E4432

Environmental and Social Management Framework (ESMF)

Bangladesh Trade and Transport Recipient Executed Trust Fund (RETF)

January 25, 2014

1. Background

This Recipient-Executed Trust Funded (RETF) Technical Assistance (TA) project aims to support analysis of institutional and management constraints related to trade and transport facilitation and to finance technical assistance and studies for potential investments to facilitate national and regional trade and transport for Government and Development Partner support. This activity is linked to the Bank-Executed South Asia Eastern Corridor Programmatic Trade and Transport Facilitation TA (P147957), and is an essential component of the NLTA program. The goal of the program is to improve logistics performance and increase intra-regional trade and cooperation in the Eastern sub-region of South Asia, comprising Nepal, Bangladesh, Bhutan, and selected states in India's Northeast region. Third-country trade and connectivity aspects with East Asia will also be supported.

The Project will fund the following studies. Technical assistance will be incorporated in the terms of references for the consultants conducting the studies as needed.

1. **IWT Dredging**: Strategic prioritization of IWT routes, and dredging feasibility and design study for prioritized IWT routes (US$2.7 million, Projected Completion Phase 1 December 2014, Phase 2 June 2015).
2. **Improvement of Sea Ports**: Feasibility and design study for Karnaphuli Container Terminal (KCT) at Chittagong Port (US$0.6 million, Projected Completion December 2014).
3. Thegamukh Land Customs Station (LCS) Development: Feasibility, design and safeguards studies for Thegamukh LCS (and possibly other LCS/land ports) (US$0.3 million, Projected Completion December 2014).
4. **Chittagong Hill Tracts Connectivity**: Feasibility study of route options to connect Thegamukh and Chittagong Port, including environmental and social screening and alternatives analysis, followed by detailed designs of selected option (US$0.4 million, Projected Completion June 2015)
5. **Environmental and Social Safeguards Studies**: for proposed investments or related to studies in Components 1, 2, and 4 (US$0.7 million)
    - Environmental and Social Safeguards Studies for studies/investments managed by Ministry of Shipping (MoS), i.e. Components 1 and 2 (safeguards studies for Component 3 will be done as part of the technical study).
    - Environmental and Social Safeguards Studies for studies/investments managed by Local Government Engineering Department (LGED) under Ministry of Local Government, Rural Development and Cooperatives (MoLGRDC), i.e. Component 4
6. **PMU Capacity Support** (US$0.299 million)

The feasibility and preliminary design studies under the project will enable major investments in the Chittagong Hill Tracts (CHT) districts, Chittagong sea port, and along Inland Water Transport (IWT) routes and river ports across the country. The areas both north and south of Kaptai Lake of Rangamati (CHT), at least one of which will likely be affected by the selected Rangamati-Thegamukh LCS transport connectivity route (Component 4), are particularly sensitive from an environmental perspective, especially the areas of the Rampahar and Pablakhali Wildlife Sanctuaries. These areas among others to be studied under the project will require particular attention to ensure appropriate identification of critical habitats (including but not limited to designated protected areas and wildlife sanctuaries), and to ensure that the design of the future investments avoids where possible, and mitigates and/or offsets where required by World Bank safeguard policies and national legislation, any impacts to such critical habitats. The CHT areas also have presence of tribal peoples in their ancestral territories with distinct culture, language and livelihood practices. These peoples will be socially impacted by the growth in transportation and commerce in that region which are among the goals of the eventual investments under study through this TA project.

Although the studies to be conducted under this RETF project will not themselves generate any adverse environmental or social impacts, the future infrastructure investments which are the focus of these studies may have significant potential environmental and social impacts. Based on these considerations, the RETF is classified as Environmental Category "A" as per World Bank Operational Policy (OP) 4.01. Classification of the TA as a Category A project will ensure that the environmental and social studies to be carried out through the project will meet Bank safeguards standards, such that any potential future World Bank investment project to finance any of the activities being studied under this project would require minimal if any additional preparation-stage environmental and social impact assessment work to ensure safeguard policy compliance. Full environmental and social studies, and development of related environmental, social, resettlement and tribal peoples action plans, must thus be conducted in accordance with World Bank Safeguards and Government of Bangladesh policies as part of the proposed RETF.[1]

This Framework sets out the approach for how World Bank safeguard policies will be complied with through the implementation of the above-mentioned studies.

[1] As of the date of this document, MoS has not requested to, and the Bank has not committed to fund and/or supervise, the implementation of the potential investments with respect to which technical assistance is being provided under this Project. Any works related to potential investments for which technical assistance is provided under this Project which are initiated and/or undertaken during the period of implementation of this Project shall be undertaken in compliance with the ESMF and the applicable World Bank environmental and social safeguards policies regardless of the source of financing for such works. The Bank shall not be responsible for any liabilities associated with the implementation of potential investments in the event that the Government of Bangladesh obtains financing for such potential investments other than the World Bank and/or applies national standards, the standards of other financiers, or any other standards in the design, construction and/or operation of such potential investments.

2. Key safeguards aspects associated with the proposed investments under study, and required safeguards studies

2.1 Component 1: IWT Dredging

BIWTA has provided a priority list of 53 inland water transport (IWT) routes for dredging as well as 22 river ports along the said routes. These routes have been further broken down into already-government-approved priority routes which require dredging (24) and routes for which MoS has requested approval to dredge (29). The two lists are included in Annex 1A and 1B. Given that this represents over 3,000km of dredging with estimated volume of 341.3 million m^3, the project does not have sufficient resources to fund detailed studies for all of the routes; therefore, it will first undertake a prioritization of the IWTs based primarily on economic factors, and then subject the shortened list to further study (feasibility, design, environmental and social). The studies will be for dredging along the selected IWTs and around associated river ports. It is not expected that the studies would cover other types of development activities at the ports aside from dredging; however, this will be confirmed during project implementation.

***Key environmental issues**:* Key issues related to dredging include impacts to aquatic ecosystems and habitat (especially fish spawning areas) from dredging operations; impacts to terrestrial flora/fauna and natural habitats at sites of on-land disposal of dredged material (especially if dredged material is contaminated); potential impacts to cultural heritage resources; noise and air emissions from equipment and machinery; health and safety aspects of dredging operations, among others. Depending on the final IWT routes selected for study, the dredging works may also impact critical habitats, potentially including but not limited to legally designated protected areas. Open water disposal of dredged material should be avoided wherever possible given its tremendous benthic effects. Where no other alternatives to open-water disposal exist, a benthic survey will be required to determine the extent of the impacts, and confined disposal options should be explored to reduce the impact on the aquatic ecosystem by reducing the concentration of suspended solids in the river water. For port development as well as dredging activities, key environmental effects to be considered may include the following:

a. *Water quality*: General features (temperature, salinity, pH, color, transparency, oil and grease, and organic material concentration measured by total organic carbon, chemical oxygen demand or biochemical oxygen demand); turbidity measured by suspended solids; eutrophication-related factors measured by dissolved oxygen, nitrogen and phosphorus; harmful or toxic substances including heavy metals such as mercury, cadmium, lead, and pesticides; and sanitation-related factors determined by measuring the amount of coliform bacteria.
b. *River hydrology*: This includes factors concerning currents, tidal flow, littoral drifts, bank erosion, water drainage, sediment deposition, groundwater flow, and other physical phenomena in the bank zone. The effects of projected climate change on these factors are also relevant to consider.

c. *Bottom contamination*: This includes contamination of bottom sediments by toxic or harmful substances, oils, oily mixtures and other hazardous materials. Contamination of bottom sediments are often measured by the size of sediment particles, pH, color, smell, oil and grease, organic materials, and concentration of organic nitrogen, phosphorus, sulfide, and toxic substances such as heavy metals and pesticides including toxic components of antifouling paints.
d. *Marine ecology*: This includes aquatic fauna and flora composed of a large number of species of bacteria, phytoplankton, zooplankton, benthonic organisms, coral seaweed, fish and other aquatic biota, terrestrial flora such as mangroves and wetlands. Loss of bottom habitat and fishery resources are also significant problems included in this category.
e. *Air quality*: This consists of two main elements: (a) soot and dust, measured by suspended particulate matter (SPM), which originate from dry bulk cargo handling and storage, construction work on land, and road traffic; and (b) concentration of sulfur dioxide ($S0_2$), nitrogen dioxide ($N0_2$), carbon monoxide (CO), and hydrocarbons (HC) emitted from ships, vehicles and various equipment used for port activities. Harmful substances and odor are also elements to be considered in this category.
f. *Noise and vibration*s: Generated by road traffic, cargo operations, ship traffic and other port activities may cause nuisances to local people and wildlife.
g. *Waste management*: This relates to all kinds of wastes, both liquid and solid, likely to be disposed of in the port area. These wastes include dredged materials, garbage and oily mixtures discharged from ships and country boats, wastes from cargo operations, and all types of discharges from municipal and waterfront industry activities.
h. *Pest management*: Many ports utilize chemicals to control pests, some of which may be hazardous to human health and safety and/or to sensitive aquatic ecosystems.
i. *Visual quality:* This refers to the aesthetic value of the landscape, the view of port facilities, the nuisance of bright lights used for night operations in a port, and other visual problems.
j. *Socio-cultural impacts*: This includes all kinds of influence on the local communities' life styles such as relocation of villages, industrialization, and population influx.

Key social issues*:* Community engagement in carrying out studies, particularly with respect to the sites for disposal of dredged material and any activities at the river ports, is important for social development outcomes, including inclusion, participation, transparency and social accountability. Involuntary displacement may be involved due to potential use of public or private lands for disposal sites. Social issues may also include temporary disruptions to river ports and IWT use and operations; river and on-land traffic impacts; and construction-related impacts to adjacent communities, and potential impacts to tribal communities, if IWT routes are selected which pass through CHT areas. Issues related to potential use and management of

dredged materials will be assessed through inclusive consultation and review of past experience in river dredging works.

***Applicable safeguard policies (to be confirmed during project implementation)*:**

- *Environmental Assessment (OP 4.01)* – a full Environmental and Social Impact Assessment (ESIA) will be required, covering the issues noted above, as well as any others identified with respect to the specific IWTs and river ports selected for further study.
- *Natural Habitats (OP 4.04)* – including river bed, coastline, and on-shore habitats which may be impacted by disposal of dredged material and/or other on-land activities.
- *Pest Management (OP 4*.09) – this policy may be triggered if chemicals may be utilized to control pest pests at the river ports to be upgraded.
- *Physical Cultural Resources (OP 4.11)* – particularly with respect to locations of on-land dredge disposal.
- *Involuntary Resettlement (OP 4.12)* – applicability to be confirmed during implementation, but some land acquisition is likely to be required for on-land disposal of dredged material, as well as potentially for construction of access roads or river port development activities.
- *Indigenous Peoples (OP 4.10)* – for any IWT included in the final prioritized list that passes through the Chittagong Hill Tracts (CHT), this policy may apply. Full screening of the IWTs and river ports to be subject to further study will need to be conducted to verify applicability.

Likely applicable national legal requirements *(partial list only; to be confirmed and further developed during project implementation):*

- Environmental Policy (1992)
- Environment Conservation Act (1995)
- Environment Conservation Rules (1997)
- Wildlife Conservation (protection and safety) Act (2012)
- Fisheries Policy (1998)
- The Acquisition and Requisition of Immovable Property Ordinance, 1982 (Ordinance II of 1982)
- The Chittagong Hill Tracts (Land Acquisition) Regulations, 1958
- Chittagong Hill Tracts Regional Council Act, 1998 (Act XII of 1998)
- CHT Development Board Ordinance 1976 (Ordinance LXXVII of 1976)
- Chittagong Hill Tracts Peace Accord of 1997

Safeguards studies required:

Environmental and Social Impact Assessment (ESIA). All impacts of dredging activities on all prioritized IWTs, as well as dredging and any other activities associated with the selected river ports, will be covered under the ESIA. The assessment should take into consideration the key environmental and social issues outlined above, in particular, as well as others to be confirmed once specific IWTs and river ports are selected. The

ESIA will also include impact analysis and management plans to ensure compliance with other applicable environmental safeguard policies (e.g., Natural Habitats (OP 4.04), Physical Cultural Resources (OP 4.11)). The ESIA will furthermore include assessment and analysis of the social and tribal people's issues and management plans proportional to the nature and scale of the potential effects of the proposed IWT dredging on communities, especially on tribal peoples, in accordance with the applicable social safeguard policies on Indigenous Peoples (OP 4.10) and on Involuntary Resettlement (OP 4.12). The analysis will include a review of the legislative and regulatory framework -- both national and regional -- focusing on tribal peoples, and baseline information to be gathered will include demographic, social, cultural, economic, and political characteristics of potentially affected communities disaggregated by gender, ethnicity and tribal peoples. Analysis of tribal people's issues should specifically include the land and territories that they traditionally own or customarily use or occupy, and the natural resources on which they depend. The tribal people's assessment will identify key stakeholders and adopt a culturally appropriate process of consultation sensitive to gender and generational issues. The assessment will identify the potential adverse and positive impacts of the IWT dredging interventions.

To develop the Terms of Reference (TOR) for the ESIA, the selected IWTs and river ports will be subject to preliminary screening to confirm the key environmental and social impacts and issues requiring in-depth investigation. The ESIA will also include an alternative analysis of specific dredging technologies, sites for dredge disposal, and alternatives for port improvements. The TORs will be disclosed and subject to public consultation by MoS prior to contracting out the assessment. The draft ESIA will also be disclosed (including Bangla-language Executive Summary) and subject to consultation prior to finalization. The results of all consultations will be properly documented and annexed to the final document version, including a matrix outlining the key issues raised by stakeholders and how they were taken into account in finalizing the study.

- **Resettlement Action Plan (RAP**). If land needs and displacement of people and/or economic activities are identified in the ESIA, detailed inventory of losses and census of affected persons will be carried out, including consultation with communities focusing on women, vulnerable groups and tribal communities. Institutional and implementation arrangements for carrying out resettlement and livelihood restoration activities should be devised based on an assessment of institutional capacity of the relevant executing agency. ESIA reports as well as World Bank OP 4.12 and OP 4.10 will be reviewed to develop the TOR for the RAP and to delineate budget and implementation arrangements for resettlement, including monitoring and evaluation.

  The RAP will specify eligibility criteria, policy and compensation measures consistent with OP 4.12, and provisions for tribal peoples as per requirement of OP 4.10. The RAP will identify measures necessary to avoid adverse effects, or if such measures are not feasible, the identification of measures to minimize, mitigate, or compensate for such effects, and to ensure that the tribal peoples receive culturally appropriate benefits under the project. All potential alternatives will be explored to avoid physical relocation, especially of tribal peoples who should only be resettled in exceptional circumstances,

when it is not feasible to avoid relocation. In such instances, the RAP provisions related to tribal peoples should be compatible with their cultural preferences, and include a land-based resettlement strategy. As part of the RAP, results of the consultation process will be properly documented. The RAP will also explore options for the tribal people to return to the lands and territories they traditionally owned, or customarily used or occupied, if the reasons for their relocation cease to exist.

- **Tribal Peoples' Development Plan (TPDP).** If any IWT routes and river ports are selected in the CHT and/or other areas inhabited by tribal peoples, a TPDP, in addition to the RAP, should be developed following free, prior and informed consultation with the tribal communities inclusive of gender and intergenerational groups. The ESIA will identify impacts on tribal peoples and confirm the necessity for a TPDP. In developing the plan, ESIA reports and the World Bank Operational Policy on Indigenous Peoples (OP 4.10) will be reviewed for contents, budget and implementation arrangement of TPDP including monitoring and evaluation. In the case when tribal peoples are the sole or the overwhelming majority of direct project beneficiaries, the elements of the TPDP should be included in the overall project design and RAP, and a separate stand-alone TPDP will not be required.

2.2 Component 2: Improvement of Sea Ports

The future investments associated with the studies under this component relate to construction of the Karnaphuli Container Terminal at Chittagong Port. Advisory consultancy on improvements in current operations at Chittagong Port and Mongla Port is not expected to have any social or environmental implications, as it will focus on analysis of efficiency improvements within existing facilities only, and will not cover any potential infrastructure upgrades or civil works that could trigger safeguard requirements.

Key environmental issues: The Container Terminal's development will involve reconstruction of jetties 9-12 of Chittagong Port containing a total of 700 meters of berths. Old berths structure comprising RCC superstructure and piles, concrete pavements will be dismantled and spoils will be disposed of outside port limits. During construction, raw materials (cement, steel, aggregate and sand) will be stored in the area. Batch mixing plants will be setup, vibration hammers and other construction machinery will be operative within the premises. About 170,000m^3 of dredging will be required in front of berths and 200,000m^3 in the approach channel. Present sheds will be dismantled and container yards with Rubber-Tire Gantry (RTGs) cranes will be set up. The main environmental issues for this component are therefore similar to those noted above under section 2.1 that relate to dredging and port development activities. Evaluation of environmental issues related to selection and management of areas for disposal of dredged material on land will be required. Given that the new terminal will be built at the site of the existing, fully operative Chittagong Port, bottom contamination may be a particular concern. In addition, indirect impacts on the surrounding environment related to intensified port use will

need to be evaluated. Likely Valued Environmental Components (VECs) related to the proposed works include: air quality, noise and vibrations, light (especially its effects on wildlife), vegetation, wildlife and natural habitats, avifauna, marine environment, socio-economic conditions, public health, and occupational health and safety.

Key social issues: Construction of Karnaphuli Container Terminal will involve dredging and rebuilding of a section of the existing Chittagong Port facilities. Community and other stakeholders will be engaged in selection of sites for disposal of dredged materials for social development outcomes in dredging operations. No new lands will be acquired for the container terminal itself; however, involuntary displacement may be involved due to potential use of public or private lands for disposal sites. Issues related to potential use of dredged materials, and community participation in the management of dredged materials, will be assessed through inclusive consultation and review of past experience in river dredging works. The advisory consultancy for improvements to current operations at Chittagong and Mongla Ports will not cover any potential infrastructure upgrades or civil works that could trigger safeguard requirements. However, the comprehensive social impact assessment will identify the social impacts of these improvements upon the current level of operations.

***Applicable safeguard policies (to be confirmed during project implementation)*:**

- *Environmental Assessment (OP 4.01)* – a full Environmental Assessment (EA) will be required
- *Natural Habitats (OP 4.04)* – including both harbor environment as well as any on-shore habitats which may be impacted by disposal of dredged material and/or other on-land activities
- *Pest Management (OP 4*.09) – this policy may be triggered if chemicals may be utilized to control rodent and/or other pest populations at the container terminal
- *Physical Cultural Resources (OP 4.11)* – particularly with respect to locations of on-land dredge disposal
- *Involuntary Resettlement (OP 4.12)* – to be confirmed during implementation, but some land acquisition is likely to be required for on-land disposal of dredged material, as well as potentially for construction of access roads or river port development activities

Likely applicable national legal requirements *(partial list only; to be confirmed and further developed during project implementation):*

- Environmental Policy (1992)
- Environment Conservation Act (1995)
- Environment Conservation Rules (1997)
- Wildlife Conservation (protection and safety) Act (2012)
- Fisheries Policy (1998)
- The Acquisition and Requisition of Immovable Property Ordinance, 1982 (Ordinance II of 1982)

Safeguards studies required:

Environmental and Social Impact Assessment (ESIA). All impacts related to construction and operation of the future terminal will be covered under ESIA. The ESIA should take into consideration the key environmental and social issues outlined above, in particular, as well as others to be confirmed during implementation of the project, as detailed TORs are developed. The ESIA will also include impact analysis and management plans to ensure compliance with other applicable environmental safeguard policies (e.g., Natural Habitats (OP 4.04), Pest Management (OP 4.09), and Physical Cultural Resources (OP 4.11) as applicable). The TORs will be disclosed and subject to public consultation by MoS prior to contracting out the assessment. The draft ESIA will also be disclosed (including Bangla-language Executive Summary) and subject to consultation prior to finalization. The results of all consultations will be properly documented and annexed to the final document version, including a matrix outlining the key issues raised by stakeholders and how they were taken into account in finalizing the study.

- **Resettlement Action Plan (RAP**). If land needs and displacement of people and economic activities are identified through the ESIA and/or parallel feasibility/design study, a detailed inventory of losses and census of affected persons should be carried out including consultation with communities focusing on women and vulnerable groups. Institutional and implementation arrangements should be devised based on assessment of institutional capacity of relevant executing agency. ESIA reports and the OP 4.12 will be reviewed for RAP contents, budget and implementation arrangement including monitoring and evaluation.

2.3: Component 3: Thegamukh LCS Development

Key environmental issues*:* The Thegamukh LCS will be constructed on a greenfield site; nonetheless, impacts associated with its construction and operation are expected to be largely site-specific, consistent with a Category "B" project as per World Bank OP 4.01. This will nonetheless be confirmed during detailed scoping and development of TORs for studies related to this component. Key issues for analysis are expected to include health of workers, labor camp, site drainage, air pollution, noise pollution, water and soil pollution, felling of trees / clearing of vegetation, and spills and leaks of oil and other hazardous substances (including possibly rodent and other pest management chemicals). If, during project implementation, it is decided to cover any other LCS or land port in the study, relevant environmental issues will depend on the location and context, but are likely to be similar to those expected in Thegamukh.

Key social issues: Social impacts of the development of Thegamukh LCS and any other LCSs or land ports (if included) are expected to be minimal and site-specific. Nonetheless, involuntary displacement is expected to be involved, as private/public lands at Thegamukh and at other potential sites will be required for site development. Potential impacts include land acquisition, population displacement and impacts on tribal peoples, and social issues like inclusion,

participation, transparency and social accountability. A full social impact assessment will be required to identify the social safeguard compliance issues like displacement of peoples, economic activities and common property structures. Community consultation including free, prior and informed consultation with the tribal peoples should be carried out to identify the socioeconomic enhancement measures for the tribal peoples and livelihood restoration of the affected persons.

***Applicable safeguard policies (to be confirmed during project implementation)*:**

- *Environmental Assessment (OP 4.01)* – an Environmental and Social Impact Assessment (EA) will be required.
- *Natural Habitats (OP 4.04)* – This policy may be triggered if the site where the LCS will be developed, as well as supporting infrastructure such as access roads and transmission lines, may affect natural habitats.
- *Forests (OP 4*.36) – this policy may be triggered if forests may be affected in or around the area where the LCS site will be developed.
- *Pest Management (OP 4*.09) – this policy may be triggered if chemicals are utilized to control rodent and/or other pest populations within the LCS.
- *Physical Cultural Resources (OP 4.11)* – particularly with respect to locations of on-land dredge disposal
- *Involuntary Resettlement (OP 4.12)* – to be confirmed during implementation, but some land acquisition is likely to be required for on-land disposal of dredged material, as well as potentially for construction of access roads or river port development activities
- *Indigenous Peoples (OP 4.10)* – for any IWT included in the final prioritized list that passes through the Chittagong Hill Tracts (CHT), this policy may apply. Full screening of the IWTs and river ports to be subject to further study will need to be conducted to verify applicability.

Likely applicable national legal requirements *(partial list only; to be confirmed and further developed during project implementation):*

- Environmental Policy (1992)
- Environment Conservation Act (1995)
- Environment Conservation Rules (1997)
- Wildlife Conservation (protection and safety) Act (2012)
- Fisheries Policy (1998)
- The Acquisition and Requisition of Immovable Property Ordinance, 1982 (Ordinance II of 1982)
- The Chittagong Hill Tracts (Land Acquisition) Regulations, 1958 -- for IWTs and river ports in the CHT districts where land acquisition is required (for disposal of dredged material or for any other project-related reason)
- Bangladesh Land Port Authority Act, 2001 (Act XX of 2001)

Safeguards studies required:

Environmental and Social Impact Assessment (ESIA). The ESIA to cover this component will cover all impacts of land port development and future operation at Thegamukh, as well as impacts of any other activities at other sites for new LCSs or land ports. The ESIA should take into consideration the key environmental and social issues outlined above, in particular, as well as others to be confirmed once the specific location of the LCS (and any other LCSs/land ports to be studied) are proposed by the Government of Bangladesh. The ESIA will also include a special assessment and analysis of the tribal peoples issues, as discussed under Component 1. While at present it is assumed that this study will be at a Category "B" level, this will be confirmed during the initial scoping in conjunction with preparation of the detailed TORs. If scoping indicates that the proposed investments under study may include Category "A" level activities as per OP 4.01, MoS will disclose and consult the TORs prior to bidding out the studies, and the ESIA and other safeguards studies will be contracted out separately from feasibility and detailed design studies. The draft ESIA will be disclosed (including Bangla-language Executive Summary) and subject to consultation prior to finalization. The results of all consultations will be properly documented and annexed to the final document version, including a matrix outlining the key issues raised by stakeholders and how they were taken into account in finalizing the study. Existing knowledge and experience of ADB, JICA and UNDP on their operations in the CHT will be gleaned for lessons learnt on social considerations and safeguards

- **Resettlement Action Plan (RAP**). If land needs and displacement of people and economic activities for the Thegamukh LCS (and any other land ports) are identified in the ESIA, a detailed inventory of losses and census of affected persons should be carried out including consultation with communities focusing in particular on women, vulnerable groups and tribal communities. Institutional and implementation arrangements should be devised based on an assessment of institutional capacity of the relevant executing agency. ESIA reports and the World Bank OPs on Involuntary Resettlement (OP 4.12), and on Indigenous Peoples (OP 4.10) if any households or livelihood activities to be displaced involve tribal peoples or communities, will be reviewed for RAP contents, budget and implementation arrangement including monitoring and evaluation. Institutional constituents will be proposed following ESIA including TORs. The RAP will cover any tribal peoples whose lands, assets or access to assets are compromised due to land acquisition required for the development of the proposed facility. In this case, for any affected tribal peoples, a land based resettlement strategy will be included as discussed under Component 1.

- **Tribal Peoples' Development Plan (TPDP).** If any LCS sites are selected in the CHT and areas inhabited by tribal peoples, a TPDP will be developed following free, prior and informed consultation with the tribal communities covering intergenerational groups. The ESIA will identify impacts on tribal peoples and recommend the TPDP. ESIA reports and the World Bank OP 4.10 will be reviewed for contents, budget and implementation arrangement of TPDP including monitoring and evaluation. However, elements of the TPDP may be included directly in the project design and RAP when all or a majority of

the affected persons are from the tribal communities; in such a case, no separate volume of TPDP will be required.

2.4: Component 4: Chittagong Hill Tracts Connectivity

This component includes two phases of work relevant to safeguards compliance: 1) preliminary feasibility study of 10 possible routes connecting Rangamati Port with the new Thegamukh LCS, which include a combination of new road construction, road upgrading, and development of sections of inland water transport (IWT) routes, to provide a basis for the Government of Bangladesh to select the preferred alternative; and 2) detailed feasibility and design studies for the selected preferred route. Social and environmental issues will need to be considered in both stages.

Key environmental issues: This component is the most sensitive of the four project components from an environmental perspective, given that the chosen route will likely pass through sensitive habitats and will also have transformational effects on what is currently an isolated, poorly connected region of the country. Aside from direct impacts, the new transport corridor will also lead to broader indirect and induced impacts across the CHT region, which need to be carefully analyzed so that adequate management and mitigation measures can be developed. Some of the key environmental issues include: direct and indirect impacts to natural habitats (potentially including protected areas / designated wildlife areas and other critical habitats), slope stability, landslide and rockfall, and soil erosion, earth cutting of hills and filling of wetlands / low-lying lands, clearing of vegetation including forested areas; effects to historic and cultural heritage; disturbance of waterways, waterfalls, rivulets, wetlands, and the variety of water-dwelling plant and animal species who rely on affected habitat; selection and management of areas for disposal of dredged material on land; road safety. Initial environmental "issues identification" checklists from three route alternatives visited by the World Bank during project preparation are presented in Annex 2.

Key social issues*:* Consultation and community participation in selection of connectivity routes is important for inclusion, participation, transparency and social accountability. Involuntary displacement will be involved due to use of public or private lands for new road embankments and bridges over the gaps en-route. Social issues also include river and on-land traffic impacts, construction-related impacts to adjacent communities, and potential impacts on tribal communities. Traditional ownership to lands, usufruct rights, collective rights, mainstream revenue system, application of national and regional laws and policies, and application of Bank policies are issues for review, analysis and adoption for the proposed future investments for roads connectivity development.

***Applicable safeguard policies (to be confirmed during project implementation)*:**

- *Environmental Assessment (OP 4.01)* – a full Environmental Assessment (EA) will be required
- *Natural Habitats (OP 4.04)* – including river bed, coastline, and on-shore habitats which may be impacted by disposal of dredged material and/or other on-land activities, as well as critical habitat (including but not limited to legally designated protected areas) and other natural habitat which may be affected by induced development resulting from the opening of a new transportation corridor through a currently isolated region.
- *Forests (OP 4.*36) -- the new connectivity route will affect forested areas
- *Physical Cultural Resources (OP 4.11)* – particularly with respect to locations of on-land dredge disposal
- *Involuntary Resettlement (OP 4.12)* – to be confirmed during implementation, but some land acquisition is likely to be required for on-land disposal of dredged material, as well as potentially for construction of access roads or river port development activities
- *Indigenous Peoples (OP 4.10)* – for any IWT included in the final prioritized list that passes through the Chittagong Hill Tracts (CHT), this policy may apply. Full screening of the IWTs and river ports to be subject to further study will need to be conducted to verify applicability.

Likely applicable national legal requirements *(partial list only; to be confirmed and further developed during project implementation):*

- Environmental Policy (1992)
- Environment Conservation Act (1995)
- Environment Conservation Rules (1997)
- Wildlife Conservation (protection and safety) Act (2012)
- Fisheries Policy (1998)
- The Acquisition and Requisition of Immovable Property Ordinance, 1982 (Ordinance II of 1982)
- The Chittagong Hill Tracts (Land Acquisition) Regulations, 1958 -- for IWTs and river ports in the CHT districts where land acquisition is required (for disposal of dredged material or for any other project-related reason)
- Chittagong Hill Tracts Regional Council Act, 1998 (Act XII of 1998)
- CHT Development Board Ordinance 1976 (Ordinance LXXVII of 1976)
- Chittagong Hill Tracts Peace Accord of 1997

Safeguards studies required:

- **Environmental and Social Screening.** Full screening of all nominated route options for studies will be carried out for preliminary estimates of potential environmental and social impacts of activities related to road connectivity between Chittagong Port and Thegamukh LCS. This screening process will include, on the social side, a stakeholder analysis, community consultations and representative household surveys using

Participatory Rural Appraisal (PRA) techniques, in order to produce a high level social and poverty baseline characterization of the 10 routes and to characterize key social impacts and associated with each alternative route's development. On the environmental side, the screening should identify important environmental and social features at every 100m within a 150m buffer along each proposed route, as well as near possible locations of quarry and borrow sites, materials storage sites, construction camps and associated services (water supply sources and others), access roads, spoils disposal sites for wastes, dredge material disposal sites, and other ancillary facilities associated with route construction. Appropriate locations for dredging and civil works, including river bed and floodplain locations, should be identified in consideration of social and environmental features and on the basis of feedback received during initial consultation events. There will be two outputs of the environmental and social screening process. First will be a comparative environmental and social scoping report, including for each route studied: (a) high level environmental, social and poverty baseline characterizations and stakeholder analyses, (b) identification of key likely environmental and social impacts and sensitivities (positive and negative) to be mitigated or enhanced, and (c) key safeguard policy as well as national legal compliance considerations. Where possible, the comparative analysis will highlight costs vs. benefits from an environmental and social perspective associated with development of the alternative routes. In this manner, the results can be used for alternative analysis of the potential route options. Once the preferred route is selected for further study, the second output will be a set of detailed draft TORs for the full ESIA, Resettlement Action Plan (RAP), and Tribal Peoples' Development Plan (TPDP) to be completed for the selected route.

- **Environmental and Social Impact Assessment (ESIA).** For the selected preferred connectivity route, a separate environmental and social consulting team will be contracted by LGED to carry out a detailed ESIA, in parallel to detailed feasibility and design studies. LGED will disclose the draft TORs for the set of studies, consult them with relevant stakeholder groups (both local as well as national and international), and make modifications as needed based on feedback received, prior to issuing the bid package to contract the independent consultants. The full studies will require additional baseline data collection, analysis, consultations with local communities and other stakeholders (including free, prior and informed consultation with tribal communities who would be affected by future construction of the connectivity route), and development of detailed mitigation and management plans for all negative impacts. The scope of the ESIA will cover analysis of direct, indirect, induced and cumulative effects of the new transport route. The ESIA will also include impact analysis and management plans to ensure compliance with all other applicable environmental safeguard policies (e.g., Natural Habitats (OP 4.04), Forests (OP 4.36), Pest Management (OP 4.09), and Physical Cultural Resources (OP 4.11) as applicable), as well as a special assessment and analysis of tribal peoples issues (in accordance with OP 4.10) and resettlement issues (in accordance with OP 4.12), as discussed under Component 1. For impacts to critical habitats, designation of offsets and/or measures to strengthen protected areas in the project's area of influence may be required in addition to site specific mitigation measures. The ESIA should take into consideration the key environmental and social issues outlined above and in the initial identification checklists, in particular, as well as

others to be confirmed during the environmental and social screening/scoping study. Existing knowledge and experience of ADB, JICA and UNDP on their operations in the CHT for lessons learnt on social considerations and safeguards will also be sought.

The draft ESIA will be disclosed (including Bangla-language Executive Summary) and subject to consultation prior to finalization. The results of all consultations will be properly documented and annexed to the final document version, including a matrix outlining the key issues raised by stakeholders and how they were taken into account in finalizing the study.

- **Resettlement Action Plan (RAP**). For all land acquisition needs and displacement of people and economic activities that are identified in the ESIA, detailed inventory of losses and census of affected persons should be carried out including consultation with communities focusing women, vulnerable groups and tribal communities. Institutional and implementation arrangement should be devised based on assessment of institutional capacity of relevant executing agency. ESIA reports, national legislation, as well as World Bank OP 4.12 and OP 4.10 will be reviewed for RAP contents, budget and implementation arrangement including monitoring and evaluation. The RAP will outline eligibility criteria, policy and compensation measures consistent with OP 4.12, including specific provisions for tribal peoples where they may be among the populations to be physically or economically displaced as a result of land acquisition for the proposed investments, as per the requirements of the OP 4.10 as discussed under Component 1.

- **Tribal Peoples' Development Plan (TPDP).** All the route options are expected through the CHT and areas inhabited by tribal peoples. A TPDP will, therefore be developed following consultation with the affected persons and their communities including free, prior and informed consultation with the tribal peoples inclusive of gender and intergenerational groups. The ESIA will identify impacts on tribal peoples and recommend the TPDP. ESIA reports and the World Bank OP 4.10 will be reviewed for contents, budget and implementation arrangement of TPDP including monitoring and evaluation. Elements of the TPDP may be included directly in the project design and RAP when all or a majority of the persons suffering loss of land, assets or access to assets due to investment-related land acquisition are from the tribal communities; in this case, no separate TPDP will be required.

3. Institutional responsibilities and contracting

MoS and LGED will be contracting out the studies for preparation of the investments through this project, including safeguards related studies for the intended investments. Specifically:

- MoS will contract out Environmental and Social Safeguards Studies for studies/investments under Components 1, 2 and 3.
- LGED will contract out Environmental and Social Safeguards Studies for studies/investments under Component 4.

All safeguards studies for Category “A” investments will be contracted out separately from the feasibility and design contracts to independent consultants, as required under OP 4.01. The only investment activity under study which is likely to be considered Category “B” is the development of the Thegamukh LCS (Component 3); as such, the safeguards studies for this component only are expected to be bid out together with the feasibility and design studies. Nonetheless, the appropriateness of this decision will be confirmed during project implementation, following more detailed scoping of this activity. If the scope of activities under Component 3 are verified to be of Category “A” level, the TORs for the safeguards related studies will be disclosed and subjected to additional consultation by the responsible implementing agency (MoS or LGED) prior to finalization, and the safeguards studies will be contracted out separately from the engineering and design studies, as required under OP 4.01 for Category “A” activities.

In addition, initial environmental and social screening and alternatives analysis for the CHT connectivity route selection under Component 4 will be carried out as part of the initial feasibility contract, to facilitate full integration of social and environmental aspects into decisions about route selection. The independent consultants contracted subsequently to conduct the detailed environmental and social studies on the chosen route alternative will utilize the initial baseline data collected and identification of key social and environmental impacts and issues as part of the initial screening and alternatives analysis of route options, but will also be expected to supplement baseline data and carry out a comprehensive impact analysis, which will ensure the independence of final conclusions of the study as required by OP 4.01.

The safeguards studies under Component 5 will be conducted in parallel to detailed feasibility and design studies under each of the other components, to ensure that relevant information for the assessments emerging from the feasibility and design studies are feeding into the impact assessment and management planning process and vice versa. MoS and LGED will be responsible for facilitating this coordination and ensure adequate information sharing across the consulting teams.

The grouping, institutional responsibilities, and preliminary estimated cost for the various safeguards related studies outlined above are summarized in the table below. Costs are indicative only and may be adjusted during implementation, based on results of further scoping as well as the potential availability of additional funds through other sources to supplement the RETF’s resources.

Responsible agency	Studies	Preliminary estimated cost (USD)
MOS	Feasibility, design and safeguards studies for Thegamukh LCS, and other land ports TBD	300,000
LGED	Feasibility study of route options to connect Thegamukh and Chittagong Port, including environmental and social screening and alternatives analysis, followed by detailed designs of selected option	400,000
MOS	Environmental and Social Impact Assessment, Resettlement Action Plan and Tribal Peoples Plan (TBC) for prioritized IWTs, river ports, and Karnafuli Container Terminal	400,000
MOS	Environmental and Social Impact Assessment, Resettlement Action Plan and Tribal Peoples Plan for selected Chittagong – Thegamukh connectivity route	300,000

4. Public consultation, disclosure, and stakeholder engagement strategy

The investment project design will be inclusive of all social groups including women, vulnerable communities and tribal peoples. Public consultations (including Focus Group Discussions and informal meetings) with all stakeholders are required as part of each safeguards study to be prepared through the RETF, and information will be carefully documented on the nature and number of consultations, their locations, type and number of participants, information presented, and the summary of comments received and how they were taken into account in finalizing each safeguards study. For all studies related to Category A level investments, the responsible agencies for each study (MoS and LGED) will hold consultations on the ESIAs outlined above at least twice – once prior to finalization of the TORs, and again once draft studies are available and have been disclosed. In addition to national government agencies, key stakeholders to be consulted will include affected communities, NGOs (both national and international, including specialized organizations related to natural resources, environmental issues, as well as civil society and tribal organizations), port and transport labor unions, etc. For studies related to potential investments in the CHT area which may affect tribal communities (e.g., Chittagong Hill Tracts connectivity route, inland waterway, and Thegamukh LCS port development), free, prior and informed consultation will be carried out with the tribal communities covering inter-generational groups.

In addition to community-level consultations, the executing agencies (MoS and LGED) will also hold regular consultations with relevant agencies during study implementation. Particular attention will be given to the CHT area, which is politically, socially and environmentally-sensitive. In addition to formal administration of the government, these CHT districts have the existence of traditional administration under the tribal rajas (monarchs), who will be regularly consulted as the studies progress.

Summaries of the sub-project specific ESIAs and related social safeguards (resettlement and tribal peoples) reports will be translated into local language and disclosed locally, prior to undertaking consultations. Copies of the full reports (in English) and the summaries (in Bangla) will be sent to all applicable divisional / regional offices of MoS and LGED and will be made available to the public, both in hard copy and on the agencies' websites. The English versions will also be disclosed in the World Bank InfoShop, once complete. The comments and the findings from the consultation workshops, along with any other feedback received from other interested persons and groups, will be reviewed and incorporated in the final safeguards reports.

The table on the following page summarizes the consultation and disclosure requirements, responsibilities and expected timelines for the safeguards related documents associated with this RETF.

Disclosure and consultation requirements for the proposed environmental and social studies

Reference component	document	Author	Disclosure responsibility(ies) and location(s)	Expected disclosure date	Consultation requirements and responsibilities
1	IWA Dredging – ESIA TOR	MoS	MoS to disclose on website, and in hard copy at culturally appropriate public locations accessible to affected communities along selected IWA routes	Once IWA routes are selected and following initial screening / scoping; at minimum 2 weeks prior to consultations on TOR (est: April 2014)	MoS to consult TORs with international, national and local stakeholders and finalize in light of feedback received (in accordance with detailed guidance in this document)
	IWA Dredging – ESIA, RAP and TPDP	Independent consultants contracted by MoS	MoS to disclose draft and final documents in full (English versions) as well as Executive Summary (in Bangla) on website and in hard copy at culturally appropriate public locations accessible to affected communities along selected IWA routes. RAP and TPDP to be disclosed in particular to their respective target populations in accessible and culturally appropriate form/manner. WB to disclose on Infoshop	*Draft reports:* est. October 2014, at minimum 2 weeks prior to holding consultations on ESIA *Final reports:* est. December 2014	MoS to broadly consult draft ESIA with international, national and local stakeholders and finalize study in light of feedback received (in accordance with detailed guidance in this document). RAP and TPDP to be developed through consultative process with target populations for each. Consultations with tribal peoples as part of ESIA, RAP and TPDP preparation must constitute Free, Prior and Informed Consultation.
2	Chittagong Karnaphuli Container Terminal (KCT) – ESIA TOR	MoS	MoS to disclose on website, and in hard copy at public locations accessible to affected communities	At minimum 2 weeks prior to consultations on TOR (est: April 2014)	MoS to consult TORs with international, national and local stakeholders and finalize in light of feedback received (in accordance with detailed guidance in this document)
	Chittagong KCT – ESIA and RAP (if required)	Independent consultants contracted by MoS	MoS to disclose draft and final documents in full (English versions) as well as Executive Summary (in Bangla) on website and in hard copy at public, culturally appropriate locations accessible to affected communities. WB to disclose on Infoshop.	*Draft reports:* est. October 2014, at minimum 2 weeks prior to holding consultations on ESIA *Final reports:* est. December 2014	MoS to broadly consult draft ESIA with international, national and local stakeholders and finalize study in light of feedback received (in accordance with detailed guidance in this document). RAP, if required, to be developed through consultative process with target

					population.
3	Thegamukh Land Container Terminal – ESIA, RAP and TPDP	Consultants contracted by MoS	MoS to disclose draft and final documents in full (English versions) as well as Executive Summary (in Bangla) on website and in hard copy at public, culturally appropriate locations accessible to affected communities. WB to disclose on Infoshop.	*Draft reports:* est. October 2014, at minimum 2 weeks prior to holding consultations on ESIA *Final reports:* est. December 2014	MoS to broadly consult draft ESIA with international, national and local stakeholders and finalize study in light of feedback received (in accordance with detailed guidance in this document). Consultations with tribal peoples as part of ESIA, RAP and TPDP preparation must constitute Free, Prior and Informed Consultation.
4	Chittagong Hill Tracts Connectivity – ESIA TOR	LGED, based on consultant report from initial feasibility / screening of 10 routes	LGED to disclose on website, and in hard copy at culturally appropriate public locations accessible to affected communities	At minimum 2 weeks prior to consultations on TOR (est: January 2015)	LGED to consult TORs with international, national and local stakeholders and finalize in light of feedback received (in accordance with detailed guidance in this document)
	Chittagong Hill Tracts Connectivity – ESIA, RAP and TPDP	Independent consultants contracted by LGED	LGED to disclose draft and final documents in full (English versions) as well as Executive Summary (in Bangla) on website and in hard copy at public, culturally appropriate locations accessible to affected communities. WB to disclose on Infoshop.	*Draft reports:* est. April 2015, at minimum 2 weeks prior to holding consultations on ESIA *Final reports:* est. June 2015	LGED to broadly consult draft ESIA with international, national and local stakeholders and finalize study in light of feedback received (in accordance with detailed guidance in this document). Consultations with tribal peoples as part of ESIA, RAP and TPDP preparation must constitute Free, Prior and Informed Consultation.

5. Procedures to ensure quality assurance of studies undertaken

Safeguards related work will be conducted in parallel to activities under each of the other components, to ensure that relevant information for the assessments emerging from detailed feasibility and design studies are feeding into the impact assessment and management planning process, as well as to ensure that social and environmental aspects are being reflected back into decisions regarding route selection (in the case of the Chittagong-Thegamukh connectivity component) and design (for all components) so as to avoid or minimize negative impacts wherever possible. The environmental and social specialists to be contracted by MoS and LGED during the study period will facilitate this coordination and ensure adequate information sharing across the consulting teams.

The consultants engaged by MoS and LGED will be carrying out studies for preparation of the investments through this project, including safeguards related studies for the intended investments. Consulting teams will be required to include staff with relevant experience and knowledge on both environmental and social safeguards issues. The environmental and social specialists at MoS and LGED will also engage regularly with the consulting teams.

Furthermore, the World Bank team will engage in continuous supervision of the studies' implementation, to guide their progress and to ensure the final outputs meet Bank safeguard standards. The World Bank will also review, provide inputs and comments, and provide No Objection on all Terms of Reference prior to the issuance of the bid packages for consulting works, as well as on the draft and final studies themselves prior to MoS and LGED issuing payments to consultants contracted for safeguards work.

6. Implementation timeline

For the investments proposed for study under Components 1, 2 and 3(for which the studies are being implemented by MoS), the safeguards studies will be commissioned in parallel with the detailed feasibility and design studies to be carried out under these components. However, detailed studies will not get underway for Component 1 until the list of prioritized IWTs and river ports is finalized. Therefore, it is expected that these studies will be initiated in mid 2014.

For the investments proposed for study under Component 4 (for which the studies are being implemented by LGED), the detailed ESIA, RAP and TPDP will be carried out only after the initial feasibility study for the Chittagong Hill Tracts Connectivity route (Component 4), including environmental and social screening and alternatives analysis, is completed. This is not expected until late 2014 or early 2015. However, the environmental and social screening will get underway earlier, as part of the initial feasibility study of the 10 potential route alternatives.

Annex 1-A: List of priority IWT routes for which MoS has already received national approval to dredge (for consideration for detailed studies under Component 1)

Capital Dredging of 53 River-routes in Inland Waterways
(1st Phase: 24 River Routes)

Implementation Period: July 2012 to June 2018
Status: Recently approved

S/N	Name of Route	Name of River	Present minimum Depth of water (feet) (w.r.t. LLW)	Route length (Km)	Required dredging Length (Lakh M^3)	Dredging quantity (Lakh M^3)
01	Dhaka-Munshiganj-Gajaria- Chandpur-Chittagong	Buriganga,Dhaleswari, Meghna, Shahbajpur & Hatia Channel,Karnaohuli	7.22	306.00	40.00	70.00
02	Chittagong-Cox's bazar-St. Martin's lslands-Teknaf	Kamaphull, Kutubdia & Maheshkhali Channel, Baakhali, Bav of Benaal, Naf	8.20	247.00	15.00	24.30
03	Chandpur-Char Prakash-Hijla-Barisal	Meghna, Arial Khan, Kirtonkhloa	6.56.	88.00	10.00	20.70
04	a) Saidpur-Bandura/sreenagar	Ichamati	0.95	42.00	42.00	43.20
	b) Hazrapur-Jabra	Dhaleshwari & Kaliganga	1.20	60.00	45.00	57.20
05	Ghasiakhali-Barisal-Kaliganj-Chandpur-Aricha	Mongla-Ghasiakhali Canal, Gabkhan Canal, Bishkhali, Kirtonkhola, Arial Kha, Meahna Padma	5.57	200.00	26.00	46.80
06	Bhairab Bazar-Upsha- Chhatak-Svlhet	Upper Meghna, Baulai,Surma	5.91	200.00	40.00	90.00
07	Gaglajor-Mohongonj	Kangsa	8.89	43.00	30.00	52.20
08	Lawargar-Durlobpur	Zadukata	0.95	40.00	30.00	48.60
09	Chitri-Nabinagar-Kuti Bazar	Meghna, Pagla, Buri	1.64	30.00	15.00	28.80
10	Narsingdi-Katiadi	Jamuna	1.47	84.00	10.00	19.50
11	Narsingdi-Marichakandi-Salimganj-Bancharampur-Homna	Meghna, Titas	1.64	73.00	23.00	34.50
12	Daudkandi-Homna-Ramkrisnapur	Meghna, Titas	3.28	50.00	20.00	32.40
13	Chandpur-lchuli-Faridganj	Dakatia	5.57	71.00	60.00	60.00

S/N	Name of Route	Name of River	Present minimum Depth of water (feet) (w.r.t. LLW)	Route length (Km)	Required dredging Length (Lakh M3)	Dredging quantity (Lakh M3)
14	Barisal-Jhalakathi-Barguna-Pathrghata	Kirtonkhola, Bishkhali. Khaadon	4.92	120.00	30.00	45.00
15	Khulna-Gajirhat-Bardia- Manikdha	Bhairab, Alai, Madhumati, Arial Khan	2.63	96.00	40.00	70.80
16	(a) Sindiaghat-Bhanga- Bakunda	Upper Kumar	1.31	52.00	30.00	33.00
	(b) Panchagar-Dinajpur- Naoaaon-Natore·Pabna	Atrai	0.50	248.00	128.00	80.00
17	Dilalpur-Ghoradlgha-Chamraghat-Nilki-Atpara- Nctrokona	Baulai, Surma, Mogra	1.64	150.00	50.00	38.00
18	Manumukh-Moulvi Bazar	Manu	2.63	20.00	20.00	10.20
19	Mirpur-Savar	Karnapara Canal,Dhaleswari	1.64	15.00	15.00	9.00
20	Sripur-Bhola Kheyaghat-Ganaaour-Bhola	Tentulia, Bhola Canal	1.64	28.00	26.00	15.60
21	Chawkighata-Kaliganj	Shahbazpur & Ramdaspur Canal	1.64	35.00	35.00	21.00
22	Patuakhali-Mirzaganj	Lohalia	1.64	10.00	10.00	16.00
23	Hosnabad-Torki-Fasiatala	Palardi	1.64	34.00	34.00	20.40
24	Dalar Char-Ballakandl-Bolmari-Kasiani	Chandana	1.64	128.00	80.00	36.80
		Total		**2470.00**	**904.00**	**1014.00**

Annex 1-B: List of priority IWT routes for which MoS has requested approval to dredge (for consideration for detailed studies under Component 1)

Implementation Period : July'2014 to June 2020

Status: Proposed

Sl. No	Name of Route	Name of River	Distance (km)	Required length of dredging (km)	Addressed dredging volume (Lakh M)
1	Bhairab Bazar-Dilalpur-Meghna, Kalni, Sherpur-Zakiganj	Meghna, Kalni, Kushiara	310	95	110.00
2	Raimongai-Antihara- Chalna-Khulna-Daulatpur-Mahswarpasha-Nowapara	Possur. Bhairab	165	35	50.00
3	Aricha-Sirajgonj- Daikhawa	Jamuna	250	100	120.00
4	Rangaati to Thegamukh Land Port	Karnafuli	80	45	60.00
5	Kaptai Lake	Kaptai Lake	250	70	75.00
6	Chittagong-Kaptai dam	Karnafuli	65	20	25.00
7	Chougacha- Jhekorgacha-Kolaroa-Tala-Paikgacha-Koira	Kopothakkho	238	150	165.00
8	Ancha-RaJshahi- Godagari	Padma, Ganges, Mohananda	209	100	120.00
9	Khulna-Aiaipur- Bagerhat	Bhairab and Alaipur canal	43	38	50.00
10	Patgram-LaImonirhat-Kurigram-Uiipur	Dharala	55	55	66.00
11	Hularhat-Bhandaria- Tushkhli-Morelgonj	Boleshwar,Kocha & Pona	70	24	35.00
12	Chilmari-Dumar-Patgram	Tista	110	80	55.00
13	Baghabari- Natore- Charghat	Hurasagor,Baral, Gumani, Atrai, Gurgu	200	150	100.00
14	Baghabari-UIIapara	Korotoah	32	32	35.00
15	Takerghat-Lalpur	Baulai	48	48	57.00
16	Mohonganj-fh-akurko-na	Kangsa	46	46	55.00
17	BG- Mouth-Saidpur- Singair-Tilli	Dhaleswari	94	80	96.00
18	Bhairab-Toke-Oid Brahmaputra	Old Brahmaputra	150	80	70.00
19	Tepurakandi-Kazirtek	Padma	21	21	25.00
20	Tetulia (Panchagar)-Atrai River (Dinajpur)– Banagali River (Borqra)	Karatoya	309	210	260.00
21	Joldhaka (Tista River)- Gaibandha (Jamuna River)	Ghagat	192	150	150.00
22	Shaturia (Manikganj, Dhaleswari River)- Saver (Banshi River)	Gazikhali	48	45	50.00
23	Shaturia-Keranigonj	Kaligonga	78	68	80.00
24	Motlab-Munshigonj	Katakhali	31	30	35.00
25	Saver-Amin Bazar	Bongshi	13	13	15.00
26	Dinajpur-Noaga	PurnoBhoba	223	180	190.00

27	Gaibanda-Sirajgonj	Bengali	183	150	160.00
28	Buringamari- Nageshwori	Dudkumer	65	55	60.00
29	Nikoli-Bazitpur	Gora Utra	33	25	30.00
			3611	**2195**	**2399.00**

Annex 2: Initial safeguards issues identification for three potential connectivity routes for the Chittagong Hill Tracts Connectivity Component (Project Component 4)

An initial field reconnaissance of three of the potential routes under consideration was carried out as part of project preparation. The initial "safeguards issues identification" results are presented below. These tables may not be exhaustive of all safeguards issues of relevance for detailed study of the final selected route (particularly on the social side), nor do they cover all of the potential routes under consideration at this stage. Similar high-level identification of key safeguards issues for the remainder of potential routes, as well as more in-depth environmental and social screening for all 10 potential routes, will be completed during project implementation, prior to selection of the final preferred route option.

Route option 1: Rangamati-Chotohorina-Thegamukh

This is a waterway of about 80 km stretch of Karnaphuli River and 10km road section from Chotohorina bazar to Thegamukh BOP. About 45km section of the river will require dredging. The first section is about 15km long from Subolong to Barkal (currently a diversion channel is in use). The second section is 30km long from Aimachara to Chotohorina. Depth of dredge section is 10-20 feet (October-November) to 2-5 feet in dry season.

Initial issues identification questions	Initial findings
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Yes, dredging of riverbed and disposal of dredged material (about 6 million m^3) will be required. New construction of 10km road in greenfield.
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Petroleum products will be required for the dredging and construction equipment to operate. Soil will be required for the embankment and other construction materials for the road.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Some petroleum products will be stored in the project site to be used by the dredgers and construction equipment. Disposal of dredged material on the rural land. Proper disposal of riverbed material will be required
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes, 6 million m^3 of riverbed material will be generated during construction and additional dredged materials during consequent O/M dredging. Proper disposal of riverbed material will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Operation of water transport will may release some pollutants. Potential hazards associated with transportation of dangerous goods from Chittagong port through the waterways. High level of safety of international carriage will be required.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	During construction and operation, noise and vibration will be generated from dredgers, construction equipment and launch operation.

Initial issues identification questions	Initial findings
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	Improper disposal of dredged material in river water may cause low level of dissolved oxygen, with potential risks to aquatic ecosystem.
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	River port operations, manual loading and unloading will be a safety concern. The project road section is located in mountainous area. Proper geometric design standards need to be maintained in the engineering design to avoid road accidents.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Yes, positive. Better access for the local population and more formal businesses will flourish due to the improved accessibility all year around.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	There might be some cumulative impacts due to the alternative road construction, as it will attract more economic activities along the road.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	Instead of road from Chotohorina to Thegamukh, if waterway is planned, international waterbodies will be affected. The project will be located close to Kaptai Lake and tribal communities. Extensive tribal community consultation and engagement will be required for smooth implementation of the project.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	The project is located in tribal area and in pristine water bodies at Kaptai lake, surrounded by woodlands. 10km road sections are passing through Barkal upazila in the mountainous terrain, where road safety, landslide, and slope stability will be of concerns. Careful consideration will be required for dredging operations and to ensure appropriate road design to avoid landslides, slope failure and erosion.
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	An ecological survey will be required in the project area including in Kaptai lake. The presence of sensitive species need to be further verified during the feasibility study.
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Yes, inland water will be affected by oil spill and improper disposal of dredged material.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	The entire waterway route is a scenic beauty, will have a positive impact by maintaining navigation all round year.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	Kaptai Lake is a favourite destination for tourists. Fishing and nets will be affected during dredging. Compensation to the fisherman and alternative livelihoods, as well as support for tourism development, should be considered.
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Three launches ply between Rangamati to Chotohorina daily and other smaller country boats will be affected during dredging operation.
18. Is the project in a location where it is likely to be highly visible to many people?	No. Population density is very low in the project area except in Rangamati.

Initial issues identification questions	Initial findings
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	Subolong union is famous for waterfalls. In addition, Kaptai lake and Kaptai hydropower plant will be close to the project alignment.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes. The waterway will connect three upazilas, Barkal, Bilaichari, and Juraichari all round the year, which are currently disconnected during the lean season. There will be loss of land due to the disposal of dredged material and construction of the road.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Popular for tourism. Waterways will be partially affected during dredging. About 25 Chakma families will be affected due to the land customs station development.
22. Are there any plans for future land uses on or around the location which could be affected by the project?	Development of service areas or tourist spot for rest area/market development for local produce using the dredged material.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	No.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Some of the facilities may be affected. Needs to be confirmed during the feasibility study.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	Tribal shrine in Chotohorina bazar and Thegamukh and trees will be affected. There will be positive impact on tourism. Some of the fisherman may be affected during the construction stage.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	There is a high potential of landslides in the cut sections and slope stability in fill sections of the mountainous road alignment. Proper slope protection and drainage infrastructure will be required.

Route option 2: CTG-Hathazari-Pathikchari-Khaghrachari-Dighinala-Longadu Bazar - Bogachattar-Gauspur-Gulshankhali-Laijugram-Kukichara Bazar –Thegamukh

This route option consists of a combination of upgrading of existing highways (CTG to Longadu Bazar) and 85 km of new road construction in greenfield. About 2000m of drainage infrastructures will be required in this alignment. The existing highway from CTG-Hathazari-Pathikchari-Khaghrachari-Dighinala-Longadu Bazar is poorly designed, especially the mountainous section. The geometric design is poor, with high vertical slope (exceeding 8%, make it difficult for heavy vehicles to maintain certain speed), insufficient forward sight distance, radius of curvatures for desired driving comfort.

Initial issues identification questions	Initial findings
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Yes, 85km road will be constructed in greenfields which are currently only walking trails or hearing bone, plus 2,000m drainage infrastructure. Significant number of tree cuttings, cut and fills and land acquisition will be required.
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Petroleum products will be required for the construction equipment to operate. Soil will be required for the embankment and other construction materials for the road.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Some petroleum products will be stored in the project site to be used by construction equipment. In addition, construction materials will be transported to the site.
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes, huge quantities of earth will be generated from the cut section and they will be used in the fill section. Proper disposal of soil will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	During construction, equipment will generate emissions and during operation, air pollutants from traffic will be generated in the ambient air.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	During construction and operation noise and vibration will be generated from equipment and traffic.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	There are some potential risks of surface and groundwater pollution during construction (at the bridge site) and operation (accidental spills).
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	The project alignment is in remote mountainous area with less population density. Proper geometric design standards need to be maintained in the engineering design to avoid road accidents.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	After construction of the road, boat operators (Longadu bazar to Bogchatur) may be affected. Alternative livelihood should be considered for the boat operators.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	There might be some cumulative impacts due to road construction and associated economic activities due to the road.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	The project will be located close to Kaptai Lake and tribal communities. Extensive tribal community engagement will be required for smooth implementation of the project.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Road sections are close to Kaptai Lake require particular attention. In addition, major road sections are passing through the mountainous terrain, where road safety, landslide, and slope stability will be of concerns. Poor design of mountainous road in Bangladesh without proper consideration of appropriate protection measures in design cause serious environmental hazards.
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging,	An ecological survey will be required in the project area including in Kaptai lake. This needs to be further verified during the feasibility study.

Initial issues identification questions	Initial findings
resting, overwintering, migration, which could be affected by the project?	
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	There will be a number of bridges required crossing Karnaphuli river. The risk of inland water contamination in bridge construction site is present.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	Some of the road sections pass through the mountainous landscape. Design could consider establishing observation deck for attracting tourists, for enjoying scenic beauty of the landscape.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	Kaptai lake is close to the road alignment. Some infrastructures and facilities can be developed to attract tourists.
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Chittagong-Fatikchari-Longadu road may be affected due to the additional traffic.
18. Is the project in a location where it is likely to be highly visible to many people?	No. Population density is very low in the project area except the section close to Chittagong.
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	Not known. Needs to be confirmed during the feasibility study.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes. The road will connect with Barkal upazila, which is currently disconnected with other parts of the country by road. There will be loss of land due to the construction of the road.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Public properties and forest will be affected.
22. Are there any plans for future land uses on or around the location which could be affected by the project?	New road connection will generate economic activities along the road.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Road will pass through Longadu upazila head-quarter.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Some of the facilities may be affected. Needs to be confirmed during the feasibility study.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	Mountains and trees will be affected. There will be positive impact on tourism. Some of the fisherman may be affected during the construction stage.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
27. Is the project location susceptible to earthquakes,	There is a high potential of landslides in the cut sections

Initial issues identification questions	Initial findings
subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	and slope stability in fill sections of the mountainous alignment. Proper slope protection and drainage infrastructure will be required.

Route option 3: Bengchari-Chitmoron-Boholtoli-Bilaichari-Juraichari-Chotohorina-Thegamukh

This route option consists of about 100 km of new road in greenfield terrain. About 300m long bridge will be required in this alignment starting from Chittagong-Kaptai highway (2km before Kaptai bazar). The existing highway from CTG-Kaptai will require improvements to allow heavy traffic load.

Initial issues identification questions	Initial findings
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Yes, about 100km road will be constructed in greenfields including drainage infrastructures. Significant number of tree cuttings, cut and fills and land acquisition will be required.
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Petroleum products will be required for the construction equipment to operate. Soil will be required for the embankment and other construction materials for the road.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Some petroleum products will be stored in the project site to be used by construction equipment. In addition, construction materials will be transported to the site.
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes, huge quantities of earth will be generated from the cut section and they will be used in the fill section. Proper disposal of surplus soil will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	During construction, equipment will generate emissions and during operation, air pollutants from traffic will be generated in the ambient air.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	During construction and operation noise and vibration will be generated from equipment and traffic.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	There are some potential risks of surface and groundwater contamination during construction (at the bridge site) and operation (accidental spills).
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	The project location is in remote mountainous area with less population density. Proper geometric design standards need to be maintained in the engineering design to avoid road accidents.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	After construction of the road, boat operators Rangamati to Chotohorina and Kaptai to Chotohorina) may be affected. Alternative livelihood development should be considered for the boat operators.
10. Are there any other factors which should be	There might be some cumulative impacts due to road

Initial issues identification questions	Initial findings
considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	construction, as it will attract more economic activities along the road.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	The project will be located close to Kaptai lake in tribal communities. Extensive tribal community consultation and engagement will be required for smooth implementation of the project.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Road sections are close to Kaptai lake require particular attention. In addition, road sections are passing through Bilaichari, Juraichari, and Barkal are in the mountainous terrain, where road safety, landslide, and slope stability will be of concerns. Poor design of mountainous road in Bangladesh without proper consideration of appropriate protection measures cause serious environmental hazards like landslide, slope failure and soil erosion.
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	An ecological survey will be required in the project area including in Kaptai lake. This needs to be further verified during the feasibility study.
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	There will be a number of bridges required crossing Karnaphuli river. The risk of inland water contamination in bridge construction site is present.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	Some of the road sections pass through the mountainous landscape. Design can consider establishing observation deck for attracting tourists, for enjoying scenic beauty of the hilly landscape.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	Kaptai lake is a favourite destination for tourists, located close to the road alignment. The project could consider developing some infrastructure and facilities to attract tourists.
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Chittagong-Kaptai road would be affected due to the additional traffic.
18. Is the project in a location where it is likely to be highly visible to many people?	No. Population density is very low in the project area except the section close to Chittagong and Kaptai.
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	Subolong union is famous for waterfalls. In addition, Kaptai lake and Kaptai hydropower plant will be close to the project alignment.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes. The proposed alignment will connect three upazilas, Barkal, Bilaichari, and Juraichari, which are currently disconnected with other parts of the country by road. There will be loss of land due to the construction of the road.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Public properties and forest will be affected.

Initial issues identification questions	Initial findings
22. Are there any plans for future land uses on or around the location which could be affected by the project?	New road connection will generate economic activities (bazar and residence) along the road.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Road will pass through outskirt of Kaptai, Barkal, Bilaichari and Juraichari upazila head-quarter.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Some of the facilities may be affected. Needs to be confirmed during the feasibility study.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	Mountains and trees will be affected. There will be positive impact on tourism. Some of the fisherman may be affected during the construction stage.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	There are high potential of landslides in the cut sections and slope stability in fill sections of the mountainous alignment. The geology of the mountains in the project area is susceptible to landslide, soil erosion, and slope stability. Proper slope protection and drainage infrastructure will be required.