



Government of the People's Republic of Bangladesh

**Ministry of Road Transport and Bridges
Roads and Highways Department**

MATARBARI PORT ACCESS ROAD DEVELOPMENT PROJECT

Land Acquisition and Resettlement Action Plan



November 2018

Submitted by:



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EXECUTIVE SUMMARY

1. Project Description and Objectives of this LARAP

In Bangladesh, export and import cargoes have increased by 10% in the last 5 years. However, as almost all cargoes (98%) are handled at Chittagong, the capacity of the terminal facility has already been exceeded. Accordingly, expansion of the port is required to meet the demand as vessels are commonly forced to wait for berthing. As this situation is detrimental to the economic growth of the country, the Government of Bangladesh has been preparing the seventh five-year development plan (from 2016 to 2020) which calls for new port infrastructure for the port of Chittagong including a coal terminal in the Matarbari area (water depth – 15.3 m) to be developed by a Yen Loan. The Government of Japan and the Government of Bangladesh have strengthened their bilateral relationship through the Bay of Bengal Industrial Growth Belt Initiative (BIG-B).

In future, a special economic zone will be developed in this area including a logistics park, power plants, LNG terminal etc.

In the course of the survey, the Prime Minister's Office determined the future concept on the Matarbari port development, leading to the commencement of the "Preparatory Survey on Matarbari Port Development Project in the People's Republic of Bangladesh" (hereinafter referred to as "the Survey") for investigating the further detailed plan of Matarbari port development.

Matarbari port will be located in south Chittagong region and approximately 80km south to Chittagong and 25 km from Cox's Bazar. For ensuring smooth freight transport route in the Region, the Matarbari Port should be connected with National Highway No. 1 (or called Dhaka (Jatrabari)-Comilla (Mainamati)-Chittagong-Teknaf Road) through its Access Road.

The Land Acquisition and Resettlement Action Plan (LARAP) is prepared for large scale land acquisition and to address involuntary resettlement impacts with appropriate budget provisions. The LARAP has been prepared on the principle of the JICA Guidelines for Environmental and Social Considerations (April, 2010) that development projects must fulfill the social needs and will ensure restoration of socio economic conditions of PAPs at least to the pre-project level or will not worse off after physical and economic displacement.

2. Legal Framework for Land Acquisition and Resettlement

The policy framework and entitlements for the Project are based on national law, Acquisition and Requisition of Immoveable Property Act, 2017 (ARIPA 2017) and JICA's Policy on Involuntary Resettlement (JICA Guidelines). If any gaps between ARIPA 2017 and JICA Guidelines are found, project policy would be made properly in accordance with JICA Guideline.

3. Scale and Scope of Land Acquisition and Resettlement

Project Affected Households (PAHs) and Project Affected Persons (PAPs) have been identified through door-to-door visits using mouza maps and hearings to landowners. 614 households were identified whose houses/stores and/or land will be affected while 515 households were identified whose livelihood is affected though without title of the affected land. The summary of the survey is as shown in below tables. Cut-off date for the Project Affected Persons ineligible for compensation in Bangladesh law was declared at the commencement of census, namely 1st April, 2018. Cut-off date for the Project Affected Persons eligible for compensation in Bangladesh law will be declared before Joint Verification Survey at a detailed design stage.

In survey for inventory of losses (IOL), information on the area of affected land and structure and the

quantity of affected crops and trees has been collected from PAPs by using questionnaires. In livelihood survey, respondents were interviewed by using structured questionnaire. Household composition, education level, occupation, income, utilization of public amenities were confirmed. Questions related to livelihood restoration were included in the interview, where preference for skills training was asked.

Table 1 Summary of the Survey

Category	Formal		Informal		Total	
	PAHs	PAPs	PAHs	PAPs	PAHs	PAPs
1. Houses	97	484	33	175	130	659
2. Shops	5	23	2	10	7	33
2.1. Both Houses and Shops Affected	1	6	1	6	2	12
2.2 Shop only	4	17	1	4	5	21
3. Sub-total of Structures	101	501	34	179	135	680
4. Loss of Agriculture/ Salt Farm	487	2,661	0	0	487	2,661
5. Loss of Residential Land	97	484	0	0	97	484
5.1. Both salt farm and residential	8	38	0	0	8	38
5.2. Residential land only	89	446	0	0	89	446
6. Sub-total of Land	576	3,107	0	0	576	3,107
7. Sub-total of Structure/ Land	580	3,124	34	179	614	3,303
8. Sharecropper					258	
9. Agri-labour					12	
10. Labour in salt and shrimp farm					51	
11. Labour in salt farm					48	
12. Labour in shrimp farm					13	
13. Employee					119	
14. Sub-total of Non-title holder .					515	
15. Total PAHs/PAPs					1,129	

Source: JICA Survey Team

4. Public Consultations

There is no provision on the resident consultation in the LARAP-related laws in Bangladesh. In this Project, in accordance with the JICA guidelines, stakeholder consultations were held twice, namely at the times of scoping and preparation of draft LARAP, where consensus on the project was confirmed. In addition to these meetings, supplemental meetings for obtaining consensus on re-aligned route and compensation policy were held.

5. Compensation and Assistance Policy

The main issue of compensation process entails that PAHs will be rehabilitated at the rate of full replacement cost, at least to pre-project socio economic condition.

The respondent's main choice of Income Restoration Program is technical knowhow (30.0%) , technical assistance (9.0%) and capital support (32.4%), interest free capital (9.0%). As income restoration programs; the following was proposed;

- Agriculture
- Poultry Rearing
- Furniture Technician
- Tailoring/ Industrial sewing
- Pisciculture/Fish Cultivation
- Business Trade

The Entitlement Matrix lists 12 types of losses and category of entitled persons and corresponding proposed

entitlements to cover all possible losses to achieve at least the same level of livelihood of the affected households.

6. Grievance Redress Mechanism

The grievance redress committee (GRC) would be established prior to the implementation of land acquisition and resettlement activities. There would be four-step to handle grievances from PAPs: first step is the union level; second is the upazila level; third is the district level; and fourth is the court level and that the GRC will be required to resolve grievances within 45 days and maximum 15 days at each level with the exception of the fourth level. Other than disputes relating to ownership rights under the court of law, the GRC will review grievances involving all resettlement benefits, relocation, and other assistance.

7. Institutional Arrangements

RHD is the Executing Agency (EA) responsible for implementing the LARAP. RHD shall establish a Project Implementation Unit (PIU) for the Project, headed by a Project Director (PD) that will be responsible for the overall execution of the project including land acquisition, relocation, resettlement and other related matters. The PIU will prepare a land acquisition (LA) plan for the land required to be acquired with the assistance from consultants and shall submit to the DC, Cox's Bazar.

The Executive Engineer concerned under the direct supervision of the Project Director, will undertake day-to-day activities with the appointed Implementation Agency (IA). The Executive Engineer concerned will be the convener of the Joint Verification Team (JVT) and Property Valuation Advisory Team (PVAT). Role of INGO will be support of acquisition process for requiring body, proposed to work for 2 years period. They will be selected by the Executing Agency from NGOs in social development field with the experience of land acquisition, resettlement and livelihood restoration assistance before the Joint Verification Survey is started.

8. Implementation Schedule

The overall schedule of implementation is based on the principle that resettlement benefits are paid to PAHs before they are displaced and civil engineering works takes off. Tentative day for resettlement work will be started after serving of Section 4 notice from Deputy Commissioner Office and will be finished within 1 year period and implementation NGO will work with the EA for expediting the acquisition process. Total implementation work is proposed for 3 years period. LARAP will be implemented as soon as the payments by DC is made, DC's payment is expected to be completed by June 2020.

9. Resettlement Budget and its Source

The resettlement budget takes account of compensation of affected Land, structures, trees, resettlement assistance, institutional cost, hiring of RAP implantation agency, contingency, HIV/STD awareness activities, capacity building, external monitoring and evaluation consultants, documentation and internal monitoring, institutional cost. At this initial stage it is not practicable to accurately estimate land acquisition and costs of resettlement benefits for the project. However, a provisional estimate of LARAP implementation costs for the project is provided based on Census and Socio Economic Survey (SES) of Project Affected Persons and Market Survey of land, trees and structure. The cost will be verified by Property Value Advisory Team (PVAT).

10. Monitoring and Evaluation

Monitoring & Evaluation is an important task for measuring the periodic progress of activities under resettlement program. This helps to identify the constraints and bottlenecks in the progress as well as to

determine remedial measures. Implementation of the LARAP will be monitored regularly. The Project Implementation Unit (PIU) will establish a quarterly monitoring system involving staff of the implementing agency/ NGO staff. The PIU will prepare progress reports on all aspects of land acquisition and resettlement activities.

ABBREVIATIONS

Abbreviation	Description
ARIPA	Acquisition and Requisition of Immoveable Property Act-2017
ARIPO	Acquisition and Requisition of Immoveable Property Ordinance-1982
BBS	Bangladesh Bureau of Statistics
BWDB	Bangladesh Water Development Board
BIG-B	Bay of Bengal Industrial Growth Belt
CCL	Cash Compensation under the Law
CPA	Chittagong Port Authority
CPR	Community Property Resources
DAM	Department of Agriculture Marketing
DC	Deputy Commissioner
DPs	Displaced Persons
DOE	Department of Environment
DOF	Department of Fisheries
EA	Executive Authority
EP	Entitled Persons
EIA	Environmental Impact Assessment
FGD	Focus Group Discussion
GoB	Government of Bangladesh
HH	Household
IEE	Initial Environmental Examination
IRP	Income restoration Program
INGO	Implementing Non-Governmental Organization
IOL	Inventory of Loss
JICA	Japan International Cooperation Agency
JVS	Joint Verification Survey
JVT	Joint Verification Team
LA	Land Acquisition
LAP	Land Acquisition Plan
LAO	Land Acquisition Officer
LA Section	Land Acquisition Section of Deputy Commissioner's Office
LGED	Local Government Engineering Department
MUSCCFPP	Matarbari Ultra Super Critical Coal Fired Power Plant
NGO	Non Government Organization
PD	Project Director
PIU	Project Implementation Unit

PAHs	Project Affected Households
PAPs	Project Affected Persons
RHD	Roads and Highways Department
SES	Socio-economic Survey

GLOSSARY

Census Survey: A survey which covers 100% households being affected by the project irrespective of their ownership into the land.

Compensation: Payment which is in cash or kind (for example land for land) to the PAPs as per land acquisition (LA) Act or other conventional resettlement practices.

Community Participation and Consultation: The active process of sharing information and suggestions seeking as inputs from the project affected, non-affected community and beneficiaries about the project and integrating those in the project design as well as planning and in the mitigation measures.

Cut-off Date: This is the date on and beyond which any persons who encroach on the area are not entitled to compensation or any other form of resettlement assistance. It is often established on the commencement date or last date of the census of PAPs/PAHs or serving section-4 notice under Acquisition and Requisition of Immovable Property Act-2017(ARIPA-2017), which is later. For non-titled PAPs, the commencement date or last date of socio economic survey (SES) is the cut -off date.

Encroachers: People who move into the project area after the cut-off date and are therefore not eligible for compensation or other rehabilitation measures provided by the project. The term also refers to those extending attached private land into public land or constructed structure on public land only for renting out.

Entitlement: The range of measures comprising cash or kind compensation, relocation cost, income restoration assistance, transfer assistance, income substitution, and business restoration which are due to AHs, depending on the type and degree /nature of their losses, to restore their social and economic base.

Household: A household includes all persons living and eating together (sharing the same kitchen and cooking food together as a single-family unit).

Informal Settlers: The non-titled occupants on government land having residential and or business and common establishments.

Inventory of losses: The pre-appraisal inventory of assets as a preliminary record of affected or lost assets

Mouza: The grass-root level unit of land map which depicts plot of land for land ownership prepared by Land Ministry. Each Mouza has a name to differentiate it from the other one.

Non-titled: Those who have no recognizable rights or claims to the land that they are occupying and includes people using private or public land without permission, permit or grant i.e. those people without legal title to land and/or structures occupied or used by them. JICA's policy explicitly states that such people cannot be denied resettlement assistance.

Project Affected Unit: combines residential households (HHs), commercial and business enterprises (CBEs), common property resources (CPRs) and other affected entities as a whole,

Project Affected Households: includes residential households and commercial & business enterprises except CPRS.

Project Affected Person (PAP): Persons affected directly or indirectly by project induced changes in use of land, water, or other natural resources are called PAPs. In other words, a person who as a consequence

of change sustain damages for use of land or loss of immovable property in any manner, or experience loss of income and livelihood. Such impacts may be temporary or permanent in nature and most often occurs through land expropriation using eminent domain or direct purchases for development projects.

Relocation: Displacement or physical moving of the APs from the affected area to a new area/site and rebuilding homes, infrastructure, provision of assets, including productive land/employment and re-establishing income, livelihoods, living and social systems

Replacement cost: The value of assets to replace the loss at current market price, or its nearest equivalent, and is the amount of cash or kind needed to replace an asset in its existing condition, without deduction of transaction costs or for any material salvaged.

For agriculture land, replacement cost is the pre-project or pre-displacement, whichever is higher, market value of land or equal potential or use located in the vicinity of the affected land, plus the cost of land preparation to levels similar to those of the affected land, plus the cost of any registration and transfer taxes.

For land in urban areas, replacement cost is the pre-displacement market value of land equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes

In Bangladesh, the replacement cost is calculated as a cost which includes land price based on mouza rates calculated based on past 1 year market price + 200 % (300% for private acquisition) extra payment in accordance with the law (ARIPA-2017) + tax and duties + extra payment based on the price determined by the Property Valuation Advisory Team (PVAT).

The replacement cost for houses and structures is the market cost of the materials to build a replacement structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and the Contractors' fees, plus the cost of any registration and transfer taxes. (The cost of the land upon which the house or structure sits is considered in Replacement cost of land).

Replacement Land: The land affected by the project that is compensated through provision of alternative land, rather than cash, of the same size and/or productive capacity as the land lost and is acceptable to the PAP.

Resettlement: Means of mitigation of all the impacts associated with land acquisition including restriction of access to, or use of land, acquisition of assets, or impacts on income generation as a result of land acquisition.

Socioeconomic Survey: The population census, asset inventory, and household survey together constitute the socioeconomic survey of the affected population.

Vulnerable Households: Households that are (i) headed by single woman or woman with dependents and low incomes; (ii) headed by elderly/ disabled people without means of support; (iii) households that fall on or below the poverty line (iv) losing last parcel of land (v) households of indigenous population or ethnic minority; and (vi) households of low social group or caste.

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Chapter 1 INTRODUCTION

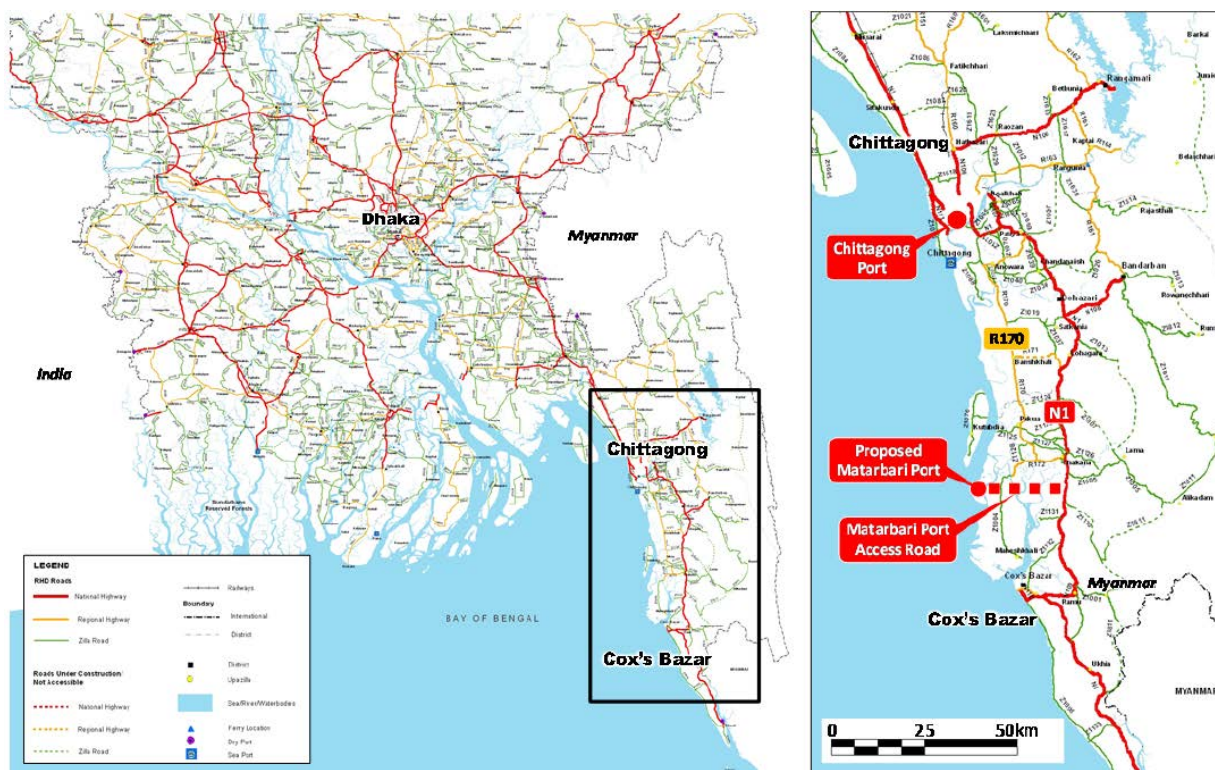
1.1 Project Description

In Bangladesh, export and import cargoes have increased by 10% in the last 5 years. However, as almost all cargoes (98%) are handled at Chittagong, the capacity of the terminal facility has already been exceeded. Accordingly, expansion of the port is required to meet the demand as vessels are commonly forced to wait for berthing. As this situation is detrimental to the economic growth of the country, the Government of Bangladesh has been preparing the seventh five-year development plan (from 2016 to 2020) which calls for new port infrastructure for the port of Chittagong including a coal terminal in the Matarbari area (water depth – 15.3 m) to be developed by a Yen Loan. The Government of Japan and the Government of Bangladesh have strengthened their bilateral relationship through the Bay of Bengal Industrial Growth Belt Initiative (BIG-B).

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Matarbari port will be located in south Chittagong region and approximately 80km south to Chittagong and 25 km from Cox’s Bazar. For ensuring smooth freight transport route in the Region, the Matarbari Port should be connected with National Highway No. 1 (or called Dhaka (Jatrabari)-Comilla (Mainamati)-Chittagong-Teknaf Road) through its Access Road.



Source: Bangladesh RHD Road Network

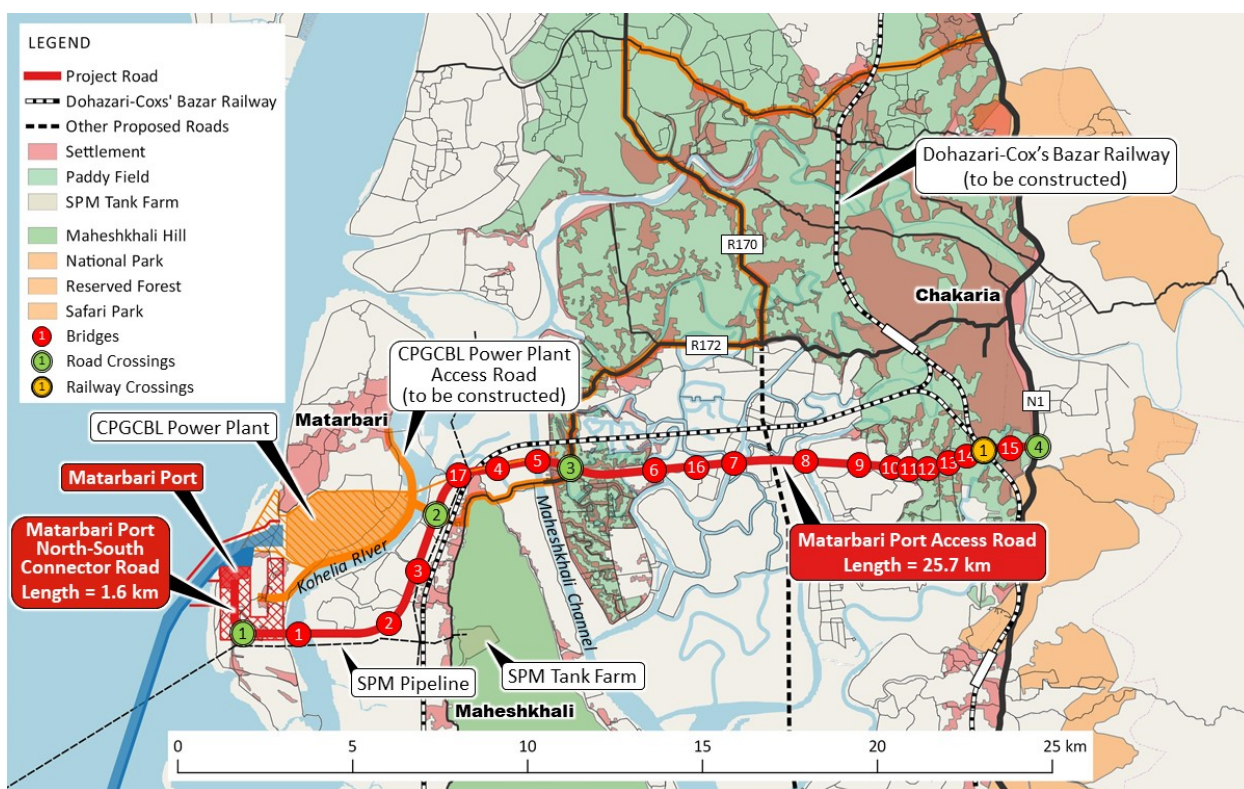
Figure 1.1-1 Road Network in Bangladesh

Overview of project components incurring land acquisition and resettlement and the affected area are shown below.

Table 1.1-1 Outline of access road

Facilities	Size
North-south connecting road at port	Embankment: ROW=90m, L=1.6km (4 lanes)
Access road (From Matarbari port to National Route 1)	Embankment: ROW=80m, L=18.7km Bridge: ROW=25.6m, L=7.0km Total: 25.7km (The target of the project is only 2 lanes. The road will be upgraded to 4 lanes in the future.)

Source: JICA Survey Team



Source: JICA Survey Team

Figure 1.1-2 Project Location (access road)

1.2 Land Acquisition required for the Project

Overview of project components incurring land acquisition and resettlement and the affected area are shown below.

Table 1.2-1 Project Components Incurring Land Acquisition and Resettlement

Project component		Required Area				
		Location	Outline	Total	Transfer of Govern. Land	Acquisition of Private Land
Access road	North-south port connecting road	Moheshkhali Upazila, Cox's Bazar District	1.6km	200.8ha	57.4ha	143.4ha
	Matarbari Port to Route 1	Moheshkhali/Chakaria Upazila, Cox's Bazar District	25.7km			

Based on RHD design standard, the road width has been set as follows in consideration of required road functions and traffic demand forecast.

(Main Road)

- Vehicle lane: 3.65m × 4
- Median strip: 3.0 m
- Side strip: 0.6m × 2
- Shoulder: 1.5m × 2
- Protective shoulder: 2.0m × 2
- Total: 25.8m (Inbound/Outbound 4 lanes)

(Side road)

- Vehicle Lane: 3.00m (without car transportation) or 5.50m (with car transportation)
- Shoulder: 1.00m × 2
- Total: 5.00m or 7.50m × 2

Though this road is planned to be arranged on inbound/outbound 4 lanes in the future, this project is intended to implement stage construction of only half of them (inbound/outbound 2 lanes).

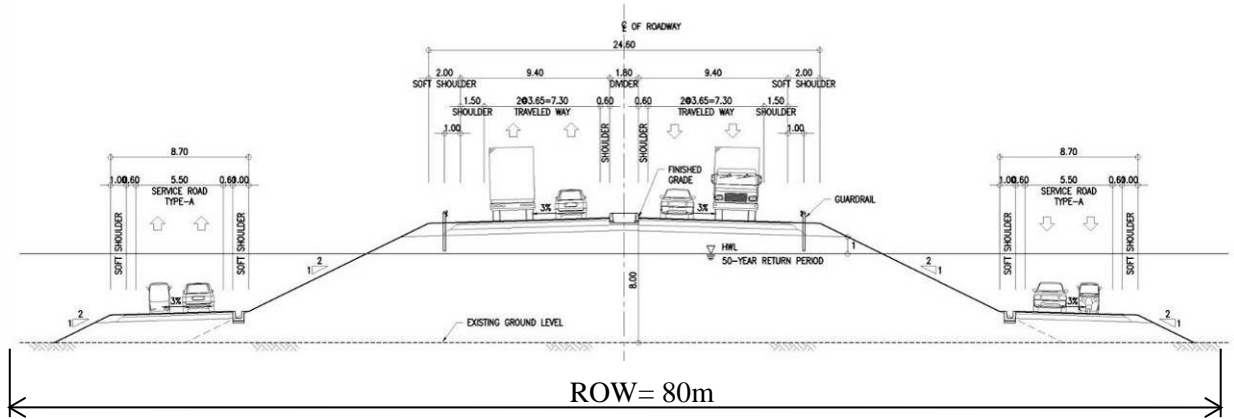
Considering that this is the construction of high embankment on soft ground, the foundation of the embankment needs to be constructed for the road width of future inbound/outbound 4 lanes to prevent uneven settlement at the time of future expansion. Consequently, all necessary ROWs for inbound/outbound 4 lanes are to be secured for the land acquisition in this Project.

Standard width of ROW is as follows:

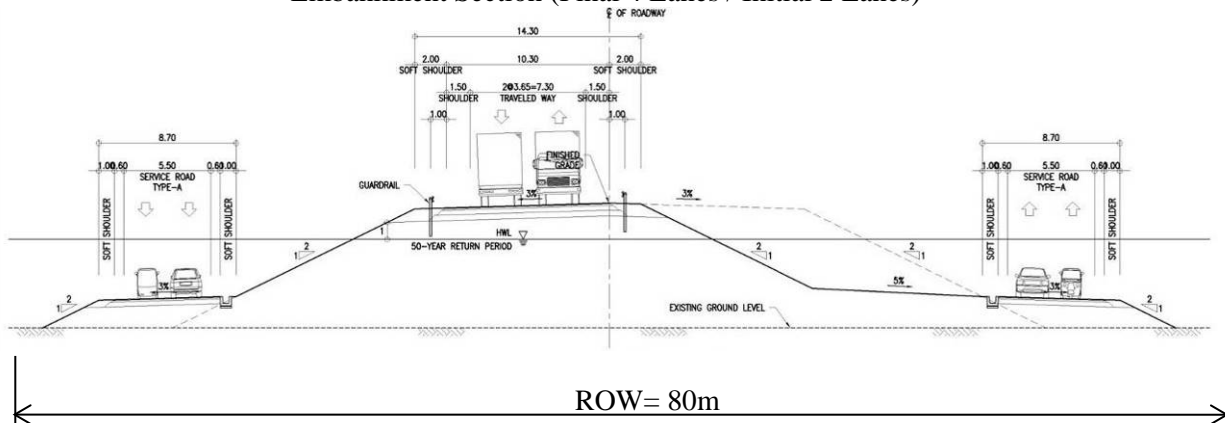
-Embankment section: (Main route of access road) 25.8m + (Side road) 5.00 to 7.50m x 2 + (Embankment slopes) 16m *x 2 + (Construction allowance) 5m x 2 = Approx. 80m

* Assuming that the average height of the embankment is 8m and the gradient of the slope is 1:2.0.

Bridge section: (Main route of access road) 22.6m + (Construction allowance) 1.5m x 2 = 25.6m

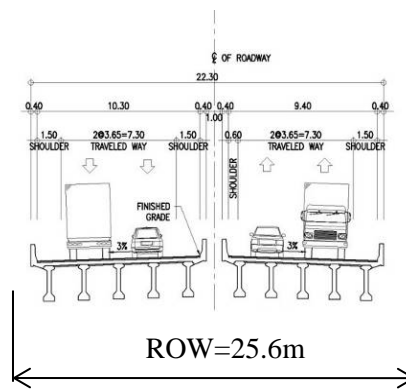


Embankment Section (Final 4 Lanes / Initial 2 Lanes)



Embankment Section (Initial 2 Lanes)

Figure 1.2-1 Typical Cross-section of Embankment Section



Bridge Section (Final 4 Lanes)

Figure 1.2-2 Typical Cross-section of Bridge Section

1.3 Requirement and Objective of RAP Report

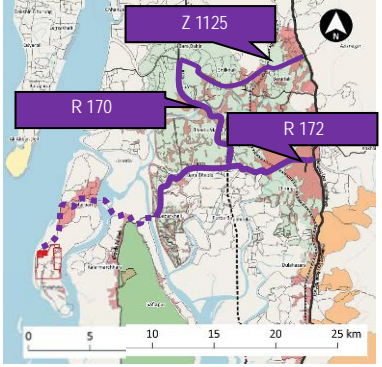
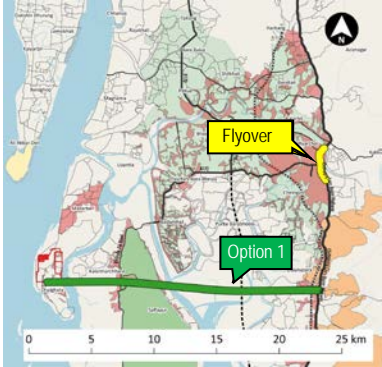
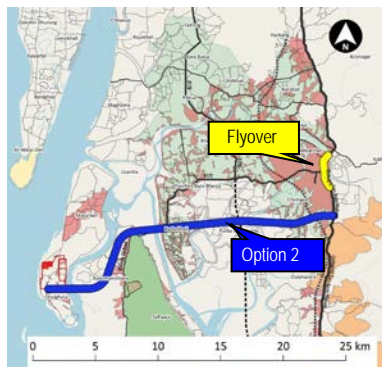
The Land Acquisition and Resettlement Action Plan (LARAP) is prepared for large scale land acquisition and to address involuntary resettlement impacts with appropriate budget provisions. The LARAP has been prepared on the principle of the JICA Guidelines for Environmental and Social Considerations (April, 2010) that development projects must fulfill the social needs and will ensure restoration of socio economic

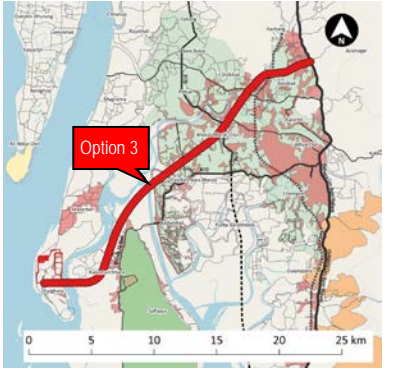
conditions of PAPs at least to the pre-project level or will not worse off after physical and economic displacement.

1.4 Alternative Consideration for Minimizing Resettlement

4 options (one option without project and the Options 1 to 3) were initially examined, and an option with less private land was selected among the plans that can fully achieve the project effects ("Table 1.4-1 Overview of Alternatives" and "Table 1.4-2 Comparison of Alternatives and the Evaluation"). For the next step, the necessity of a flyover has been examined. Based on the transport demand forecast, it was decided to construct only the access road without flyover in this Project. The flyover could be constructed in another project according to the traffic growth after the road is in service (the Options 2-a and 2-b of "Table 1.4-3 Overview of Alternatives" and "Table 1.4-4 Comparison of Alternatives and the Evaluation"). In addition to the above comparison, options with elevation and detour were examined to minimize resettlement in villages. Based on the result of community consultation, a detour option has been selected (the Options 2-1 to 2-3 of "Table 1.4-3 Overview of Alternatives" and "Table 1.4-4 Comparison of Alternatives and the Evaluation"). The result of the community consultation is as shown in "Chapter 4 Public Consultation."

Table 1.4-1 Overview of Alternatives

Alternatives	Location map	Features of the alternative plan
<p>Without Project: To utilize the existing roads (“R172 - R170 - Z1125” or “R172”)</p>		<ul style="list-style-type: none"> • Concept: To utilize the existing roads “Regional Highway No. 172 (R172) - Regional Highway No. 170 (R170) - District Road No. 1125 (ZR1125)” or “R 172” • Project features: No road nor land acquisition is required.
<p>Option 1: Shortest route</p>		<ul style="list-style-type: none"> • Concept: To connect to N1 by the shortest route • Project features: Construction of a new road of approximately 22 km. Traversing Moheshkhali Hills, it connects the Port to N 1 in almost due west. In order to secure the accessibility to Chittagong direction, a flyover is required where N1 passes through the density area of Chakaria Paurashava. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short.
<p>Option 2: Eastward route with avoiding Moheshkhali Hills</p>		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area • Project features: Construction of a new road of approximately 25 km. Although it avoids Moheshkhali Hills, it passes through a village at the north foot of the Hills and a market after crossing the river. In order to secure the accessibility to Chittagong direction, construction of a flyover is required where N1 passes through the density area of Chakaria Paurashava. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short.

Alternative plan	Location map	Features of the alternative plan
<p>Option 3: Route connecting to Chittagong direction with avoiding Moheshkhali Hills</p>		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills, extend to the northeast and connect to N1 in the direction of Chittagong • Project features: Construction of a new road of approximately 30 km. It excels in the accessibility to the Chittagong and flyover of N1 in the section passing through Chakaria density area is not required by the Project. The route passes through three Upazilas, namely Moheshkhali, Pekua and Chakaria. Mainly salt farms and shrimp farms stretch in the section of Moheshkhali and Pekua, while paddy fields and residential areas stretch in Chakaria, meaning that long extended section passes through private land.

* Legend of the above location maps are as follows.

 settlement	 agricultural/ paddy field	 hills	 natural park, reserved forest
 salt farm, shrimp farm			

Source: JICA Survey Team

1.4.1 Comparison of Alternatives (Step 1)

Comparison of alternatives and evaluation were made as follows. Route of north-south connecting road near port facility was determined in Option 1 -Option 3 to connect port facility to main route of access road and not to cause additional resettlement.

Table 1.4-2 Comparison of Alternatives and the Evaluation (Step 1)

Option	Without Project	Option 1	Option 2	Option 3
Overview of alternative plans	Without Project: To utilize the existing roads (“R172 - R170 - Z1125” or “R172”)	Plan with the shortest route	Eastward route with avoiding Moheshkhali Hills	Route connecting to Chittagong direction with avoiding Moheshkhali Hills
Impact on natural environment	A: Additional impact is minimal	D: Passes through the hills and the reserved forests for which additional permission is required for cutting by the law of Bangladesh	B: Does not pass through the section where there is serious concern about impact on the natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment
Pollution	D: There is concern about traffic congestion and air pollution by utilizing community roads for freight transportation.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.
Impact on social environment	A: Resettlement and land acquisition will not be required with this plan.	B: The number of residents to be resettled is minimum among the plans with project implementation (affected houses and shops: approx. 150). B: The section passing through private land is short (estimated 10 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. C: It is likely that ethnic minorities reside on the hills where the road passes through.	D: The number of residents to be resettled is large (affected houses and shops: approx. 250 - 350). B: The section passing through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.	D: The number of relocated residents is large (affected houses and shops: approx. 200-300). The road passes through many villages. D: The section passing through private land is long (estimated 20 km) therefore there is more land to be acquired. Since the road passes through many residential areas, there is concern about community severance and it is difficult to take mitigation measures. B: It is not likely that ethnic minorities are included in the people subject to resettlement.
Technical issues	A: No technical issues	B: No major technical issues	B: No major technical issues	B: No major technical issues
Project Cost	A: No additional costs are incurred.	B: Total length is short therefore expenses are low.	B: Total length is short therefore expenses are low.	C: Total length is long therefore expenses are high. Since there is much private land, cost for land acquisition becomes

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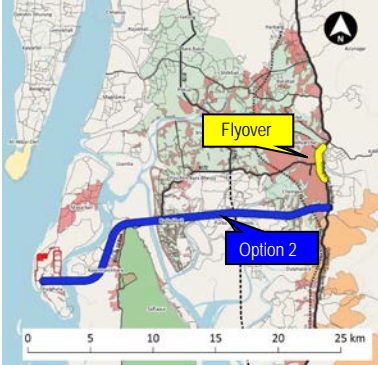
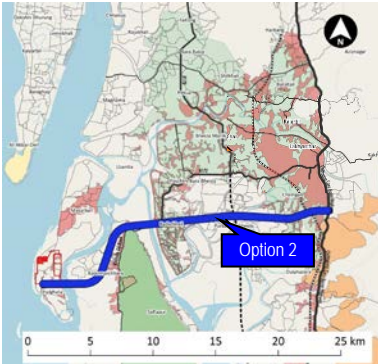
Option	Without Project	Option 1	Option 2	Option 3
				high.
Traffic Safety	D: It is not suitable to invite many cargo trucks into the local roads in terms of traffic safety and freight transport planning.	A: Safe and smooth traffic condition for freight transport can be provided through separating freight transport from local traffic.	C: Though freight transport can be separated from local traffic, traffic safety cannot be secured as the route passes through densely populated village.	C: Though freight transport can be separated from local traffic, traffic safety cannot be secured as the route passes through many villages.
Project Effect	D: There is no passable road for large vehicles at Moheshkhali Upazila side, which makes smooth freight transportation impossible. Smooth freight transport cannot be secured also in Chakaria as many cargo trucks will be invited into the local roads Effect of the port will be limited as it would be difficult to widen the route into 4 lanes.	C: Having good accessibility to Matarbari Port. Accessibility to CPGCBL's Power Plant is not good. (Additional flyover will be required at Chakaria on N1 for securing accessibility to Chittagong.)	A: Having good accessibility to both Matarbari Port and CPGCBL's Power Plant. Additional flyover at Chakaria on N1 will secure the accessibility to Chittagong.	C: Having good accessibility to Chittagong. Good accessibility to both Matarbari Port and CPGCBL's Power Plant. By taking much time for land acquisition, it is very likely that the road is not opened in time for the opening of the port and cannot provide smooth freight transport.
Total evaluation (Ranking)	D-	D	B	C
	There is no passable road for large vehicles at Moheshkhali Upazila side, which makes smooth freight transportation impossible. As for utilization of local and district roads at Chakaria Upazila side as well, which means freight traffic such as trucks passing through community roads, it is not desirable from traffic safety as well as freight transportation planning points of view.	Although it is the shortest route and the negative impact on social environment seems to be minimum among the plans with project implementation, this plan is not desirable because it interferes with Moheshkhali Hills and forests and also because ethnic minorities are likely to subject to resettlement.	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. Although there are fewer private properties, it passes through the village on the northmost part of Moheshkhali Hills and there is concern about many relocated residents. Though relocation of additional 50 shops will be required, high project effect can be expected by securing smooth traffic to Chittagong.	There are long extensions of the sections passing through private properties, therefore there is concern about a lot of land acquisition, resettlement and community severance. By taking much time for land acquisition, it is very likely that the road is not opened in time for the opening of the port, therefore this plan is undesirable.

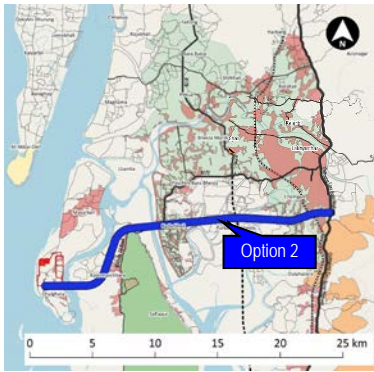
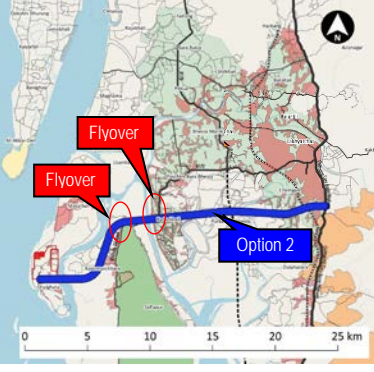
Source: JICA Survey Team

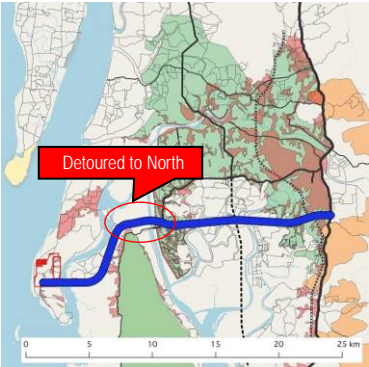
(Note) A: The highest evaluation, B: Good, C: Other options can be desirable, D: Shall be avoided

After selecting the route, comparison of 1) option with/without flyover in Chakaria and 2) avoidance of settlement area in the north of Moheshkhali and bazar in Badarkhali were made as follows.

Table 1.4-3 Overview of Alternatives: step2

Contents of consideration	Alternatives	Location map	Features of the alternative plan
Necessity of flyover	Option 2-a: Eastward route with avoiding Moheshkhali Hills (With a flyover in Chakaria)		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area. A flyover will be constructed in Chakaria. • Project features: Construction of a new road of approximately 25 km. Although it avoids Moheshkhali Hills, it passes through a village at the north foot of the Hills and a market after crossing the river. In order to secure the accessibility to Chittagong direction, a flyover will be constructed where N1 passes through the density area of Chakaria Paurashava. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short.
	Option 2-b: Eastward route with avoiding Moheshkhali Hills (Without a flyover in Chakaria)		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area. A flyover is not constructed in Chakaria. • Project features: Construction of a new road of approximately 25 km. Although it avoids Moheshkhali Hills, it passes through a village at the north foot of the Hills and a market after crossing the river. A flyover in Chakaria can be constructed in a separate project in the future while this project aims at connection to N1. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short.

<p>Avoidance of village and market</p>	<p>Option 2-1: Eastward route with avoiding Moheshkhali Hills. (Without avoidance for village at the north foot of the Hills in Moheshkhali and a market in Badarkhali)</p>		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area. • Project features: Construction of a new road of approximately 25 km. Although it avoids Moheshkhali Hills, it passes through a village at the north foot of the Hills and a market after crossing the river. A flyover in Chakaria can be constructed in a separate project in the future while this project aims at connection to N1. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short.
	<p>Option 2-2: Eastward route with avoiding Moheshkhali Hills. (With viaducts at sections passing through a village at the north foot of the Hills and a market in Badarkhali)</p>		<ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area. The sections passing through a village at the north foot of Moheshkhali hills and a market at Badarkhali are elevated in order to minimize the impact. • Project features: Construction of a new road of approximately 25 km. A flyover in Chakaria can be constructed in a separate project in the future while this project aims at connection to N1. There is no land acquisition and resettlement in Chakaria as no flyover will not be constructed in Chakaria density area. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short. By elevating the section of village at the north foot of the Moheshkhali Hills, the number of residents subject to resettlement is reduced. By elevating the section passing through the

	<p>Option 2-3: Eastward route with avoiding Moheshkhali Hills. (With detouring village at the north foot of Moheshkhali and a market in Badarkhali)</p>		<p>southmost part of the Badarkhali market, the number of shops subject to relocation is reduced and the north-south passage is secured.</p> <ul style="list-style-type: none"> • Concept: To avoid Moheshkhali Hills while minimizing the section passing through private land and residential area. Detouring village at the north foot of Moheshkhali and a market in Badarkhali. • Project features: Construction of a new road of approximately 25 km. A flyover in Chakaria can be constructed in a separate project in the future while this project aims at connection to N1. As most of the section passes through salt farms and shrimp farms, the section passing through residential area is rather short. By detouring village at the north foot of Moheshkhali and a market in Badarkhali, number of households to be displaced will be reduced.
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* Legend of the above location maps are as follows.

[Red Box]	settlement	[Light Green Box]	agricultural/ paddy field	[Dark Green Box]	hills	[Yellow Box]	natural park, reserved forest
[Light Yellow Box]	salt farm, shrimp farm						

Source: JICA Survey Team

1.4.2 Comparison of Alternatives (Step 2)

Comparison and evaluation of alternatives was made as follows. At the moment of initial comparison, combination of option 2-a (With a flyover in Chakaria) and Option 2-2 (With viaducts at sections passing through a village at the north foot of the Hills and a market in Badarkhali) were selected as the recommended option. After traffic demand forecast, however, Option 2-b without the flyover in Chakaria was selected assuming that the flyover could be constructed in another project in the future. Moreover, regarding sections passing through a village at the north foot and Moheshkhali and a market, Option 2-3 (With detouring the village and the market to the north) was selected based on consultation with residents.

Table 1.4-4 Comparison of Alternatives and the Evaluation (Step 2)

Alternatives	Necessity of flyover		Workaround of village and market		
	Option 2-a	Option 2-b	Option 2-1	Option 2-2	Option 2-3
Overview of alternative plans	Eastward route with avoiding Moheshkhali Hills. (With a flyover in Chakaria)	Eastward route with avoiding Moheshkhali Hills. (Without a flyover in Chakaria)	Eastward route with avoiding Moheshkhali Hills. (Without avoidance for village at the north foot of the Hills in Moheshkhali and a market.)	Eastward route with avoiding Moheshkhali Hills. (With viaducts at sections passing through a village at the north foot of the Hills and a market)	Eastward route with avoiding Moheshkhali Hills. (With detouring a village at the north foot of Moheshkhali hill and a market to north direction)
Impact on natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment	B: Does not pass through the section where there is serious concern about impact on the natural environment
Pollution	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.	B: Although there is concern about certain amount of air pollution and noise during the construction, they can be minimized by appropriate mitigation measures.
Impact on social environment	D: The number of residents to be resettled is large (affected houses and shops: approx. 350) C: The section passing	C: The number of residents to be resettled is smaller than Option 2-a (affected houses and shops: approx. 300). C: The section passing	C: The number of relocated residents is the largest among three options (affected houses and shops: approx. 300). C: The section passing	B: The number of residents to be resettled is smaller than Option 2-1 (affected houses and shops: approx. 200) C: The section passing	A: The number of residents to be resettled is smaller than Option 2-1 and 2-2 (affected houses and shops: approx. 150). C: The section passing

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Alternatives	Necessity of flyover		Workaround of village and market		
	Option 2-a	Option 2-b	Option 2-1	Option 2-2	Option 2-3
	through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.	through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.	through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.	through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.	through private land is short (estimated 15 km) therefore there is less land to be acquired while there is concern on certain impact on salt and shrimp farm even in government land. B: It is not likely that ethnic minorities are included in the people subject to resettlement.
Technical issues	B : No major technical issues	B : No major technical issues	B : No major technical issues	B : No major technical issues	C : There is possibility to alter the part of road plan for crossing railroad in the future.
Project Cost	B : Total length is short therefore expenses are low.	A : Total length is short therefore expenses are low. Additional construction cost for the flyover is not required.	A : Total length is short therefore expenses are low. Additional construction cost for the flyover is not required.	A : Total length is short therefore expenses are low. Additional construction cost for the flyover is not required. Additional construction cost for the viaduct is required in the sections passing through a village and market.	A : Total length is short therefore expenses are low. Additional construction cost for the flyover is not required. To extend approximately 300m for avoiding a village and market, this plan is a little more expensive than Option 2-2
Traffic Safety	C: Although freight transport can be separated from local traffic, this plan is not desirable on the traffic safety because it passes through densely populated village.	C: Although freight transport can be separated from local traffic, this plan is not desirable on the traffic safety because it passes through densely populated village.	C: Although freight transport can be separated from local traffic, this plan is not desirable on the traffic safety because it passes through densely populated village.	A: Freight transport can be separated from local traffic. Traffic safety can be secured as the section will be elevated where it passes through densely populated village.	A: Freight transport can be separated from local traffic. Traffic safety is high because it doesn't pass through densely populated village.
Project Effect	A: Having good accessibility to both	B: Having good accessibility to both	B: Having good accessibility to both	B: Having good accessibility to both	B: Having good accessibility to both

Alternatives	Necessity of flyover		Workaround of village and market		
	Option 2-a	Option 2-b	Option 2-1	Option 2-2	Option 2-3
	Matarbari Port and Electric Power Plant. Additional flyover at Chakaria on N1 will secure the accessibility to Chittagong.	Matarbari Port and Electric Power Plant. Accessibility for freight transport to Chittagong can be limited by traffic congestion in Chakaria on N1.	Matarbari Port and Electric Power Plant. Accessibility for freight transport to Chittagong can be limited by traffic congestion in Chakaria on N1.	Matarbari Port and Electric Power Plant. Accessibility for freight transport to Chittagong can be limited by traffic congestion in Chakaria on N1.	Matarbari Port and Electric Power Plant. Accessibility for freight transport to Chittagong can be limited by traffic congestion in Chakaria on N1.
Total evaluation (Ranking)	B	A	C	B	A
	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. Although there are fewer private properties, it passes through the village on the northmost part of Moheshkhali Hills and there is concern about many relocated residents. Though relocation of additional 50 shops will be required without construction the flyover of the sections passing through Chakaria city on N1, high project effect can be expected by securing smooth traffic to Chittagong.	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. Although there are fewer private properties, it passes through the village on the northmost part of Moheshkhali Hills and there is concern about many relocated residents. Without construction the flyover of the sections passing through Chakaria city on N1, additional resettlement can be avoided. In the future, another project for flyover is required for securing accessibility to Chittagong.	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. Although there are fewer private properties, it passes through the village on the northmost part of Moheshkhali Hills and there is concern about many relocated residents. Without construction the flyover of the sections passing through Chakaria city on N1, additional resettlement can be avoided. In the future, another project for flyover is required for securing accessibility to Chittagong.	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. There are fewer private properties and the scale of resettlement is reduced by elevating the section passing through the village on the northmost part of Moheshkhali Hills. Without construction the flyover of the sections passing through Chakaria city on N1, additional resettlement can be avoided. In the future, another project for flyover is required for securing accessibility to Chittagong.	Since the road circumvents Moheshkhali Hills and forests, concern about natural environment is significantly mitigated. There are fewer private properties and the scale of resettlement is greatly reduced by circumventing the village on the northmost part of Moheshkhali Hills. Without construction the flyover of the sections passing through Chakaria city on N1, additional resettlement can be avoided. In the future, another project for flyover is required for securing accessibility to Chittagong.

Source: JICA Survey Team

(Note) A: The highest evaluation, B: Good, C: Other options can be desirable, D: Shall be avoided

Chapter 2 POLICY AND LEGAL FRAMEWORK

The framework of the land acquisition and resettlement policy and the entitlements of Project Affected Persons in this project are to be set based on the "Acquisition and Requisition of Immovable Property Act (ARIPA2017)", the law of Bangladesh, and the policy related to involuntary resettlement on JICA guidelines.

"Acquisition and Requisition of Immovable Property Ordinance of 1982 (ARIPO 1982)", was revised in 1993 and 1994 after its enforcement and applied to acquisition and requisition (temporary acquisition) implemented by the government for the public purpose and interest. Currently, Acquisition and Requisition of Immovable Property Act, 2017 (ARIPA 2017)" is effective repealing the ARIPO 1982, and the amount of compensation for land acquisition has been raised. A legal process for land acquisition is initiated after a detailed map and land acquisition plan are submitted to the Deputy Commissioner (DC) of the concerned District. When the compensation amount based on ARIPA 2017 and replacement cost are different, the difference will be paid by the implementation organization via NGOs.

2.1 Key Legislations

2.1.1 Acquisition and Requisition of Immovable Property Ordinance of 1982(ARIPO) and its subsequent amendments in 1993 and 1994

Previously, the policy framework and entitlements in Bangladesh had been based on national law, *Acquisition and Requisition of Immovable Property Ordinance of 1982 (ARIPO 1982)*. DC is empowered to make permanently acquisition or temporarily requisition of property and pay compensation for the eligible PAPs. DC assesses the amount of compensation, taking into consideration factors such as: land transactions in the locality over the past 12 months. The amendments to the ARIPO in 1993 increased the amount of the premium for compulsory acquisition from 25 to 50% on the assessed value of the property. The 1994 amendment provides provision for payment of crop compensation to tenants. The ARIPO does not cover compensation for loss of wage income; it also does not cover losses of non-titled persons (Sharecropper, squatters, encroachers, etc.) aside from crop losses to tenants.

For the purpose of acquisition and requisition of immovable properties in Bangladesh, the government, taking into consideration all previous Acts, Rules, Ordinances etc., have prepared '**Acquisition of Immovable Properties Manual-1997**'. This manual guides all acquisition and requisition of immovable properties as well as payment of compensation for all sorts of losses.

2.1.2 Acquisition and Requisition of Immovable Property Act-2017

The ARIPA 2017 annulled the ARIPO 1982 and changed the compensation calculation rate.

The compensation for the affected persons based on the ARIPA 2017 shall be the amount that adds 200% premium to the average market price of land in the past year for the purpose of governmental projects, and the amount that adds 300% premium for the purposed of private sector projects. Compensation for loss of crops and trees shall be the amount that adds 100% premium to their market prices. For the market price used to calculate land compensation, a mouza rate (municipality-specific rate) set by the DC (Deputy Commissioner) office will be applied. The market price used to calculate building compensation is set by PWD (Public Works Department).

The ARIPA 2017 retains the provision that land of religious institutions like mosques, temples and graveyards cannot be acquired generally. However, it also incorporates a provision that would allow the government to acquire land of any religious institutions if inevitable for public interest. The acquisition process is the same as previous.

For land acquisition in Bangladesh, feasibility study in the field area will have to be conducted for identifying houses and plots to be affected. Based on the feasibility study, any executing agency shall submit proposal for land acquisition to DC. DC, as a member of land committee, will make verification of the proposal on the field level. During the verification process, District Land Acquisition Commissioner, on behalf of DC, will hold the meeting calling concerned stakeholders. After the verification, DC will give notice to landowners for land acquisition. Land owners can submit application against land acquisition if any opposition. DC will take hearing from the landowners and reply to them.

2.2 Applicability of ARIPA 2017 in the context of the Project

The key policies of the present law (ARIPA-2017) will be applicable in the present project. Previous ordinance is already annulled. Cash compensation under the law (CCL) will be inflated by 200% premium money as per new law. Religious institution may be acquired if there is no alternative. Generally these institutions will not be acquired. Other resettlement issues will be applicable as a best practices as these practices were done in the projects of the country.

Table 2.2-1 Acts / Policies / Notifications & their relevance to the project

No.	Acts/Policies/Notifications	Relevance to the project
1	The affected persons will get additional 200 per cent compensation of the present market price of land assessed by Land Acquisition (LA) section of DC in case of acquiring it for any government organization, while additional 300 per cent compensation in case of acquiring land for any private organization. (ARIPA-2017)	For access road project, cash compensation under the law (CUL) added by 200% premium on DC's market price as per new law (ARIPA-2017) will be applicable.
2	The land of religious institutions if essential for public interest could be acquired provided that those institutions should be relocated and reinstated at the costs of the persons or institutions for whom the land is acquired	This will be partially applicable. Nasir Mohammad Deil pond and Graveyard may be affected. The local community has given objection to acquire this pond.

2.3 JICA's policy on land acquisition and resettlement

JICA's Policy on Land Acquisition and resettlement is as shown below.

The key principle of JICA policies on involuntary resettlement is summarized below.

- I. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.
- II. When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses should be taken.
- III. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore

their standard of living, income opportunities and production levels to pre-project levels.

IV. Compensation must be based on the full replacement cost as much as possible.

V. Compensation and other kinds of assistance must be provided prior to displacement.

VI. For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP 4.12, Annex A.

VII. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people.

VIII. Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.

IX. Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

Above principles are complemented by World Bank OP 4.12, since it is stated in JICA Guideline that “JICA confirms that projects do not deviate significantly from the World Bank’s Safeguard Policies”. Additional key principle based on World Bank OP 4.12 is as follows.

X. Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.

XI. Eligibility of Benefits include, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.

XII. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.

XIII. Provide support for the transition period between displacement and livelihood restoration.

XIV. Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.

XV. For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.

In addition to the above core principles on the JICA policy, it also laid emphasis on a detailed resettlement policy inclusive of all the above points; project specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc.

2.4 Key Gap between (Policy in Bangladesh) and JICA guidelines

The differences between the JICA Guidelines for Environmental and Social Consideration and the

Resettlement / Land Acquisition Law in Bangladesh are as follows. If there is any gap between the GOB law and JICA guidelines for implementation of RAP, proper measure should be taken in compliance with JICA guidelines.

Table 2.4-1 Gaps between Law in Bangladesh and JICA Guidelines regarding Involuntary Resettlement

No.	JICA Guidelines (A)	Acquisition and Requisition of Immovable Property Ordinance-1982	Acquisition and Requisition of Immovable Property Ordinance-2017 (B)	Gaps between (A) and (B)	Project Policy
1	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. (JICA GL)	No formal laws, act or ordinance but common practice	No formal laws, act or ordinance but common practice	There is practice but not legally bound	Project shall be planned to avoid involuntary resettlement and loss of means of livelihood as much as possible.
2	When population displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken. (JICA GL)	No formal laws, act or ordinance but common practice; compensation by DC as Cash compensation under law (CCL);50% premium on calculated amount (ARIPO 1982, Part II, section (8(2))	No formal laws, act or ordinance but common practice; compensation by DC as Cash compensation under law (CCL); additional percentage of 200% on calculated amount in government projects (300% premium on calculated amount in private projects) (ARIPO 2017, Part II, section 9(2)) In addition to the compensation, it is also stipulated that necessary action may be taken to rehabilitate the displaced family (ARIPO 2017, Part II, section (9(4))	Minimization of the impact is not stipulated. It might be insufficient in terms of 200% premium on actual market price as replacement value.	Minimization of the impact shall be examined.
3	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production	No legal provision	The amount of compensation for the immovable property shall be paid in consideration thereof In addition to the compensation mentioned	Insufficient compensation, support and practice to restore pre-project living standard and production level.	Compensation and rehabilitation assistance shall be provided to restore pre-project living standard and production level.

No.	JICA Guidelines (A)	Acquisition and Requisition of Immovable Property Ordinance-1982	Acquisition and Requisition of Immovable Property Ordinance-2017 (B)	Gaps between (A) and (B)	Project Policy
	levels to pre-project levels. (JICA GL)		in this section, due to the acquisition, necessary action may be taken to rehabilitate the displaced family. (ARIPO 2017 (9(4)))		
4	Compensation must be based on the full replacement cost as much as possible. (JICA GL)	In addition to the market value of the property as provided in sub-section (1), the Deputy Commissioner shall, in every case award a sum of 50% (fifty per centum) on such market value in consideration of the compulsory nature of the acquisition. (ARIPO 1982, Part II, section 8(2))	In case of acquisition of land for any government requirement, a person belonging to the interest shall be paid an additional percentage of 200 (two hundred) compensation on the market price. (As for a requirement of private company the additional amount will be 300 (300) percent.) (ARIPO 2017 (9(2))) Valuation of structure is made by PWD where depreciation will be considered if the structures are older than ten years. Compensation of trees and is made by market values which is assessed by Forest department and Agricultural Department respectively.	Compensation by ARIPO 2017 might be below the replacement cost.	Compensation to be provided at full replacement cost or 200 % of market price, whichever higher.
5	Compensation and other kinds of assistance must be provided prior to	No legal provision	No legal provision	Normally displaced before getting	Compensation and other kinds of assistance shall

No.	JICA Guidelines (A)	Acquisition and Requisition of Immovable Property Ordinance-1982	Acquisition and Requisition of Immovable Property Ordinance-2017 (B)	Gaps between (A) and (B)	Project Policy
	displacement. (JICA GL)			compensation and support	be provided prior to displacement.
6	For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. (JICA GL)	Not such legal bindings in the law	Not such legal bindings in the law	Though no legal provision but practice in donor funded project	RAP will be prepared.
7	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. (JICA GL)	No such arrangement in the law, even no scope of RAP	No such arrangement in the law, even no scope of RAP	Preparation of RAP is a social reality	Consultations will be held with the affected people and their communities
8	When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people. (JICA GL)	No provision of consultations in the law but there is a practice of consultations in donor project	No provision of consultations in the law but there is a practice of consultations in donor project	In fact when consultations held, it is clearly understandable to the affected in their local language	Explanation in consultation will be made in Bengali language.
9	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans. (JICA GL)	No provision and guideline in law	No provision and guideline in law	Stakeholders normally remain in dark regarding project formulation, implementation and monitoring issues	Participation of affected people will be promoted through consultation and FGDs.
10	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities. (JICA GL)	There is a scope of arbitration regarding payment related issues for titled owner (ARIPO 1982, Part IV)	There is a scope of arbitration regarding payment related issues for titled owner (ARIPA 2017, Part IV)	This is not easy for common people and doesn't ensure compensation at the rate of full replacement cost, also for non-titled owners do not get any compensation and not	Appropriate and accessible grievance mechanisms will be established.

No.	JICA Guidelines (A)	Acquisition and Requisition of Immovable Property Ordinance-1982	Acquisition and Requisition of Immovable Property Ordinance-2017 (B)	Gaps between (A) and (B)	Project Policy
				get income restoration support	
11	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits. (WB OP 4.12 Para. 6)	Whenever it appears to the District Commissioner that any property is needed for any public purpose/interest, he shall cause a notice to be published at convenient places on or near the property (ARIPO 1982, Part II, section 3) No provisions of early identification of affected persons, there is act in case of Jamuna Bridge Project (land acquisition) (Compensation Refusal Laws)-1994(Act No-14); for refusal of compensation of fake structure.	Whenever it appears to the District Commissioner that any property is needed for any public purpose/interest, he shall cause a notice to be published at convenient places on or near the property, before Joint Verification Survey (ARIPO 2017, Part II, section 4(1)) Before the issue of the notice, the actual condition and nature of the immovable property proposed for acquisition, the structure and the infrastructure, crops and trees, everything else and videos of the project or other by using any technology, its statement will be prepared (ARIPO 2017, Part II, section 4(3)(a))	In Bangladesh law, cut-off-date is declared at DD stage after submission of F/S with Land Acquisition Plan from executing agencies while cut-off-date in JICA Projects is declared at the commencement of census.	Cut-off-date for Project Affected Person eligible for compensation in ARIPO 2017 is declared before Joint Verification Survey at DD stage. Cut-off-date for Project Affected Person not covered by in ARIPO 2017 is considered to be the one at the commencement of census.
12	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized	The compensation will be paid to the bargadar, a person who cultivate the land of another person	The compensation will be paid to the bargadar, a person who cultivate the land of another person	Vulnerable and squatter are deprived	All non-titleholders (as identified on date of census survey) will also be eligible for

No.	JICA Guidelines (A)	Acquisition and Requisition of Immovable Property Ordinance-1982	Acquisition and Requisition of Immovable Property Ordinance-2017 (B)	Gaps between (A) and (B)	Project Policy
	under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying. (WB OP 4.12 Para. 15)	(ARIPO 1982, Part II, section 10) though no compensation for non-titled owner and squatter in the law	(ARIPO 2017, Part II, section 12), though no compensation for non-titled occupants and squatter in the law		resettlement and rehabilitation benefits
13	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. (WB OP 4.12 Para. 11)	No support in the law	No support in the law though land will be provided under the responsibility of the executing agency in practice	Lack of legal support, but in donor supported project there is example of Resettlement Site (RS) specially for vulnerable homestead loser	Resettlement policy based on land shall be considered if livelihood is closely connected with specific land.
14	Provide support for the transition period (between displacement and livelihood restoration). (WB OP 4. 12, para.6)	No support in the law	No support in the law	Lack of livelihood restoration support	Transition benefits to be provided to non-titleholders (displaced and livelihoods impacted) who have been identified as per census survey
15	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc. (WB OP 4.12 Para. 8)	No guideline in the law	No guideline in the law	No distinction or priority in Bangladesh's law regarding vulnerability	Special assistance shall be provided to the vulnerable groups.

Chapter 3 SOCIO ECONOMIC IMPACT SURVEY

3.1 Overview of the Project Area

The project site is located in Cox's Bazar District, Chittagong Division in south east Bangladesh. Cox's Bazar was established as a sub-division of Chittagong Division in 1854 when it was under Bengal Presidency of British India and upgraded to a district in 1984. In the present time, Cox's Bazar District consists of eight Upazilas, 71 unions (administrative areas) and 182 mauzas (communities).

The planned access road passes through six unions in two Upazilas, namely Dhalghata Union and Kalarmarchara Union in Moheshkhali Upazila, Badarkhali Union, Saharbil Union, Chiringa Union and Fasiakhali Union in Chakaria Upazila.

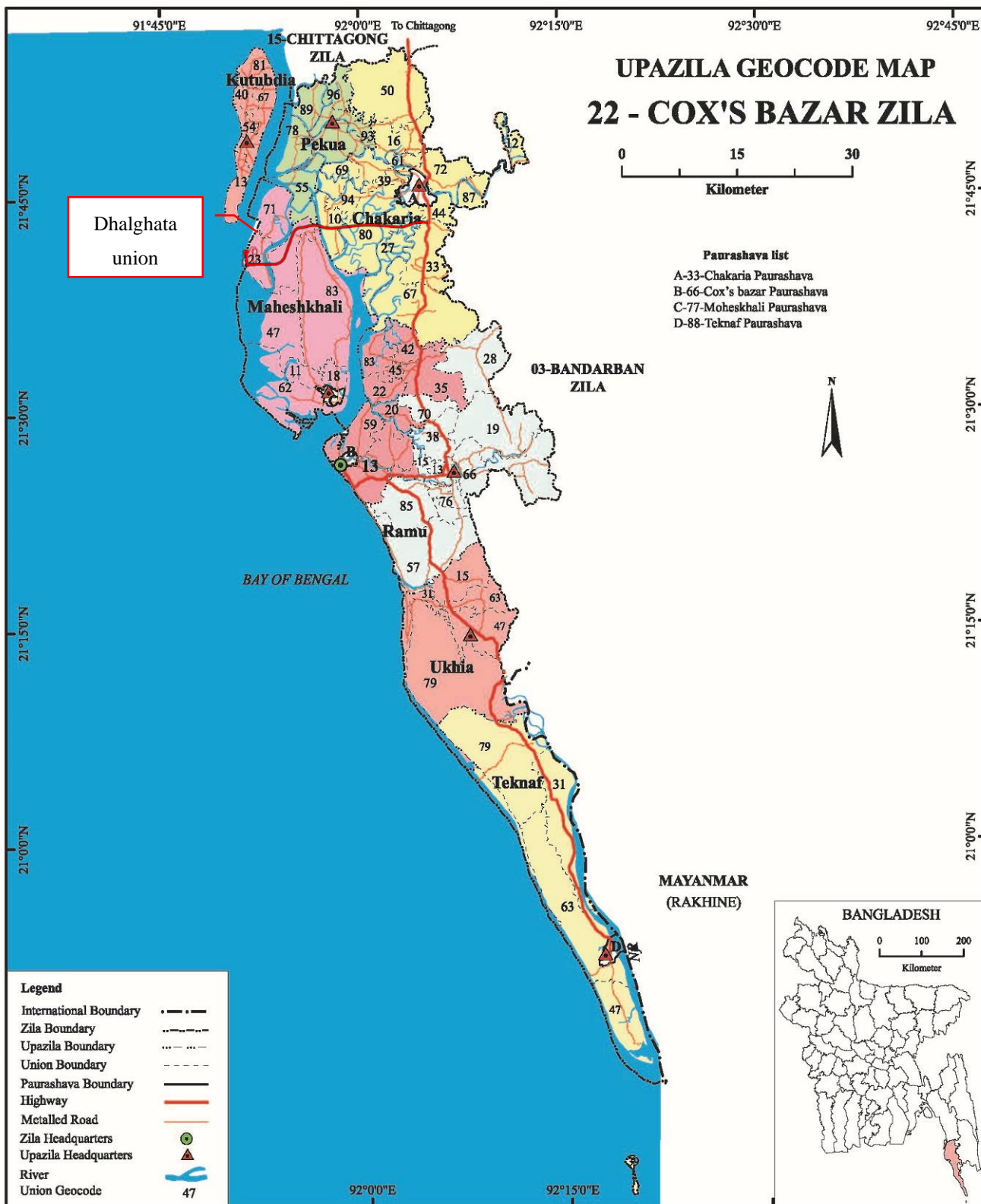
The Upazilas, unions and mauzas affected by the project area are shown in the table and the figures below.

Table 3.1-1 Project Affected Unions and Mouzas

Division	District	Upazila	Union	Mouza	Component
Chittagong	Cox's Bazar	Moheshkhali	23 Dhalghata	160 Dhalghata	Port and road
			59 Kalarmarchara	577 Kaliganj	Road
		545 Kalarmarchara			
		513 Jhapua			
		449 Younuskhali			
		Chakaria	994 Uttar Nalbila		
			10 Badarkhali	015 Badarkhali	Road
			80 Saharbil	857 Rampur	Road
27 Chiringa	734 Palakata (Part)		Road		
	44 Fasiakhali	321 Fasiakhali	Road		

Note : The numbers attached to unions and mouzas are "Geo Code", which is correspondence with map shown in the next page.

Source: JICA Survey Team based on BBS "Population & Housing Census -2011 Community Report: Cox's Bazar"



Source : Prepared by JICA Survey Team based on BBS “Small Area Atlas Bangladesh”

Figure 3.1-1 Map of Cox’s Bazar and Project Area



Source : Prepared by JICA Survey Team based on BBS “Small Area Atlas Bangladesh”

Figure 3.1-2 Unions in Moheshkhali and Chakaria Upazila, Project Affected Unions

3.1.1 Area and Population

Total area of Cox's Bazar District where the project site is located is 2,492 km² of which 941 km² is a forest area. The number of households is 415,954 and the average number of people per household is 5.51. The population in 2011 is 2,289,990, the population growth rate in 10 years from 2001 is 29.11 % and the average annual population growth rate is 2.55 %.

Moheshkhali Upazila is a peninsula-shaped upazila located along the northeastern coast of Cox's Bazar District. Total area is 362 km² of which 57 km² is a forest area. The number of households in 2011 is 58,177 and the average number of people per household is 5.52. The population is 321,218, the population growth rate in 10 years from 2001 is 25.21 % and the average annual population growth rate is 2.24 %.

Chakaria Upazila is the biggest upazila in Cox's Bazar District in terms of both area and population. Total area is 504 km² of which 208 km² is a forest area. The number of households in 2011 is 88,391 and the average number of people per household is 5.36. The population is 474,465, the population growth rate in 10 years from 2001 is -5.75 % and the average annual population growth rate is -0.58 %, which shows a decreasing trend in contrast with Cox's Bazar District as a whole and Moheshkhali Upazila described above.

Table 3.1-2 Demographic Data of the Project Area (in 2011)

Administrative Unit	Area (km ²)	Household	Population			Population Density (km ²)
			Total	Male	Female	
Bangladesh	147,569	32,173,630	144,043,697	72,109,796	71,933,901	976
Chittagong Division	33,909	5,626,310	28,423,019	13,933,314	14,489,705	838
Cox's Bazar District	2,492	415,954	2,289,990	1,169,604	1,120,386	919
Moheshkhali Upazila	362	58,177	321,218	165,693	155,525	887
Dhalghata Union	2	2,250	12,877	6,688	6,189	6,441
Kalarmarchara Union	29	8,930	49,268	25,615	23,653	1,697
Chakaria Upazila	504	88,391	474,465	239,198	235,267	942
Badarkhali Union	18	5,947	30,964	15,677	15,287	1,747
Saharbil Union	41	3,419	19,880	10,125	9,755	479
Chiringa Union	32	2,759	15,745	7,955	7,790	497
Fasiakhali Union	18	4,528	25,137	12,588	12,549	1,410

Source : BBS "Population & Housing Census -2011 Community Report : Cox's Bazar"

In Cox's Bazar District, Muslims have the greatest majority of 94.0 %. They are followed by Hindus (4.3 %), Buddhists (1.7 %) and Christians (0.1%). The tendency is the same in Moheshkhali Upazila and Chakaria Upazila, however, in the eastern part of Chakaria Upazila, namely, in Fasiakhali Union where the end point of the access road is located, the ratio of Muslims is somewhat lower at 88.1 while the ratio of Hindus is somewhat higher at 10.8 %.

Table 3.1-3 Religious Belief of the Project Area (in 2011)

(persons)

Administrative Unit	Pop. Total	Muslim	Hindu	Christian	Buddhist	Others
Cox's Bazar District	2,289,990	2,151,958	97,648	1,503	37,822	1,059
		94.0%	4.3%	0.1%	1.7%	0.0%
Moheshkhali Upazila	321,218	301,858	16,647	6	2,682	25
		94.0%	5.2%	0.0%	0.8%	0.0%
Dhalghata Union	12,877	12,687	190	0	0	0
		98.5%	1.5%	0.0%	0.0%	0.0%
Kalarmarchara Union	49,268	47,386	663	2	1,214	3
		96.2%	1.3%	0.0%	2.5%	0.0%
Chakaria Upazila	474,465	442,799	26,142	1,265	4,207	52
		93.3%	5.5%	0.3%	0.9%	0.0%
Badarkhali Union	30,964	30,755	198	0	11	0
		99.3%	0.6%	0.0%	0.0%	0.0%
Saharbil Union	19,880	18,620	1,259	0	1	0
		93.7%	6.3%	0.0%	0.0%	0.0%
Chiringa Union	15,745	15,486	259	0	0	0
		98.4%	1.6%	0.0%	0.0%	0.0%
Fasiakhali Union	25,137	22,146	2,722	7	262	0
		88.1%	10.8%	0.0%	1.0%	0.0%

Source : BBS "Population & Housing Census -2011 Community Report : Cox's Bazar"

In Cox's Bazar District, 14,511 residents accounting for 0.6 % of the population belong to ethnic minorities. 8,058 residents accounting for approximately 55.4 % of ethnic minorities, are Rakhine people who are Buddhists originating in Myanmar. The Rakhine people reside also in Moheshkhali Upazila, however their residential areas are concentrated in southern part of Moheshkhali Upazila. Rakhine people in Saflapur Union are not to be Project Affected Persons. 35 people of 154 households of ethnic minorities reside in Fasiakhali Union in Chakaria Upazila where the end point of the access road is located. In these unions, the access road will not interfere with villages therefore the ethnic minorities are not to be Project Affected Persons.

Table 3.1-4 Ethnic Minorities of the Project Area (in 2011)

Administrative Unit	Total		Ethnic Minorities					
	HHs	Pop.	HHs	Population				
				Total	Rakhine	Tanchaynga	Chakmas	Others
Cox's Bazar District	415,954	2,289,990	2,920	14,551	8,058	3,866	686	1,941
			0.7%	0.6%	0.4%	0.2%	0.0%	0.1%
Moheshkhali Upazila	58,177	321,218	267	1,403	1,395	0	3	5
			0.5%	0.4%	0.4%	0.0%	0.0%	0.0%
Dhalghata Union	2,250	12,877	0	0	0	0	0	0
			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Kalarmarchara Union	8,930	49,268	0	0	0	0	0	0
			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Chakaria Upazila	88,391	474,465	566	2,783	1,156	0	93	1,534
			0.6%	0.6%	0.2%	0.0%	0.0%	0.3%
Badarkhali Union	5,947	30,964	0	0	0	0	0	0
			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Saharbil Union	3,419	19,880	0	0	0	0	0	0
			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Chiringa Union	2,759	15,745	0	0	0	0	0	0
			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fasiakhali Union	4,528	25,137	35	154	0	0	0	154
			0.8%	0.6%	0.0%	0.0%	0.0%	0.6%

Source: BBS "Population & Housing Census -2011 Community Report: Cox's Bazar"

3.1.2 Socio-economic Conditions

(1) Literacy rate

Literacy rate in Cox's Bazar District is 39.3 %. Literacy rate is 40.3 % for male and 38.2 % for female, which shows the tendency that it is slightly lower for female. Whereas relatively high literacy rate (47.6 %) is marked in Chakaria Upazila which is the biggest Upazila in Cox's Bazar District, in Moheshkhali Upazila where the port and the starting point of the access road will be located, a value below the average literacy rate in Cox's Bazar District (30.8 %) is marked.

Table 3.1-5 Distribution of Population aged 7 years and above by Literacy, Sex (in 2011)

Administrative Unit	Literate (can write a letter)		
	Both	Male	Female
Cox's Bazar District	39.3%	40.3%	38.2%
Moheshkhali Upazila	30.8%	30.5%	31.1%
Dhalghata Union	31.7%	29.8%	33.8%
Kalarmarchara Union	33.1%	32.2%	34.1%
Chakaria Upazila	47.6%	47.9%	47.4%
Badarkhali Union	40.2%	39.1%	41.2%
Saharbil Union	51.6%	50.7%	52.4%
Chiringa Union	43.0%	41.2%	44.9%
Fasiakhali Union	44.7%	44.8%	44.6%

Source: BBS “Population & Housing Census -2011 Community Report : Cox’s Bazar”

(2) Enrollment ratio

The enrollment ratio of children aged 6 to 10 in Cox’s Bazar District is 70.1 % for male and 73.0 % for female. While relatively high enrollment ratios (78.4 % for male and 81.0 % for female) are shown in Chakaria Upazila, significantly lower values than the average enrollment ratios in Cox's Bazar District (60.4 % for male and 65.2 % for female) are shown in Moheshkhali Upazila, which indicates a certain correlation with the above mentioned literacy rate. Moreover, comparing the enrollment ratio of male children aged 6 to 10 and those aged 11 to 14, they decreases drastically from 60.4% to 51.2% (while female increases), which is understood as a consequence of starting work.

**Table 3.1-6 Distribution of Population aged 3-14 years by Age groups, School attendance
(in 2011)**

Administrative Unit	Population aged 6-10 years				Population aged 11-14 years			
	Attending school		Not attending school		Attending school		Not attending school	
	Male	Female	Male	Female	Male	Female	Male	Female
Cox's Bazar District	70.1%	73.0%	29.9%	27.0%	62.9%	73.9%	37.1%	26.1%
Moheshkhali Upazila	60.4%	65.2%	39.6%	34.8%	51.2%	72.8%	48.8%	27.2%
Dhalghata Union	61.1%	67.4%	38.9%	32.6%	47.1%	78.1%	52.9%	21.9%
Kalarmarchara Union	64.7%	70.8%	35.3%	29.2%	54.3%	77.4%	45.7%	22.6%
Chakaria Upazila	78.4%	81.0%	21.6%	19.0%	71.2%	83.7%	28.8%	16.3%
Badarkhali Union	70.7%	74.4%	29.3%	25.6%	64.1%	83.9%	35.9%	16.1%
Saharbil Union	86.5%	87.1%	13.5%	12.9%	71.0%	88.9%	29.0%	11.1%
Chiringa Union	77.2%	80.7%	22.8%	19.3%	70.9%	82.3%	29.1%	17.7%
Fasiakhali Union	78.5%	80.1%	21.5%	19.9%	71.3%	82.9%	28.7%	17.1%

Source: BBS "Population & Housing Census -2011 Community Report : Cox's Bazar"

(3) Industries

In Cox's Bazar District, 49.7% nearly half of the total population engages agriculture. It is followed by service industry at approximately 40 % and manufacturing industry stays at less than 10 %.

Table 3.1-7 Industry of the Project Area (in 2011)

Administrative Unit	Employed population			
	Total	Agriculture	Industry	Service
Cox's Bazar District	603,046	299,765	47,163	256,118
		49.7%	7.8%	42.5%

Source: BBS "Population & Housing Census -2011 Community Report : Cox's Bazar"

The economy of Cox's Bazar is predominantly agricultural, including local and HYV rice, wheat, vegetables, spices, cash crops, pulses, betel leaves and others. Various fruits like banana, jackfruit, guava, coconut, etc. are grown. Fish of different varieties abound in this district which enjoys the advantages of marine fishing. Moreover, varieties of fish are caught from rivers, tributary channels and creeks and even from paddy field during rainy season. Prawn is abundantly available in the district. Prawn farming and salt production in the coastal area of the district are the most important economic activities of the area. Dry fish is an important source of income to the fishermen especially in the islands. The district is also very rich in forest resources. Various valuable timber and forest trees are abundantly grown in this district. Apart from all these, the sea beach of Cox's Bazar is the most attractive place in the country to the tourists who like to

visit the place throughout the year.

(4) Monthly Income of the Household

In the table below income pattern of the household is shown. According to “Data Collection Survey on the Matarbari Port Development in the People’s Republic of Bangladesh” conducted in 2017, income of 100 households, more than 40% of entire households is below Tk.15,000. According to BBS, approximately 30% of entire households is regarded as poverty in Cox Bazar, while 40% is regarded as poverty in Moheshkhali.

Table 3.1-8 Average Monthly Income of the household Income (in 2017)

Income Level	No. of Household	%
Tk. 1000 - Tk. 5000	0	0.00
> Tk. 5000 - Tk. 10000	19	19.00
> Tk. 10000 - Tk. 15000	21	21.00
> Tk. 15000 - Tk. 20000	15	15.00
> Tk. 20000 - Tk. 25000	17	17.00
Tk. Above 25000	28	28.00
Total:	100	100.00

Source: Data Collection Survey on the Matarbari Port Development in the People’s Republic of Bangladesh, 2017

Table 3.1-9 Households below Poverty Line (in 2010)

Administrative Unit	below Upper Poverty Line	below Lower Poverty Line
Cox's Bazar District	16.2%	32.7%
Moheshkhali Upazila	21.4%	40.2%
Chakaria Upazila	13.2%	28.5%

(Note) Poverty line is based on basic needs cost.

Source: BBS “Bangladesh Poverty Maps (Zila Upazila) – 2010”

(5) Type of Structure and Housing Tenancy

In Cox’s Bazar District, 6.2% general household live in pucca house made of solid and permanent materials, 11.6% in semi-pucca house made of solid and natural materials, 68.9% in kutchra house made of natural material and the remaining 13.3% live in jhupr, made of temporary materials.

In Moheshkhali Upazila, 2.8% general household live in pucca house, 5.8% in semi-pucca house, 77.9% in kutchra house and the remaining 13.5% live in jhupr; ratio of kutchra house made of natural material is relatively high. In Dhalghata Union where the port and the starting point of the access road will be located, ratio of Jhupuri made of temporary material is prominently high, exceeding 80%.

In Chakaria Upazila, 6.5% general household live in pucca house, 11.9% in semi-pucca house, 70.1 % in kutchra house and the remaining 11.5% live in jhupr; almost consistence with tendency of whole Cox’s Bazar district.

Table 3.1-10 Percentage Distribution of Households by Type of Structure and Housing Tenancy Status (in 2011)

Administrative Unit	Type of Structure (%)				Housing Tenancy (%)		
	Pucka	Semi-pucka	Kutchha	Jhupri	Owned	Rented	Rent free
Cox's Bazar Zila	6.2	11.6	68.9	13.3	88.4	6.2	5.4
Moheshkhali Upazila	2.8	5.8	77.9	13.5	90.5	1.3	8.2
Dhalghata Union	0.5	0.8	16.0	82.7	98.4	0.6	1.0
Kalarmarchara Union	2.6	5.3	80.5	11.6	95.2	0.9	3.9
Chakaria Upazila	6.5	11.9	70.1	11.5	91.9	4.2	3.9
Badarkhali Union	5.3	10.9	64.9	18.9	95.2	4.2	0.6
Saharbil Union	6.3	13.6	66.5	13.6	97.7	1.6	0.6
Chiringa Union	4.6	13.5	72.1	9.8	98.9	0.2	0.9
Fasiakhali Union	2.9	13.4	63.4	20.3	97.4	1.3	1.2

Note: *Pucka:* Made of solid and permanent materials such as brick and concrete, etc.

Semi-pucka: Made of mix with solid and natural materials such as steel houses, wooden houses, etc.

Kutchha: Made of totally natural materials such as bamboo houses, mud houses, jute stick and catkingrass houses, etc.

Jhupri: Made of temporary materials. Often called 'shanties'.

Source: BBS "Bangladesh Poverty Maps (Zila Upazila) – 2010"

(6) Toilet Facility, Source of Drinking Water and Electricity Connection

In Cox's Bazar District, 14.3% general household use sanitary latrine, 37.6% non-sanitary latrine and the remaining 36.5% have no toilet facility. 88.4% general household get the facility of drinking water from tube-well, 2.3% from tap and the remaining 9.3% household get water from other sources. A total of only 32.1% general household reported to have electricity connection in the entire upazila in 2011.

In Moheshkhali Upazila, 28.0% general household use sanitary latrine, 52.1% non-sanitary latrine and the remaining 19.9% have no toilet facility; ratio of households with non-sanitary latrine and no toilets is higher than whole Cox's Bazar. 89.5% general household get the facility of drinking water from tube-well, 0.4% from tap and the remaining 10.1% household get water from other sources. All the 8 unions of the upazila have brought under the Rural Electrification Program. However, a total of only 25.6% general household reported to have electricity connection in the entire upazila in 2011 as against 13.3% in 2001. In Dhalghata Union, ratio of households with non-sanitary toilet, using tube-well, and without electricity connection is prominently high.

In Chakaria Upazila, 56.2% general household use sanitary latrine, 37.7% non-sanitary latrine and the remaining 6.1% have no toilet facility. 90.8% general household get the facility of drinking water from tube-well, 1.4% from tap and the remaining 7.8% household get water from other sources. All the 18 unions of the upazila have brought under the Rural Electrification Program. However, a total of only 37.3% general household reported to have electricity connection in the entire upazila in 2011 as against 12.4% in 2001.

Table 3.1-11 Percentage Distribution of Households by Toilet Facility, Source of Drinking Water and Electricity Connection (in 2011)

Administrative Unit	Toilet Facility (%)				Source of Drinking Water (%)			Electricity Connection (%)
	Sanitary (water-sealed)	Sanitary (non water-sealed)	Non-sanitary	None	Tap	Tube-Well	Other	
Cox's Bazar Zila	14.3	37.6	36.5	11.6	2.3	88.4	9.3	32.1
Moheshkhali Upazila	3.4	24.6	52.1	19.9	0.4	89.5	10.1	25.6
Dhalghata Union	1.4	21.7	69.6	7.3	0.5	92.3	7.2	18.4
Kalarmarchara Union	1.5	16.3	60.4	21.8	0.2	82.7	17.1	22.2
Chakaria Upazila	11.5	44.7	37.7	6.1	1.4	90.8	7.9	37.3
Badarkhali Union	6.5	36.5	51.4	5.6	0.0	97.2	2.8	23.1
Saharbil Union	2.5	54.5	38.5	4.6	0.2	91.3	8.5	40.9
Chiringa Union	7.2	38.5	49.6	4.7	1.0	85.6	13.4	16.6
Fasiakhali Union	5.9	45.0	43.9	5.2	0.4	90.7	8.9	45.2

Source: BBS “Population & Housing Census -2011 Community Report : Cox’s Bazar”

3.2 Socio Economic Impact by the Project

Scale and scope of land acquisition and resettlement incurred by the Project are shown below.

Table 3.2-1 Scale and Scope of Land Acquisition and Resettlement by the Project

Project component		Location		Required Land			Resettlement
		Upazila, District	Union	Total	Transfer of Gov. Land	Acquisition of Private land	
Access road	North-south port connecting road Matarbari Port to N 1	Moheshkhali Upazila, Cox's Bazar District	Dhalghata	28.3ha	3.5ha	24.8ha	House: 19 PAHs, 114 PAPs (Out of 7 PAHs and 36 PAPs are common with port) Shop: 0 PAHs, 0 PAPs
			Kalarmarchara	70.7ha	8.0ha	62.7ha	House: 16 PAHs 80 PAPs Shop: 0 PAHs 0 PAPs
		Chakaria Upazila, Cox's Bazar District	Badarkhali	33.6ha	18.4ha	15.2ha	House: 30 PAHs, 129 PAPs Shop: 4 PAHs, 17 PAPs
			Saharbil	16.2ha	16.2ha	0ha	House: 0 PAHs, 0 PAPs Shop: 0 PAHs, 0 PAPs
			Chiringa	43.0ha	10.2ha	32.8ha	House: 47 PAHs, 232 PAPs Shop: 2 PAHs, 10 PAPs
			Fasiakhali	9.0ha	1.1ha	7.9ha	House: 18 PAHs, 104 PAPs Shop: 1 PAHs, 6 PAPs
		Total			200.8ha	57.4ha	143.4ha

Source: JICA Survey Team

3.2.1 Methodology of Survey on PAHs

(1) Census survey

Project Affected Households (PAHs) and Project Affected Persons (PAPs) have been identified through door-to-door visits using mouza maps and hearings to landowners. For access road, 614 households were identified whose houses/stores and/or land will be affected while 515 households were identified whose livelihood is affected though without title of the affected land..

The survey, commissioned to a local consultant, was implemented by organizing a survey team consisting of a coordinator, resettlement expert (team leader), survey supervisor and a group basically of 4 to 5 door - to - door researchers who also serve as record keepers.

(2) Survey for inventory of losses (IOL)

Information on the area of affected land and structure and the quantity of affected crops and trees has been collected from PAPs by using questionnaires. During socio-economic survey (SES), replacement cost survey (RCS) has been carried out to check the market price of land and structure. Key community persons were asked about the land price of the area regardless whether their land was affected or not, which was again verified in the focus group discussion (FGD) meeting. The amount of replacement cost to be paid in addition to the DC's payment shall be finalized after an assessment made by Property Valuation Advisory Team (PVAT). The composition of replacement cost is as follows:

- Agricultural land: market value of land of equal productive potential or use located in the vicinity of the affected land (the pre-project or pre-displacement, whichever is higher) + the cost of preparing the land to levels similar to those of the affected land + the cost of any registration and transfer taxes
- Land in urban areas: the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land + the cost of any registration and transfer taxes
- Houses and other structures: market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure (or to repair a partially affected structure) + the cost of transporting building materials to the construction site + the cost of any labor and contractors' fees + the cost of any registration and transfer taxes

(3) Livelihood survey

In livelihood survey, respondents were interviewed by using structured questionnaire. Household composition, education level, occupation, income, utilization of public amenities were confirmed. Questions related to livelihood restoration were included in the interview, where preference for skills training was asked.

3.2.2 Survey Result for the PAHs

(1) Census

The overview of survey results is shown in the below table. Survey was carried out based on the ROW in road planning discussed in the Preparatory Survey. 614 households with their 3,303 people were identified whose houses/stores and or land will be affected, while 515 people were identified whose livelihood is affected though without title of the affected land. For households whose houses/stores and/or land will be affected, information on their family members and living conditions were to be obtained through door-to-door visits. For residents whose livelihood is affected though without title of the affected land, information on their names, contacts and the crops cultivated on land are to be obtained through hearings to landowners. Cut-off date for the Project Affected Person ineligible for compensation in Bangladesh law was declared at the commencement of census, namely 1st April, 2018. Cut-off date for the Project Affected Person eligible for compensation in Bangladesh law will be declared before Joint Verification Survey at a detailed design stage.

Table 3.2-2 Summary of the Survey

Category	Formal		Informal		Total		Remarks
	PAHs	PAPs	PAHs	PAPs	PAHs	PAPs	
1. Houses	97	484	33	175	130	659	
2. Shops	5	23	2	10	7	33	
2.1. Both Houses and Shops Affected	1	6	1	6	2	12	
2.2 Shop only	4	17	1	4	5	21	
3. Sub-total of Structures	101	501	34	179	135	680	1.House+2.Shop- 2.1.Both Houses and Shops Affected
4. Loss of Agriculture/ Salt Farm	487	2,661	0	0	487	2,661	
5. Loss of Residential Land	97	484	0	0	97	484	
5.1. Both salt farm and residential	8	38	0	0	8	38	
5.2. Residential land only	89	446	0	0	89	446	
6. Sub-total of Land	576	3,107	0	0	576	3,107	4.Salt farm + 5.Residential - 5.1Both farm and residential
7. Sub-total of Structure/ Land	580	3,124	34	179	614	3,303	3.Structure+6.Land -5.Loss of Residential land
8. Sharecropper					258		
9. Agri-labour					12		
10. Labour in salt and shrimp farm					51		
11. Labour in salt farm					48		
12. Labour in shrimp farm					13		
13. Employee					119		
14. Sub-total of Non-title holder					515		
15. Total PAHs/PAPs					1,129		

Source: JICA Survey Team

In this survey, 614 households that will be physically affected were subjected to the survey on IOL and livelihood. For sharecroppers and daily laborers, sample survey on livelihood was conducted considering that because it was difficult to contact them.

(2) Inventory of Loss

1) Type/ Ownership of Houses

Following table shows type of affected housing structure and ownership pattern. 80 houses, majority of all affected houses are tin shed. Semi-puca are 24 and Pucca is 22. For calculating the replacement cost, depreciation shall not be considered..

Table 3.2-3 Classification of Residential and Commercial Structures

Type		Unit Cost (BDT/m ²)	No	Area (m ²)	Total Amount (BDT)
Residential	Pucca	11,100	22	5,579	61,926,900
	Semi-puca	8,300	24	4,097	34,005,100
	Tin	3,900	80	7,831	30,540,900
	Katcha	2,000	10	1,222	2,444,000
	Sub-total		136	18,729	128,916,900
Commercial	Pucca	11,100	1	11	122,100
	Semi-puca	8,300	0	0	0
	Tin	3,900	4	158	616,200
	Katcha	2,000	2	20	40,000
	Sub-total		7	189	778,300
Total	Pucca	11,100	23	5,590	62,049,000
	Semi-puca	8,300	24	4,097	34,005,100
	Tin	3,900	84	7,989	31,157,100
	Katcha	2,000	12	1,242	2,484,000
	Sub-total		143	18,918	129,695,200

Source: JICA Survey Team

The following tables show the ownership of residential structures and commercial structures.

Table 3.2-4 Ownership of Residential Structures

Upazila	Union	Self-Owned	Rented	Informally occupied	Uncertain owner	Total
Moheshkhali	Dhalghata	34	1	3	0	38
	Kalarmarchara	0	0	0	0	0
Chakaria	Badarkhali	21	2	0	1	24
	Saharbil	0	0	0	0	0
	Chiringa	19	0	34	0	53
	Fasiakhali	18	1	2	0	21
Total		92 (67.6%)	4 (2.9%)	39 (28.7%)	1 (0.7%)	136 (100.0%)

Source: JICA Survey Team

Table 3.2-5 Ownership of commercial Structures

Upazila	Union	Self-Owned	Rented	Informally occupied	Uncertain owner	Total
Moheshkhali	Dhalghata	3	0	0	0	3
	Kalarmarchara	0	0	0	0	0
Chakaria	Badarkhali	1	0	0	0	1
	Saharbil	0	0	0	0	0
	Chiringa	1	0	1	1	2
	Fasiakhali	0	0	1	1	1
Total		5 (71.4%)	0 (0.0%)	2 (28.6%)	0 (0.0%)	7 (100.0%)

Source: JICA Survey Team

Other affected structures such as fences, stone walls and livestock huts are as follows.

Table 3.2-6 Other Affected Structures

Upazila	Union	No. of Structure	Area(m ²)
Moheshkhali	Dhalghata	31	4,466
	Kalarmarchara	9	981
Chakaria	Badarkhali	31	1,314
	Saharbil	0	919
	Chiringa	89	919
	Fasiakhali	42	387
Total		202	8,067

2) Land

Out of 2,008,361m², private land to be acquired is 1,435,134m². where residential land is 75,272m², agricultural land is 37862m², and salt firm is 720,730 m².

Table 3.2-7 Land System

(Unit:m²)

Upazila	Union	Priv.							Gov.	Total
		Res.	Agr.	Com.	Salt	Water	Others	Sub-total		
Moheshkhali	Dhalghata	299	0	0	248,112	0	0	248,411	34,515	282,926
	Kalarmarchara	2,394	149,627	0	472,361	2,621	0	627,003	79,667	706,671
Chakaria	Badarkhali	63,000	82,922	6,096	257	0	274	152,549	184,055	336,604
	Saharbil	0	0	0	0	0	0	0	162,190	162,190
	Chiringa	0	328,245	0	0	0	0	328,245	101,487	429,733
	Fasiakhali	9,579	69,345	0	0	0	0	78,924	11,314	90,238
Total		75,272	630,140	6,096	720,730	2,621	274	1,435,134	573,227	2,008,361

Source: JICA Survey Team

3) Tree Loss

The number of project affected trees are 15,587.

Table 3.2-8 Affected Trees by Category

Name of Tree	Unit Price (Tk.)	No.	Total Value(Tk.)
Acatashamsia	9,000	12	108,000
Aistratran	1,000	14	14,000
Akashmoni	3,975	727	2,889,753
Arjun	5,000	1	5,000
Badam	15,000	2	30,000
Badi Tree	1,667	12	20,000
Bamboo	108	3,412	369,985
Banana tree	4,053	20	81,066
Banyan	8,500	3	25,500
Belgium	2,031	882	1,793,169
Betel Nut	976	280	273,274
Bilambu	4,053	1	4,053
Black Plum	3,045	33	100,500
Coconut	3,759	547	2,056,295
Cotton tree	3,500	4	14,000
Date	4,782	58	277,343
Eucalyptus	1,567	4,892	7,666,629
Fambara	3,500	2	7,000
Flower tree	8,400	33	277,200
Gamari	3,000	14	42,000
Garjan	500	14	7,000
Gooseberry	800	1	800
Guava	620	48	29,760
Hog Plum	242	18	4,350
Jackfruit	3,251	63	204,818
Jam	8,500	6	51,000
Jaue Tree	15,000	1	15,000
Lichi	300	1	300
Madar tree	4,053	4	16,213
Malaria	2,349	3,648	8,569,561
Mango	3,363	352	1,183,692
Mehegoni	5,894	115	677,803
Melenda	15,000	1	15,000
Neem	3,250	19	61,750
Olive	2,700	11	29,700

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Name of Tree	Unit Price (Tk.)	No.	Total Value(Tk.)
Other tree	4,053	2	8,107
Palm	3,188	11	35,063
Papaya	13	161	2,147
Pea nut	250	2	500
Plum	2,055	22	45,210
Raintree	8,824	84	741,176
Rose Apple	700	2	1,400
Segun	10,000	3	30,000
Sharifa	500	3	1,500
Shisu	4,034	29	116,989
Shoita	500	4	2,000
Sofeda	5,000	1	5,000
Tamarind	7,650	11	84,150
		15,587	27,994,757

Source: JICA Survey Team

Table 3.2-9 Affected Trees by Households

Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Badarkhali	Mehogoni	Timber	5		29,470
	Badarkhali	Akashmoni	Timber	30		119,247
	Badarkhali	Shisu	Timber	22		88,750
	Badarkhali	Coconut	Fruit bearing	7	30,000	26,315
	Badarkhali	Raintree	Timber	3		26,471
	Badarkhali	Bamboo	Timber	50		5,422
	Badarkhali	Malaria	Timber	20		46,982
	Badarkhali	Coconut	Fruit bearing	2	6,000	7,518
	Badarkhali	Banyan	Timber	1		8,500
	Badarkhali	Jaue Tree	Timber	1		15,000
	Badarkhali	Plum	Fruit bearing	1	2,000	2,055
	Badarkhali	Malaria	Timber	34		79,870
	Badarkhali	Eucalyptus	Timber	7		10,970
	Badarkhali	Coconut	Fruit bearing	3		11,278
	Badarkhali	Date	Fruit bearing	10		47,818
	Badarkhali	Malaria	Timber	62		145,645
	Badarkhali	Coconut	Fruit bearing	62		233,072
	Badarkhali	Maleria	Timber	10		23,491
	Badarkhali	Plum	Fruit bearing	1	5,000	2,055
	Badarkhali	Malaria	Timber	62		145,645
	Badarkhali	Coconut	Fruit bearing	2		7,518
	Badarkhali	Malaria	Timber	100		234,911
	Badarkhali	Raintree	Timber	1		8,824
	Badarkhali	Coconut	Fruit bearing	2	10,000	7,518
	Badarkhali	Mango	Fruit bearing	3		10,088
	Badarkhali	Date	Fruit bearing	2	3,000	9,564
	Badarkhali	Jam	Fruit bearing	1	5,000	8,500
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Melenda	Timber	1		15,000
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Malaria	Timber	29		68,124
	Badarkhali	Betel Nut	Fruit bearing	3		2,928
	Badarkhali	Date	Fruit bearing	1		4,782
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Coconut	Fruit bearing	3		11,278

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Raintree	Timber	1		8,824
	Badarkhali	Akashmoni	Timber	2		7,950
	Badarkhali	Malaria	Timber	2		4,698
	Badarkhali	Coconut	Fruit bearing	2	5,000	7,518
	Badarkhali	Malaria	Timber	1		2,349
	Badarkhali	Akashmoni	Timber	2		7,950
	Badarkhali	Guava	Fruit bearing	2		1,240
	Badarkhali	Aistratran	Timber	14		14,000
	Badarkhali	Raintree	Timber	1		8,824
	Badarkhali	Banyan	Timber	2		17,000
	Badarkhali	Coconut	Fruit bearing	1	20,000	3,759
	Badarkhali	Bamboo	Timber	2		217
	Badarkhali	Date	Fruit bearing	3	3,000	14,345
	Badarkhali	Palm	Fruit bearing	2	5,000	6,375
	Badarkhali	Mango	Fruit bearing	2		6,726
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Malaria	Timber	6		14,095
	Badarkhali	Tamarind	Fruit bearing	1	2,500	7,650
	Badarkhali	Mango	Fruit bearing	1	2,000	3,363
	Badarkhali	Belgium	Timber	1		2,031
	Badarkhali	Eucalyptus	Timber	50		78,359
	Badarkhali	Sofeda	Fruit bearing	1	10,000	5,000
	Badarkhali	Coconut	Fruit bearing	6		22,555
	Badarkhali	Eucalyptus	Timber	7		10,970
	Badarkhali	Mehogoni	Timber	10		58,939
	Badarkhali	Mango	Fruit bearing	10		33,628
	Badarkhali	Olive	Fruit bearing	8		21,600
	Badarkhali	Papaya	Fruit bearing	150	500,000	2,000
	Badarkhali	Coconut	Fruit bearing	3	600	11,278
	Badarkhali	Guava	Fruit bearing	1	1,000	620
	Badarkhali	Papaya	Fruit bearing	2	1,500	27
	Badarkhali	Mango	Fruit bearing	1	1,200	3,363
	Badarkhali	Raintree	Timber	2		17,647
	Badarkhali	Eucalyptus	Timber	2		3,134
	Badarkhali	Coconut	Fruit bearing	4	200	15,037

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Badarkhali	Eucalyptus	Timber	3		4,702
	Badarkhali	Raintree	Timber	5		44,118
	Badarkhali	Coconut	Fruit bearing	2	2,000	7,518
	Badarkhali	Date	Fruit bearing	2	1,000	9,564
	Badarkhali	Bamboo	Timber	50		5,422
	Badarkhali	Jackfruit	Fruit bearing	1	1,500	3,251
	Badarkhali	Coconut	Fruit bearing	1	2,000	3,759
	Badarkhali	Date	Fruit bearing	1	1,000	4,782
	Badarkhali	Mehogoni	Timber	5		29,470
	Badarkhali	Coconut	Fruit bearing	4	8,000	15,037
	Badarkhali	Mango	Fruit bearing	1	15,000	3,363
	Badarkhali	Palm	Fruit bearing	1	15,000	3,188
	Badarkhali	Bamboo	Timber	130		14,097
	Badarkhali	Mango	Fruit bearing	6	10,000	20,177
	Badarkhali	Betel Nut	Fruit bearing	8	50,000	7,808
	Badarkhali	Betel Nut	Fruit bearing	7	15,000	6,832
	Dhalghata	Raintree	Timber	3		26,471
	Dhalghata	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Mango	Fruit bearing	2	3,000	6,726
	Dhalghata	Coconut	Fruit bearing	13	50,000	48,870
	Dhalghata	Flower tree	Timber	2		16,800
	Dhalghata	Malaria	Timber	3		7,047
	Dhalghata	Coconut	Fruit bearing	16	25,000	60,148
	Dhalghata	Tamarind	Fruit bearing	1	5,000	7,650
	Dhalghata	Raintree	Timber	3		26,471
	Dhalghata	Mango	Fruit bearing	2	3,000	6,726
	Dhalghata	Coconut	Fruit bearing	13	50,000	48,870
	Dhalghata	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Raintree	Timber	3		26,471
	Dhalghata	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Coconut	Fruit bearing	13	50,000	48,870
	Dhalghata	Mango	Fruit bearing	2	3,000	6,726
	Dhalghata	Raintree	Timber	1		8,824
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Coconut	Fruit bearing	11	50,000	41,351

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Dhalghata	Raintree	Timber	1		8,824
	Dhalghata	Malaria	Timber	1		2,349
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Coconut	Fruit bearing	10	50,000	37,592
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Malaria	Timber	3		7,047
	Dhalghata	Flower tree	Timber	1		8,400
	Dhalghata	Coconut	Fruit bearing	2	10,000	7,518
	Dhalghata	Raintree	Timber	2	1,000	17,647
	Dhalghata	Malaria	Timber	1		2,349
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Coconut	Fruit bearing	11	50,000	41,351
	Dhalghata	Raintree	Timber	3		26,471
	Dhalghata	Mango	Fruit bearing	2	3,000	6,726
	Dhalghata	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Coconut	Fruit bearing	13	50,000	48,870
	Fasiakhali	Raintree	Timber	3		26,471
	Fasiakhali	Mango	Fruit bearing	2	3,000	6,726
	Fasiakhali	Coconut	Fruit bearing	13	50,000	48,870
	Fasiakhali	Date	Fruit bearing	2	1,000	9,564
	Dhalghata	Raintree	Timber	2	1,000	17,647
	Dhalghata	Malaria	Timber	1		2,349
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Coconut	Fruit bearing	11	50,000	41,351
	Dhalghata	Raintree	Timber	1		8,824
	Dhalghata	Malaria	Timber	2		4,698
	Dhalghata	Neem	Timber	1		3,250
	Dhalghata	Coconut	Fruit bearing	2	5,000	7,518
	Dhalghata	Coconut	Fruit bearing	7	25,000	26,315
	Dhalghata	Plum	Fruit bearing	1	20,000	2,055
	Dhalghata	Date	Fruit bearing	3	15,000	14,345
	Dhalghata	Badam	Fruit bearing	2	6,000	30,000
	Dhalghata	Plum	Fruit bearing	2	40,000	4,110
	Dhalghata	Date	Fruit bearing	3	15,000	14,345
	Dhalghata	Tamarind	Fruit bearing	1	10,000	7,650
	Dhalghata	Coconut	Fruit bearing	6	20,000	22,555

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Fasiakhali	Akashmoni	Timber	140		556,486
	Fasiakhali	Mango	Fruit bearing	10	5,000	33,628
	Fasiakhali	Malaria	Timber	50		117,456
	Fasiakhali	Mango	Fruit bearing	1	500	3,363
	Fasiakhali	Akashmoni	Timber	300		1,192,470
	Fasiakhali	Mango	Fruit bearing	10		33,628
	Fasiakhali	Jackfruit	Fruit bearing	10		32,511
	Fasiakhali	Betel Nut	Fruit bearing	13		12,688
	Fasiakhali	Malaria	Timber	50		117,456
	Fasiakhali	Mango	Fruit bearing	10		33,628
	Fasiakhali	Jackfruit	Fruit bearing	3		9,753
	Fasiakhali	Betel Nut	Fruit bearing	22	12,000	21,472
	Fasiakhali	Coconut	Fruit bearing	3	6,000	11,278
	Fasiakhali	Date	Fruit bearing	1	1,200	4,782
	Fasiakhali	Mango	Fruit bearing	1	1,000	3,363
	Fasiakhali	Malaria	Timber	70		164,438
	Fasiakhali	Jackfruit	Fruit bearing	14	2,500	45,515
	Fasiakhali	Mango	Fruit bearing	17	3,000	57,167
	Fasiakhali	Malaria	Timber	16	160,000	37,586
	Fasiakhali	Mango	Fruit bearing	26	12,000	87,432
	Fasiakhali	Coconut	Fruit bearing	7	6,000	26,315
	Fasiakhali	Papaya	Fruit bearing	4	10,000	53
	Fasiakhali	Mehogoni	Timber	12		70,727
	Fasiakhali	Coconut	Fruit bearing	9	40,000	33,833
	Fasiakhali	Mango	Fruit bearing	12	20,000	40,353
	Fasiakhali	Black Plum	Fruit bearing	4	500	12,182
	Fasiakhali	Mehogoni	Timber	2	5,000	11,788
	Fasiakhali	Bamboo	Timber	3	3,000	325
	Fasiakhali	Arjun	Timber	1	4,000	5,000
	Fasiakhali	Mango	Fruit bearing	12	40,000	40,353
	Fasiakhali	Mehogoni	Timber	1		5,894
	Fasiakhali	Black Plum	Fruit bearing	1	2,500	3,045
	Fasiakhali	Betel Nut	Fruit bearing	8	2,500	7,808
	Fasiakhali	Belgium	Timber	100		203,077
	Fasiakhali	Guava	Fruit bearing	5	30,000	3,100
	Fasiakhali	Jam	Fruit bearing	5	5,000	42,500

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Fasiakhali	Mango	Fruit bearing	20	20,000	67,255
	Fasiakhali	Mehogoni	Timber	1		5,894
	Fasiakhali	Gamari	Timber	5		15,000
	Fasiakhali	Mango	Fruit bearing	4	5,000	13,451
	Fasiakhali	Betel Nut	Fruit bearing	25	12,500	24,399
	Fasiakhali	Belgium	Timber	50		101,538
	Fasiakhali	Flower tree	Timber	5		42,000
	Fasiakhali	Mango	Fruit bearing	20		67,255
	Fasiakhali	Guava	Fruit bearing	5	3,000	3,100
	Fasiakhali	Mango	Fruit bearing	4		13,451
	Fasiakhali	Hog Plum	Fruit bearing	2		483
	Fasiakhali	Guava	Fruit bearing	2		1,240
	Fasiakhali	Olive Tree	Fruit bearing	2		5,400
	Fasiakhali	Coconut	Fruit bearing	18	10,000	67,666
	Fasiakhali	Mango	Fruit bearing	22		73,981
	Fasiakhali	Betel Nut	Fruit bearing	19	95,000	18,544
	Fasiakhali	Jackfruit	Fruit bearing	9	6,000	29,260
	Fasiakhali	Mehogoni	Timber	60		353,636
	Fasiakhali	Malaria	Timber	25		58,728
	Fasiakhali	Betel Nut	Fruit bearing	25	12,000	24,399
	Fasiakhali	Coconut	Fruit bearing	75	300,000	281,942
	Fasiakhali	Belgium	Timber	2	0	4,062
	Fasiakhali	Black Plum	Fruit bearing	1	1,000	3,045
	Fasiakhali	Date	Fruit bearing	2	1,000	9,564
	Jhapua	Coconut	Fruit bearing	13	25,000	48,870
	Palakata	Mango	Fruit bearing	20	500	67,255
	Palakata	Guava	Fruit bearing	15	500	9,300
	Palakata	Coconut	Fruit bearing	10	50	37,592
	Palakata	Hog Plum	Fruit bearing	12	500	2,900
	Palakata	Shisu	Timber	3		12,102
	Palakata	Mango	Fruit bearing	5	3,000	16,814
	Palakata	Jackfruit	Fruit bearing	4	2,500	13,004
	Palakata	Coconut	Fruit bearing	1	1,500	3,759
	Palakata	Belgium	Timber	6		12,185
	Palakata	Betel Nut	Fruit bearing	2	2,000	1,952
	Palakata	Plum	Fruit bearing	1	1,000	2,055

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Palakata	Coconut	Fruit bearing	4	12,000	15,037
	Palakata	Belgium	Timber	6		12,185
	Palakata	Coconut	Fruit bearing	4	12,000	15,037
	Palakata	Betel Nut	Fruit bearing	2	2,000	1,952
	Palakata	Plum	Fruit bearing	1	1,000	2,055
	Palakata	Bamboo	Timber	500		54,218
	Palakata	Malaria	Timber	200		469,822
	Palakata	Coconut	Fruit bearing	50	500,000	187,961
	Palakata	Mango	Fruit bearing	5	100,000	16,814
	Palakata	Belgium	Timber	5		10,154
	Palakata	Malaria	Timber	15		35,237
	Palakata	Mango	Fruit bearing	1	500	3,363
	Palakata	Raintree	Timber	5		44,118
	Palakata	Bamboo	Timber	50		5,422
	Palakata	Malaria	Timber	100		234,911
	Palakata	Mango	Fruit bearing	6	5,000	20,177
	Palakata	Malaria	Timber	20		46,982
	Palakata	Coconut	Fruit bearing	1	2,500	3,759
	Palakata	Date	Fruit bearing	2	2,000	9,564
	Palakata	Plum	Fruit bearing	1	500	2,055
	Palakata	Akashmoni	Timber	6		23,849
	Palakata	Coconut	Fruit bearing	6	5,000	22,555
	Palakata	Plum	Fruit bearing	1	200	2,055
	Palakata	Malaria	Timber	30		70,473
	Palakata	Malaria	Timber	10		23,491
	Palakata	Coconut	Fruit bearing	1	2,000	3,759
	Palakata	Malaria	Timber	950		2,231,657
	Palakata	Betel Nut	Fruit bearing	2		1,952
	Palakata	Malaria	Timber	130		305,385
	Palakata	Gamari	Timber	5		15,000
	Palakata	Coconut	Fruit bearing	1		3,759
	Palakata	Jackfruit	Fruit bearing	1		3,251
	Palakata	Malaria	Timber	400		939,645
	Palakata	Belgium	Timber	200		406,154
	Palakata	Mango	Fruit bearing	3		10,088
	Palakata	Malaria	Timber	60		140,947

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Palakata	Mango	Fruit bearing	10	1,000	33,628
	Palakata	Jackfruit	Fruit bearing	4	500	13,004
	Palakata	Malaria	Timber	70		164,438
	Palakata	Shisu	Timber	2		8,068
	Palakata	Malaria	Timber	1		2,349
	Palakata	Coconut	Fruit bearing	2	6,000	7,518
	Palakata	Gooseberry	Fruit bearing	1	1,000	800
	Palakata	Malaria	Timber	100		234,911
	Palakata	Malaria	Timber	180		422,840
	Palakata	Mango	Fruit bearing	1	1,000	3,363
	Palakata	Guava	Fruit bearing	1	500	620
	Palakata	Akashmoni	Timber	15		59,624
	Palakata	Malaria	Timber	5		11,746
	Palakata	Coconut	Fruit bearing	2	1,500	7,518
	Palakata	Pea nut	Fruit bearing	2	1,000	500
	Palakata	Malaria	Timber	100		234,911
	Palakata	Mango	Fruit bearing	8	500	26,902
	Palakata	Hog Plum	Fruit bearing	1		242
	Palakata	Coconut	Fruit bearing	1		3,759
	Palakata	Belgium	Timber	430		873,231
	Palakata	Akashmoni	Timber	210		834,729
	Palakata	Malaria	Timber	360		845,680
	Palakata	Mango	Fruit bearing	10		33,628
	Palakata	Belgium	Timber	50		101,538
	Palakata	Mango	Fruit bearing	5	5,000	16,814
	Palakata	Guava	Fruit bearing	2	1,000	1,240
	Palakata	Malaria	Timber	35		82,219
	Palakata	Coconut	Fruit bearing	3	3,000	11,278
	Palakata	Belgium	Timber	5		10,154
	Palakata	Malaria	Timber	100		234,911
	Palakata	Coconut	Fruit bearing	4	20,000	15,037
	Palakata	Betel Nut	Fruit bearing	3	1,800	2,928
	Palakata	Plum	Fruit bearing	1	3,000	2,055
	Palakata	Belgium	Timber	3		6,092
	Palakata	Raintree	Timber	15		132,353
	Palakata	Malaria	Timber	10		23,491

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Palakata	Coconut	Fruit bearing	3	5,000	11,278
	Palakata	Malaria	Timber	2		4,698
	Palakata	Raintree	Timber	3		26,471
	Palakata	Coconut	Fruit bearing	1	500	3,759
	Palakata	Raintree	Timber	2		17,647
	Palakata	Eucalyptus	Timber	4800		7,522,449
	Palakata	Coconut	Fruit bearing	1	10,000	3,759
	Palakata	Eucalyptus	Timber	20		31,344
	Palakata	Raintree	Timber	2		17,647
	Palakata	Coconut	Fruit bearing	1	20,000	3,759
	Palakata	Mango	Fruit bearing	1	2,000	3,363
	Palakata	Bamboo	Timber	100	30,000	10,844
	Palakata	Eucalyptus	Timber	3	30,000	4,702
	Palakata	Raintree	Timber	6		52,941
	Palakata	Coconut	Fruit bearing	6	20,000	22,555
	Palakata	Raintree	Timber	1		8,824
	Palakata	Segun	Timber	3		30,000
	Palakata	Belgium	Timber	5		10,154
	Palakata	Coconut	Fruit bearing	3	3,000	11,278
	Palakata	Malaria	Timber	6		14,095
	Palakata	Date	Fruit bearing	5	15,000	23,909
	Palakata	Coconut	Fruit bearing	9	180,000	33,833
	Palakata	Plum	Fruit bearing	2	6,000	4,110
	Palakata	Malaria	Timber	150		352,367
	Palakata	Shisu	Timber	2		8,068
	Palakata	Betel Nut	Fruit bearing	3		2,928
	Palakata	Betel Nut	Fruit bearing	2	20,000	1,952
	Palakata	Rose Apple	Fruit bearing	2	10,000	1,400
	Palakata	Betel Nut	Fruit bearing	2	8,000	1,952
	Palakata	Malaria	Timber	7		16,444
	Palakata	Betel Nut	Fruit bearing	3	5,000	2,928
	Palakata	Coconut	Fruit bearing	10		37,592
	Palakata	Mehogoni	Timber	1		5,894
	Palakata	Coconut	Fruit bearing	14	120,000	52,629
	Palakata	Mango	Fruit bearing	6	10,000	20,177
	Palakata	Plum	Fruit bearing	8	5,000	16,440

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Uttar Nolvila	Bamboo	Timber	800		86,749
	Uttar Nolvila	Belgium	Timber	20		40,615
	Uttar Nolvila	Garjan	Timber	2		1,000
	Uttar Nolvila	Mango	Fruit bearing	5	2,500	16,814
	Uttar Nolvila	Garjan	Timber	12		6,000
	Uttar Nolvila	Maleria	Timber	4		9,396
	Uttar Nolvila	Sharifa	Timber	1	1,000	500
	Uttar Nolvila	Lichi	Fruit bearing	1	5,000	300
	Uttar Nolvila	Badi Tree	Timber	1		1,667
	Uttar Nolvila	Neem	Timber	12		39,000
	Uttar Nolvila	Malaria	Timber	6		14,095
	Uttar Nolvila	Mango	Fruit bearing	5	25,000	16,814
	Uttar Nolvila	Betel Nut	Fruit bearing	15	22,500	14,640
	Uttar Nolvila	Black Plum	Fruit bearing	2	6,000	6,091
	Uttar Nolvila	Malaria	Timber	4		9,396
	Uttar Nolvila	Bamboo	Timber	177		19,193
	Uttar Nolvila	Akashmoni	Timber	8		31,799
	Uttar Nolvila	Neem	Timber	1		3,250
	Uttar Nolvila	Mango	Fruit bearing	10	55,000	33,628
	Uttar Nolvila	Date	Fruit bearing	1	1,800	4,782
	Uttar Nolvila	Betel Nut	Fruit bearing	16	24,000	15,616
	Uttar Nolvila	Jackfruit	Fruit bearing	3	15,000	9,753
	Uttar Nolvila	Black plum	Fruit bearing	4	10,000	12,182
	Uttar Nolvila	Cotton tree	Timber	1		3,500
	Uttar Nolvila	Flower tree	Timber	3		25,200
	Uttar Nolvila	Betel nut	Fruit bearing	20	30,000	19,520
	Uttar Nolvila	Mango	Fruit bearing	3	35,000	10,088
	Uttar Nolvila	Palm tree	Fruit bearing	2	10,000	6,375
	Uttar Nolvila	Olive	Fruit bearing	1	4,000	2,700
	Uttar Nolvila	Plum	Fruit bearing	2	12,000	4,110
	Uttar Nolvila	Gamari	Timber	2		6,000
	Uttar Nolvila	Bamboo	Timber	1200		130,124
	Uttar Nolvila	Mehegoni	Timber	10		58,939
	Uttar Nolvila	Flower Tree	Timber	1		8,400
	Uttar Nolvila	Akashmoni	Timber	2		7,950
	Uttar Nolvila	Malaria	Timber	30		70,473

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Uttar Nolvila	Badi Tree	Timber	5		8,333
	Uttar Nolvila	Betel nut	Fruit bearing	4	6,000	3,904
	Uttar Nolvila	Jackfruit	Fruit bearing	3	12,000	9,753
	Uttar Nolvila	Mango	Fruit bearing	4	16,000	13,451
	Uttar Nolvila	Black Plum	Fruit bearing	1	2,000	3,045
	Uttar Nolvila	Bamboo	Timber	350		37,953
	Uttar Nolvila	Akashmoni	Timber	2		7,950
	Uttar Nolvila	Flower Tree	Timber	5		42,000
	Uttar Nolvila	Mango	Fruit bearing	1	7,000	3,363
	Uttar Nolvila	Coconut	Fruit bearing	2	20,000	7,518
	Uttar Nolvila	Black Plum	Fruit bearing	2	6,000	6,091
	Uttar Nolvila	Betel Nut	Fruit bearing	20	30,000	19,520
	Badarkhali	Madar tree	Timber	4		16,213
	Badarkhali	Raintree	Timber	5		44,118
	Badarkhali	Malaria	Timber	2	56,000	4,698
	Badarkhali	Flower tree	Timber	13		109,200
	Badarkhali	Cotton tree	Timber	3	27,000	10,500
	Badarkhali	Acatashamsia	Timber	12		108,000
	Badarkhali	Gamari	Timber	2		6,000
	Badarkhali	Guava	Fruit bearing	4	4,000	2,480
	Badarkhali	Fambara	Fruit bearing	2	6,000	7,000
	Badarkhali	Sharifa	Fruit bearing	2	7,000	1,000
	Badarkhali	Papaya	Fruit bearing	5	6,000	67
	Badarkhali	Hog Plum	Fruit bearing	3	9,000	725
	Badarkhali	Date	Fruit bearing	4	10,000	19,127
	Badarkhali	Mango	Fruit bearing	9	55,000	30,265
	Badarkhali	Coconut	Fruit bearing	14	140,000	52,629
	Badarkhali	Other tree	Fruit bearing	2		8,107
	Badarkhali	Bilambu	Fruit bearing	1		4,053
	Badarkhali	Betel Nut	Fruit bearing	7	10,500	6,832
	Badarkhali	Black Plum	Fruit bearing	5	18,000	15,227
	Badarkhali	Tamarind	Fruit bearing	8		61,200
	Badarkhali	Flower tree	Timber	3		25,200
	Badarkhali	Malaria	Timber	5		11,746
	Badarkhali	Betel Nut	Fruit bearing	14	21,000	13,664
	Badarkhali	Coconut	Fruit bearing	3	30,000	11,278

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Name of PAH	Name of Mouza	Name of Tree	Kind of tree	No. of tree	Annual Income from Trees (Tk.)	Total Value of Trees (Tk.)
	Badarkhali	Date	Fruit bearing	3	7,500	14,345
	Badarkhali	Black Plum	Fruit bearing	8	24,000	24,364
	Badarkhali	Mango	Fruit bearing	6	45,000	20,177
	Badarkhali	Badi tree	Timber	6		10,000
	Badarkhali	Palm	Fruit bearing	6	12,000	19,125
	Badarkhali	Guava	Fruit bearing	7	1,400	4,340
	Badarkhali	Banana tree	Fruit bearing	20		81,066
	Badarkhali	Black Plum	Fruit bearing	2	5,000	6,091
	Badarkhali	Jackfruit	Fruit bearing	2	12,000	6,502
	Badarkhali	Betel Nut	Fruit bearing	10	15,000	9,760
	Badarkhali	Mango	Fruit bearing	5	21,000	16,814
	Badarkhali	Date	Fruit bearing	3	17,000	14,345
	Badarkhali	Coconut	Fruit bearing	5	30,000	18,796
	Badarkhali	Mehegoni	Timber	8		47,152
	Badarkhali	Akashmoni	Timber	7		27,824
	Badarkhali	Coconut	Fruit bearing	10	100,000	37,592
	Badarkhali	Mango	Fruit bearing	15	80,000	50,441
	Badarkhali	Betel Nut	Fruit bearing	25	37,500	24,399
	Badarkhali	Black Plum	Fruit bearing	3	9,000	9,136
	Badarkhali	Jackfruit	Fruit bearing	9	15,000	29,260
	Badarkhali	Shoita	Fruit bearing	4	14,000	2,000
	Badarkhali	Akashmoni	Timber	3		11,925
	Badarkhali	Malaria	Timber	8	64,000	18,793
	Badarkhali	Mango	Fruit bearing	5	30,000	16,814
	Badarkhali	Coconut	Fruit bearing	5	5,000	18,796
	Badarkhali	Guava	Fruit bearing	4	1,200	2,480
Total:				15,587	4,770,150	27,994,757

Source: JICA Survey Team

(3) Livelihood

Livelihood survey was conducted for a total of 614 households affected with their houses, shops, and/or land affected. The table below shows the Union/Mouza-wise number of households.

Table 3.2-10 Union/Mouza-wise HHs subject to the Survey

Sl. No.	Union	Mouza	Households	
			No.	%
1	Dhalghata	Dhalghata	96	15.6%
2	Kalarmarchara	Kalarmarchara	17	2.8%
3		Kaligong	20	3.3%
4		Jhapua	171	27.9%
5		Younuskhali	16	2.6%
6		Uttar Nolbila	61	9.9%
7	Badarkhali	Badarkhali	62	10.1%
8	Saharbil	Rampur	1	0.2%
9	Chiringa	Palakata	125	20.4%
10	Fasiakhali	Fasiakhali	45	7.3%
Total:			614	100.0%

Source: JICA Survey Team

1) Distribution of household members by age

The below table shows the age distribution of household members of the PAHs. Household members under age 15 comprise 27.2% of the entire population. As for male, the economically active population aged 15 to 59 are 37.5%, while the economically dependent age group of 60 years and older are 5.2%. As for female household members, they are 27.5% and 2.6% respectively.

Table 3.2-11 Distribution of Household Members by Age

Age	Male		Female		Total	
	Population	%	Population	%	Population	%
<=14	468	14.2%	431	13.0%	899	27.2%
>=15-59	1,240	37.5%	908	27.5%	2,148	65.0%
60+	171	5.2%	85	2.6%	256	7.8%
Total	1,879	56.9%	1,424	43.1%	3,303	100.0%

Source: JICA Survey Team

2) Education

Union wise education level of household members is as shown below. Illiterate is 5.6%. 32.8% affected population have primary education and 30.0% have secondary level educational background. Higher secondary level of education are 11.7% and graduate level are 7.7% of population.

Table 3.2-12 Education Level of the Project Affected Persons

Upazila	Union	Illiterate	Primary level	Second-ary level	HSC level	Gradu-ate	Post gradu-ate	Voca-tional	Others	Below 5 years	Total
Moheshkhali	Dhalghata	20	181	189	63	32	16	0	4	29	534
	Kalarmarchara	137	476	421	204	148	66	3	28	89	1572
Chakaria	Badarkhali	19	81	92	35	22	8	1	12	3	273
	Saharbil	0	0	0	2	0	0	0	0	2	4
	Chiringa	43	286	181	57	34	15	0	5	42	663
	Fasiakhali	19	59	107	25	18	7	0	1	21	257
Total:		238 (7.2%)	1,083 (32.8%)	990 (30.0%)	386 (11.7%)	254 (7.7%)	112 (3.4%)	4 (0.1%)	50 (1.5%)	186 (5.6%)	3,303 (100%)

Source: JICA Study Team

Table below shows the gender-wise education level of the PAPs. Illiteracy rate of male is 6.7% while female is 7.9%. The rate of primary level are 31.2% for males and 34.9% for females. The rate of secondary level are 27.4% for males and 33.4% for females. These mean that education level of approximately 80% of females is up to secondary level. Females educated in HSC level are less than males; Males with HSC level are 12.5%, while females are 10.6%. The gender gap is more significant in graduate level; males are 10.6% while females are 3.9%.

Table 3.2-13 Gender-wise Education Level of the Project Affected Persons

Educational level	Male		Female		Total	
	No. of Member	%	No. of Member	%	No. of Member	%
(1) Illiterate	125	6.7	113	7.9	238	7.2
(2) Primary level	586	31.2	497	34.9	1,083	32.8
(3) Secondary level	515	27.4	475	33.4	990	30.0
(4) HSC level	235	12.5	151	10.6	386	11.7
(5) Graduate	199	10.6	55	3.9	254	7.7
(6) Post graduate	97	5.2	15	1.1	112	3.4
(7) Vocational	2	0.1	2	0.1	4	0.1
(8) Others	29	1.5	21	1.5	50	1.5
(9) Others (Children < 5 yrs)	91	4.8	95	6.7	186	5.6
Total:	1,879	100.0	1,424	100.0	3,303	100.0

Source: JICA Study Team

3) Employment

Table below shows 36.2% households members are employed, 7.1% are unemployed, 21.9% are engaged in housework, 34.4% are students.

Table 3.2-14 Number of Employed Members in PAHs

Upazila	Union	Employed	Un -employed	House work	Student	Others	Total
Moheshkhali	Dhalghata	174	2	113	227	18	534
	Kalarmarchara	537	13	345	636	40	1,571
Chakaria	Badarkhali	96	0	60	111	6	273
	Saharbil	1	0	1	2	0	4
	Chiringa	205	3	140	292	24	664
	Fasiakhali	74	2	55	119	7	257
Total		1,087 (32.9%)	20 (0.6%)	714 (21.6%)	1,387 (42.0%)	95 (2.9%)	3,303 (100.0%)

Source: JICA Survey Team

4) Occupation

The Table below shows that occupation pattern of the PAPs. Household members at Dhalghata area are involved in salt and shrimp cultivation. In Badarkhali, business is important. In western section of alignment, they are mostly engaged in salt cultivation in dry season and shrimp culture in the wet season while in the middle section they are engaged in paddy cultivation or fish culture. Women do not work in the field. They engage in daily household work including cooking, nursing of child, sweeping the premises of the house.

Table 3.2-15 Union-wise Occupation Pattern of the PAPs

Upazila	Union	Fishery	Agriculture /Salt Cultivation	Animal husbandry	forestry	House work	Self employed	Commerce	Skilled Profession	Unskilled Labour	Private Service	Gov. Service	Retired/ Pensioner	Unemployed	Too young to work/disabled/student	Others	Total
Moheshkhali	Dhalghata	4	92	0	0	113	7	26	6	5	26	6	2	2	236	9	534
	Kalarmarchara	5	181	2	15	345	38	146	24	3	85	30	8	13	648	28	1,571
Chakaria	Badarkhali	20	0	0	0	60	8	40	8	0	10	9	1	0	114	3	273
	Saharbil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Chiringa	59	0	0	1	141	8	57	7	16	48	8	2	3	306	3	668
	Fasiakhali	4	17		1	55	2	16	6	3	19	3	3	2	123	9	257
Total:		92	290	2	17	714	63	285	51	27	188	56	16	20	1,427	21	3,303

Source: JICA Survey Team

5) Income

The total monthly household income of PAHs is as indicated below. 9.9% of the households earn less than 10,000 BDT per month. Households with income ranging from 10,000 to 15,000 BDT make up for 14.2%, and those with income of 15,000 to 20,000 BDT amount to 16.3%. 5.9% report an income of 20,000 to 25,000 BDT, and 11.6% from 25,000 to 30,000 BDT. Although 42.2% of the households declare a monthly income in excess of 30,000 BDT, the possibility should be noted that the actual ratio of households below poverty line are higher than evident considering the overall tendency to report higher income standards than the actual situation in household surveys.

Table 3.2-16 Union-wise monthly household income

Upazila	Union	<=Tk. 10000	>Tk. 10000- <=Tk. 15000	>Tk. 15000- <=Tk. 20000	>Tk. 20000 - <=Tk.25000	> Tk. 25000 -Tk. 30000	>Tk. 30000	Total H/H
Moheshkhali	Dhalghata	7	3	4	2	17	63	96
	Kalarmarchara	21	47	55	15	28	119	285
Chakaria	Badarkhali	8	4	11	4	5	30	62
	Saharbil	0	0	0	0	0	1	1
	Chiringa	22	24	21	11	14	33	125
	Fasiakhali	3	9	9	4	7	13	45
Total:		61 (9.9%)	87 (14.2%)	100 (16.3%)	36 (5.9%)	71 (11.6%)	259 (42.2%)	614 (100%)

Source: JICA Survey Team

6) Public Amenities

Utilization status of living facilities are as indicated in the table below. 523 out of the 614 households (85.2%) have electricity, which is solar and not grid electricity. Recently some transmission line of grid electricity is under process. Most of the toilets are not sanitary. 22.8% of households use toilets without sewage pits, while 1.8% of the households are not equipped with toilets.

Table 3.2-17 Access to Electricity

Upazila	Union	Electricity Yes	Electricity No.	Total H/H	Electricity Coverage in the area (%)
Moheshkhali	Dhalghata	80	16	96	83.3
	Kalarmarchara	258	27	285	90.5
Chakaria	Badarkhali	52	10	62	83.9
	Saharbil	1	0	1	100.0
	Chiringa	95	30	125	76.0
	Fasiakhali	37	8	45	82.2
Total:		523	91	614	85.2

Source: JICA Survey Team

Table 3.2-18 Types of Toilet

Upazila	Union	Latrine	Sanitary	Non Sanitary	Open Field	Total H/H
Moheshkhali	Dhalghata	37	48	11	0	96
	Kalarmarchara	31	177	71	6	285
Chakaria	Badarkhali	16	36	9	1	62
	Saharbil	0	1	0	0	1
	Chiringa	16	68	37	4	125
	Fasiakhali	3	30	12	0	45
Total:		103 16.8%	360 58.6%	140 22.8%	11 1.8%	614 100.0%

Source: JICA Survey Team

7) Vulnerable Households

Number of households with the socially vulnerable are as indicated in the table below. 44 households are female headed households. 104 are headed by elderly member over 60 years of ages, and 148 households are considered to be below the poverty line.

Table 3.2-19 Vulnerability

Upazila	Union	Female HH	HH above 60	Minority	Below Poverty Line	Total Vulnerable	Total HHs
Moheshkhali	Dhalghata	3	13	0	10	26	96
	Kalarmarchara	22	58	0	68	148	285
Chakaria	Badarkhali	6	9	0	12	27	62
	Saharbil	0	0	0	0	0	1
	Chiringa	11	17	0	46	74	125
	Fasiakhali	2	7	0	12	21	45
Total:		44	104	0	148	296	614

Source: JICA Survey Team

(4) Livelihood (Non-titled Persons with their livelihood affected)

Apart from 614 HHs with their structures and/or land affected, 515 non-titled sharecropper or employees will have their livelihood affected. Out of 515 non-titled sharecropper and employees, 290 were available for interview. Total male-479, female-358 and total family member is 837. Family size is 4.29. Average monthly income is Tk.24,061. Out of 290 PAHs, 121 are below poverty line which is 62.1%. All are Muslim and no one is in minority community. 173 HHs have electricity. Source of water is tube well for all households. Out of 290 households 213 depend on salt farming. 65 households are engaged in business. In the Table below occupation pattern of the non-tiled share cropper and employees are presented. Around 73.4% are agriculture occupation i.e. here salt and shrimp farming.

Table 3.2-20 Occupation Pattern of Non Titled Share croppers and Employees

Serial	Type of Occupation	HHs	
		Number	%
1	Agriculture/ Salt cultivation	213	73.4%
2	Business	65	22.4%
3	Private Service	6	2.1%
4	Others	6	2.1%
	Total	290	100.0%

Source: JICA Survey Team

The table below indicates the income range of sharecropper and laborer households: 12.8% fall below the poverty lined. However, there is an overall tendency to report higher income standards than the actual situation in household surveys, suggesting a potential increase in the actual number of poverty households.

Table 3.2-21 Income Range of Non-titled Sharecroppers and Employees

Serial	Monthly Income Range	HHs		Average Monthly Income(Tk)
		Number	%	
1	Income Up to Tk.15,000	37	12.8	-
2	Income above TK 15,000	253	87.2	-
	Total	290	100.0	Tk.25,850

Source: JICA Survey Team

In the following table educational level of the sharecroppers and employees are presented. 17.9% is illiterate, and 39.7% have primary level of education.

Table 3.2-22 Education Level of Non-titled Share cropper and Employee PAHs

Serial	Level of Education	HHs	
		Number	%
1	Illiterate	52	17.9
2	Primary	115	39.7
3	secondary	82	28.3
4	higher secondary	21	7.2
5	Graduate	12	4.1
6	Post graduate	7	2.4
7	Vocational	1	0.3
	Total	290	100.0

Source: JICA Survey Team

3.3 Other Impacts to be Considered

3.3.1 Impact on Social Infrastructure and Services

The social infrastructure and services which can be affected by the project are as follows. Schools and mosques will not be affected.

Two graveyards will be affected. The graveyard in Dhalghata will be affected by mostly port component and partially by access road component. For considering future plan of the port, relocation of the graveyard, will be inevitable, which will be taken up by the port component. Graveyard in Badarkhali can be preserved

since viaduct will be installed in the concerned section.

Table 3.3-1 Social infrastructures near the Project Site

Existing infrastructure to be affected in the project area	No. of Infrastructure	Address /Location	Remarks
School	3	Badarkhali	(1) Iqra Academy (not affected) (2) Little Jewels Kindergarten (not affected) (3) Badar Sha Academy School (not affected)
College	1	Badarkhali	Badarkhali Degree College (not affected)
Madrasa	1	Badarkhali	Badarkhali Fazil (Degree) Madrasa (not affected)
Clinic/ hospital	0		
Mosque	1	Badarkhali	Baitullah Mosque (not affected)
Graveyard	2	Dhalghata Badarkhali	Dhalghata Public Graveyard (affected) Badarkhali Association Graveyard (preserved by installing viaduct)
Total:	8		

Source: JICA Survey Team

3.3.2 Impact on Local Communities and Decision-making Institutions

In the initially proposed plan of the access road, there was concern that both this Project and Adjacent Coal Fire Power Plant project could interfere with the north-south passage and cumulatively divide the community. This concern is because two routes by this Project and Adjacent project will traverse the Kalarmarchara residential area, Badarkhali Bazar and neighboring residential area without distance. In this project, after the consultation meeting with PAPs, a proposal for detouring to the north side was made, which would not interfere with the passage in Kalarmarchara's residential area. Since the new alignment also avoids Badarkhali Bazar and the most of residential areas, the possibility of the community severance is quite low. As the embankment might still hinder the residents north to the alignment from using the Bazar, box culvert will be installed to secure the existing road and the access to the Bazar.

Chapter 4 PUBLIC CONSULTATION

4.1 Overview

There is no provision on the resident consultation in the LARAP-related laws in Bangladesh. In this Project, in accordance with the JICA guidelines, stakeholder consultations are scheduled twice, namely at the times of scoping and preparation of draft LARAP.

RHD held public consultations in accordance with JICA Guidelines, which were supported by JICA Survey Team. FGD was held separately considering that participation rate of female to public consultation is generally low and expression of their opinion in public is restricted. Participation of educational personnel were especially encouraged to understand impact on children. Schedule of public consultations is summarized as follow.

Table 4.1-1 Schedule of Public Consultations

Name of Consultation	Year/Month	Contents of Meetings
1st Public Consultation	March 2018	Outline and scoping of the access road component (5 locations, One of them is common with consultations for port)
2nd Public Consultation	July 2018	Draft LARAP for the access road component (6 locations, Two of the are common with consultation for port)
Supplemental meeting	August 2018	Re-alignment of the access road (2 locations)
Supplemental meeting	November 2018	Compensation policy (4 locations)

Source: JICA Survey Team

4.2 1st Public Consultation

Public consultation for LARAP was held combined with stakeholder meetings for EIA. Notification of public consultation was made from RHD, DC, Upazila Office and then Union Office from the early of March 2018. Verbal notification was made from Union Chairman considering low literacy rate in the area and local consultant confirmed that notification was properly made. Local Consultant made notification directly to NGOs. FGDs will be held separately as female participants were only few. Participants and contents are as follows.

Table 4.2-1 Participants of Public Consultations

Date	Venue	Participants								
		Total (M/F)*	EA, Survey Team	Relevant Agencies	DC, Upazila	Other Municipalities	PAPs	Religious/Education.	NGO	Others
12 th Mar, 2018 (Mon)	Mahe-shkhali UNO	50 (47/3)	8 (7/1)	0	10 (10/0)	14 (14/0)	17 (15/2)	0	0	1 (1/0)
13 th Mar, 2018 (Tue)	Chakaria UNO	50 (41/9)	6 (6/0)	1 (1/0)	7 (6/1)	12 (10/2)	7 (4/3)	14 (11/3)	1 (1/0)	2 (2/0)
14 th Mar, 2108 (Wed)	Kalamar Chara Union	78 (75/3)	6 (6/0)	0	0	16 (13/3)	56* (56/0)	-	0	0
15 th Mar, 2018 (Thu)	Dhalghata Union	87 (86/1)	6 (6/0)	0	1 (1/0)	7 (6/1)	72* (72/0)	1 (1/0)	0	0
17 th Mar 2018 (Sat)	Badarkhali Union	62 (58/4)	6 (6/0)	0	0	15 (14/1)	41* (38/3)	-	0	0

*Some included in PAPs

Source: JICA Survey Team

The below was explained in 1st public consultation. Materials were translated into Bengali; explanation, comments and question from participants and their response were also made in Bengali.

- Background
- Outline of the Project
- Purpose of the Public Consultations
- Necessity of Access Road
- Route of Access Road and Affected Area
- Option Comparison, recommended option and its reason
- Examination for Minimizing Resettlement
- Environmental and Socio-economic Conditions
- Impact to be caused by the Project

Remarkable comments and question from participants and their response were as follows.

Table 4.2-2 Remarkable comments, questions and their responses

Date	Venue	Remarkable Comments and Suggestion	Correspondences
12 th Mar, 2018 (Mon)	UNO Conference Room, Moheshkhali	Port road and power plant road should be integratedly planned. (District AL President Advocate)	To be considered in road development plan.
		They have no objection regarding port access road but have objection regarding the naming issue. The naming of the access road must be Dhalghata port access road instead of Moheshkhali Port Access road. (Chairman Dhalghata Union Parishad)	The name issue is already conveyed to CPA/RHD high authority. CPA/RHD will discuss with the Member of Parliament.
		Among the three routes, priority route should involve less damage and disturbance to the affected people. (District AL President Advocate)	Priority route is selected through evaluation of various factors including minimization of negative environmental/ social impact.
		Proper compensation of PAPs is to be ensured. (Mayor Moheshkhali Pourashava) Road and port will benefit the whole country. It shall be considered that compensation at Dhalghata is Tk.6 lakh per acre (1.00acre) but at Chiringa land price is Tk. 12 lakh per decimal (0.01 acre). (Commander, Freedom fighter)	Compensation rate will be examined based on Bangladesh law and JICA GLs.
		Compensation rate must be consulted with local people. (District AL President Advocate)	To be considered in LARAP. Local consultation meeting will be held.
		Land and livelihood of the people is to be saved and salt land to be protected. (Honorable MP, Cox's Bazar-2)	To be considered in LARAP. Impact shall be minimized.
		Development needs alternative support and people should have access to these job and livelihood facilities and people's views must be honored. (District AL President Advocate)	Job creation and livelihood restoration will be examined in LARAP.
		Ensure equitable development shall be ensured for all people in the area. (District AL President Advocate)	Consideration will be given to maximize the benefit for local people and to minimize inequality.
13 th Mar, 2018 (Tue)	UNO Conference Room, Chakaria	Access road project has been designed in such a way housing structures have been avoided. It is requested educational institution should also be avoided. In designing the project minimum damage of property, graveyard, and cemetery, religious institution are to be ensured and minimizing all negative impacts. (UNO Chakaria) One school and Madrasa will be affected in the alignment, there should be initiative to avoid these area (UNO Chakaria).	JICA GL requires minimalization of land acquisition and resettlement. All effort will be also made to avoid disturbance to educational/ cultural/ religious facilities. If still unavoidable, relocation will be examined in close consultation with local communities.
		Hassle free compensation and intermediary service of middlemen will be expected. (President Chakaria Press Club)	Proper compensation will be planned in LARAP in accordance with Bangladesh law and JICA GLs.

MATARBARI PORT ACCESS ROAD DEVELOPMENT PROJECT
Land Acquisition and Resettlement Action Plan – Main Report

Date	Venue	Remarkable Comments and Suggestion	Correspondences
		At Badarkhali growth centre and adjacent areas, there is no Bangladesh survey ¹ (BS) record. Due to this, previous acquisition some PAPs was unable to get compensation. The land is under a cooperative association. No direct purchase on that land. In bazaar land price per kani (0.40 acre) is around Tk.3 to 4 crore. (Chairman Badarkhali UP)	Proper compensation will be planned in LARAP in accordance with Bangladesh law and JICA GLs.
		Some people raised the issue of fish <i>gher</i> , salt cultivation in the leased land. They have concern of getting compensation of their investment. (UNO Chakaria)	Minimization of negative impact will be carefully examined. Proper compensation and livelihood restoration will be also examined in LARAP.
		Such information disclosure meeting will be helpful and expecting more meeting and thanks JICA for support such development project (Female Vice Chairman).	Local consultation meeting will be held to facilitate involvement of communities and PAPs.
14 th Mar, 2108 (Wed)	Kalarmarchara Union Parishad Auditorium, Moheshkhali Upazila	The affected people will lose land and livelihood, salt and shrimp land, so they should be properly rehabilitated and it should be minimum. (UP Chairman, Kalarmarchara) Shrimp <i>gher</i> , salt land, betel leaf cultivation will be affected. Sufficient drainage is essential. (PAPs)	Minimization of livelihood impact as well as livelihood restoration will be examined in LARAP. Minimization of negative impact on hydrology will be examined through EIA.
		Some people are unable to get compensation, so proper cooperation is sought from the requiring body. (PAPs)	Proper compensation will be examined in LARAP in accordance with Bangladesh law and JICA GLs.
		Direct Payment to the affected people with support of Union Parishad. Intermediary support in DC office is a major problem of getting payment for poor, illiterate PAPs. (UP Chairman, Kalarmarchara)	Proper compensation will be examined in LARAP in accordance with Bangladesh law and JICA GLs. PAPs will be supported in getting compensation.
		Engage local construction worker in construction work	Engaged of local construction workers will be considered in EIA/ LARAP.
		Poor people should have livelihood restoration. (PAPs)	Special consideration will be made for vulnerable peoples in LARAP.
		Female affected person should get support from the project. (Female UP Member)	Ditto
15 th Mar, 2018 (Thu)	UP Conference Room, Dhalghata, Moheshkhali Upazila	They are very serious about the naming issue of port and land price. They will have all out cooperation to the project authority. (Dhalghata Union Chairman)	The name issue is already conveyed to CPA/RHD high authority. CPA/RHD will discuss with the Member of Parliament.
		The proposed development projects in the area are blessings for the local people but the affected community is to be properly resettled. (Dhalghata Union Chairman)	Proper resettlement will be examined in LARAP in accordance with Bangladesh law and JICA GLs.

MATARBARI PORT ACCESS ROAD DEVELOPMENT PROJECT
Land Acquisition and Resettlement Action Plan – Main Report

Date	Venue	Remarkable Comments and Suggestion	Correspondences
		<p>Already price has been increased substantially, that is why land transaction is temporarily declared off by the executive order in the area. Both the naming issue and land price are to be declared before starting the work. (Dhalghata Union Parishad)</p>	<p>Land price will be investigated and proper compensation rate will be examined in LARAP.</p>
		<p>As government informal decision, no transaction of land without DC's approval. So, only mouza rate of land price will not be helpful for proper compensation. Without proper compensation, people's sufferings will not be relieved in case of land acquisition. (Dhalghata UP Member)</p>	<p>Ditto</p>
		<p>They want 100% job for the affected persons as their livelihood is being hampered. (Dhalghata UP Member) We need job, otherwise we have to survive drinking only salt water. (Women UP member, Dhalghata) The project has acquired their agriculture and salt land. Therefore, they want training and job facilities. (Pundit's Deil village)</p>	<p>The proposed project will improve the situation Livelihood restoration and job creation will be examined in LARAP.</p>
		<p>They want other infrastructure support like establishment of hospital, vocational and polytechnic institute for improving their livelihood and living standard. (Dhalghata Union Chairman)</p>	<p>Livelihood restoration and preparation of relocation site will be examined in LARAP. Port access road will also help in smooth transportation of locally produced goods and import other daily necessities comparatively better prices.</p>
<p>17th Mar 2018 (Sat)</p>	<p>Badarkhali Union Parishad Conference Room, Chakaria Upazila</p>	<p>It would be recommended to change the alignment and avoid mosque from acquisition. A mosque and a Fazil Madrasa will be affected. (Panel Chairman, Baro Veola)</p>	<p>All effort will be made to avoid disturbance to educational/ cultural/ religious facilities. If still unavoidable, relocation will be examined in close consultation with local communities.</p>
		<p>It would be recommended to change the alignment along southern side of the Badarkhali Bridge. It will minimize the affected structure. During socio economic survey (SES), this will be verified. (President Badarkhali Cooperative Society)</p>	<p>Route is selected through evaluation of various factors including minimization of negative environmental/ social impact, as well as engineering viewpoint. To shift alignment to south will increase affected residential houses while it can avoid impact on bazar. It will also lead to zig-zag road considering that the route has to avoid Moheshkhali hills.</p>

<p>Eng. Nurul Alam Siddique is presenting the key note paper in Moheshkhali Upazila (12 March, 2018)</p>	<p>Full view of the SHM in Moheshkhali Upazila (12 March, 2018)</p>
<p>SHM at Chakaria UNO office (13 March, 2018)</p>	<p>Upazila Nirbahi Officer is addressing in the meeting at Chakaria UNO office (13 March, 2018)</p>
<p>View of the Stakeholders Meeting in Kalarmarchara Union Parishad Auditorium, Moheshkhali Upazila (14 March, 2018)</p>	<p>UP Chairman is addressing in the meeting in Kalarmarchara Union Parishad Auditorium, Moheshkhali Upazila (14 March, 2018)</p>

	
<p>Partial view of stakeholder’s meeting in UP Conference Room, Dhalghata (15 March, 2018)</p>	<p>PAP is addressing in the SHM in UP Conference Room, Dhalghata (15 March, 2018)</p>
	
<p>Mr. Nurul Alam Siddique is presenting key note paper in the SHM at Badarkhali UP office (17 March, 2018)</p>	<p>SHM at Badarkhali UP office, Chakaria (17 March, 2018)</p>

Figure 4.2-1 Public consultation for Access Road

4.3 2nd Public Consultation

Public consultation for LARAP was held combined with Stakeholder meeting for EIA. Notification of public consultation was made from CPA/RHD, Upazila Office and then Union Office from the late June 2018. Written notification was posted on bulletin board of Upazila Offices and Union Offices while verbal notification was made from Union Chairman considering low literacy rate in the area, which was confirmed by Local Consultant. Local Consultant made notification directly to NGOs. Attendance of teachers were secured to reflect interests of children. Participants and contents are as follows.

Table 4.3-1 Participants of Public Consultations

Date	Venue	Participants								
		Total (M/F)*	EA, Survey Team	Relevant Agencies	DC, Upazila	Other Municipalities	PAPs	Religious/ Education.	NGO	Others
5 July, 2018	Chakaria UNO	82 (72/10)	5 (4/1)	1 (1/0)	11 (11/0)	43 (34/9)	9 (9/0)	4 (4/0)	1 (1/0)	8 (8/0)
7 July, 2018	Moheshkhali UNO	70 (69/1)	7 (6/1)	0	7 (7/0)	17 (17/0)	28 (28/0)	5 (5/0)	0	6 (6/0)
8 July, 2018	Dhalghata Union	90 (77/13)	6 (5/1)	0	0	8 (8/0)	75 (63/12)	1 (1/0)	0	0
10 July, 2018	Badarkhali Union	123 (122/1)	5 (4/1)	0	0	24 (24/0)	80 (80/0)	7 (7/0)	0	7 (7/0)
10 July, 2018	Kalarmar Chara Union	72 (70/2)	4 (3/1)	0	0	10 (9/1)	58 (58/0)	0	0	0
11 July, 2018	Fasiakhali Union	68 (61/7)	5 (4/1)	0	0	27 (22/6)	35 (35/0)	0	0	1 (1/0)

*Some included in PAPs

Source: JICA Survey Team

The below was explained. Materials were translated into Bengali; explanation, comments and question from participants and their response were also made in Bengali.

- Outline of the Project
- Important Natural areas near the Project
- Results of Environmental Impact Assessment
- Monitoring Plan
- Management/Monitoring Implementation Structure
- Overview of Affected Area
- Examination for Minimizing Resettlement
- Overview of PAHs/ Affected Lands
- Resettlement and Rehabilitation framework (Compensation/ Rehabilitation)
- Institutional Arrangements (GRM)
- Correspondence to Opinions in 1st Consultation Meetings

Remarkable comments and question from participants and their response were as follows.

Table 4.3-2 Remarkable Comments, Suggestions and Correspondences

Date	Venue	Remarkable Comments and Suggestion	Correspondences
5 th July, 2018 (Thu)	Chakaria UNO	<p>We generally appreciate the project. We are expecting minimum loss of environment regarding Involuntary resettlement impact. (UNO, Chakaria)</p>	<p>Minimalization of the negative impact has been examined in EIA/LARAP.</p>
		<p>Proposed alignment should avoid Badarkhali Bazar. It Should also avoid Badarkhali Degree College and Madrasa. (UP member Badarkhali) The proposed project will affect Bazar, school, college and Mosque and if there is scope of avoidance, the mentioned community facilities should be avoided. (UP Chairman, Badarkhali)</p>	<p>Viaduct will be installed for reducing the ROW and ensuring the north-south passage. Madrasa and structure of the College will be avoided at least.</p>
		<p>The people will cooperate in the implementation process of the road. But they are expecting the college will lose a four storied building structure. These key installations should be avoided. Proper compensation is to be provided as actual market price if land is not avoided. If the present route is unavoidable, there must be accident management device, and also there may be underpass or flyover. (Acting Principal of Badarkhali Degree College)</p>	<p>Effort was made for avoiding at least College building. The currently-proposed alignment will traverse the playground, but passage will be ensured. Effort will be continuously made for minimizing impact.</p>
		<p>Some house of the poor people will be affected. Project authority should ensure proper compensation. (Ward Member, Fasiakhali) There are so many fish project at Rampur area of Fasiakhali Union. We foresee the socio – economic condition will be drastically change but livelihood losers must be properly compensated. (PAPs) At Rampur of Shaharbil UP, there are fish project. Livelihood loss should be properly compensated. (Chairman, Shaharbil)</p>	<p>Compensation will be properly made in accordance with Bangladesh law and JICA GLs.</p>
		<p>All expect the proposed road, as it will change feature of Chakaria area and it will make new Chakaria. The proposed project area is the economic zone of Chakaria which comprises shrimp cultivation, fish culture but law and order situation is not good. We are expecting improved road communication will make the area free of dacoit and improved law and order situation will be a future outcome. (Chairman, Fasiakhali union Parishad)</p>	<p>-</p>
		<p>Avoid housing structure and ensure proper and timely compensation of poor. Loss of livelihood should be regained. (UP Member Fasiakhali)</p>	<p>Compensation will be made in accordance with Bangladesh law and JICA GLs. Livelihood restoration has been also examined in LARAP.</p>
		<p>To provide employment facilities for PAPs to</p>	<p>Livelihood restoration has</p>

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Date	Venue	Remarkable Comments and Suggestion	Correspondences
		restore loss of employment. (Ward Member, Fasiakhali)	been examined in LARAP
		We are very satisfied but there should be sufficient culvert as the alignment will cause no water logging, they suggested. (PAPs)	Culverts for irrigation and drainage have been considered in road planning.
		It is expected for RHD that communication will be made properly to inform how the project affected people can get compensation. (Chairman, Chiringa Union Parishad)	Institutional arrangement for proper compensation has been examined in LARAP.
		Local people should be employed during construction period. (Chairman, Chiringa Union Parishad)	Employment of local people has been examined in EIA/ LARAP.
		Loss of natural Environment is to be avoided. We appreciate the project. (Chakaria Nature Conservation Management (NACOM))	Minimization/ mitigation of environmental impact has been examined in EIA,
7 th July, 2018 (Sat)	Moheshkhali UNO	If possible in consideration of engineering view point and other social parameter, avoid homestead and housing structures. Otherwise, provide homestead land with structure before displacement of PAPs concerned. It is noted here around 66 households will lose their housing structure and they claim they have no alternative land for shifting as homestead. Their main demand is to shift the alignment around 300m north of the proposed alignment at Kalarmarchara. (MP, Cox's Bazar-2)	Viaduct or retaining wall will be installed for reducing the ROW to minimize land acquisition/ resettlement in Kalarmarchara populated area. It shall be noted, however, this is F/S and the alignment is yet finalized.
		The catchment area of the port will be 2 00 crore of people including neighboring countries. No one should be harmed. (MP, Cox's Bazar-2)	Examination for minimizing negative impact was made in EIA/LARAP.
		Present mouza rate land price of DC doesn't represent the actual land price as there is restricted transaction of land price from permission of DC. (MP, Cox's Bazar-2)	Compensation rate will be set based on Bangladesh law and JICA GLs.
		Naming of the port still is an issue. (MP, Cox's Bazar-2)	The issue needs to be solved in the ministry level.
		Provide actual market rate of land, Coal power project it was 7 million Tk. per acre and now it should be 10 million Tk. per acre. (Dhalghata Chairman)	Compensation rate will be set based on Bangladesh law and JICA GLs.
		A technical school and college are needed. (Upazila Chairman Moheshkhali)	Implementation of port will ensure the economic development. Also livelihood restoration support has been examined in LARAP.
		Local labour is to be engaged in the project and construction work. (Upazila Chairman Moheshkhali, President Upazila Awami League (AL))	Employment of local people has been considered in EIA/ LARAP.

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Date	Venue	Remarkable Comments and Suggestion	Correspondences
		How proper price will be finalized while land sale is prohibited here? (President Upazila Awami League (AL))	Replacement cost survey was made through interview on PAPs, other people, register office and referring to land price in another project.
		Our houses and shelter will be affected. The project should save their home from acquisition. We are ready to sacrifice anything except shelter (PAPs)	Viaduct or retaining wall will be installed for reducing the ROW to minimize land acquisition/resettlement in Kalarmarchara populated area. It shall be noted, however, this is F/S and the alignment is yet finalized.
8 th July, 2018 (Sun)	Dhalghata Union	The area will be the development hub by the initiative of GoB and JICA as Bay of Bengal Industrial Growth Belt. So, both affected and non-affected persons will be the beneficiaries. (Assistant Manager, Land management Department)	-
		PAPs to get proper compensation as per new law enacted. (Assistant Manager, Land management Department, Principle Muhurighona Madrasa, Freedom Fighter)	Compensation will be made based on Bangladesh law and JICA GLs.
		There should be a monitoring team for identifying the real person for getting benefit as no one is deprived. (Principle Muhurighona Madrasa)	Monitoring team will be established in accordance with LARAP.
		Naming of the port still is an issue. (Principle Muhurighona Madrasa)	The issue needs to be solved in the ministry level.
		Easier processes for compensation in this project than in previous JICA project should be ensured (Shrimp and Salt Cultivator)	Procedure for compensation will be made based on Bangladesh law and JICA GLs.
		For getting payment I had to go to member of the parliament because they need for payment. LA section should have payment and finalization of documents with support of UP office and implementation NGO (Shrimp and Salt Cultivator)	This has been examined in LARAP.
		People in the area are suffering in tidal surge and cyclone; so they need embankment to protect crop and other belongings like shrimp and salt during cyclone. (Freedom Fighter)	Port access road could provide embankment as well as shelter at the time of flood.
		Need an inventory of loss for every PAPs including shrimp fingerlings collectors, crab farmer, sharecropper. They need five years demurrage for their losses as well as rehabilitation of them. (Freedom Fighter)	Persons with their livelihood affected will be eligible for compensation in accordance with JICA GLs.

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Date	Venue	Remarkable Comments and Suggestion	Correspondences
10 th July, 2018 (Tue)	Badarkhali Union	The project will improve socio economic condition of the area but will affect school, college, mosque etc. (PAP)	Minimization of the impact has been examined during the survey. School and mosques will be avoided.
		At Badarkhali, there are three kindergarten school, one Degree College, bazar affected, and they should be avoided. (PAP) It would be recommended to shift the alignment about 2,500m to the south, which ensures around 80% will be government land. Otherwise it would be recommended to shift it about 300m to the north at Badarkhali. (PAP) If the alignment is shifted either north or south, there will be no loss. (PAP)	Kindergarten and primary schools will be avoided. Minimalization of the impact has been examined.
		At the proposed alignment at Badarkhali, risk of accidents will increase. Around 10,000 students are studying adjacent areas of bazar. Due to affected school and madrasha building there will be disruption of education and probability of accident will increase. If shifting the alignment to the south, approximately 7km will be shortened for the proposed road. (Principal of Badarkhali Madrasa)	Minimization of the impact has been examined during the survey. Safe passage of students will be secured.
		Out of total 5-acre land of the college, 3 acres will be affected. Though we are not against the development, it would be requested to make flyover or underpass in this area if shifting the alignment is not possible. (Principal of the degree college)	Minimization of the impact has been examined during the survey. Passage will be secured. Proper relocation of the structure will be made if necessary.
		As for Construction and other job facilities, priority should be given for local unemployed people. PAPs should have access to job. (PAP)	The employment of local people has been considered in both EIA/LARAP.
		Present market price is Tk.130,000 per decimal but in government rate it is only Tk.8,000 per decimal. Proper compensation will be required, otherwise PAPs will suffer. (PAP)	Compensation rate will be properly set in accordance with Bangladesh law and JICA GLs.
		DC's payment should be at union level, otherwise people will suffer. (PAP)	Compensation procedure will be made in accordance with Bangladesh law and JICA GLs. For fair compensation, monitoring and GRM will be established.
10 th July, 2018 (Tue)	Kalarmarchara Union	We will cooperate in implementation of the project, but sacrifice should be within their limit. Uttar Nalbila village under Ward No-1 will suffer most; If the alignment is shifted 300m towards north, there will no physical displacement (PAP's representative, 2 PAPs)	Minimization of the impact has been examined during the survey. However, the proposed alignment is not the definite as this is F/S stage.
		What would be our compensation? it should not be mishandled (PAP)	Compensation package has been examined in accordance with Bangladesh law and JICA GLs.

Date	Venue	Remarkable Comments and Suggestion	Correspondences
		If issue on human settlement and environmental damage is arisen, human settlement should get priority. Because 1000 people of 70 households will lose their shelter at Uttar Nalbila as involuntary resettlement, we urge to save the settlement.	<i>Ditto</i>
		Though we will provide every opportunity to success the project and we are not opposing the development, this was their demand. They will become homeless for the proposed alignment and will be forced to use the vacant land.	<i>Ditto</i>
		We earnestly request, JICA team member to save our home and we will render highest cooperation to you in implementation the project. However, they would be highly indebted to the JICA team.	<i>Ditto</i>
		Out of 70 affected family, only 10 HHs could reconstruct and resettle their home in other areas as the remaining are very poor (Ward 7 PAP)	Compensation will be made in accordance with Bangladesh law and JICA GLs so that they can be resettled properly.
		The project is for our development. We expect no loss. (Ward 3 PAP)	Minimization of the impact has been examined during the survey. Compensation and/or rehabilitation assistance will be provided in accordance with Bangladesh law and JICA GLs.
11 th July, 2018 (Wed)	Fasiakhali Union	No diversion of alignment at Chiringa is expected. Currently we do not have enough road facilities in this area, which will be improved by the Project and the people will get security. (Chairman, Chiringa Union Parishad)	-
		Consideration shall be made especially for poor people in getting compensation and rehabilitation. Resettlement site is needed and it should be union wise. (Chairman, Fasiakhali Union Parishad)	Special consideration has been examined for the vulnerable people including poor in LARAP.
		Land value is high at Fasiakhali in comparison with Chiringa. We like to give thanks to JICA but project should be designed such as no to cause water logging. (PAP)	Compensation rate will be set based on replacement cost survey. Culverts for irrigation and drainage have been considered in road planning.
		No intermediary is expected in legal compensation and it should be at grass root and union level. No one is to be deprived and authority should confirm it. (PAP)	Compensation procedure will be made in accordance with Bangladesh law and JICA GLs. For fair compensation, monitoring and GRM will be established.



UNO Chakaria speaking in the SHM
(5 July, 2018)



SHM at Chakaria in Upazila Auditorium
(5 July, 2018)



SHM at Moheshkhali Upazila Auditorium
(7 July, 2018)



SHM at Moheshkhali Upazila Auditorium
(7 July 2018)



Chairman speaking in SHM at Dhalghata
(8 July, 2018)



Attendees to SHM at Dhalghata
(8 July, 2018)



SHM at Badarkhali Co-operative society Premises
(10 July, 2018)

Attendees to SHM at Badarkhali
(10 July 2018)

SHM at Kalamarchara UP
(10 July, 2018)

PAP speaking in SHM at Kalamarchara
(10 July, 2018)

SHM at Fasiakhali UP Auditorium
(11 July, 2018)

SHM at Fasiakhali UP Auditorium
(11 July, 2018)

Figure 4.3-1 2nd Public Consultations for Port and its Access Road

4.4 Supplemental Consultation (for Re-alignment)

Concerns were found during the second consultations on access roads in July 2018 about the proposed alignment traversing villages in Kalamarchara and markets in Badarkhali. Consequently, re-alignment was made to north direction and consultations were held again in both Unions. This supplementary consultation

was conducted in the same way as the second community consultation, though as it had to be held earlier in order to complete the necessary land acquisition/resettlement surveys within the period, the survey members did not participate, and support for the Executing Agency was provided only through the local consultant. 67 people participated in community consultation in Badarkhali, and 36 people participated in Kalarmarchara.

Table 4.4-1 Participants of Public Consultations

Date	Location	Participants								
		Total (Male/Female)	Business Persons - Surveyors	Affiliated Government	Upazila - District	Other Administrative Districts	PAPs	Religious – Education Related	NGO	Other
Aug 13, 2018 (Mon)	Badarkhali Union	67 (67/0)	3 (3/0)	0	0	8 (8/0)	46 (46/0)	5 (5/0)	1 (1/0)	4 (4/0)
Aug 13, 2018 (Mon)	Kalarmarchara Union	36 (36/0)	4 (4/0)	0	0	8 (8/0)	24 (24/0)	0	0	0

Table 4.4-2 Remarkable Comments, Suggestions and Correspondences

Date	Venue	Opinions and Questions from Participants	Countermeasures
Aug 13, 2018 (Mon)	Badarkhali Union	We appreciate that the concerns of the local people were understood. We are requesting the alignment to the south approximately 3km from Badarkhali Bridge point directly (Secretary, Badarkhali Agricultural Cooperative Society)	The north detour was planned to take into consideration all of the environmental, social, and technical aspects. The realignment to south will pass through settlements at the bottom of hills, in addition to the Moheshkhali hill itself. On the other hand, for going south on the side of Badarkhali after detouring the Moheshkhali hill, the number of right/left turns increases, which is not desirable from technical aspects, as well as from road safety.
		All the land is triple cropped area. If road is constructed, there will be huge water logging and cannot be used for agriculture. Thus, shift to south is preferable. If shift to north is unavoidable, proper resettlement and compensation shall be ensured. (Madrassa teacher)	Installation of box culverts will be considered if necessary so that water logging will not occur.
		If the alignment is shifted to southward direction, almost 80% is government land, which will be preferable. (Panel Union Chairman, Ex Chairman, representative of Badarkhali Social Welfare Organization)	The north detour was planned to take into consideration all of the environmental, social, and technical aspects. The realignment to south will pass through settlements at the bottom of hills, in addition to the Moheshkhali hill itself.
Aug 13, 2018 (Mon)	Kalarmarchara Union	The proposed realignment might causes water logging at Badarkhali as claimed by the Badarkhali residents. However, as per new proposal to straighten port access road near Kalarmarchara government primary school through the hill passage, as claimed	Installation of box culverts will be considered if necessary so that water logging will not occur. As was pointed out, the resettlement of many residents will be necessary on the Moheshkhali side for the south

Date	Venue	Opinions and Questions from Participants	Countermeasures
		by the Badarkhali residents, more households will be affected in Kalarmarchara. (Ward Member).	detour plan.
		The suggested north side detour plan is right. If it made straight through hill, many households will be affected. (PAPs)	As was pointed out, the resettlement of many residents will be necessary on the Moheshkhali side for the south detour plan, so the north detour plan is considered to be the best.
		We support the north side detour plan. The south side detour plan will result in a large-scale resettlement. (Ward Member, Kalarmarchara Panel Chairman)	Ditto
		With the planned introduction of culverts and bridges, and since the water flows in the southern and western directions, there will not be any water logging in Badarkhali even with the north side detour plan (Ward Member).	As per his understanding, there will be no water logging. Installation of box culverts will be considered if necessary.

As mentioned above, the Kalarmarchara Union approved the north side detour plan, however there were many in the Badarkhali Union who wanted the plan to be changed to the south side detour plan. Subsequently, after consultation with the residents, several consultations with the relevant parties were held in late August to explain the following.

- The north side detour plan was planned to take into consideration not only technical aspects, but also social and technical aspects as well. The straight-line change to the south plan will not just pass through the Moheshkhali hill, but also the settlements at the foot of the hill, which could result in large-scale resettlement.
- The proposed straight line avoids the Badarkhali market. Passage can be guaranteed by a box culvert.
- It was confirmed through hydraulic analysis that no water logging would occur. The main water flow is assumed to be in the east-west direction, but since the route is planned from east to west, it will not become a hinderance to this flow. When agricultural land drainage becomes necessary, it can be secured by introducing a box culver bar.

Through the consultations, the local community gained an understanding of the north side detour plan, and a general consensus was obtained.



Figure 4.4-1 Supplemental Community Consultation (Access Road)

4.5 Supplemental Consultation (for Compensation Policy)

Consultation meetings were held for explaining compensation policy to households to be displaced. Notification of the meeting was made directly to households to be displaced as well as through Union Chairmen. Cash compensation was explained to attended households as compensation policy, for which consensus was obtained from the concerned households.

1. In Dhalghata, 10 out of 19 HHs to be displaced attended the meeting on 7th November, 2018. It was confirmed that all attended households to be displaced agreed cash compensation as compensation policy.
2. In Kalarmarchara, 15 out of 16 HHs to be displaced attended the meeting on 6th November, 2018. Though requests for re-changing alignment to north direction again were observed, the meeting was concluded by Union Chairman that cash compensation shall be provided prior to displacement if changing is not feasible.

3. In Badarkhali, 18 out of 30 HHs to be displaced attended the meeting on 6th November, 2018. It was confirmed that all attended households to be displaced agreed cash compensation as compensation policy since land-for-land compensation is not considered in this area where all land transaction is controlled by Badarkhali Agricultural Cooperative Society.
4. In Chiringa, 27 out of 47 HHs to be displaced in Chiringa, 10 out of 18 HHs in Fasiakhali attended the meeting on 8th November. It was confirmed that all attended households to be displaced agreed cash compensation as compensation policy. Proper compensation rate and payment prior to displacement were requested.

Table 4.5-1 Participants of Public Consultations

Date	Venue	Participants						Remarks
		Total	EA, Survey Team	Union	PAPs to be displaced	Other PAPs	Others	
6 th Nov, 2018 (Tue)	Kalamar -chara Union	48	4	7	15	12	0	15 out of 16 HHs to be displaced attended the meeting.
6 th Nov, 2018 (Tue)	Badarkhali Union	32	4	9	18	0	1	18 out of 30 HHs to be displaced attended the meeting.
7 th Nov, 2018 (Wed)	Dhalghata Union	29	8	9	10	2	0	10 out of 19 HHs to be displaced attended the meeting.
8 th Nov, 2018 (Thu)	Chringa Union (for Chiringa and Fasiakhali)	52	4	5	37	6	0	27 out of 47 HHs for Chiringa, 10 out of 18 HHs for Fasiakhali attended the meeting.

Remarkable comments and question from participants and their response were as follows.

Table 4.5-2 Remarkable comments, questions and their responses

Date	Venue	Remarkable Comments and Suggestion	Correspondences
6 th November, 2018 (Tue) 12:00	Kalarmarchara Union	We cannot understand why the alignment cannot be shifted to north. We prefer the alignment shift to north direction. (PAP to be displaced)	There are control points, transmission tower in Kalarmarchara, and the alignment needs to be south than them. Effort has been made to avoid houses as much as possible.
		Proper compensation is required. We prefer cash compensation, not land for land (journalist, PAP with land affected)	-
		Payment through DC will be not preferable as many brokers will intervene (journalist, PAP with land affected)	-
		We should be involved in job opportunity. (journalist, PAP with land affected). Certificates need to be provided for PAPs	Prioritization of job opportunity for PAPs is considered in LARAP.

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Date	Venue	Remarkable Comments and Suggestion	Correspondences
		for prioritization of job opportunity (PAP to be displaced)	
		If changing alignment is not feasible, cash compensation shall be provided prior to displacement. (Union Chairman)	Compensation will be made prior to displacement.
6 th November, 2018 (Tue) 15:00	Badarkhali Union	The alignment change to south will be preferable. If not possible, proper compensation will be required. (PAP to be displaced)	Proper compensation will be made in accordance with ARIPA 2017 and JICA GL.
		At Badarkhali, three times of mouza rate is not enough for compensation of land. Rate of Badarkhali Agricultural Cooperative Society shall be applied. (PAP to be displaced)	Compensation rate shall be replacement cost, which will be verified by PVAT.
		Compensation shall be made directly to PAPs though ownership of land needs to be certified by Badarkhali Agricultural Cooperative Society. (PAP to be displaced)	Payment procedure will be made in accordance with ARIPA 2017.
7 th November 2018 (Wed) 13:30	Dhalghata Union	My salt farm can be divided by the alignment, which can make the remaining land unusable. In that case, will compensation be still made only for affected portion? (PAP to be displaced)	Elevation of the road can be examined. If not possible, special consideration will be made to pay compensation for whole plot.
8 th November, 2018 (Thu) 12:00	Chiringa Union	Payment of compensation at grass-root level will be preferred. (PAP to be displaced)	Though Cash Compensation under the Law (CCL) shall be paid through DC, additional payment can be paid at grass-root level.
		Payment can be paid wrongly to other one if he claims that he is entitled person. (PAP to be displaced)	ID will be required for payment to certify that the person requesting payment is truly the entitled person.
		Resettlement site or compensation will be required prior to displacement. Sufficient time, at least two months for resettlement shall be secured.	Compensation will be made prior to displacement. Sufficient time for resettlement will be secured.
		Proper compensation will be required as mouza rate is very low.	Gap between CCL and replacement cost will be additionally paid, if any, in accordance with JICA GL.
		We concern about distribution of compensation within HHs (female PAP)	Though CCL shall be paid to property owner in accordance with Bangladesh Law, direct payment can be considered regarding additional payment if the concerned community agree.

	
<p>Consultation Meeting in Kalarmarchara 6th November 2018(Tue)</p>	<p>Consultation Meeting in Badarkhali 6th November 2018(Tue)</p>
	
<p>Consultation Meeting in Dhalghata 7th November 2018(Wed)</p>	<p>Consultation Meeting in Chiringa 8th November 2018(Thu)</p>

Source: JICA Study Team

Figure 4.5-1 Consultation Meeting for Compensation Policy

4.6 Focused Group Discussions

6 FGDs were held during the socio-economic survey. PAPs focused mainly on compensation-related issues. Many of the Project Affected Persons hoped for a relocation site, and also wanted monetary compensation, support, and income-related training and employment facilities for residents whose livelihoods would be affected. The primary concerns of the residents who would lose their land and buildings was the payment of CCL (legal compensation amount) at the union level.

The main concerns of the Project Affected Persons are as follows.

- Concerning appropriate compensation due to increase in local market price significantly
- Need to pay a compensation in Project site
- Need NGO support to receive the payment
- Need the employment facilities for project affected persons
- Need the vocational training to livelihood recovery for women

- Need maintenance for village roads
- Need the vocational training for project affected persons
- Need RHD support of access for drinking water and clean toilets
- Request the health care centre for emergency assistance due to no primary health care support in this area.

Table 4.6-1 Outline of FGD (Access Road)

Date	Venue	Target Group	Participant			Summary
			Male	Female	Total	
13 April, 2018	Fasiakhali, at home of Amir Hossain	Land owner Farmer	12	7	19	1. Need land and appropriate compensation 2. Provide local workers in construction work 3. Payment union level of CUL
14 April, 2018	Palakata Union Parishad	Land owner	20	0	20	1. Need appropriate support for revenue recovery 2. Provide a relocation site because it is difficult to purchase for increasing in land price 3. Need a payment of compensation at Union level 4. Need an appropriate compensation
14 April, 2018	Nalbila, Baruapara, at Buddhist Temple Premise, Kalarmarchara Union	Community of Islam and Buddhism	23	3	26	1. Need a provision of facilitation and relocation site 2. Need a support for receiving the payment 3. Need to design carefully the alignment to avoid affecting houses 4. Should be subject to compensation including house owner along railway lines.
16 April, 2018	Japua Kindergarten, Kalarmarchara Union	Local elite Land owner	21	0	21	1. Need a technical training 2. Need a workplace for women and young people 3. Need additional support for poor and vulnerable. 4. Need a payment of compensation at Union level 5. Need to prepare a facility for alternative and recovery livelihood by project implementing agency.
18 April, 2018	Dhalghata chairman office, Dhaghata	Local elite Land owner The worker of salt and shrimp cultivation.	23	1	24	1. Need to design carefully the alignment to avoid affecting houses 2. Need a payment of compensation at Union level
30 May, 2018	Uttar Nalbila, Kalarmarchara Union	Female	14	0	14	1. At present, we cannot imagine the work and facilities that will be needed for this region in the future. We want appropriate jobs for the restoration and increase of income for individuals and families. 2. Want jobs during the construction period, and permanent work in regards to this project. 3. Would like a cash loan. Training and employment facilities for livestock and sewing would also be useful. 4. Currently, women stay in their homes and don't work, so I want jobs.

Source : JICA Survey Team

	
<p>FGD with project affected persons in Fasiakhali (13 April, 2018)</p>	<p>FGD with project affected persons in Palakata, Buripukur (14 April, 2018)</p>
	
<p>FGD with project affected persons in Japua (16 April, 2018)</p>	<p>FGD with project affected women in Uttar Nalbila, Kalarmarchara (30 May, 2018)</p>

Figure 4.6-1 Focused Group Discussion

Response Policy for Opinions at FGD

- Given that there are many requests for job training for livelihood recovery assistance, priority will be given to job training.
- Compensation payment will be done in accordance with JICA guidelines. The payment method will follow the rules of Bangladesh national law, monitoring will be done to ensure payment is made appropriately, and a complaint handling mechanism will be established so that local residents can file a complaint when problems occur.
- Local residents will be given priority for employment in construction work.
- Encourage the implementation agency for relocation site maintenance. If this is not possible, conduct another consultation with the target residents according to the policies of the implementing agency.

Chapter 5 RESETTLEMENT POLICY

The resettlement policy of the project was formulated in accordance with JICA guidelines and policies and World Bank OP 4.12. The policy framework for this project can realize the following:

- I. The key objectives of this policy are (i) to safeguard the rights of the affected and/or displaced households/persons
- II. To ensure that appropriate mitigation measures and resettlement plans are implemented,
- III. To ensure that appropriate assistance is provided to affected households and communities to restore and improve their socio-economic conditions and
- IV. To establish community social systems and networks during and after resettlement has occurred.
- V. All those displaced involuntarily by development projects must be resettled and rehabilitated in a productive and sustainable manner in accordance with this policy
- VI. People who are resettled must be able, through income and livelihood restoration programs and other supports as may be required, to restore and improve upon their level of living within a reasonable period.
- VII. The right to compensation, resettlement and livelihood restoration shall not lapse or end with the conclusion of implementation of a project and shall remain an obligation of the owner of the project until fulfilled even beyond project completion.
- VIII. Vulnerable groups, including landless, Adivasis, poor women headed households, physically challenged people, elderly and the poor (falling below the nationally defined poverty line by the government) are entitled to additional benefits and assistance packages.
- IX. Cultural and customary rights of people affected by projects are to be protected, particularly those belonging to Adivasis and ethnic minorities.
- X. Gender equality and equity in all stages and processes of resettlement and rehabilitation shall be fully respected.
- XI. Adverse impacts of land acquisition and displacement are to be avoided or minimized and mitigated throughout the planning and implementation of all development projects.
- XII. All affected persons shall be identified through census by the project proponent, irrespective of titles, and shall be provided with compensation and resettlement assistance as per the entitlement matrix for relocation and rehabilitation.
- XIII. Project executing agencies will provide project brief, including entitlement matrix and implementation schedules, to all affected persons and communities. All entitlements will be delivered prior to dispossession of assets.
- XIV. Consultations with affected people shall be conducted in a transparent and participatory manner so as to provide easy access to information concerning impacts and mitigation.

The policy framework stresses on the following key values:

- The affected Community is involved from the initial phase; through community and stakeholder meetings, FGDs, that informs the people about the project and their views are noted. Information about compensation, land acquisition, loss of livelihood is shared in the preparation stage.
- The consent of the community, especially the PAPs is compulsory for initiation of the survey and the project at large.
- Inclusion is accentuated with the involvement of vulnerable and marginalized groups such as women, minority groups and others wherever present.
- When displacement is inevitable, people affected will be assisted in measures that will better their

current status of living without having to bear any cost. The socio-economic conditions of the PAPs must improve after project implementation.

- Involuntary settlement should be avoided or minimized as far as possible. Caution to affect any Religious and traditional structures, habitations, sanctuaries will be taken, through alternate routes, if not possible, all customary measures adopted by the community to remove such structures will be respected and assisted at the relevant cost.

5.1 Objective of Resettlement Policy Framework

5.2 Compensation

The main issue of compensation process entails that PAHs will be rehabilitated at the rate of full replacement cost, at least to pre-project socio economic condition.

All structures either commercial or residential will be compensated at replacement cost as per entitlement matrix. Government has no replacement cost standard. Public Works Department (PWD) rate is used by DC and this price is not the replacement cost. Replacement cost has been fixed by replacement cost survey. The Price has been calculated excluding depreciation and new structures value has been recorded. The price will be verified by Property Valuation Advisory Team (PVAT). In case of land actual market price has been collected, including stamp duty and associated cost as land replacement value. Details are described in “Chapter 8. Resettlement Budget and its Source”.

5.3 Livelihood Restoration Assistance

5.3.1 Need Assessment of Income Restoration Program

Need assessment of Income Restoration Program was conducted during SES and FGD. The table below shows the outline of the assessment.

Table 5.3-1 Outline of the interview on Income Restoration Program

Type	Implementation duration	Subject	Interview content
SES	April to September 2018	[Access road] HHs with their land/ structure affected: 614	<ul style="list-style-type: none"> • Requirements for livelihood restoration assistance • Details of the required livelihood restoration assistance
FGD	April to May 2018	[Access road] 6 FGDs <ul style="list-style-type: none"> • Land owner, farmer: 39 people/2 FGDs • Local elites: 45 people/2 FGDs • Buddhism/Islamic community: 26 people • Females: 14 people 	<ul style="list-style-type: none"> • Overall livelihood restoration requirements within the communities

Source: JICA Survey Team

In the Interviews conducted for PAHs of the access road component, 30.0% answered to prefer technical know-how provision, and 9.0% preferred technical training. Preference for extra money and interest free

capital were 32.4% and 9.0% respectively. Results of interviews conducted as part of the focus group discussion are detailed in “4.6 Focused Group Discussions”.

Table 5.3-2 Livelihood Restoration Priorities

Type of Assistance Needed	Access road	
	No. of Response	%
1) Technical know-how	184	30.0
2) Extra money (Capital)	199	32.4
3) Assistance for getting other Land	8	1.3
4) Managerial advice	2	0.3
5) Materials	2	0.3
6) Build the building	9	1.5
7) Skill training	55	9.0
8) Interest Free capital for start business	36	5.9
9) Banking loan Facilities	4	0.7
10) NGO Loan Facilities	4	0.7
11) Others(mention)	19	3.1
12) No Response	92	15.0
Total:	614	100.0

Source: JICA Survey Team

5.3.2 Income Restoration Program (IRP)

The livelihood restoration support policies shall restore the socioeconomic condition of PAPs to at least the level before the project implementation.

5.3.3 Vocational Training

Skill development through vocational training is a local demand. In the stakeholders meeting, the participants clearly stated for establishing vocational training school in the area for awarding relevant trades for getting technical job .Further, they suggest to train the local youths for getting service in abroad and also inside the country viz. Chittagong and Dhaka. The meeting was participated by local member of parliament, *Upazila Chairman, Upazila Nirbahi officer, concerned Union Parishad(UP) Chairman*, local elites and affected persons of the project area.

5.3.4 Target Groups

Individuals and households engaged in farming, salt or shrimp cultivation are facing the possibility of losing portions or entirety of their livelihood. PAPs facing this possibility are entitled to the livelihood restoration assistance program regardless of their land ownership and other rights in the Project site. Furthermore, PAPs below poverty line, as well as socially vulnerable households including households headed by women are to be priority targets of the livelihood restoration assistance program. The following will be the target of the livelihood restoration assistance program.

- Access road
 - Among households with their land/structure affected, households engaged in agriculture and salt cultivation as the primary means of livelihood: 217 households
 - Households with their livelihood affected: 515 households

- Socially vulnerable: 296 households

Table 5.3-3 Vulnerable who can be eligible for livelihood restoration assistance

Project	Female HH	HH above 60	Below Poverty Line	Total Vulnerable	Total HHs
Access road	44	104	148	296	614

Source: JICA Survey Team

5.3.5 Priority Training choices for the implementing NGO

Some priority training programs contents have been presented for income and livelihood restoration. The training lists here provided are only tentative. Agricultural training will also be included as per necessity. During implementation period, minor change may be occurred and a need assessment will be carried out at the time implementation theoretical and practical days of duration will be finalized after consultation with the concerned training and sector specialists. They will develop specific training module and present schedule may be reorganized. These are primarily assessed during conducting socio- economic survey.

Table 5.3-4 Livelihood Restoration Priorities

Program	Program contents	Responsibility
Agriculture	<ol style="list-style-type: none"> 1. 120 days agriculture training for rice and vegetable cultivation <ol style="list-style-type: none"> 1.1 Salinity tolerant rice variety 1.2 Fish and rice cultivation in the same crop field 1.3 Disease management 1.4 Capital and financial Management 1.5 Marketing 1.6 Risk factor 1.7 Final Feed back <p>(The course will be organized for farmers only)</p>	<ol style="list-style-type: none"> 1. Implementing NGO 2. With support and supervision of RU- RHD 3. Upazila agriculture and fishery department
Poultry Rearing	<ol style="list-style-type: none"> 1. 120 days Theoretical Training Poultry Rearing <ol style="list-style-type: none"> 1.1 Inauguration of training course 1.2 Potentiality of Poultry Rearing 1.3 Disease management 1.4 Capital and financial Management 1.5 Marketing 1.6 Risk factor 1.7 Final Feed back 2. 3 month practical training in a poultry farm for internee course 	<ol style="list-style-type: none"> 1. Implementing NGO 2. With support and supervision of RU-RHD 3. Upazila livestock officer
Furniture Technician	<ol style="list-style-type: none"> 1. 120 days theoretical training of Furniture Technician <ol style="list-style-type: none"> 1.1 Inauguration of Concerned training course 1.2 Potentiality of Furniture Technician and business 1.3 Furniture making, upholstery, repairing etc 1.4 Capital and financial Management 1.5 Marketing 1.6 Risk factors and management 	<ol style="list-style-type: none"> 1. Implementing NGO 2. With support and supervision of RU- RHD

Program	Program contents	Responsibility
	<ol style="list-style-type: none"> 1.7 Final Feed back 2. 3 months practical training in a furniture making shop for internee course 	
Tailoring/ Industrial sewing	<ol style="list-style-type: none"> 1. 120days Theoretical of Tailoring/Industrial Sewing <ol style="list-style-type: none"> 1.1 Inauguration of Concerned training course 1.2 Potentiality of Tailoring business/Industrial sewing 1.3 Pattern, design, marking, garment cutting fabric related issue 1.4 Capital and financial Management tailoring business/job search, job placement for industrial sewing 1.5 Marketing tailoring business/ merchandising 1.6 Risk factors and management 1.7 Final Feed back 2. Minimum 3 months practical training in a tailoring shop/ garment factory for internee course 	<ol style="list-style-type: none"> 1.Implementing NGO 2. With support and supervision of RU- RHD
Pisciculture/Fish Cultivation	<ol style="list-style-type: none"> 1. 120days Theoretical training of Pisciculture/Fish cultivation <ol style="list-style-type: none"> 1.1 Inauguration of Concerned training course 1.2 Potentiality of Pisciculture/Fish cultivation/ fish breeding 1.3 Selecting pond, water body/hiring pond, water body, selecting fish species, market demand, pond preparation, food supply, disease management 1.4 Capital and financial Management fish cultivation/ pisciculture 1.5 Marketing of fish, preservation in a healthy way, ice use, cold storage facility etc 1.6 Risk factors and management, ensuring profit 1.7 Final Feed back 2. Minimum 3 months practical training in a fish farm/gher for internee course 	<ol style="list-style-type: none"> 1.Implementing NGO 2. With support and supervision of RU-RHD 3. Fishery Department
Fish Breeding and agriculture	<ol style="list-style-type: none"> 1. 120days Theoretical of Fish breeding <ol style="list-style-type: none"> 1.1 Inauguration of Concerned training course 1.2 Potentiality of Fish breeding 1.3 Selecting pond, water body/hiring pond, water body, selecting fish species, market demand, pond preparation, breeding technique, cross breeding, food supply, management, fish larvae, fingerling, disease management 1.4 Capital and financial Management fish cultivation/ pisciculture 1.5 Marketing of fingerlings, transportation fingerlings 	<ol style="list-style-type: none"> 1.INGO 2. With support and supervision of RU-RHD

Program	Program contents	Responsibility
	1.6 Risk factors and management, ensuring profit 1.7 Final Feed back 2. Minimum 3 months practical training in a fish farm, hatchery/ Fishery Research Institute (FRI) of Mymensing for internee course	
Business Trade	1. 30days Theoretical of Business Trade 1.1 Inauguration of Concerned training course 1.2 Potential of profitable business(fish, dry fish, salt processing, tourism, fast food etc) 1.3 Identification of profitable business 1.4 Capital and financial Management 1.5 Marketing of fingerlings, transportation fingerlings 1.6 Risk factors and management, ensuring profit 1.7 Final Feed back 2. Minimum 3 months practical training in a sole trading successful business enterprise	1. INGO 2. With support and supervision of RU- RHD 3. Fishery department 4. Bangladesh parjaton corporation (BPC), national tourism organization

Source: JICA Survey Team

5.3.6 Notification of the Implementation of the Livelihood Restoration Program

Implementation of livelihood restoration program will be informed directly to PAPs through INGO, as well as through cooperation of Union Chairman so that all PAPs can surely obtain the information. Especially for sharecroppers and, salt/shrimp farm workers, information shall be provided also through landowners for securing information dissemination.

5.3.7 Monitoring and Feedback to the Livelihood Restoration Program

Regarding livelihood restoration program, monitoring shall be implemented as follows through INGO. Livelihood restoration program will be reviewed and updated in consultation with the concerned PAPs if necessary.

- Implementation status of vocational training: quarterly after the beginning of vocational training.
- Job finding: 3 months after completion of vocational training program.
- Situation of employment and livelihood recovery: Once a year from above mentioned.

5.4 Selection of Relocation Site

The preferences for compensation policy of 130 households to be displaced are as follows. For access road component, it would be difficult to provide an appropriate alternative site for all households in 6 unions in 2 upalaza. Moreover, more than 80% of the total prefer cash compensation. Therefore, cash compensation is proposed as compensation policy, for which consensus was obtained through consultation.

Table 5.4-1 Preference for Compensation Policy (Access Road)

Upazila	Union	Formal Settler				Informal Settler				Total			
		Cash	Land	Don't Know	Total	Cash	Land	Don't Know	Total	Cash	Land	Don't Know	Total
Mohe shkhali	Dhalghata	13	6	0	19	0	0	0	0	13	6	0	19
	Kalarmarchara	14	1	1	16	0	0	0	0	14	1	1	16
Chakaria	Badarkhali	21	8	0	29	1	0	0	1	22	8	0	30
	Chiringa	15	2	0	17	26	4	0	30	41	6	0	47
	Fasiakhali	16	0	0	16	2	0	0	2	18	0	0	18
Total		79	17	0	96	29	4	0	33	108	21	1	130
		82.3%	17.7%	0.0%	100.0%	87.9%	12.1%	0.0%	100.0%	83.1%	16.2%	0.8%	100.0%

Source: JICA Survey Team

5.5 Entitlement Matrix

The Entitlement Matrix has been developed in accordance with the principles adopted and analysis of initial identification of project impacts. The Entitlement Matrix recognizes and lists various types of losses associated with the project and provides the basic tools and guidelines for preparation of compensation and resettlement packages.

Entitlements for different categories of losses and their corresponding Project Affected Persons (PAPs) have been given in the entitlement matrix. Eligibility of PAPs will be governed by the entitlement matrix, cut-off dates and other conditions as per RAP Implementation Manual.

Table below provides an entitlement matrix for different types of losses and dislocation, based on established Inventory of Losses (IOL). The matrix also includes provisions for any unanticipated impacts arising during project implementation. The mitigation measures in the matrix are consistent with co-financiers' safeguard requirements. They also reflect "good practice" for examples (e.g., replacement value for land, dislocation allowance, transfer grant, relocation at project-sponsored resettlement sites, grievance redresses, income and livelihood restoration, third party independent monitoring etc.) from the Matarbari Port Development Project. Compensation and other assistance will be paid to PAPs prior to dislocation and dispossession from acquired assets or three months prior to construction activities, whichever is earlier.

Based on the findings and analyses in the field surveys, the entitlement matrix for the PAPs has been prepared. The Entitlement Matrix lists 12 types of losses and category of entitled persons and corresponding proposed entitlements to cover all possible losses to achieve at least the same level of livelihood of the affected households. Entitlement Matrix is as in the table below:

Table 5.5-1 Entitlement Matrix

No	Type of Loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Assistance Package)	Responsible Organizations
1	Loss of private land	Legal owners of land	<ul style="list-style-type: none"> ✓ Cash compensation under the law (CCL) for all the private land stipulated by the Act 2017 or provision of alternative site is the average of last 12 months backward from cut-off date of mouza rate X 3 (200% premium). ✓ Cash grant that covers the difference between CCL and the replacement value (RV) ✓ Provision of stamp duty, land registration fee incurred for replacement land (15%) ✓ Dislocation allowance in case of agriculture, salt and shrimp gher@ Tk.200 per decimal but total amount will not exceed Tk.20,000 ✓ One-time assistance for lost income (based on monthly income for three minimum wage rates) 	DC PVAT, JVT RHD
		Tenants and leaseholders	<ul style="list-style-type: none"> ✓ Provision of another land including 200% premium ✓ Provision of stamp duty, land registration fee (15%) If land is purchase by the compensation money ✓ Dislocation allowance in case of agriculture, salt and shrimp gher@ Tk.200 per decimal but total amount will not exceed Tk.20,000 ✓ One-time assistance for lost income (based on monthly income for three years at minimum wage rates) 	
2	Loss of government land including khas land	Tenants and lessee	<ul style="list-style-type: none"> ✓ Provision of another khas land (assuming tenants and lessee will seek private land, 200% premium is added) ✓ Provision of stamp duty, land registration fee (15%) If land is purchase by the compensation money ✓ Dislocation allowance in case of agriculture, salt and shrimp gher@ Tk.200 per decimal but total amount will not exceed Tk.20,000 ✓ One-time assistance for lost income 	DC PVAT, JVT RHD

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No	Type of Loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Assistance Package)	Responsible Organizations
			(based on monthly income for three years at minimum wage rates)	
3	Permanent loss of means of livelihoods/ source of income	Lessor (land owners who rent their land will lose income from land lease contract)	<ul style="list-style-type: none"> ✓ One-time assistance for opportunity loss (based on the lease amount) (assuming the inflation rate stays 10%) 	DC, DOF PVAT, JVT RHD
		Permanent laborers Temporary laborers Sharecroppers	<ul style="list-style-type: none"> ✓ One-time assistance for lost income (based on monthly income for three years at minimum wage rates) ✓ Enrollment in vocational training courses based on assessment of skills (@300 taka / day for 120 days) 	
		Businessmen, employers of salt farms, shrimp farms and fishing sites, self-employed people	<ul style="list-style-type: none"> ✓ One-time assistance for opportunity loss (based on the lease amount) (assuming the inflation rate stays 10%) ✓ One-time assistance for lost income (based on monthly income for three years at minimum wage rates) 	
(Remarks)				
Regarding salt and shrimp cultivation workers, INGOs will help PAPs to seek for similar land that can be utilized for salt and shrimp cultivation as a substitute site.				
4	Loss of residential/ commercial structures	Legal title holders Owners of structures	<ul style="list-style-type: none"> ✓ Cash compensation for affected portion of the structure and other fixed assets at replacement cost (plus 100% premium) ✓ Option to be compensated for entire structure if remaining structure is no longer viable ✓ Provision of all taxes, registration costs and other fees incurred for replacement structure (15%) ✓ Reconstruction grant for reconstruction / repair of the remaining structure (@30 taka / sft) ✓ Shifting allowance based on actual costs of moving (@20 taka / sft) ✓ Owners to take away all salvage materials 	DC PVAT, JVT, PWD RHD
		Legal tenants/ leaseholders of the structure	<ul style="list-style-type: none"> ✓ Cash compensation equivalent to replacement cost of structure (or part of structure) for the portions of the structure constructed by the tenant/ leaseholder (plus 50% premium) 	

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No	Type of Loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Assistance Package)	Responsible Organizations
			<ul style="list-style-type: none"> ✓ Reconstruction grant for reconstruction / repair of the remaining structure (@30 taka / sft) ✓ Shifting allowance based on actual cost of moving (@20 taka / sft) ✓ Owners to take away all salvage materials 	
		Socially recognized owners/ unauthorized occupants	<ul style="list-style-type: none"> ✓ Cash compensation equivalent to replacement cost of structure (or part of structure) erected by the disl person (plus 50% premium) ✓ Reconstruction grant for reconstruction / repair of the remaining structure (@30 taka / sft) ✓ Shifting allowance based on actual cost of moving (@20 taka/ sft) ✓ Owners to take away all salvage materials at free of cost 	PVAT, JVT, RHD, NGO
5.	Loss of access to Residential/ Commercial Structures	Tenants of rented leased properties (but not constructed the whole part of the structure)	<ul style="list-style-type: none"> ✓ One time cash grant for facilitating alternative housing/ CBEs Tk. 15000/= per household ✓ Shifting allowance per household based on family members @ 3000/= per member minimum Tk. 9000/= maximum 12000/= 	PVAT RHD
6	Loss of standing crops at home gardens, shrimp, and fish	Land owners, Bargadar, Lessee and Irregular resident	<ul style="list-style-type: none"> ✓ One time assistance for opportunity loss (based on the lease amount) (assuming the inflation rate stays 10%) ✓ Market price of uncropped harvest 	DC PVAT, DOF,DAM
7	Loss of timber, fruit bearing trees, and harvest	Legal owner of land/Socially recognised owner	<ul style="list-style-type: none"> ✓ Cash compensation under the law(CUL) ✓ Owner will be allowed to fell and take away their trees ✓ Five years fruit value trees for fruit trees ✓ Distribution of sapling of trees for the affected households(APHs) 	DC PVAT, BFD,DAM RHD
		Non-titled user of land	<ul style="list-style-type: none"> ✓ Market Value of tree ✓ Owner will be allowed to fell and take away their trees ✓ Five years fruit Value of trees ✓ Distribution of sapling of trees for the affected households(APHs) 	DC,PVAT, BFD, RHD, NGO
8	Temporary loss of land during construction	Owners with legal title, tenants, leaseholders	<ul style="list-style-type: none"> ✓ Rental assistance for the period for which the land is temporarily requisitioned ✓ Temporarily requisitioned land 	DC PVAT, RHD

No	Type of Loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Assistance Package)	Responsible Organizations
			will be returned to owners rehabilitated to original or preferably better condition	
9	Temporary loss of access to land, structure, utilities, common property resource during construction	Owners with legal title, tenants, leaseholders	<ul style="list-style-type: none"> ✓ Provision of temporary access and relocation where possible ✓ Restoration of access to the land, structure, utilities 	DC PVAT, RHD
10	Temporary loss of livelihood/ source of income during construction	Business owners, tenants, leaseholders, employees, vendors	<ul style="list-style-type: none"> ✓ One-time assistance for lost income based on monthly income for three years from products, minimum wage rates or based on actual income, verified through incomes of comparable businesses in the area 	DC, DOF, DAM RHD
11	Vulnerable Groups	Women-headed, elderly-headed, handicapped and PAHs under poverty line	<ul style="list-style-type: none"> ✓ BDT 10,000.00 as one time grant in addition to other compensations ✓ Participation of one of their family members to livelihood restoration program 	RHD, NGO
12	Community Facility	Community	<ul style="list-style-type: none"> ✓ Restoration of access to the land, structure, utilities ✓ Provision of temporary access where possible ✓ Rebuilding and reinstating or replacing/reconstruction of community facilities at least pre project condition preferably better condition 	RHD, NGO

Source: JICA Survey Team

5.6 Gender

5.6.1 Support for socially vulnerable people

Special allowance in addition to general compensation is required for PAHs with widows and female-headed. In addition to cash compensation, prior employment regarding construction/ operation of the port/the road and vocational training support considering gender can be proposed.

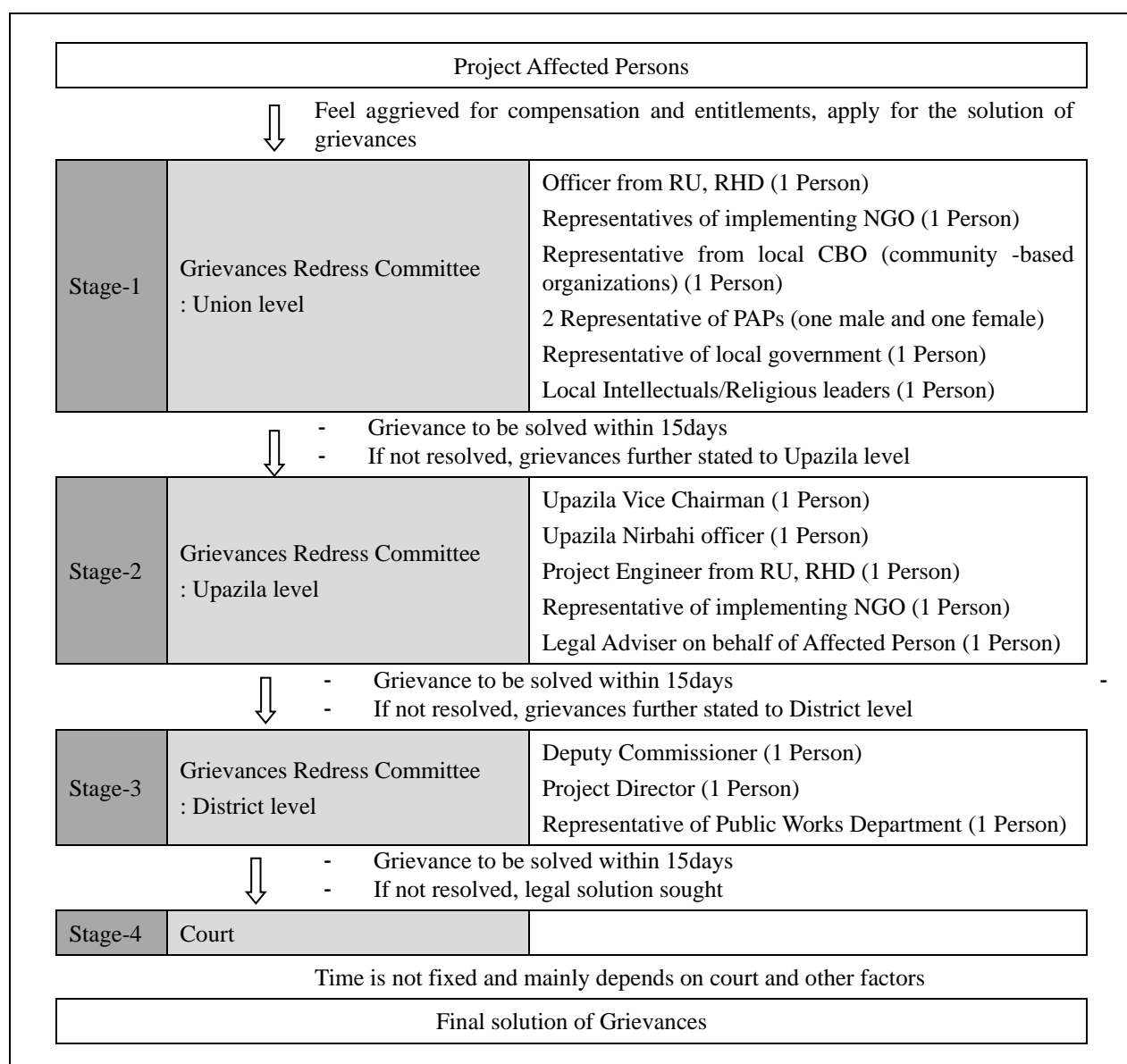
5.6.2 Impartial compensation allocation within households

Even if men are heads of households, it can be considered that compensation is paid to women directly unless the heads are property owners. However, when women other than the head of household receive compensation, it is necessary for the representative of the relevant community to give consent in writing. If deemed that the above method is not appropriate in the society, compensation will be paid to the head of household according to the custom. It is recommended to seek impartial compensation allocation within the household by raising awareness and monitoring.

Chapter 6 Grievance Redress Mechanism

6.1 Outline

The grievance redress committee (GRC) would be established prior to the implementation of land acquisition and resettlement activities, which shall be available for PAPs as well as potentially-affected persons who were not identified as PAPs through this survey such as seasonal labour (hereinafter referred to as “PAPs (including potential ones)”). There would be four-step to handle grievances from PAPs (including potential ones): first step is the union level; second is the Upazila level; third is the district level; and fourth is the court level and that the GRC will be required to resolve grievances within 45 days and maximum 15 days at each level with the exception of the fourth level. Other than disputes relating to ownership rights under the court of law, the GRC will review grievances involving all resettlement benefits, relocation, and other assistance. The Grievance Redress Mechanism and appeal procedure are given below.



Source: JICA Survey Team

Figure 6.1-1 Grievance Redress Mechanism

Other than the grievance redress mechanism stipulated by the ARIPA-2018, RHD will make efforts at project level to resolve grievances through negotiations involving representatives of PAPs, village heads and Union Parishad Chairmen. The Project Director will allocate a resettlement officer at the project office, who deals with grievances lodged by the PAPs (including potential ones). The resettlement officer will be the entry point and receive all the inquiries, concerns and complaints directly from PAPs (including potential ones). A notebook will also be installed at the project office entrance for anybody to write suggestions anonymously.

A grievance redress committee at project site will convene meetings monthly. Non-regular meetings will also be held ad-hoc basis as necessary at such places as it is considered appropriate (such as village, union, etc.) for dealing with urgent matters. The proceedings (or minutes of meetings) will be made with the object to promptly address the concerns and complaints using an accessible and transparent process to the PAPs (including potential ones), and to bring an amicable settlement between the parties. All reports will be recorded in Bengali language and provided to all parties concerned.

PAPs (including potential ones) can state the complaint or suggestion in local language. Necessary stake holder and FGD meeting will be arranged for GRM.

Any grievance or complaint from the PAPs (including potential ones) on any aspects of land acquisition, compensation and resettlement will be solved in a timely and satisfactory manner. This RAP provides the grievance redress mechanism. The Executing Agency (EA) will ensure that PAPs are aware of the procedures. They will print the detailed grievance and redress mechanism and process appeals and will distribute them to PAPs during public consultations.

6.2 Contents of Grievances

PAPs (including potential ones) can submit their grievance/complaint about any aspects of resettlement plan, implementation and compensation. Grievances can be submitted verbally or in written form, but in case of the verbal complaints, the GRCs will write them down in the first instance during the meeting at no cost to PAPs (including potential ones).

6.3 Grievance and Redress Procedural Details

Grievances of PAPs (including potential ones) will first be brought to the attention of the implementing non-government organization (NGO). Grievances not redressed by the implementing NGO will be brought to the Grievance Redress Committee (GRC) constituted for the project. The GRC will comprise resettlement officers; representatives from local NGO and community-based organizations (CBOs); two representatives of PAPs; and local intellectuals or religious leaders, who represent the local residents around the project site with integrity, good judgment, and commands respect. The GRC, will meet every month, determine the merit of each grievance, and resolve grievances within 15 days of receiving the complaint in each stage. Other than disputes relating to ownership rights under the court of law, the GRC will review grievances involving all resettlement benefits, relocation, and other assistance.

In case the local committee cannot redress the grievances, they will be handled by the Upazila level committee. The Upazila Nirbahi Officer (UNO) will chair the committee comprised of the project level GRC member, project engineer, and legal advisor. If grievances still cannot be resolved at the Upazila level, they will be referred to the Project Director who will head a committee jointly with the Deputy

Commissioner at the district level. In case of grievances cannot be settled at the district level, they will be settled through fair legal judgment. There will be no cost required when PAPs (including potential ones) appeal to the GRC and grievances will be verbally accepted at all levels.

Monthly meetings will be convened at the project site and non-regular meetings will also be held ad-hoc basis when urgent matters arise. Records will be kept of all grievances received including: contact details of complainant, date that the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. All reports will be recorded in Bengali language and provided to all parties concerned. The PAPs (including potential ones) can appeal the decision of the GRC in the appropriate court of law, depending on the nature of the grievance.

Chapter 7 INSTITUTIONAL ARRANGEMENTS

7.1 Institutional Arrangements

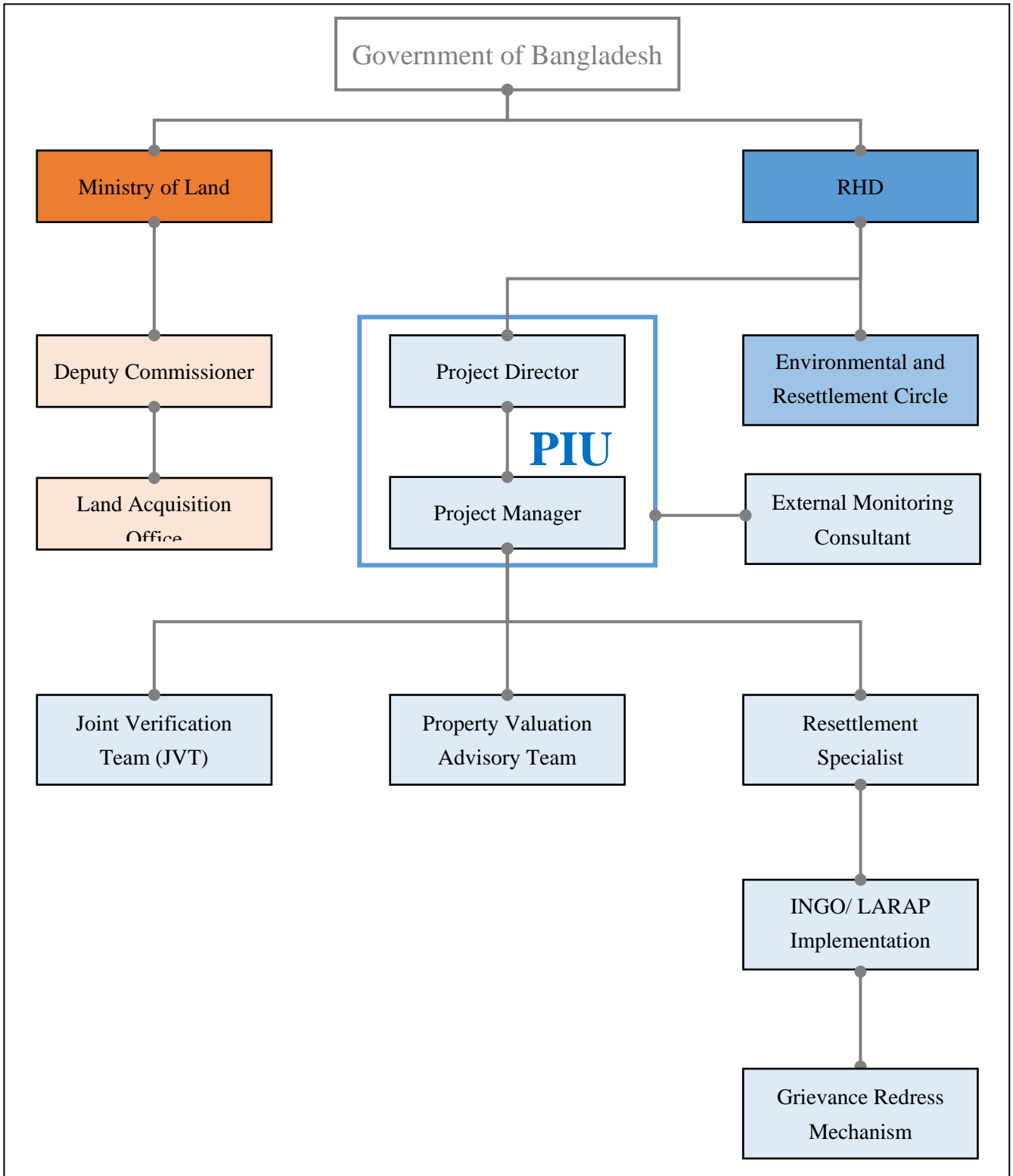
RHD is the Executing Agency (EA) responsible for implementing the LARAP. RHD shall establish a Project Implementing Unit (PIU) for the Project, headed by a Project Director (PD) that will be responsible for the overall execution of the project including land acquisition, relocation, resettlement and other related matters. The PIU will prepare a land acquisition (LA) plan for the land to be acquired with the assistance from consultants and shall submit to the DC, Cox's Bazar.

For smooth implementation of resettlement plan and income restoration of the project affected person, RHD will form a resettlement unit headed by Project Manager (PM) under guidance of Project Director (PD).

The PM/ Executive Engineer concerned under the direct supervision of the Project Director, will undertake day-to-day activities with the appointed Implementing NGO (INGO). The PM/ Executive Engineer concerned will be the convener of the Joint Verification Team (JVT) and Property Valuation Advisory Team (PVAT). There will be a Grievance Redress Committee (GRC) for resolution of disputes. Grievance Redress Mechanism (GRM)

The PIU, with assistance from the INGO will carry out the following specific tasks relating to LARAP implementation:

- Liaise with district administration to support LARAP implementation activities i.e. appointment of JVT and will take step for formation of PVAT and GRC, etc;
- Discharge overall responsibility of planning, management, monitoring and implementation of the resettlement and rehabilitation program;
- Ensure availability of budget for all activities;
- Synchronize resettlement activities and timely handover of the land to the contractor within the construction schedule;
- Develop LARAP implementation tools and form necessary committees;
- Monitor the effectiveness of entitlement packages and the payment modality



Source: JICA Survey Team

Figure 7.1-1 Institutional arrangements

7.2 Non-Governmental Organization for Implementation of LARAP

Proposed period for the Implementing NGO (INGO) is set to two years. The INGO is to be selected by the Executing Agency prior to the joint verification survey among social development NGOs with track records in land acquisition, resettlement or livelihood restoration assistance program. Scope of responsibility of the NGOs are as summarized below:

Role of NGO

Role of NGO will be support of acquisition process for the Executing Agency. Contracted NGO will support RHD in compensation payment and resettlement activities for implementation of LARAP.

Activities

- (1) Provide support in the land acquisition process.
- (2) Provide guidance to RHD in establishing strategy to speed up the joint verification survey
- (3) Identify priority sections to speed up the payment of resettlement benefits of non-titled PAPs and other PAPs who are not eligible for compensation under Bangladesh Law
- (4) Support RHD and NGO in the consultation process of non-titled Project Affected persons
- (5) Support for issuing ID cards to persons being eligible for compensation
- (6) Provide guidance to meet requirements of JICA Guidelines of environmental and social consideration
- (7) Support Payment of Compensation, Provide notification and support PAPs for preparation and submission of documents
- (8) Support in Grievance Redress Process
- (9) Liaison with the DC office in getting payment document of CCL
- (10) Implementation/promotion of livelihood restoration program (including occupational training), notification of the programs to PAPs

Reporting

Preparation monthly, quarterly, semiannual and annual and final report for LARAP implementation

Contents of report

- I. Introduction
- II. Background of the project and PAHs
- III. The report will include latest position of compensation payment.
- IV. Identification of PAPs and Photo taking
- V. Income Restoration issue
- VI. Skill training
- VII. Future plan LARAP Implementation as per LARAP target and monitoring program
- VIII. Identified Problems and solution of grievances in GRC
- IX. Report of FGD meeting and Public consultation
- X. Recommendations

Any relevant issues other than above points concerning LARAP implementation is to be included in the report

Chapter 8 RESETTLEMENT BUDGET

The budget related to land acquisition/resettlement, and rehabilitation is based on compensation for land, structures, and trees affected by the project, relocation allowance, support for the socially vulnerable, vocational training, employment costs for specialists and the Implementing NGO, monitoring costs, and replacement site maintenance costs. All costs related to land acquisition/resettlement and rehabilitation are borne by the Bangladesh government. At the present initial stage, as it is difficult to estimate the land acquisition and resettlement expenses for this project separately, the estimated cost of this project will be based on the land area and number of resettled households, from the socio-economic survey (SES) to the Project Affected Persons (PAP), and the replacement cost survey for land, trees, and structures. The price will be confirmed by the Property Valuation Advisory Team (PVAT).

8.1 Replacement Cost of Structures and land

Following table shows total structure loss and prices and area. Total residential and commercial structure amounted 18,918m² and total replacement cost will be Tk. 129,695,200.

Table 8.1-1 Replacement Cost of Structures

Type		Unit Cost (BDT/m ²)	No	Area (m ²)	Total Amount (BDT)
Residential	Pucca	11,100	22	5,579	61,926,900
	Semi-puca	8,300	24	4,097	34,005,100
	Tin	3,900	80	7,831	30,540,900
	Katcha	2,000	10	1,222	2,444,000
	Sub-total		136	18,729	128,916,900
Commercial	Pucca	11,100	1	11	122,100
	Semi-puca	8,300	0	0	0
	Tin	3,900	4	158	616,200
	Katcha	2,000	2	20	40,000
	Sub-total		7	189	778,300
Total	Pucca	11,100	23	5,590	62,049,000
	Semi-puca	8,300	24	4,097	34,005,100
	Tin	3,900	84	7,989	31,157,100
	Katcha	2,000	12	1,242	2,484,000
	Sub-total		143	18,918	129,695,200

Source: JICA Survey Team

The table below shows the total area of other structures. These structures are fences, walls, toilets, garages, etc. The total area of other structures was 8,067 m², whose compensation amount was calculated using the same unit price as the above-mentioned Tin shed structure.

Table 8.1-2 Other Affected Structures and their Squire Meters

Upazila	Union	No. of Structure	Area(m ²)
Moheshkhali	Dhalghata	31	4,466
	Kalarmarchara	9	981
Chakaria	Badarkhali	31	1,314
	Saharbil	0	919
	Chiringa	89	919
	Fasiakhali	42	387
Total		202	8,067

Source: JICA Survey Team

As there are no real estate company in Dhalghata, information was gathered from local residents and key informants regarding the market transaction price. Information was gathered from real estate companies about market prices of land in other unions. Since this price is higher than three times of the rate set by DC, this price was applied for calculating the compensation cost for private land. Since land price is reported to increase 2.5 to 5 times in the last 10 years, 30% escalation cost for next 1-2 years was considered for calculating compensation amount.

Table 8.1-3 Replacement Cost Survey of Land

(BDT/m²)

Union	Mouza	Rate determined by DC		market rate	
		Residence	Agri. Land and Others	Residence	Agri. land and Others
Dhalghata	Dhalghata	568	168	2,470	1,606
Kalarmarchara	Kaligonj	153	151	3,706	1,235
	Kalarmarchara	802	367	3,706	1,235
	Jhapwa	648	461	3,706	1,235
	Yunuskhali	1,022	626	3,706	1,235
	Uttor Nolbila	725	488	3,706	1,853
Badarkhali	Badarkhali	427	495	9,884	7,413
Chringa	Palakata	493	443	2,780	1,235
Fashiakhali	Fasiakhali	1,510	1,853	4,324	2,162

Source: JICA Survey Team

8.2 Market Value of Trees

The market price of trees is as follows. The price of the trees was calculated by the average price excluding outliers and after hearing from the residents, and the validity was confirmed by comparison with the value obtained from the timber supplier. The annual income from trees is as listed in “Table 3.2-9 Affected Trees by Households”.

Table 8.2-1 Summary of Tree Loss by Category

Name of Tree	Unit Price (Tk.)	No.	Total Value(Tk.)
Acatashamsia	9,000	12	108,000
Aistratran	1,000	14	14,000
Akashmoni	3,975	727	2,889,753
Arjun	5,000	1	5,000
Badam	15,000	2	30,000
Badi Tree	1,667	12	20,000
Bamboo	108	3,412	369,985
Banana tree	4,053	20	81,066
Banyan	8,500	3	25,500
Belgium	2,031	882	1,793,169
Betel Nut	976	280	273,274
Bilambu	4,053	1	4,053
Black Plum	3,045	33	100,500
Coconut	3,759	547	2,056,295
Cotton tree	3,500	4	14,000
Date	4,782	58	277,343
Eucalyptus	1,567	4,892	7,666,629
Fambara	3,500	2	7,000
Flower tree	8,400	33	277,200
Gamari	3,000	14	42,000
Garjan	500	14	7,000
Gooseberry	800	1	800
Guava	620	48	29,760
Hog Plum	242	18	4,350
Jackfruit	3,251	63	204,818
Jam	8,500	6	51,000
Jaue Tree	15,000	1	15,000
Lichi	300	1	300
Madar tree	4,053	4	16,213
Malaria	2,349	3,648	8,569,561
Mango	3,363	352	1,183,692
Mehegoni	5,894	115	677,803
Melenda	15,000	1	15,000
Neem	3,250	19	61,750
Olive	2,700	11	29,700
Other tree	4,053	2	8,107
Palm	3,188	11	35,063
Papaya	13	161	2,147
Pea nut	250	2	500
Plum	2,055	22	45,210
Raintree	8,824	84	741,176
Rose Apple	700	2	1,400
Segun	10,000	3	30,000
Sharifa	500	3	1,500
Shisu	4,034	29	116,989

Shoita	500	4	2,000
Sofeda	5,000	1	5,000
Tamarind	7,650	11	84,150
		15,587	27,994,757

Source: JICA Survey Team

8.3 Market Price of Crops

The market price of paddy is 28 taka/kg, and an average harvest amount is 0.74 kg per m² (40 kg per 1/100 acre), which was used for calculation basis of compensation amount.

8.4 LARAP Implementation Cost

Estimate of the LARAP implementation cost is shown in the following table.

Table 8.4-1 R&R Budget

Item	Unit	Unit Cost (BDT)	Access Road	
			Quantity	Total (BDT)
I. Compensation				
Land				4,606,491,720
Land (homestead)	m2	9,020	81,368	733,973,433
Salt farm and others	m2	1,805	1,353,765	2,442,917,408
Increase in land value	30% of land cost			953,067,252
Land registration cost	15% of total land cost			476,533,626
Structure				161,156,500
Pucca	m2	11,100	5,590	62,049,000
Semi-Puca	m2	8,300	4,097	34,005,100
Tin shed	m2	3,900	7,989	31,157,100
Thatched	m2	2,000	1,242	2,484,000
Accessories	m2	3,900	8,067	31,461,300
Trees	No.	1,796	15,587	27,994,757
Crops	m2	21	800,961	16,820,181
Sub-Total (I)				4,812,463,157
II. Allowance				
Compensation for loss				
Titel-holder	Household	150,000	217	32,550,000
Non-title holder	Household	120,000	515	61,800,000
Income from tree	Lump sum	15,047,757		15,047,757
Moving allowance	Household	20,000	135	2,700,000
Assistance to vulnerable	Household	10,000	296	2,960,000
Training	Household	36,000	516	18,561,600
Sub-Total (II)				133,619,357
III. Implementation				
NGO	staff-month	330	100,000	33,000,000
External monitoring	staff-month	18	200,000	3,600,000
Information disclosure	Lump sum			1,000,000
Sub-Total (III)				37,600,000
Sub-Total (I+II+III)				4,983,682,514
V. Transfer of gov. land		1,394	573,227	798,903,817
Contingency (10%)				578,258,633
Total				6,360,844,963
Total (Round)				6,361,000,000

Source: JICA Survey Team

Chapter 9 RESETTLEMENT SCHEDULE

9.1 Introduction

Implementation schedule shall be proposed based on the principle that compensation shall be completed prior to the displacement of PAHs and the commencement of the construction. Land acquisition process in ARIPA2017 is as shown in Figure 9.1-1, while resettlement schedule with the start/end of each is as shown in Table 9.2-1. Preliminary start date for the resettlement is to be set after the commencement of notification in accordance with Section 4 by the Deputy Commissioner's office (DC). Resettlement is to be concluded within one year, with the Implementing NGO facilitating the acquisition process upon coordination with the Executing Agency (EA). Accordingly, the entire duration for land acquisition and resettlement is proposed to be three years. Payment by the Deputy Commissioner (DC) is scheduled to be completed by June 2020. Upon the completion, the land acquisition and actual resettlement process will be implemented.

Section 4	Preliminary notice of property acquisition by DC (After submission of Land Acquisition Plan by Executing Agency to DC)
Section 4 (3) (b)	Joint verification survey by DC with concerned parties
Section 4 (6)	Disclosure of the results of the Joint verification
Section 4 (8) /Section 5	Receiving of objections against acquisition
Section 6	Decision of land acquisition by DC (within 60 days)
Section 7	Notice of land acquisition
Section 8 (1)	Inquiry about compensation amount by DC
Section 8 (2) (3)	Decision of compensation amount by DC and its notification to Executing Agency (within 7 days)
Section 8 (4)	Deposit of compensation amount by Executing Agency to DC (within 120 days)
Section 11	Payment of compensation by DC to those eligible for compensation (within 60 days)
Section 13	Land and property acquisition by DC

Figure 9.1-1 Land acquisition process specified in ARIPA2017

Consensus from concerned residents or agencies is planning to be obtained as following schedules.

- Submission of LA Plan to DC: November, 2018
- Serving section-4 notice from LA section: September,2019
- Completion of Payment by DC: June,2020
- Land Submission to Contractor: September,2020

9.2 R&R Implementation Schedule

The R& R implementation schedule will follow the below key activity:

Resettlement shall be implemented when infrastructure and social service (medical, educational service etc) of relocation site are ready to launch. Tentative date R&R implementation are as below,

- Serving section-4 notice from LA section January,2019
- Starting Implementation of R&R Implementation, January,2019

Phase of Resettlement and Rehabilitation

- Starting payment of compensation
- Resettlement site selection and preparation for resettlement
- Payment of additional grant
- Physical Displacement
- Physical and economical rehabilitation

(a).Project Preparation Phase

Project Preparation Phase are as follows,

- Submission of Land acquisition plan to DC
- Estimation compensation by DC
- Serving section -4 notice
- Fund Allocation to DC
- Starting CCL by DC

(b).LA RAP Implementation Phase

LARAP implementation period will be started after DC's Payment will be started.

- Starting payment of compensation
- Resettlement site selection and preparation for resettlement
- Payment of additional grant
- Physical Displacement
- Physical and economical rehabilitation

(c). Monitoring and Evaluation Period

Monitoring will starts at the initial stage of compensation payment and livelihood recovery support policy. Completion of resettlement as well as evaluation will be started at the same time.

Chapter 10 MONITORING AND EVALUATION

Monitoring and evaluation are important tasks for understanding the periodic progress of the resettlement program. Accordingly, progress limitations and bottlenecks can be specified, and improvement measures can be decided. LARAP implementation will be monitored on a regular basis. The relocation unit, which is a Project Implementation Unit (PIU), will establish a quarterly monitoring system, including the implementing agency/NGO staff. The PIU will prepare a progress report on all aspects of land acquisition and resettlement activities. The progress report for LARAP implementation will be listed in the report, however attention should be paid in particular to the policies stipulated in the plan and the adherence situation of the matrix. RHD will select the monitoring and consultant, and will conduct external monitoring of the resettlement work. Reports on the external monitoring should be submitted to RHD and JICA as the same time. Monitoring is carried out annually during the resettlement activities implementation period, and the overall evaluation is carried out after the implementation period.

10.1 Internal Monitoring:

Internal monitoring is an ongoing process that continues from the start to completion of LARAP implementation. Mechanisms included in internal monitoring are as follows:

- Resettlement Unit, Roads and Highways Department (RU- RHD)
- Implementing NGO
- Construction Supervising Consultant Resettlement Specialist (Monitoring Support)

Objectives:

The objectives of internal monitoring are for ensuring effective implementation of the LARAP and achievement of the set targets. Resettlement monitoring is a continuous process of data collection, dialogue with the various stakeholders, analysis & reporting and feedback to rethink of implementation procedures, if required.

Key activities include:

The major input into the monitoring system and activities will include the following activities and information:

- Collection of affected household data
- Collection of land acquisition data
- Data on losses
- Resettlement entitlement data
- Resettlement progress monitoring and evaluation data
- Data on progress of compensatory payment
- Implementation of vocational training, job finding after vocational training, employment status and livelihood restoration after job finding

(The above result shall be fed back to Livelihood Restoration Program. The Program shall be amended where necessary.)

Internal monitoring will be undertaken by the Project Implementation Unit (PIU) under Executing Agency. The EA will gather information on LARAP implementation covering relevant activities as per schedule. All activities listed will be illustrated in Gantt Charts showing the target dates for completing resettlement activities. Internal monitoring reports on LARAP implementation will be included in the quarterly Project

Progress Report (PPR). It will be then submitted to JICA. The report of PIU will contain: (i) accomplishment to-date, (ii) objectives attained and not attained during the period, (iii) challenges encountered, and (iv) targets for the next quarter. The EA will make bi-annual reporting to JICA on monitoring.

Monitoring form

Monitoring form is to update on-going resettlement activities with its index/indicators of input/output and outcome. (see Appendix)

10.2 External Monitoring:

The EA will recruit an Independent External Monitoring Consultant for LARAP implementation and carry out external monitoring. External Monitoring Consultants (EMC) acceptable to JICA for monitoring the performance of LARAP implementation and evaluation of resettlement process and final outcome.

The fundamental objective of external monitoring is as follows:

- Independently monitoring whole process social and environmental issues in LARAP implementation process
- Identify discrepancies with resettlement and suggest remedial measures

The key activities for external monitoring include:

- Monitoring the performance of LARAP implementation and evaluation of resettlement process and final outcome.
- Confirm that mitigation measures shall reduce any negative impacts on the social and environment to allowable levels during the construction and operation phases.
- Set up an organization that is responsible for the implementation of monitoring the plan.
- Perform appropriate monitoring during the construction and operation phases

Chapter 11 CONCLUSION AND RECOMMENDATION

11.1 Cut-off Date

In accordance with the JICA guidelines, for the Project Affected Persons not eligible for compensation under Bangladesh law, the cut-off date would be the start date of the census survey, which was April 1, 2018 for access road component. On the other hand, the Cut-off Date for the Project Affected Persons eligible for compensation under Bangladesh law will be declared before the Joint Verification Survey at the detailed design stage. Therefore, it is necessary to make continuous coordination in order to prevent discrepancies in recognition among relevant agencies.

11.2 Notification, Monitoring and Feedback of Livelihood Restoration Program

In the Adjacent Coal Fire Power Plant Project, more than half of the PAPs interested in vocational training are attending or completed training. Some PAPs, however, could not take courses because consensus from the family on participation in vocational training is not obtained due to local characteristics or religious reasons. The following are lessons from adjacent project.

- Livelihood restoration shall be monitored, whose result needs to be fed back to livelihood restoration program.
- PAPs shall be thoroughly informed of the implementation of vocational training through INGO. Consent from family of vocational training persons shall be obtained.

Regarding livelihood restoration program in this Project, monitoring shall be implemented as follows through INGO. Livelihood restoration program will be reviewed and updated in consultation with the concerned PAPs if necessary.

- Implementation status of vocational training: quarterly after the beginning of vocational training.
- Job finding: 3 months after completion of vocational training program.
- Situation of employment and livelihood recovery: Once a year from above mentioned.

Implementation of livelihood restoration program will be informed directly to PAPs through INGO, as well as through cooperation of Union Chairman so that all PAPs can surely obtain the information. Especially for sharecroppers and, salt/shrimp farm workers, information shall be provided also through landowners for securing information dissemination.

INGO will also conduct assistance for job finding after vocational training if necessary.

11.3 Salt Farm and Shrimp Cultivation

Regarding salt farm and shrimp cultivation, even if salt farm and shrimp farm became lost by the project, the same livelihood means can be maintained because there is plenty of similar land around the affected farms. Therefore, INGOs shall identify similar land that can be utilized for salt farm and shrimp cultivation as a substitute site.

11.4 Calculation of Compensation Cost

All costs for land acquisition/resettlement and rehabilitation will be borne by the Bangladesh government. Since it is difficult to estimate land acquisition cost and resettlement costs separately for this project in this survey, which is at the initial stage of planning, expenses were estimated based on the land area, the number of resettlement households from the socio-economic survey (SES) to the Project Affected Persons (PAP), and the replacement cost of land, trees and structures. Therefore, at the detailed design stage, it will be necessary to calculate a highly accurate cost by the Property Valuation Advisory Team (PVAT).

Also, significant land price increases have been reported in the target area. Regarding the difference which is not covered by Bangladesh national laws for the reacquisition price confirmed by the Property Valuation Advisory Team (PVAT) at the DD stage, additional payment will be made at top-up value.

11.5 Payment of compensation

In the Adjacent Coal Fire Power Plant Project, payment from the executing agency has been completed in advance regarding compensation for losses on land and structures and compensation for income loss. However, due to inheritance disputes or inadequate documents submitted by PAPs, the head of household might not be identified or confirmed. Therefore, there are cases that took time to pay compensation. The following are lessons from the Adjacent Project.

- PAPs shall be informed of the documents to be submitted as well as to support documentation at an early stage.
- More support shall be given for documentation of PAPs.

Based on the above, in this Project, INGO will inform PAPs of documents to be submitted and support the document preparation. It is necessary to thoroughly enforce support to all PAPs under the supervision of the executing agency.

11.6 Monitoring

For pre-construction and during construction, monitoring will be conducted through Implementing NGOs under PIU, and through an external consultant. During operation, establishment of a section in charge of monitoring needs to be considered within RHD, and monitoring will be conducted through consultants, or NGOs employed by RHD.