (1), LED manufacturing (2), Golf shaft manufacturing (1), Business equipment manufacturing (1),
	Korean EPZ	Solar power system manufacturing (1)

Source: Prepared by JICA Survey Team based on information of JETRO

## 2.2.4 Investment Environment/Plans

Chattogram District has seven economic zones (EZ)<sup>11</sup>, one special economic zone (SEZ)<sup>12</sup> and four export processing zones (EPZ)<sup>13</sup> in Chattogram, while Cox's Bazar District has seven EZs and three SEZs. Noteworthy is the four EZs and three SEZs out of them are being planned and developed in Moheshkhali of Cox's Bazar District in connection with the Moheshkhali - Matarbari Integrated Infrastructure Development Initiative (MIDI).

**Table 2.2.7 Approved Economic Zones Including Plans in the Target Districts**

District	Type	Name	Upazila	Area (ha)	Land-owner	Status
Bandarban	There is no EZ in Bandarban District					
Chattogram	EZ	Anowara Economic Zone	Anowara	203.8	GOB	Planned
	EZ	Anowara Economic Zone -2	Anowara	313.4	GOB	Planned
	EZ	Bangabandhu Sheikh Mujib Shilpa Nagar (Mirsarai, Feni & Sitakundo)	Mirsarai	5,308.6	GOB	Under construction
	EZ	Patia Economic Zone	Patia	313.4	GOB	Planned
	EZ	Sitakundo Economic Zone	Sitakundo	-	GOB	Planned
	EZ	Sandwip Economic Zone	Sandwip	-	GOB	Planned
	EPZ	BEPZA Economic Zone	Mirsarai	465	GOB	Under construction
	EPZ	Chattogram EPZ	Chattogram Metro	183	GOB	In operation
	EPZ	Karnaphuli EPZ	Chattogram Metro	85	GOB	In operation
	SEZ	Karnaphuli Dry Dock Special Economic Zone	Anowara	-	Private	Under construction
	EZ	Kazi Farms Economic Zone Ltd.	Chandnaish	-	Private	Planned
Cox's Bazar	EPZ	Korean Export Processing Zone	Karnaphuli	-	Private	In operation
	EZ	Sabrang Tourism Park	Teknaf	415.8	GOB	Under Construction
	EZ	Naf Tourism Park	Teknaf	-	GOB	Under Construction
	SEZ	Cox's Bazar Special Economic Zone, Moheshkhali	Moheshkhali	3,555.1	GOB	Under Construction
	EZ	Moheshkhali Economic Zone - 1, Cox's Bazar	Moheshkhali	582.1	GOB	Planned
	EZ	Moheshkhali Economic Zone - 2, Kalarmarchara, Cox's Bazar	Moheshkhali	334.8	GOB	Planned

<sup>10</sup> Japanese Companies Expanding into Bangladesh, 2018, JETRO

<sup>11</sup> Economic Zone (EZ): Developed based on The Bangladesh Economic Zones Act, 2010

<sup>12</sup> Special Economic Zone (SEZ): Developed based on The Bangladesh Economic Zones Act, 2010

<sup>13</sup> Export Processing Zone (EPZ): Developed based on The Bangladesh Export Processing Zones Authority Act, 1980

District	Type	Name	Upazila	Area (ha)	Land-owner	Status
	EZ	Moheshkhali Economic Zone – 3, Dhalghata, Cox's Bazar	Moheshkhali	607.4	GOB	Under Construction
	SEZ	Moheshkhali Special Economic Zone Cox's Bazar	Moheshkhali	5,245.6	GOB	Under Construction
	SEZ	Moheshkhali Special Economic Zone, Ghativanga-Sonadia	Moheshkhali	404.7	GOB	Planned
	EZ	Moheshkhali Economic Zone, Kalarmarchara	Moheshkhali	1,610.7	GOB	Planned
	EZ	Jaliardip Economic Zone EZ	Teknaf	110.0	GOB	Planned

Source: Prepared by JICA Survey Team based on website of BEZA and BEPZA

## 2.3 Policies and Development Plans

### 2.3.1 Acts and Policies for Paurashava and Upazila Development

#### (1) Act as Basic Law

Acts related to urban planning master plan and urban development are as follows:

**Table 2.3.1 Acts related to Urban Planning Master Plan and Urban Development**

	Act	Jurisdiction in Charge
Planning Agency	Town Improvement Act, 1953	Ministry of Housing and Public Works
	Cox's Bazar Development Authority Act, 2016	
	Local Government (City Corporation) Act, 2009	
	Local Government (Paurashava) Act 2009	
Planning	Urban & Regional Planning Act, 2017 (Draft)	Ministry of Housing and Public Works
Environment	Environmental Conservation Act, 1995	Ministry of Environment and Forest
	National Reservoir Protection Act, 2000	Ministry of Water Resources
	Bangladesh Water Act 2013	
	Bangladesh Water Rule, 2018	
	Public Health (Emergency Provisions) Ordinance, 1944	Ministry of Health and Family Welfare
	Sand Pit and Soil Management Rules, 2011	Ministry of Land
Land Use	The Bangladesh Economic Zones Act, 2010	Prime Minister's Office
	Agricultural Land Protection and Land Use Act, 2015 (Draft)	Ministry of Land
	Mega city, Divisional Town and District Town's municipal areas including country's all the municipal areas' playground, open space, park and natural water reservoir Conservation Act, 2000	Ministry of Environment and Forest
	Bangladesh National Building Code, 1993 (Draft of Amendment, 2015)	Ministry of Housing and Public Works
Development	The Building Construction Rules, 1996* <sup>1</sup>	
	The Dhaka Building Construction Rules, 2008* <sup>2</sup>	
	The Building Construction Act 1952	
	Land Development for Private Housing Project Act, 2004	
	Land Development Tax Act, 2015 (Draft)	
Land Acquisition	Vested Property Release Act, 2001 (Amendment 2012)	Ministry of Land
	Vested Property Release Rules, 2012	
	Acquisition and Requisition of Immovable Property Ordinance, 1982	

\*1: Followed by Paurashava, \*2: Followed by Development Authorities. Source: JICA Survey Team

For LGIs, Local Government Act, 2009 and Urban and Regional Planning Act, 2017 are the basis law in formulation of urban planning master plan and infrastructure development plan. Local Government Act (Paurashava), 2009 stipulates the Paurashava's responsibilities and empower Paurashava to formulate urban planning M/P and develop the infrastructure, while Urban and Regional Planning Act, 2017 provides the discipline in land management to prevent unplanned urbanization, by requiring necessary clearance for the use of all public and private land.

**Table 2.3.2 Paurashava's Responsibilities in Urban Planning / Infrastructure Development**

Sector	Chapter	Article	Clause/Description
Urban Planning	2. Responsibility and Function of Municipality, Committee, etc.	50. Responsibility and Function of Municipality	• (c) Infrastructural development, implementation and issuing urban development plan including building control to provide municipal service to the citizen of municipal area.
Infrastructure Development	Detail Functions of the Municipality	Public Health (1.-9.)	• A municipality shall be responsible for the health of the municipality and for this purpose.
		Water Supply and Drainage (10.-18.)	• A Municipality shall, within the limits of the funds at its disposal, provide an adequate system for it.
		Town Planning (32.-34)	• A municipality shall draw up a M/P for the municipality within five years of formation or implementation of this ordinance. • Site development scheme/procedure are also described.
		Street (38.-44.)	• A municipality shall provide and maintain such public streets and other means of public communication as may be necessary for the comfort and convenience of the inhabitants of the municipality and of the visitors thereto.

Source: Local Government Act (Paurashava) 2009

## (2) National Policies

There are several national policies referred in formulation of M/P and implementation of development project.

**Table 2.3.3 National Policies to be Referred in M/P and Development Project**

	Policies	Contents	Jurisdiction in Charge
Land Use	National Land Use Policy, 2001	To protect agricultural land and restrict unplanned growth and facilitate planned development by introducing zoning system and to enact a zoning law.	Ministry of Land
	National Urban Sector Policy, 2011	To ensure regionally balanced urbanization through diffused development and hierarchically structured urban system.	Ministry of Housing and Public Works
	National Housing Policy, 2016	To provide suitable and affordable housing system by giving direction to politics, economics and social/environmental/engineering perspectives.	
	Population Policy, 2004	To achieve replacement level fertility and Net Reproduction Rate=1 by the year 2010, in order to have a stable population by 2060.	Ministry of Health and Family Welfare
	National Land Transportation Policy, 2004	To provide a safe and dependable transport service by removal unnecessary control and formulation of laws and regulations conducive to providing service.	Ministry of Road Transport and Bridges
	Khas (Public) Land Settlement Revised Policy for Hotel- Motel	To provide the conditions and procedure necessary for hotel/ motel development on public land.	Ministry of Land
	Non-agricultural Khas (Public) Land Management and Leasing Policy, 1995 (Draft Amendment 2014)	To make a guideline for leasing non-agricultural land in metropolitan areas.	
	Jalmohal (Natural Waterbody for Fisheries) Management Policy, 2009 (Amendment 2012)	To promote the fish cultivation nationwide with a unique and effective management system	
	Chingri Moral (Shrimp Farm) Management Policy	To promote the shrimp farming nationwide with a unique and effective management system	
	Salt Mohal (Salt Farm) Management Policy	To promote the salt farming nationwide with a unique and effective management system coordinating with land related policies, strategies, and other relevant matters.	
Environment	National Environment Policy, 1992	To provide directives on the legal framework and institutional arrangements for sustainable development, envisaged environment /biodiversity conservation, pollution control, mitigation of the effect of climate change, etc.	Ministry of Environment and Forests
	Urban Forest Policy, 2016 (Final Draft)	To promote urban forestry in city corporations and municipalities, extend assistance and support to all such afforestation activities.	Ministry of Water Resources
	Coastal Zone Policy, 2005	To support national policy of decentralization and development of the private sector by integration through harmonization, coordination and adoption of a process approach.	
Industry	National Agriculture Policy, 1999	To make the nation self-sufficient in food by increasing production of all crops, with indication of measure to reduce water-logging, salinity, etc.	Ministry of Agriculture
	National Agriculture Extension Policy, 2012 (Draft)	To set extension policy directions for transferring technologies to agriculture sector development.	Ministry of Industry
	National Industrial Policy, 2016	To foster new entrepreneurs, ensure that women become part of the mainstream in the industrialization process.	
	National Tourism Policy, 2010	To establish tourism industry through generating employment, socioeconomic development and maintain ecological balance and protect bio-diversity.	Ministry of Civil Aviation and Tourism

Source: JICA Survey Team

## 2.3.2 Available Development Plans

### (1) National Plans

National plans related to urban development are shown in following 1) to 5) with their summary, which are all prepared by General Economics Division of Planning Commission under Ministry of Planning.

#### 1) Perspective Plan of Bangladesh: 2021 – 2041

The Perspective Plan provides the road map for Upper Middle-Income Country (UMIC) status by 2031, and High-Income Country (HIC) status by 2041 with poverty approaching extinction. It relies on four institutional pillars; (i) governance; (ii) democratization; (iii) decentralization and (iv) capacity building and has the cross-cutting development strategies to become a High-Income country, i.e., strategies for poverty reduction, population health and nutrition, education and training, power and energy, transport, urban reforms, environmental management and climate resilient, and blue economy, etc.

As a description related to the three target districts, Matarbari Coal Transshipment Terminal (CTT) is described in the strategy for power and energy sector, as well as the township development near the Moheshkhali-Matarbari Economic Zones described in the strategy for urban reforms, the potential of Cox's Bazar and the coastline as ICT innovation-centric marine, aquaculture and wind energy technology innovation hubs, respectively.

## 2) National Urban Sector Policy 2011 (Draft)

A national urban sector policy of 2011 has already been drafted which will provide a framework for the social, economic, cultural and political-institutional sustainability. The policy envisages strengthening the beneficial aspects of decentralization and at the same time, effectively dealing with its negative consequences such as unplanned development, in order to achieve sustainable urban development. It aims to work towards a decentralization and participatory process of urban development in which the central government, the local government, the private sector and civil society have their roles to play. The final draft was placed for cabinet in 2015, but not yet approved, because of the complexity of the politics and the red tape.

## 3) 8th Five Year Plan (FY 2021- FY 2025)

The 8<sup>th</sup> Five Year Plan (8FYP) aims to start the first phase of implementation of Perspective Plan 2021-2041, by attaining UMIC status, major SDG targets, and eliminating extreme poverty by FY 2031. It centres on six inter-related core themes, such as rapid recovery for Covid-19, GDP growth acceleration, a broad-based strategy of inclusiveness, a sustainable development pathway, and development and improvement of critical institutions. 8FYP has also described 14 sectoral strategies to achieve its development approaches and Perspective Plan gives focus on strategies for urban development and local government among them, because rural development is particularly associated with the aim of transforming the country into UMIC. It is stated that relevant authorities will prepare the National Physical Plan by 2022 and M/Ps in 250 Upazilas by 2025 (in all Upazilas by 2030) to provide the necessary urban services to rural area.

## 4) Bangladesh Delta Plan 2100 (BDP2100)

BDP 2100 is envisioned as a long term integrated and holistic plan that takes a long-term view on water resource management, climate change and environmental challenges with a view to supporting long term development of Bangladesh, formulated in 2018 by General Economic Division (GED), Planning Commission under Ministry of Planning.

Although it focuses on the water-related issues, the importance of consideration in urban planning is emphasized in its strategies and directions for sustainable land use and spatial planning are attached, such as 'Formulation of necessary laws and acts to form land zoning', 'Spatial land use planning for urbanization', etc.

## 5) My Village, My Town

Bangladesh government decided to undertake a multidimensional plan called "My Village, My Town", to improve the quality of life in rural area. It is one of the pledges of the ruling party in their election manifestos and seeks to extend urban facilities to every village in context of rural development, including concrete roads, information and communication facilities, safe drinking water, health care, education, SWM, electricity, etc. As of March 2021, 15 villages were selected for the pilot project according to their geographical location, poverty situation, existence of M/P, and other indicators. LGD is the responsible authority for implementation of "My Village, My Town", and therefore, every rural development will be scrutinized in the light of this plan.

## (2) Regional Plans

Urban planning system of Bangladesh has three-tiered structure which consists of Structure Plan (SP)<sup>14</sup>, Urban Area Plan (UAP)<sup>15</sup> and Detailed Area Plan (DAP)<sup>16</sup>/Area Action Plan (AAP)<sup>17</sup>. Formulation of the set of M/P is a mandatory of Paurashava and LGED often provides technical and financial support for it by procuring consultants. These plans are finalized with mayor's approval and submitted to LGD for approval/gazette notification. The formulation status of the M/P in 21 Paurashavas and 20 Upazilas located in the three target districts is summarized as follows:

**Table 2.3.4 Status of MP Formulation in LGIs in the Three Target Districts**

Area (No. of LGIs with MP/No. of LGIs without MP)	Type of MP (Formulation Year, Formulation Body)
Bandarban District	• No SP was formulated due to lack of development authority in charge
Paurashava (1/2)	• Bandarban (Formulated: 2017, Approved: 2019, LGED) <sup>*1</sup>
Upazila (0/7)	• None
Chattogram District	• SP/UAP/DAP (Formulated : 1995, Approved : 1999, Chattogram Development Authority: CDA): New MP formulation project has started in 2020.
Paurashava (8/15)	• Chandanaish, Banshkhali, Sandwip, Mirsharai, Satkania, Raozan, Sitakunda, Patiya: SP/UAP/AAP (Formulated: 2011, Approved : 2014, LGED) <sup>*2</sup>
Upazila (3/15)	• Mirsharai: Development Plan (2017, Urban Development Directorate, Ministry of Housing and Public Works: UDD) • Rangunia, Ramu : SP/UAP/AAP (2016, UDD)
Cox's Bazar District	• SP : (UDD, as current Cox's Bazar Development Authority: Cox's DA): New MP as Cox's DA is under preparation, which enlarges the target area. • Cox's Bazar District Development Plan (2019, LGED) <sup>*3</sup>
Paurashava (4/4)	• Cox's Bazar : PDP (2018, UGIIP) • Chakaria, Moheshkhali: SP/UAP/AAP (2011, LGED) <sup>*2 *4</sup> • Teknaf: SP/UAP/AAP (Formulated: 2011, Approved: 2015, LGED) <sup>*2</sup>
Upazila (3/8)	• Ramu : SP/UAP/AAP (2016, UDD) • Teknaf, Ukhia: Five Year Plan (2019, Upazila) <sup>*5</sup>

<sup>\*1</sup>ADB : Formulated in the Third Urban Governance and Infrastructure Improvement (Sector) Project (UGIIP-III), <sup>\*2</sup>ADB : Formulated in the Upazila Towns Infrastructure Development Project (UTIDP), <sup>\*3</sup>Formulated in assistance with UNDP, WB, etc., <sup>\*4</sup>Draft of revision was formulated in the Urban Development City Governance Project: UDCGP, <sup>\*5</sup>JICA: Formulated in Upazila Integrated Capacity Development Project (UICDP)  
Source: JICA Survey Team

Including the M/Ps already expired and have not been updated, currently, only 13 Paurashavas and 6 Upazilas have the M/Ps. Furthermore, most of the M/Ps or development plans prepared in Upazilas have neither land use plan which shows the development policy of the area, nor detailed information of each project. Detailed observation on the planning status of the regional plans in the three target districts are described in the Attachment (Ref. the Attachment 2.3.1).

### 2.3.3 Development Projects under MIDI

#### (1) Development Projects of Bangladesh Government

In 2018, the Government of Bangladesh has started new development initiative called MIDI, which aims to construct “Logistic Hub”, “Power & Energy Hub” and “Waterfront Industry Hub” in Moheshkhali Upazila. While the Matarbari Port and Matarbari Coal Power Plant are being developed, economic zones, power plants, LNG terminals, etc. are planned in its surrounding area where is expected to become an overall industry accumulation area, with the infrastructure development proposals shown in Table 2.3.2.

**Table 2.3.5 Development Projects Planned in Relevant Authorities**

Authorities	Development Project	Donor
Roads and Highway Department (RHD), Ministry of Road Transport and Bridges	• National Highway No.1 (Chattogram – Cox's Bazar)	JICA
	• Matarbari Port Access Road between Matarbari Port and National Highway No.1	
	• Trans Moheshkhali Highway (Matarbari- Boro Moheshkhali- Cox's Bazar)	N/A
	• Regional Highway Patiya- Anowara-Banshkhali- Toitong – Pekua- Badarkhali- Chakaria (Eidomoni) Road (R-170)	
	• Construction of Cox's Bazar- Chowfaldi- Eidmony Road	
	• Improvement of Janatabazar- Gorakghata Road (Z-1004)	
Bangladesh Railway (BR)	• Marin Drive from Mirsharai to Cox's Bazar through Moheshkhali- Matarbari	ADB
	• Construction of dual gauge rail link (Dohazari: present rail head to Cox's Bazar)	
Power Division, Ministry of Power, Energy and Mineral Resources (MPEMR)	• The rail connection with the Moheshkhali and Matarbari power plants from Chakaria (a station proposed at the Dohazari, Cox's Bazar rail link) <sup>*</sup>	N/A
	• Construction of 1,320 MW ultra-super critical coal-based power plant (block 1-block 8)	
	• Matarbari 2X600 MW ultra-super critical coal fired power project (including provision of CPGCBL's access road)	JICA
	• 1,200 MW ultra-super critical coal fired power project	
	• Matarbari coal transshipment terminal	

<sup>14</sup> Structure Plan (SP): 20-year plan which shows future urban structure (Strategic planning zone, etc.).

<sup>15</sup> Urban Area Plan (UAP): 10-year plan with the proposals of land use plan, transportation and traffic management plan, and drainage and environmental plan.

<sup>16</sup> Detailed Area Plan (DAP): 20-year plan which shows the detailed land use under the Structure Plan.

<sup>17</sup> Action Area Plan (AAP): 5-year plan with detailed land use by ward with sectoral plan and infrastructure facilities.



Authorities	Development Project	Donor
	<ul style="list-style-type: none"> <li>Dhaka-Chattogram main power grid strengthening project</li> <li>Banshkhali-Madunaghat 400kV transmission line project</li> <li>Madunaghat-Moheshkhali 765 kV transmission line project</li> <li>Madunaghat-Bhulta 765 kV transmission line project</li> </ul>	
	<ul style="list-style-type: none"> <li>Construction of 3,000 MW LNG based power plant</li> <li>Kohelia 700 MW ultra-super critical coal fired power project</li> <li>500-600 MW LNG based combined cycle power plant project (</li> <li>Solar power project</li> </ul>	N/A
Chattogram Port Authority (CPA)	<ul style="list-style-type: none"> <li>Matarbari port development project</li> <li>Construction of residential complex for port officials</li> <li>Installation of water treatment plant</li> <li>Establishment of control Tower</li> <li>Construction of logistics park or distripark</li> <li>Construction of customs house with necessary facilities</li> </ul>	JICA
Bangladesh Economic Zones Authority (BEZA)	<ul style="list-style-type: none"> <li>Development of eight economic zones</li> </ul>	N/A
Bangladesh Petroleum Corporation (BPC)	<ul style="list-style-type: none"> <li>Installation of single point mooring (SPM) with double pipeline</li> <li>Construction of import-based LPG mother terminal and distribution plant at Matarbari, Moheshkhali, Cox's Bazar</li> <li>Installation of refinery and petrochemical complex at Moheshkhali, Cox's Bazar</li> </ul>	N/A
Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)	<ul style="list-style-type: none"> <li>Construction of land-based LNG terminal at Matarbari with a re-gasification capacity of 1,000 MMSCFD on BOOT basis</li> </ul>	N/A

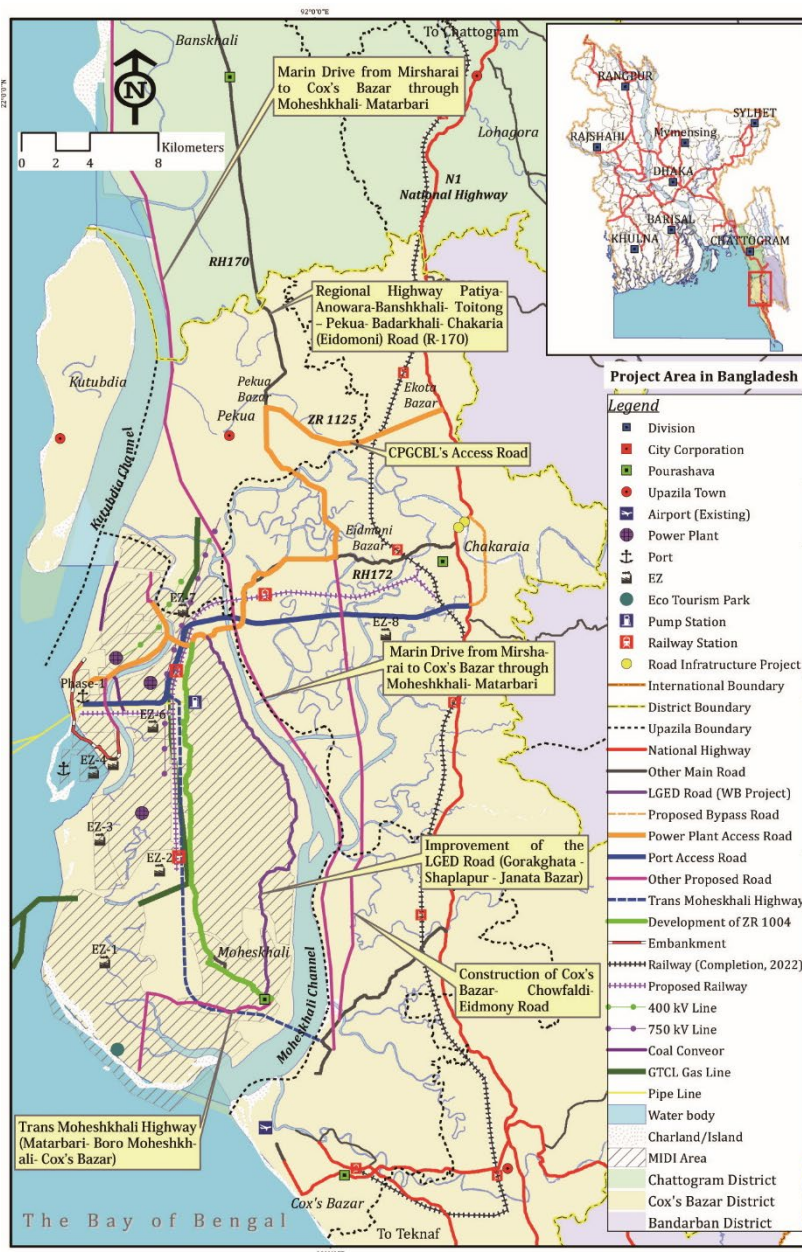
\*: Feasibility study stage.

Source: Sector Development Plan of RHD, BR, MPEMR, CPA, BEZA, BPC, and Petrobangla

JICA supports the improvement of National Highway No.1 and development of Matarbari Port Access Road. The former aims to improve the major bottleneck sections such as Patiya, Dohazari, Keranihat, Lohaghora and Chakaria, and the latter consists of 26.7 km access road and 1.6 km dyke road to connect Matarbari Port and N1. ADB funds the above-mentioned railway project scheduled to open in 2023 and World Bank has stated the improvement of the LGED road in Emergency Multipurpose Crisis Management Project (EMCRP), which leads from Moheshkhali Paurashava to the north (Gorakghata - Shaplapur - Janata Bazar). The length and the present width of this LGED road are 25 km and 3.7 m, respectively and the project scope is widening (to 5.5 m width), installation of 22 box culverts, slope protection, road marking, road safety work, etc. Regarding the pavement, 1.5 km will be RCC road and the remaining 23.5 km will be asphalt.

Source: JICA Survey Team

**Figure 2.3.1 Development Projects of Bangladesh Government**



## (2) Township Development

In the updating M/Ps (draft) of Paurashava of Chakaria and Moheshkhali, new township developments are proposed to accommodate the population increase and provide the necessary urban service facilities for labor population to be increased. Although most of the population increase in both Paurashavas is considered to result from the natural growth, however, the planned new township developments also take into an account the population increase derived of MIDI to be absorbed (Ref. the Attachment 2.3.2).

As the above-mentioned concept of new township development is closely related to the infrastructure development in the region and therefore selection of sub projects in this survey, contents of the proposed township development will be examined in detail in relevant part in Chapter 3 and Chapter 6.

**Table 2.3.6 Planned Township Development in Chakaria Paurashava**

Sl. No.	Land Use Proposal Detail	Housing Type	Name* (location)	Area (Acres/ ha)	Population Accommodation	Population Density/Acres, ha
1	Private Residential	Multi Story Housing	PR-01	62.26/ 25.20	12,451	200/ 494
2	Private Residential	Multi Story Housing	PR-02	89.38/ 36.17	17,875	
3	Private Residential	Multi Story Housing	PR-03	28.26/ 11.44	5,653	
4	Private Residential	Single Housing	PR-04	95.92/ 38.82	4,796	50/ 124
5	Private Residential	Multi Story Housing	PR-05	148.67/ 60.16	29,734	200/ 494
Total				424.49/ 171.79	70,509	166/ 410

Source: Updating M/P of Chakaria Paurashava

**Table 2.3.7 Planned Township Development in Moheshkhali Paurashava**

Sl. No.	Land Use Proposal Detail	Housing Type	Name* (location)	Area (Acres/ ha)	Population Accommodation	Population Density/Acres, ha
1	Private Residential	Single Housing	PR-01	58.55/ 23.69	2,927	50/ 124
2	Private Residential	Multi Story Housing	PR-02	25.13/ 10.17	5,025	200/ 494
3	Private Residential	Multi Story Housing	PR-03	58.01/ 23.48	11,603	200/ 494
4	Private Residential	Multi Story Housing	PR-04	56.75/ 22.97	11,351	200/ 494
5	Private Residential	Single Housing	PR-05	80.71/ 32.66	4,036	50/ 124
Total				279.15/ 112.97	34,942	125/ 309

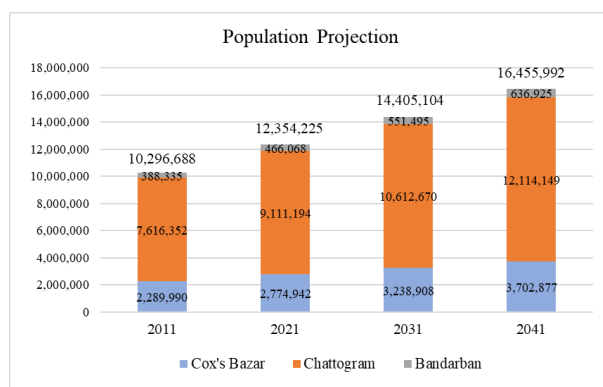
Source: Updating M/P of Moheshkhali Paurashava



## CHAPTER 3 SELECTION AND ASSESSMENT OF TARGET AREAS

### 3.1 Assessment and Selection Procedure

In the selection of candidate LGIs for subprojects, it is necessary to understand the urbanization burden caused by population growth in the Southern Chattogram region, and the need for infrastructure development to solve them. Therefore, first, after narrowing down the LGIs whose population are expected to increase in the future, identify the LGIs with a high need for infrastructure development.



Source: JICA Survey Team based on the Population Housing Census 2011 Urban Area Report, Bangladesh Bureau of Statistics, 2011

**Figure 3.1.1 Population Projection in the Southern Chattogram Region (Natural Growth)**

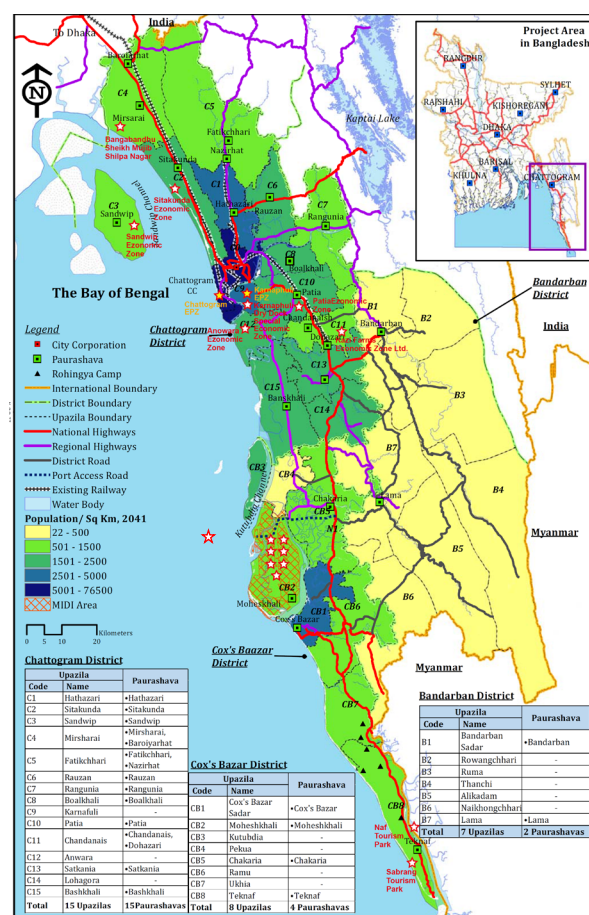
In the forecast of population growth, which is the primary narrowing down, it is necessary to reflect not only natural growth but also social growth. Therefore, JICA Survey Team considered the main factors that cause social growth in the Southern Chattogram Region, namely, MIDI development and the influx of displaced persons from Rakhine State, Myanmar.

In addition, the above two factors have a great influence on the examination of the necessity of infrastructure development for secondary narrowing down. Regarding the former, it is expected that the influx of workers and the location of related industries will occur in the hinterland along with the development. Regarding the latter, the burden on the government and existing infrastructure is increasing due to the influx of displaced persons. Therefore, in the second narrowing down, the selection criteria were set from the viewpoints of township development in the hinterland of MIDI and support of the host community for displaced persons. The selection procedure is shown in Table 3.1.1.

**Table 3.1.1 Assessment and Selection Procedure of Candidate LGIs**

Procedure	Assessment		
	MIDI Hinterland	Host Community	Criteria
Primary narrowing down	✓	✓	I. Population increase due to MIDI development or the influx of supporters of displaced persons population is remarkable, and it is expected that the population increase will be higher than the level in the previous M/P. LGIs with high population density where urban problems are expected to occur due to these population increases.
Secondary narrowing down	✓		II. MIDI commuting area (maximum time distance 1.5 hours)
	✓		III. Possibility of becoming a strategic base for industry and logistics connecting MIDI (Agglomeration of Economic Zones)
	✓		IV. Easy-to-develop land as a hinterland (flat, not lowland, public land) to absorb population increase by MIDI
		✓	V. LGIs where the influx of displaced persons from Rakhine state, Myanmar is expected to continue.
		✓	VI. LGIs that have already set up camps for displaced persons and are urgently dealing with emerging urban issues.

Source: JICA Survey Team



Source: JICA Survey Team based on the Population Housing Census 2011 Urban Area Report, Bangladesh Bureau of Statistics, 2011

**Figure 3.1.2 Population Density by Upazila in 2041**

## 3.2 Criteria I: Population Increase

### 3.2.1 Natural Growth

Based on the population growth rate up to 2011, JICA Survey Team estimated the future population of the three target districts up to 2041 by Upazila and Paurashava. Regarding the population projection of the newly established Upazila or Paurashava after the census year 2011, the projection was made based on the population as of 2018 by applying the growth rate of the LGIs to which they originally belonged. The future population of Chakaria Paurashava and Moheshkhali Paurashavas reflects the results estimated by their updated M/P (draft). The population projection and density by Paurashava and Upazila are presented in the Attachment 3.2.1.

At the Upazila level, population growths in Cox's Bazar Sadar, Chattogram Metro, and Bandarban Sadar, which are the centers of the three districts, are remarkable, with an annual population growth rate of more than 1.2% in the period of 2021/2031 and 2031/2041. The population density of 12 Upazilas in Chattogram District and 3 Upazilas in Cox's Bazar District will be higher than national average in 2041. The reason for the high population density of the Upazilas in Chattogram District is that these Upazilas belong to the Chattogram economic zone and are developing as the hinterland of Chattogram Metro. On the other hand, all Upazilas in Bandarban District have much lower than national average. This is thought to be due to the fact that most of the area is agricultural land and the urban area with a large population is limited. Therefore, the need for infrastructure development in Bandarban District to cope with population growth may be limited.

At the Paurashava level, while most of the Paurashavas in the three target districts increase their population by 1.1-1.7 times from 2021 to 2041, only two Paurashavas of Cox's Bazar District, Chakaria and Technaf, more than double. The population density in 2041 will be higher than the national average in most of the Paurashavas in the three districts, but in Chakaria and Technaf, the population density will be more than 10 times the national average. Therefore, it can be said that there is a high need for infrastructure development in the two Paurashavas of Cox's Bazar District, Chakaria and Technaf, among the Paurashavas in the three districts.

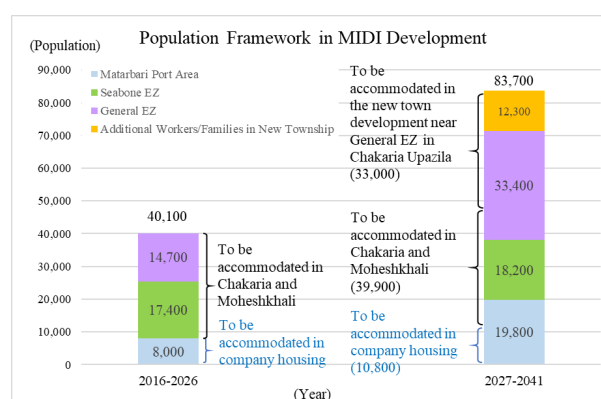
### 3.2.2 Social Growth

In order to understand the social growth in population, it is necessary to identify the factors inducing migration and analyse their effects. Among the three target districts, Cox's Bazar District has two factors which already cause the in-migration, i.e. MIDI and influx of displaced persons from Rakhine state, Myanmar.

#### (1) Population Increase derived of MIDI

Based on the estimation in the land use plan report of MIDI<sup>1</sup>, LGIs around MIDI area<sup>2</sup> will have the total population of 123,800 by 2041. Among them, newly and notably, Chakaria and Moheshkhali Paurashavas need to absorb 75,000 by 2041.

JICA Survey Team analyzed the situation of social increase in terms of new employment opportunities in the three target districts, by scrutinizing the registered number of employees in the local investment and foreign direct investment from 2014 to 2018<sup>3</sup>. Bandarban District has only 176 job



Source: JICA Survey Team

**Figure 3.2.1 Population Framework in MIDI Development**

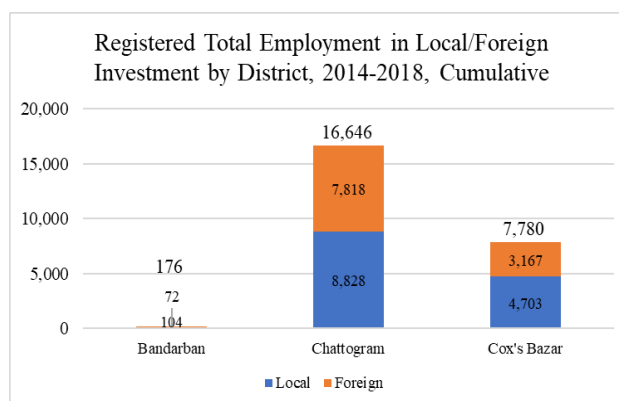
<sup>1</sup> Land Use and Development Planning Survey of Moheshkhali and Matarbari Area in the People's of Republic of Bangladesh, 2019, JICA

<sup>2</sup> Moheshkhali Upazila, Cox's Bazar District

<sup>3</sup> The investment projects planned to be located in the three target districts were extracted from BIDA's investment application list, and the number of employees planned to be employed and the main investment projects were organized by district and year.

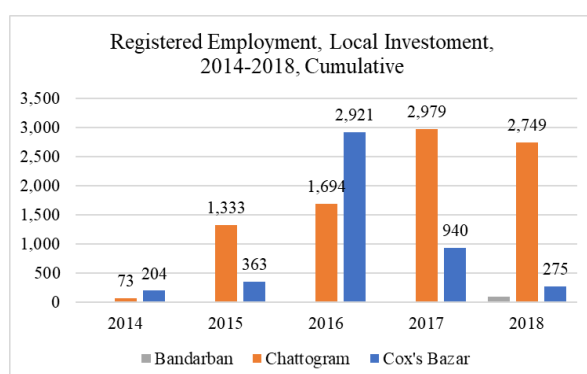
opportunities, while Chattogram District and Cox's Bazar District have 16,646 and 7,780, respectively.

The total employment at 75% in Chattogram District is of the Boshundra Group's oil refinery plant in Sitakunda Upazila, and the total employment at 85% in Cox's Bazar District is of the LNG Storage and regasification capacity facility in Moheshkhali Upazila. Since it is necessary to secure a large number of human resources who meet the required academic ability and experience at one time for the new energy-related employment, the employment of local people alone will not be enough. The population growth, due to the above investment, is occurring in Moheshkhali Upazila, namely MIDI area in Cox's Bazar District, as well as in Sitakunda Upazila which belongs to the Chattogram economic zone.



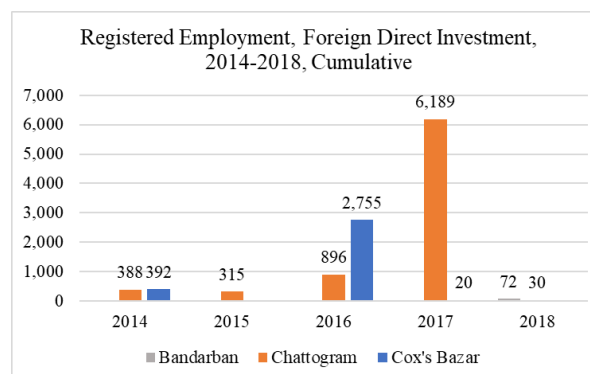
Source: JICA Survey Team based on information of BIDA

**Figure 3.2.2 Registered Total Employment in Local/Foreign Investment**



Source: JICA Survey Team based on information of BIDA

**Figure 3.2.3 Registered Employment in Local Investment**



Source: JICA Survey Team based on information of BIDA

**Figure 3.2.4 Registered Employment in Foreign Direct Investment**

## (2) Population Increase derived from the supporters of displaced persons from Rakhine state, Myanmar

Since August 2017, many displaced persons from Rakhine state, Myanmar have flowed in Cox's Bazar District and 918,841 persons are registered as of December 2021. According to "District Development Plan for the Cox's Bazar" formulated in 2020 by LGED- UNDP, it is reported that many domestic and international organizations have entered the region to support the displaced persons, which also caused an influx of people expecting employment in these organizations. JICA Survey Team tried to find some numerical data which could reflect the number of in-migrants related to NGO job opportunities; however, LGIs do not have any list or information on it. According to the district coordinator under UIDCP of Ukhia Upazila, there are more than 150 NGOs working within Ukhia Upazila, while Upzaila Chairman of Teknaf Upazila stated there were more than 100 NGOs working within Teknaf.

### 3.3 Criteria II: MIDI Commuting Area

JICA survey team interviewed LGI officials about the means of access to the MIDI area, the route, and the required time. As a result, it became clear that the commuting area which was available to access to MIDI area in 1.5 hours was limited to Upazila/Paurashava of Chakaria and Moheshkhali under the current transport network (Ref. the Attachment 3.3.1). In the future, after improving the N1 bypass and developing the Matarbari Access Road, there is a possibility that Satkania and Lama will also be in the commuting zone, but it will still take time.

According to an interview with the Paurashava officials of the Chakaria which is one of the closest Paurashava to the MIDI area, it is reported that migrants have begun to settle in two wards in Chakaria Paurashava and the surrounding Upazila area, and they seemed to work for MIDI. Although there is no statistical data, it was said that the origin of the inflow was the three target districts, especially the neighboring Upazilas or the Upazilas along the trunk road N1 which allows an easy access. In order to examine where these migrants came from, JICA Survey Team analyzed the economic conditions and poverty rate.

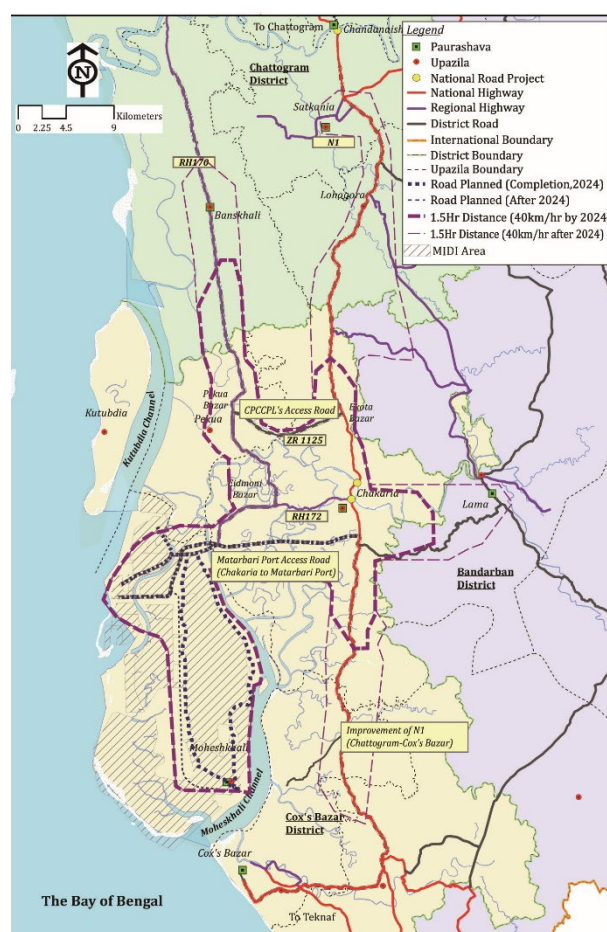
#### 3.3.1 Economic Conditions

Economic reasons can be considered as the most important factor of population migration. The Economic Census 2013 introduces the district-wise labor force population by type. Both Bandarban and Cox's Bazar Districts have the largest number of cottage scale industry workers; however, Chattogram District has a high proportion of large-scale industry workers. There are many employment opportunities in Chattogram District, so it is unlikely that job seekers move to another district where there are few employment opportunities.

**Table 3.3.1 Time Required to MIDI Area**

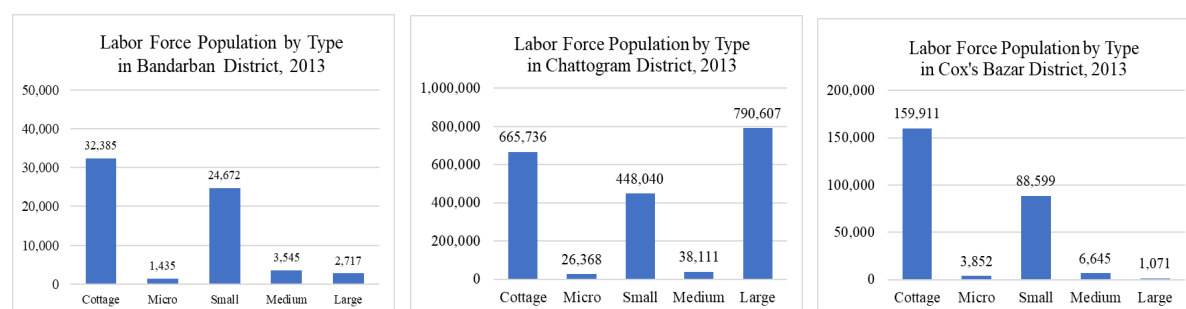
Origin (Upazila/Paurashava)	Route	Time Required
Boulkhali	Z108&R170	3:45
	N1&R172	3:30
Paia	Z108&R170	3:30
	N1&R172	3:00
Satkania	Z108	3:00
	N1&R172	2:00
Moheshkhali	Z1004	1:30
Chakaria	R172	1:30
Ukhia	N1&R172	3:00
Terkaif	N1,Z1009&R172	4:30
	Z1098(Mainedrive),BoutGhat&Z1004	4:00
Lama	AlkadamRoad,N1&R172	2:00

Source: JICA Survey Team



Source: JICA Survey Team

**Figure 3.3.1 Road Network Plan in Future in 2041**



Source: Economic Census 2013

**Figure 3.3.2 Labor Force Population by Type of Industry in 2013**



Since the cottage industry, which is the most common in Bandarban and Cox's Bazar Districts, is operated only by oneself and within the family, it is assumed a migrant candidate group can easily move in response to economic fluctuation and new business opportunities.

### 3.3.2 Poverty Rate

According to the Poverty Maps of Bangladesh 2010 (BBS, World Bank, WFP), the poverty rate of Upazilas in Bandarban District is between 28 % and 50 % or greater and is generally high among the three target districts as of 2010. On the other hand, many Upazilas in Chattogram District have the poverty rate at 15% or less, or have the rate of extreme poverty at 6% or less. It is obvious that these Upazilas are rich, benefiting from the economic bloc of Chattogram Metro.

Upazilas in Cox's Bazar District have the poverty rate between 16 % and 49 %, and the extreme poverty rate between 7 % and 24 %. It can be said that Cox's Bazar District was not as rich as Chattogram in 2010. It is unlikely that inhabitants will move to areas with higher poverty rates when searching for a better life. Therefore, it is natural to think that the new migrants identified in the Chakaria Paurashava have moved from the Paurashavas in Bandarban District and the Cox's Bazar District adjacent Upazilas in Chattogram District. It should be noted that the poverty rate as of 2016 in Cox's Bazar District has risen to the same level as in Chattogram District<sup>4</sup>, indicating that the economic development of Cox's Bazar District is progressing, which attracts job seekers from the above-mentioned areas.

### 3.4 Criteria III: Strategic Base (EZ)

EP and EPZ can be considered as a strategic base for industry and logistics connecting MIDI. As mentioned above in 2.2.4, many EZs and EPZs are operated/planned in the districts of Chattogram and Cox's Bazar. It can be seen that the EZs/EPZs in Chattogram District are located mainly in the LGIs adjacent to Chattogram Metro, and they function in the economic zones linked to Chattogram port. On the other hand, EZs/EPZs in Cox's Bazar District are mainly located in MIDI area and surrounding area in Moheshkhali Upazila, so they have high potential as a strategic base for industry and logistics connecting MIDI.

### 3.5 Criteria IV: Developable Land as Hinterland of MIDI

As mentioned in 2.3.3, Paurashavas of Chakaria and Moheshkhali have the new township development plans in their M/P (draft) revision. Since both Paurashavas are commuting area adjacent to MIDI area, they have a high geographical advantage compared to other areas. In addition, the township development can be launched at an early stage, if the M/P (draft) revision is approved. There is also a candidate site suitable for development in Moheshkhali Upazila, which is located along with a LGED road connecting Moheshkhali and Chakaria, as shown in 3.9.3.

### 3.6 Criteria V: Influx of Displaced persons from Rakhine state, Myanmar

In Cox's Bazar District, the 34 camps for displaced persons managed by UNHCR are located in 5 Unions in Ukhia and Teknaf Upazilas and the 192,908 displaced persons' households and the population of about 918,841<sup>5</sup> are registered (Ref. the Attachment 3.6.1). Although Bangladesh Government developed the shelters for 100,000 persons in Bhashan Char island, and already approximately 18,000 displaced



Source: JICA Survey Team

Figure 3.3.3 Location of EZ/EPZ

<sup>4</sup> According to Bangladesh Poverty Assessment, 2019, World Bank, poverty rate range of Chattogram and Cox's Bazar District is 23.4%-30.5%.

<sup>5</sup> Rohingya Refugee Response/ Population Factsheet, Bangladesh Joint Government of Bangladesh-UNHCR 2021, as of December 2021

persons were relocated by the end of August 2021, most displaced persons will stay in camps located in Ukhia and Teknaf Upazila <sup>6</sup>.

### 3.7 Criteria VI: Emerging Urban Issues Due to Camps for Displaced Persons

District Development Plan for the Cox's Bazar reported that the influx of supporters of displaced persons induced problems such as rent increase of offices and housing, conversion of farmland, and damage of road pavement caused by relief supplies transport vehicles, etc. These problems need to be addressed urgently, along with other problems directly caused by the influx of displaced persons such as deforestation for fuel, wage reduction (due to the influx of displaced persons into the unskilled labor market), burden of LGIs to collect the solid waste in camps for displaced persons, etc.

### 3.8 Selection of Target Areas

In light of the selection criteria described in 3.1, LGIs satisfying the criteria were given scores, i.e. top three areas per Paurashava and Upazila were only given scores in terms of density. The results of the assessment are as follows and LGIs proposed by LGED (Lama, Boalkhali, Patia, Satkania, Chakaria, Moheshkhali, Teknaf, Ukhia) were assessed. (see the Attachment 3.8.1 for the results of all LGIs):

**Table 3.8.1 Result of the Assessment**

LGIs		Primary Narrowing Down			Secondary Narrowing Down					Total
		I. Population Increase			II. MIDI Commuting Area	III. Potential of Strategic Base	IV. Potential of Hinterland	V. Influx of Displaced Persons	VI. Host Community	
		MIDI Related	Influx of Displaced Persons' Supporter	Density						
Ban-darban	Lama									0
Chatto-gram	Baroiyarhat			○						1
	Boalkhali									0
	Patia									0
	Satkania									0
	Hathazari			○						1
	Mirsharai					○				1
	Karnafuli			○						1
	Boalkhali									0
	Patia					○				1
	Satkania									0
Cox's Bazar	Anwara					○				1
	Moheshkhali	○			○		○			3
	Chakaria	○		○	○		○			4
	Teknaf		○	○						2
	Cox's Bazar Sadar			○						1
	Moheshkhali	○			○	○	○			4
	Chakaria	○			○		○			3
	Ukhia		○					○	○	3
Other	Teknaf		○			○		○	○	4

Source: JICA Survey Team

Based on the examination from the sections in 3.2 to 3.7, subprojects in this survey will be formed in the following three Paurashavas and four Upazilas:

- Paurashava: Chakaria, Moheshkhali, Teknaf
- Upazila: Chakaria, Moheshkhali, Teknaf, Ukhia

General information of the selected LGIs is as follows:

**Table 3.8.2 General Information of the Selected LGIs**

Items	Chakaria U	Chakaria P	Moheshkhali U	Moheshkhali P	Teknaf U	Teknaf P	Ukhia U
Natural Condition							
Area (km <sup>2</sup> )	480	15.8	393	7.7	372	4.0	261
Elevation (mMSL)							
Average	15.84		12.61		23.64		20.65
Maximum	186.35		86.85		245.5		119.98
Minimum	-0.04		-0.44		-4.60		-5.61
Broad Land Use Classification (%)							
Land Area	64.9		69.0		58.5		46.9
Reserve Forest	27.0		0		41.1		52.8
Riverine Area	8.0		31.0		0.3		0.3
Flood Occurrence	Flood Plain of Matamuhuri		Flood Plain of Moheshkhali Channel		Flood Plain of Naf		N/A
Socioeconomic Condition							
Population							
BBS 2011	Whole Upazila (Upazila + Paurashava) 474,465		Whole Upazila (Upazila + Paurashava) 321,218		Whole Upazila (Upazila + Paurashava) 239,333		Whole Upazila (Upazila) 207,379

<sup>6</sup> <https://www.dhakatribune.com/bangladesh/rohingya-crisis/2021/09/10/speakers-rohingya-children-need-quality-education>

Items	Chakaria U	Chakaria P	Moheshkhali U	Moheshkhali P	Teknaf U	Teknaf P	Ukhia U
	401,796	72,669	293,897	27,321	264,389	25,056	
2021 (Estimated)	Whole Upazila (Upazila + Paurashava) 572,450		Whole Upazila (Upazila + Paurashava) 373,169		Whole Upazila (Upazila + Paurashava) 313,338		Whole Upazila (Upazila) 240,348
	466,023	106,427	339,096	34,073	277,617	35,721	
2031 (Estimated)	Whole Upazila (Upazila + Paurashava) 676,534		Whole Upazila (Upazila + Paurashava) 450,877		Whole Upazila (Upazila + Paurashava) 366,636		Whole Upazila (Upazila) 279,154
Natural Growth	472,608	159,359	384,950	42,494	315,709	50,927	279,154
Social Growth from MIDI*2	17,667	26,900	11,600	11,833	-	-	-
Subtotal	490,275	186,259	396,550	54,327	315,709	50,927	279,154
2041 (Estimated)	Whole Upazila (Upazila + Paurashava) 777,985		Whole Upazila (Upazila + Paurashava) 519,019		Whole Upazila (Upazila + Paurashava) 419,955		Whole Upazila (Upazila) 317,960
	448,587	242,898	428,724	52,995	347,351	72,604	317,960
Social Growth from MIDI*2	53,000	33,500	18,800	18,500	-	-	-
Subtotal	501,587	276,398	447,524	71,495	347,351	72,604	317,960
Population Density							
2021 (Estimated)	1,194	6,753	949	4,425	843	8,842	922
2041 (Estimated, natural growth only)	1,442	15,412	1,225	6,882	1,130	17,971	1,219
Income Level	Urban Area*: BDT 25,675 Rural Area: BDT 23,875		Urban Area: BDT 11,800 Rural Area: BDT 10,575		Urban Area: BDT 26,537 Rural Area: BDT 23,504		N/A
Poverty Level (% of the poor households as upper poverty line, 2010)	28 - 38		39 - 49		39 - 49		39 - 49
Social Structure (Predominant Economy)	Agriculture		Salt Industry, Fish Processing		Agriculture		Agriculture
Literacy Rate (%; 2011)							
Total	47.6		30.8		26.7		36.3
Male	47.9		30.5		29.7		38.0
Female	47.4		31.1		23.6		34.5
Health Complex							
Government	13		35		1		0
Non-government	6		0		7		0
Diagnostic Center	30		2		7		2
Health Center	18		6		3		3
Community Clinic	34		27		12		15
No. of Pond	3,060		570		275		865
No. of Stadium/ Playground	60		6		8		11
No. of Park	2		0		4		0
Industries							
No. of Farm Holdings (2008)	30,480		23,024		13,080		21,102
No. of Establishment (2013)	25,420		7,817		14,329		7,835
No. of Employees (2013)	56,086		25,593		35,321		18,715
Local Investment							
Local Investment Amount (2014-2018/ BDT Million) (Major industry)	0		11,139 (Energy)		3,610 (Electricity)		0
Registered No. of Employees of Local Investment (2014-2018) (Major industry)	0		22 (Energy)		182 (Electricity, Hotels)		0
FDI (Foreign Direct Investment)							
Foreign Investment Amount (2014-2018/ USD Million)	0		170.5		N/A		0
No. EZ	0		4		2		0

Note: Estimated based on Household Income and Expenditure Survey 2016 (BBS) \*Definition of Urban Area is based on BBS2011 (Paurashava, Upazila Headquarters and Cantonment Area)

Social Growth from MIDI are based on the projection shown in Figure 3.2.3 and allocated to the LGIs which are anticipated to be the accommodation area for people engaged in MIDI. Allocation to LGIs was set based on the indication of the land use plan report of MIDI<sup>7</sup> applying the assumption of that the social growth will be evenly distributed to each LGIs.

Source: District Statistics 2011, Economic Census 2013, BIDA

### 3.9 Development Plans and Direction of Target Area

The development directions of the selected LGIs in existing development plans are shown below:

#### 3.9.1 Chakaria and Moheshkhali Paurashavas

In Chakaria and Moheshkhali Paurashavas, UDCGP of JICA has updated the M/Ps (draft) in 2020, which were previously formulated in 2011 and still not yet approved, to reflect the impact of MIDI. Land use zoning policy and development strategies are introduced in its Structure Plan with zoning categories. The areas that can be developed are the core area, fringe area, peripheral area, and new urban area. The policy is to start with efficient utilization (densification) of the core area and gradually proceed to the outer area (Ref. the Attachment 3.9.1). The development proposals by sector are shown as follows:

<sup>7</sup> Land Use and Development Planning Survey of Moheshkhali and Matarbari Area in the People's of Republic of Bangladesh ,2019, JICA

**Table 3.9.1 Development Proposals in M/Ps (draft) Revision**

Sector	Chakaria	Moheshkhali
Transport	<ul style="list-style-type: none"> <li>➤ Construction of Highway/Freeway, Arterial Road, Collector Road</li> <li>➤ Local road development to facilitate Station, TOD and township (Access Road)</li> <li>➤ Northern connectivity (Z1123, Z1127)</li> <li>➤ Station Oriented Connectivity (Arterial Road)</li> <li>➤ Bus and Truck Terminal</li> <li>➤ City Bus/Paratransit Terminal at Binamara</li> </ul>	<ul style="list-style-type: none"> <li>➤ MIDI connecting road, Arterial road (Ring road/Outer ring road), Collector road and Embankment road</li> <li>➤ Construction of Moheshkhali bridge</li> <li>➤ Development of Bus and Truck terminal</li> </ul>
Drainage	<ul style="list-style-type: none"> <li>➤ Phasing Development of Primary Drain (Natural Canal), Secondary Drain and Tertiary Drain.</li> <li>➤ Cross Drainage Structure (Box Culvert)</li> <li>➤ Phasing Development of Embankment</li> </ul>	<ul style="list-style-type: none"> <li>➤ Phasing Development of Secondary Drain and Tertiary Drain.</li> <li>➤ Development of Cross Drainage Structure (Box Culvert)</li> <li>➤ Phasing Development of Embankment</li> </ul>
Solid Waste Management	<ul style="list-style-type: none"> <li>➤ Secondary Dustbins</li> <li>➤ Expansion/Replication of Primary Waste Collection Services</li> <li>➤ Secondary Transfer Station</li> </ul>	<ul style="list-style-type: none"> <li>➤ Secondary Dustbins</li> <li>➤ Secondary Transfer Station</li> <li>➤ Landfill Site</li> </ul>
Water Supply	<ul style="list-style-type: none"> <li>➤ Provision of ward-wise ground water pump</li> <li>➤ Water treatment plant</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water supply line</li> </ul>
Urban Facilities	<ul style="list-style-type: none"> <li>➤ Ward-wise nursery school/kindergarten</li> <li>➤ Primary schools with high school/colleges/vocational training institute</li> <li>➤ Ward complex for all wards</li> <li>➤ Play field/ground, park, neighborhood park, botanical garden and urban green space</li> <li>➤ Stadium/sports complex, cinema complex/theater</li> <li>➤ Upazila health complex/hospital, health center/maternity clinic</li> <li>➤ Community facilities such as graveyard, cremation place, police box</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ward-wise nursery school/kindergarten</li> <li>➤ Primary schools with high school/colleges/vocational training institute</li> <li>➤ Ward complex for all wards</li> <li>➤ Play field/ground, park and urban green space</li> <li>➤ Stadium/sports complex, cinema complex/theater</li> <li>➤ Upazila health complex/hospital, health center/maternity clinic</li> <li>➤ Graveyard, police box and post office</li> </ul>

Source: Updating of M/P (draft) of Chakaria Paurashava and Moheshkhali Paurashava, 2020

### 3.9.2 Teknaf Paurashava

In Teknaf Paurashava, UTIDP of LGED has formulated the M/P in 2011 (approved in 2015). The proposed projects in the M/P are shown in Table 3.9.2. It has the same zoning in Structure Plan as well as Chakaria and Moheshkhali, i.e. core area, fringe area and peripheral area as developable zones (Ref. the Attachment 3.9.2).

**Table 3.9.2 Development Proposals in Teknaf Paurashava M/P**

Sector	Development Proposals
Transport	<ul style="list-style-type: none"> <li>➤ Primary/Secondary/Tertiary/Access Roads</li> <li>➤ Widening of Existing Primary Road</li> <li>➤ Passenger shed and Tempo Stand</li> <li>➤ Bus Terminal, Truck Terminal, Jetty for Tourist Services</li> </ul>
Drainage	<ul style="list-style-type: none"> <li>➤ New Primary/Secondary/Tertiary Drain</li> <li>➤ Bridge and Culvert/Box Culvert</li> </ul>
Solid Waste Management	<ul style="list-style-type: none"> <li>➤ Solid waste disposal site</li> <li>➤ Waste transfer station</li> </ul>
Water Supply	<ul style="list-style-type: none"> <li>➤ Provision of ward-wise ground water pump</li> <li>➤ Water treatment plant</li> </ul>
Urban Facilities	<ul style="list-style-type: none"> <li>➤ Public Toilet, Fire Service and Fuel Station</li> </ul>

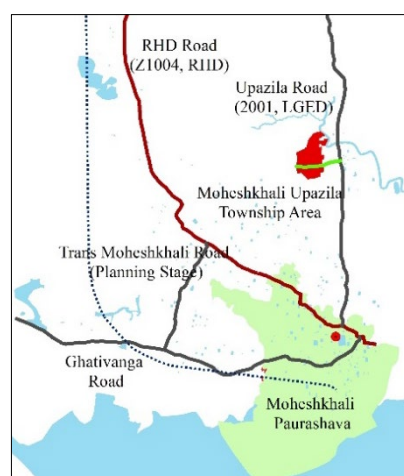
Source: Teknaf Paurashava M/P, 2015

### 3.9.3 Upazilas

Paurashava is required to formulate a M/P under the Local Government Act 2009, and Upazila is required to formulate a five-year development plan as well. However, only a limited number of Upazilas have five- year plans, because the Upazila's own financial resources are scarce and the budget is limited.

#### (1) Chakaria

Chakaria Upazila has no M/P or five-year plan. However, some areas in Chakaria Upazila are proposed as a part of the township development site in the above-mentioned updating Chakaria Paurashava MP (draft), and also there is the township development along the Matabari Access Road proposed in the land use plan for MIDI area<sup>8</sup>. Regarding the latter township development, LGD conducted the Sector Development Plan (SDP) Project to survey in detail with the creation of a layout plan in 2021 (Ref. the Attachment 3.9.3). The township is designed to accommodate high-ranked executives of the proposed General Economic Zone (EZ) and to make sure that



Source: JICA Survey Team

**Figure 3.9.1 Location of New Township Development in Moheshkhali Upazila**

<sup>8</sup> Land Use and Development Planning Survey of Moheshkhali and Matarbari Area in the People's of Republic of Bangladesh ,2019, JICA



there is well-organized interconnectivity, properly placed amenities, recreational facilities, and communities.

## (2) Moheshkhali

Moheshkhali Upazila has no M/P or five-year plan. It is speculated that the urbanization of Moheshkhali Paurashava will expand to the north as the population grows in the future. In order to prevent haphazard development, it is urgent to develop a new township. After conducting a field survey and hearing opinions from the Upazila officials, the mayor and councilors of relevant LGIs, it was found that there was a suitable development site along the LGED road (Z-1004) leading to Chakaria, which was located to the north of Moheshkhali Paurashava. For that reason, JICA Survey Team made a recommendation to Moheshkhali Upazila officials to select this site as a candidate site for township development and shared the information with the project team of SDP. After it was selected as one of the new township development sites in SDP, JICA Survey Team reflected it as a township development plan in Moheshkhali Upazila.

## (3) Teknaf

In Teknaf Upazila, UICDP has prepared a five-year plan. The development vision and proposed project are shown in Table 3.9.3.

**Table 3.9.3 Development Vision and Proposals in Five Year Plan of Teknaf Upazila**

Development Vision	
Improving the quality of life of the people in Teknaf Upazila through quality education, improved communication system, development of public health, creation of drug free society, creation of employment and modernization of agriculture.	
Sector	Development Proposals
Transport	<ul style="list-style-type: none"> <li>➤ Construction of connecting roads to educational institutions</li> <li>➤ Construction of 30 km road connecting various services</li> </ul>
Drainage	<ul style="list-style-type: none"> <li>➤ Construction of 3,500 meters of drain</li> <li>➤ Construction of 50 culverts</li> <li>➤ Development of irrigation (4 dams and reservoirs)</li> </ul>
Solid Waste Management	<ul style="list-style-type: none"> <li>➤ Installation of 300 healthy latrines</li> </ul>
Water Supply	<ul style="list-style-type: none"> <li>➤ Installation of 300 shallow/deep tube wells</li> </ul>
Urban Facilities	<ul style="list-style-type: none"> <li>➤ Provision of necessary materials/facilities to primary/secondary schools and madrasas (equipment, benches, deep tube wells, rainwater harvesting system, boundary wall, solar panels, etc.)</li> <li>➤ Development of delivery facilities in Union health and family welfare centers</li> <li>➤ Installation of 100 streetlights and solar power</li> </ul>
Agriculture, Fisheries, Livestock, etc.	<ul style="list-style-type: none"> <li>➤ Trainings for farmers (1,200 people), trainings for river fishermen (500 people), awareness meeting for sea fishermen (30 meetings), trainings for livestock management (300 people)</li> </ul>

Source: Teknaf Upazila Five Year Plan (2019/2020-2023/2024)

## (4) Ukhia

In Ukhia Upazila, UICDP has prepared a five-year plan. The development vision and proposed project are shown in Table 3.9.4. The vision statement identified the following important sectors for Ukhia: development of communication system, infrastructure development, expansion of public health services, agricultural development, and quality of education.

**Table 3.9.4 Development Vision and Proposals in Five Year Plan of Ukhia Upazila**

Development Vision	
To ensure that Ukhia's people enjoy an improved livelihood by means of developing communication & agricultural system, extended health care, quality education and overall infrastructural improvement while the ongoing crisis of Displaced persons from Rakhine state, Myanmar is solved	
Sector	Development Proposal (FY2019-2020)
Transport	<ul style="list-style-type: none"> <li>➤ Construction of guide-walls to prevent the road</li> <li>➤ Development of brick-soling roads, haring bone band road and RCC road</li> <li>➤ Construction of culverts</li> </ul>
Drainage	<ul style="list-style-type: none"> <li>➤ Construction of drains (L-shape, U-shape, culvert)</li> </ul>
Solid Waste Management	<ul style="list-style-type: none"> <li>➤ N/A</li> </ul>
Water Supply	<ul style="list-style-type: none"> <li>➤ N/A</li> </ul>
Urban Facilities	<ul style="list-style-type: none"> <li>➤ Development of the field, stairs of pond,</li> <li>➤ Installation of CCTV camera for safety</li> <li>➤ Provision of benches, ceiling fans, solar panels, furniture, equipment, etc. to educational institutions</li> <li>➤ Renovation of temple, crematorium and madrasa</li> <li>➤ Expansion of high school buildings</li> </ul>
Agriculture, Fisheries, Livestock, etc.	<ul style="list-style-type: none"> <li>➤ N/A</li> </ul>

Source: Ukhia Upazila Five Year Plan (2019/2020-2023/2024), Ukhia Upazila Annual Development Plan FY2019-2020

## CHAPTER 4 GOVERNANCE AND TARGET PAURASHAVAS AND UPAZILAS

### 4.1 Policy, Legal Framework and Governance System of Paurashava and Upazila

#### 4.1.1 Policy Framework

The Perspective Plan of Bangladesh (2021-2041): Making Vision 2041 a Reality (hereafter “PP2041”) provides a broad framework for the course of actions required to achieve “Vision 2041”<sup>1</sup>, which seeks to eliminate extreme poverty and reach Upper Middle-Income Country (UMIC) status by 2031, and High-Income Country (HIC) status by 2041 with poverty approaching extinction. PP2041 has two principal visions, which are: i) Bangladesh will be a developed country by 2041, and ii) Poverty will become a thing of the past in Sonar Bangla<sup>2</sup>. PP2041 sets nine strategic goals as the essential components of economic policy to be pursued over the long-term. One of the nine strategic goals states that the urban transition will be an essential part of the strategy to move to a high-income economy. Concerning good governance and institutional foundation, PP2041 states that institutions are critical because they are key determinants of the level of development and sets four institutional pillars. These are i) governance, ii) democratization, iii) decentralization, and iv) capacity building. Particularly to local government administration, it is suggesting the preparation of a legal framework that will provide a clear guideline for the local governments about its function, jurisdiction, taxation, finance, budget account, electoral process, and central-local and local-local relationship.

The 8th Five-Year Plan (2021- 2025) underlines the significance of the strengthening of governance reforms to improve; i) administrative functions of LGIs, ii) service delivery functions of LGIs, and iii) Public Finance Management (PFM) functions of LGIs. Particularly, the 8th Five-Year Plan mentions in the documents that the local governance of Paurashavas and Upazilas is developed under the technical assistance projects of JICA, which are: “National Strategy for Paurashava Governance Improvement (2016-2025)” for Paurashavas developed by SPGP and “Mid and Long-Term Strategy for Upazila Parishad Governance Improvement” for Upazilas developed by UICDP. As for Paurashavas, four key specific goals are prioritized in the 8th Five-Year Plan, which are: i) increasing the revenues of the Paurashavas, ii) proper establishment of the Paurashavas’ financial management with the implementation of an appropriate Paurashava Development Plan, iii) carrying out the administrative activities of the Paurashavas efficiently and effectively in accordance with the laws, rules, regulations and other legal instruments, and iv) strengthening the human resources of Paurashavas. Concerning Upazilas, seven key targets were pointed out and prioritized, which are: i) ensuring both horizontal and vertical coordination by the Upazila Parishads, ii) proper function of Upazila Committees and contribution to better coordination with the transferred line departments, iii) preparation of both Five-Year Plans (FYP) and Annual Development Plans (ADP) by the Upazila Parishads, iv) proper reflection of the citizens’ views in the Upazila Parishads’ budgets as well as their development plans (both Five-Year Plans and Annual Development Plans), v) proper preparation of the budgets and other annual financial statements in accordance with the relevant laws and guidelines, vi) proper monitoring of the Upazila Parishads’ activities by the concerned Wing of the LGD, and vii) establishment and implementation of a training mechanism that covers all the Upazila Parishads. The 8th Five-Year Plan also mentions the *My Village-My Town* that envisions turning rural villages into towns by extending modern urban facilities to every village across the country. The 8th Five-Year Plan emphasizes the capacity development of Upazilas and the appropriate coordination between Upazilas and concerned ministries to facilitate rural transformation under *My Village-My Town*.

<sup>1</sup> “Vision 2041” is a national strategic plan to further develop the socio-economic standing of Bangladesh, issued by Prime minister Sheikh Hasina and formulated by National Economic Council. It aims to transform the country from a lower middle-income country to an upper middle-income country by 2031, and a high-income country by 2041.

<sup>2</sup> “Amar Sonar Bangla” (“My Golden Bengal” in English) is the national anthem of Bangladesh. Though the word “sonar” literally means “made of gold”, the words “Sonar Bangla” may be interpreted to express the preciousness of Bengal in the national anthem.

## 4.1.2 Legal Framework

### (1) Local Government (Municipality) Act

Local Government (Municipality) Act, 2009<sup>3</sup> is comprised of 131 articles under 5 parts as well as 8 schedules. Local Government (Municipality) Act, 2009 pulls together different thematic categories, such as; i) establishment and constitution of Paurashava, ii) election of Mayor/Councilors, iii) officers and employees, iv) responsibilities and functions (including functions of standing committees), v) financial management, budget and accounting (including taxation power), and vi) law and discipline. Local Government (Municipality) Act, 2009 stipulates Paurashava's functions in Article 50 as shown in the table below.

**Table 4.1.1 Functions of Paurashavas**

a. Water supply for residential, industrial and commercial use.
b. Water and sanitation.
c. Waste management.
d. Issuing plan to ensure economic and social justice.
e. Construction of road, footpath to develop communication system and construct terminal for the benefit of people's movement and goods.
f. Activities under birth and death registration act 2004 (29 no, act of 2004).
g. Traffic management planning for better transport management, passenger shade, road light parking place, bus stand and bus stop for walkers.
h. Public health and environment conservation, tree plantation and conservation.
i. Market and slaughterhouse setup and management.
j. Create and spread the opportunity and support to sports, games, disport, amusement and increase beautification of the locality. and
k. Any other functions under ordinance, rules, regulatory or any order from government.

Source: Local Government (Municipality) Act

### (2) Upazila Parishad Act

Upazila Parishad Act<sup>4</sup> was enacted in 1998 to establish a local governance body named Upazila. Upazila Parishad Act, 1998 stipulates the roles, responsibilities, and powers of Upazila Parishad, including member composition, election of Chairman, Vice-Chairmans and members of Upazila Parishad, administrative and financial management, decision-making process, human resources and others. Section 23 and Schedule 2 of the Upazila Parishad Act, 1998 and its Amendment in 2009 and 2011 stipulates eighteen (18) specific functions of Upazila Parishad as shown in the table below.

**Table 4.1.2 Functions of Upazilas**

a. Formulation of five-year plan and other development plan of various terms.
b. Implementation of the programs of various government departments transferred to Upazila Parishad, and supervision and coordination among the departments' programs.
c. Construction, repair and maintenance of inter-union link roads.
d. Adaptation and implementation of small-scale irrigation projects, in accordance with the directions of the Government, for the purpose of the best utilization of the surface water.
e. Ensuring the services of public health, nutrition and family planning.
f. Improvement of sanitation and sewerage systems, and adoption of proper measures for supplying safe drinking water.
g. (a) encouraging and facilitating the extension of education at the Upazila level, (b) supervising and supporting related institutions to improve the quality of secondary and madrasah education.
h. Taking initiative for the establishment and extension of small and cottage industries.
i. Supporting and coordinating the activities of cooperative societies and non-government voluntary organizations.
j. Supporting and implementing the programs of women, children, social welfare, youth, sports and cultural activities.
k. Adopting and implementing programs for the development of agriculture, livestock, fisheries and forest resources.
l. Review of the activities of the police department along with the development of law and order situation in the Upazila, and sending reports regularly by the Chairman to the higher authorities.
m. Adopting and implementing own programs to generate self-employment and reduce poverty, while providing necessary assistances for the implementation of other Government programs in this realm.
n. Coordinating, monitoring and supporting the development activities undertaken by Union Parishads.
o. Generating public opinion and taking other preventive measures to resist the crimes against women and children, etc.
p. Creating public awareness and taking other preventive measures against the crimes of terrorism, theft, robbery, smuggling, abuse of drugs, etc.
q. Undertaking social forestry and other programs with the aims of preservation and development of the environment.
r. Other activities assigned by the government from time to time.
s. Coordination of all activities related to disaster management.
t. Cooperation with other institutions engaged in activities similar to those of Upazila Parishad.
u. Introducing and encouraging e-governance.

Note: Three functions (s., t. and U above ) are added as per the LGD circular dated November 2011. In addition to the 18 functions stated in Upazila Parishad Act, 1998

Source: Local Government (Municipality) Act, LGD circular

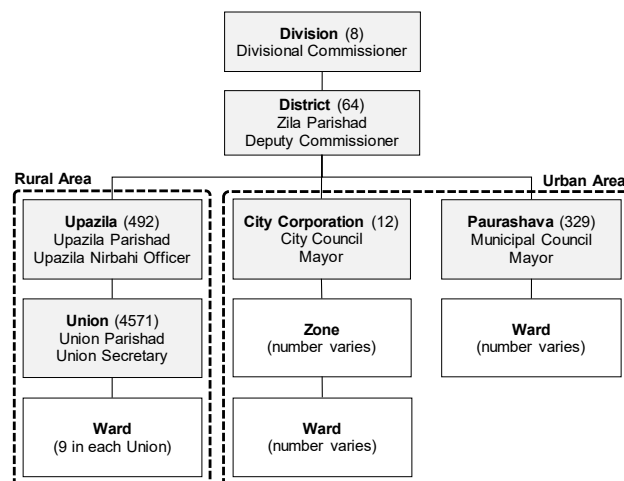
<sup>3</sup> Enacted in 2009, and following law adopted by the Parliament that consented by the President in 2010.

<sup>4</sup> First promulgated in 1998, and the comprehensive amendment was made in 2009. The Act was, then, amended further in 2011 and 2015.

### 4.1.3 Local Government Institutions in Bangladesh

There are 8 divisions and 64 districts in Bangladesh, each district further subdivided into Upazilas. The area within each Upazila, except for those in urban areas, is divided into several Unions. Each union is consisted of 9 wards. Urban areas with the population of 100,000 or more are administrated by urban local bodies (ULBs) named City Corporations (CCs) or Paurashavas. CCs and Paurashavas also have wards within its area. Concerning CCs, Zone is consisted of some wards. Figure below shows the local government system in Bangladesh.

**Figure 4.1.1 Local Governance System in Bangladesh**



Source: Compiled by JICA Survey Team based on Bangladesh National Portal.

As of October 2020, rural local government system is comprised of 492 Upazila Parishads and 4,571 Union Parishads, while the urban areas are administered by ULBs that include 12 CCs and 329 Paurashavas. CCs are located in large cities that have a high concentration of industry and drive economic development, while Paurashavas are located in rural areas where there is a high concentration of population and where economic and social activities are centered. Detailed number of LGIs in Bangladesh is shown in Attachment 4.1.1.

### 4.1.4 Supervisory Authorities for Paurashava and Upazila

The Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C) is the supervising authority for local government institutions, except for hill district councils which are under the Ministry of Chattogram Hill Tract Affairs (MoCHTA). It is primarily responsible for development and implementation of policies relating to local government. Within the LGD, the Urban Development 2 Branch under “Urban Development” oversees Paurashavas, while Upazila Branch under “Administration” looks after Upazilas.

### 4.1.5 Overview of Paurashava and Upazila Administration

#### (1) Paurashava

There are 329 Paurashavas across the country as of October 2020. These Paurashavas are further classified into A, B, and C categories based on the condition on the amount of own revenue and the share of tax collection (Ref. Attachment 4.1.2). Attachment 4.1.2 also shows a table with the number of Paurashavas by division and category as of October 2020. There are also differences in the number of staff allowed to be recruited by each category of A, B, and C. All of the three target Paurashavas in the Cox’s Bazar District, namely, Chakaria Paurashava, Moheshkhali Paurashava, and Teknaf Paurashava are classified into category A.

#### (2) Upazila

There are 492 Upazilas across the country as of October 2020. Upazila Parishad is a middle-tier local government institution, consisting of Union Parishads and Paurashavas. Unlike Paurashavas that directly address the local people’s needs within its territorial jurisdiction, Upazila Parishads are supposed to

coordinate respective development needs of Unions and Paurashavas within its area and priorities and implements development projects proposed by Unions and Paurashavas. According to Upazila Parishad Act, 1998 and its amendment in 2009, 17 government departments are transferred to Upazila Parishads<sup>5</sup>. By this transfer, these 17 transferred departments have to be accountable to Upazila Parishad by law. However, the budgets of the transferred departments are still allocated from their respective department headquarters, and instructions are given by their upper authorities. Moreover, Upazila Parishad Chairperson does not have authority over personnel matters including promotion, transfer, posting and remunerations of the transferred department officers. Thus, the reality is that transferred line department officers tend to put more emphasis on reporting to their headquarters, rather than to the Upazila Parishad. These transferred line department officers move from one Upazila to another Upazila or another government unit in different tier of LGIs every few years; they do not remain in a particular Upazila for many years. The table below shows the list of the 17 transferred government department officers. Three out of four Upazilas in the Cox's Bazar District have a Paurashava in their jurisdiction respectively<sup>6</sup>. Those Paurashavas are also the target of the project. Though a Upazila parishad is supposed to coordinate development activities with the Paurashavas, it is commonly observed that there is no proper coordination between Upazila and Paurashava<sup>7</sup>.

**Table 4.1.3 Government Department Officers Transferred to Upazila**

Government Department Officers Transferred to Upazila	
1.	Upazila Youth Development Officer
2.	Upazila Nirbahi Officer (UNO)
3.	Upazila Fisheries Officer
4.	Upazila Livestock Officer
5.	Upazila Health and Family Welfare Officer
6.	Upazila Family Planning Officer
7.	Upazila Women Affairs Officer
8.	Upazila Education Officer
9.	Upazila Engineer of the Local Government Engineering Department
10.	Assistant/Sub-Assistant Engineer of Department of Public Health Engineering Department
11.	Upazila Rural Development Officer
12.	Upazila Cooperative Officer
13.	Upazila Agriculture Officer
14.	Project Implementation Officer
15.	Upazila Social Welfare Officer
16.	Upazila Secondary Education Officer
17.	Upazila Environment and Forestry Officer

Source: Upazila Parishad Act, 1998.

## 4.2 Organizational Structure, Staffing, and Committees of Paurashavas and Upazilas

### 4.2.1 Organograms of Paurashavas and Upazilas

#### (1) Paurashava

Administration body of Paurashava is headed by a Mayor who is directly elected by the citizens of the Paurashava. According to the Paurashava Employee Service Rules 1992, administrative body of Paurashava is consisted of Mayor's Office, Chief Executive Officer (CEO) Office, and three departments. The three departments are, namely, Engineering Department, Administration Department (Secretary), and Health, Family Planning and Conservancy Department. They are headed by an Executive or Assistant Engineer, a Secretary, and a Health Officer, respectively. The table and figure below show the composition of sections under three departments of Paurashava and the typical organogram of a Paurashava, according to the Paurashava Employee Service Rules 1992.

<sup>5</sup> A total of 24 government departments have their branch offices at the Upazila level. Out of them, 17 departments are transferred to Upazila Parishad (Section 24 and 3rd Schedule of Upazila Parishad Act (amended in 2009)), and the remaining 7 departments are retained by the government. Such retained departments include 1) Officer-in-Charge (Police); 2) Upazila Ansar and VDP; 3) Upazila Statistics Office; 4) Upazila Accounts; 5) Upazila Land Office; 6) Upazila Sub-Registrar; and 7) Upazila Election Office.

<sup>6</sup> 1. Chakaria Upazila – Chakaria Paurashava, 2. Moheshkhali Upazila - Moheshkhali Paurashava, and Teknaf Upazila - Teknaf Paurashava

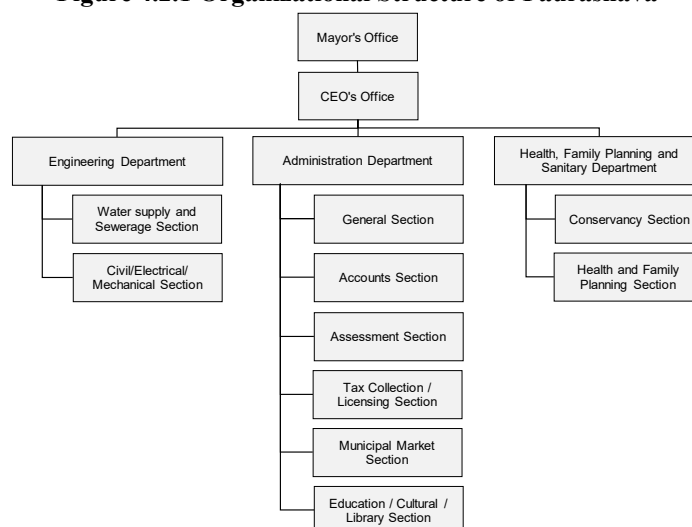
<sup>7</sup> Mayor of every Paurashava is one of the members of Upazila Parishad (Article 6 of Upazila Parishad Act, 1998).

**Table 4.2.1 Composition of Sections under Three Departments of Paurashava**

Department	Section
Engineering Department (2 sections)	– Water Supply and Sewerage Section
	– Civil, Electrical, and Mechanical Section
Administration Department (6 sections)	– General Section
	– Accounts Section
	– Assessment Section
	– Tax Collection / Licensing Section
	– Municipal Market Section
	– Education / Cultural / Library Section
Health, Family Planning and Conservancy Department (2 sections)	– Conservancy Section
	– Health and Family Planning Section

Source: Compiled by JICA Survey Team based on Paurashava Employee Service Rules, 1992.

**Figure 4.2.1 Organizational Structure of Paurashava**

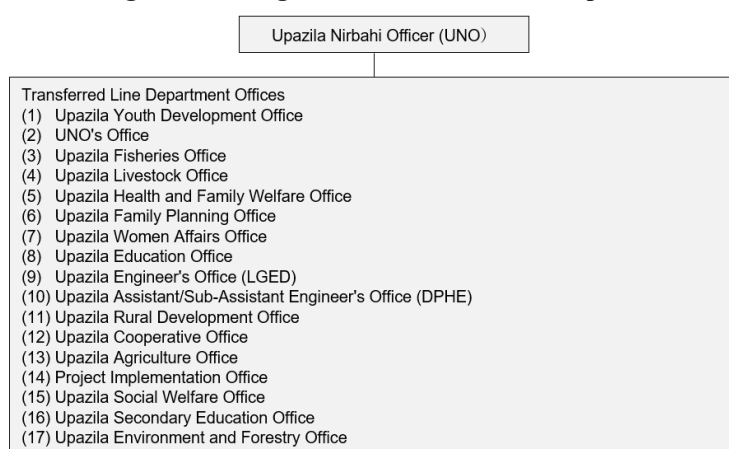


Source: Compiled by JICA Survey Team based on Paurashava Employee Service Rules, 1992.

## (2) Upazila

Administration body of Upazila is headed by an Upazila Nirbahi Officer (UNO). UNOs are appointed from the Administration Cadre and Bangladesh Civil Service (BCS), and they are dispatched to respective Upazilas by Ministry of Public Administration (MoPA) for the duration of a few years<sup>8</sup>. Section 24 and 3rd Schedule of Upazila Parishad Act 1998 (amended in 2009) stipulates that 17 government departments are transferred to the Upazila Parishad. The terms of references of the transferred department officers are also provided by the LGD Circular<sup>9</sup>. UNO and transferred line department officers implement activities based on the decision made by Upazila Parishad that is consisted of elected representatives. The 17 transferred departments officer are supposed to be accountable to Upazila Parishad by law. However, the transfer is still underway, and it can be generally observed that these transferred departments officers carry out their duties under the command of their respective central line departments without

**Figure 4.2.2 Organizational Structure of Upazila**



Source: Compiled by JICA Survey Team based on Upazila Parishad Act, 1998

<sup>8</sup> UNOs are subjected to command line of Cabinet Division during their tenure.

<sup>9</sup> Memorandum No-LGD/Upa-2/C-4/2009/1422 dated on 17 June 2010.

enough consultation and coordination within the Upazila. The figure below shows the organizational structure of Upazila.

#### **4.2.2 Staffing Situation of Target Paurashavas and Upazilas**

##### **(1) Paurashava**

###### **1) Existing Manpower**

The number of staff in the target Paurashavas are shown in Attachment 4.2.1. The figure in Engineering Department include both engineers and non-engineers (e.g. computer operators and office assistants). As all the three target Paurashavas are classified into A category, the planned staff number is the same. The number of staff is far below of planned number of staff. The ratio of actual numbers of staff toward the planned number are 32% (Chakaria Paurashava), 14% (Moheshkhali Paurashava), and 10% (Teknaf Paurashava).

###### **2) Number of Staff in Engineering Department**

The Engineering Department in a Paurashava consists of 2 sections, namely i) Water supply and Sewerage Section, and ii) Civil/Electrical/Mechanical Section. Attachment 4.2.2 shows the details of the composition of the staff of the two sections under Engineering Department of the target Paurashavas. As Executive Engineer's post is currently vacant at all the target Paurashavas as of October 2020, Assistant Engineer is acting as a head of the division on behalf of Executive Engineer, except Moheshkhali Paurashava where Assistant Engineer's post is also vacant<sup>10</sup>. Shortage of staff of Engineering department is quite severe, especially in Moheshkhali Paurashava and Teknaf Paurashava. Moheshkhali Paurashava has only one Sub-Assistant Engineer, Civil and two non-engineer staff, while Teknaf Paurashava has two engineers (Assistant Engineer, Civil and Sub-Assistant Engineer, Civil) and two non-engineer staff.

##### **(2) Upazila**

###### **1) Existing Manpower**

The number of staff in the target Upazilas are shown in Attachment 4.2.3. Staff under Upazila Health and Family Planning Office makes up the majority of the total number of staff in all the target Upazilas. The number of staff is far below the planned number in all sectoral offices in all the target Upazilas. The ratio of actual numbers of staff toward the planned number are 64% in Chakaria Upazila, 56% in Moheshkhali, 41% in Teknaf Upazila, and 56% in Ukhia Upazila.

###### **2) Number of Staff in Upazila LGED Office**

Upazila LGED Office is headed by a Upazila Engineer dispatched by the LGED. Upazila Engineer's post is currently vacant at two Upazilas (namely, Moheshkhali Upazila and Teknaf Upazila) out of four target Upazilas. Three Upazila LGED Offices out of four have fewer than a half of planned number of staff, though the existing staff number of Ukhia Upazila is also far below the planned number. Attachment 4.2.4 is referred for the staff composition of Upazila LGED office in the target Upazilas.

#### **4.2.3 Staff Recruitment of Target Paurashavas and Upazilas**

##### **(1) Paurashava**

LGD recruits all employees under Class I (Executive Engineer, Assistant Engineer, Town Planner, Health Officer and Secretary) and Class II (Sub-Assistant Engineer, Administrative Officer, Accounts Officer, Slum Development Officer), and appoints them to Paurashavas. All staff under Class III (all Clerical Staffs, Drivers, Field Supervisors) and Class IV (Messengers, Guards, and other lower subordinate staffs) are employed by Paurashava following the process prescribed in Paurashava Employee Service Rules 1992, however, such recruitment can be only completed after its final verification by the LGD. During recruitment, a committee is formed at each Paurashava to verify and evaluate its process. This recruitment committee is headed by the Mayor and is composed by Paurashava

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<sup>10</sup> As of November 2020.

Secretary, one councilor, a representative of Deputy Commissioner's Office and one specialist/expert on the proposed position. The committee is responsible for selecting candidate(s) and informing the LGD accordingly.

## **(2) Upazila**

The officers working at Upazila are Class I Officers and Class II Officers. They are recruited through the examination conducted by the Public Service Commission and appointed to several positions in the government system by the respective line departments. They move to another Upazila or other government units with the duration of some years at each post. Other staff such as steno-typist cum-computer operator, vehicle driver, water transport driver, and MLSS (member of lower subordinate staff) shall be directly recruited subject to the Upazila Parishad Staff (Service) Rules 2010. In the recruitment process, a recruitment committee is formed to examine the candidates who made an application for the posts. The recruitment committee is headed by UNO, and three other officers will be members of the committee. The committee shall provide recommendation of a candidate to Upazila Parishad Chairman for the approval of his/her recruitment.

### **4.2.4 Paurashava Council / Upazila Parishad and Committees of Paurashavas and Upazilas**

#### **(1) Paurashava**

Paurashava Council consists of (a) mayor<sup>11</sup>, (b) councilors<sup>12</sup>, and (c) female councilors. They are elected through the direct vote of the citizens of the Paurashava. Paurashava Council meeting is conducted every month and important decision of Paurashava is made at the meeting<sup>13</sup>. All councilors shall reserve the right to take part in the process of taking decision in the meetings of the Paurashava.

Articles 55 of Local Government (Municipality) Act 2009 provides requirements for the formation of standing committees of a Paurashava Council. The Act requires a Paurashava Council to establish 10 standing committees, as shown in Attachment 4.2.5. In addition to these standing committees, a Paurashava Council can form additional committees if required. There shall be five members in a standing committee, and chairman and members shall be selected from the councilors with two- and half-year tenure. Matter such as formulation of budget, selection of projects to be funded by ADP, formulation of development plans, appointment of employees, conclusion of contract shall be resolved at Paurashava Council meetings after careful consideration of respective committees' opinions and decisions. The existence of Paurashava Council and committees is an important factor for realizing democracy. Though active discussion and involvement of elected representative of Paurashava Council is required to decide important matters of Paurashava's administration, it is commonly observed that the decision on important matters is led by the officers of administration side without enough practical discussion at Paurashava Council meetings.

#### **(2) Upazila**

Upazila Parishad consists of (a) Chairperson, (b) two Vice-Chairpersons, of whom one shall be female, (c) Chairman of every Union Parishad within the area of Upazila, (d) Mayor of every Paurashava, if any, within the jurisdiction of the Upazila, and (e) Female Members of reserved seats. Chairman and two Vice-Chairpersons, and Union Parishad Chairperson are elected through the Upazila Parishad election and Union Parishad election, respectively. Upazila Parishad shall have the authority of doing anything necessary for proper implementation of all activities under Upazila Parishad Act, 1998. Upazila Parishad meetings is held every month and the implementation of decisions of Upazila Parishad as well as maintaining financial discipline and other functions determined by rules are performed by UNO as a Chief Executive Officer who render secretarial services to the Upazila Parishad.

The Upazila Parishad Act 1998 requires a Upazila Parishad to establish 17 Upazila committees, as shown in Attachment 4.2.5. Chairperson of the committees shall be selected from the Vice-Chairpersons,

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<sup>11</sup> Mayor of the Paurashava will be count as a councilor of the municipality.

<sup>12</sup> Same number as government defined ward numbers.

<sup>13</sup> Chaired by mayor.



and the member-secretary of a committee is undertaken by a Upazila officer of the concerned department. Though Upazila Parishad and its committees are expected to play a vital role in improving the service delivery as representative of the citizens, committee meetings are not held regularly as expected in the Upazila Act<sup>14</sup> in most of the Upazilas.

Member of the Parliament (MP) from the constituency within the Upazila shall be the advisor of the Upazila Parishad, and the Parishad is supposed to receive his/her advice for the resolutions of the Upazila Parishad.

### **4.3 Budget and Financial Management**

#### **4.3.1 Budget Structure**

##### **(1) Revenue Account and Development Account**

A budget document of a LGI is composed of three separate accounts, namely i) revenue account for recurrent expense, ii) development account for infrastructure development, and iii) capital account for borrowing and repayments. Capital account is rarely seen, as borrowing is not popular in most LGIs. Therefore, in order to capture the financial status of a LGI, it is required to observe revenue account and development account. Major income source for revenue account is the LGI's own revenue source such as taxes, rates, and fees, while major income source for development account is financial transfer from the central government, generally called ADP (Annual Development Program), and donor funds. It should be noted that there is transfer of funds between the revenue account and development account. Revenue account transfers a part of its budget to development account to be used for infrastructure development.

##### **(2) Annual Development Program (ADP)**

The government shares a part of the national revenues with LGIs. This is called Annual Development Program (ADP), and it is regarded as a major financial source for development projects for the most of LGIs.

###### **1) ADP (Block Grant)**

Certain amount of ADP is allocated to LGIs as "Block Grant" for which a LGI has considerable discretion in deciding on the usage. Usually, in March or April, the LGD prepares preliminary estimate demands for block grants for the next fiscal year for each LGI category (e.g. Paurashava, Upazila). Based on which, then the Planning Commission prepares LGI category-wise block grants allocations. In June, with the approval of the national budget, the LGD starts computing the allocation of LGI category-wise block grants to each LGI. For Paurashavas, the allocation of ADP block grants is based on their categories, while for Upazilas, the allocation is managed by Upazila Wing of the LGD. The ADP allocation to the Upazilas is decided by a formula based on population (35%), land area (35%), and fixed amount (30%).

###### **2) ADP (DPP)**

ADP (DPP) is demand-based funding to LGIs for development funds. Parts of ADP funds are allocated annually to implement development projects for which respective development project proposals (DPPs) have been approved by the government. LGIs initiate the preparation of DPPs and have them reviewed by LGD, who then coordinates with the Planning Commission. A project costing BDT 500 million or less is approved by the Planning Minister, and a project costing beyond this threshold is approved by the Executive Committee of the National Economic Council (ECNEC) chaired by the Prime Minister.

###### **3) ADP (Special)**

ADP has another category referred to as development assistance in special needs. It is to address emergencies or to meet urgent financial demand for project funding, although guidelines that define

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<sup>14</sup> Each committee shall hold at least one meeting every two months.

“emergencies or “new or extra demand” are not available. The LGD has the authority to decide on the allocation to LGIs.

### **(3) Sectoral Allocation of ADP in Upazilas**

The allocation of ADP is stipulated in the “*Upazila Parishad Development Budget Using Guidance*” prepared by LGD<sup>15</sup>. Attachment 4.3.1 shows the sectoral allocation of ADP in Upazilas instructed by the guideline. Though guidance allows Upazila Parishad’s discretion to choose development projects according to the respective local demands, Upazilas are supposed to allocate the received ADP following the sectoral portion shown in Attachment 4.3.1 basically.

### **4.3.2 Financial Data of Target Paurashavas and Upazilas**

This section aims to deliver an overall picture of financial status of the target Paurashavas and Upazilas.

#### **(1) Paurashava**

Attachment 4.3.2 and Attachment 4.3.3 present the latest data of receipt/expenditure of the revenue account and development account of the target Paurashavas. As it can be seen in the tables, there is a big financial capacity gap among the three Paurashavas, though the budget size is becoming bigger every year in all the three Paurashavas. Major sources of income are taxes, rates, and fees. Paurashavas also receive donations from private sector and individuals which are expressed as “4. Others” in the tables, which dominates a large portion of the income source, especially in the case of Moheshkhali and Teknaf Paurashavas. The amount of revenue account fluctuates every year because the amounts of the tax collection and the receipt from other income sources are not stable. As it can be seen in the table of Attachment 4.3.3, the expenditure related to infrastructure development and repair/maintenance is largely covered by ADP<sup>16</sup>, though surplus of the revenue budget is also an important source of the development account. The amount of ADP (Block Grant) fluctuates every year, and it is difficult for LGIs to predict the amount they can receive accurately in advance. Moreover, delayed provision of ADP from LGD often happens. This indicates that each Paurashava has very limited discretion on deciding funding on infrastructure development. In addition to the limited financial resources, there are many challenges for Paurashavas to plan and implement infrastructure development project on their own, with given their current organization, staff and capacities. It also should be noted that Moheshkhali Paurashava does not spend any amount for infrastructure repair and maintenance in the last five years.

#### **(2) Upazila**

Attachment 4.3.4 and Attachment 4.3.5 present the latest date of receipt/expenditure of revenue account and development account in the target Upazilas. Generally, accounting reporting system of Upazila is very poor, and financial statements are not prepared accurately in a timely manner as instructed by government rules. As it can be seen, the receipt of revenue account is not stable over the years as the amount of collected taxes and fees fluctuates every year. Concerning the development account, since they are heavily dependent on the ADP for its income source, the budget size fluctuates sharply every year as commonly observed in every LGI. Looking at expenditure, characteristic differences can be observed in the portion of sectoral allocation. Chakaria Upazila spends larger portion of development budget on relief activities. Moheshkhali Upazila spends around average 70% on road infrastructure and 30% on socioeconomic infrastructure development for education and health. Teknaf Upazila spends about a half on socioeconomic infrastructure for education, health, and youth/sports/culture, etc., and another half is shared for road and agriculture infrastructure development. Ukhia Upazila spends almost a half on road infrastructure development, and another half is spent on education, health and agriculture infrastructure development.

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<sup>15</sup> Revised in November 2014.

<sup>16</sup> In the case of Chakaria Paurashava, the budget size jumped up because of the foreign project fund.

## 4.4 Development Planning

### 4.4.1 Initiatives to Promote the Development Planning in Paurashavas and Upazilas

#### (1) Paurashava

The second schedule of the Local Government (Paurashava) Act 2009<sup>17</sup> specifies Paurashava's functions, including the preparation and implementation of development plans. However, the details of the formulation procedure and the contents of development plans are not clearly stipulated in the Act. In response to the situation, several donor-assisted projects have promoted the institutionalization of the practice of development planning in their target LGIs. Attachment 4.4.1 shows the development plans of Paurashavas promoted under the donor supported project. Among the three target Paurashavas, Chakaria and Teknaf Paurashavas have formulated Capital Investment Plan (CIP) promoted under Municipal Governance and Services Project (MGSP, 2014-2021, WB)<sup>18</sup>.

#### (2) Upazila

Concerning Upazila, JICA's Upazila Integrated Capacity Development Project (UICDP, 2017-2022, JICA)<sup>19</sup> has been promoting development planning at Upazila level. UICDP, in cooperation with the LGD, prepared "*Guidelines for Upazila Integrated Development Planning*" to be used by Upazilas as a reference document in preparing a Five-Year Plan and an Annual Development Plan. UNDP's Efficient and Accountable Local Governance (EALG, 2017-2022, UNDP)<sup>27</sup> is also encouraging Upazilas to formulate development plans. Among the four target Upazilas, Teknaf and Ukhia Upazilas have formulated a Five-Year Plan with the support of UICDP<sup>20</sup>.

### 4.4.2 Overview of Development Planning in Paurashavas and Upazilas

This section aims to deliver overall picture of development planning in Paurashavas and Upazilas by introducing the initiatives of promoting development planning, namely the Strengthening Paurashava Governance Project (SPGP, 2014-2017, JICA) for Paurashavas and UICDP for Upazilas.

#### (1) Paurashava

"*Operational Manual on Preparation and Implementation of Development Plan*" prepared by SPGP provides the details of the procedure of formulating development plans. Attachment 4.4.2 shows the steps of development planning in Paurashavas. Typical table of contents of a development plan of Paurashava is also shown in Attachment 4.4.2. A list of projects is attached to the development plan as an annex.

#### (2) Upazila

"*Guidelines for Upazila Integrated Development Planning*" prepared by UICDP provides the details of the procedure of formulating development plans. Attachment 4.4.3 shows the steps of development planning in Upazilas. Typical table of contents of a development plan of Upazila is shown in Attachment 4.4.3. A list of projects may be attached to the development plan of Upazila as an annex.

### 4.4.3 Citizens Participation

Citizen participation is recognized as one of the important elements for good governance. Article 115 of the Local Government (Municipality) Act 2009 encourages dialogues with community people by forming committees with not more than 50 people. Article 14 of the Local Government (Municipality) Act 2009 also mentions the formation of a "ward committee". In Paurashavas, TLCCs (Town Level Coordination Committees) and WLCC (Ward Level Coordination Committee) are formed and function as a platform for citizens to participate in the development planning process and to oversee the development activities implemented by Paurashavas. At the Upazila level, though elected representatives form Union Parishads<sup>21</sup> at each Union, there is another mechanism for citizens

<sup>17</sup> Article 62

<sup>18</sup> Implemented by LGED

<sup>19</sup> Implemented by LGD

<sup>20</sup> Teknaf Upazila and Ukhia Upazila have been ones of pilot Upazilas of UICDP.

<sup>21</sup> Chairman of Union Parishad is a member of Upazila Parishad.

participation called UDCC (Union Development Coordination Committee). It is expected that citizens are engaged in the process of development planning and reflect their ideas in the development plans through these kinds of citizen participation mechanism.

#### **4.5 Issues and Challenges in Governance of Paurashavas and Upazilas**

Issues and challenges in governance that Paurashavas and Upazilas are facing with are underscored as follows. Following points need to be considered when development projects are planned in Paurashavas and Upazilas.

##### **(1) Human Resource**

###### Shortage of Manpower

As described in 4.2.2, all the target Paurashavas and Upazilas have only limited number of staff that is far below the planned number of staff. Such constant shortage of manpower is the most severe problem for both Paurashavas and Upazilas. As the shortage of manpower directly leads to the poor public services provision, urgent measures are needed to resolve the current situation.

Lack of manpower in Engineering Department of Paurashavas/Upazila LGED Office is also a crucial problem since most of the development works, especially in infrastructure development, are implemented by Engineering Department/Upazila LGED Office headed by LGED Engineer. In the utilization of the ADP in Upazilas, Upazila Engineer undertakes the role of member secretary of the Project Selection Committee and Tender Committee of the Upazila Parishad and plays an important role in all the process of infrastructure development. Shortage of manpower results in the concentration of work on a small number of staff in Engineering Department/Upazila LGED Office. Moreover, this makes it difficult to manage development activities smoothly without delay in Paurashavas and Upazilas. If it is difficult and take long time to follow the procedure to hire permanent staff, hiring of contract staff or utilizing external consultants should also be considered.

###### Insufficient Skills and Knowledge of Staff to Carry Out his/her Duties

It is commonly observed staff are lacking the very basic knowledge to carry out their expected duties of the post. Even the most basic functions of a LGI such as financial management (financial record keeping) and/or formulation of development plans are not properly conducted in most Paurashavas and Upazilas, as stipulated in the related acts and rules, due to lack of capacity and/or recognition of staff. For infrastructure development, especially the staff of Engineering Department are required to acquire the specialized knowledge on project planning, procurement, contract management, construction management, etc. and to understand of the related procedure stipulated in acts and rules of the government for smooth implementation of projects. Though capacity development of staff through training program can be considered as one of the measures to tackle on the issue, it should be well noted that the trained officers/staff may move to another place after few years. Not only individual capacity development but also institutional capacity development toward the improvement of governance of LGIs needs to be considered. Institutional capacity development may involve the development of guidelines for a series of procedures of infrastructure development and O&M, and its utilization in the routine work of the LGI staff throughout the project period.

##### **(2) Financial Management**

###### **1) Unstable Financial Structure, Relying Heavily on ADP**

As observed in 4.3.2, the financial source of development account is relying heavily on the allocation of ADP. It is difficult for LGIs to predict the amount of ADP that will be allocated in the next year, and they experience the heavy fluctuation of the amount they receive every year. Due to such a structural problem, it is difficult for LGIs to formulate a realistic development plan with financial backing and implement infrastructure projects based on the plan. Without realistic development plan, it is difficult to consider financial allocation for operation and maintenance of existing infrastructures. Despite the calls to promote decentralization in Bangladesh, the LGIs are given only the role as a local branch of the central government, and the financial discretion of the LGI is generally quite limited. Increase of the

own financial source through tax and fees is one of the measures for LGIs to have financial discretion. To do that, it is necessary to tackle the issues such as insufficient willingness and capacity of tax collection including human resources of the LGI side and also the lack of willingness to pay at the residents' side.

## 2) Weak Financial Management and Reporting System

Though financial management is one of the most basic functions for LGIs, many LGIs do not prepare financial statement properly as required by acts and rules. It is common that even an officer in charge of accounting do not recognize the accurate financial situation of the LGI. As financial status of LGIs is not properly reported to LGD which is expected to supervise and give necessary instructions in many cases, the situation is left untouched.

## **(3) Coordination and Resource Allocation in Development Planning**

### 1) Lack of Coordination, Prioritization of Resource Allocation

Though LGIs are mandated to formulate development plans by concerned acts, the capacity of LGIs to prepare effective development planning is still weak. Even in the case of a development plan existing, it is common that the plan is prepared without proper coordination with other government agencies and stakeholders. Paurashavas and Upazilas are generally weak in setting goals, priorities, estimating cost, identifying available financial resource, and ensuring stakeholders to work together, and this often results in a development plan in a shape of merely a bundle of “wish lists” received from different stakeholders, without any coordination, prioritization and backing of financial resource. A well formulated medium-term development plan should be prepared and used as an effective tool for coordination and resource allocation with other stakeholders.

### 2) Weak Capacity of Paurashava Council/Upazila Parishad

Elected representatives of Paurashava Council or Upazila Parishad are expected to play a leading role in decision-making, supervising, and monitoring the implementation of activities by the administration body, and give instructions to the administration body if there is something wrong on behalf of the citizens. However, it is often elected representative who are lacking not only the basic knowledge of the public administration procedure but also the clear understanding of their own responsibilities. Though newly elected representatives are provided orientating training on the related laws, government rules, and the responsible duties as elected representatives, it is not enough for them to be able to carry out the duties expected by concerned laws and rules. Considering that Paurashava Council or Upazila Parishad is the eventual decision-making body of a Paurashava/Upazila, the role of Paurashava Council or Upazila Parishad in development planning such as identifying and analyzing the issues, setting strategy, prioritizing projects, and allocating resources through coordination among stakeholders should be recalled. Transparency and accountability are expected to be ensured by proper involvement of Paurashava Council or Upazila Parishad in the project who would monitor and supervise from a standpoint separated from the administration body. In order for Paurashava Council or Upazila Parishad to make correct decisions based on accurate information, it is essential to obtain objective information on the progress of project implementation. In this connection, mechanism to monitor and evaluate LGI's project administrative activities that a third party directly measures the progress of infrastructure development activities could lead to an effective usage of infrastructure fund.

## **(4) Ownership of the Project by the LGIs**

### 1) Incentives for the Success of the Project

The sense of the ownership of the project by the target LGIs is an essential element for the successful implementation of the project. Without the sense of the ownership, only capacity development cannot change the behavior of related engineers and other personnel that lead to the betterment of the LGI. As seen in 4.5, several initiatives of development partners adopt the mechanism to monitor and evaluate LGI's project administrative activities for infrastructure development based on the pre-determined indicators related to governance. As the mechanism is an effective tool to encourage LGIs to improve

themselves on their own initiatives, it is an introduction of the mechanism in the project that should be considered. By introducing the mechanism in the project, it is expected that each element of project activity, namely: capacity development, project implementation, and monitoring and evaluation, can be effectively linked under the standardized indicators, and the project is smoothly implemented. On the other hand, considering that the Paurashavas and Upazilas targeted by the project are not sufficiently staffed and their capacity needs to be strengthened for the smooth implementation of the Project, it seems to be difficult to introduce Performance Based Approach (PBA) mechanism<sup>22</sup> (refer to 6.1 and 6.2 for PBA mechanism adopted by other infrastructure development projects in Bangladesh). It would be desirable to strengthen the capacity of the staff of the project by focusing on the steady implementation of the individual subprojects.

The target Paurashavas and Upazilas of the project are also facing with the challenges listed above, and thus all the concerned people should keep these in mind during the project. In particular, taking into account that there is a challenge in the capacity for infrastructure development in target Paurashavas and Upazilas, special attention should be paid to the institutional capacity building of the LGIs in this area as well as the capacity building of individual staff concerned with the project in the course of the project.

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<sup>22</sup> Decision-making mechanism for the allocation of fund based on desired performance. LGIs that show better performance can receive larger amount fund.

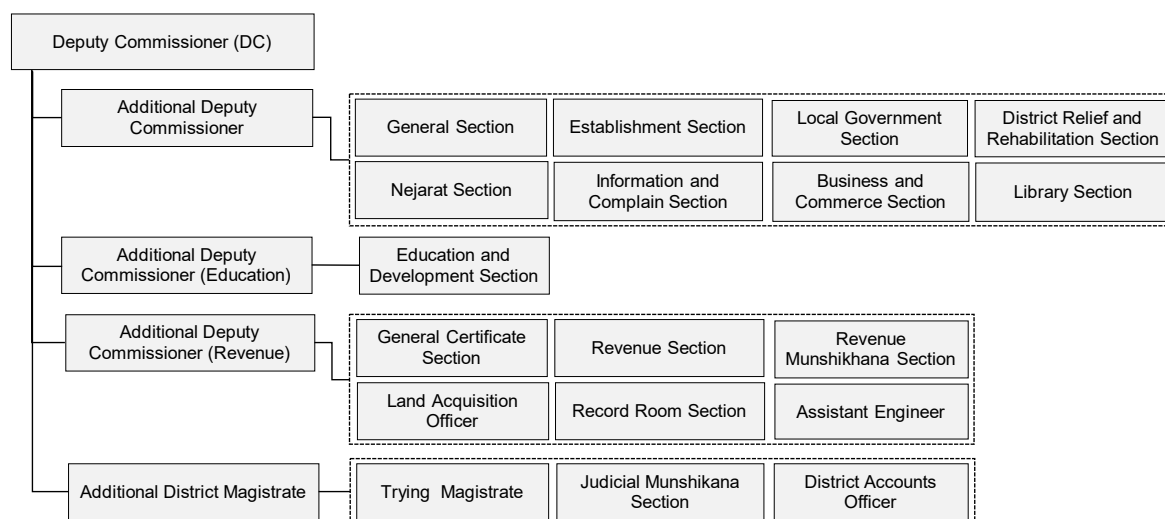
## CHAPTER 5 DISTRICT ADMINISTRATION AND LGED

### 5.1 District Administration

#### 5.1.1 Organization Structure of District

Administration body of District (Zila) is headed by a Deputy Commissioner (DC)<sup>1</sup>. DC is appointed by the government from Deputy Secretary level officers of the administration cadre of Bangladesh Civil Service (BCS). The Deputy Commissioner works under the general guidance and supervision of the Divisional Commissioner. DC is under the administrative control of the Cabinet Division although their posting and transfer are made by the Ministry of Public Administration (MoPA). Under DC, there are some Additional Deputy Commissioners (ADC) and an Additional District Magistrate who assist DC in respective areas of responsibility. Figure below shows an organizational structure of DC's Office at a District. DC also supervises the activities of district offices of line departments and chairs the District Development Coordination Committee Meetings (DDCCM) where all operational matters at the District level are discussed. A Deputy Director, Local Government (DDLG)<sup>2</sup> assists the DC as a member secretary of DDCCM. DDLG supervises all development activities undertaken by the Upazilas and Paurashavas and within the District.

Figure 5.1.1 Organizational Structure of DC's Office at a District



Source: Compiled by JICA Survey Team based on the information collected from Cox's Bazar District Office

#### 5.1.2 Services Provided by District

Zila Parishad Act<sup>3</sup> is comprised of 67 sections and 3 schedules. Zila Parishad Act stipulates the roles, responsibilities, and powers of Zila Parishad. Section 12 of the Zila Parishad Act stipulates the compulsory functions and optional functions. The compulsory functions of Zila Parishad includes the 12 items (Ref. Attachment 5.1.1).

### 5.2 LGED

#### 5.2.1 Overview

The Local Government Engineering Department (LGED), one of the agencies within the LGD, supports the strengthening of rural economy through the development of rural transportation and improvement of rural markets and growth centres. It recently strengthened its Urban Management Wing to manage projects in urban areas and extended its presence in the infrastructure development in

Table 5.2.1 Number of Staff of LGED

Operation Unit	Number of Staff
Headquarter	319
Division	110
Regional Level	300
District Level (District)	2,156
Upazila Level (Upazila)	10,305
Deputation	204
Total	13,394

Source: LGED

<sup>1</sup> Deputy Commissioner (DC) is also called District Magistrate.

<sup>2</sup> Deployed by LGD.

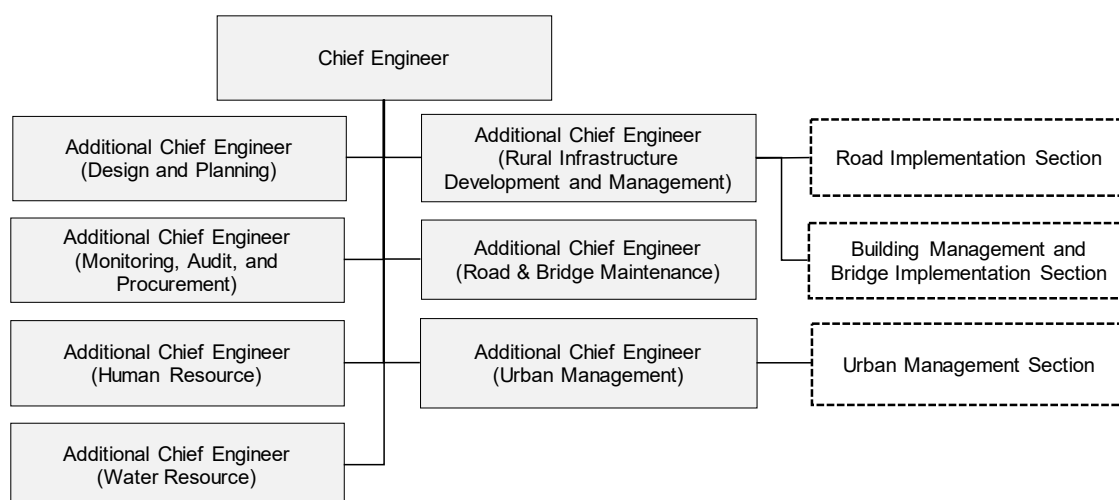
<sup>3</sup> Enacted in 1988, amended in 2000.

urban areas as well. Currently, the LGED is mandated to cover rural development, urban infrastructure and small-scale water resource development. The LGED is also engaged in providing technical assistance, governance improvement and capacity building of urban and local government. Major functions of the LGED are listed in Attachment 5.2.1. There are over 13 thousand staff in LGED. Among them, about 300 staff are stationed in the headquarter in Dhaka, and the others are stationed in field offices (division, regions, district, and Upazila).

### 5.2.2 LGED Headquarters

The LGED is headed by a Chief Engineer. Under the Chief Engineer, seven (7) Additional Chief Engineers has respective areas of responsibility<sup>4</sup>. Infrastructure development of ULBs including Paurashavas is looked after by an Additional Chief Engineer who oversees Urban Management, while infrastructure development of Upazilas is looked after by an Additional Chief Engineer who oversees rural infrastructure development and management. There is one section under Additional Chief Engineer (Urban Management), namely Urban Management Section, while there are two sections under Additional Chief Engineer (rural infrastructure development and management), namely Road Implementation Section and Building Management and Bridge Implementation Section. Figure below shows the organogram of LGED Headquarters.

**Figure 5.2.1 Organogram of LGED Headquarters**



Note: The figure shows organization structure under Additional Engineer (Rural Infrastructure Development & Management), and Additional Engineer (Urban Management), while the structure under other Additional Chief Engineers is omitted in the figure.

Source: Compiled by JICA Survey Team based on the information on the LGED Website.

As of December 2020, there are 13 manpower in the Urban Management Section under Additional Chief Engineer (Urban Management). Refer to Attachment 5.2.2 for the table of the positions and the numbers of staff in the Urban Management Section. As of December 2020, there are 6 manpower in the Road Implementation Section, and 11 manpower in the building management and bridge implementation section unit under Additional Chief Engineer (rural infrastructure development and management) at LGED headquarters. Table of the positions and the numbers of staff in the rural infrastructure development and management unit, road implementation section, and building management and bridge implementation section is shown also in Attachment 5.2.2.

### 5.2.3 Field Offices of LGED

LGED has field offices across the nation to cover the field level activities of local infrastructure development. Under the headquarters in Dhaka, there are eight (8) Divisional Offices<sup>5</sup> headed by Additional Chief Engineers. These 8 divisions are divided into 20 regions and looked after by each

<sup>4</sup> Additional Engineers' areas of responsibility are 1) Rural Infrastructure Development & Management, 2) Road & Bridge Maintenance, 3) Urban Management, 4) Design and Planning, 5) Monitoring, Audit and Procurement, 6) Human Resource, and 7) Water Resource.

<sup>5</sup> Located in Dhaka, Rajshahi, Mymensingh, Chattogram, Khulna, Rangpur, Sylhet, and Barishal.



Regional Offices<sup>6</sup> headed by Superintending Engineer. Under 20 Regional Offices, there are 64 District Offices headed by Executive Engineers at each district. 494 Upazila Offices at each Upazila are headed by Upazila Engineers. LGED also have a training unit within its organization structure. Its Central Training Unit (CTU) located at the headquarter of the LGED in Dhaka and 20 Regional Training Centres (RTC) at Regional Offices are providing training programs to engineers and other concerned individuals at the field level.

### 5.3 Issues and Challenges in Coordinating Infrastructure Projects in District with Upazilas

Issues and challenges in coordinating infrastructure project in a district with Upazilas are underscored as follows. Following points need to be considered when development projects are planned involving a district.

#### (1) Infrastructure Project Management by Upazila Engineer

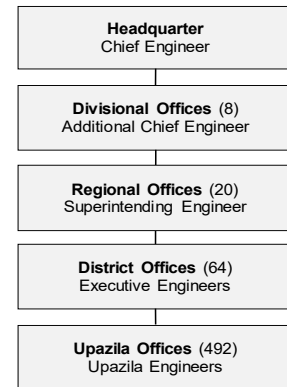
Since the LGED Upazila Engineers is one of the 17 officers who are transferred to Upazila by the Upazila Parishad Act, he/she is accountable to the Upazila Parishad officially. Important decisions such as the selection of projects to be funded is made by the Upazila Parishad, and Upazila Engineers have to respect to the decisions of the Upazila Parishad and implement projects under the approval of Upazila Parishad. However, in practice, the instructions are coming from the LGED and Upazila Engineers is expected to report directly to the Executive Engineer of LGED District Office. This makes it difficult for infrastructure development project to be implemented in a timely manner as Upazila Engineer have to coordinate with both Upazila Parishad and LGED District Office during whole process of project implementation including project selection, designing, procurement, construction, and O&M and it takes time generally. Moreover, even when a problem occurs during the implementation of infrastructure development project, since the roles and responsibility between Upazila Parishad and LGED for solving the problem is not clear, it takes time to solve the problem.

#### (2) Monitoring of Upazila's Development Projects by District

At district level, DDLG is responsible to monitor the progress of development projects implemented in Upazilas within the district with the support of ADLG (Assistant Director Local Government). The monitoring results obtained through DDLG will be sent to the Monitoring & Evaluation Wing of LGD and reported at a review meeting chaired by the Secretary of LGD. Though DDLG is supposed to visit Upazila in the district on regular basis and monitor the progress of infrastructure development projects and the status of administrative execution, in many cases, the monitoring of DDLG is not properly conducted due to the reasons such as lack of human resources to support DDLG or just busy with other businesses. Moreover, even when monitoring is conducted by DDLG, the monitoring tends to be superficial one. Because of this, it is unlikely that the result of monitoring is properly utilized for concerned individuals / parties to take actions to solve the issue. Under this project, it is expected that the District always be able to properly grasp the progress of infrastructure development projects by implemented by Upazilas based on accurate information provided. In the case if there is a problem, the district is required to consider measures that will enable the individuals / parties concerned to take necessary actions to solve the problem.

#### (3) Information Sharing from LGED Office to Concerned Stakeholders

LGED Upazila Engineers implement infrastructure development projects and report their progress to the Executive Engineer at LGED District Office regularly. Though most of the infrastructure development projects in a Upazila are implemented through LGED, the details of infrastructure development projects are often not well recognized by the stakeholders including the Upazila Parishad



Source: LGED Website

**Figure 5.2.1 Field Office Structure of LGED**

<sup>6</sup> Located at Barishal, Bogura, Chattogram, Comilla, Dhaka, Dinajpur, Faridpur, Jeshore, Khulna, Khustia, Madaripur, Mymensingh, Narayanganj, Noakhali, Pabna, Patuakhali, Rajshahi, Rangamati, Rangpur, and Sylhet

Chairman and members, and the officers or transferred line departments in the Upazila because the reporting line is generally only from the Upazila Engineer to the Executive Engineer at LGED District Office. Documents of LGED such as infrastructure development plans, budgets, monitoring reports including the progress of infrastructure development projects, etc. prepared by the LGED line should widely be shared also with the concerned stakeholders including the Upazila Parishad Chairman and members, and the officers or transferred line departments in the Upazila and be widely referred when formulating a development plan of a Upazila or plans of each transferred line department of the Upazila. Through this, it is expected that Upazila, as one united body, will be able to work together to formulate and implement a development plan that brings high synergistic effects. In addition, LGED District Office, in cooperation with DDLG, should collect the information of the progress of infrastructure development projects by Upazila based on pre-determined evaluation criteria, and share it with the concerned stakeholders in the district to consider the necessary measures to be taken by LGED.

## CHAPTER 6 DEVELOPMENT ASSISTANCE AND NEED ASSESMENT OF INFRASTRUCTURE DEVELOPMENT

### 6.1 JICA's Governance Related Projects

#### 6.1.1 Overview

JICA has been implementing several projects to address to governance sector improvement in Bangladesh, at the national level and also at the local level by choosing some target LGIs. The following table describes a brief summary of them.

**Table 6.1.1 Summary of JICA's Governance Related Projects**

Project Name	Project Period	Scheme	Executing Agency/Counter Part	Target government body	Outline
Northern Bangladesh Integrated Development Project (NOBIDEP)	2013-20	Loan	LGED	18 Paurashavas	<ul style="list-style-type: none"> <li>Improving governance and funding for infrastructure (about BDT 500 thousand/Paurashava/year)</li> </ul>
Strengthening Public Investment Management System (SPIMS)	2014 Jul–2018 Jun (Phase 1) 2019 Aug–2023 Jul (Phase 2)	Technical Assistance	Ministry of Planning	-	<ul style="list-style-type: none"> <li>In Phase 1, examination criteria/examination format and Development Project Proforma/Proposal (DPP) are reviewed t for shortening project examination period.</li> <li>Sector Strategy Paper (Local Government and Rural Development) was prepared.</li> </ul>
National Integrity Strategy Support Project (NISSP)	2014 - 2017	Technical Assistance	Cabinet Division	-	<ul style="list-style-type: none"> <li>Technical cooperation project for promoting implementation of Nation Integrity Strategy (NIS) focus on functional enhancement of National Integrity Implementation Unit.</li> <li>Achievements are raising awareness of anti-corruption in Bangladesh and introducing new system including information disclosure, complaint and hearing.</li> </ul>
Strengthening Paurashava Governance Project (SPGP)	2014-18	Technical Assistance	LGD	7 Paurashavas	<ul style="list-style-type: none"> <li>Development of handbook for practice capacity building of Paurashava.</li> <li>Development of training course for core function (including M/P implementation, construction and maintenance of roads, drainage, etc.)</li> </ul>
Inclusive City Governance Project (ICGP)	2014-22	Loan	LGED	5 CCs	<ul style="list-style-type: none"> <li>Improving governance and funding for urban infrastructure (about BDT 1 billion/CC/year)</li> </ul>
Project for Capacity Development of City Corporations (C4C)	2016-21	Technical Assistance	LGD	4 CCs	<ul style="list-style-type: none"> <li>Establishment of autonomous CC's governance (finance, appropriate organization, service improvement, etc.)</li> <li>Strengthening CC's function of coordination and establishment of central role for urban development</li> </ul>
Upazila Governance and Development Project (UGDP)	2016-23	Loan	LGD	around 500 Upazilas	<ul style="list-style-type: none"> <li>Development funding for Upazilas local government based on governance evaluation</li> </ul>
Upazila Integrated Capacity Development Project (UICDP)	2017-22	Technical Assistance	LGD	-10 Upazilas (1 <sup>st</sup> Phase) -65 Upazilas (2 <sup>nd</sup> Phase)	<ul style="list-style-type: none"> <li>Building models of formulating Upazila integrated development plan and creating guidelines related</li> <li>Implementation of training for formulating Upazila development plan in association with UGDP.</li> </ul>
National Integrity Strategy Support Project (NISSP) Phase 2	2019-2022	Technical Assistance	Cabinet Division	-	<ul style="list-style-type: none"> <li>Transparency and accountability system of the public administration and associated institutions is enhanced.</li> </ul>
Urban Development and City Governance Project (UDCGP)	Not commenced yet	Loan	LGED	3CCs and 1 Paurashava	<ul style="list-style-type: none"> <li>Improving urban functions by addressing urban infrastructure development in parallel with governance improvement.</li> </ul>

Source: JICA Survey Team based on Final Report, Precatory Survey on Urban Development and City Governance Project (partially modified)

Among the above, SPGP and UICDP are two technical cooperation projects for Paurashavas and Upazilas, respectively preparing lots of guideline, manuals, training materials for governance improvement. These documents could be fully utilized for the project. Lessons learned from UDCGP and UGDP which are Japanese ODA loan project could be also utilized for the project, UDCGP has not started yet as of February 2022. The Attachment 6.1.1 shows the result of the review of the related documents of JICA's governance related projects. Overview of SPGP, UDCGP, UICDP and UGDP are described below.

#### (1) Strengthening Paurashava Governance Project (SPGP)<sup>1</sup> (C/P: LGD)

JICA's SPGP supported the LGD to formulate "National Strategy for Paurashava Governance Improvement (2016-2025)" to indicate a uniform approach and policy direction for the urban governance improvement of Paurashavas. SPGP also developed guidelines for Paurashava staff and conducted trainings to the functionaries of target Paurashavas for their capacity development. The training subjects include 1) Budget Formulation, 2) Accounting, 3) Tax Collection, 4) Tax Assessment, 5) Finance for Mayors and Councilors, 6) Orientation Course on the Basics of Paurashava

<sup>1</sup> Project Period: 2014-2018, Target LGIs: 7 Paurashavas

Administration for Mayor and Councilors, 7) Development Planning, 8) Citizen Participation, 9) M/P, 9) Streets, and 10) Drainage.

## (2) Urban Development and City Governance Project (UDCGP)<sup>2</sup> (C/P: LGED)

Urban Development and City Governance Project (UDCGP) will be commenced soon after the consultants are selected. UDCGP targets three CCs and one Paurashava, and it aims to improve urban functions by strengthening city governance related to infrastructure development in the target cities, thereby contributing to economic growth and improvement of living conditions toward sustainable cities. Infrastructure development fund is planned to be allocated through Performance-Based Allocation (PBA) mechanism based on performance evaluation of project activities of the ULBs.

## (3) Upazila Integrated Capacity Development Project (UICDP)<sup>3</sup> (C/P: LGD)

UICDP aims to establish a framework to improve comprehensive coordination capacity of Upazila Parishad<sup>4</sup>. Its activities include i) Development of mid-long term strategy for Upazila Parishad governance improvement, ii) Establishment of an advanced model on Integrated Upazila Development Plan, and 3) Capacity development of NILG and related institutions for conducting trainings for Upazila Parishad stakeholders. UICDP closely collaborates with the ODA Loan Project named Upazila Governance and Development Project (UGDP, 2015-2021, JICA) (see below) and supports the governance capacity development of Upazilas. Ukhia and Teknaf Upazilas are two of the pilot Upazilas and the UICDP has been assisting the formulation of their Upazila developments plans (Five-Year Plan and annual development plan) and their implementation.

## (4) Upazila Governance Development Project (UGDP)<sup>4</sup> (C/P: LGD)

Objective of the project is to enhance the capacity of Upazilas Parishad to deliver more effective and responsive public service to citizen through providing additional development fund and a series of capacity development to concerned stakeholders. UGDP adopts the PBA mechanism for fund allocation among the selected Upazilas. Based on the performance assessment result, the selected Upazila Parishad will be entitled to average BDT 5 million in a year and the fund will be utilized in two areas, namely: a) Capacity Development Sub-projects and b) Infrastructure Development Sub-projects. Performance assessment is conducted based on the indicator set concerning four important aspects of Upazila governance, which are: i) institutional capacity, ii) financial management capacity, iii) Planning and Budgeting capacity, and iv) transparency and accountability. UGDP implement its activities in close collaboration with UICDP. Ukhia and Teknaf Upazilas became the target Upazilas based in the fourth round of the performance assessment.

### 6.1.2 Review of Related Japanese ODA Loan Projects

ICGP, NOBIDEP, UGDP, and UDCGP introduced the performance-based approach (PBA) for allocating infrastructure subprojects. Review of these four projects related to governance and infrastructure from the viewpoint of PBA is summarized as below.

**Table 6.1.2 Summary of Related Japanese ODA Loan Projects**

Project Name	Governance Evaluation Indicator	Structure of Loan Funding for Infrastructure	Issues and Outputs to be referred
ICGP	<ul style="list-style-type: none"> <li>Setting of comprehensive governance indicators (7 areas and 42 items).</li> <li>The 7 areas consist of information disclosure, administrative reform, tax reform, finance management reform, raising awareness and participation of citizens, improving urban plan and environment and guideline for law enforcement.</li> <li>The 42 items are divided into 13 trigger activities as minimum requirements and 29 non-trigger activities.</li> <li>No indicator to directly evaluate the implementation of sub-project.</li> </ul>	<ul style="list-style-type: none"> <li>Performance Review (PR) were implemented.</li> <li>13 trigger activities are evaluated as minimum requirements</li> <li>Evaluation results of the first PR were used as judgement materials for fund distribution of first batch and evaluation results of the second PR were used as well for fund distribution of second batch.</li> <li>The target infrastructure was selected from infrastructure development plan that was formulated by CCs (city road, bridges, drainage, street light etc.)</li> </ul>	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>Infrastructure development plan is considered not well understood properly and thus not shared and used with related organizations.</li> <li>Subproject implementation is delayed.</li> </ul> <p><u>Output documents which can be referred to</u></p> <ul style="list-style-type: none"> <li>Various guidelines including infrastructure development plan were prepared.</li> </ul>
NOBID EP	<ul style="list-style-type: none"> <li>Activity Status of 6 areas in Urban Governance Improvement Action Plan(UGIAP) are used as indicators.</li> </ul>	<ul style="list-style-type: none"> <li>Actual funding allocation is decided based on evaluation of implementation status of UGIAP in each Paurashava.</li> <li>First allocation (Phase 1) is limited up to 20%</li> </ul>	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>Formulation and execution of budget are not appropriately implementing.</li> <li>Governance services (33 items) under</li> </ul>

<sup>2</sup> UDCGP is not commence yet as of February 2022, Target LGIs: 3 City Corporations and 1 Paurashava

<sup>3</sup> Project Period: 2017-2022, Target LGIs: 10 Upazilas (1st Phase), 65 Upazilas (2nd Phase)

<sup>4</sup> Project Period: 2016-2023, Target LGIs: around 500 Upazilas

Project Name	Governance Evaluation Indicator	Structure of Loan Funding for Infrastructure	Issues and Outputs to be referred
	<ul style="list-style-type: none"> <li>The 6 areas consist of 1) raising awareness and participation (establishment of Town Level Coordination Committee (TLCC) and Ward Level Coordination Committee etc.), 2) improvement of process of formulation of urban plan (formulation of Paurashava Development Plan etc.), 3) participation of women, 4) measures for poverty in urban area, 5) improvement of ability to manage finance, 6) improvement of administrative and organizational system (establishment of sub-committee in parliament etc.).</li> </ul>	<ul style="list-style-type: none"> <li>of maximum funding allocation. Funding of Phase 2 (up to 40 % of maximum funding allocation) becomes available if the activities of Phase 1 including establishment of TLCC and WLCC are achieved.</li> <li>Target infrastructure consists of road and small bridge in rural area and road, drainage and markets in Paurashava.</li> <li>Special budget is allocated for the work to formulate a network between rural area and Paurashava.</li> </ul>	<p>Paurashava were not implemented well because of lack of fund and human resource.</p> <p><u>Output documents which can be referred to</u></p> <ul style="list-style-type: none"> <li>Handbook and materials for training (subjects related to finance) developed by SPGP are utilized.</li> </ul>
UGDP	<ul style="list-style-type: none"> <li>Indicator group with prerequisites (8 indicators including existence and non-existence of budget and development plan based on Upazila law).</li> <li>Indicators of governance performance (consisting of 16 indicators in 4 areas including organizational system based on Upazila law, finance management, formulation of development plan/budget and transparency and accountability).</li> </ul>	<ul style="list-style-type: none"> <li>UGDP provides development funds to Upazilas through the Performance-Based Allocation (PBA) mechanism. Entitled Upazilas receive BDT 5 million in average per year.</li> <li>Number of target Upazilas that can receive the fund is expanded yearly from 100, 200, 300, 400, and then eventually all 492 Upazilas will be entitled in the last year.</li> <li>Performance Assessment (PA) of all of the 492 Upazilas is conducted every year and all of the Upazilas are ranked from the top to the last. Target Upazilas are decided based on the results of the PA.</li> <li>Target Upazilas use the received fund to implement small-scale infrastructure projects to fulfil local demand such as education and health facility.</li> </ul>	<p><u>Issues</u></p> <ul style="list-style-type: none"> <li>Chronic delay is observed in the Infrastructure subprojects. Major reasons for the delay include low awareness and knowledge on Upazilas' administration among elected representatives, low coordination among Upazilas' key stakeholders, severe manpower shortage in Upazilas' administration, low frequency of Upazila committees' meetings, tendency to equally divide PBA fund among Unions, etc.</li> <li>To ensure improvement of Upazila governance, the mechanism and setup introduced by UGDP such as Performance Assessment, Performance-based Allocation, and Upazila Development Facilitator need to be incorporated and institutionalized into the existing system of GoB.</li> </ul>
UDCGP	<ul style="list-style-type: none"> <li>Evaluation criteria for individual subprojects implementation follow PDCA cycle to avoid delay and maintain quality, mostly focusing on role and function of ULB process (31 indicators in 5 areas).</li> <li>Evaluation criteria for general governance activities to strengthen capacity of annual planning process include citizen's participation and urban planning from a viewpoint of public investment management (11 indicators in 4 areas).</li> <li>Service delivery focuses on pilot activities of solid waste management (31 indicators in 4 areas).</li> </ul>	<ul style="list-style-type: none"> <li>From the first to the third evaluation, allocation of loan amount is calculated to decide how much fund is allocated to each ULB for batch 2 and 3.</li> <li>After the amount is known, LGED is to discuss with each ULB about the selection of subprojects from the list of priority subprojects. Each ULB is basically allowed to propose subprojects from the list within the extent of allocated amount of loan.</li> <li>Performance-based Approach of UDCGP has a detailed set of process milestones particularly for the infrastructure project, and assesses the level of achievement.</li> </ul>	N/A (the project is not commenced yet)

Source: JICA Survey Team based on Final Report, Precatory Survey on Urban Development and City Governance Project (partially modified)

## 6.2 Donor-funded Governance Related Projects (Paurashava / Upazila)

### 6.2.1 Overview

#### (1) Urban Governance Infrastructure Improvement Project (UGIIP)<sup>5</sup> (C/P: LGED)

Urban Governance Infrastructure Improvement Project (UGIIP, 2001-2021 ADB) aims to strengthen urban governance and improve urban infrastructure and service delivery in Paurashavas in Bangladesh. UGIIP is a long-lasting project since 2001 and there have been three phases so far (UGIIP-I: 2001 to 2003, UGIIP-II: 2008 to 2016, and UGIIP-III: 2014 as to 2021). UGIIP-III has three components, namely, 1) Urban Infrastructure & Service Delivery, 2) Governance Improvement & Capacity Development, and 3) Project Management & Implementation Supports. The UGIIP aims to improve Paurashava infrastructure in urban transport, drainage, water supply, sanitation, municipal facilities, and solid waste management through PBA strategy under the Urban Governance Improvement Action Program (UGIAP), a set of governance reform criteria critical to the success of the UGIIP. The UGIAP includes the following aspects, namely: (i) citizen awareness and participation, (ii) urban planning, (iii) women's participation, (iv) integration of the urban poor, (v) financial accountability and sustainability, (vi) administrative transparency, and (vii) provision of essential services. Project implementation units received capacity development support to implement the UGIAP through various activities, including the followings:

- Training of Paurashava urban planner and other concerned staff on urban planning;
- Introducing a computerized accounting system;
- Proving holding tax assessment and collection, rationalizing user charge, and tariff setting;
- Training on financial management;

<sup>5</sup> Project Period: 2001-2003 (Phase-1) / 2008-2016 (Phase-2) / 2014-2021 (Phase-3), Target LGIs: 27 Paurashavas (Phase-1) / 51 Paurashavas (Phase-2) / 30 Paurashavas (Phase-3)

- Forming town-level coordination committee (TLCC), ward-level coordination committee (WLCC), community-based organizations (CBOs), and slum improvement committees (SICs);
- Introducing and implementing citizen report card;
- Implementing communication campaign, and
- Introducing e-governance, such as web-based information management and disclosure.

## (2) Municipal Governance and Services Project (MGSP)<sup>6</sup> (C/P: LGED)

The objective of the Municipal Governance and Services Project (MGSP, 2014-2022, WB) is to improve the governance of Paurashavas and basic urban services and the capacity of Paurashavas to respond promptly and effectively to an eligible crisis or emergency. The project has four components, namely: 1) municipal governance and basic urban services improvement, 2) Bangladesh Municipal Development Fund (BMDf) demand-based financing for urban services, 3) capacity building and implementation support, and 4) contingent emergency response. The first component is implemented with the fund allocated to ULBs that are consisted of (i) a base allocation to all pre-selected ULBs and (ii) PBA fund provided to ULBs that demonstrate improvements in basic urban services and urban governance, focusing on municipal planning, social accountability, public financial management, and revenue mobilization. Performance of ULBs is assessed using the performance indicators that include the aspects of (i) municipal planning processes: integrated municipal planning, including master planning, capital investment planning, and environmental planning, (ii) social accountability strengthening: citizen awareness and participation, participatory and inclusive planning, women's participation and pro-poor urban development, and (iii) public financial management & public revenues: accountability and sustainability, PFM strengthening, revenue enhancing action plans, and financial accountability. The third component of the project of capacity building includes the technical assistance for designing of sub-projects and O&M plans, preparing of complex designs, supervising of works, payment certifications, and provision of trainings to ULB engineers.

## (3) Efficient and Accountable Local Governance (EALG)<sup>7</sup> (C/P: LGD)

EALG is a project implemented by UNDP in collaboration with SDC and DANIDA aiming at strengthening the capacities of local government and other stakeholders to foster participatory local government service delivery for the SDGs. EALG has three components, namely, 1) Inclusive and Accountable Upazila Parishad (IAUZP), 2) Sustainable and Democratic Union Parishad (SDUP), and 3) Policy for Effective Local Governance (PELG). Among the three components, IAUZP especially targets strengthening governance framework of Upazila Parishad for inclusive, effective, and accountable planning and improved service delivery. EALG is operating in eighteen (18) Upazilas where it is piloting different governance improvement related initiatives.

### 6.2.2 Performance-based Approach in UGIIP and MGSP

In the above two projects, performance-based approach is adopted, and fund allocation based on evaluation is conducted. The table below summarizes the areas and activities evaluated under their performance-based approaches<sup>8</sup>.

**Table 6.2.1 Summary of Performance based Approach in UGIIP and MGSP**

Project Name (Donor)	Summary of Area/Activities Evaluated
UGIIP Phase-1 (ADB)	• 1 area, Urban Governance and 5 activities evaluated
UGIIP Phase-2 (ADB)	<p><u>Phase-I</u></p> <p>• 7 activities evaluated</p> <p><u>Phase-II</u></p> <p>• 6 area below and 27 activities evaluated</p> <ol style="list-style-type: none"> <li>1. Citizen awareness and participation, including 6 activities</li> <li>2. Urban Planning, including 3 activities</li> <li>3. Women's participation, including 2 activities</li> <li>4. Integration of the urban poor, including 3 activities</li> <li>5. Financial accountability and sustainability, including 7 activities</li> <li>6. Administrative transparency, including 6 activities</li> </ol> <p><u>Phase-III</u></p> <p>• No performance-based allocation</p>

<sup>6</sup> Project Period: 2014-2022, Target LGIs: 26 ULBs

<sup>7</sup> Project Period: 2017-2021, Target LGIs: 18 Upazilas from 9 districts

<sup>8</sup> Ref. the Attachment 6.2.1 for the detail.

Project Name (Donor)	Summary of Area/Activities Evaluated
UGIIP Phase-3 (ADB)	<ul style="list-style-type: none"> <li>• 7 area below and 28 activities evaluated</li> <li>1. Citizen Awareness and Participation, including 4 activities</li> <li>2. Urban Planning, including 3 activities</li> <li>3. Equity and Inclusiveness of Women and Urban Poor, including 3 activities</li> <li>4. Enhancement of Local Resource Mobilization, including 4 activities</li> <li>5. Financial Management, Accountability and Sustainability, including 6 activities</li> <li>6. Administrative Transparency, including 3 activities</li> <li>7. Keeping Essential Paurashava Services Functional, including 5 activities</li> </ul>
MGSP (WB)	<ul style="list-style-type: none"> <li>• 3 area below and 10 elements (activities) evaluated</li> <li>1. <u>Municipal Planning Processes</u>: integrated municipal planning, including master planning, capital investment planning, and environmental planning and there are 2 elements included</li> <li>2. <u>Social accountability Strengthening</u>: citizen awareness and participation, participatory and inclusive planning, women's participation and pro-poor urban development and there are 3 elements included</li> <li>3. <u>Public Financial Management (PFM) &amp; Public Revenues</u>: accountability and Sustainability, PFM strengthening, revenue enhancing action plans, and financial accountability and there are 5 elements included</li> </ul>

Source: JICA Survey Team based on Draft Fina Report, Precatory Survey on Urban Development and City Governance Project

Performance-based approaches of UGIIP and MGSP monitor wide aspects of general governance from such as citizens awareness and participation, urban planning, recourse mobilization as well as public financial management and accountability. However, there is no monitoring and evaluation items concerning the detailed process of the infrastructure project implementation. There is a significant difference between the performance-based approach of UGIIP/MGSP and that of UDCGP that sets the detailed milestones to be monitored and evaluated in the process of infrastructure subprojects.

Though performance-based approach will not be adopted in the project, to ensure smooth implementation of the project, proper project monitoring and evaluation mechanism that includes the assessment of the level of achievement of each detailed activity required in the process of infrastructure subprojects implementation will be introduced (Ref. the Chapter 10 Monitoring and Evaluation).

### 6.2.3 Proceeding Infrastructure Related Projects in Target Areas

#### (1) Implementing Organizations and Projects

##### 1) Paurashavas

Based on the information from Chakaria, Moheshkhali and Teknaf Paurashava offices, the implementing organizations and projects in the target paurashavas are analyzed (Ref. the Attachment 6.2.2). In road, bridge and drainage sectors, LGED is the main organization to implement the projects as a project management office at present. Although USAID is implementing earthen road repair and drain excavation, the project cost is much smaller than those implemented by LGED. For water, sanitation and hygiene (WASH) sectors, NGOs are the main organizations. The projects of the WASH in Taknaf Paurashava are only for displaced persons and host communities from Rakhine state, Myanmar.

##### 2) Upazilas

Based on the information from Upazila LGED engineers, the implementing organizations and projects in the target upazilas of Chakaria, Moheshkhali, Teknaf and Ukhia are analyzed (Ref. the Attachment 6.2.3). LGED is implementing twenty(20) projects, of which donor funded projects are six(6) projects and the others are by GOB own fund. LGED at Upazilas has a leading function for planning and implementing of road, bridge, drainage, disaster management (including cyclone shelters) and other public facility.

In addition to LGED, eight (8) UN agencies and 109 NGOs are also implementing projects in accordance with 2020 Joint Response Plan for Displaced persons from Rakhine state, Myanmar Humanitarian Crisis. Under this scheme, the infrastructure development in WASH sector includes tube wells and secondary communal pits.

##### 3) Infrastructure Related Projects by Donors

Donors other than JICA are also financing infrastructure related projects in the target area (Ref. the Attachment 6.2.4).

## (2) Proceeding Projects

### 1) Paurashavas

Status of the proceeding subprojects in the target Paurashavas is analyzed. In terms of project number, many projects are implemented in Teknaf Paurashava (Ref. the Attachment 6.2.5). On the other hand, Chakaria Paurashava receives a large fund under Municipal Governance and Services Project. By the sectors, the cost for sanitation and water supply sector is much smaller than that of road, bridge, and drainage sectors.

### 2) Upazilas

Status of the proceeding projects in the target upazilas is analyzed. In terms of both number and cost, the most of projects are conducting in Teknaf and Ukhia Upazilas regardless the sectors (Ref. the Attachment 6.2.6). Teknaf and Ukhia Upazilas receives most of fund from the donors in all of sectors.

## 6.3 Need Assessment of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

### 6.3.1 Overview of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

The three (3) executing agencies i.e., Coal Power Generation Company Bangladesh Limited (CPGCBL), Chattogram Port Authority (CPA) and Roads and Highways Department (RHD), are implementing MIDI projects funded by JICA. Only CPGDBL provided collective resettled area for affected households. CPA and RHD provided or planned to provide the monetary compensation instead of arrangement of resettled area (Ref. the Attachment 6.3.1).

### 6.3.2 Needs Assessment of Affected Households by Matarbari Ultra Super Critical Coal-Fired Power Plant Projects

A social survey was conducted from November 29, 2020 to December 5, 2020 for assessing infrastructure needs of affected household by Matarbari Ultra Super Critical Coal-Fired Power Plant projects. The outline of the survey is following:

**Table 6.3.1 Sector-wise Issues for Host Communities**

Period	November 29 – December 5, 2020
Target People and Groups	Union parishad chairman and secretary in Matarbari Union and resettled people in Sairar Dale Village
Methodology	Key Informant Interview: Union parishad chairman and secretary in Matarbari Union Focus Group Discussion: Resettled people in Sairar Dale Village

Source: Social Survey Team, JICA

### (1) Target Area

The survey was conducted at Sairar Dale Village, Matarbari Union, Moheshkhali Upazila where 44 households were resettled due to the construction of Matarbari Ultra Super Critical Coal-Fired Power Plant by CPGCBL.

### (2) Conditions at Resettled Site

50 houses were constructed at Sairar Dale Village by CPGCBL and provided for the 48 affected households of which 44 households moved to the houses during September 2019 and July 2020. One unit of house consists of 3 rooms, kitchen, toilet, and tube well. The affected households are highly satisfied with the current residential conditions. On the other hand, access road is partly damaged, and some drains does not fully function, according to the affected households.

From the perspective from Union level, some member of Matarbari Union Parishad pointed out the shortage of ground water, school and hospital due to the population increase.

### (3) Infrastructure Needs of Affected Households

The affected households at Sairar Dale Village and the Matarbari Union presented the needs of following infrastructure development:



**Table 6.3.2 Infrastructure Needs of Sairar Dale Village and Matarbari Union**

Sairar Dale Village	Matarbari Union
<ul style="list-style-type: none"> <li>• Rehabilitation of road connecting the village and school</li> <li>• Security boundary gate</li> <li>• School cum cyclone shelter</li> <li>• Drain</li> <li>• Graveyard and etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Water supply (deep tube well)</li> <li>• Rehabilitation of road</li> <li>• Construction of hospital, school and Union Parishad building</li> <li>• Sluice gate and etc.</li> </ul>

Source: Social Survey Team, JICA

## 6.4 Need Assessment of Host Community for Displaced persons from Rakhine state, Myanmar

A social survey was conducted from November 15, 2020 to November 20, 2020 for assessing infrastructure needs of host communities for Displaced persons from Rakhine state, Myanmar in Teknaf and Ukhia upazilas under subcontracted work. The outline of the survey is following:

**Table 6.4.1 Outline of the Survey**

Period	November 15 – 20, 2020
Target People and Groups	Upazila parishad chairmen, secretaries, Upazila engineers, residents in Ukhia and Teknaf Upazila and etc.
Methodology	Key Informant Interview: Upazila parishad chairmen, secretaries, Upazila engineers etc. Focus Group Discussion: Residents (Workers, Women, Teachers and etc.)

Source: Social Survey Team, JICA

General issues for host communities in each sector and the infrastructure needs in Ukhia and Teknaf Upazila are summarized as follows:

**Table 6.4.2 Sector-wise Issues and Infrastructure Needs**

Sector	Issues	Infrastructure Needs in Ukhia Upazila	Infrastructure Needs in Teknaf Upazila
Road and Bridge	Increased road traffic, especially in camp and market areas. Main roads are not wide enough to accommodate traffics on roads in busy hours.	<ul style="list-style-type: none"> <li>• Road carpeting and maintenance (especially road connecting to market) (*)</li> <li>• Construction of internal roads in the refugees' camp is not welcome<sup>1</sup></li> <li>• Guide wall</li> <li>• Culvert</li> </ul>	<ul style="list-style-type: none"> <li>• Road carpeting and maintenance (especially road connecting to market and main road) (*)</li> <li>• Bridge</li> <li>• Culvert</li> <li>• Guide wall</li> </ul>
Irrigation and Drainage	The crop productivity is required to increase, but the volume of underground water is decreasing due to larger consumption. Drains and drainage facilities are not adequate to drain out rainwater and water used by displaced persons from Rakhine state, Myanmar in the collective sites.	<ul style="list-style-type: none"> <li>• Rehabilitation of canals</li> <li>• Construction of drains (*)</li> </ul>	<ul style="list-style-type: none"> <li>• Excavation of canals (*)</li> <li>• Construction of sluice gate,</li> <li>• Rubber dam</li> <li>• Drain</li> </ul>
Water Supply	Having drinking water problem of salinity and also availability, mainly due to depleted water aquifer.	<ul style="list-style-type: none"> <li>• Construction of water tank or reservoir (*)</li> <li>• Pipe lane (*)</li> <li>• Tube well</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of water treatment plant (*)</li> <li>• Deep tube well (*)</li> </ul>
Disaster Management	Additional cyclone shelters are needed due to the increase in population.	None	<ul style="list-style-type: none"> <li>• Construction of school cum cyclone shelter (*)</li> <li>• Flood cum cyclone shelter</li> <li>• Boundary wall</li> </ul>
Electricity	The lack of electricity especially in market area is a problem.	Electricity supply to market areas (*)	Electricity supply to market areas
Solid Waste Management	Volume of solid waste has increased manifold.	None	None
Others	Increased crime and criminal activity. Labor wage decreased.	Construction of government primary school (*)	Street lighting

Note 1: People in host communities concerns deterioration of the security situation and decrease of working opportunity due to the refugees' influx/ Therefore, they have negative feeling to improve access to the refugees' camp. Note 2: The subprojects with (\*) are high prioritized one.

Source: Social Survey Team, JICA

## 6.5 Need Assessment of Township Development

### 6.5.1 Township Development Planned in the Selected LGIs

The population increase derived of MIDI in the short term is expected to be accommodated in Paurashavas of Chakaria and Moheshkhali (Ref. the Attachment 6.5.1). Meanwhile, the population increase of natural growth is also estimated, and it is necessary to develop not only the residential area but also the infrastructure including urban service facilities. It is clearly difficult to address to both in densification of existing built-up area.

### 6.5.2 Planned and On-going Project in MIDI Area

Matarbari Ultra Super Critical Coal-Fired Power plant and Matarbari Port will start their operation and Matarbari Port Access Road will also open by the target period of short term, 2026. In addition, according to the industrial sector development plan which is being planned by BEZA, three EZs are planned in the period of 2021-2025 around the Matarbari and Chakaria area, as well as two EZs in 2026-2030 and three EZs in 2031-2035, respectively. From the above, it is conceivable that workers engaged in the power plant, the port and MIDI development projects will live in the neighboring of Matarbari village or commute from Chakaria Paurashava using the Matarbari Access Road. Furthermore, the bottlenecks between Chattogram- Cox's Bazar of N1 will also be improved by RHD with the financial support of JICA in 2028, so the location of MIDI related industries will be in full swing, and it is expected that further population influx will progress around Chakaria (Ref. the Attachment 6.5.2).

For Moheshkhali, BEZA is planning a vast area from the south side of Moheshkhali Paurashava to the adjacent part of the MIDI development area as Economic Zone (land acquisition has been completed) as a long-term development, so it is expected that the population will gradually increase in the future according to the development progress of EZ.

## 6.6 Assessment of Existing Security and Safety Situations

### 6.6.1 Security Situations in Target Areas

#### (1) General Information

As of January 2021, the security level of Chattogram Hill Tracts in Bangladesh is categorized as level 2 (do not travel except necessity and emergency case) by Ministry of Foreign Affairs in Japan and categorized as level 3 (Reconsider Travel) by U.S. Embassy in Bangladesh.

JICA also requested international consultants and experts who have contractual relationship with JICA directly to follow JICA's security instruction.

#### (2) Security Situations in Cox's Bazar District

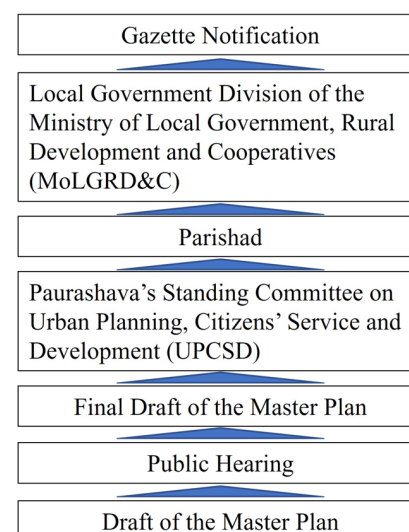
According to Bangladesh Bureau of Statistics' publication in 2011, the criminal offences often happened in Chakaria Upazila, Cox's Bazar Sador, Ramu Upazila and Ukhia Upazilas, while the traffic accident mostly occurred in Chakaria and Ramu Upazilas.

#### (3) Security Situations around Camps for displaced persons

Due to the influx of displaced persons from Rakhine state, Myanmar to both Taknaf and Ukhia Upazilas, crime and criminal activity, like robbery and drug trafficking, has increased. Host communities is exposed to risk of involving such crimes. In the Focus Group Discussion conducted in the social survey, host communities considered this as a serious issue and demanded for the earliest possible repatriations of refugees. Therefore, those who are working around the camps for displaced persons included this Study are recommended to return to Cox's Bazar Sadar before dusk. Furthermore, the entrance to the camps for displaced persons is restricted. Those who wish to enter the camp need to obtain the permission.

#### (4) Security Situations in Bandarban District

Bandarban district is located in Chattogram Hill Tracts where are categorized in high-risk area according to Ministry of Foreign Affairs in Japan and U.S. Embassy in Bangladesh. Ethnic minorities called Jumma live in this area and have conflict with the Government of Bangladesh. Therefore, prior approval



Source: Operational Manuals, Course Guides and Teaching Materials, SPGP

**Figure 6.5.1 Legal Process of Urban Planning M/P**

from Ministry of Home Affairs Office of Public Safety, the Government of Bangladesh is required, if an outsider plans to visit this area.

## **6.6.2 Safety Situations and Issues during Construction Work**

### **(1) Overview**

Based on a newspaper survey report published by Safety and Right Society, there were 282 incidents and 373 workers died in workplace accidents in 2015.<sup>9</sup> Of 373 deaths, 63 deaths happened in Chattogram district, which has the second highest number after Dhaka district. Furthermore, of 373 deaths, 147 deaths happened in construction sector, which was the highest among industrial sectors.

### **(2) Safety Issues during Construction Work**

From the interviews to LGED, LGIs and engineering consultants and construction site visits, it is found that there are two major issues in terms of safety during construction work in Bangladesh. The first issue is that tenderers do not have to prepare and include a safety plan in tender unless it is required explicitly in Tender Data Sheet (TDS) of Instruction to Tenderers. The second issue is, even if a contractor submits a safety plan, the contractor or workers under the contractor does not always follow it.

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<sup>9</sup> Safety and Rights Society (n.d.), "Newspaper Survey Report on Workplace Deaths January-December of 2015" Retrieved from <https://safetyandrights.org/publications/annual-report/nsr-2015/>

## CHAPTER 7 INFRASTRUCTURE DEVELOPMENT AND PRIORITY SUBPROJECTS

### 7.1 Specific Policies of Infrastructure Development

#### 7.1.1 Development Direction of LGIs

##### (1) Chakaria Paurashava

###### 1) Road and Bridge

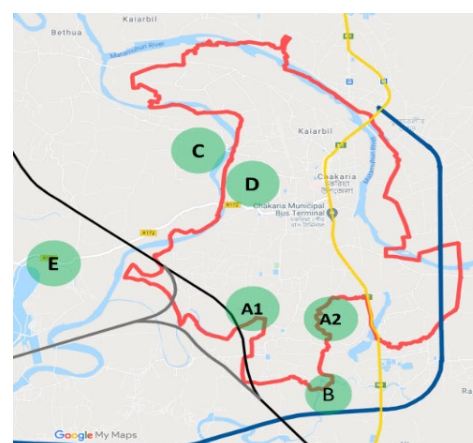
Chakaria Paurashava is located between Cox's Bazar and Chattogram which are connected by National Highway No.1(NH-1). Current road network of Chakaria Paurashava is standard level in Bangladesh. The network in the city connects NH-1 and Regional Highway 172 (RH-172) for transportation to the other district. Therefore, Chakaria Paurashava has a high potential to the city development from the viewpoints of logistics of agricultural products, commodities and service provision to the industrial MIDI area, and logistics of products from the MIDI area.

Location	Required development
A	It is required to expand Kahariaghona road.
B	New road connecting from South to North of the area
C	Existing RH172 can be utilized although new bridge over the Matamuhuri river is required.
D	Embankment for the area is required due to the low land area.
E	Expansion of RH172 is required.

Roles of transportation sector in Chakaria Paurashava will be increased drastically under the MIDI and direct impact and growth surrounding Upazila area will be expected. Those development will generate additional labor demand and enlarge need of logistics in and around the area. As a result, the population and traffic volume may be increased in the future.

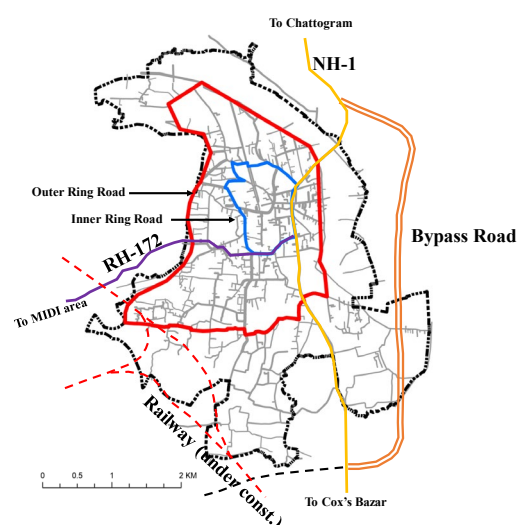
The development scenario in transportation sector including on-going railway is depending on the location of township which related to MIDI. Chakaria Paurashava is formulating the development scenario taking into consideration of the following location of township:

The general development concept is to formulate outer ring road and inner ring road in the Paurashava in order to ensure smooth mobility of traffic from one to another area as shown in Figure 7.1.2. Then, NH-1, Eidomony to Cox's Bazar and Marine Drive will function as an arterial road, and RH-172 and Matabari Port Access road will be a collector road, respectively. The Inner ring road will be mostly delineated by the existing roads. Considering difficulty of new road construction crossing the residential area, widening and repair of the existing roads are practical at present. In addition, the outer ring road will also require widening of the existing road and a new road along the river and drainage shall be constructed on the west side of the city.



Source: Master Plan of Chakaria, 2020, JICA

**Figure 7.1.1 Planned Location of Township (Chakaria Paurashava)**



Source: Modified from Master Plan by JICA Survey team

**Figure 7.1.2 Road Development Concept (Chakaria Paurashava)**

## 2) Drainage

In Chakaria Paurashava, it is reported that there is no serious inundation in normal. However, minor inundations are happened due to insufficient capacity of local drains during rainy season. The period of the inundation is not so long. On the other hand, excessive and continuous rainfall in Chakaria had experienced a flood overtopped from Matamuhuri River in June 2015. Matamuhuri River was flowing over its danger water level. Rainfall for 24 hours was recorded at 236mm at the moment.

MIDI will make the population increased and existing open spaces and low-lying areas will be backfilled and utilized for new residence of additional inhabitants. This reducing natural retention areas for runoff during the rainy season will affect the drainage system in the future. Following are the objectives of drainage management plan in Chakaria Paurashava:

- Construct smooth drainage system for storm water and waste water
- Develop a comprehensive drainage network
- Prevent encroachment to natural drainage system
- Implement public awareness for preventing from the disposing solid waste into the drainage system

According to the Urban Drainage Manual issued by LGED in 1998, the drainage systems (tertiary and secondary drain) has been designed to handle the average runoff for the return period of 1.1 year for tertiary drain and 2 years for secondary drain from peak storms without overflowing considering the estimated development level as up to the year 2041.

To create smooth drainage system, drains are classified as three categories of Primary, Secondary and Tertiary drains.

Local inundation was happened at the place where there is no side drain. It is basically proposed that open drainage system is applied in Chakaria Paurashava since it is cheaper than the piped drain and easy for maintenance. However, people will dispose debris solid wastes easily into the drain. Therefore, side drain shall be covered by the slab with manhole for maintenance at several locations.

Currently, the installation of secondary and tertiary drains is still insufficient to drain out the run-off appropriately. Therefore, it is necessary to improve those drains and make them connected properly according to the comprehensive drainage plan in Chakaria Paurashava

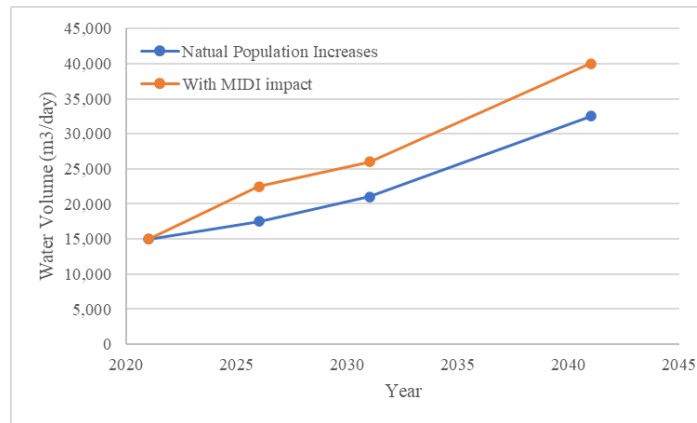
## 3) Water Supply

Water supply demand forecast has been calculated taking into consideration of i) unit water consumption, ii) population of the target area and iii) population increase by 2041. For the estimation of the future water supply demand, unit water consumption was applied as shown in Table 7.1.1. Total required water volume in 2041 was calculated approximately 40,000m<sup>3</sup>/day in the case of with MIDI.

**Table 7.1.1 Applied Unit Water Consumption**

Category	Applied unit water consumption (lpcd: litter per capita per day)
Water supply through house connection service at minimum level	70-100
Communities with the population 20,000-100,000	100-150

Note: Consumption for non-domestic water is included in the above volume  
Source: Master Plan of Chakaria, 2020, JICA



Source: Master Plan of Chakaria, 2020, JICA

**Figure 7.1.3 Water Supply Demand Forecast in Chakaria Paurashava**

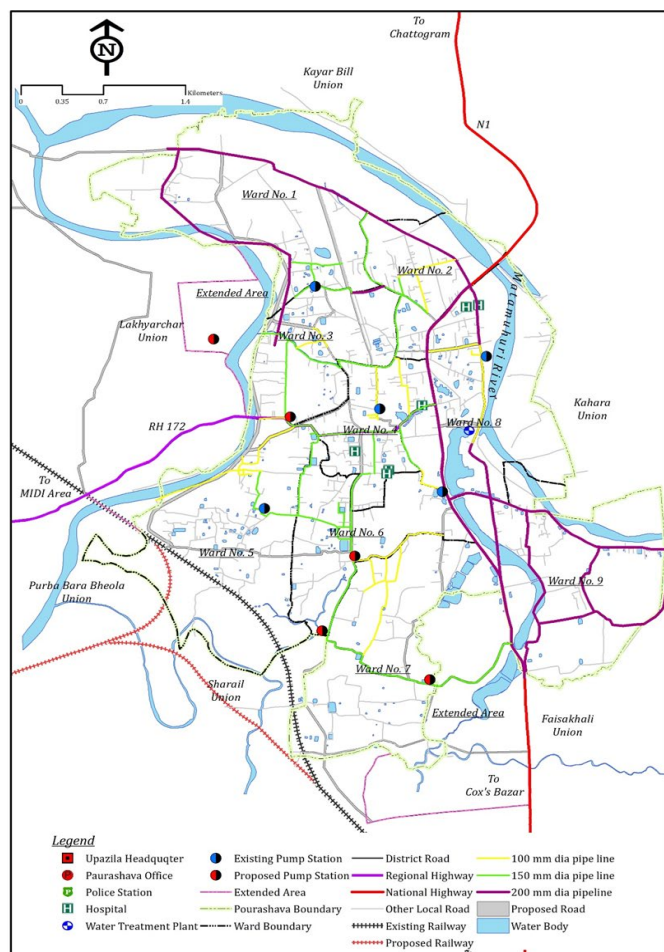
Groundwater is currently used as an existing water source and it is recommended that it will shift the water source from groundwater to surface water in the future. However, in the LGI's master plan up to 2041, the nine pump facilities will be in operation by 2026 from the current five pump facilities as Phase-1 project. It is also planned to construct water purification plant at Ward No.8 eastern side of the Chakaria Paurashava along the Matamuhuri River. Accordingly, water supply pipelines will also be installed with the total length of 39 km and the diameter of the pipe are 100-200mm by 2026 as shown in Figure 7.1.4.

#### 4) Solid Waste Management

Currently, the MP in Chakaria is under the process of endorsement and development direction in Chakaria to solve issues of waste management is described in the draft M/P as follows:

##### 1. Regional waste management

Regional waste management between Paurashava and Upazila in Chakaria is recommended for this region. It is predicted that the waste amount generated in both Chakaria Paurashava and Upazila surrounding Paurashava will increase due to the population growth. The solid waste management for Upazila, where waste collection and disposal has not been implemented yet, shall be planned and implemented, while Upazila does not have such experiences and knowledges. The cooperation between Paurashava and Upazila administrations is recommended in the form of the regional waste management. Under this regional cooperation, it is necessary to establish integrated solid waste management by waste collection system covering both Paurashava and Upazila area and the improvement of current waste disposal site located at Upazila for utilizing by both LGI.



Source: Master Plan of Chakaria, 2020, JICA

**Figure 7.1.4 Planned Water Supply Network in Chakaria Paurashava**

2. 3R (Reuse, Reduce, Recycle) activities and community participation at waste generation source  
As 3R activities, separation of waste at sources such as households, commercial bodies, industries, etc, is recommended. For effective implementation of 3R activity, community participation is promoted through campaigns for community people, school children, etc.

3. Collection and transportation  
The expansion of collection area is recommended for mainly residential and commercial areas including narrow roads area by utilizing dump truck, rickshaw van, pushcart as well as setting dust bin in the area. There are scattering waste along roadside and drainage. The expansion of collection area is necessary to prevent such waste dumping.

4. Recycling, Treatment and Disposal  
To divert waste to be disposed by separation of recyclable waste and composting of organic waste, composting area or separation area will be established in newly developed landfill site. As for treatment and disposal, improving the current open dumping site to a sanitary landfill and its expansion will be necessary.

5) Other Public Facilities  
Development direction of other infrastructures such as market, school and clinic are described in the MP. In case of market, some of bazar areas are old and deteriorated and it is necessary to improve the poor condition of the market area such as Gonosham Bazar area.

In case of educational facility, it is necessary to construct the primary schools, with consideration of future demand. In addition, some primary school needs the facility including function of cyclone shelter for disaster prevention.

In case of health sector, the development of community clinic is necessary for each union. The purpose of setting up a community clinic is to ensure healthcare through the active participation of the people and to have the function of cyclone shelter.

## **(2) Moheshkhali Paurashava**

1) Road and Bridge  
Moheshkhali Paurashava is a small scale town which is located at 10 km north of Cox's Bazar. There is a Moheshkhali canal between Moheshkhali Paurashava and Cox's Bazar Paurashava, therefore economic activity is isolated from Cox's Bazar. Only the way to Cox's Bazar is using boat service. The people coming from Chakaria to Moheshkhali Paurashava depend on traveling on the narrow and rough road that takes about four hours. Sea transportation from Cox's Bazar Paurashava to Moheshkhali Paurashava takes around 30 minutes by speed boat, but it depends on the condition of the sea.

Moheshkhali Paurashava is connected to RH-172 by Z-1004 and U-2001 roads. Connectivity between MIDI and Moheshkhali Paurashava through those roads will be more important and population increase in Moheshkhali Paurashava under MIDI. Village markets along the Z-1004 and U-2001 will be anticipated as the growth pole for the local people who will have a benefit passively. Urban population commuting to MIDI area from Moheshkhali Paurashava will be increased that create the necessity of township development.

The general development concept is to formulate outer ring road and inner ring road in the Paurashava in order to ensure smooth mobility of traffic from one to another area as shown in Figure 5. Those outer ring road and inner ring road will play a role to be able to move mass traffic volume coming into the Paurashava from MIDI, Chakaria and Cox's Bazar. Then, Z-1004 and U-2001 will function as an arterial road and the other major roads will collect local traffic and feed them to the arterial roads. The inner ring road is composed of several existing roads. Although new construction is not required, it is



necessary to widen and repair the existing roads which are currently damaged. The embankment road has a function of high tide protection and transportation between MIDI and Cox's Bazar. The embankment road can work as city bypass road and collector road to Sonadia area.

“Land Use and Development Planning Survey of Moheshkhali and Matabari area in the People's Republic of Bangladesh” prepared by JICA in 2019 has proposed a conceptual alignment of bridge over the Moheshkhali canal. Construction of the bridge will have a great impact on the development of Moheshkhali Paurashava since the migrant workers to MIDI area will chose their residences at the sustainable residential area depending on amenity and location near to MIDI and Cox's Bazar.



Source: Modified from Master Plan by JICA Survey Team

**Figure 7.1.5 Road Development Concept  
(Moheshkhali Paurashava)**

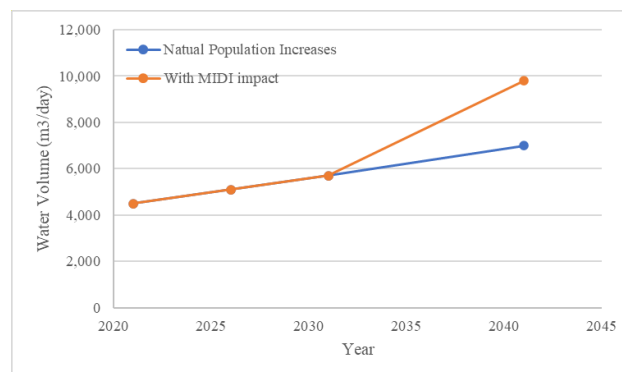
## 2) Drainage

Development direction in Moheshkhali Paurashava is very similar to that in Chakaria Paurashava as described above. In Moheshkhali Paurashava, it is also reported that there is no serious inundation in normal. However, minor inundations are happened due to insufficient capacity of local drains during rainy season. The period of the inundation is not so long. These inundations are depending on geographically facing the sea and the area is affected by tides. The inundation occurs generally when heavy rain happens at time of high tide. The existing flood dike road was collapsed by the waves, but there is no prospect of reconstruction work so far. Rapid urban development will be expected due to the MIDI. Therefore, drainage management plan shall be formulated and implement the project steadily as the case of Moheshkhali Paurashava.

Currently, the installation of secondary and tertiary drains is still insufficient to drain out the run-off appropriately. Therefore, it is necessary to improve those drains and make them connected properly according to the comprehensive drainage plan in Moheshkhali Paurashava. In addition, considering the tide water level, it is necessary to consider required drainage facilities such as regulatory ponds, pump facilities, gates, etc. for discharging internal water.

## 3) Water Supply

Water supply demand forecast has been calculated taking into consideration of i) unit water consumption, ii) population of the target area and iii) population increase by 2041. For the estimation of the future water supply demand, unit water consumption was applied as shown in Figure 6. Total required water volume in 2041 was calculated approximately 10,000m<sup>3</sup>/day in the case of with MIDI.



Source: Master Plan of Moheshkhali, 2020, JICA

**Figure 7.1.6 Water Supply Demand Forecast in  
Moheshkhali Paurashava**



Groundwater is currently used as an existing water source and it is recommended that it will shift the water source from groundwater to surface water in the future. However, in the LGI's master plan up to 2041, the twelve pump facilities will be in operation by 2041 from the current two pump facilities.

Water purification plant will not be constructed since the location of surface water source in the Moheshkhali has an influence of the tide. Therefore, it is planned to develop ground water source in order to meet the demand in the master plan by 2041.

Accordingly, water supply pipelines will also be installed with the total length of 30 km and the diameter of the pipe are 100-200 mm as shown in Figure 7.

#### 4) Solid Waste Management

Currently, the MP in Moheshkhali Paurashava was being prepared and its development directions in Moheshkhali to solve issues of waste management are recommended as follows:

##### 1. Regional waste management

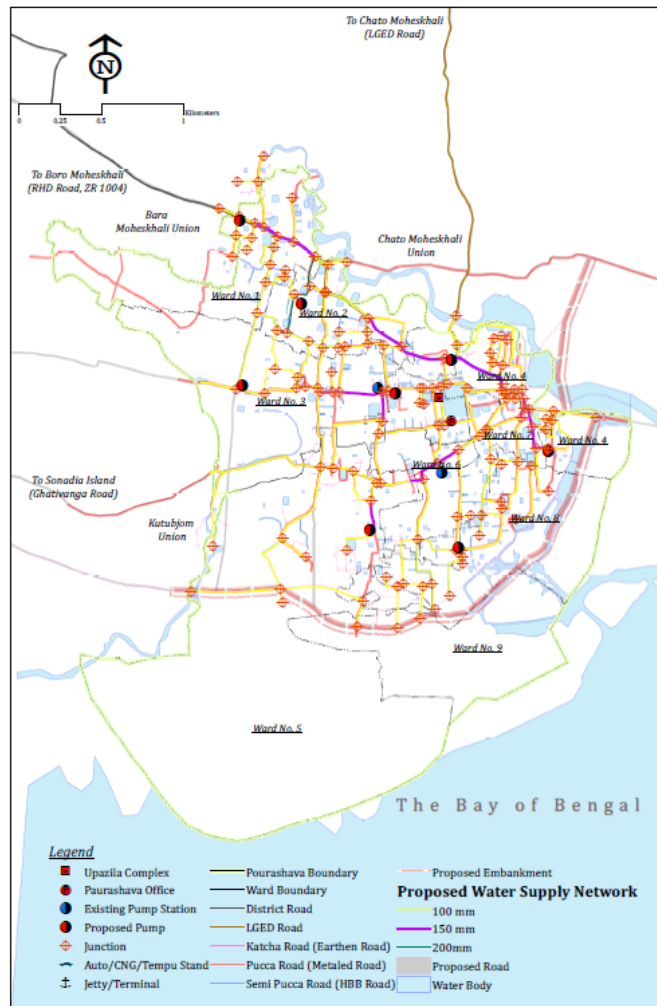
Regional waste management is also recommended for Moheshkhali Paurashava and Upazila as well as Chakaria Paurashava and Upazila. There are no public services for solid waste management in Upazila and no suitable landfill location in Paurashava area. Considering the MIDI development and population increase within next 20 years, a regional SWM system need both in Paurashava and Upazila same as Chakaria.

##### 2. Final disposal

The current dumping site is located in Paurashava near residential and commercial area. The current dumping site cause adverse impacts in the residential and commercial area and there is not enough area for future expansion of landfill site. Therefore, it is necessary to develop a new sanitary landfill site in the area away from residential and commercial area.

##### 3. SWM of MIDI

The population increase by MIDI will cause increase of municipal solid waste, which will be disposed through the above-mentioned regional waste management system. Furthermore, various industries will be established in Matabari area and each factory will have their responsibility of industrial waste stabilization. Only stabilized industrial waste or non-hazardous industrial waste can be disposed by LGIs with necessary charges which waste discharges pay to LGI, as the concept of polluter pays principle as described in National 3R Strategy.



Source: Master Plan of Moheshkhali, 2020, JICA

**Figure 7.1.7 Planned Water Supply Network in Moheshkhali Paurashava**

### 5) Other Public Facilities

The MP of Maheshkhali Paurashava gives development directions of other infrastructures such as markets and public toilets. In the case of markets, the MP requires the renovation of old markets to modern facilities. Public toilets under very bad condition are necessary to be rehabilitated together with operational improvement by the sanitation and hygiene department in Paurashava.

## **(3) Teknaf Paurashava**

### 1) Road and Bridge

The Rohingya refugee camps have a large number of immigrants and total number of people became more than 100,000 people in Teknaf area. Considering the fact that the NH-1 is virtually the lifeline of the region and has become more important to ensure smooth supply of relief in the Rohingya camps. However, the roads are facing traffic congestions because of the large number of immigrants and its support organizations. Flood derived from the high tide with heavy rain during rainy season is also trigger to the traffic congestion. Therefore, the road development project needs to be implemented to improve the existing road conditions.

### 2) Drainage

Teknaf Paurashava is located on a peninsula between the Naf River and the sea. The Naf River is located along the southeastern border of Bangladesh between Myanmar. The river rises in the Arakan hills and flows through the narrow strip between the Bay of Bengal and the Arakan Hills. The width of the river varies from 1.61 to 3.22 km and average depth is 39 to 120 m. The river is influenced by tidal activity. Teknaf Paurashava is located on the right bank of the river around 15 km upstream of the estuary. Therefore, as the same geographic condition in Maheshkhali, the inundation occurs generally when heavy rain happens at time of high tide. Rainfall into the peninsula flows to western side to the sea and east side to Naf River from the central hills as the boundary. Therefore, the run-off from the hill assumes to reach at the Teknaf Paurashava in a short period. Considering the tide water level, it is necessary to consider required drainage facilities such as regulatory ponds, pump facilities, gates, etc. for discharging internal water.

### 3) Water Supply

According to annual development plan (AP) 2019-2020 of Teknaf Upazila including the Paurashava, water supply issues are not clearly mentioned in the AP. However, people in the Upazila are in a crisis of pure drinking water in all unions, especially, Teknaf Paurashava, Sadar Baharchara and Saint Martin Unions. According to Upazila development program, priority rural water supply project by LGED is planned to install 200 more tube wells in addition to the foregoing 61 tube wells, and Teknaf Paurashava is one of the major LGIs. It is considered that this situation will continue.

### 4) Solid Waste Management

The LGI collaborates with United Nation Development Program (UNDP) and the Swedish International Development Agency (SIDA) for the SWM project in Teknaf Paurashava. The LGI follows public awareness raising and private sector collaboration as develop directions of SWM recommended by UNDP/SIDA project.

#### 1. Development of Waste Management Systems

As development direction, waste cleansing activities has been implemented firstly and the cleansing campaign is being implemented continuously. Currently community based collection including waste separation system in Material Recovery Facility (MRF) is promoted. Infrastructure development like composting facility and sanitary landfill site is planned for their expansion in the future.

#### 2. Awareness Raising Program

The LGI promotes the community based waste management and public participation for waste segregation for collection as well as “3Rs (Reduce, Reuse, Recycle)” awareness campaign. MRF will be constructed in each union for waste management.

### 3. Private Sector Participation

The LGI promotes the private sector or NGO participation, especially for primary collection due to lack of human resource and fund of LGIs in Teknaf and UNDP trains NGOs and PSPs for operation and maintenance. LGI implements outsourcing PSP for waste management with introduction of waste collection service charge.

#### 5) Other Public Facilities

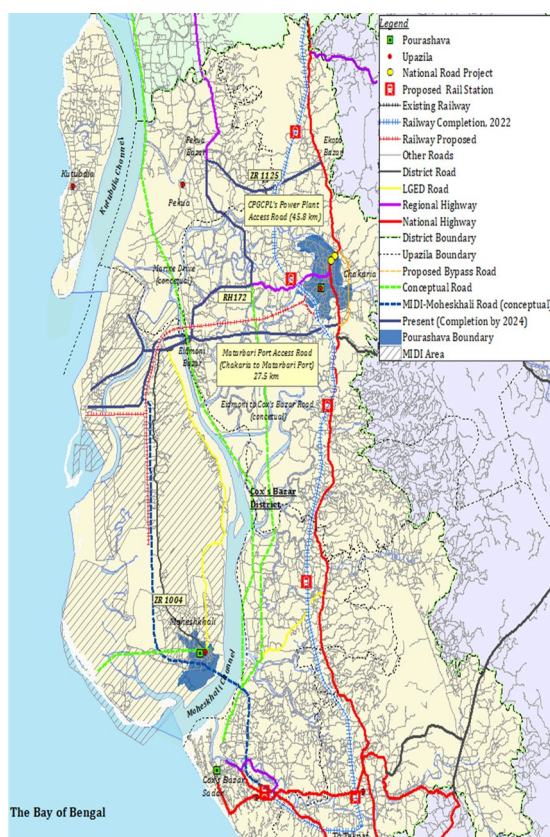
Teknaf Paurashava has planned development of markets, office buildings, parks, etc. Especially, the expansion of the market is necessary due to population growth and increasing economic activities. Due to the Rohingya issues, the activities of many local NGOs and foreign donors have also intensified. In this situation, Teknaf Paurashava needs to establish the facilities of market, healthy environment and civic amenities such as parks, public toilets etc.

### (4) Upazilas (Chakaria, Moheshkhali, Ukhia and Teknaf)

#### 1) Road and Bridge

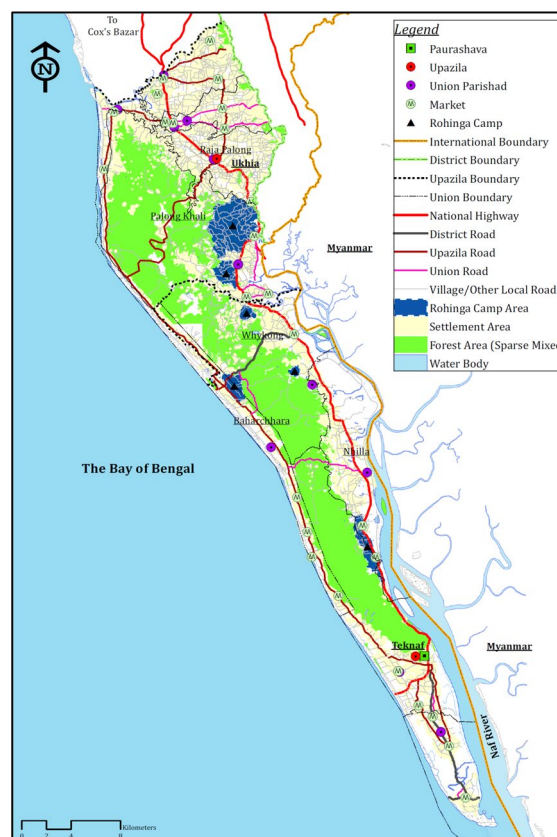
As described in the Section 2.3 Policies and Development Plans, trunk roads such as NH-1, RH172, MIDI-Moheshkhali Road and Matabari Access road are planned to develop due to MIDI. Therefore, each Upazila requires to construct arterial road and collector road which connects to those trunk roads in order for resident to access smoothly among the Chakaria Paurashava, Moheshkhali Paurashava and Cox's Bazar. The improvement of access to the trunk road, and connection between Unions, formulation of network, and improvement of access inside the Union will be required.

NH-1 and Marin Drive road are main roads connecting between Ukhia Upazila, Teknaf Upazila and Cox's Bazar. There is a hilly area between the two main roads and residential area are mainly scattered along the NH-1. Refugees in Ukhia Upazila and Teknaf Upazila are assumed at more than 900,000.



Source: Master Plan by JICA Survey team

**Figure 7.1.8 Road Network in Chakaria Upazila and Moheshkhali Upazila**



Source: JICA Survey Team

**Figure 7.1.9 Road Network in Ukhia Upazila and Teknaf Upazila**

There are several domestic and international supports for keep their minimum life at the camps. Therefore, human resources and product are transported mainly from Cox's Bazar by using those two roads. However, the arterial road which connects to the camps from the NH-1 and Marin Drive Road has not been well constructed. Therefore, it is necessary to prepare an integrated road network plan taking into consideration each scale of camp and construct according to the priority.

## 2) Drainage

The drainage sector in each Upazila is facing basically the same issues as in Paurashava such as insufficient capacity of drains, proper connection of the drains among primary, secondary and tertiary drains although the drainage plan has not been formulated yet. Therefore, Upazila will also be required to create drainage network system properly in accordance with the level of drains taking into consideration of each drainage catchments. Each drain shall have a sufficient capacity to flow in each return period of rainfall. In addition, Government of Bangladesh has a policy to improve the flood situation by means of construction of polder. Prioritized area will be applied for construction of polders.

## 3) Water Supply

In Chakaria Upazila, number of tube wells are insufficient for residents at present. In Moheshkhali Upazila, there is scarcity of safe drinking water due to water quality and insufficient number of tube wells. Water purification system shall be applied, and new tube wells are necessary. In Ukhia Upazila, there is different demand in hilly and plain areas. In hilly area, water purification is required near water body. In plain area, at least 200 tube wells are required. In Teknaf Upazila, there are several different demands such as serious water shortage in particular area, mitigation of water fetching work and replacing of tube wells. Water treatment plant, reservoir and water networks need to be constructed, and old and broken tube wells shall be replaced.

**Table 7.1.2 Priority Problem, Priority Solution and Priority Project in Upazilas in Water supply sector**

	Issues	Development Directions	Priority Project(s)
Chakaria Upazila			
1	Number of tubewells is insufficient in most of the Unions	Required number of tubewells in the Unions need to be identified and installed.	Installation of adequate tubewells in each Union to ensure access to safe water
Moheshkhali Upazila			
1	Major scarcity of safe drinking water in almost all Unions due to higher salinity and iron content in 80 - 90% of tubewells	Application of water purification technology throughout Maheshkhali islands	Introduction of community managed water purification technology to ensure safe drinking water by reducing salinity and iron content in the affected areas of Maheshkhali Upazila
2	Large number of households are dependent on limited number of tubewells installed in salinity free areas.	Number of tubewells as well as deep tubewells need to be increased to ensure 100% access to safe drinking water.	
Ukhia Upazila			
1	People of Palongkhali, Holudia Palong and Jaliapalong are suffering for want of safe drinking water in view of the high cost of deep tubewell installation in hilly areas.	Application of water network systems between three Unions and establishment of water purification center near water bodies	Initiating community awareness, advocacy measures and enhanced interventions of GO/NGOs for installing water purification center for easy access to safe drinking water
2	People of the plains also face safe drinking water shortage due to inadequate number of tubewells.	Installation of at least 200 tubewells in each Union is essential to ensure access of water for all.	
Teknaf Upazila			
1	Most of the people of Sadar Union face water shortage for more than six months in the year	The problem can be mitigated by establishing water treatment plant and water network.	Establishment of water treatment plant, water reservoirs and water network and provision for replacing old tubewells
2	Collection of water by people residing in 4 to 9 wards of Hnila union from single source of water (waterfall) is time- consuming and laborious for women.	Establishment of water reservoirs with purified water by using waterfall as a source	
3	Several tubewells are not functional due to lack of regular maintenance	Replacement of old tubewells that are out of order	

Source: District Development Plan for Cox's Bazar – Phase I Final Draft Report (Dec. 2019)

## 4) Solid Waste Management

Solid waste is scattered in roads and drainages in Upazilas and there is no solid waste management system to provide the collection service there. Solid waste generated in main generation sources such as bazars and markets, is dumped in the drainages and the road near these facilities.

In case of Ukhia and Teknaf, UNDP supports the Rohingya camp and its host community area to provide the waste collection service or landfill site. They considered outsourcing the PSPs due to lack of staff of solid waste management of both Upazilas.

In case of Chakaria and Moheshkhali Upazilas, waste collection service is not provided. In this situation, it is necessary to provide the waste collection service for main waste generation source such as market, bazar or populated residential area as well as development area of MIDI. In the discussion with Chakaria and Moheshkhali Upazilas, it was confirmed that SWM service was needed, especially for market areas.

Due to the lack of knowledge and experience of solid waste management in Chakaria and Moheshkhali Upazilas, it is necessary to obtain some supports from Chakaria and Moheshkhali Paurashavas. There are some areas for development of landfill sites for wasted disposal in Chakaria and Moheshkhali Upazilas. The landfill sites can be utilized for both Paurashava and Upazila and it is necessary to consider the future development direction.

#### 5) Other Public Facilities

The main economic activities of the Upazila is market operation located in each union. Markets are important revenues source in Upazila and it is inevitable.. In Chakaria, Maheshkhali, Teknaf and Ukhia, the current markets are inadequate for the commercial activities of shops due to population growth and increased economic activity. The expansion of market areas and their capacity increase are needed. According to hearing from LGIs, the facilities such as school and cyclone shelter are also needed in line with the national policy.

## 7.2 Present Condition and Future Development Plan of Infrastructure at Target Areas

### 7.2.1 Road and Bridge

#### (1) Existing Condition

The road pavement rate in Cox's Bazar district and other districts is summarized as follows:

**Table 7.2.1 Road Pavement Rate (LGED Roads: Upazila, Union and Village Road)**

No.	District	Total Length (km)	Total Earthen (km)	Pavement (km)	Pavement (%)	Density (km/km <sup>2</sup> )
1	Cox's Bazar	4,431	2,887	1,543	35	1.8
2	Dhaka	6,316	3,461	2,855	45	4.3
3	Chattogram	14,073	9,291	4,783	34	2.7
4	Gazipur	5,634	3,336	2,298	41	3.2
5	National	353,353	224,824	128,529	36	2.4

Note: National Highways and Regional Highways, which are managed by RHD, is not included in the table.

Source: LGED Road Database in June 2020

The road pavement rate in Cox's bazar district is 35%, which is lower than the national average. The condition at target areas of road and bridge is summarized as follows:

**Table 7.2.2 Existing Condition of Road and Bridge**

Item	Chakaria Paurashava	Moheshkhali Paurashava	Teknaf Paurashava	
Total Length of Road (km)	112	48	35	
Total Length of Earthen Road (km)	30	15	9	
Total Length of Pavement Road (km)	82	33	26	
Pavement Percentage (%)	73	68	74	
Item	Chakaria Upazila	Moheshkhali Upazila	Ukhia Upazila	Teknaf Upazila
Total Length of Road (km)	746	313	514	516
Total Length of Earthen Road (km)	496	176	306	299
Total Length of Pavement Road (km)	250	137	209	217
Pavement Percentage (%)	34	44	41	42

Source: LGED Road Database June 2020 and LGIs

Major issues of the existing road and bridge in target areas are as follows:

- The existing road network does not have hierarchy for categorization of the road scale. Therefore, connectivity between rural road and national road are not updated (All Paurashavas and Upazilas);

- Most of the building are constructed along to the existing road and it often encroach the right of way (All Paurashavas);
- Elevation of the road is low, and no side drains are available. Inundation is frequently happed in rainy season. The inundation causes to damage on the road surface (All Paurashavas);
- Road is narrow and less interconnection, not in accordance with regulation, and no walkway (All Paurashavas);
- Quality control for road construction is limitedly made that causes low quality of pavement (All Paurashavas and Upazilas);
- Poor road maintenance is made by Paurashava that results in shortening the durable years of the road (All Paurashavas);
- Haphazard maintenance and improvement are implemented. O&M shall be implemented periodically and continuously (All Paurashavas and Upazilas); and
- In MIDI, plans for major connecting roads and railways were planned and are now under construction. On the other hand, development plan for township and other infrastructures are now under planning based on the given condition by the on-going projects, which limit the situations for those planning. Therefore, the access to MIDI and to other places shall be planned in detail (All Paurashavas and Upazilas).

## (2) Existing O&M Activities

The engineers of Paurashava and Upazila LGIs are mainly in charge of preparation of planning, implementation, and operation and maintenance in road and bridge sector. However, the present condition is the obvious shortage of staff number and their capability. Urbanization of each target area will be progressing rapidly under the MIDI. Therefore, it is required to secure the appropriate number of staff and skilled engineers to be in charge in each implementation stage of the projects. In addition, not only to increase staff numbers but also to increase their capacity including O&M activity will be required through practical capacity development programs.

## (3) Development Plan

### 1) Development of Connectivity

The development plan in the road sector is to implement the projects that contribute to meet infrastructure demands from MIDI and taking care of Displaced persons from Rakhine state, Myanmar of which main purpose is to improve the connectivity of the road network in the target areas. Especially, access to main road from the surrounding area shall be more smoothly. In addition, access roads from main road to the proposed township development is also planned.

### 2) Improvement for Specification of Road

The specification of the road shall be higher grade road than the current grade, taking into consideration of the observed issues and condition of O&M. Based on the development plan, the JICA Study team proposes to apply the typical high standard cross section consists of RCC pavement, walk way, side drain and solar panel street light.

## 7.2.2 Drainage, Irrigation and Flood Protection

### (1) Existing Condition

The rate of households by flood and water logging in Cox's Bazar district and other districts is summarized as follows:

**Table 7.2.3 Rate of Households by Flood and Water Logging in 2011**

No.	District	Number of Households in 2011 <sup>*1</sup> ( <sup>000</sup> households)	Number of Household affected by Flood and Inundation in 2011 <sup>*2</sup> ( <sup>000</sup> households)	Affected HHs <sup>*3</sup> (%)
1	National	32,173.6	2,109.0	6.6
2	Cox's Bazar District	410.0	18.2	4.4
3	Chottogram District	1,532.0	88.8	5.8
4	Dhaka District	2,786.1	4.0	0.1
5	Gazipur District	826.5	9.4	1.1

Note: \*3 It seems that the rate of affected HHs of Cox's Bazar District is relatively small. The identification of the affected households might be insufficient.

Source: \*1 Statistical Yearbook Bangladesh 2020, \*2 Bangladesh Environment Statistics 2020

The rate of affected households in Cox's Bazar district is 4.4%, which is higher than Dhaka (0.1%) and Gazipur districts (1.1%).

Current drainage system in the target area has mainly two types of drains. One is natural drainage system and the other is man-made drainage. Natural drains were delineated for hundreds of years by the movement of storm run-off, while the man-made drainage was being provided by the governmental, Authority in order to drain out the storm water and wastewater from the urbanized area. Those drains are classified into the Primary, Secondary and Tertiary drains. Available existing drainage facility other than drain is only one sluice gate in Moheshkhali. No Flap gate, regulation pond, pumping station are installed in the target area.

Based on the field survey and interview to LGI engineers, major issues of the existing drainage are in the all target areas as follows:

- Existing drains does not have sufficient flow capacity (All Paurashavas and Upazilas)
- Drains are not properly connected in accordance with the comprehensive drainage system in the catchment (All Paurashavas and Upazilas)
- Flow is often to stack on the drain due to debris solid waste or accumulated silt (All Paurashavas and Upazilas)
- Lack of proper operation and maintenance of drainage system (All Paurashavas and Upazilas)
- Lack of public awareness to the people for dispose garbage into the drain (All Paurashavas and Upazilas)
- Lack of integrated urban planning including land fill to low land area (All Paurashavas and Upazilas)
- Encroachment to natural drain results to become narrow to flow the storm water (All Paurashavas and Upazilas)
- Lack of drain at market area (All Paurashavas and Upazilas)
- No embankment (or Dike) will make the submerged area along the sea and/or river (All Paurashavas and Upazilas)
- Coastal area from the southwest to northeast in Bangladesh were experienced natural hazards such as cyclone, tidal inundation etc. to flood (All Paurashavas and Upazilas)
- Drainage system does not function well during high tide at monsoon (All Paurashavas and Upazilas)
- Local inundation at heavy rain could be found at low area since side drains for the road does not constructed
- Need to allocate appropriate funds for construction of drains and operation and maintenance (All Paurashavas and Upazilas)

In Chakaria Upazila, the Matamuhuri River and some of the drains are used also as an irrigation canal at the dry season. There are two rubber dams on the stream of Matamuhuri River which has functions to keep the applicable water level for irrigation and protect from salinity intrusion by the tide.

## **(2) Existing O&M Activities**

The Engineering Division of Chakaria Paurashava has 15 civil engineers and mechanical and electrical engineers. However, Moheshkhali Paurashava and Teknaf Paurashava have a small scale of organization with only 3 engineers and 4 engineers, respectively. Those civil engineers are in charge not only for drainage but also other sectors. According to the LGIs, Water Supply and Sewerage section will be newly organized in Engineering Division. Chakaria, Moheshkhali and Teknaf Paurashava offices intend to allocate 16 engineers into the Water Supply and Sewerage Section respectively. The Engineering Division in each Upazila office has less than 10 staffs, and engineers are only 1 or 2 persons among all



staffs. There is a plan to increase the number of staff into 19 staffs, and engineers will be 4 persons in each Upazila office.

According to the interview to each LGIs, actual expense for the O&M of drainage system for the recent three years in Chakaria, Moheshkhali and Teknaf Paurashavas are approximately BDT 25 million, BDT 6.8 million and BDT 6.5 million in average, respectively.

### (3) Development Plan

In order to solve the above issues, the following development direction shall be proposed:

#### 1) Measures to Inland Water

Local inundation is caused by that the drainage does not have an appropriate slope, sufficient flow area and lack of maintenance as described above. Drains shall be improved enough to flow storm water to downstream when the planned intensity of rainfall is happened in the catchment area.

Water level of river or sea becomes high due to the tide. Back water to drains in the city may happen at the high tide with heavy rain. To improve the situation, it is required to storage storm water tentatively at a retention pond and/or to discharge by pump force. For the construction of pumping station, it shall be available a kind of dike to prevent storm water over from the river or sea and installation of gate at the outlet.

#### 2) Planning Condition for drains

In reference to the M/P for Chakaria Paurashava and Moheshkhali Paurashava, return period applied for priority drains in the Survey is proposed considering major issue of existing drains as described above. Return period for each level of drains are set in reference to the Urban Drainage Manual as shown in Table 7.2.4-year return period is applied for most of the drains which were selected as priority project in this Study.

**Table 7.2.4 Level of Drains and applied Return Period**

River/Drain	Features	Return Period
Tertiary Drain	Drains that collect the surface water from the land surface. Roadside drains, market drains and plot drains. <sup>*1</sup>	1.1 years
Secondary Drain	Drains that collect the surface water from the Tertiary drains and convey it to the Primary Drains. <sup>*1</sup>	2 years
Primary Drain	Major Khals and drains that drain large areas and convey surface water to the main rivers. <sup>*1</sup>	5 years
River	Long water course that flows down a slope along a bed between banks. It originates from a 'source' and culminates to a sea or lake at its 'mouth'. <sup>*2</sup>	10 years

NOTE: \*1: Urban Drainage Manual, LGED 1997, \*2: Banglapedia: <http://en.banglapedia.org/index.php/River> Source: Urban Drainage Manual, LGED, 1998

Rainfall analysis is also implemented based on the collected data from the meteorological stations in the target area. Rainfall intensity is estimated as 72mm/hour at 2 years return period, 93 at 5 years and 109 at 5 years on average in the Project area.

Resulting from the water level analysis for each of the study areas, the design external water levels are conditioned. Designed external water levels are estimated as +5.8mMSL in Chakaria Paurashava, +3.0 in Matabari Union of Moheshkhali Upazila, +2.9 in Moheshkhali Paurashava and +2.2 in Teknaf Paurashava.

### 7.2.3 Water Supply

#### (1) Existing Condition

The status of water supply facility in Cox's Bazar district and other districts is shown as follows:

**Table 7.2.5 Status of Water Supply Facility**

No.	District	Number of Households in 2011	Total (%)	Tap (%)	Tubewell (%)	Non-water supply facility*1 (%)	Remarks
1	National	32,173,630	100	10.7	83.5	5.8	1)
2	Cox's Bazar District	415,954	100	2.3	88.4	9.3	2)
3	Chittogram District	1,532,014	100	23.0	71.6	5.4	2)
4	Dhaka District	2,786,133	100	66.4	31.9	1.7	2)
5	Gazipur District	826,458	100	36.6	60.9	2.5	2)

Note: \*1 Non-water supply facility such as pond, well, canal/river and the others

Source: 1) : Statistical Yearbook Bangladesh 2010

2) : Population & Housing Census-2011



The rate of tap water supply in Cox's Bazar district is 2.3%, which is much lower than the national average. Existing water supply service provided by each LGI depend on ground water as follows:

**Table 7.2.6 Current Water Sources in Chakaria and Moheshkhali Paurashava**

Area	Total Population in 2011	Number of Households	Water source (%)		
			Tap	Tube-well	Others
Chakaria	72,669	13,065	6.0	90.5	3.5
Moheshkhali	27,321	5,057	2.0	84.0	14.0

Note: the data is in 2011. Assumed population is calculated by the 5 persons per a household in average.

Source: M/P of Chakaria and Moheshkhali, 2020, JICA

No piped water supply system is available in Chakaria and Moheshkhali Paurashava. Most of the people uses the water from own tube well.

**Table 7.2.7 Current Water Facilities in Chakaria and Moheshkhali Paurashava**

Location		Water Supply System	Deep Tube Well	Shallow Tube Well	Pump Facility	Raw Water Quality
Chakaria	Rural Area	Not available	4,740 nos Depth: Ave. 255m	1,500 nos	N/A	No arsenic. Low Chloride and Iron
	Municipal Area	5km pipelines	4,934 nos Depth: 180-225m	N/A	5 pumps 12.5 l/min/unit	
Moheshkhali	Rural Area	Not available	1,426 nos Depth: 150-225m	2,000 nos Depth: Ave. 54-60m	20 l/min/unit	No arsenic. Low Iron and Fluoride
	Municipal Area	10km pipelines				

Source: M/P of Chakaria and Moheshkhali, 2020, JICA

Based on the field survey and interview to LGI engineers, major issues of the existing water supply in target areas are as follows:

- Demand will become larger than the available supply volume due to the recent population growth in this area, especially it will face the water shortage at Moheshkhali Paurashava due to the less water sources;
- There is no experienced staff to operate and maintain water supply system (Moheshkhali and Chakaria Paurashava);
- Water tariff system is not available in all target areas; and
- It was reported that the pump has been damaged since the construction of road and water supply project was implemented at the same time (Chakaria Paurashava).

In Teknaf Paurashava and the Upazila, most of the people uses the water from own tube well and there is no piped water supply system. According to social survey report by the Survey team, for deep well installation, digging up to 600 feet (180m) is not enough for many areas of the Unions, and digging up to 1000 feet (300m) will be required in some cases. Further the report indicates drinking water problem of salinity and depleted water aquifer. In 2018, JICA implemented the ground water survey at Camp 12 of Kutupalong/Baukhali Mega Camp, Leda Makeshift Camp and Nayapara Camp in Teknaf Upazila 1. As a result, the survey pointed out that small scale ground water development such as hand pumps might be suitable at Leda and Nayapara Camps. In Teknaf Paurashava, seawater desalination plant with capacity of 10 m<sup>3</sup>/day is operated, and design work for surface water treatment plant was completed under World Bank funded project.

## (2) Existing O&M Activities

As the same in the drainage sector, number of engineers in Moheshkhali and Teknaf Paurashavas is less than that in Chakaria Paurashava. There is no water supply facility such as pipelines and water purification plant in each target area. Operation and maintenance (O&M) work is limited at pump for extracting water from underground. The person in charge for the O&M work is doing the other works. There is a plan to organize newly "Water Supply and Sewerage Section" in the future. Each Paurashava office intends to allocate 16 engineers into the Section.

<sup>1</sup> Report on the Hydrogeological Study in Kutupalong Mega Camp Area, and Leda and Nayapara Refugee Camps Area in Cox's Bazar District, JICA 2018

### (3) Development Plan

In order to solve the above issues, the following development direction shall be proposed.

#### 1) Water Supply for Township Development

To construct the residents for the increasing workers for MIDI, three locations of township area are planned. The townships are located in Moheshkhali Paurashava, Moheshkhali Upazila and border of Chakaria Paurashava and Upazila. Water supply demand shall be calculated based on the estimated residents to be moved in each township. Unit water consumption of 50 l/capita/day is provisionally applied for the estimation of the demand. Water source and demand for each township are shown as follows:

**Table 7.2.8 Water Supply for Township Development**

Location	Population in 2031*1	Estimated Water Demand (m3/day)	Water Source	Related Facilities
Chakaria Paurashava and Upazila	20,000	1,000	Ground water (Deep tube well)	Pumping stations, Pipeline and Elevated water tank
Moheshkhali Paurashava	8,000	400	Ground water (Deep tube well)	Pumping station, Pipeline and Elevated water tank
Moheshkhali Upazila	12,000	600	Ground water (Deep tube well) and Surface water (Headworks (Weir))	Pumping stations, Pipeline, Storage reservoir, Water Treatment Plant, Elevated water tank

Note: \*1: End year of Middle Development Phase of MIDI Source: JICA Survey Team

Township is developed in stages, and water demand in the above table is ensured in stages as well. As for water source of Moheshkhali Upazila Township, the water source will be utilized for not only water supply but also irrigation.

### 7.2.4 Solid Waste Management

#### (1) Existing Condition

Waste collection rate in target and other area are summarized as follows:

**Table 7.2.9 Waste Collection Rate**

No.	Name of ULB or LGI	Collected Quantity ('000 ton/year)	Collection Rate (%)	Remarks
1	Dhaka North City Corporation (DNCC)	1,232	80	1)
2	Dhaka South City Corporation (DSCC)	1,078	89	2)
3	Chattogram City Corporation	599	82	3)
4	Rajshahi City Corporation	-	72	4)
5	Gazipur City Corporation	558	62	5)
6	Narayanganji City Corporation	183	68	5)
7	Cumila City Corporation	67	65	5)
8	Cox's Bazar Paurashava	26	60	5)
9	Chakaria Paurashava	6	51	6)
10	Moheshkhali Paurashava	2	48	7)

Note: DNCC and DSCC have own sanitary landfill site and the other ULBs or LGIs have own open dumping sites for waste disposal.

Source: 1), 2) and 3) : JICA Project for Strengthening of Solid Waste Management in Dhaka North City, Dhaka South City and Chattogram City in 2019, 4) : World Bank : What a Waste 2.0, A global snapshot of solid waste management to 2050 (data in 2018), 5) : JICA Preparatory Survey on Urban Development and City Governance Project (2020), 6) : Chakaria Paurashava (2021), 7) : Moheshkhali Paurashava (2021)

The collection rates in Chakaria and Moheshkhali Paurashavas are 51% and 48%, respectively, which are lower than the other city corporation or Paurashava. There is no collection of solid waste in Chakaria and Moheshkhali Upazilas.

Under the progressive urbanization and population increase, waste generation is increasing. However, the waste collection services in the Paurashavas are limited and the Upazila's services are not implemented yet. The uncollected waste is dumped in backyard and roadsides by waste generators. These waste causes environmental deterioration and poor drainage. The existing condition of solid waste management at the target area is summarized as follows:

**Table 7.2.10 Existing Condition of Solid Waste Management**

Item	Chakaria Paurashava	Chakaria Upazila	Moheshkhali Paurashava	Moheshkhali Upazila	Ukhia Upazila	Teknaf Paurashava	Teknaf Upazila
Waste generation amount (ton/day)	31.9	93.2	10.2	87.0	130.5	10.7	85.4
Waste generation amount per area (ton/day/km <sup>2</sup> )	2.0	0.2	1.3	0.2	0.4	1.4	0.2
Waste characterization	Biodegradable (%)	65 to 70	70 to 75	65 to 70	70 to 75	65 to 70	70 to 75
	Non-biodegradable (%)	30 to 35	25 to 35	30 to 35	25 to 35	30 to 35	25 to 35
Collection amount (ton/day)	16.3	None	4.9	None	None	8.7	None
Collection rate (%)	51		48			82	
Collection time	3 am-3 pm		3 am-3 pm			8 am-2 pm	
Collection vehicle	12 rickshaw vans, 3 trucks		4 push carts, 4 trolleys, 2 trucks			3 trucks	
Landfill	One site (0.96 ha) at Baniarchor, Chakaria Upazila	None	One site (0.8 ha) at Thana para	None	None	One site in ward No. 7 (0.4 ha)	None

Note: No solid waste collection service in Upazila. Therefore, there is no collection vehicle or landfill, etc in Upazila.  
Source: JICA Survey Team based on the information from LGI

The Major issues of SWM in target areas are as follows:

- Many scattering wastes along the road or canal;
- Low waste collection rate in Paurashava especially in Chkaria and Moheshkhali;
- No waste collection and disposal activities, due to no organization and staff for solid waste management in four targeted Upazilas;
- Dumping sites of Moheshkhali and Teknaf Paurashavas located near the residential area which may affect human life and health condition;
- Open dumping in current dumping sites in Chakaria Upazila and Moheshkhali Paurashava;
- Limited staff, equipment and facilities for SWM in three targeted Paurashavas;
- Not sufficient O&M budget in three targeted Paurashavas and no O&M budget in four targeted Upazilas; and
- No study of solid waste management condition in Chakaria Upazila and Moheshkhali Upazila;

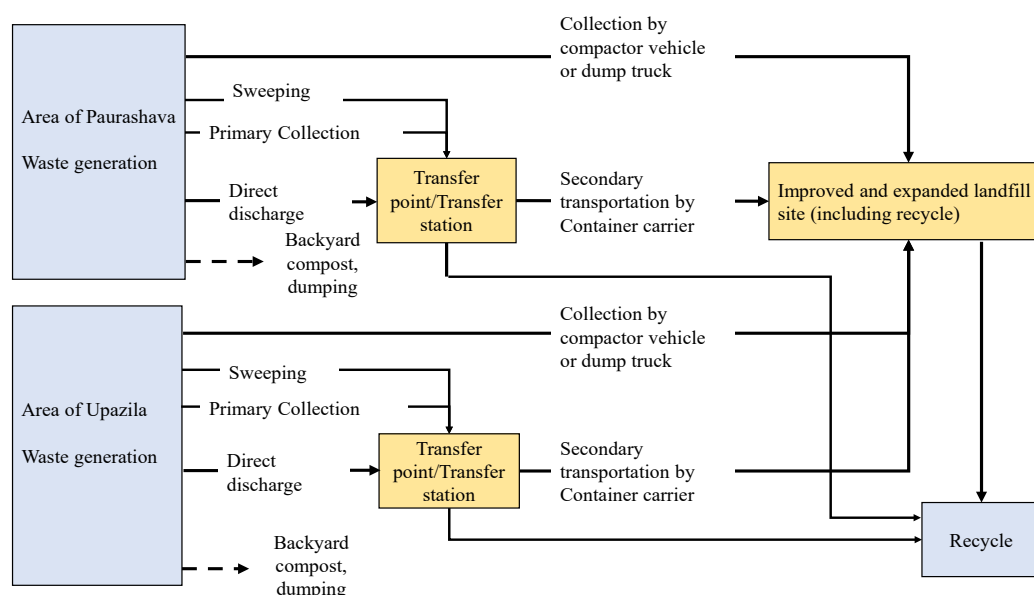
## (2) Existing O&M Activities

The capacity and efficiency of waste management in Paurashava is low with limited full-time staff, inadequate manuals and guidelines. Upazila currently has no waste management staff and no budget. It is difficult to hire new field staff to carry out collection and transportation and operation of landfill sites. Waste management services will be outsourced to the private sector, and it is necessary to appoint two to three staff members in each of Paurashava and Upazila of Chakaria and Moheshkhali to manage the PSPs

## (3) SWM Development Plan

In order to solve above issues, the expansion of collection and transportation and the improvement of current open dumping sites toward sanitary landfill will be implemented by this project. The waste stream from the generation source to final disposal and recycle are shown as following figure.

To improve the current situation of scattering waste, the waste collection service coverage will be expanded and improved in Paurashavas and Upazilas of Chakaria and Moheshkhali. With consideration of current collection rate and operation capacity of each LGI, the future target rates of SWM are set as follows:



Note: 1) landfill sites and transfer stations (orange color) is the facilities developed in this project.  
2) Dot line (backyard compost or dumping) is not scope of work in this project.  
3) Target waste for collection and transportation is only household waste, commercial waste (from restaurant and market) and waste collected from road sweeping  
4) Non hazardous industrial waste is transported by waste discharger and disposed with tipping fee  
5) Hazardous industrial waste should be disposed at generation source (industrial estates or factories)  
Source: JICA Survey Team

**Figure 7.2.1 Future Waste Stream of SWM in Paurashava and Upazila**

**Table 7.2.11 Target Rate of Waste Collection, Disposal and Recycling**

		(Unit: %)		
Area	Item	2021	2031	2041
Chakaria Paurashava	Waste collection rate	51	70	90
	Waste disposal rate	51	68	86
	Waste recycling rate	0	2	4
Chakaria Upazila	Waste collection rate	0	30	60
	Waste disposal rate	0	28	56
	Waste recycling rate	0	2	4
Moheshkhali Paurashava	Waste collection rate	48	70	90
	Waste disposal rate	48	63	77
	Waste recycling rate	0	2	4
Moheshkhali Upazila	Waste collection rate	0	30	60
	Waste disposal rate	0	28	56
	Waste recycling rate	0	2	4

Source: JICA Survey Team

### 1) Collection and Transportation

In residential area, the collection method by compactor vehicle is applied. The collection frequency is set as every day for Paurashava and once or twice a week for Upazila based on the waste generation quantities.

In market area, containers are provided for collection of market waste. In the area where some containers are necessary, the T/Ss will be constructed. The collection frequency is set as once or twice a week due to the consideration of container capacity.

### 2) Landfill

Landfill sites will be developed as sanitary landfill by utilizing semi-aerobic landfill system.

## 7.2.5 Other Public Facilities

### (1) LGI's Other Public Facilities

#### 1) Existing Condition

Existing market facility is too old and poor condition under poor drainage and flooding risk. There is not enough space for shops and utility like water supply, drainage and waste storage areas in some markets.

In the case of the health sector, there is not enough community clinic in the target area, which has minimum function of community medical care. There are no community clinics now for female health and maternal care, child health care, emergency health care, family planning, and health and hygiene awareness. Local people depend on the Upazilla Health complex that is located far from the villages.

For the education sector, the established primary schools are not sufficient to accommodate future increase of population and to meet the mandatory requirement in primary education of children. Requirement of national education plan having at least one primary school per village is not achieved.

Cyclone shelters have been developed based on the requirement of the disaster prevention policy and most of school or clinics are utilized as cyclone shelters in the target area. However, some of these structures are too old to maintain structural integrity amidst cyclones.

The number of markets, cyclone shelters, primary schools, and hospitals, including community clinics in the target area are summarized as follows:

**Table 7.2.12 Existing Condition of Other Public Facilities**

Item		Chakaria Paurashava	Chakaria Upazila	Moheshkhali Paurashava	Moheshkhali Upazila	Ukhia Upazila	Teknaf Paurashava	Teknaf Upazila
Market	Market (No.)	5	2	1	10	1	11	20
	Shops with trade license (No.)	1545	769	N/A	N/A	N/A	N/A	N/A
	Shops without trade license (No.)	1082	N/A	N/A	N/A	N/A	N/A	N/A
Cyclone Shelter (No.)		8	33	6	94	33	72	0
Primary school (No.)		13	117	7	54	71	64	4
Hospital or community clinic(No.)		8	44	4	29	31	8	0

Note: N/A means no availability

Source: LGI& District Statistics, Cox's bazaar 2011

The major issues of market, education and health sectors and cyclone shelter facilities in target areas are as follows:

- Some of the cyclone shelters are very old and do not have enough capacity to sustain the structure during cyclone. Due to the deterioration of cyclone shelters, new shelters may be required (Chakaria Paurashava, Uhkiya Upazila, Teknaf Upazila);
- According to the government policy, community clinic shall be established for every union and ward (for Paurashava areas), but some wards currently have no community clinic (Chakaria Paurashava);
- Primary schools are not sufficient considering the population increase (Uhkiya Upazila, Teknaf Upazila);
- Considering future demand such as population growth, the market does not have sufficient market facilities, and commercial facilities and needs to be expanded. (All 7 LGIs); and,
- The operational capacity of the operation and maintenance management organization, including the number of staff, is insufficient, and the management and operation system for public facilities such as markets, educational institutions, and medical institutions is also insufficient. (all LGIs).

## 2) Existing O&M Activities

O&M of markets are done by Municipal Market Section, Administration Department in Paurashava and bazar committee chaired by UNO in Upazila. Regarding primary school, Upazila primary and mass education office under Ministry of Primary and Mass Education looks after the primary and secondary education sector. Teachers and other staffs are employed and managed by Upazila primary and mass education office with the instruction of Ministry of Primary and Mass Education. Regarding community clinic, Upazila Health office under Ministry of Health and Family Welfare is responsible for operation of all healthcare facilities including community clinic. In case of training center with park in Chakaria Paurashava, the operation will be implemented by outsourcing to PSPs and the maintenance work of training center with park will be implemented by Engineering Department in Paurashava.

### 3) Development Plan

Public facilities shall be developed considering demand in each area and the policy on public facilities. Based on the present condition of insufficient public facilities, the development direction of each sector part is prepared as shown in the following:

#### 1. Market

In the current markets area, existing market has no sufficient infrastructure system such as water supply, electricity, toilet, etc. To satisfy future increase of market demand and necessity of market facility, the target markets shall be developed by rebuilding the structure, installation of water supply, electricity, toilet as well as drainage system for flood protection. Based on the Hats and Bazaars, Establishment and Management policy 2018, the ground and 1st floor of the market shall be open for all and any rent or permanent lease activities shall be restricted. During emergency period and disaster period, the ground floor will be used for temporary shelter.

The policy also requires some space arrangement for resting and staying the shopkeepers, floating vendors, and whole sellers coming from distant areas. In addition, the market shall facilitate the selling place, storage area, preservation facilities for raw products, unloading spaces, etc. The building structure has the multipurpose function covering rentable commercial space, emergency shelter, space for training and social programs, etc. will be constructed.

#### 2. Education

There is not enough capacity for the students in the target primary schools, considering future population increase. Other considerations including rainfall and strong wind in coastal area, especially cyclones, make it necessary for school building structure to apply reinforced concrete frame structure with super brick masonry works, to increase durability. A boundary wall and gate with retaining wall will be also developed for protecting land erosion or slide as well as security of school.

Primary schools constructed in the subprojects will have the role of not only primary school but also multi-purpose function as a community center and cultural facility, a training center for vocational training considering no community center in the area. When the schools are not utilized as primary school during holidays or vacation, the schools will be effectively utilized. The facility accommodates social and cultural works as like adult education program, mass education program, emergency health care, library for children and cultural activities, etc. Union and school committee need to participate in the operation and maintenance. Users of the school for community activities or training programs will pay utilization fee for operation and maintenance requirement.

#### 3. Cyclone shelter

Cyclone shelters will be developed considering emergency situations during cyclones. Since these are only utilized in emergency and not used daily, cyclone shelters will be installed in primary school, market facility and community clinic. Cyclone shelter is a structured building, constructed with RCC pillar. Foundation of more than three stories will be planned with more than six rooms. Buildings need to be protected from flooding and stormy winds by constructing a front door and window barrier. Lots of open space are allotted and the space shall be equipped with easily accessible ramps and sloped surfaces for easy access by children, aged, pregnant women, and severely ill and people with disabilities. A reasonably sized room shall be reserved for disabled and those needing intensive care. Toilet and safe drinking water are also arranged for both male and female separately.

To improve the accessibility to cyclone shelter, road condition shall be improved. Shelter must be multifunctional and appropriate for social gathering in general time and can be utilized as various activities of local government.

#### 4. Health

According to the national policy of Bangladesh, community clinic to treat relatively slight illness is required for each ward and union. In areas with no community clinic, a clinic shall be developed. The community clinics will provide easily accessible care, irrespective of an urban and rural community, focusing on the poor and disadvantaged population, and shall provide services to improve maternal and child health status and ensure safe medical services in each village.

Community clinic shall be constructed as barrier free structure for patients and pregnant women, etc. to ensure necessary steps to improve maternal and child health status and ensure safe services in each village and ward. Safe water supply shall be provided in the clinic and electricity source will be mainly solar power with backup electricity source by electricity grid. In addition, each clinic shall have the storage area of medical waste and drainage facility as well as the area to be utilized as cyclone shelter for emergency situation of cyclone and flooding.

#### 5. Park

Park will be developed by utilizing fallow land for effective use of land, development of parks with multi-purpose use for residents and tourists. Reliable operation and maintenance shall be securely implemented by introduction of entrance fee or usage fee in the facilities of parks.

In Chakaria Paurashava, the current status of proposed site is marsh and drain area. Considering the basic policy for park development, effective use of fallow and marsh land is planned.

In Teknaf Paurashava, after the reclamation of fish pond on the outskirts of the city, the area will be developed as a park including facilities for visitors such as toilets, rest areas, restaurants, souvenir shops, etc., which will be revenue source of the Paurashava for operation and maintenance of the park.

### **(2) Training Facility**

#### 1) National Policy for Capacity Development

The 8<sup>th</sup> 5-Year Development Plan of Bangladesh places an emphasis on human resource development and skilled manpower for good governance and sustainable development. The government intends to ensure that every official should get a minimum number of hours/days for the right set of training. The National Skills Development Policy has a clear and well-informed vision about the issues reflected here. This policy is based on the National Skills Development Authority Act 2018 (NSDA Act 2018) and NSDA Rules 2020.

To meet the target of Sustainable Development Goals (SDGs) and vision 2041, Bangladesh needs skilled manpower. Ministry of Local Govt, Rural Development and Cooperatives (MoLGRDC) plays a vital role. During the last two (2) years, MoLGRDC spent more than BDT 1,357 million for training purposes. The training expenditure of 2020-21 is BDT 852 million, which is around 1.6 times higher than the previous year (2019-2020).

The budget is increasing for the coming year, also. Now MoLGRDC has a firm intention to increase its capacity development budget (i.e., more training, new training center, and modern training and accommodation facility). LGD increased training budget from BDT 87 million in 2019-20 to BDT 112 million in 2020-21. LGED also increased its budget from BDT 436 million to BDT 740 million at 1.7 times. The Bangladesh Delta Plan 2100 was elaborated with the help of the Dutch Government assistance and expertise that gave the capacity development plan for developing organizational capabilities, skills, and research.

#### 2) Existing Training Facilities under LGD and LGED

Local Government Division (LGD) is conducting its capacity development program by its substantial component National Institute of Local Government (NILG), which is the key statutory institution governed by the Institute of Local Government Act 1992. NILG has a facility in Dhaka for administrative and academic purposes, including a residential hostel for 100 persons. However, it is not

sufficient compared to the enlarging demand of training provision. In fact, there are a total number of staff at 60,500 only for LGD. On the other hand, decentralization of training facility is badly needed. Currently, NILG is using Upazila LGED resources and other local institutions as local schools, Upazila Offices, or district facility for training provision.

The training activities under LGED are being conducted in Dhaka Central Training Unit (CTU) and 20 Regional Training Centers (RTCs) at 20 regions. RTCs comprise of only a conference room with projector equipment, except Chattogram RTC (only accommodation for 10 persons). No accommodation, no dining facilities, or related facilities are existing. They have to arrange private venue and hotel reservation for overnight training at present.

The Central Training Unit (CTU), located at Rural Development Engineering Center at Rural Development Engineering Center (RDEC) beside LGED Head Office in Dhaka, is equipped with several lecture rooms with a minimum accommodation and capacity limited at 50 persons (2 guest rooms and 12 rooms for the trainees). Demand assessment survey for LGED training was conducted in 2005 with the help of Japan International Cooperation Agency (JICA), and the survey recommended that the central training center in Dhaka shall be multi-functional and establish more regional training facilities. Decentralization of modern training facility was proposed due to the overloaded central training facility.

### 3) Execution of Past Training Programs for Chattogram Division

Cox's Bazar district is now included in the Chattogram Region. Some of its training programs are organized in Chattogram venue. District, Upazila, and union level training and field workshops are arranged in the district. Although Bandarban district is included in the Rangamati region, the Cox's Bazar area as training venue is convenient for them, considering its geographical location and travel facilities for trainers and trainees. Training programs include Administrative Training (governance, finance, management, personal capacity building, etc.), engineering training (construction, procurement, IT, supervision, project management, etc.) and miscellaneous (water resource, women employment, rural development, community-based organization, etc.).

### 4) Future Training Demand for Chattogram Division

LGED Chattogram includes 11 districts under 4 regions. The training programs in LGED and LGD are conducted mainly at the regional level at present. Moreover, a significant number of trainings are implemented at district, upazila, municipality, and even union levels at present. Demand of training is increasing at present.

At present, there is no accommodation in the regional center, except Chattogram City Corporation. The proposed Cox's Bazar Divisional Training Center may have accommodation and other training facilities using LGED property land and sites which are accessible by air, road, and railway.

Training demand is estimated to cover various fields like administrative and engineering training. Based on the organogram of LGED and LGD, national policy of capacity development activities and LGI's demand, target trainees will be elected representatives, permanent staff, development projects manpower, Local Contracting Societies (LCS), and the beneficiary groups.

### 5) Necessity of Divisional Training Facility at Cox's Bazar

The Cox's Bazar divisional training center may be justifiable by the following status:

- Training need is large due to less development of administrative capacity in Chattogram division, considering less development status of some districts including Cox's Bazar district at present. Demand of urban and rural development is larger than the other divisions due to the increased population.
- The Chattogram Regional training center has few accommodation facilities with 10 persons' capacity; therefore, trainees need to stay in the hotels near the Center. The cost of accommodation is expensive. Implementation of training programs more than two days is difficult and costly.
- The idling land of LGED could be utilized for a training center with accommodation facility.



- SCRDP and other donors' projects are being implemented and increased in the future. To implement projects and provide appropriate public administration for sustainable area development, capacity development of administrative and engineering staff at all levels of LGIs and local contracting societies will be indispensable at present.
- Establishment of a modern and well-equipped training center at Cox's Bazar will prompt the entire Chattogram divisional development and improve the administrative and technical skills of local officials and employees.

#### 6) Training Budget and Trainees

For the FY 2021-22, LGED plans to provide total 8,280 training programs including workshops and seminars for 258 topics. The training programs to be implemented in the training center and resource persons are selected according to the training needs.

LGED records the 64 enlisted trainers. The 14 trainers are assigned at the central training unit and the rest of 51 trainers engage in regional level training. 13 training subjects are covered by 64 trainers, where sometimes one trainer conducts multiple training programs. LGD trainers sometimes execute training programs for higher level of trainees, such as Mayors and Chairpersons.

NILG has 30 listed trainers who are performed as LGD's regular employees well as trainers at Head Quarter level. In addition, LGD organized Upazila Resource Team (12 government officials from different sections) for every Upazila and District Resource Team (14 officials for each district).

### 7.2.6 Heavy Equipment for O&M of Infrastructure Facilities

#### (1) Equipment managed by LGED Cox's Bazar District Office

The LGED district office, Cox's Bazar, manages one dump truck, one payload, and 12 rollers at present. Most of heavy equipment was used more than 20 years which is beyond their service life. Two mechanical engineers (assistant engineers) and one foreman are assigned for this operation and maintenance. The equipment 14 operators are deployed as contractual base. Of the 14 equipment, ten (71%) are operational, and the other four are under repair. The parking and maintenance of equipment are made at the backyard of the LGED district office.

Through the operation of the 14 equipment, the rental gross income varied by year, from BDT 2.41 to 4.65 million. After the reduction of O&M expenditure not including the staff salary and depreciation cost saving of the equipment, the remaining profit to the expenditure also varied by year from BDT 0.19 to 1.73 million. Major repair of equipment was made by the outside engineers deployed. The district LGED sometimes requested Chattogram LGED office for technical support at present. In case the number of equipment under the Cox's Bazar LGED is increased, additional mechanical staff for operation and maintenance is indispensable.

The renting operation rate of 10 workable equipment is limited at around 20%, based on the average monthly rent at BDT 200,000 with 11 months operation in 2020/21. The following issues for management of workshop and equipment are considered:

- Large number of equipment may not be managed by the LGED district office. Sufficient management staff for equipment rental and O&M, mechanical engineers for maintenance and repair, and repair and delivery service at the construction sites are necessary.
- For urgent repair works, stock of spare parts and skilled mechanical staff are necessary. Budget allocation for O&M is annually made so that the required repair and maintenance works may be sometimes difficult to execute beyond the budget ceiling.
- Considering a low rate of renting operation rate of equipment, private renting companies may be more competitive than the District renting service.

## **(2) Issues on O&M Activities for Infrastructure Facilities in Target LGIs**

Administrative staff and budget for O&M activities in the target LGIs are not sufficient, and they cannot provide proper O&M activities for infrastructure. As a result, all these infrastructures are not providing the expected services, and being damaged earlier than their economic life period.

The number of heavy equipment for construction work is not enough at the target LGIs. Although there is some equipment, they are out of order due to lack of workshop and maintenance services. Moreover, there are no such local companies that provide heavy equipment on rental basis at the target LGIs.

Some heavy equipment companies in Chattogram City provide such equipment on rental basis, but it is more costly and time consuming as the average distance is about 100 km from project site. The construction works are often hampered, which result in cost overrun, more time consuming and poor quality. Establishment of workshop and strengthening the O&M system of heavy equipment at the target LGIs is essential with required financial and administrative support.

## **(3) Necessity of Heavy Equipment for O&M of Infrastructure Facilities**

In order to operate and maintain infrastructure facilities properly, heavy equipment is indispensable. Contractors in target LGIs are small and medium and in most of the cases, do not have heavy equipment of their own except in few cases. Contractors hire heavy equipment from LGED. On the contrary, since LGED Cox's Bazar has a few numbers of heavy equipment, procurement of heavy equipment is required. In addition, it is required to increase the number of human resources who properly operate and maintain heavy equipment and strengthen their capabilities.

## **(4) Necessary Heavy Equipment for O&M of Infrastructure Facilities**

Most of heavy equipment in Cox's Bazar LGED office is roller compactor for maintenance of road. Since various heavy equipment is indispensable for appropriate operation and maintenance of infrastructure facilities, JICA Survey team proposes to procure the following equipment: 1) bulldozer, 2) wheel dozer, 3) excavator, 4) roller compactor, 5) concrete mixer truck, 6) dump truck, 7) trailer.

## **(5) Existing Situation on Machinery Workshop in the Target LGIs**

Since there is no machinery workshop in the target LGIs, the heavy equipment is not maintained well. The construction works are very often hampered seriously, which result in cost overrun, more time-consuming and poor quality. JICA Survey team proposes construction of a machinery workshop as an option to solve these problems.

## **(6) Challenges on Machinery Workshop Management**

The management of the machinery workshop by LGED and the target LGIs is expected to increase the revenue of local governments. On the other hand, there are challenges such as the entry of competitor private companies into the target LGIs and the high difficulty of jointly management of LGED and LGIs.

## **CHAPTER 8 PROJECT COMPONENTS**

### **8.1 Project Objectives and Components**

#### **8.1.1 Objectives**

The objective of the Project is to improve the living standard and enhance the quality of life in the southern Chattogram region by development of basic infrastructure, thereby contributing to the economic development and redress of disparities.

#### **8.1.2 Project Components**

Project components consist of infrastructure development and consulting services. The project aims to improve public infrastructure in the target area. The priority infrastructure subprojects are identified from five sectors, namely i) road/bridge, (ii) drainage/flood protection, iii) water supply facilities, iv) solid waste management facilities, and v) other public facilities. These subprojects will be implemented in three batches.

For the smooth implementation of the project, consulting services including training and capacity development program will be provided, aiming at supporting project implementation and management including the support of Infrastructure development (definite planning and detailed design / tender process and contract / construction supervision / environmental and social consideration), the support of project management (advise and support for LGED and LGIs / evaluation and monitoring of project effects) and Capacity development (training of Local Government Administration / Engineering and Infrastructure / O&M).

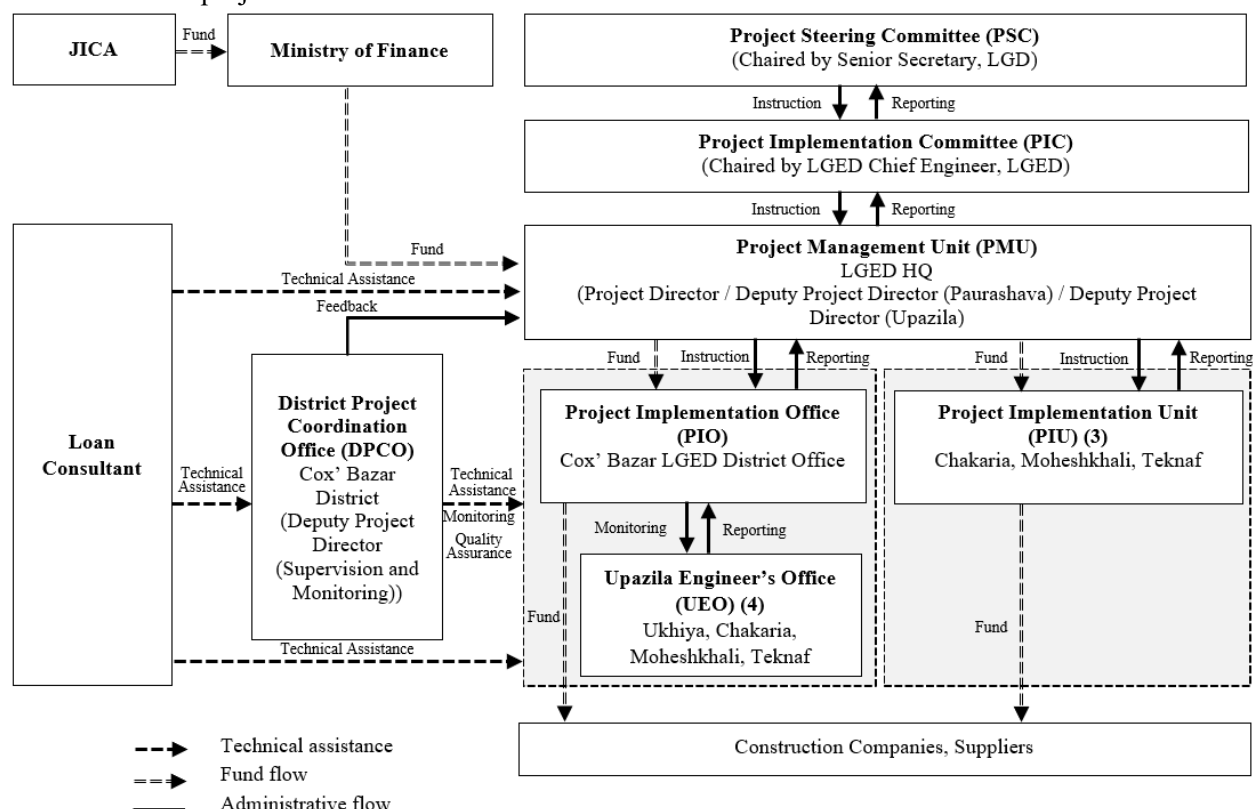
## CHAPTER 9 PROJECT IMPLEMENTATION

### 9.1 Implementing Organization

#### 9.1.1 Overall Implementation Structure

##### (1) Overview of the Overall Structure of the Project

The following figure shows the overview of the linkage between the project related organizations and fund flow of the project:



Source: JICA Survey Team

Figure 9.1.1 Overview of Linkage of Actors and Fund Flow

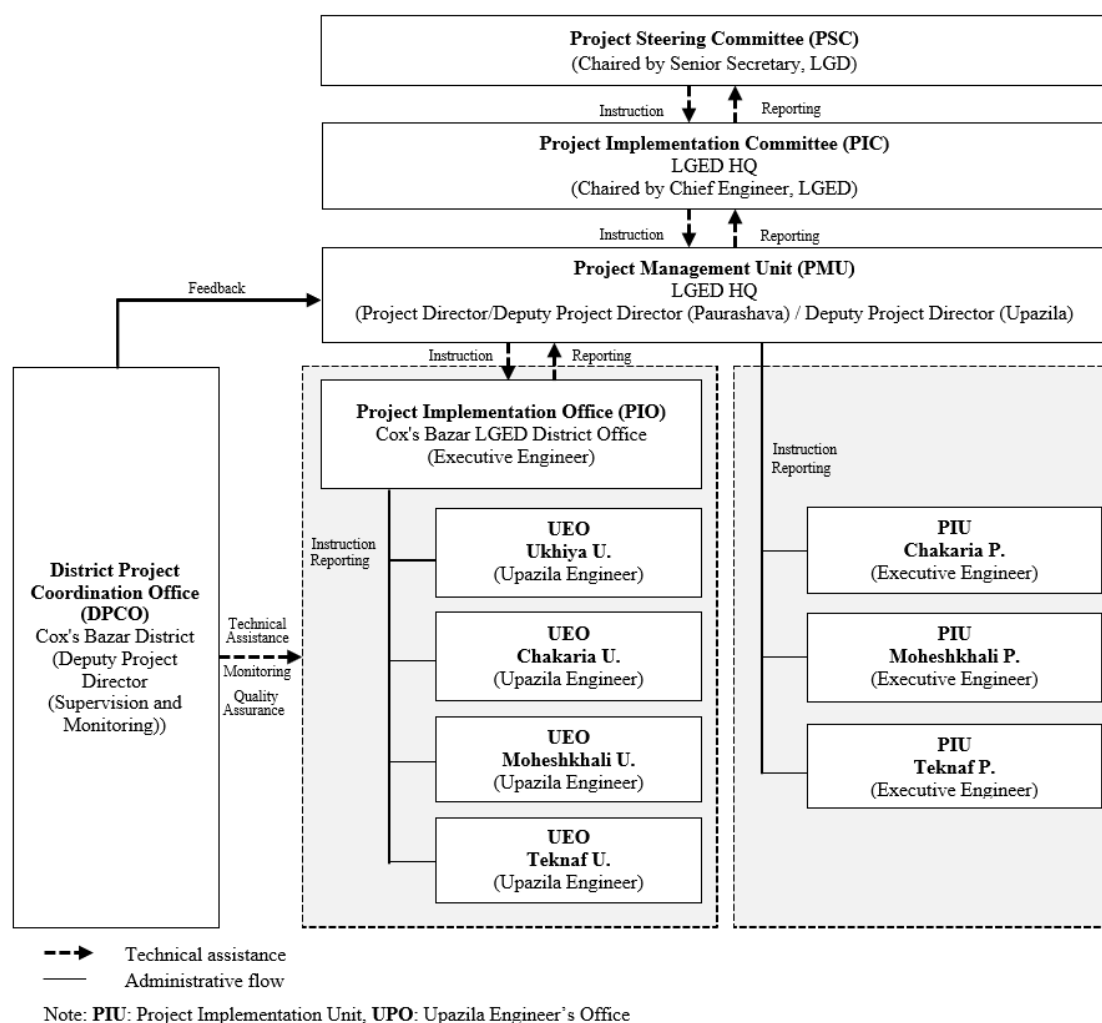
##### (2) Overview of the Project Implementation Structure

Roles and activities of each organization are planned as follows.

- **Project Steering Committee (PSC):** PSC verifies the progress and issues of the project and ensures smooth coordination with other concerned ministries/divisions. PSC is chaired by Senior Secretary, LGD.
- **Project Implementation Committee (PIC):** PIC ensures the smooth implementation of the project by coordinating among the executing agencies and deciding the operational issues of the project. PIC is chaired by Chief Engineer, LGED.
- **Project Management Unit (PMU):** PMU ensures the overall implementation and administration of the project. PMU is set up in the LGED HQ and headed by a Project Director (PD) with the support of two (2) Deputy Project Directors (DPD) who are in charge of Paurashavas and Upazilas respectively.
- **District Project Coordination Office (DPCO):** DPCO assists the activities by the PIUs, PIO, and UEOs to prepare subproject implementation plans and designs, to check and exam the expenditure, and to monitor subproject construction works, etc. DPCO shall be located at Cox's Bazar District Office. DPCO is headed by a Deputy Project Director (DPD) in charge of supervision and monitoring.

- **Project Implementation Office (PIO):** PIO ensures the management and administration of the subprojects at target Upazilas. PIO shall be set up in the LGED Office at Cox's Bazar District. PIO is headed by an Executive Engineer.
- **Project Implementation Unit (PIU):** PIU ensures the management of physical works and administration of the subprojects at target Paurashavas. PIUs shall be set up in the respective Paurashavas. PIU is headed by an Executive Engineer or an Assistant Engineer of permanent payroll.
- **Upazila Engineer's Office (UEO):** UEO ensures management of physical works and administration of the subprojects at field level of target Upazilas. UEO shall be set up in the respective Upazilas. UEO is headed by an Upazila Engineer.

The organizational relation of the respective organizations with key personnel to be assigned is planned as follows.



**Figure 9.1.2 Overview of Implementing Organization and Key Staff Assignment**

## 9.1.2 Functions and Staffing of Each Implementing Organization

### (1) Project Steering Committee (PSC)

The main role and objective of the Project Steering Committee (PSC) is to verify the progress and issues of the project and to ensure smooth coordination with other concerned ministries/divisions. The PSC will be responsible for (i) Convening the project review meetings at least once a year and whenever required to discuss the project's progress, (ii) Providing necessary decisions, guidelines and policy level instructions which are to be required for implementing the project, (iii) Coordinating with other concerned institutions in effective manner, and (iv) Any other issues necessary of the implementation of the project. The PSC is chaired by Senior Secretary, LGD. The PSC meetings shall be held at least

once a year and whenever required<sup>1</sup>. Planning Section of LGED will serve as a secretariat of PSC and take charge of coordination and arrangements needed for the PSC meetings with support from the PMU. The first PSC meeting will be held within 30 days after the establishment of the PMU.

The composition of the PSC is suggested as follows. Any additional members from the other organizations can be assigned for specific issues.

**Table 9.1.1 Composition of Project Steering Committee (PSC)**

SL. No.	Organization	Title in Organization of Origin	Title in PSC
1	LGD, MLGRDC	Senior Secretary	Chairperson
2	LGED	Chief Engineer	Member
3	LGD, MLGRDC, Urban Wing	Additional Secretary	Member
4	LGD, MLGRDC, Monitoring & Planning Wing	Director General	Member
5	LGD, MLGRDC, Development Wing	Joint Secretary/Additional Secretary	Member
6	LGD, MLGRDC, Planning	Joint Secretary	Member
7	LGED, Urban	Additional Chief Engineer	Member
8	LGD, MLGRDC, Planning	Deputy Chief	Member
9	Planning Commission, Concerned Wing/Sector	Representative	Member
10	Planning Commission, Programming Division	Representative	Member
11	Finance Division, MOF	Representative	Member
12	IME Division, Ministry of Planning, Concerned Sector	Representative	Member
13	Planning Division, NEC-ECNEC & Coordination Wing	Representative	Member
14	Economic Relation Division	Representative	Member
15	LGED, Planning	Representative	Member
16	JICA Bangladesh Office	Representative	Observer
17	PMU, SCRDP, LGED	Project Director, SCRDP	Member
18	LGD, MLGRDC, Planning	Senior Assistant/Assistant Secretary, Planning	Member Secretary

Source: JICA Survey Team

## (2) Project Implementation Committee (PIC)

Project Implementation Committee (PIC) will be established in LGED to ensure smooth implementation of the project by coordinating among the executing agencies and deciding operational issues of the project. The PIC will be responsible for (i) Making necessary decisions for the smooth implementation of the project, and (ii) Coordinating with other related proceeding and/or planned infrastructure projects in the target areas. PSC is chaired by Chief Engineer, LGED. The PIC meeting should be held every 6 months and whenever required. Matters requiring inter-ministerial coordination or policy considerations beyond the jurisdiction of LGED will be sent to the PSC for further discussion and decision. The first PIC meeting should be organized within 30 days after the establishment of the PMU.

The composition of the PIC is suggested as follows. Any additional members from the other organizations can be assigned for specific issues.

**Table 9.1.2 Composition of Project Implementation Committee (PIC)**

SL. No.	Organization	Title in Organization of Origin	Title in PIC
1	LGED	Chief Engineer	Chairperson
2	LGED, Urban Management	Additional Chief Engineer	Member
3	LGED, Planning	Additional Chief Engineer	Member
4	LGED, Urban Management	Superintending Engineer	Member
5	LGED, M&E	Superintending Engineer	Member
6	LGD, MLGRDC, Planning Wing	Representative	Member
7	LGD, MLGRDC, Urban Wing	Representative	Member
8	Planning Commission, Concerned Wing/Sector,	Representative	Member
9	Planning Commission, Programming Division	Representative	Member
10	Planning Division, NEC-ECNEC & Coordination Wing	Representative	Member
11	IME Division, Concerned Sector	Representative	Member
12	Finance Division	Representative	Member
13	ERD	Representative	Member
14	Concerned Engineering/Architecture Department	Representative	Member
15	JICA Bangladesh Office	Representative	Observer
16	PMU, SCRDP, LGED	Project Director	Member
17	LGED, Planning	Superintending Engineer	Member Secretary

Source: JICA Survey Team

<sup>1</sup> Guideline issued by Planning Commission stipulates that PSC should be held four times a year. As it is practically difficult to organize PSCs as often as the guideline expects, PSC shall be held at least once a year as practical manner.

### (3) Project Management Unit (PMU)

Project Management Unit (PMU) shall be established in the Urban Management Section of LGED headquarters to ensure overall implementation and administration of the project. PMU will be established by LGED within 2 months after the administrative approval of DPP from LGD. PMU is headed by one dedicated Project Director (PD) with the support of two dedicated Deputy Project Directors (DPDs) who are in charge of Paurashavas and Upazilas respectively to support day-to-day management and operation of PMU. PMU is responsible for (i) Planning, monitoring and supervising overall project implementation, (ii) Procuring goods and related services, (iii) Procuring, managing, and supervising consultants hired under the project, (iv) Finalizing detailed design of all subprojects, (v) Preparing disbursement projections, (vi) Collecting supporting documents on expenditure from the PIO / PIU, (vii) Preparing and sending request form with summary sheet of payment to JICA, (viii) Ensuring compliance with the agreement with JICA, including safeguards, (x) Preparing and submitting reports, including progress reports and completion report, (ix) Giving approval to capacity development plans, and (x) Reporting to the PIC on the progress of the project and on any issues concerning the project implementation at least every 6 months and whenever required. The PMU meeting should be held every 3 months and whenever required. Matters beyond the authority of PMU such as inter-project coordination or matters requires institutional decision of LGED will be sent to the PIC for further discussion and decision.

The composition of the PMU is suggested as follows. The dedicated additional staff, who can be assigned from LGED HQ, shall be assigned by LGED before the commencement of detailed design stage of the first batch, and other dedicated additional staffs shall be deputized or newly assigned by LGED within 4 months after the administrative approval of DPP from LGD. The expected PD of the project will take necessary action for the project even before the establishment of PMU, such as the preparation for the consultancy procurement.

**Table 9.1.3 Composition of Project Management Unit (PMU)**

SL. No.	Title	Position in PMU	Source	Number of Post
1	Executive Engineer (Senior)	Project Director	LGED HQ	1
2	Executive Engineer	Deputy Project Director (Paurashava)	LGED HQ	1
3	Executive Engineer	Deputy Project Director (Upazila)	LGED HQ	1
4	Assistant Engineer (Paurashava)	Staff	Deputation from LGED/ (Newly assigned for fixed term assignment)	1
5	Assistant Engineer (Upazila)	Staff	Deputation from LGED/ (Newly assigned for fixed term assignment)	1
6	Accounts Officer	Staff	LGED HQ	1
7	Procurement Officer	Assistant Project Director (Procurement)	LGED HQ	1
8	Capacity Development Officer	Assistant Project Director (Capacity Development)	LGED HQ	1
9	Sociologist	Staff	Deputation from LGED/ (Newly assigned for fixed term assignment)	1
10	Sub-Assistant Engineer	Staff	Deputation from LGED/ Newly assigned for fixed term assignment	2
11	Accounts-Assistant	Accounts-Assistant	Deputation from LGED/ Newly assigned for fixed term assignment	1
12	Office Assistant cum Computer Operator	Staff	Deputation from LGED/ Newly assigned for fixed term assignment	2
13	Driver	Driver	Deputation from LGED/ Newly assigned for fixed term assignment	3
14	Office Support Staffs	MLSS/Messenger/Cleaner	Deputation from LGED/ Newly assigned for fixed term assignment	4
			Total	21

Source: JICA Survey Team

### (4) District Project Coordination Office (DPCO)

District Project Coordination Office (DPCO) shall be set up in the Cox' Bazar District Office in order to ensure coordination and quality control of subproject implementation by PIUs, PIO, and UEOs. The DPCO will assist the activities by the PIUs, PIO, and UEOs to prepare subproject implementation plans and designs, to check and exam the expenditure, and to monitor subproject construction works, etc. LGED will establish the DPCO in the Cox's Bazar District Office within 30 days after the establishment

of the PMU, and one Deputy Project Director (DPD), who can be assigned from LGED HQ, shall be assigned by LGED before the commencement of detailed design stage of the first batch and other dedicated necessary staffs shall be deputized or newly assigned by PMU/LGED within 4 months after the administrative approval of DPP from LGD. DPCO is headed by a Deputy Project Director (DPD) who is in charge of supervision and monitoring. DPCO is responsible for (i) Extending technical assistance to PIUs, PIO, and UEOs by preparing subproject implementation plans and designs, quality control, checking and examining the expenditure, and monitoring subproject construction works etc, (ii) Coordinating the activities of supervision consultants on behalf of PMU, and (iii) Providing necessary feedback and recommendations to the PMU based on the findings acquired through the field visits and discussion with PIUs, PIO, and UEOs.

The composition of the DPCO is suggested as follows.

**Table 9.1.4 District Project Coordination Office (DPCO)**

SL. No.	Title	Position in PMU	Source	Assignment Type	Number of Post
1	Executive Engineer	Deputy Project Director (Supervision and Monitoring)	LGED HQ	Full-time	1
2	Assistant Engineer	Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
3	Sub Assistant Engineer	Staff	(Newly recruited for fixed term assignment)	Full-time	1
4	Accountants Assistant	Staff	(Newly recruited for fixed term assignment)	Full-time	1
5	Driver	Driver	Deputation from LGED/Newly recruited for fixed term assignment	Full-time	1
6	Office Support Staffs	MLSS/Cleaner	Newly recruited for fixed term assignment	Full-time	2
Total					7

Source: JICA Survey Team

#### **(5) Project Implementation Office (PIO)**

Project Implementation Office (PIO) for the four (4) target Upazilas shall be established at the Cox's Bazar District LGED Office for ensuring management and administration of the subprojects at target Upazilas. LGED will establish the PIO at Cox's Bazar LGED District Office within 30 days after the establishment of the PMU, and one PIO for Upazilas shall be established and one Executive Engineer, one Senior Assistant Engineer, and one Work Assistant who can be assigned from District LGED Office, shall be assigned by LGED before the commencement of detailed design stage of the first batch and other dedicated necessary staffs shall be newly assigned by PMU/LGED within 4 months after the administrative approval of DPP from LGD. PIO is headed by an Executive Engineer of the Cox's Bazar District LGED Office. Senior Assistant Engineer is also assigned from the District LGED Office to support the Executive Engineer. PIO is responsible for (i) Management of tendering process for the subprojects at the target Upazilas in coordination with UEOs, (ii) Supervision, progress monitoring of subprojects implementation for 4 Upazilas, (iii) Payment for the contractors after inspection by the project consultant and DPD of DPCO, and (iv) Reporting to the PMU on the progress of their activities and on any issues concerning the subproject implementation in 4 Upazilas at least monthly and whenever required.

The composition of the PIO is suggested as follows.

**Table 9.1.5 Composition of Project Implementation Office (PIO)**

SL. No.	Title	Source	Assignment Type	Number of Post
1	Executive Engineer	District LGED Office	Part-time	1
2	Senior Assistant Engineer	District LGED Office	Part-time	1
3	Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
4	Sub Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
5	Work Assistant	(Newly recruited for fixed term assignment)	Full-time	1
6	Accountant	District LGED Office	Part-time	1
7	Office Assistant cum Computer Operator	(Newly recruited for fixed term assignment)	Full-time	1
8	Office Support Staff	(Newly recruited for fixed term assignment)	Full-time	1
Total				8

Source: JICA Survey Team



## (6) Project Implementation Unit (PIU)

Project Implementation Unit (PIU) shall be established in the respective target Paurashavas to ensure the management of physical works and administration of the subprojects at target Paurashavas. LGED will establish all PIUs with the help of the target Paurashavas in each target Paurashava within 30 days after the establishment of the PMU, and totally three PIUs, one for each Paurashava will be established and one Executive Engineer and Accountant staff shall be assigned respectively by each Paurashava before the commencement of detailed design stage of the first batch, and one dedicated Assistant Engineer with other dedicated necessary staffs shall be newly assigned by PMU/LGED within 4 months after the administrative approval of DPP from LGD. PIU is headed by an Executive Engineer of Engineering Department of the Paurashava. Assistant Engineer is also assigned from Engineering Department to support the Executive Engineer. PIU is responsible for (i) Management of the tendering process including preparing of bid documents and tender evaluation, (ii) Supervision, progress monitoring of subprojects implementation, (iii) Payment for the contractors after inspection by the project consultants and DPD of DPCO, and (iv) Reporting to the PMU on the progress of their activities and on any issues concerning the subproject implementation in the 3 Paurashavas at least monthly and whenever required.

The composition of the PIUs in Paurashavas is suggested as follows.

**Table 9.1.6 Composition of Project Implementation Unit (PIU)**

SL. No.	Title	Source	Assignment Type	Number of Post
1	Executive Engineer / Assistant Engineer	Engineering Department, Paurashava	Part-time	1
2	Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
3	Sub Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	2
4	Work Assistant	(Newly recruited for fixed term assignment)	Full-time	2
5	Accountant	Administration Department, Paurashava	Part-time	1
6	Accounts-Assistant	(Newly recruited for fixed term assignment)	Full-time	1
7	Office Assistant cum Computer Operator	(Newly recruited for fixed term assignment)	Full-time	1
8	Office Support Staff	Newly recruited for fixed term assignment	Full-time	1
Total				10

Source: JICA Survey Team

## (7) Upazila Engineer's Office (UEO)

At the Upazila level, Upazila Engineer's Office (UEO) shall be responsible for ensuring management of physical works and administration of the subprojects at field level of target Upazilas. LGED will establish all UEOs in each target Upazila within 15 days after the establishment of the PIO, and totally four UEOs, one for each Upazila will be established and one Upazila Engineer, who can be assigned from Upazila LGED office, shall be assigned respectively by LGED before the commencement of detailed design stage of the first batch and other dedicated necessary staffs shall be newly assigned by PMU/LGED within 4 months after the administrative approval of DPP from LGD. UEO is headed by Upazila Engineer. UEO is responsible for (i) Tender evaluation under management by PIO, (ii) Field-level supervision and monitoring of subproject implementation under management by the PIO, and (iii) Reporting to the PIO on the progress of their activities and on any issues concerning the subproject implementation in each Upazila at least monthly and whenever required.

The composition of the staff involved in the project at the UEOs is planned as follows.

**Table 9.1.7 Composition of Upazila Engineer's Office (UEO)**

SL. No.	Title	Source	Assignment Type	Number of Post
1	Upazila Engineer	Upazila Engineer's Office, Upazila	Part-time	1
2	Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
3	Sub Assistant Engineer	(Newly recruited for fixed term assignment)	Full-time	1
4	Work Assistant	(Newly recruited for fixed term assignment)	Full-time	1
5	Office Assistant cum Computer Operator	(Newly recruited for fixed term assignment)	Full-time	1
6	Office Support Staff	(Newly recruited for fixed term assignment)	Full-time	1
Total				6

Source: JICA Survey Team

### 9.1.3 Institutional Setup within the Target Paurashava and Upazila

Apart from the organizational setup for the project, institutional setup within the target Paurashavas and Upazilas need to be considered for the sustainable utilization, operation and maintenance of the developed infrastructure under the project after the completion of the project. Though the series of the process of infrastructure development including i) definite planning (DP), ii) detailed design (DD), iii) tendering and procurement, and iv) construction supervision and v) planning and preparing operation and maintenance are implemented under the primary responsibility of PMU with the necessary coordination and support of PIU (Paurashava's case) and PIO / UEO (Upazila's case) during the project period. Responsibility of the management and O&M of constructed infrastructure shall be taken over by the respective sections (Paurashava) or offices (Upazila). Though regular management and administration of O&M is implemented by the responsible section or office, necessary decision making shall be made at Paurashava Council / Upazila Parishad meeting based on the careful consideration, coordination and discussion of respective committees.

#### (1) Paurashava

The table below shows the responsible sections in the Paurashava administration and the committee in-charge in Paurashava Council for the management and the O&M of the infrastructure that shall be planned and developed under the Project.

**Table 9.1.8 Institutional Setup for O&M in Paurashava**

Type of Infrastructure	Department/Section in charge for Management and O&M			Committee in-charge in Paurashava Council
	Department in-charge	Section in-charge	Responsible Officer	
Road/Bridge	Engineering Department	Civil/Electrical/ Mechanical Section	Executive Engineer / Assistant Engineer	- Committee for Communication and Infrastructural Development
Park / Training Centre				
Public Toilet				
Drainage / Irrigation	Engineering Department	Water supply and Sewerage Section	Executive Engineer / Assistant Engineer	- Committee for Communication and Infrastructural Development
Water Supply				
Clinic (multipurpose facility)	Health, Family Planning and Sanitary Department	Health and Family Planning Section	Medical Officer	- Committee for Communication and Infrastructural Development
	Administrative Division	General Section	Secretary	
Solid Waste Management	Health, Family Planning and Sanitary Department	Conservancy Section	Conservancy Inspector	- Solid Waste Disposal, Transfer and Cleaning Standing Committee
Markets (multipurpose facility)	Administration Department	Municipal Market Section	Market Inspector	- Committee for Taxation and Levy - Committee for Observation, Monitoring and Control of Prices
Township		Tax Collection /Licensing Section	Toll Collector	
Workshop		Civil/Electrical/ Mechanical Section	Executive Engineer / Assistant Engineer	

Note1: Committees in the table are the statutory Committees prescribed in the Local Government (Municipality) Act, 2009

2: Chakaria Paurashava and Moheshkhali Paurashava have Solid Waste Disposal, Transfer and Cleaning Standing Committee as additional committee.

Source: JICA Survey Team

As township development is new for the target Paurashavas, currently there is no particular section within Paurashava that is in-charge of it. Therefore, it is recommended that Administration Department will take the responsibility of the management of the township. Moreover, one new committee may need to be established under the Paurashava Council for the discussion and decision-making within the Paurashava concerning township development.

Concerning the market operation, Paurashava Hat-Bazar Management Committee that consists of the members not only from the Paurashava's administration side but also concerned private individuals shall be established and will be responsible for daily operation and maintenance. The basic composition of the Paurashava Hat-Bazar Management Committee shall be as follows:

**Table 9.1.9 Composition of Paurashava Hat-Bazar Management Committee**

SL. No.	Title	Position
1	Mayor	Chair
2	Representative of Deputy Commissioner's Office	Member
4	Councilors of concerned wards	Member
5	Private Sector representatives (2)	Member
6	Executive Engineer/Assistant Engineer	Member Secretary
7	Assistant Commissioner (Land)	Member

Source: Policy on Government Hat-Bazar management, leasing system and distribution of revenue generated from it by Local Government Division-LGD-Ministry of Local Government, Rural Development and Co-operatives, September 21, 2011

## (2) Upazila

Table below shows the responsible office and committee in-charge in Upazila Parishad for the management and O&M of the infrastructure that are planned and developed under the Project:

**Table 9.1.10 Institutional Organizational Setup for O&M in Upazila**

Type of Infrastructure	Office in charge for Management and O&M			Committee in-charge in Upazila Parishad
	Department	Officer in charge (Head of the Office)	Other Related Officers/ Offices	
Road/Bridge	Upazila LGED Office	Upazila Engineer	N/A	- Committee for Communication and Physical Infrastructure Development
Park				
Drainage / Irrigation	Upazila LGED Office	Upazila Engineer	Upazila Agriculture Office	- Committee for Communication and Physical Infrastructure Development] - Agriculture and Irrigation
Water Supply	Upazila LGED Office	Upazila Engineer	Assistant/Sub-Assistant Engineer, Department of Public Health Engineering (DPHE)	- Committee for Communication and Physical Infrastructure Development
Clinic (multipurpose facility)	Upazila Health and Family Welfare Office	Upazila Health and Family Welfare Officer	N/A	- Committee for Health and Family Welfare
School cum Cyclone Shelter	Upazila Primary Education Office	Upazila Primary Education Officer	N/A	- Committee for Primary and Mass Education
Solid Waste Management	UNO's Office	UNO	N/A	- (new committee shall be established)
Market (multipurpose facility)	UNO's Office	UNO	N/A	- Committee for Taxation and Levy - Committee for Observation, Monitoring and Control of Prices
Township	UNO's Office	UNO	Upazila LGED Office	- (new committee shall be established)
Workshop	Upazila LGED Office	Upazila Engineer	UNO's Office	- (new committee shall be established)

Source: JICA Survey Team

As for Upazilas, township development and solid waste management are the new development. Currently there is no particular officers in Upazila administration. Therefore, it is recommended that UNO's Office will take the responsibility of solid waste management and township development. Moreover, two new committees may need be established under the Upazila Parishad for the discussion and decision-making within the Upazila concerning solid waste management and township development, respectively.

Concerning the market operation, Upazila Hat-Bazar Management Committee that consists of the members not only from the Upazila's administration but also concerned private individuals shall be established and will be responsible for daily operation and maintenance. The basic composition of the Upazila Hat-Bazar Management Committee is planned as follows:

**Table 9.1.11 Composition of Upazila Hat-Bazar Management Committee**

SL. No.	Title	Position
1	UNO	Chair
2	An Upazila Officer nominated by Deputy Commissioner	Member
3	Upazila Engineer	Member
4	Concerned Union Parishad Chairmen	Member
5	A senior citizen at Upazila Level (nominated by the Upazila Chairman)	Member
6	Representative from member secretary of other Hat-Bazar Management Committees within the Upazila (nominated by the Upazila Parishad)	Member
7	Assistant Commissioner (Land)	Member Secretary

Source: Policy on Government Hat-Bazar management, leasing system and distribution of revenue generated from it by Local Government Division-LGD-Ministry of Local Government, Rural Development and Co-operatives, September 21, 2011

## (3) Working Group for Paurashava-Upazila Coordination

Under the project, solid waste management facilities and township are planned to be jointly operated and managed by Paurashava and Upazila administrations. For the coordination between Paurashava and Upazilas, a working group shall be established by the concerned Paurashava and Upazila. Working group will be consisted of Mayor, Chairman, UNO, Upazila Engineer, and other related personnel of concerned

Paurashava and Upazila. The working group will hold regular meetings and make a plan for solid waste management / township development. Once a plan is formulated by the working group, an official agreement will be made between concerned Paurashava and Upazila and planned activities will be commenced. Monitoring of the activities will be conducted by the working group. Any matters and problems raised concerning the management of solid waste management facilities / township development will be discussed and coordinated by the working group. In cases it is difficult to coordinate the matter by the working group and the concerning Paurashava and Upazila cannot solve the problem by themselves, coordination by the DC's Office of Cox' Bazar District will be requested for resolution.

## 9.2 Implementation Schedule of the Project

DPP will be prepared by LGED and submitted to the concerned ministries soon after the appraisal mission is concluded in November 2021. The DPP is expected to be approved by GOB in April 2022, or at latest by June 2022.

The procurement process of consulting service should start soon after the pledge of the Loan by GOJ which is expected to be made in December 2021. Loan agreement for the project is assumed to be signed in February 2022. Selecting consultant(s) for consulting service is expected to be completed by December 2022.

## 9.3 Procurement

### 9.3.1 General Information on Procurement in Bangladesh

The procurement in Bangladesh was carried out in accordance with the Public Procurement Act 2006 (PPA), Bangladesh Public Procurement Rules 2008 (PPR), the e-GP guideline 2011. Clause 2 of PPR 2008 defines that Procuring Entity (PE) is an entity having administrative and financial powers to undertake Procurement of Goods, Works or Services using public funds. Considering the above, the total required days from the date of advertisement to the date of Notification of Award is set 148 days normally.

### 9.3.2 Procurement Method

The following procurement method for the project is proposed based on the features of the project and the review result of current procurement method by implementing organization, LGED. The details of procurement method under the project are shown in Attachment 9.3.1.

**Table 9.3.1 Proposed Procurement Method**

Component	Procurement Method	Applicable Guidelines
Civil Works	<ul style="list-style-type: none"> <li>Procurement of construction works by PIO and PIUs in the Project shall apply the <u>LCB</u> (Local Competitive Bidding)</li> <li>The following amendments of PPA/PPR should be made reflecting the Guidelines for Procurement under Japanese ODA Loans in April 2012, i.e. JICA Procurement Guidelines: <ul style="list-style-type: none"> <li>- Use of lottery for contracts shall not be allowed;</li> <li>- No qualification / experience requirements shall not be allowed; and</li> <li>- Rejection of bids above or below 5 percent of the contract estimate shall not be allowed.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Bangladesh Public Procurement Act 2006 (PPA)</li> <li>Bangladesh Public Procurement Rules 2008 (PPR)</li> <li>The Guidelines for Procurement under Japanese ODA Loans in April 2012, JICA</li> </ul>
Goods	<ul style="list-style-type: none"> <li>The goods are proposed to be procured through <u>LCB</u> in accordance with PPA/PPR with amendments reflecting JICA Procurement Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Bangladesh Public Procurement Act 2006 (PPA)</li> <li>Bangladesh Public Procurement Rules 2008 (PPR)</li> <li>The Guidelines for Procurement under Japanese ODA Loans in April 2012, JICA</li> </ul>
Consultancy Services	<ul style="list-style-type: none"> <li>The method of selection is proposed to be Quality- and Cost-Based Selection (<u>QCBS</u>).</li> <li>Regarding the preparation of short list, Expression of Interest (EOI) is proposed to be conducted in accordance with PPR/PPR.</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines for the Employment of Consultants under Japanese ODA Loans in April 2012, JICA</li> </ul>

Source: JICA Survey Team

### 9.3.3 Precautions and Recommendations

#### (1) Precaution

As mentioned in 8.4.5 (1), the 3 target paurashavas (i.e. Chakaria, Moheshkhali, and Teknaf paurashavas) has less experience of finalized tendering as PE using e-GP system. Therefore, there is a risk to delay the procurement period in the 3 target paurashavas in the Project.

## (2) Recommendation

One of the new staff members to be hired in the 3 target paurashavas for the Project should be the person who has experience of public procurement using e-GP system. In addition, procurement support by a procurement expert from the consultant is also recommended

## 9.4 Safety and Security Measures

### 9.4.1 Safety and Security Measures

The safety and security measures to be taken by the contractor during the construction are proposed as following:

**Table 9.4.1 Safety and Security Measures during Construction**

Immobilized Institution	Linear Infrastructure
<ul style="list-style-type: none"> <li>- Fencing to segregate the site</li> <li>- Security gate</li> <li>- Security guards</li> <li>- CCTV<sup>1</sup></li> <li>- Lights</li> <li>- Generator</li> <li>- Signboard indicating construction site</li> <li>- Safety sears for workers</li> </ul>	<ul style="list-style-type: none"> <li>- Fencing to segregate the site</li> <li>- Security guards</li> <li>- CCTV<sup>1</sup></li> <li>- Lights</li> <li>- Generator</li> <li>- Signboard indicating construction site</li> <li>- Safety sears for workers</li> </ul>

Note: 1/Closed-circuit Television Source: JICA Survey Team

For the safety of field activities carried out by the consultants at the time of detailed design as well as the time of construction, the following points should be cautioned:

**Table 9.4.2 Safety and Security Measures during Field Activities**

Transportation	Communication
<ul style="list-style-type: none"> <li>- Moved by automobile with shatterproof sheet in windows instead of CNG or rikshaw.</li> <li>- Experienced drivers are arranged.</li> </ul>	<ul style="list-style-type: none"> <li>- Bring cell phone with Global Positioning System (GPS), enough battery and calling/internet balance</li> <li>- Bring separate mobile battery</li> </ul>

Source: JICA Survey Team

### 9.4.2 Actions to be Taken by Each Party

To secure the safety in the detailed design and construction work in the project, following actions are proposed to be taken by LGED and LGIs, considering the existing conditions as mentioned in Sub-section 6.6.2 Safety Situations.

**Table 9.4.3 Safety and Security Measures to be Taken**

Responsible Organization	Appraisal / Design	Tendering	Construction
PMU	Include the safety cost in DPP	N/A	N/A
PIO/PCO	Estimate cost for safety measures from UEO and PIU	(For subprojects implemented in Upazilas) <ul style="list-style-type: none"> <li>- Instruct tenderers to propose safety plans and include required cost for the implementation of the safety plan in the tender</li> <li>- Evaluate the tenders prepared by the tenderers in terms of safety</li> </ul>	(For subprojects implemented in Upazilas) <ul style="list-style-type: none"> <li>- Grant a permission to occupy Upazila roads for construction by indicating the date of possession of the site in the contract</li> <li>- Organize contract management seminars including safety measures for the contractors engaging in the subprojects after selecting contractors of subprojects in each batch</li> </ul>
UEO	Report necessary measures for safety and security for D/D and construction works	N/A	(For subprojects implemented in Upazilas) <ul style="list-style-type: none"> <li>- Monitor the safety measures taken by the contractors and instruct modification of the safety measures periodically during construction</li> </ul>
PIU	Report necessary measures for safety and security for D/D and construction works	(For subprojects implemented in Paurashavas) <ul style="list-style-type: none"> <li>- Instruct tenderers to propose safety plans and include required cost for the implementation of the safety plan in the tender</li> <li>- Evaluate the tenders prepared by the tenderers in terms of safety</li> </ul>	(For subprojects implemented in Paurashavas) <ul style="list-style-type: none"> <li>- Monitor the safety measures taken by the contractors and instruct modification of the safety measures periodically during construction</li> </ul>
Mayor in Paurashavas	N/A	N/A	(For subprojects implemented in Paurashavas) <ul style="list-style-type: none"> <li>- Grant a permission to occupy Paurashava roads and properties for construction by indicating the date of possession of the site in the contract</li> </ul>
UNO in Upazilas	N/A	N/A	(For subprojects implemented in Upazilas) <ul style="list-style-type: none"> <li>- Grant a permission to occupy Upazila properties for construction by indicating the date of possession of the site in the contract</li> </ul>

Source: JICA Survey Team

## 9.5 Fund Flow

Once the L/A of the project becomes effective, the project accounts will be created in LGED, PIO and PIUs, respectively. For the components to be procured, JICA's Advance Procedure is proposed to be applied to the civil works and goods as disbursement procedure from JICA. Regarding consultancy services, JICA's Transfer Procedure is proposed to be applied as follows:

**Table 9.5.1 Proposed Fund Flow**

Component	Contracting entities with contractors and suppliers	Disbursement Method
Civil Works	PIO and PIUs	• JICA's Advance Procedure shall be applied
Goods	PMU, LGED HQ	• JICA's Advance Procedure shall be applied
Consultancy Services	PMU, LGED HQ	• JICA's Transfer Procedure shall be applied

Source: JICA Survey Team

## 9.6 Operation and Effect (O&E) Indicators and Project Effectiveness

### 9.6.1 O&E Indicators

O&E indicators and collection method for each sector are summarized as follows:

**Table 9.6.1 O&E Indicators and Collection Method**

Sector	O&E Indicators	Collection Method
Road and bridge	<ul style="list-style-type: none"> <li>Annual Average daily traffic volume (PCU/day)</li> <li>Traveling time (minute/10 km)</li> </ul>	<ul style="list-style-type: none"> <li>Average daily traffic and traveling time are measured in traffic count survey.</li> </ul>
Drainage/Flood Protection	<ul style="list-style-type: none"> <li>Area affected by flood and inundation (m<sup>2</sup>)</li> <li>Number of affected households</li> <li>Frequency of flood and inundation</li> </ul>	<ul style="list-style-type: none"> <li>Visually confirm the area and plot on CAD file or Google Earth and measure</li> <li>Interview resident and count number of affected households and the frequency</li> </ul>
Water supply	<ul style="list-style-type: none"> <li>Water supply quantity (m<sup>3</sup>/day)</li> <li>Coverage ratio (%)</li> </ul>	<ul style="list-style-type: none"> <li>Measure the quantity in flow meter at outlet of pump</li> <li>Coverage ratio = Population supplied with water (Beneficiary population) /total population.</li> </ul>
Solid waste management		
Transfer station	<ul style="list-style-type: none"> <li>Collection quantity (ton/year)</li> <li>Waste collection rate (%)</li> </ul>	<ul style="list-style-type: none"> <li>Collection quantity is estimated by capacity of collection vehicle and trip number.</li> <li>Waste collection rate is estimated from the collection quantity and total waste quantity.</li> </ul>
Landfill site	<ul style="list-style-type: none"> <li>Sanitary landfilling quantity (ton/year)</li> <li>Sanitary landfilling rate (%)</li> </ul>	<ul style="list-style-type: none"> <li>Sanitary landfill quantity is measured in weigh bridge in the landfill site and sanitary landfill rate is estimated from sanitary landfill quantity and total waste quantity.</li> </ul>
Other Public infrastructure		
Market	<ul style="list-style-type: none"> <li>Number of stores (store)</li> <li>Trade amount (BDT/year)</li> </ul>	<ul style="list-style-type: none"> <li>The number of store and trade amount utilize the average data are measured in market survey.</li> </ul>
Clinic	<ul style="list-style-type: none"> <li>Number of outpatient (person/year)</li> <li>Time to clinic by residents in targeted area (minutes)</li> </ul>	<ul style="list-style-type: none"> <li>Number of outpatients is measured in the clinic.</li> <li>Time is calculated considering the location of clinic and the people from midpoint of the vicinity.</li> </ul>
School	<ul style="list-style-type: none"> <li>Number of pupils (disaggregated by gender) (person/year)</li> <li>Gross enrollment ratio (%)</li> </ul>	<ul style="list-style-type: none"> <li>Number of total students is measured in the school.</li> <li>Gross enrolment ratio is estimated based on the count of the enrolled students and the children to be enrolled in the target area.</li> </ul>
Cyclone shelter	<ul style="list-style-type: none"> <li>Capacity of the facilities per total population in the target area (%)</li> </ul>	<ul style="list-style-type: none"> <li>Number of evacuated persons is counted in the shelter.</li> <li>Affected population due to no evacuation is measured in the survey data by LGL.</li> </ul>
Training center / Park	<ul style="list-style-type: none"> <li>Average Number of users (person/day)</li> </ul>	<ul style="list-style-type: none"> <li>Number of users is measured in the training center.</li> </ul>

Note: O&E indicator for township development will be evaluated in accordance with each related sector.

Source: JICA Survey Team

As qualitative effect indicators, improvement of the quality of life of residents in the southern Chattogram region, economic development, and correction of disparities are set.

### 9.6.2 Low GHG Emission Technologies and GHS Emission Reduction Effect

The JICA Survey Team prepared preliminary design of the selected priority subprojects in consideration of climate change countermeasures (environmental load reduction). The low greenhouse gas (GHG) emission technologies have been introduced to each subproject such as 1) street light (LED) with solar panel for road, 2) high efficiency pumping system for water supply, 3) semi-aerobic landfill system for solid waste management and 4) photovoltaic power system (solar panel) for other public facilities.

As a result of subproject implementation, the JICA Survey Team estimated the greenhouse gas (GHG) emission reduction in each sector as follows (Refer to Attachment 9.6.1):

**Table 9.6.2 GHG Emission Reduction Effect**

Sector	GHG Emission Reduction	Target Subproject	Effect	Calculation Method
Road	522 (tCO <sub>2</sub> /year)	33	Traffic congestion mitigation	JICA Climate Finance Impact Tool / Mitigation ("JICA-FIT (Mitigation)") for quantitative estimation of GHG emissions reductions (removals)
Drainage/Flood Protection	57 (tCO <sub>2</sub> /year)	14	Flood mitigation (Consideration of hypothetical pumping drainage)	- do -
Water Supply	0 (tCO <sub>2</sub> /year) <sup>*1</sup>	4	Mitigation of CO <sub>2</sub> emission by application of high efficiency pump	- do -
Solid Waste Management	17,500 (tCO <sub>2</sub> /year)	2	Methane reduction by semi-aerobic landfill site	2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories for quantitative estimation of GHG emissions reductions (removals)
Other Public Facilities	26 (tCO <sub>2</sub> /year)	14	Utilization of solar panel as a part of energy source	JICA Climate Finance Impact Tool / Mitigation ("JICA-FIT (Mitigation)") for quantitative estimation of GHG emissions reductions (removals)

Note: \*1: By application of high efficiency pump, GHG emission is mitigated but the numeric reduction is nearly zero and negligible amount.

Source: JICA Survey Team

## 9.7 Risk of the Project

The potential project risks are summarized in the following table. The risk management framework is shown in Attachment 9.7.1.

**Table 9.7.1 Potential Project Risk**

Type of Risk	Description of Risks
1. Stakeholder Risk	Complaints from people who provide land or need to relocate
2. Executing Agency Risk	
2.1. Capacity Risk	Delay or insufficient staff assignment in project implementing organizations (e.g., PMU, PIO, UEO and PIU)
2.2. Governance Risk	Lack of coordination among project implementing organizations
2.3. Fraud & Corruption Risk	Fraud & corruption for selecting contractors at procurement stage
3. Project Risk	
3.1. Design Risk	Design failure due to insufficient detailed design
3.2. Program & Donor Risk	Selecting contractors without respecting JICA Procurement Guidelines
3.3. Delivery Quality Risk	Lack of safety and security management
4. Other Risk	Delay or damage due to cyclone, flood, or prolonged rainy season
5. Overall Risk Rating	If the countermeasures are implemented successfully, there will be no critical risk of high probability that may cause serious delay of the project or deteriorate the project's beneficial effects, since LGED has enough experience to implement this kind of project in nationwide. The key issue for the project implementation is to hire staff in project implementing organizations timely.

Source: JICA Survey Team

## 9.8 Linkage with other JICA/donor projects

### 9.8.1 Preventive Measures against Duplication of Subproject with Other Projects

#### (1) Background

The following infrastructure-related projects funded by other donors are implementing in the target LGIs. Since many infrastructure-related projects are implementing in the target LGIs in parallel, the subproject should be selected without duplication with the other projects. However, such duplication could emerge due to the following reasons. Firstly, there is neither rule nor mechanism to check the duplication, although LGED Cox's Bazar District Office and Upazila Engineers exchange information sometimes. Secondly, LGIs do not prepare development plans due to limited capacity on setting goals, setting priorities, estimating cost, identifying available financial resource, and participation of stakeholders to work together. Thirdly, development plans and details of infrastructure projects are not well shared with LGED Cox's Bazar District Office. As the result, the LGED Cox's Bazar District Office does not update the subproject list timely and regularly.

**Table 9.8.1 Summary of Implementing Other Donor-funded Projects in Target LGIs**

Project Name	Fund Source	Sector	PMO	Target LGIs						
				CH-P	MO-P	TE-P	CH-U	MO-U	TE-U	UK-U
Emergency Assistance Project (LGED part)	ADB	- Road & Bridge, Drainage, Disaster Management, Others	- LGED	-	-	-	-	-	•	•
Program for Supporting Rural Bridges (SupRB)	WB	- Road & Bridge, Drainage	- LGED	-	-	-	-	•	•	-
Emergency Multi-Sector Rohingya Crisis Response Project	WB	- Road & Bridge, Drainage, Disaster Management	- LGED	-	-	-	-	-	•	•
Municipal Governance and Services Project	WB	- Road & Bridge, Drainage, Electrification	- LGED	-	-	-	-	-	•	-
Multipurpose Disaster Shelter Project	WB	- Disaster Management	- LGED	-	-	-	•	•	•	•
Second Rural Transport Improvement Project	WB	- Others	- LGED	-	-	-	-	-	-	•
Municipal Governance and Services Project	WB	- Road & Bridge, Drainage	- LGED	•	-	•	-	-	-	-
Earthen Road Repair and Drain Excavation	US-AID	- Road & Bridge, Drainage	n.a	-	-	•	-	-	-	-
Sustainable Solutions to Solid Waste Management Project	UNDP SIDA	- Solid Waste Management	- BRAC (NGO) - Practical Action (NGO)	-	-	•	-	-	•	•
Community Latrine, Household Latrine, Deep Shallow Tube Well, Reverse osmosis plant, Household Water Treatment, etc.	DANIDA – SDC	- Sanitation, Water	- HYSAWA (NGO)	-	-	•	-	-	-	-
2020 Joint Response Plan for Rohingya Humanitarian Crisis	8 UN agencies	- Various (incl. WASH)	- 8 UN agencies - 109 NGOs	-	-	-	-	-	•	•
Fecal Sludge Treatment Plant	-	- Sanitation	- ICRC (NGO)	-	-	•	-	-	-	-

Note: CH-P: Chakaria Paurashava, MO-P: Moheshkhali Paurashava, TE-P: Teknaf Paurashava, CH-U: Chakaria Upazila, MO-U: Moheshkhali Upazila, UK-U: Ukhia Upazila, TE-U: Teknaf Upazila, PMO: Project Management Organization, n.a: Not available, USAID: United States Agency for International Development, UNDP: United Nations Development Programme, SIDA: Swedish International Development Agency, BRAC: Bangladesh Rural Advancement Committee, DANIDA: Danish International Development Agency, SDC: Swiss Agency for Development and Cooperation, HYSAWA: Hygiene, Sanitation and Water Supply, ICRC: International Committee of the Red Cross  
Source: Compiled by JICA Survey Team based on project lists provided by Chakaria, Moheshkhali, Teknaf Paurashava offices, Upazila LGED Engineer and 2020 Joint Response Plan for Rohingya Humanitarian Crisis

## (2) Preventive Measures

For preventing duplication of subproject, it is recommended for each LGI to prepare a subproject list in which planned and on-going subproject name with their scope of works, target areas and fund sources are included, supported by project monitoring and evaluation experts to be hired under the Project. The format of the subproject list should be developed by the project monitoring and evaluation experts. Then, in case of Upazila, each LGI shall submit the list monthly to LGED Cox's Bazar District Office by an e-mail for its easy checking of the duplication. On the other hand, in case of Paurashava, each LGI shall submit the list monthly to PMU by an e-mail. In case where there is a duplication, LGED Cox's Bazar District Office and PMU shall coordinate among concerned subprojects to resolve such duplication respectively. These processes should be stipulated in the operational manual to be developed in the Project for its enforcement.

### 9.8.2 Coordination with JICA and Other Donor-funded Projects

To anticipate the synergy effect with JICA and other donor funded projects, the following coordination is recommended:

**Table 9.8.2 Coordination with JICA/Other Donor-funded Projects**

Project Name	Fund Source	Project Purpose	Scope/Sector of Coordination	Contents of Coordination	Measure for Coordination	Responsible Organization
Sustainable Solutions to Solid Waste Management Project	UNDP SIDA	• Develop waste management system and change behaviors/ attitudes in Teknaf Paurashava/Upazila and Ukhia Upazila	• SWM planning on financial, organizational and management subjects • Countermeasure for solution of issues • Roles of LGIs and private organization	• Regular meetings between Teknaf/Ukhia with Chakaria and Moheshkhali Paurashava and Upazila • Information sharing on financial, institutional and technical issues	• Organize meetings on SWM issues in project implementation	• PMU, SCRDP • UNDP • PIO, Cox's Bazar LGED • PIU, Chakaria/ Moheshkhali
Efficient and Accountable Local Governance (EALG)	DANIDA SDC	• Strengthen the capacities of the LGIs so that they can effectively carry out their mandates in a more accountable, transparent and inclusive manner	• Roles and responsibilities within LGIs	• Involvement of Upazila Parishad strengthened by EALG	• Organize meetings on O&M for facilities constructed by SCRDP	• Chairman, UNO, UP member in Chakaria/ Moheshkhali/ Teknaf/ Ukhia Upazila
2020 Joint Response Plan for Rohingya Humanitarian Crisis (JRP)	8 UN agencies	• Foster the well-being of communities in Ukhia and Teknaf Upazilas and the 3 other objectives	• Prevention of duplicating subprojects and CD programs with other projects	• Provide subprojects and CD programs' information to ISCG under JRP • Monitor subproject list published by ISCG under JRP	• Organize meetings on subproject and CD program coordination	• PMU, SCRDP • PIO, Cox's Bazar LGED • UEO, Teknaf/ Ukhia Upazila ISCG



Project Name	Fund Source	Project Purpose	Scope/Sector of Coordination	Contents of Coordination	Measure for Coordination	Responsible Organization
Upazila Integrated Capacity Development Project (UICDP)	JICA	• Establish a framework to improve "comprehensive coordination capacity of Upazila Parishad	• Prevention of duplicating subprojects with other projects	• Utilization of Five-Year Plan / Annual Development Plan to prepare subproject list	• Preparation of a project list including all donors and own funded projects	• PIO, Cox's Bazar LGED • UEO, Teknaf/ Ukhia Upazila
Upazila Governance and Development Project (UGDP)	JICA	• Enhance the capacity of Upazila Parishads to deliver more effective and responsive public services to citizens	• Construction and O&M on small-scaled infrastructure • CD on Upazila administration	• Sharing lessons learned and O&M manual under UGDP • Sharing Upazila administration manual prepared by UGDP	• Organize meetings on Sharing lessons learned and O&M manual • Participating CD program organized by UGDP	• PMU, UGDP • PIO, Cox's Bazar LGED • UEO, Chakaria/ Moheshikhali/ Teknaf/ Ukhia Upazila
Project for Enhancing Capacity on Planning and Implementation of Local Disaster Risk Reduction	JICA	• Establish mechanism for DDM to develop, implement and expand UzDRRPs in collaboration with MoDMR, related agencies and local governments	• Development of UzDRRPs including the utilization of school cum cyclone shelters and flood control channels to be constructed under SCRDP	• Information sharing on data and specification of these subprojects	• Organize meetings on UzDRRPs in project implementation	• PMU, SCRDP • JICA project team • PIO, Cox's Bazar LGED • UNO, Teknaf/ Ukhia Upazila
Advisory Work on Fishery Development	JICA	• Improve productivity and income of host community for Displaced persons from Rakhine state, Myanmarby technical support on aquaculture and fishery processing especially in Teknaf/ Ukhia Upazila and Cox's Bazar Paurashava.	• Distributing the fishery products to the markets to be constructed by SCRDP	• Information sharing on data and specification of these markets for survey on distribution system conducted by JICA advisory team	• Organize meetings on distribution system in project implementation	• PMU, SCRDP • JICA Advisory team • PIO, Cox's Bazar LGED • UEO, Teknaf/ Ukhia Upazila
Information Collection and Verification Survey on Southern Chattogram Water Resource Development	JICA	• Estimate of domestic water demand in Chakaria Paurashava and Upazila where the increase in population is expected under MIDI projects.	• Township development and deep wells for water supply in the township under SCRDP	• Information sharing on the future water resources development plans and priority projects • Revision of water supply components in SCRDP (water supply facility)	• Organize meetings on water resources development, especially on water supply development	• PMU, SCRDP • Ministry of Water Resources • JICA Bangladesh Office

Note: DDM: Department of Disaster Management, UzDRRPs: Upazila Disaster Risk Reduction Plans, MoDMR: Ministry of Disaster Management and Relief, ISCG: Inter-Sector Coordination Group, CD: Capacity Development, O&M: Operation and Maintenance  
Source: JICA Survey Team

## 9.9 Monitoring of the Project Implementation Progress / Administration Support

### 9.9.1 Reporting

Progress of the project implementation will be monitored by the respective project implementation organizations throughout the project period. Progress of the project implementation and the issues raised during the sub project implementation will be reported by "Progress Report" to the concerned project implementation organizations regular as shown in the table below. If serious delays of the progress or issues on the project implementation are identified in the process of the monitoring, PMU will take necessary action to solve the issue with the concerned organizations. PSC will be organized a project review meeting at least once a year to discuss the overall project progress and issues.

**Table 9.9.1 Progress Report to be Formulated Regularly**

Responsible Organization	Name of Report	Frequency	Recipient of the Report
PMU	Progress Report	Every 6 months	PIC
DPCO	Progress Report	Every 3 months	PMU
PIO	Progress Report	Every 3 months	PMU
UEO	Progress Report	Every 3 months	PIO
PIU	Progress Report	Every 3 months	PMU

Source: JICA Survey Team

Necessary monitoring arrangements for environment and social consideration is described in the 12.2.9 Monitoring and Monitoring Form and the Attachment 11.2.2.

### 9.9.2 Project Administration Support

The required actions for subproject implementation, administrative activities, and service delivery are identified. However, as stated in Chapter 4, the target LGIs have a significant limitation in number of staff, budget, and capacity. For the target LGIs to take such actions, the following administration supports are necessary.

**Table 9.9.2 Summary of Administration Support**

Timing	Paurashava Administration Support	Upazila Administration Support
Before the initiation of project investment	<ul style="list-style-type: none"> <li>- Identification of the administrative process, the roles and responsibilities of each officer for subproject implementation and service delivery</li> <li>- Preparation of operational manual including, but not limited to, responsible persons, timelines of required actions and approvals of administrative process to implement subprojects such as detailed design, tendering, construction supervision, and payment</li> <li>- Establishment and preparation of administrative procedures for the working group among the target Paurashavas and Upazilas covering solid waste management and township management, if any</li> <li>- Preparation of contract terms and conditions, tariff setting and instructions to the private companies for service delivery</li> <li>- Preparation of necessary administrative orders, publicity and implementation procedures for collection of solid waste fee from solid waste disposers including markets, commercial areas, densely populated areas, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Identification of the Upazila administrative process, the roles and responsibilities of each officer and committee for subproject implementation and service delivery</li> <li>- Preparation of operational manual including, but not limited to, responsible persons, timelines of required actions and approvals of administrative process for implementing subprojects such as detailed design, tendering, construction supervision, and payment</li> <li>- Establishment and preparation of administrative procedures for the working group, jointly with Paurashava(s) covering solid waste management, township and workshop management, if any</li> <li>- Preparation of contract terms and conditions, tariff setting and instruction to the private companies for service delivery</li> <li>- Preparation of necessary administrative orders, publicity and implementation procedures for collection of solid waste fee from solid waste disposers including markets, commercial areas, densely populated areas, etc.</li> <li>- Development of project administrative to be made by Upazila administration under coordination with PIO (LGED district office)</li> </ul>
During the project implementation period	<ul style="list-style-type: none"> <li>- Supervising, monitoring and evaluation of the contracted service provider(s)</li> <li>- Monitoring and evaluation of administrative activities to be planned</li> <li>- Revision of administrative procedures and guidelines based on the monitoring and evaluation result</li> <li>- Renewal of contract(s) with service provider(s) based on their performance</li> <li>- Preparation of operation and maintenance guidelines including, but not limited to, responsible persons and departments, and their roles and detailed tasks.</li> </ul>	<ul style="list-style-type: none"> <li>- Supervising, monitoring and evaluation of the contracted service provider (s)</li> <li>- Monitoring and evaluation of administrative activities to be planned</li> <li>- Revision of administrative procedures and guidelines based on the monitoring and evaluation result</li> <li>- Renewal of contract(s) with service provider(s) based on their performance</li> <li>- Preparation of operation and maintenance guidelines including, but not limited to, responsible persons and departments, and their roles and detailed tasks.</li> </ul>

Source: JICA Survey Team

## CHAPTER 10 ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

### 10.1 Environmental and Social Considerations for the Project

#### 10.1.1 Outline of Project Components that may Cause Environmental and Social Impacts

Considering that the Project lies in flood prone area and that a massive influx of population in an unplanned manner, it is expected that subprojects of each sector provide not only basic services but likely improve convenience and enhance the quality of local life. Numerous of them are also regarded as adaptation measures against climate change.

On the other hand, it is also true that some project components will likely cause certain adverse impacts as in the following tables, since enhancement of essential public infrastructures in the immediate neighborhoods of the target LGIs may directly affect land use. It may cause land acquisition, asset loss or hew down of trees in the residential areas. It may cause, to some extent, air pollution, water pollution, soil pollution, noise and vibration and waste, accidents during construction period.

**Table 10.1.1 Project Components that may Cause Adverse Impacts**

Sector	Project components that may cause adverse impacts
Road / Bridge	Renovation / up-gradation / construction/ widening of existing roads, construction of bridges
Drainage / Flood Protection	Drainage ditch maintenance, river improvement
Solid Waste Management Facilities	Construction landfill, improvement and expansion of current landfill
Water Supply Facilities	Water supply pipe system and maintenance / expansion, water purification facility maintenance.
Township Development Infrastructures	Land development
Other Public Facilities	Market, park, community clinic with cyclone shelter, medical facilities, school with cyclone shelter, cyclone shelter, training center, multipurpose building

Note: "land use change" refers to land acquisition, temporary requisition, entry restriction during construction period. Source: JICA Survey Team

#### 10.1.2 Overview of the Present State of the Proposed Project Area

Proposed subprojects are located in three Paurashavas and five Upazilas.

#### 10.1.3 System and Organizations Related to Environmental and Social Considerations

The lead environmental agency in Bangladesh is the Department of Environment (DOE), under the Ministry of Environment, Forests and Climate Change (MOEFCC). DOE is charged with furthering environmental conservation, improvement of environmental standards, and control and mitigation of environmental pollution. This mandate positions DOE as a key regulator of a broad range of developments in the infrastructure, industrial and commercial sectors, including both publicly and privately funded initiatives. DOE is responsible for administering the country's central environmental law, which provides the framework for environmental impact assessment.

Other agencies with important environmental mandates include the Bangladesh Forests Department (also under MOEFCC), the Ministry of Water Resources, the Ministry of Fisheries, and the Ministry of Land. The laws and regulations administered and enforced by these other agencies do not structure the environmental assessment process directly but may often come into play in the consideration of the suitability and permissibility of proposed infrastructure developments by DOE.

Occupational health and safety are key considerations of the environmental assessment of proposed infrastructure. The Ministry of Labour and Employment (MOLE), particularly its Department of Labour and Department of Factory and Establishment Inspection, is of direct relevance to the environmental assessment process, as it administers and enforces the country's legislation, rules and standards governing industrial workplaces, including construction sites and most industrial facilities where physical labor is undertaken.

#### 10.1.4 Consideration of Alternative Plans

The subproject ideas were submitted by the target LGIs, which the JICA Survey Team examined from technical, financial, economical, environmental and social perspectives. In the screening process from longlist to shortlist, it was made a rule those subprojects which fall in Category A according to the JICA Environmental Guidelines be eliminated from the subproject list, considering that a) the Project has the nature of fast and flexible project implementation; and b) subprojects with significant environmental and

social impacts must be avoided as they are planned in the areas with high population density. Alternative plans have been thoroughly examined throughout the screening process, which is described in detail in the Chapter 7 of this report. Selection priorities are also presented in the same chapter.

As this entire project is classified as Category B, it is necessary to reconfirm if subprojects do not cause large-scale environmental and social impacts, during their detail design survey. LGED/PMU, on behalf of the project proponent, will be responsible this final screening with a technical support of loan consultants' team. JICA Screening Format and Environmental Checklist shall be then filled by each LGI/PIU for each subproject to be implemented. Loan consultants will support them in environmental review of each subproject.

## **10.2 Land Acquisition and Resettlement**

### **10.2.1 Necessity of Land Acquisition and Resettlement**

When shortlisting subprojects from longlist, subprojects with significant social impacts were excluded and there is no Category A subproject remaining in the shortlist according to the JICA Guidelines for Environmental and Social Considerations 2010, or design alterations were sought to avoid / minimize the acquired land area and involuntary resettlement.

### **10.2.2 Legal Framework for Land Acquisition and Requisition, and Resettlement**

The GOB legislation governing land acquisition for public purposes is the Acquisition and Requisition of Immovable Property Act, 2017 (hereinafter referred as "ARIPA 2017"). It is the basic instrument governing land acquisition in the country and stipulates the Deputy Commissioner (DC) of District Administration to publish notices of property acquisition or requisition when any property is acquired permanently / required temporarily for a public purpose or in the public interest. It also provides specific issues which the DC should consider when estimating the amount of compensation. The DC may, with the prior approval of the Government, by order in writing, acquire / requisition the immovable properties.

- Land acquisition and involuntary resettlement will be avoided where feasible, or minimized.
- Subprojects with involuntary displacement of 200 people or more must be excluded from the Project.
- Where displacement of households is unavoidable, all PAPs (including communities) losing assets, livelihoods or resources will be fully compensated and assisted.
- All affected people will be eligible for compensation and rehabilitation assistance, irrespective of tenure status, social or economic standing.
- People temporarily affected are also considered eligible.
- Resettlement documents be disclosed and kept available in local language for the reference of PAPs as well as other interested groups.
- Payment for land and/or non-land assets will be based on the principle of replacement cost.
- Compensation shall be paid at either of full replacement cost or compensation under law whichever is higher.
- The replacement lands should be within the immediate vicinity of the affected lands wherever possible, and be of comparable productive capacity and potentials.
- Resettlement assistance will be provided not only for immediate loss, but also for a transition period needed to restore livelihood and standards of living of PAPs.
- The resettlement plan must consider the needs of those most vulnerable to the adverse impacts of resettlement.
- Consultations should be held with PAPs in preparation of resettlement documents.
- A project specific mechanism shall be established for land acquisition and involuntary resettlement with provisions of institutional arrangements, monitoring and reporting framework as well as budget and time-bound implementation schedule.
- Resettlement and compensation costs shall be included in the total project cost.
- Monitoring indicators shall also be included as agreed.
- Compensation and other assistance for relocation must be provided prior to displacement.
- Public notification or cut-off date shall be declared for people who must be resettled involuntarily, which shall include illegal occupants and other interested people to become eligible for compensation and assistance.
- Voluntary resettlement and dispossession shall be pursued if affected people show their willingness to do so.

### **10.2.3 Compensation and Assistance Measures**

Compensation for land acquisition, losses of crop and trees, losses of physical assets, livelihood means and income sources shall be paid in accordance with the guiding principles and methods of valuing affected assets.

#### **10.2.4 Grievance Redress Mechanism**

During the ARAP implementation process, the PMU, PIU and UEO/PIO will maintain a grievance redress mechanism (GRM). The GRM will be made known to PAPs and used to address their grievances and resolve them promptly without resorting to expensive and time-consuming legal procedures.

A two-tier bottom-up grievance redress committee (GRC) system will be established to give room for grievances to be fairly reviewed: GRC at local level, and another at project level. The PAPs will be informed through public consultation that they have the right to have their grievances redressed by local committees as well as by the project management. Other than disputes relating to ownership right under the court of law, the GRC will review grievances involving all resettlement assistance, relocation and other support. The local GRCs will hear the grievances first, and only unresolved cases will be forwarded to the next tier for further review and resolution.

Grievances will be redressed within a month from the date of lodging the complaints. If any disputant is unsatisfied with the outcome of the project level GRC, he/she may file cases in the court.

#### **10.2.5 Implementation Arrangements**

The PMU will oversee all activities related to the land acquisition and involuntary resettlement. It will recruit the Loan Consultant team with social and environmental safeguard experts.

The DC Office of Cox's Bazar District will be responsible for all final decisions concerning land acquisition, in particular the assessment of affected assets under the ARIPA 2017. The Assistant Commissioner for Land will identify the affected persons using ARIPA 2017 criteria as well as the data in this ARAP and ensure payment against lost properties and hand over land to the target Upazilas and Paurashavas. PIU and PIO/UEO shall liaise with the DC office of Cox's Bazar to take necessary actions related to land acquisition procedure for the Implementation of the ARAP. The Assistant Commissioner will provide the compensation award details and the payment data.

PIU and PIO/UEO, responsible for the implementation of each subproject, will implement the delivery of all measures associated with land acquisition and involuntary resettlement activities with assistance of the Loan Consultant. The monitoring reports on the progress of land acquisition and involuntary resettlement activities shall be elaborated and be submitted to the PIU and PIO/UEO at quarterly basis, which will subsequently submit it to the PMU.

#### **10.2.6 Implementation Schedule**

##### **(1) Batch-1**

The implementation of the Batch 1 Subprojects ARAP is estimated to require about nine months (see table below). ARAP has a separate time-bounded implementation schedule, but is closely aligned with when the contractor mobilizes to the field and construction is scheduled to begin. The five-months timeline is predicated on smooth resettlement compensation approval and another one-month is predicated for disbursement of compensation. Vulnerable groups shall be well considered in consultation process. Focus group discussion, or other modality of consultation as appropriate, shall be organized to hear their opinions and views, to reflect their needs into the resettlement policy.

**Table 10.2.1 Resettlement Implementation Schedule Bar chart**

Land Acquisition and Resettlement Activities	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>
Hiring, mobilization and deployment of local team						
Information campaign and dissemination						
Consultation and Focus Group Discussion						
Organization of monitoring team						
Formation of GRC						
Issuance of ID Card to EPs						
Data processing and determination of individual entitlements						
Agreement of entitlements with PAPs, and preparation of land acquisition documents, and an ARAP if necessary.						
Preparation and submission of resettlement budget						
Approval of land acquisition and/or resettlement budget by the PMU						
Release of funds for compensation, and payment of compensation for land and fixed assets and resettlement assistance to PAPs for their income and rehabilitation						
Documentation and resolution of grievances from PAPs						
Consultation with PAPs on schedule of clearing lands, or relocation if necessary						
Clearing of lands						
Elaboration and submission of the completion report						
Award of civil work contract to contractor, and the mobilization of the contractor						

Source: Development & Safeguard Consultants Limited.

## (2) Batch-2 and Batch-3

Acquisition of land less than 6.7 ha is to be handled by the DC Office, whereas it is the Ministry of Land that has an authority to approve the acquisition of land as large as 6.7 ha and more than that, no matter whom the land belongs to. It takes approximately 12 months to acquire land with 6.7 ha and more, of which 2 months are to be spent for land survey. Approval procedures and breakdown of required periods for each process are detailed in the Annex VII. Effective planning and management of construction work is essential by taking into consideration such official procedures of the GOB.

### 10.2.7 Monitoring Mechanism and Monitoring Form

Monitoring during ARAP implementation provides periodic checks to ascertain whether resettlement compensation packages have been fully delivered, on time and activities are working as planned. The project management will need this feedback to be able to ensure the planned activities implemented and be able to move to take immediate actions if problems exist. Evaluation on the other hand, is an exercise usually undertaken towards the end of the project to assess whether the plan achieved its goals and objectives. Evaluations will take place annually, with one after all compensation and related assistance has been delivered.

## CHAPTER 11 RECOMMENDATION

### 11.1 LGED

Based on the result of JICA SCRDP study, the following LGED's activities may be recommended for preparation and implementation of SCRDP:

#### 11.1.1 Preparation of DPP (Development Project Proforma/Proposal; completion by February 2022)

DPP needs to be approved by Executive Committee of the National Economic Council (ECNIC) under the Cabinet Division headed by the Prime Minister as the loan project. The key issues will be the necessary local counterpart fund for the project implementation including cost for project staff of LGED, Paurashavas and Upazilas, operation cost for project implementation, land and other compensation cost, etc. Without sufficient local counterpart fund, the project implementation will be difficult to complete the target scope in time. The followings will be important contents for DPP approval:

##### (1) District Commissioner (DC) Certificate on necessary budget for land acquisition and other compensation

Without the certified land acquisition and other compensation cost to be made by the district commissioner, these local counterpart budget could not be approved by ECNIC. The JICA study team did the survey on the necessary land and other compensation for 74 subprojects and drafted the required materials for DC certification. The 7 LGIs need to get approval from AC land office at the concerned Upazila level with the location maps of the subprojects on the cadastral maps (Mouza maps). The LGI's process activities shall be made in time and the LGED district office shall assemble them for submission to the DC office for approval. LGED shall monitor the LGI's activities for DC certificate.

##### (2) Estimation of the necessary GOB counterpart fund

The environmental clearance and EIA approval fee shall be accounted on the local counterpart fund. The cost for the project staff at PMU, DPCO, PIO, PIU and UEO is also indispensable. Other project operation cost shall be budgeted in DPP. The approval process for the land compensation, especially the area more than 6.7 ha will be made by Ministry of Land at the central level. This processing cost shall be also budgeted in the DPP.

#### 11.1.2 Preparatory works and Project Implementation after DPP approval (completed by December 2022)

##### (1) Approval of project staff assignment at PMU, DPCO, PIO, PIU and UEO

The project staff assignment shall be initiated before DPP approval considering the staff requirement according to the organizational plan agreed. Once DPP approval, formal assignment and recruitment shall be initiated and completed in a short period.

##### (2) Preliminary agreement of the Operation Guideline (OG) among LGIs based on the Administration Procedure Manual drafted by JICA study team

For implementation of the Project, the roles and activities to be made by PMU, DPCO, PIO and PIU as well as Upazila administration need to be defined. The JICA study team drafted the outline of the OG, i.e., "Administration Procedure Manual for Infrastructure Subproject Implementation" at the Paurashava and Upazila administration. PMU together with PIO and PIU shall confirm the project implementation procedure and necessary activities for project implementation at the Pourashava and Upazila level before initiation of the detailed design works.

##### (3) Certification process of IEE for the seven (7) subprojects in the Batch-1

JICA study team prepared the IEE report for the 14 subprojects in the Batch-1. The PMU and DPCO shall initiate certification process of IEE from Department of Environment for the seven (7) subprojects or 14 subprojects in the Batch-1 before initiation of the detailed design works.

**(4) Compensation process for land and others for the seven (7) subprojects in the Batch-1**

Before initiation of the detailed design works for the seven (7) subprojects in the Batch-1, necessary land and other compensation process shall be initiated. By leading of PMU, DPCO and PIO including UEO, the seven LGIs shall coordinate the compensation process including the compensation survey, preparation of compensation approval and compensation to be made by DC office. It will take at least six months and more depending on the speedy survey and compensation process.

**(5) DD and cost estimation for the seven (7) subprojects in the Batch-1**

The capable engineers and specialists who have sufficient experience shall be deployed by PMU. PMU shall supervise the quality of the DD and cost estimate including confirmation of needs of the relevant local committees and local users.

**11.2 LGIs (Batch-1 Subprojects, completed by December 2022)**

Based on the result of JICA SCRDP study, the following LGIs' activities may be recommended for preparation and implementation of SCRDP:

**(1) Speedy process of DC and Ministerial Certification for land acquisition and other compensation**

Process for land and other compensation is important for minimizing social and economic adverse impact due to the subproject investment. It will be time consuming process so that the local administration shall closely coordinate AC land office and the local administrations such as concerned ward councils, Upazila and Union councils. Before initiation of construction works, all compensation shall be completed. The compensation process will require a half year at least in case of below 6.7 ha per subproject. In case of more than 6.7 ha per subproject, it will take one year due to certification from Ministry of Land.

Considering the required time, the necessary process shall be initiated before DD works.

**(2) Assignment of project staff at LGIs and initial guidance for project implementation**

Once the DPP approval, recruitment, approval, and assignment of project staff in PIU and UEO shall be made as early as possible. For the smooth project implementation, the operation guideline based on Administration Procedure Manual drafted by JICA study team shall be discussed and confirmed. In addition to the newly assigned staff, the relevant Mayors, chairpersons, wards and union councilors, UNOs, UEOs shall discuss and confirm the relevant activities required for the project implementation and operation and maintenance activities.

**(3) Confirmation of the operation guideline (OG) of the Project at LGIs**

Before initiation of loan consultant's works, based on the result of initial project guidance in the above (2), the project operation guideline shall be confirmed among the LGIs including the roles of PMU, DPCO, PIO and PIU.

**(4) Supporting of IEE certificate and compensation process of land and others for the seven (7) subprojects in the Batch-1**

IEE certification and compensation process for the seven (7) subprojects shall be led by PMU, DPCO and PIO. However, coordination with the local administration such as councillors of wards, Upazila and Unios as well as AC land offices for land and other compensation process is indispensable for smooth and timely process. The seven LGIs shall intensively participate and coordinate the IEE certification and land and other compensation process for timely project implementation.

**11.3 JICA**

Based on the result of JICA SCRDP study, the following JICA activities may be recommended for preparation and implementation of SCRDP:



**(1) Monitoring on organization set-up and assignment for project implementing by LGED and LGIs**

The new project staff assignment is one of the key milestone for smooth and effective project implementation. After approval of DPP, organization set-up and assignment of project staff at LGED and LGIs shall be monitored through hearing from PMU.

**(2) Monitoring on IEE certification, process of land and other compensation, and DD for the seven (7) subprojects in the Bach-1**

Before initiation of loan consultant's service, the activities on IEE certification, land and other compensation and DD works for the seven (7) subprojects need to be completed by LGED. These activities shall be monitored through hearing from PMU.

**(3) Early technical assistance for the residential development at the three target townships including PPP**

Considering timely residential development on the township basic infrastructure at the three sites, direction and necessary institutional development for residential development under LGD and LGED shall be studied and formulated. The government direct investment, partial and full public private partnership for the residential development shall be studied and necessary institutional development plan shall be prepared. Considering no experience of residential development using partial and full PPP systems in LGD, LGED and the seven LGIs, necessary institutional process will take a longer period including the cabinet approval.