Char Development and Settlement Project, Bangladesh.

Inception Report CDSP-B (CDSP IV AF)
September 2019

Government of Bangladesh. IFAD, Government of the Netherlands

Implementing Agencies: Bangladesh Water Development Board, Forest Department, Local Government Engineering Department, Department of Public Health Engineering, Ministry of Land.

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List of Abbreviations/ Glossary

ADP	Annual Development Plan
AE	Assistant Engineer
Aman	Monsoon season rice
Bahini	Armed gang
BC	Bitumen Carpeted
Boro	Winter season rice
BWDB	Bangladesh Water Development Board
CDS	Coastal Development Strategy
CDSP	Char Development and Settlement Project
DAE	Department of Agriculture Extension
DG	Director General
DC	Deputy Commissioner
DPC	Deputy Project Coordinator
DPHE	Department of Public Health Engineering
DPP	Development Project Pro forma
DTL	Deputy Team Leader
EKN	Embassy of the Kingdom of the Netherlands
EMG	Embankment Maintenance Group
FE	Field Engineer
FF	Farmers Forum
FO	Field Officer
FPIC	Free, Prior and Informed Consent
Ghat	Landing place for boats
GMC	Group Management Committee
HBB	Herring Bone
HFPF	Health and Family Planning Facilitator
IA	Implementing Agency
ICS	Improved Cooking Stove
ICZM	Integrated Coastal Zone Management
IFAD	International Fund for Agricultural Development
IMED	Implementation Monitoring and Evaluation Division
IRRI	International Rice Research Institute
Jamabandi	Settlement case
Jotdar	Powerful person having big agricultural farm
KAP	Knowledge Attitude Practice
Khabuliyat	Deed of agreement
Khal	Canal, creek
Khas	Government owned land
Khatian	Record of right
Killa	Earthen raised field, used as shelter for cattle
LADC	Local Area Development Committee
LCS	Landless Contracting Society
LGED	Local Government Engineering Department
LGI	Local Government Institution
Madrassa	Religious school
MoL	Ministry of Land

Mouza	Small geographical unit
MRA	Micro finance Regulatory Authority
NGO	Non Governmental Organization
O&M	Operation and Maintenance
PA	Project Agriculturist
PC	Project Coordinator
PCD	Project Coordinating Director
PD	Project Director
PIM	Project Implementation Manual
PMC	Project Management Committee
PP	Project Pro forma
PSF	Pond with Sand Filter
PTO	Project Technical Officer
PTPS	Plot To Plot Survey
PWD	Public Works Datum (local topographical level)
QCE	Quality Control Engineer
QC team	TA Quality Control team
Rabi	Crop season from November/ December to March
RDC	Revenue Deputy Collector
RFLDC	Regional Fisheries & Livestock Development Component
RMG	Road Maintenance Group
RPA	Reimbursable Project Aid
Samaj	Local community
SAE	Sub assistant Engineer
SDE	Sub divisional Engineer
SE	Superintendent Engineer
SFG	Social Forestry Group
SO	Sectional Officer
SLS	Social and Livelihood Support
TA	Technical Assistance
TBA	Traditional Birth Attendant
TL	Team Leader
ToT	Training of Trainers
TUG	Tube Well User Group
UP	Union Parishad
Upazila	Sub-district
WARPO	Water Resources Planning Organisation
WBM	Water Based Macadam
WMA	Water Management Association
WMF	Water Management Federation
WMG	Water Management Group
WMO	Water Management Organization
XEN	Executive Engineer

1. Introduction and Background

The Meghna Estuary forms the central and most dynamic part of the coastal zone of Bangladesh. It is being shaped by a very complex set of interactions between physical processes. Factors that are particularly important in determining the outcome in terms of *accretion and erosion* are the sediment load, its transport and its distribution; the discharge of water and the water levels; and tidal forces and estuarine circulation. On average, around 1.1 billion tonnes of sediment is carried down by the Ganges-Brahmaputra-Meghna river system, the largest sediment load in any river system in the world. About one fifth of the sediment load is retained in the estuary, forming the raw material of the land accretion process. Surveys, based on satellite pictures, have shown that each year there is a net accretion of around 20 km^2: newly formed land of about 52 km^2 minus eroded land of around 32 km^2. The accretion dominates around islands south and south-east of the Noakhali mainland, and south-west of Bhola. The average yearly erosion of 32 km^2 means that, with an assumed density of 800 people per km^2, each year approximately 26,000 people (about 4,500 households) lose their land in the estuary. Many of them will move to newly emerged lands, some of which may also be subject to erosion.

The project aims to support the livelihoods of settlers in recently emerged chars. When a new char becomes fit for cultivation, the families affected by river bank erosion from adjacent areas start migrating into the newly formed land for shelter and livelihood. A power broker, in many cases with ancestral links to newly accreted char land, tends to extend support and patronage to settlers. This type of autonomous settlement leads to a situation in which the official process of land settlement cannot start with a clean slate. Settlers are already present in new chars with active control over land before the official process has even started. Powerful people, commonly known as *jotdar*, and the settlers controlled by them, occupy the land. The immigration is illegal, because the land is under control of the Forest Department (for a period of 20 years after the start of the first forestation activities). The illegal immigrants and occupiers of land begin with felling trees (where they have been planted), constructing thatched houses on raised mounds and digging ponds for drinking water and a little fish culture. The Forest Department is not able to protect the plantations because it lacks the manpower and it faces influential opponents with political connections. Armed gangs (*bahini*) are the local strong arm of the *jotdars*. They often impose a regime of fear and terror on the settlers, violating basic human rights. They extract large amounts of money from the settlers in exchange for the control over and use of a piece of land and for “protection”. Many Forest Department officials leave the occupied areas. No institutions are present, except *samaj* (local communities), and mosque and *madrassa* committees.

The land, with usually a level of less than 3m PWD, is subject to regular flooding. There is no access to drinking water, especially in winter and limited communication. For food, the settlers are dependent on a low-yielding rice *aman* crop, some *rabi* crops and small fish grown in ponds or caught in open waters. Some income is derived from tending cattle. People have no official title on the land they occupy. They are vulnerable to a set of risks such as flooding, cyclonic surges, storms and salinity intrusion and sometimes to the threat of eviction by competing gangs.

To support the livelihoods in such a scenario and to make the intended improvements stick, CDSP and all its stakeholders are confronted with a multitude of challenges:

- anticipate and modify (where possible) the hydro-morphological processes of accretion and erosion to identify suitable areas for land development and settlement;
- fill the institutional vacuum: bring government institutions, including local government, to the remote chars; form field level, community based, organizations; intensify the work of NGOs; and create the conditions for private sector development;
- improve the law and order situation: lessen the dependency on the *jotdars* by providing official land titles, strengthen the bargaining position of the settlers (see below);
- strengthen the asset base of the settlers and their position in the struggle of control over natural resources (land settlement; formation of groups as Water Management Organizations, Social Forestry Groups);
- address a part of the vulnerabilities by enhancing physical security: peripheral embankments, sluices, drainage channels; elevated roads and cyclone shelters; in the case of chars which are not yet morphologically stable, but people have already settled knowing the risks; vulnerabilities can partially be addressed by enhancing physical security issues with peripheral embankments along creeks, sluices, drainage channels; elevated roads and cyclone shelters within the char, without going for the expensive full infrastructure development which is involved in developing full polders.
- broaden the economic base: introduce suitable agricultural technologies with the aim of increasing cropping intensity and yields; improve aquaculture and support livestock development; facilitate the provision of credit; establish a road network and support developments of markets, so the local economy can establish ties with the outside world and private sector institution, such as banks, shops, small factories, workshops etc., find it more attractive to start business in the chars;
- increase access to social services such as drinking water, sanitary facilities and health care: provide tube wells and latrines, promote establishment of registered schools in cyclone shelters.

It is clear that these challenges cannot be addressed through activities in a single sector or by one single organization. In accordance with the core principles of an Integrated Coastal Zone Management (ICZM) approach, only a well-coordinated multi-sector and multi-agency program of interventions is up to the task. The institutional framework of such coordination has already been established under previous CDSP phases and has proven to be effective.

CDSP has since its start in the 1990s aimed to reach the poor and disadvantaged segments of the population in the project areas. Before the start of its activities in a project area the living standards of the vast majority of the population in the project area were below the poverty line, and most households are landless, or small and marginal farmers. CDSP applies specific criteria for selecting beneficiaries of land settlement and land titling, social forestry and agricultural development to ensure it benefits the most disadvantaged and vulnerable households. Gender is an important dimension all Project activities.

CDSP-Bridging: Additional Finance (CDSP-B: AF) aims to contribute to this approach by delivering the following outputs: • Effective management of water resources, • Climate smart protection against tidal and storm surges, improved drainage; • Climate resilient internal infrastructure for communication, markets, cyclone shelters, provision of potable water and an improved hygienic situation; • Provision to the settlers of a legal title to land; improved livelihoods and household resilience; • Institutional development in order to create an enabling institutional environment; • Knowledge management through undertaking and disseminating surveys and studies and by learning from and contributing to ICZM efforts.

The approach to be followed by CDSP-B will in essence be modelled on the experiences gained during the implementation of the successive phases of CDSP. This approach is characterised by an emphasis on people's participation through the establishment and strengthening of Field Level Institutions (FLI) and effective coordination of the contributions of key service providers (both GoB institutions and NGOs) with the requirements of the FLI. Field Level Institutions that are facilitated by the Project include Water Management Organisations at different levels (WMG, WMA and WMF),

Social Forestry Groups, Tube well User Groups, Farmers Forums, Labour Contracting Societies and Micro Credit & Savings Groups. In each of these groups a specific gender balance is assured.

Key service providers include the five GoB Implementing Agencies of the Project (Bangladesh Water Development Board, Forest Department, Local Government Engineering Department, Department of Public Health Engineering, Ministry of Land), Local Government and NGOs, with BWDB acting as the Coordinating Agency.

Physical conditions in the South Eastern Delta of Bangladesh are also changing resulting in different land erosion and accretion processes. This necessitates an extensive study of hydro-morphological processes during CDSP-B and the development of a new vision on char development for the future (techniques and timeframes, locations, priorities). For this purpose a Strategic Planning Study will be conducted.

During CDSP IV The project organisation has been instrumental in facilitating the coordination of the work of the service providing agencies and the existing institutional arrangements have proven to be successful. For the future, however, a transition is envisaged to more permanent organisational and institutional arrangements that are less dependent on a TA supported project organisation. This institutional change will be based on the lessons learned from the successful experiences with the coordination of several GoB agencies during previous CDSP phases, and lessons learned from comparable situations in Bangladesh and elsewhere. The Hydro-morphological study and the subsequent Strategic Planning Exercise will provide and important basis for the analysis of the current institutional framework and the need to strengthen existing arrangements. Design and establishment of revised institutional arrangements requires careful analysis of organisational procedures and the capacity of the organisations involved. Experience shows that it takes time to make such arrangements fully effective. This transition will be initiated during CDSP-B and constitute the basis for the approach to be followed in the CDSP V project.

The present report is the Inception Report. It is a contractual obligation of the main consultant to deliver the report to the project authorities within a period of six months after the start of the project. During this Inception Period, from 1st July 2019 (start date of the TA contract with EKN) to 30th September 2019, the core Technical Assistance team was mobilised and met the donors and the implementing agencies at all levels. Discussions took place with donors and agencies and a Coordination meeting was held on 18th July 2019 (the minutes are provided in an Annex). The draft IFAD Project Design Report (PDR) has also been referred to.

The General Approach and Detailed Work Plan (part of the consultant's Technical Proposal), submitted by the consultant as part of the tender procedure, is followed in this Inception Report. In addition, the Project Document has been used and referred to and the draft IFAD Project Design Report (PDR) has also been referred to. An IFAD Project Implementation Manual (PIM) has not so far been made available for CDSP-B (AF).

For general descriptions texts from the forthcoming book 'New Land New Life' has been used. The report is based on, and generally does not contradict, the five Development Project Proformas (DPP) of the five implementing government agencies. The Inception Report will, after approval by the project authorities, serve as a guide to project implementation, alongside the DPPs.

However, there may be some areas where there may be difficulties in implementing the proposed project design, and areas where there are inconsistencies within the IFAD and EKN design reports, or between these two design reports, and also in relation to the DPPs of the implementing agencies. These have been addressed as far as possible in this report but may require some further adjustment.

An Environmental and Social Impact Assessment (ESIA) in late 2018 identified broader risks and opportunities in line with IFAD's Social, Environmental and Climate Assessment Procedure (SECAP), and an Environmental and Social Management Plan (ESMP) with recommendations for actions to mitigate identified risks. The ESMP is presented in Annex 14 together with a status update.

The land acquisition in CDSP IV and proposed acquisition in this phase in order to protect the project's investments are the subject of a Resettlement Action Plan (RAP) for those already displaced and a Resettlement Action Framework (RAF) for those who may lose land/ immovable property as a result. The RAP/ RAF is not included here but all provisions will be adhered to throughout the project and integrated into all relevant components. Actions for the RAP will be prioritized, including support to BWDB to implement the RAP/RAF and especially to (i) obtain compensation as soon and equitably as possible, (ii) expedite early measures through livelihoods support and (iii) sensitization on gender-equitable intra-household decision-making.

After this introductory chapter, the report will in succession deal with the objectives of CDSP-B (next chapter) and the project areas (in Chapter 3). Chapter 4 forms the heart of the Inception Report, giving an overview of the project interventions. Chapter 5 is on the project organization. It dwells on the major parties participating in CDSP IV, on the coordination mechanisms, on monitoring and reporting. The chapter concludes with the time frame, including a timetable and the major milestones. The financial aspects of CDSP IV are the subject of Chapter 6. It covers the fund flow from the three main sources: the Government of Bangladesh, the Government of the Netherlands and the International Fund for Agricultural Development (IFAD). The concluding chapter, Chapter 7, gives extensive attention to aspects of sustainability and assesses the risks facing the project.

2. Objectives of CDSP – Bridging (AF)

The **overall development objective** of CDSP-B is to reduce poverty and hunger for poor people living on newly accreted coastal chars, which would be achieved via improved and more secure livelihoods.

A **first specific objective** of the Project will be to consolidate the achievements of the earlier CDSP phases I to IV. The Project will continue support for CDSP I, II, III, & IV areas with operation and maintenance activities and land settlement. Security for people and livelihoods has already been provided during these phases via climate resilient infrastructure and by providing poor households with legal title to land. To productively utilise these char lands it is necessary to:

• Provide additional protection from salt water intrusion and flooding via embankments, sluice gates and drainage channels: not all needed infrastructure has been implemented during previous CDSP phases. Moreover, part of the water management infrastructure has been affected by coastal erosion. This makes it essential to (re)build coastal embankments and major sluices in part of the project area;

• Protect people and property from periodic cyclones and the effects of climate change with climate resilient rural infrastructure;

• Ensure access to potable water;

• Introduce and disseminate appropriate agricultural technologies and practices (taking account of possible seasonal salinity); and

• Build communications infrastructure within the chars and between the CDSP areas and external markets and population centres.

The Project will specifically address the challenges of climate change. Engineering designs will take into account likely future rises in sea levels and changes in precipitation. At the household level the Project will reduce vulnerability and mitigate risks from climate-related factors.

A **second specific objective** of the Project is the preparation of future investments in char development in the South Eastern delta. For future investments substantial preparatory work is required. First, the chars that will be included in the project are exposed to different levels of land accretion and erosion than experienced so-far. This requires detailed knowledge of the hydro-morphological characteristics of the area. Based on this study a Strategic Planning Exercise for future land development and settlement will be undertaken. Finally, a more permanent institutional and organisational arrangement or structure will be designed which will be able to act as planning and coordination mechanism between the GoB agencies involved in char development in the coastal areas. The feasibility study for CDSP V will explicitly address these fundamental adjustments of the CDSP approach. During CDSP-B the first steps will be initiated to adjust the CDSP approach.

Geographically CDSP-B covers the combined project areas of CDSP phases I to IV and the prospective project area of CDSP V (see map 1). The Logical Framework (see **Annex 1**) gives a clear distinction of the objectives of CDSP IV with related outputs.

3. Project areas

3.1 Introduction

As stated in Chapter 1, the focus of the development activities of CDSP -B will be in the chars within the five phases of the project, with a total area of about 40,000 ha (including 30% in non-polder areas) and a total of 57,000 households who will be receiving direct goods and services and other benefits from the project. The individual area of each char will be part of the gross areas as shown in the following table. These chars are located in the different locations of Noakhali, Lakshmipur and Chattogram districts.

Table 3.1: Project Areas

LRP & CDSP Phases	Name of Char	Gross Area (Hectare)	Net Cultivable Area (Hectare)	Households	Population
LRP	Polder CBD-I	1,688	1,090	1,307	8,328
	Sub Total	**1,688**	**1,090**	**1,307**	**8,328**
CDSP I	Polder CBD-II	2,065	1,440	2,367	15,077
	Char Masjid Polder	1,320	924	2,440	15,541
	Char Vatirtek polder	1,748	1,220	2,583	16,451
	Sub Total	**5,133**	**3,584**	**7,389**	**47,069**
CDSP II	South Hatiya polder	2,759	1,904	3,332	21,223
	Moradona (Polder in CDSP III)	1,793	1,237	2,989	19,043
	Gangchil Torabali	743	513	333	2,123
	Char Lakshmi (Polder in CDSP IV)	944	651	1,036	6,600
	Polder 59/3B	3,486	2,405	3,872	24,662
	Polder 59/3C	12,825	8,849	14,786	94,189
	Nijumdwip Char Osman	519	358	822	5,236
	Nijumdwip Bandar Tila	650	449	1,086	6,916
	Sub Total	**23,719**	**16,366**	**28,256**	**179,992**
CDSP III	Polder Boyer Char	6,600	4,620	9,500	65,000
	Sub Total	**6,600**	**4,620**	**9,500**	**65,000**
CDSP IV	Polder Char Nangulia	8,530	5,970	15,133	89,167
	Polder Noler Char	2,560	1,790	6,152	36,297
	Caring Char	2,200	1,540	2,638	15,564
	Polder Char Ziauddin	1,943	1,360	2,380	14,042
	Urir Char	10,300	8,300	2,725	16,078
	Sub Total	**25,533**	**17,618**	**29,028**	**171,148**
CDSP V	Char Kolatoli	2,523	1,741	2,866	14,731
	Char Mozammel	3,760	2,594	3,195	15,592
	Dhal Char	2,021	1,394	253	1,417
	Char Maksumul Hakim	3,230	2,229	2,100	11,000
	Sub Total	**11,534**	**7,958**	**8,414**	**42,740**
	Grand Total	**74,207**	**51,203**	**83,895**	**514,277**

Sources: Inception and Project Completion Reports of CDSP 1, III and IV and
Experiences of the Char Development and Settlement Project II, Table 2.2, pp.17.

In the above table the total number of households and the areas with population have been shown. For the CDSP IV area considerable efforts have still to be made for completion of the land settlement programme. All interventions will be carried out according to the relevant DPPs, IFAD PDR, EKN Project Document and Inception Report.

3.2 Char Bagger Dona I under LRP

The area of Char Bagar Dona (CBD) I is about 1,688 ha (4,169 acres). This is located in Subarna Char upazila of Noakhali district. There will be no land titling activities in this char. Livelihood activities including other physical development interventions will be taken up by five implementing agencies.

3.3 Chars under CDSP I-III phases

The area of chars under CDSP I-III phases is about 13,018 ha (32,154 acres) and consists of the following 11 chars:

- Polder CBD II, Char Majid polder and Char Bhatir Tek polder in Subarnachar upazila of Noskhali district.
- Char Bhatir Tek polder located in Subarnachar, Kabirhat and Companiganj upazilas of Noakhali district.
- South Hatiya polder, Nijjumdwip Char Osman, Nijumdwip Bandar Tila and Boyer Char located in Hatiya upazila of Noakhali district.
- Polder 59/3B located in Companiganj upazila of Noakhali district.
- Polder 59/3C, Moradona polder, Gangchil Torabali and Char Lakshmi in Subarna char upzila of Noakhali district.

There will be no land settlement and land titling activities in the areas of CDSP I-III phases. Livelihood activities including other physical development interventions will be taken up by five implementing agencies.

3.4 Char Nangulia, Noler Char, Caring Char

The area consists of the following three main chars:

- Char Nangulia, with an area of about 8,664 ha (21,400 acres)
- Noler Char, with an area of 2,519 ha (6,222 acres)
- Caring Char, with an area of 740 ha (1,828 acres)

The area figures have been computed based on bank line measurement done on 23rd July 2019. As erosion is continuing, these areas may reduce.
All three chars are located within Noakhali District. The whole area is part of two upazillas (Subarna Char and Hatia) and of three Unions (Char Clark of Subarna Char upazilla, and Chanandi and Mohammadpur of Hatiya upazilla). Serious river erosion still going on in Caring char, so it is evident that the available working area will less than that presented above.

Livelihood and other physical development activities will be done in all three chars. The settlement and land titling will be done for only 2000 families of Nangulia during CDSP-B.

3.5 Urir Char

In the Meghna Estuary, erosion and accretion along the boundaries of the chars or islands are very common morphological processes. Urir Char is a perfect example. Since its emergence in the early 1970s, Urir Char has shown a very dynamic character and developed through erosion, accretion and shifting of several kilometres. During the last 35 years the landmass of Urir Char increased from 12 km^2 to 100 km^2. At the same time the char shifted about 8 kilometres towards the north.

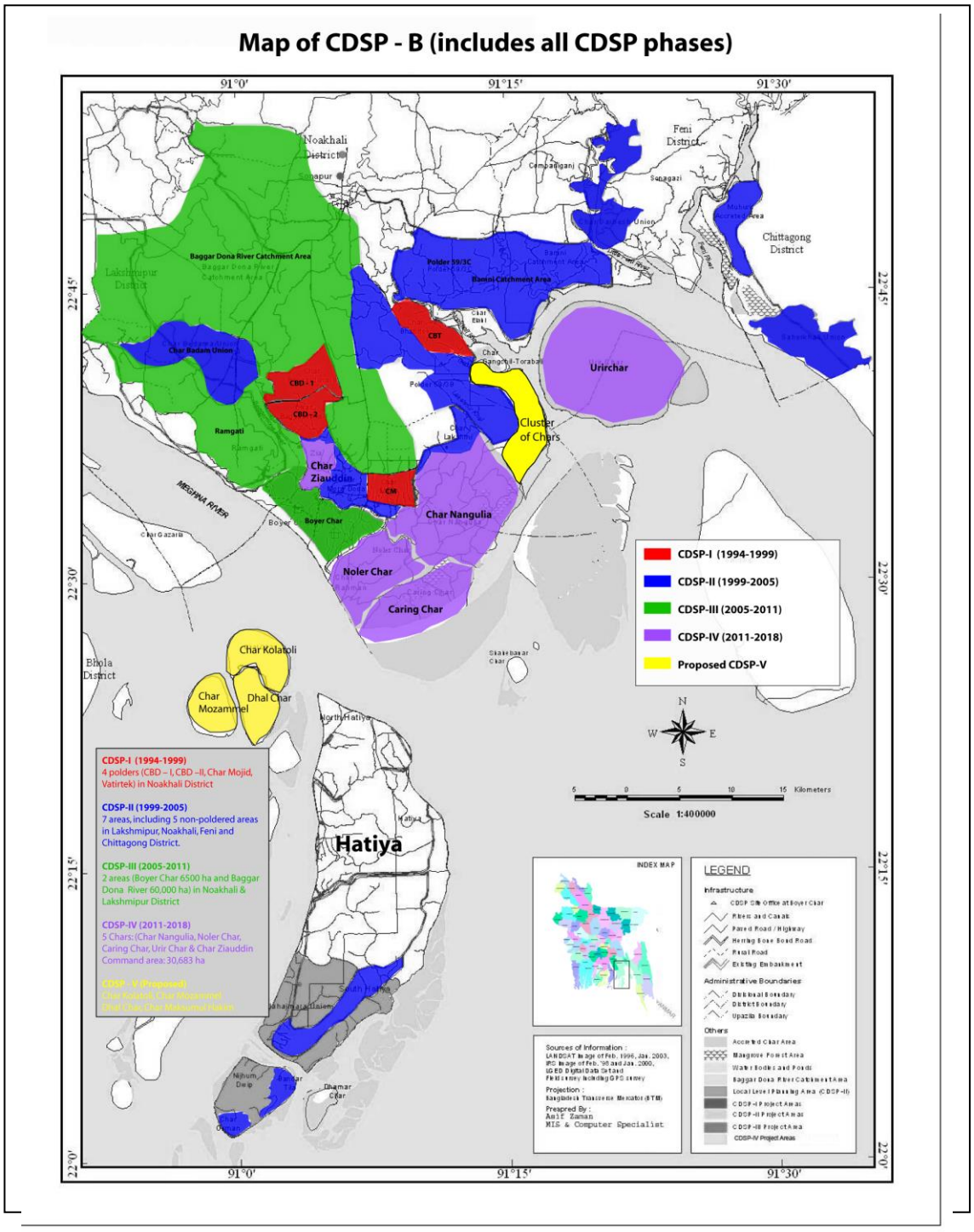
The existing area of Urir Char is about 10,300 ha (25,442 acres). Along with livelihood and other physical development activities, large scale settlement and land titling will be done to support about 4,000 households. Other development activities will be carried out by the five implementing agencies.

3.6 Char Ziauddin

Char Ziauddin accretion started in 1970 and people started living there in 2001. The char is under the jurisdiction of Char Jubilee Union and is located west of Char Mora Dona near Boyer Char, in the southwest corner of Subarnachar Upazilla under Noakhali District. Boyer Char lies to the south, CBD-1 to the north and the Bagar Dona River to the west.

The existing area is about 1,943 ha (4,799 acres). No settlement and land tiling activities will be done in this char and other development activities will be carried out by the five implementing agencies.

Figure 1: Map of CDSP Phases covered by CDSP-B



3.7 CDSP Future Phase (CDSP V)

As currently planned the future CDSP V phase includes four coastal chars:

- Char Kolatoli, with an area of about 2,523 ha (6,232 acres)
- Char Mozammel, with an area of 3,700 ha (9,139 acres)
- Dhal Char, with an area of 2,021 ha (4,992 acres)
- Char Maksumul Hakim, with an area of 3,230 ha (7978 acres)

Limited number of interventions like construction of Deep Tube Well and sanitary latrines, *Killa* (raised land to be used for shelter of cattle) and Multipurpose Cyclone Shelters will be built by implementing agencies. Three cyclone shelters have already been built on Dhal har, Char Mozammel and Char Maksumul Hakim.

It may be noted that CDSP-B will also conduct a Hydro-Morphological Study and planning exercise in the Meghna Estuary that will: identify potential chars for full development (empoldering); partially address vulnerabilities by enhancing physical security through peripheral embankments along creeks, sluices, drainage channels; elevated roads and cyclone shelters within the char; without going for full infrastructure development; potential areas for protection of old land with valuable infrastructures, assets and settlements (see below).

4. Project components

4.1 Introduction

This chapter sums up all the activities that are planned to be carried out during the project period. The chapter follows two project specific objectives:

- To consolidate the achievements of the earlier CDSP phases I to IV.
- Preparation of future investments in char development in the South Eastern delta.

4.2 Consolidation of the achievements of the earlier CDSP phases I to IV.

4.2.1 Protection from Climate Change through Water Management

Introduction

The water management infrastructures in CDSP-B for protection from climate change consist of retired and re-sectioning of embankments, construction and repair of drainage sluices; excavation and re-excavation of drainage channels (khals) and construction of closures. This work will be implemented by Bangladesh Water Development Board (BWDB). In addition, provisions are made for buildings for WMG's and for maintenance of water management infrastructure in CDSP I, II, III and IV areas. Also, maintenance during construction in CDSP-B periods will be provided. Extra importance, knowledge and careful judgment will be applied for re-alignment of embankments and re-location of sluices keeping a safe distance from eroding riverbanks.

The design of embankments will be based on the guidelines formulated by BWDB and circulated vide memo no. Chief Planning / 625 dated 12-09-2017. Current project guidelines are as follows, and will be revised n line with this memo if necessary:

- Sea-facing embankment: crest level of 7.00 m PWD, crest width 4.3 m, or if used for bus road 7.3 m; sea side slope 1:7 and country side slope 1:3,
- Interior embankment: crest level of 7.00 m PWD, crest width of 4.3. m, or if used for bus road 7.3 m; river side slope 1:5 and country side slope 1:3;
- Dwarf embankment: crest level of 5 m PWD, crest width 3.00 m, or if used for road 5.50 m; river and country sides slopes 1:2.

The drainage sluices are designed to drain out the total design volume of water from the polder / char catchment areas. The structure has flap-gates at the river side to prevent saline river water entering the benefited area and slide gates (vertical lift gates) at the country side in order to maintain a certain level of rain water stored inside the benefited area. The design criteria are the same as applied in previous CDSP phases: a five day duration rainfall with a recurrence interval of 10 years.

According to the Nationally Determined Contribution (NDC) (2017) roadmap of Bangladesh, the country is already experiencing a host of climate impacts, including floods, storm surges, drought and river bank erosion. With an average elevation of 4 to 5 meters above mean sea level, nearly a third of the country is susceptible to tidal inundation and nearly 70% gets flooded during heavy monsoons.

About 10% of the country is only 1 meter above the mean sea level, and one-third is under tidal excursions.

Due to harsh natural conditions and an unfavourable socio-economic situation (i.e. lack of a secure land title, poor communication infrastructure, a lack of institutions and governance) in *char* areas mutually reinforce chronic vulnerability to climate conditions and natural disasters. Although people have always adapted to the climate, the current scenario of climate change coupled with extreme vulnerability and exposure makes increasing the adaptive capacity of the *char* population paramount, especially for the medium and long term.

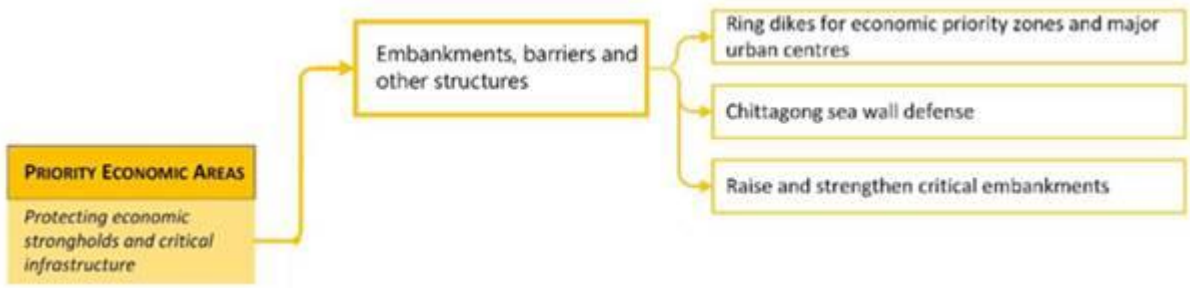
One of the expected effects of climate change is the increased incidence and severity of extreme weather events such as cyclones, but also droughts and extreme precipitation. These events have obvious consequences on water management infrastructure that is vital for agricultural production.

As it is impossible to anticipate exact future impacts of climate change – particularly at local scale – climate change adaptation should have an intermediate goal of empowering communities to adapt to the impacts in a broader development perspective, which is exactly what CDSP has been doing. CDSP-IV included both community-based and engineering interventions, which has proven to be a very effective approach as it does not only address climate change adaptation but also increases the resilience of communities to current climate conditions while simultaneously improving the socio-economic situation in the chars. In CDSP-B, we plan to continue this approach.

Bangladesh is experiencing climate related hazards like floods, cyclone, storm surge, tidal bore, river bank erosion, salinity intrusion and drought. The impact of these phenomena will aggravate due to climate change. This is likely to affect the function and operation of water infrastructure, if it is not planned and designed considering the change in precipitation, temperature, sea level rise and storm surge levels. The anticipated effect of climate change as far as water management is concerned, is overtopping of embankment, damage of drainage system, water logging, crop damage and decline of livelihood opportunities for farmers and fisheries. Current water management practices may not be robust enough to cope with the impacts of climate change. It demands improved incorporation of information about current climate variability and climate change into planning and design of water infrastructure. Under a moderate emission scenario and taking into account a subsequent rate of 1mm, the relative mean sea level rise would be 22 cm along the coast of the study area in 2050. Precipitation is projected to increase with 6%. In addition a 5% increase in cyclonic winds is considered.

This issue will be carefully considered during the design of new/replacement CDSP-B infrastructure and will follow revised design standards to reflect climate change in line with the Delta Plan, and in line with BWDB policy, keeping budgetary consequences in mind, and possible consequences in terms of costs and procedures relating to additional land requisition and resettlement.

The flood risk management strategy of the Bangladesh Delta Plan 2100 is built on two aspects: Enhancing Productive Use, and Protection Against Destructive Impacts which form the core of Water Security, as defined by the Global Water Partnership. The Flood Risk Management Strategy of the BDP 2100 contributes directly to Delta Goal 1: Ensure safety from floods and climate change related disasters.
The Sub-strategy: Develop and improve embankments, barriers and water control structures is specifically relevant for CDSP. This sub-strategy recognises the importance of construction of new embankments and other water control infrastructures as well as strengthening and/or maintenance of the existing structures which is crucial for the economic growth of the country. One of the measures of this sub-strategy is to increase the height and strength of important embankments, barriers and water control structures along with the improvement in drainage system.



The TA team is in discussion with the authorities of BWDB Design Circle 4 regarding the consideration of climate change impacts (crest height) in the design criteria for the proposed water management structures of CDSP-B Project. It is also not clear whether the DPPs and Loan Agreement have foreseen the increase in infrastructure cost in case it is decided to follow the new design criteria of BWDB adopted in 2017.

Cooperation will be established with relevant projects (notably CEIP) and institutions to address technical water management issues that have a bearing beyond the CDSP (e.g. the problems of concrete measures for climate change adaptation, siltation of river courses in the coastal area and how to protect the polders against unabated river bank erosion).

Consideration of climate change impacts in the design criteria for the proposed water management structures in the coastal areas is a crucial issue for a country like Bangladesh and requires discussion with several authorities responsible for the coastal zone development. The proposed permanent institutional set-up for future char development is an appropriate platform to discuss these issues.

For O&M activities in the CDSP I, II, III and IV areas, the O&M agreements between BWDB and WMGs are an important basis, these agreements have been signed for all areas and major maintenance of embankment and drainage khals are done by WMGs. Based on the yearly maintenance requirement, prepared by WMOs, the O&M budget will be allocated. Maintenance of structures and a portion of embankments and khals are to be done by contractors. Stakeholders have suggested the following distribution of available O&M funds: CDSP I: 10%, CDSP II: 30%, CDSP III: 40% and CDSP IV: 20% on average. This division of funds was agreed by all concerned implementing agencies. Strengthening of WMOs in CDSP I, II, III and IV areas, and their involvement in O&M by BWDB, supported by the TA team will continue under CDSP-B.

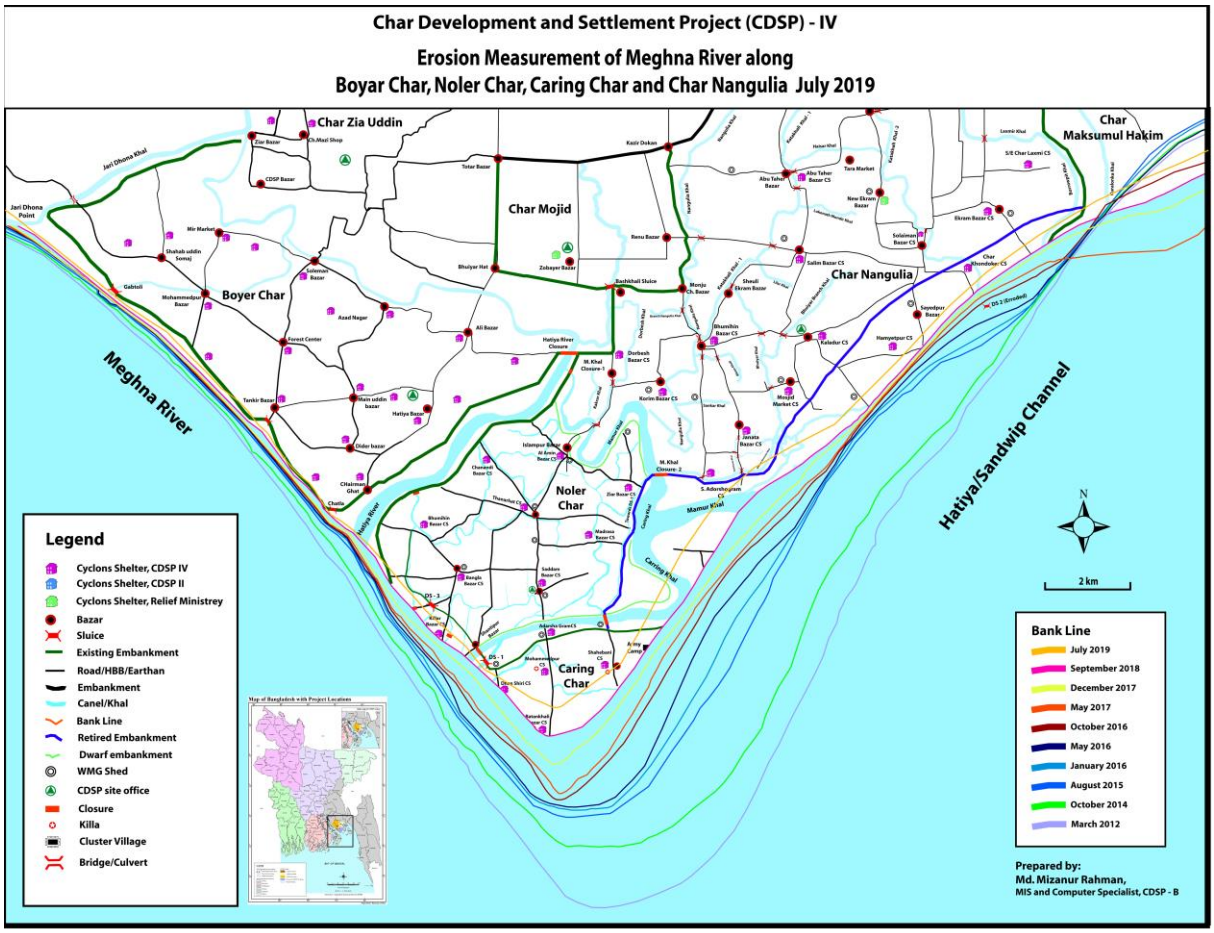
Recruitment of sufficient BWDB staff at Dhaka office and field level office, is a crucial condition for successful implementation of planned activities.

The TA Engineering team will support the BWDB process, and primarily the implementation of the Water Management infrastructures. Four Field Engineers and three Surveyors (Engineering) will be fielded, in addition to the DTL-I and QCE. for coordination of the design and field activities of the Implementing Agencies and other stake holders responsible for quality control, work planning, monitoring and evaluation of progress and execution of regular surveys. During the construction season two more construction engineers may be recruited on a temporary basis since this engineering team will also coordinate construction works under LGED and DPHE. A list of planned works by area is given below.

It should be noted that the specific infrastructure listed here, in the PDR and in DPPs, will need to be reviewed and revised where needed in the light of changing patterns of erosion and local needs. To identify and understand the latest processes of erosion, in August 2019 highly qualified and experienced Hydromorphologists, Ir. Bram Bliek and Engineer AHM Kausher carried out a mission with other TA team members.

Based on their work ***in particular it must be noted that erosion both bank lines in the Southern part of the CDSP project area has accelerated since the preparation of the Project Design Report in July 2018 and the flow of the Meghna has joined the short-cut channel on the Eastern side of the project area (see recent erosion shown in Map 2). At this stage it is not possible to determine safe sites for replacement major sluices and sea dykes. Therefore, it is proposed for the time being no new (retired) embankments and no new sluices should be built. Site selection and design of sluices and embankments will be done, but initially no construction. Instead, it is proposed that efforts in CDSP-B will focus on emergency actions to limit the impact of openness to the sea, like raising crest levels of khal embankments and monitoring/protection of box culverts.*** This has been taken into account in the planned measures described below.

Figure 2: Map showing eroding bank in four chars from March 2012 to July 2019



Char Bagar Dona 1 and 2 (LRP and CDSP I)

Embankments

Re-sectioning of embankment: The overall condition of the Char Bagar Dona 1 and 2 areas is good, as it is now situated a safe distance from the river bank, so only 1.00 km of embankment re-sectioning will be done to ensure that the embankments remain functional and reduce the risk of failure.

Drainage channels

Re-excavation of drainages channels of 25 km (the exact location is still to be decided), especially Banshkhali khal for removing drainage congestion from a catchment area of 1,750 ha.

Protective works
In the following two locations riverbank protective works are planned for construction.

1) CBD – 1: Km 8.100 to Km 8.400 = 300 m at Bholua river
2) CBD – 2: Km 0.400 to Km 0.500 = 100 m at Bholua river

Bhatirtek Char and Char 59/3B (CDSP I and II)

Drainage channels
Re-excavation of different drainage channels, in total 70 km (the exact location is still to be decided) in polder 59/3B (CDSP II) for removing water logging / drainage congestion; this will benefit a catchment area of 4,900 ha.

Drainage sluices
Repair of drainage sluices, nine in total, in Bhatirtek char and Char 59/3B in the CDSP I and II areas, to control intrusion of saline water into the benefitted area. This will also allow fresh water to be retained in the khals for irrigation.

Polder 59/3C (CDSP II)

Drainage channels
The overall condition of the polder is good except for the problem of deposition of sediment in the drainage channels. For this reason re-excavation of 20 km of drainage channels (the exact location is still to be decided) will be required for removing drainage congestion from a catchment area of 1,900 ha.

Boyer Char (CDSP III)

Embankments
3.00 km of embankment which is threatened by river erosion is planned to be retired with a new embankment. Reconstruction of the embankment will only be feasible if the proposed protected embankment program is implemented by BWDB. Until then emergency measures will be taken to limit the impact of open access to sea such as the construction of dwarf/ temporary embankments. This will safeguard 600 ha of land that is being farmed by 950 households.

Drainage channels
Re-excavation of different drainage channels, in total 10 km (the exact location is still to be decided), in Boyer char (CDSP III) for removing drainage congestion, which will benefit a catchment area of 600 ha.

CDSP IV areas

Noler Char:

Embankments
An embankment: retirement of 10.00 km is planned in Noler Char. The existing embankment along the Meghna river is already mostly gone and the erosion process is ongoing. Any retired embankment seems not to be feasible. Instead, measures should be taken to protect the project area from saline water intrusion by a dwarf/ temporary embankment which will directly safeguard about 1,000 ha.

Drainage channels
Re-excavation of 10 km of existing silted up khals (the exact location is still to be decided) will be executed for removing drainage congestion from a catchment area of 900 ha.

Drainage sluices
One new 5-vent sluice (vent size 1.50m x 1.80m) with khal diversion, approach embankment and closure of Hoar khal is planned in Noler Char. This is a replacement for DS-3 (7 vents, 1.50m x 1.80m over Hoar khal-1) at a safer location. DS-3 is under direct threat of erosion and the embankment along Meghna river is already gone and the erosion trend is alarming. Replacement of DS-3 in the present situation will only be feasible if the proposed protected embankment program is implemented by BWDB. Until then the construction program should include building dwarf embankments along the tidal channels and protection measures of bridges and culverts.

Char Nangulia:

Embankments
8 km of retired embankment is planned to be constructed. The existing embankment is under threat and has not been fully completed in this char. The erosion trend is alarming. Any retired embankment seems not to be feasible. In this area, measures will be taken to limit the impact of openness to the sea. The construction program should include building dwarf embankments along the tidal channels and protection measures of bridges and culverts.

5 km of embankment in Char Nangulia area are to be re-sectioned. The existing insufficiently sectioned embankment is to be strengthened to reduce the risk of failure.

Drainage channels
A total of 20 km (the exact location is still to be decided) of new khals are to be excavated in Char Nangulia for removing drainage congestion. The excavated sediment may be used to build or strengthen dwarf embankment along the channels. This will benefit 1,200 ha of land and this area was not covered in CDSP IV.

Another 20 km of existing khals are to be re-excavated for removing drainage congestion from a catchment area of 1,900 ha. The excavated sediment may be used to build or strengthen dwarf embankment along the channels

Drainage sluices
One new 4-vent sluice on the Katakhali-2 khal and one 7-vent sluice on Caring khal are planned for construction. This includes khal diversions, approach embankments and closures. These sluices are to replace DS-1 (10 vents, 1.50m x 1.80m, over Caring khal), which is highly threatened by erosion and DS-2 (5 vents, 1.50m x 1.80m over Katakhali-2 khal) which has already been lost. The embankment along the Meghna river and Hatiya Channel is already eroded at different locations and the erosion trend is alarming. Replacement of DS-1 and DS-2 in the present situation will not be feasible. In this area, measures will be taken to limit the impact of openness to sea. The construction program should include building dwarf embankments along the tidal channels and protection measures of bridges and culverts.

Char Zia Uddin:

Protective work

Km 6.190 to Km 6.490 = 300 m on the left bank of the Jarirdona shortcut channel.

Urir Char:

Drainage channels
Excavation of a total of 13.00 km (the exact location is still to be decided) of new khals will be required for removing drainage congestion for 1,800 ha of land. This area was not covered in CDSP IV.

4.2.2 Protection from Climate Change through Social Forestry

The Forest Department will be responsible for all plantation activities, except on homesteads. NGO(s) will look after homestead forestry and will provide support to private nurseries. Training will be organized for staff of the Forest Department, NGOs, SFGs, WMGs and Local Government. All the activities will be implemented with the support of TA team.

Objectives
Establishment of shelter belts to protect chars from storms and cyclones, formation of social forestry groups (SFG), generation of benefits for members of Social Forestry Groups in plantation activities and from a share in the income generation from tree products, production of fuel wood to alleviate fuel shortages and generation of income from homestead forestry and nurseries.

Social Forestry activities include: mangrove plantation; strip plantation along khals, roads and embankments; and formation and support for the Social Forestry Groups. This sub-component will be implemented in the CDSP I, II, III and IV, areas and also possibly in additional suitable neighbouring chars.
The plantation activities in each char are described below and the number of social forestry groups is shown. The social forestry activities in the additional chars still have to be formulated. For example in these chars, road construction of 20 km is planned; hence road side plantation is required, to be covered by 10 SFGs.

Table 4.1: Formation of Social Forestry Groups (SFG) in CDSP-B

Sl. No	Name of Char	Mangrove Plantation	Emb. Plantation	Canal Plantation	Road Plantation	Total
01	Nangulia	8	5	10	3	**26**
02	Noler Char	-	5	5	3	**13**
03	Caring Char	10	-	-	3	**13**
04	Char Ziauddin	-	-	-	3	**3**
05	Urir Char	-	-	5	3	**8**
06	Additional chars	20	5		8	**33**
Total :		**38**	**15**	**20**	**23**	**96**

Plantation activities consist of the following:
(Mangrove plantation plans may be changed considering the practical situation):

New plantations

- **Mangrove plantation**: On an area of 950 ha mangroves will be planted under the jurisdiction of Nangulia, Caring char, Noler char and Urir char. Beneficiaries will be selected from these chars.
- **Embankment:** Embankment plantation will be carried out over 5 km in Char Nangulia and 5 km in Noler Char. In Char Elahi an additional 5 km of plantation along the dwarf embankment is planned.

- **Roadside plantation:** A total of 30 km roadside plantation will be done in Char Nangulia, Noler Char, Caring Char, Char Ziauddin and Urir char i.e. approximately 5 km in each char. The social forestry work will include 10 km road side plantation in other neighbouring chars.

- **Channel plantation:** Alongside 10 km of drainage khals, trees will be planted in Char Nangulia. For Noler Char and Urir this will be 5 km respectively.

Plantation maintenance
(for two years after the year of plantation – i.e. years 2 & 3 except the mangrove)

To make a success of the plantation, there is a provision for gap filling or maintenance of the trees:

- Mangrove plantation: 950 ha for years 2, 3 and 4;
- Roadside plantation: 40 km for years 2 and 3;
- Embankment plantation: 29 km for year 3 and 15 km for year 3;
- Khal plantation: 74 km for years 2 and 3;
- Non-mangrove plantation on dykes (plus dyke maintenance) – 110 ha;
- Non-mangrove plantation: 13 ha for year 2 and 18 ha for year 3.

A total of 3,690 person-months is planned for watching all the plantations for two successive years.

Beside this, maintenance work for foreshore plantation including dykes (110 ha for 3rd year), drainage canal plantation (54 km for 2nd year and 84 km for 3rd year.), roadside plantation (6 km for 3rd year), embankment plantation (15 km for 2nd year. and 29 km for 3rd year) and non-mangrove block plantation (13 ha for 2nd year and 18 ha for 3rd year) for the CDSP-IV area will be undertaken as per the relevant DPP CDSP-B.

Support for SFGs: A total of 140 new SFGs will be formed for the new plantations, with about 3,500 members, 40% of whom are likely to be women. These SFGs will each get initial and follow-up training and a workshop will be held to explain the benefit sharing agreement between the SFG and FD. Other SFGs formed during CDSP IV will also benefit from payments for maintenance work on existing plantations. Plantation watchers (about 250-300) will also be trained and employed for 3,690 person-months, and four workshops will be held on social forestry and climate change for members of local government institutions, NGOs and other stakeholders. There is also funding for training materials and information campaigns. Eight cross visits will be arranged to share experiences and help disseminate good practices. The Social Forestry Coordinator will support at field level.

Establishment of PMU: As for CDSP IV, a PMU will be established in the office of the Divisional Forestry Officer (DFO) in Noakhali, who will also control CDSP forest activities on Urir Char (which falls under Chittagong Division). The DFO will be the PD of this component, but along with other key staff (ACF, RO, and Foresters) will be current FD staff funded by the GoB revenue budget. The project will fund (from the GoB contribution) the salary and allowances of 5 plantation malis, a computer operator, accountant, office assistant, MLSS, a boat driver and a boat helper. The PD (DFO) or other competent authority will recruit these staff for the project period as per existing government rules.

4.2.3 Climate resilient infrastructure

The internal infrastructure will be implemented by Local Government Engineering Department (LGED). Experience in CDSP IV has shown that brick paved roads like Herring Bone Bond (HBB) are low cost temporary roads with poor riding qualities and are best constructed as a precursor of quality Bituminous Carpeting (BC) pavement roads. The local population favours BC or Reinforced Cement Concrete (RCC) roads. It is planned that HBB roads will be built as a temporary measure in locations at risk from inundation or erosion. Lack of access for heavy machines (road rollers) may preclude BC roads in some locations.

In the CDSP I, II, III and IV areas 50 km of existing roads will be upgraded to BC flexible pavement and HBB. In vulnerable areas with few households 20 km of earth roads will be developed on existing embankments. A total of 48 culverts (box, pipe and U-drain) are to be provided for cross drainage. In addition, six cyclone shelters will be built along with one rural market. In the new chars of Maksmul Hakim, Dhal, Kolatoli and Mozammel proposed for CDSP V, one cyclone shelter, one killa (refuge for livestock), 10 km of earth roads and 15 culverts will be constructed.

Rural roads will connect the cluster villages, farms, markets etc. with the feeder roads and embankments. These roads will improve the communication both inside the area and with the surrounding areas. This will help to give people access to outside markets, both to sell their own products and to buy necessary goods.
The proposed rural roads are R2 type of LGED Standard, the specifications are:

- Crest width: 5.5 m; (width of pavement 3.7 m for Union roads and 3.0 m for village roads)
- Side slope: 2:1 or 1.5:1
- Crest level: 4.5 m PWD.

However, experience from CDSP III at Boyer Char shows that a crest width of 5.50 m is not adequate for the main road, used by buses, so for main roads a crest width of 7.30 m will be provided.

To minimize road crossings of existing channels the new road alignments are planned parallel to the existing channels if possible, to keep the number of bridges and culverts at a minimum. In addition, the re-excavated earth (spoil) of the khals can be used for the construction of the roads. This will also minimise the use of land for road construction. It should be noted that the specific infrastructure listed here, in the PDR and in DPPs, may need to be reviewed and revised where needed in the light of changing patterns of erosion and local needs.

4.2.4 Water supply and sanitation

Two essential facilities for human beings are water supply and sanitation; provision of these will be implemented by the Department of Public Health Engineering (DPHE). The activities include the construction of Deep Tube Wells (DTW), including test tube wells, for fresh water and single pit latrines for sanitation. The shallow aquifer in the coastal chars is saline so there is a need to provide more expensive deep tube wells (DTW) to tap fresh water at a greater depth.

The baseline situation is as follows:

- In the CDSP-IV area at project completed the DTW distribution was 13 families per tube well.
- In the CDSP-III area this was 17 families per tube well.
- In CDSP I and II areas no baseline study has yet been done but, based on distribution, it may be assessed that the number of families per tube well is much higher.

This has been taken into account as well as the current Bangladesh Government plan which is to achieve the target of 50 persons (10 families) per tube well (this was previously 75 persons (15 families). DPHE has also considered that:

- 311 tube wells have been eroded and the affected people have settled in safe areas in CDSP-I to IV and so require safe water.
- About 20% of tube wells in CDSP-I to III areas have become non-functioning and require replacement.

Based on these considerations, the following schemes will be implemented under this sub-component:

Deep Tube Wells (DTW): 1,965 in total
- 650 in CDSP I, II, III area
- 865 in CDSP IV area
- 450 in CDSP V area

Single pit latrines: 22,150 in total
- 9,000 in CDSP I, II, III area
- 7,150 in CDSP IV area
- 6,000 in CDSP V area

This activity will require the formation and training of 1,965 new Tube well User Groups (TUGs). Of these, 650 will be formed in CDSP I, II and II, in CDSP IV 865 and 450 in the selected chars for CDSP V. Each group will contribute to the establishment of a Deep Tube Well. Training of 3,930 tube well maintainers (two per DTW) will also take place. One maintenance kit for each DTW will be provided with training. Promotion of total sanitation at the community level will include training of 9,800 households from CDSP I, II, III and 16,500 households from CDSP IV as shown in the table. A suitable NGO will be engaged under the TA component and guided by the TA team for this purpose.

Table 4.2: Water and Sanitation

Water and sanitation	Units	Nos.
Sanitation Facilitators	Needs based	
Training of staff	Batch	10
Training of tube well repairers	Batch	130
Training on hygiene and health	Batch	100
Training and communications materials	Lump sum	Nb
Repair kits	Lump sum	80 set

4.2.5 Land settlement and titling

Land settlement policy and procedure

Land settlement and titling will follow the same processes as was in CDSP IV. The land settlement process generally follows the Government's A*gricultural Khas Land Management and Settlement Policy of 1997* and the procedures laid down in the *State Acquisition and Tenancy Act of 1950*. However, certain adjustments have been made by CDSP in previous phases in order to make the process more efficient and transparent and to bring it closer to the settlers. These adaptations have in principle reduced the cumbersome and lengthy land settlement process to the following eight stages:

I. Information about the upcoming khas land settlement will be disclosed in the locality through public notice and a telephone help line will be set up to deal with any grievances or concerns.

II. With the approval of the DC, a "plot-to-plot" survey will be carried out. This survey will include: 1) identifying available khas lands for settlement, 2) preparing a list of unofficial occupants/households on khas lands and existing configurations of the lands; 3) preparing adjudication area (mouza) maps duly approved by the DC; and 4) surveying of all plots.

III. Objections to the "plot-to-plot" survey will be received through public notice.

IV. The Upazila committee will hold public hearings for selection of landless households, resolve objections and decide on the requirement and availability of khas lands

V. The Assistant Commissioner for Lands will officially initiate the settlement cases on an individual basis, get approval from the Upazila committee, and forward these to the District committee.

VI. After approval by the District committee, the Assistant Commissioner for Lands will execute Khabuliyats (deed of agreement) with the settlers and get the Khabuliyats registered by organising a "registry camp" in the field.

VII. Khatians (records of right) files will be opened and the lease titles will be handed over to the settlers (both husband and wife) in public meetings.

Settlement activities in CDSP-B

Settlement and land titling on Urir char, together with the demarcation of the boundary between Noakhali and Chattogram Districts

Urir char was part of CDSP IV, but was not included in the land settlement and titling activities because the char is divided between the districts of Noakhali and Chattogram with an un-demarcated boundary between the two districts. Now this char has been included in CDSP-B for settlement after the inclusion of Chattogram district in the project. In 2017 there were an estimated 2,725 households on Urir char. As the char is continuing to expand in area, and now covers over 10,000 acres (4,000 ha) of khas land available for settlement, in-migration is continuing so the government has planned to support the settlement of around 4,000 new households there. The situation of new settlers is tenuous and there is a very high demand for land titles from them, especially to protect them from the risk of land grabbing.

It is hoped that the demarcation of the boundary is a straightforward activity that will be done as a first step prior to the land titling process being initiated.

Plot-to-plot survey

A plot-to-plot survey will be conducted in Urir Char to make an exact inventory of the available khas land, of the households that are illegally settled on the khas land and of the plots these households are occupying. The "Plain Table System" method will be used for PTPS, with the approval of MoL, as done in previous CDSP phases. The plot-to-plot survey will be carried out under the responsibility and supervision of the Deputy Commissioners of Noakhali and Chattogram. The UNOs and ACs (Land) of Companygonj and Sandwip Upazilas will supervise the activities, with support from the Technical Assistance team, and the costs for the surveys will be covered from the Technical Assistance budget. The complete plot-to-plot survey will take approximately two survey seasons (two years), but actual settlement activities can be started for those mouzas for which the plot-to-plot survey has been completed and approved by the concerned DC.

Settlement and land titling on Char Nangulia

There are about 3,000 families living in five mouzas (greater villages) extending to around 6,000 acres (2,400 ha) on char Nangulia who were not provided with titles during CDSP IV. Provision of titles for these households will be included in CDSP-B. The target for settlement has been fixed at 2,000 households as it would be expected that this is the most that can be achieved within the three year project period. However, in Hatiya Upazila, preparation and distribution of remaining Khatians of the kabuliyats that were registered earlier under CDSP-IV will be completed during the project period.

Plot-to-plot survey

Plot-to-plot survey of these five mouzas in Char Nangulia was undertaken and completed under CDSP-IV, so no new plot-to-plot survey will be needed there.

Land Record Management System (LRMS)

CDSP developed software to modernize the land record system in the Upazila and District land offices. The system includes provisions for keeping records of all government and non-government land, for records of mutation, movement of records and for maintenance of registers used in Upazila offices of the AC (Land) and of Union land offices. Presently, the system is partly used in different Upazilas and is fully operational in Hatiya and Subarnachar Upazilas.

Software up-grading and modernization of the LRMS software was done successfully during the project period of CDSP-IV, and online LRMS software has been running in district and Upazila level project land offices of Noakhali. This will now be extended to Chattogram district and Sandwip Upazila. Previously the software was not on-line. A server computer with required IP address was established and installed in the office of the PD of this component (the Deputy Commissioner's Office in Noakhali). To run this online based software smoothly a broadband internet connection subscription was obtained by the land section of the TA team office. The TA team closely monitored and supervised the implementation and operation of the modified software during development and installation.

The present LRMS software does not support locational data based on a Geographic Information System (GIS). The plot to plot survey (PTPS) maps and individual plots data are not GIS based. Geo-referencing is essential to clearly define the specific position of a plot of land and to locate an individual. So, to incorporate geographic data into LRMS software and to develop it as mapping software, the LRMS system has to be upgraded by adding a module to maintain a GIS database. This is a huge job as existing maps need to be digitized and georeferenced. New surveys will need use of GPS equipment linked to licenced GIS mapping software. To do this work, quotations will be invited from national and international software companies and a selection made following a tender process. A short-term consultant will be fielded to advise on the best way forward to make the system GIS based and fully functional.

Land acquisition by implementing agencies

The BWDB has the responsibility of acquiring land in Char Nangulia, Noler Char and Boyer Char to implement the water management works. As part of CDSP, on behalf of the Ministry of Land the Project Director (Land) who is also the Deputy Commissioner of Noakhali has to play a key role under the law to perform the whole acquisition process. As the proposed amount of the land to be acquired is substantial, the case may go to the Ministry of Land for approval. As the representative of the MoL in the area, after receiving the acquisition proposal from BWDB, the DC will take necessary steps according to the relevant Act and submit the proposal to the MoL for approval. According to the Act, after completing the legal processes, the DC will recover the budgeted amount of the acquisition from the Requiring Body, i.e. BWDB, and will distribute the compensation money to the identified affected persons.

In addition to the above, according to the approved Resettlement Action Plan (RAP) and Resettlement Action Framework (RAF) the DC or his /representative will participate in a process of three events to ensure Free, Prior and Informed Consent (FPIC): the formal public meetings to inform affected persons of their rights; subsequent meetings the day after first public notice is served so that affected persons can appeal within 15 days as prescribed by law; and formal award of compensation at CDSP sites, similarly to meetings to distribute land title certificates in previous CDSP phases.

The TA team will support the GoB process, primarily the implementation of the additional FPIC requirements of IFAD before and after acquisition. Some additional manpower in the TA team may be required to perform these duties.

Training and orientation on land settlement
Seminars/conferences and training will be arranged in different locations under this project. All relevant stakeholders will be invited to these events reflecting. The achievement and success of the project will be exposed to the public through seminars/conferences. The officials and staff involved in Plot-to-Plot Surveys will be trained for effective PTPS attributes, including digitisation of maps and record management at land offices.

Coordination
Land Settlement is to be implemented by the Ministry of Land with through two Deputy Commissioners: the Noakhali Deputy Commissioner and the Chattogram Deputy Commissioner, who will act as the PD and Additional PD respectively, with most expected land settlement taking place in Urir char in Chattogram District. It will be important that activities will not be delayed by the need to delineate the inter-district boundary, and for this to be acceptable to people living on Urir char.

Since the LRMS has involved mainly in the Noakhali district, according to the DPP of the Ministry of Land, the PD Noakhali will be responsible for the implementation of the LRMS.

4.2.6 Livelihood Support: Agriculture

Introduction
Based on lessons learned from previous phases, it is planned that farmers in the CDSP I, II, III and IV areas will be supported to move to a higher level of commercialisation, ensuring long-term sustainability. CDSP-B will provide this support using climate resilient and environmentally appropriate approaches.

It may be noted that the Department of Agricultural Extension (DAE) was not ready to join in CDSP-B (AF) but has shown interest in joining a CDSP Phase V at an appropriate time. However, the MoA has given an assurance that all field officials of DAE will continue support in implementing agricultural activities to be undertaken by any agencies during the bridging period. It was therefore agreed at the 6th Inter Ministerial Steering Committee meeting (CDSP IV) that "*the PD LGED shall incorporate a component on agricultural activities in the DPP to be prepared for the CDSP Bridging Project (January 2019- December 2021)".*

In the IFAD project design report (PDR) this sub-component included the introduction of a pay-based agricultural advisory service (PBAS) along with Agriculture Communication and Information Technology (ACIT) and value chain development. The IFAD PDR also mentions the formation and strengthening of Farmers' Forums (FF).

Although livestock producers do pay for animal health and breeding services, it will be difficult to get other farmers to pay for advisory services, unless these are embedded in a value chain approach with advice provided along with inputs or the marketing of farm produce. For this reason, this sub-

component will focus on supporting farmer organisations, ACIT and value chain development, and will, carry out a study on PBAS[1] with a view to possibly incorporating it in CDSP-V.

The main outputs of the agricultural sub-component in the Bridging Phase will be to expand and consolidate the results of CDSP IV to cover 40,000 ha from CDSP I, II, III, IV and, if feasible, some limited activities on the chars selected for CDSP V. The outputs will be as follows:

- A favourable institutional framework through strengthening and expanding people's organisations ensuring long-term sustainability in managing their own affairs.
- Second, rural people will gain knowledge and technologies to commercialise their agricultural operations and expand their household incomes.
- Third, business partnerships between enterprises and farmers, whereby enterprises will source produce from farmers and provide them with support services, so that farmers can timely deliver expected volumes and quality.

The following activities will be undertaken:

Strengthening and development of farmer organisations

The modalities of CDSP IV in forming and supporting Farmer Forums (FF) will be followed. This is in line with the New Agricultural Extension Policy of 1996, National Agriculture Extension Policy 2012 and Guidelines for Participatory Farmers Organization (GPFO). Each FF will have around 60 members with a minimum of 33% being female farmers. In total 250 FF will be formed and supported, with a total of about 15,000 members (the IFAD PDR mentioned 750 FF with 22,500 members, but this may be over-ambitious given the limited duration of the project). Other farming households that do not have a member in the FF will be reached through other activities such as demonstration plots and field days. A Farmers Federation has been formed with the representative of Farmers Associations of CDSP III and IV. Farmer organisations located in the CDSP I and II areas will be incorporated after discussions with all representatives.

All members of FF will get the opportunity to attend one day field training sessions, and 500 lead farmers will receive four days training at Agricultural Training Centres or similar residential training facilities. Development of training materials will be done making use of materials which already exist. For example, the agricultural manual, produced under CDSP IV is relevant for all the training courses.

Table 4.3: Support for farmers' organisations

Activities	Units	Proposed number	Number in IFAD PDR
Formation of FF / orientation meetings	FF	250	250
Technical training (one day in field, 30 farmers)	Batches	1,000	1,000
Training of lead farmer (30 farmers/batch)	Batches	42	25
ToT for staff & DAE (1 week, 20 persons)	Batch	5	2
Demonstrations	Number	862	500
a. High Value Crop	Number	412	
b. Saline tolerant variety	Number	50	
c. Vermicompost	Number	400	
Field days	Number	100	250
Motivational tour (batch of 25)	Batch	30	40
Mechanical training	Batch	40	0
Plant clinics	Clinics	50	1,000

[1] The IFAD PDR did not provide any examples of working PBAS in Bangladesh or other countries and no details on how it would actually work. It may therefore not be realistic to introduce a new and unproven approach to agricultural extension in the short three-year duration of the project.

Field inputs and equipment			
a) Rice Seeds,	Ton	120	30
b) Vegetable seed	Ton	2	
c) Fertilizer with carrying	Ton	240	0*
d) Road plantation with palm & date tree	Number	24000	0*
e) Plastic seed drum	Number	1500	0*
f) Hand sprayers	Number	125	250
g) Pheremone traps	Number	2,500	0*

* the IFAD PDR included line items for other inputs and other equipment.

To further support FF members, some agricultural input supplies like seeds, pheromone trap and sprayers will be procured and distributed. Table 4.3 summarises the activities on this component. There have been some small adjustments to the volume of some activities proposed in the IFAD PDR. These are shown in the table.

In each of the chars, small demonstration plots (about 800 m^2) will be selected for crop interventions to be established. In necessary, some block demonstrations will be done as well. The project will provide the demonstration farmers (FF members) with inputs related to the tested intervention, such as seeds and fertilizer, and other key materials. In addition, it will organise field days at successful demonstration plots aiming to reach a large number of the non-FF members. Motivational tours to and exchange visits with other char areas will be arranged; most likely in areas that were part of previous CDSP phases, and to related research organizations.

Agriculture/livestock/fishery Communication and Information Technology (ACIT):
The project will introduce Agriculture Communication and Information Technology (ACIT) to char land farmers. Experience with mobile phone-based ACIT apps from many places, including Kenya, India and Bangladesh, clearly demonstrate that farmers benefit in terms of: (i) acquiring knowledge and new technologies; (ii) being able to diagnose plant and livestock diseases using photos; (iii) building linkages between farmers, traders, retailers and suppliers; and (iv) providing marketing information. A survey of FF carried out during CDSP-IV highlighted to need to provide farmers with information on control of pests and diseases – especially for new commercial crops that have not been traditionally grown in the area. The project will collaborate with a private company/public agency/social business NGO to deliver a mobile phone based ACIT. Selection of NGOs for field implementation will give preference to those which have already marketed such type of mobile apps for agriculture.

The TA team will carefully ascertain what experience of ACIT exists in Bangladesh, and its relevance and feasibility of application for CDSP-B. Given the limited scale and implementation period for CDSP-B, it will not be possible to develop a new ACIT system, and the project will look to use (and maybe adapt) an existing system.

Value Chain Development
CDSP IV documents and meetings with farmers and traders clearly show that the level of production has reached a stage where a value chain approach would contribute to the commercialisation of selected commodities. The IFAD PDR identified backyard poultry and vegetables as initial commodities for value chain intervention, but other farm products with potential include country bean seed, okra, watermelon, milk and soybean. The approach to value chain development is five pronged: (i) raising awareness among FFs; (ii) value chain mapping and identification of key areas for intervention; (iii) strategic investment plan involving value chain actors (agribusiness companies, marketing agents and other businesses) and farmer groups; (iv) VC actor and farmer training and implementation of VC investments; and (v) mentoring and monitoring by LGED and the TA Team, including documentation of results.

Project budgets include funds for value chain studies, workshops, pilot schemes, market promotion etc. Links with NGO-MFIs, banks and leasing companies will ensure access to the finance needed to

scale-up investment. One leasing company has already been active in the CDSP-IV area providing finance for cucumber production.

Implementation

As already mentioned, LGED will have overall responsibility for this sub-component. LGED will contract one or more NGOs to implement field activities including strengthening and support for farmer organisations (including farmer training, demonstrations etc.), and field facilitation work for ACIT and value chain development. In addition, an ACIT service provider may be contracted, although it would be hoped that a partnership could be established to expand an existing ACIT into the chars with little payment required to the service provider. For value chain development, LGED may enter into agreements with agribusiness concerns to work with farmers – inkling the agribusiness providing training and other services.

The LGED Project Director will lead the team for overall implementation of activities. At local level (Noakhali) the LGED Executive Engineer will be responsible for supervising the implementation of activities and for monitoring with the support of a contracted Project Agriculturist (PA). The PA will deputise for the PD and XEN in management and supervise field activities in the project area. The Project Director will recruit other staff as specified in the DPP during the initial stage of the project.

Table 4.4: Activities for Value chain development

Activities	Units	Nos
Value chain awareness for HH and SMEs and VC mapping	30 / batch	25
Strategic investment plans between SMEs and farmers groups		10
Training of HH and SME and preparation of business plans		20
Training farmers in agriculture business economics	20/batch	25
VC contract signing and investments		20
Mentoring and monitoring VC activities		20
Demonstration		400

Project budgets in the IFAD PCR include the cost of eight NGO Field Officers and two NGO Project Officers, all equipped with motorcycles. The numbers of staff, both for NGOs and LGED may need adjusting in line with the actual scope and scale of activities.

LGED (via the PA) with support of the TA team is responsible for the design and development of the training programme for the FFs, including timing and frequency of training sessions, modules and curricula. At the outset of the project, LGED will provide (or organise via DAE or other agency) Training of Trainer (ToT) courses for the concerned NGO field staff (DAE field staff could also attend). The initial course will be of about one week duration, with regular refresher events to learn from the experiences to date and to include new technologies.

Outreach

The project will work with around 250 FFs with about 15,000 members. With a total of about 85,000 households in the whole CDSP-B project area, almost 18% of households will be members of FF. This compares with 20% for CDSP IV. Other farmers will be reached via demonstrations, field days ad farmer-to-farmer information dissemination. Some non-FF members may be involved in ACIT and Value Chain Development, so the total number of households reached may exceed 15,000. It may also not be feasible, within the short three year project period, to cover every part of the CDSP-B project area. As far as possible, CDSP-B will support agricultural development in areas where it is making investments to improve water management.

Surveys
At the beginning of CDSP-B, a survey will be carried out in all chars to identify the productivity zones, defined by flooding depth and soil salinity. These zoning exercises will help providing direction to formulating targeted extension support (training curricula, demonstrations). At the same time, the survey will result in a set of baseline data. A set of salinity monitoring data will be acquired and soil and water salinity levels monitoring at key locations and times of year. The locations for salinity monitoring will be recorded on a map so changes in the special distribution of salinity can be recorded. Adoption of high yielding varieties, crop yields and soil salinity will be subject of regular monitoring.

Seasonal workshops
A number of seasonal workshops will be organized in the project period, following the three cropping seasons: Kharif-I, Kharif-II and Rabi. LGED field officers and field staff, representatives of related departments such as DAE, BADC, BARI, BRRI, Bina, SRDI, ATI, Seed Certification, NGOs, TA team members and farmers' representatives of all chars will participate in these workshops. Posters, folders, booklets and festoons will be published and distributed among the farmers for awareness building and used as materials in the practical training.

Value chain workshops
Value chain development being an important focus of the Bridging Project, a number of value chain workshops will be organized. Representatives of related departments, market actors, and wholesalers, agricultural entrepreneurs from other districts, loan giving agencies, producers, NGOs and farmers' representatives from different chars will participate in these workshops.

Annual workshops
Three annual workshops will be organized during the project period. LGED officers and staffs, representatives of all research organizations, all members of farmer's federation, concerned departments, value chain market actors and PNGOs will attend the workshops, with results recorded in annual reports.

Role of the TA team
The TA Project Agriculturist and Sector Specialists will support these activities, which include support to form new FFs and strengthen old FFs. The TA team will assist LGED in the identification of an ACIT system and service provider, and in planning value chain development.

For the engagement of the NGO(s), ToRs will be drawn up and bidding documents prepared if a competitive tender process for selection of the NGO is feasible and appropriate, since it may be difficult to find NGOs who are both qualified and interested in being contracted for this work, especially in relation to plans for innovation in ACIT and value chains. Although there is provision for one NGO to be contracted, in the light of possible revision of the scope of work and the capacities of NGOs, it may be better to recruit more than one NGO.

4.2.7 Social and livelihood support

Introduction
This will focus on social and economic development of households, especially women and children in the selected chars, of CDSP I,II,III,IV and planned CDSP V areas where there are approximately 84,000 households occupying 51,000 ha of cultivable land. The social and livelihood support component will be implemented at field level by LGED who will contract NGOs with the support of the TA team. In the original design for the project, this sub-component was to have been financed by GoN and implemented by NGOs contracted by the TA team (the same approach as in CDSP IV). However limited funding to pay for the TA team has meant that NGO activities funded via TA funds are now limited to WASH, along with support for Water Management Organisations. The other

activities: homestead livelihoods and legal and human rights will be funded out of the IFAD loan and implemented via LGED in a similar fashion to the agriculture work (see above).

Microfinance services are now widely available in the CDSP I, II, III and IV areas, so it may well be possible for NGO-MFIs that are active in these chars to provide SLS to members of their existing microfinance groups. Alternatively, specialised SLS groups may be formed from households who are interested (but all members of these groups will be female – as in earlier phases of CDSP).

Before group formation (or enlistment of existing groups) and before any project intervention, contracted NGOs will conduct a base line survey, including basic data on population, number of households, occupation, status of assets, housing condition, sanitation facilities, educational information etc.

Homestead based livelihoods

The main IGA activities will be based on fruit, homestead vegetables, back-yard poultry, livestock (cattle, buffalo, goats, sheep), and fish production in small ponds. These will be supported via community resource persons (CRP): livestock para-vets, poultry workers, fish fingerling producers, and tree nursery operators. Such CRPs were established and supported in earlier phases of CDSP. Existing CRPs will be identified along with additional new CRPs who will receive support and training. CRPs would all generate an income from providing services (vaccination and other preventive treatments of poultry and livestock) and sales of inputs such as animal and fish feeds, seeds and pheromone traps leading to sustainable business CRP businesses. CRPs will be linked to the value chains and AICT of sub-component 4.1 to the extent possible. There will also be limited support for non-farm Income Generating Activities (IGA).

Table 4.5: Activities for homestead livelihoods and social support

Homestead livelihoods	**Units**	**Quantity**
Training materials	Nos	500
Basic training (1 day)	Nb	-
CRP initial training (6 day)	LS	05
Paravets training (20 day)	Batch	01
CRP refresher training (1 day)	Batch	16
Paravets refresher training (5 day)	Batch	01
Tree nursery training	Batch	02
Demonstrations		
High value homestead crops (Vegetable)	Nos	100
Homestead fruit demo.	Nos	30
Sorjon Demo (Vegetables with fish culture)	Nos	50
Vermi compost	Nos	100
Quick Compost	Nos	50
FYM	Nos	30
Pheromone demo	Nos	30
Homestead fisheries	Nos.	80
Total		**500**
Field days	Days	70
IGA training & equipment	Batch	30

Staff ToT (5 day)	Batch	01
Workshops and meetings	Batch	25
Equipment set for paravets	Sets	15
Equipment set for poultry workers	Sets	70
Social Support		
Training of new LHRP (6 days)	Batch	3
Refresher for existing LHRP (2 days)	Batch	01
LHR courses (10day)	Batch	2000
Follow-up existing LIC	Tno	2000
UN day observation	Nos	03

Legal and Human Rights

This social support element of the sub-component will involve the establishment of, and support for, additional Law Implementation Committees (LIC) at the community (village/Samaj) level to prevent early marriage, unregistered marriage, violence against women, and abandonment of wives. Twenty new Legal and Human Rights Promoters (LHRP) and twenty existing ones will receive training. The LHRPs already trained will follow-up and advise the newly formed LICs.

Implementation of Social and Livelihood Support.

NGOs will be contracted by LGED to implement activities in homestead livelihoods and for legal and human rights support. To avoid the need to contract an excessive number of NGOs, and to reduce management costs, it is recommended that these be the same NGOs as will be contracted for agricultural support in component 4.1. The TA team will draft a combined ToR for NGOs to implement sub-components 4.1 and 4.2.

The TA team includes five NGO Sector Specialists (NSS). One Sector Specialist will support and supervise the NGO contracted directly by the TA team to implement WASH activities (see section 4.2.4). The others will be responsible for: i) Poultry and Livestock; ii) Homestead Agriculture and value chain support iii) Support for fisheries extension; (iv) Nutrition and Social Support (guided by the TA Gender and Nutrition Advisor).

To avoid complications in the relationship between contracting party, technical support, supervision staff and the NGOs concerned the TA team may have an advisory role in the selection of NGOs to be contracted by LGED. It may be borne in mind that it may make sense to have the same NGOs contracted for crops and homestead based activities.

Funding for Agriculture and Social / Livelihood Support

Funds for LGED to implement the Agriculture sub-component using resources from the IFAD loan will be available from funds allocated to this sub-component (4.1 in the PDR).

The detailed cost tables for this sub-component (4.1) in the IFAD PDR do not make any allocation for PBAS, ACIT and only include a very small amount (USD 21,000) for value chain development. However, excluding NGO's and beneficiaries' contributions to micro-finance investment, a total of USD2.22 million is allocated to this sub-component – nearly all IFAD funds.

Of this USD2.2 million, USD 1.53 million (69%) is allocated to a single line item: *"support for NGO cost recovery activities"*, which a footnote shows to be: *"to help finance NGOs to reach some of the CDSP I, II, III, IV and V areas where NGO activities are not present and provide technical advice, market linkages and financial services using VC approach".*

This is not mentioned in the text of the IFAD PDR and may not be justified as:

- all CDSP areas, with the possible exception of the relatively small CDSP V area, are well covered by NGO activities (especially microfinance) thanks to earlier phases of CDSP;
- other elements of the sub-component will provide support for technical advice and market linkages;
- if any expansion of microfinance services to unserved locations is needed, it would not require anything like the amount of support allowed for in this line item in the cost table.

It is therefore proposed to reallocate IFAD funds from *"support for NGO cost recovery activities"* to: (i) ACIT; (ii) value chain development; (iii homestead livelihoods; and (iv) legal and human rights[2], as well as filling any other gaps in funding provision, such as NGO overhead costs, and allowing for some scaling up of agricultural and homestead livelihood support.

4.2.8 Institutional development

Introduction

The participation of people at grass-roots level is a comer stone of the CDSP approach and the project will place considerable emphasis on the development of various types of Field Level Institutions (FLIs). Implementing agencies, with support from the Technical Assistance team, will instigate the formation of community based groups that will closely be involved in planning and implementation of project interventions and in operation and maintenance after completion. These groups give meaning to the concept of people's participation. The types of groups: Water Management Organisations, Tube well User Groups, Farmers' Forums, Social Forestry Groups and Labour Contracting Societies.

In the formation of the field level institutions, a gender balance of half women and half men is aimed at, with the exception of Farmers Forums, which will have at least 33% women members and Tubewell User Groups, which consist of women only, and groups formed by NGOs for microfinance consist exclusively or predominantly of women. LCSs may be men or women groups only or mixed, but priority will be given to the involvement of women.

Most WMGs function, as they should in terms of having regular AGMs, and in the formation and selection of management committees. However, there is scope to encourage more active participation of women, with the notable exception of the WMGs in CDSP III. Management of group savings can be improved; the accounting for savings funds is poor in some WMGs and this will be addressed.

Overall, the WMOs in CDSP III, followed by CDSP 1 and II are the best performing in terms of planning and implementing maintenance of water infrastructure. CDSP III has done the most repair work, using their own resources and funds from BWDB and other agencies. CDSP IV has so far done very little work mainly because the infrastructure is still too new to need this.

Support for Water Management Organisations (WMO)

The project will support approximately 87 new WMGs, 10 WMAs and 3 WMFs with workshops and training covering:

- orientation on the roles and responsibilities of WMOs;
- the Participatory Water Management Rules and other policies;
- WMG management, how to make annual plans, monitoring, governance and accounting.
- Participation by women in WMO membership and leadership.

[2] In the detailed cost tables in the IFAD PDR, homestead livelihoods were allocated USD 272,000 and legal and human rights USD16,000, well within the funds that can be released as described.

Cross visits to other WMOs will be organised. All WMOs will be encouraged to hold regular monthly meetings and there is provision in the project budget for other needs based activities to improve their activities and institutional performance. The TA team will deploy four Project Area Coordinators to support the BWDB in strengthening WMOs at field level.

Tube well User Groups (TUG)

TA team with support, via a contracted NGO, the Tube well User Groups (TUG) for all planned deep tube wells to be installed in the project area. The members of the TUGs will be 100% women with an average of 15-20 women in every group. In current phase 1,300 DTW will be sunk by DPHE. The TUG will be responsible for collection of contribution money from all members and for operation and maintenance of the tube wells. These groups may also develop into micro finance groups. Two women caretakers will be selected by each group.

Farmers' Forum (FF)

Following the DAE's National Agriculture Extension Policy (NAEP) 2012, and Guidelines for Participatory Farmers Organization (GPFO) the group approach will be adopted in all agriculture extension activities. Following the concept of NAEP, CDSP-B will adopt a group approach in agriculture extension though formation of Farmers' Forums (FF) in the project area. The size of each Farmers' Forum will be around 25-30 members, with the aim of having 33% female members. A Farmer Forum is a group with farming as their main occupation, interested in new technologies and willing to participate in crop production programmes.

The NGO engaged for this activity will first undertake an awareness campaign on the proposed pay based advisory service across the area covered by the project. After the campaign, strengthening of dormant FFs and establishing new FFs will commence with a target of having 250 well-functioning FFs by the end of Year 2. The 250 FFs will include the existing, revived, and newly established FFs, each having around 30 members. During formation of FFs, each group will receive training in financial literacy and organisational administrative management, as well as on technical, agri-business and value chain subjects.

Social Forestry Group (SFG)

To ensure peoples participation in forestation activities, a social forestry approach will be applied through which the settlers will be involved in planning, implementation, monitoring, maintenance and management of the plantation. For this purpose, Social Forestry Groups will be formed for every 2 km of road and canal side plantation Each group will have 20-30 members, with about 60% men and at least 40 % women.

A total of 140 new SFGs will be formed for the new plantations, with about 3,500 members, 40% of whom are likely to be women. These SFG will each get initial and follow-up training and a workshop will be held to explain the benefit sharing agreement between the SFG and FD. Other SFGs already formed will also benefit from payments for maintenance work on existing plantations. Plantation watchers (about 250-300) will also be trained and employed for 3,690 person-months, and four workshops will be held on social forestry and climate change for members of local government institutions, NGOs and other stakeholders. Eight cross visits will be arranged to share experiences and help disseminate good practices.

Labour Contracting Societies (LCS)

The main objective of LCSs is involvement of local people in construction work. They may be engaged instead of contractors for earthwork during the construction and maintenance period. The set-up of an LCS is to form a group of landless labourers from the local area and, if it is socially accepted, women LCSs can also be formed. The LCS is enlisted as D-class contractor with the executive agency, having a size of around 70 members. LCS will be engaged in particular by BWDB, LGED and DPHE for their earthwork activities since the quality of work done through LCSs is in general much better

than the quality of work of regular contractors. In the guidelines it is specified that at least 25% of the earthwork will have to be executed by the involvement of LCS. An additional advantage of the LCS concept, if implemented via WMOs, is creation of ownership and facilitation of future O&M by the WMO.

Implementing agencies
A part of the training activities in CDSP–B (AF) will target staff members of the five implementing agencies. In the first project year, this will consist of short training events with the aim of familiarising officials with coastal development issues, the concept of integrated coastal zone management (ICZM) and in particular the institutional set-up of the project and the interventions that will be implemented under the project. Subsequently, a decision will be taken on possible further training events aimed at staff of implementing agencies, especially to support long-term institutional changes. “On the job” training of staff of implementing agencies will occur throughout the project period through the normal cooperation between this staff and the Technical Assistance team.

Local government institutions
Orientation workshops on coastal issues, on ICZM and on the contents and methods of CDSP-B will be held especially in the first project year and subsequently. Through the planning and implementation of project activities, including the dialogue with LGI’s, the project will further contribute to the capacity building of the LGIs.

Gender Action
Gender inequality poses a major impediment to achieving sustainable development. Important steps will be taken to mainstream gender in the CDSP project’s structure, policies, programmes and activities to increase gender equality and women’s empowerment. The inclusion of a Gender and Nutrition Advisor with two Gender Field Coordinators will support the provision of gender training sessions for staff (at both the HQ and field levels) and attention to women’s participation (membership and committee or top level positions) in the different WMOs, FOs, SFOs and other groups.

The establishment of gender-sensitive and women-friendly policies has already been initiated, especially in the case of 50% land ownership, with women’s names written first on the Khatian (title deeds), and 100% women’s membership of DTW users groups, 100% in micro-credit groups producing income earning from IGAs such as tailoring and homestead production. It is planned to ensure 33-50% participation in different FLIs at group and committee level and to encourage participation in Local Government Institutions (LGIs), building on progress already significantly achieved by women members.

Gender mainstreaming: The ultimate goal is to achieve gender equality. Gender mainstreaming in the project will be ensured through active participation of men and women in all project activities (from planning to implementation, operation and maintenance) and at all levels in field level, government agency level, NGO level and in the TA Team.

Gender integration
Strategies for this will be applied in program assessment, design, implementation, and evaluation to take gender norms into account and to compensate for gender-based inequalities. Gender specific questions and considerations will be systematically integrated into the programme planning, implementation, monitoring and evaluation, with fully gender disaggregated data collection.

Gender-based violence
In this project phase further efforts will be made to increase positive social awareness of this problem through FLI meetings, and relevant training will be conducted involving men and women.

Empowerment
Empowerment of women has been addressed in project documents, so it will be ensured through implementation at all stages of the project development. The Deputy Team Leader (Development) will continue to act as "Gender Focal Point" throughout the project.

Transformative approaches
These will promote gender equality by engaging both women and men in changing harmful attitudes and behaviour and by transforming the institutions and practices that create or reinforce inequalities. The approach will be focussed through implementation of different programmes, interventions and awareness campaigns.

These will be achieved in the following ways:

1. **Increased participation and employment:**
   - Technical support will be provided to the Departments (Implementing Agencies) and NGOs forming different groups to ensure 40-50% women's participation at all levels (i.e. group as well as committee level).
   - Support and assistance will be provided to the Ministry of Land to ensure that all qualifying landless, women headed households get possession of appropriate land as well as the related land titles.
   - Support will be provided to the IAs in drawing up guidelines and procedures for use of women led LCSs and in monitoring the progress of work done by these LCSs.
   - Advocacy and counselling will be continued for ensuring gender balance in recruitment and zero tolerance for gender discrimination throughout.
   - Discussions will be initiated with the concerned agencies and NGOs for providing a women friendly working environment in the office, and at field level.
   - Women friendly cyclone shelter, markets and other sites will be developed.
   - Equal participation of women and men will be ensured in PBAS activities like, training, demonstrations, adaptive research, para-vet training, field days, motivational tours etc.
   - Equal participation of men and women will be ensured in on-farm and non-farm livelihood activities.
   - Women friendly Agricultural (Livestock and Fisheries) Communication and Information Technology (ACIT) will be ensured to assist in transforming women's productive role from traditional to innovative practices.

2. **Raising awareness, gender sensitivity and other issues through training, workshops, orientation and campaigns:**

   - Continuous strengthening of capacity and monitoring of results will take place ensure that the CDSP-B team engages women and men in ways that are mutually supportive and gender transformative. In particular, attention will be given to gender-equitable market facilitation, the introduction of labour saving technologies for reducing women's workloads, applying a whole household approach to livelihoods and enterprise development to generate the benefits of shared responsibilities within the household.
   - All documents related to the GAP will be reviewed and technical support provided to the IAs and NGOs in developing and implementing the details. A gender mainstreaming strategy through the GAP will support and monitor implementation of the plan, with a policy of zero-tolerance of gender discrimination.
   - The Gender Strategy with Gender Action Plan will be updated on a yearly basis to incorporate current needs and to take corrective measure if needed.
   - All staff of the IAs involved in the project will be provided with training and periodic orientations on gender, nutrition and the rights-based approach, gender awareness, gender mainstreaming and leadership.

- Nutrition activities will be undertaken for adolescent, pregnant women, breast feeding mothers, in improved cooking, hygiene, lactation, child care, and balanced diet.
- Effort will be given to involve youth in the project area in various FLIs as champions to campaign for reduced gender inequality, elimination of Gender Based Violence (GBV), improved women's condition and position within the households, organizations and wider community.
- Cross visits for women members of relevant groups will be conducted

3. **Monitoring and evaluation:**
   - The outputs of participation training and workshops on gender equality and women's empowerment will be measured.
   - Gender-based constraints and the impact of gender mainstreaming will be measured using gender disaggregated data.
   - Quarterly gender meetings will be organized with all concerned IAs, NGOs and the TA team for inter-agency interaction and common understanding of gender impact and to identify solutions for any problems identified.
   - In relation to this, the IAs' compliance with gender equity conditions and specifications will be monitored. including targeting, provisions for stakeholder participation, mitigation activities and compensation payments for project affected people, resettlement etc.
   - Gender-sensitive value-chain analysis will be conducted, focusing on gender-based constraints
   - Gender appraisal will be included within participatory monitoring and evaluation
   - Progress on reducing gender-based constraints will be tracked. In particular this will include: changes in decision-making and links to markets, ownership of assets and access to resources and services, control over and use of income, leadership and participation in FLIs and other institutions, and time use allocations.

4.2.9 Monitoring and Evaluation and Knowledge Management

Introduction

A comprehensive M&E system will be implemented with processes and systems designed to capture CDSP-B (AF) information needs, aiming to:

- generate information for impact monitoring at the project objective and goal level to measure the impact of the project against the log frame objectives;
- generate information on project activities and outputs for project planning and management;
- as far as possible include the IFAD RIMS (Results and Impact Management System) updated core indicators which IFAD requires all projects to use in reporting.
- establish the International Aid Transparency Initiative (IATI) data standard reporting system as part of reporting.

The proposed system consists of several elements:

- activity monitoring
- process monitoring
- outcome monitoring
- impact monitoring
- GPS data on erosion of the riverbank of the Meghna in the CDSP IV-B area
- lessons learned and evidence-based documentation
- RIMS indicators (on outreach, outputs and outcomes)
- IATI standard reporting system
- other surveys and studies

Some features of the CDSP-B (AF) phase need to be incorporated into the M&E system. In particular, activities are scattered, with a target of 57,000 households benefitting out of a population in the entire area of around 300,000 households. During CDSP IV all 29,000 households living in the project area were directly benefited by project interventions, and the impact of these interventions on the average household could be measured from a random sample of these households. For this reason, surveys that sample a cross section of the entire population in the area covered by the project may find that around 80% of the sample have not been reached in terms of benefiting directly. For this reason, the M&E system will focus on areas of impact. To do this, the locations where specific interventions take place will be identified along with the households who may be benefited by these interventions.

The M&E system will be based around the project logframe as included in the IFAD PDR (see Annex). This logframe may require some modification and refinement to ensure that it matches changes to the scope of the project (especially regarding sub-components 4a and 4b) and that the indicators used are appropriate and feasible. In addition, some logframe indicators were changed during the course of CDSP IV – for instance anthropometric indicators of child malnutrition have been dropped as baseline data collected in 2009 was clearly inaccurate and any future data collection may be equally inaccurate, and this will be taken into account.

Activity Monitoring

Activity monitoring will be done to track the use of project inputs and resources, the progress of activities and the delivery of outputs. This will examine how activities will be delivered in compliance of the activity plan– the efficiency in time and resources. Support will be provided to implementing agencies and partner NGOs to accomplish planned actives on time.

Process Monitoring

Process monitoring will be carried out via Participatory Monitoring and Evaluation (PME) and Knowledge, Attitude Practice (KAP) surveys. PME will gather reported feedback from members of different project FLIs/Groups concerning delivery of project outputs and changes in their lives and livelihoods. KAP will gather information on the knowledge gained from training and the practical application of that knowledge. It is expected that analysed results will provide evidence about how knowledge levels improved over time and the adoption rates increased. PME and KAP data will be gathered by two M&E officers of the project ME and KM unit during the implementation of different interventions.

Outcome Monitoring

Outcome monitoring via Annual Outcome Surveys (AOS) will conducted annually. AOS is one of IFAD's M&E tools which have been used during earlier phases of CDSP. In CDSP IV AOSs collected data from three panel samples each of 200 households in the following domains: (i) CDSP I/II, (ii) CDSP III; and (iii) CDSP IV. It is planned that this continue, with the same sample households, to continue to generate a time series of changes in lives and livelihoods for char households, and provide evidence of the sustainability of CDSP interventions.

Impact monitoring

The impact evaluation will gather information on key purpose and goal level log frame indicators, regarding the outcomes, results and impact of CDSP B/AF. This will be done via sample surveys at project start (baseline) and completion. The table below lists the main interventions and indicators that would measure the progress at outcome and impact levels. Separate surveys may cover each of these intervention types with different outcome indicators, although if the same households are involved in more than one type of intervention, then surveys can cover more than one type of intervention. Survey respondents will be selected from households involved in the intervention, with the possibility of a control group of non-participants where possible. If possible the surveys will be done before interventions become effective to gather baseline data and again (with the same sample households) near project end.

In addition, impact and outcome surveys will gather data on:

- Participation in FLIs
- Household composition and occupations
- Occupation and gender of household heads
- Area and type of land and land tenure arrangements
- Crop production, consumption and sales
- Area of homestead vegetables grown
- Proportion of homestead vegetables sold and value of sales
- Numbers of fruit, timber and palm trees, proportion of products sold and value of sales
- Poultry, livestock and fish production, consumption and sales.

Table 4.6: Outcome and impact monitoring survey data

1) Intervention type	2) Indicators
3) Water management (sub-component 1a)	4) Change in waterlogging, flooding, salinity and irrigation
	5) Areas of different crops (including sorjon)
	6) Yield of different types of paddy
	7) Crop sales (paddy and other crops)
8) Agricultural extension (FF, PBAS, ACIT, value chain. (sub-component 4.1)	9) Contact with extension agents
	10) Use of ACIT
	11) Participation in training
	12) Value chain activities
	13) Adoption of new technologies and resulting outcome
	14) Change in marketing
15) Homestead production (sub-component 4.2)	16) Contact with extension agents
	17) Contact with CRPs
	18) Participation in training
	19) Adoption of new technologies and resulting outcome

Note that if the scope of sub-components IFAD 4.1 and IFAD 4.2 are reduced, then there will be a significant reduction in data gathering requirements. As already mentioned, impact evaluation surveys will need to focus on areas of impact where households are directly benefiting from CDSP B/AF interventions.

GPS Data to record river erosion of the Meghna estuary

CDSP IV has been tracking riverbank erosion of the Meghna using a Geographical Positioning System (GPS) since 2014. Data is recorded bi-annually during dry season and quarterly during rainy season. Recording of river erosion data using GPS will be continued during CDSP-B (AF).

IFAD Core Indicator Reporting

IFAD has updated previous RIMS anchor indicators and published a revised list of 39 core indicators replacing the previous 100 RIMS anchor indicators. The table below includes a list of proposed RIMS indicators for the project and the corresponding project data that would provide numbers for these indicators. Level 1 (output level) indicators can be completed using data on project implementation from project progress reports – although some special estimates may need to be made of the area benefited from water management works – both the gross area and the net area cultivable (satellite images may be useful here).

International Aid Transparency Initiative (IATI) Standard Reporting System

IATI is based on a multi-stakeholder and common standard approach (i.e. in a standardised format) and provides single point of access. An IATI standard will comprise four related components:

- An agreement of what information donors will publish.
- Common definitions of aid information designed to meet diverse needs of users of aid information from developing country governments to NGOs and academics.
- A common data format designed to facilitate easy and rapid electronic interchange of information.
- A code of conduct which describes how information should be published and how users may expect to access that information.

Necessary steps will be taken to establish IATI standard monitoring. The project will follow and comply with "Publication Guidelines for Partners, Contractors and Suppliers of the Netherlands Ministry of Foreign Affairs". The project will need technical support and advice from the Embassy of the Kingdom of Netherlands in establishing the IATI standard reporting system.

Table 4.7: Selected Indicators for Reporting CDSP B(AF) Progress

Reporting Indicator on Project Progress	Compliance with IFAD CIs	Definition/how	Concerned IAs
1. Number of persons receiving services promoted or supported by the project	Output CI 1	Disaggregated cumulative figure based on implementation of project interventions by IAs and NGOs . Progress reports by IAs and NGOs.	All project IAs
2. Number land titles (khatians) and land area(ha) received by households	Output C! 3.1.4	Number of title with land area received and developed by HHs. Surveys/progress report	MoL
3. Roads constructed, rehabilitated or upgraded	Output CI 2.1.5	Length(km) road constructed or rehabilitated or upgraded. Progress report	LGED
4. Number of DTWs installed and operational	Output	Number of DTW installed for every 15 HHs	DPHE
5. Area (ha) of coastal plantation raised in newly accreted land	Output	Area (ha) of coastal plantation raised in newly accreted land by SFGs	FD
6. HHs reporting a significant reduction in the time spent for collecting water or fuel	Outcome CI 3.2.3	Households reporting reduction in the time spent for collecting water or fuel	MEKM/Gender unit
7. Amount (Tk.) of group savings generated by project beneficiaries	Output	Amount of group saving generated by NGO group members. Reporting by partner NGOs	Partner NGOs
8. Micro-credit utilized by HHs for IGAs	Outcome CI 1.2.5	Households reporting use of micro-credit financial services	Partner NGOs
9. Households reporting increase in production	Outcome CI 1.2.4	Households reporting increase in production. Reporting though survey/case studies	All IAs and MEKM unit
10. Actual Total Program Overhead from GoN Funding versus Budget amount (%)	Output	Actual Total Program Overhead from GoN Funding versus Budget amount (%). Consolidated figure from all IAs and TA Financial Management system	IAs and TA Finance unit
11. Actual Total Program Overhead from project Funding versus Budget amount (%)		Actual Total Program Overhead from project Funding versus Budget amount (%). Consolidated figure from all IAs and TA Financial Management system.	IAs and TA Finance unit

Resettlement Action Plan

CDSP-B (AF) will have a Resettlement Action Plan that will be implemented by the project. The implementation process of resettlement will be monitored by the M&E unit during implementation.

Other surveys and studies

In addition, focused data gathering (mini surveys, focus group discussions, rapid appraisal, PRA, KAP and PME) will gather data on:

- Water and sanitation where the project has made these investments
- Use of cyclone shelters and disaster management
- Road traffic (traffic counts and transport users) and use of public markets
- Social forestry
- Operation and sustainability of FLIs – following on from the rating system of CDSP IV
- Law Implementation Committees and awareness of legal and human rights (if this activity is supported in component 4b)

Table 4.7: Proposed RIMS indicators

Area of focus	RIMS indicator	Data to be reported for CDSP-B (AF) & source
Outreach	1. Number of persons receiving services promoted or supported by the project	Number of HH benefited[1] x persons* per HH involved in farming[2]
	1a. Corresponding number of households reached	Number of HH directly benefited[1]
	1b. Estimated corresponding total number of household members	Number of HH benefited[1] x average HH size[3]
SO1. Access to natural Resources	1.1.1 Number of persons whose ownership or user rights over natural resources have been registered	Number of HH granted secure land titles[1] x two persons
	1.2.1 Percentage of households reporting improved access to land,	*Number of HH granted secure land titles[1]*
SO1. Access to agricultural technologies and production services	1.1.2 Number of hectares of farmland under water-related infrastructure constructed/rehabilitated	Area of cultivatable land covered by project drainage and flood control works in last 12 months[1]
	1.2.3 Percentage of households reporting reduced water shortage vis-a-vis production needs	*Percent of HH within area of improved water management who report reduced waterlogging, flooding or salinity[2]*
	1.1.3 Number of rural producers accessing production inputs and/or technological packages	Number of HH who are members of Farmers' Forums or IGA groups of PNGO[1,2]
	1.2.2 Percentage of households reporting adoption of new/improved inputs, technologies or practices	*Percent of FF / PNGO member HH reporting adoption of improved technologies etc. [2]*
	1.1.4 Number of persons trained in production practices and/or technologies	Number persons* trained in component 4 in last 12 months[1]
	1.2.4 Percentage of persons/households reporting an increase in production	*Percentage of directly benefited HH reporting increased value of production[2]*
SO2 Rural producers' organizations	2.1.3 Number of rural producers' organizations supported	Total number of WMG, FF and NGO IGA groups being supported in last 12 months[1]
	2.1.4 Number of supported rural producers that are members of a rural producers' organization	Number of members* of WMG, FF and NGO IGA groups in last 12 months[1]
SO2 Rural Infrastructure	2.1.5 Kilometres of roads constructed, rehabilitated or upgraded	Km of roads constructed in last 12 months[1]
	2.1.6 Number of market, processing or storage facilities constructed or rehabilitated	Numbers of markets constructed in last 12 months[1]
	2.2.6 Percentage of households reporting improved physical access to markets, processing and storage facilities	*Numbers of HH reporting reduced travel time to markets[2]*
SO3 Environmental Sustainability and Climate change	3.1.1 Number of groups supported to sustainably manage natural resources and climate-related risks	Number of WMG supported in last 12 months[1]
	3.1.4 Number of hectares of land brought under climate-resilient management	Gross area of land covered by project drainage and flood control works in last 12 months[1]
	3.2.3 Percentage of households reporting a significant reduction in the time spent for collecting water or fuel	*Percentage of new TUG households' reduction of 50% or more in distance to source of safe water[2]*

Sources of data
[1] = project progress reports, [2] = impact studies, [3] = CDSP IV impact study
Level 2 indicators in italics need only be reported after mid-term

'* data on individuals disaggregated by gender and youth (up to 35 years old).
Data on households disaggregated by gender of household head.

If resources permit (maybe as part of hydro-morphological studies), satellite data may be used to assess the area of crops and cropping intensity – this has been used for the BWDB/DAE/GoN Blue Gold project in Southwestern Bangladesh.

Gender specificity in surveys

All surveys will be as gender specific as possible. It is an important aim of the project to strive for a gender balance in the distribution of benefits generated by project interventions. This aim will be reflected in the structure and methodology of the surveys. All relevant data will be disaggregated by gender.

Supervision and Support Missions by IFAD and EKN

During project implementation, there will be annual supervision and support missions to be undertaken jointly by IFAD and EKN. There may also be follow-up missions. The project will provide the data and information needed for these missions and implement mission recommendations and agreed actions.

Project Completion Report (PCR)

The PCR for CDSP-B (AF) will be produced in compliance with IFAD guidelines for PCRs and technical support of an international short-term consultant will be used for this purpose. In line with IFAD guidelines, direct feedback from participants and stakeholders on outputs, outcomes, lessons learnt and good practices, will be gathered in two stakeholder workshops. The first will be at project level with participants from senior management of project implementing agencies and the second will be at field level with participants from staff members and representation from different field level institutes (FLIs).

Knowledge management

During CDSP IV a significant effort was put into knowledge management (KM). With help from IFAD and support from TA short-term international consultants, a KM strategy was drawn up and implemented. This included establishing a project website (www.cdsp.org.bd) with useful information on the project and as a means of sharing documents on project results. A number of useful experiences were shared through “good practice” leaflets, and videos were also produced.

CDSP-B (AF) will prepare a Knowledge Management and Communication (KMC) strategy in line with IFAD policy on KM and to ensure that knowledge, technologies and innovations generated within the project are identified systematically, analysed, documented and shared, and that the KMC is used to:

- improve project performance and delivery of project objectives;
- be flexible and responsive to changing circumstances;
- support the dissemination of innovation to the benefit of stakeholders throughout the project area and beyond;
- provide information to support decisions on up-scaling to be made at mid-term review;
- identify important issues to convey to policy makers.

Particular attention will be given to documenting good practices, successful technologies and innovation models for sustainable settlement and competitive agriculture. Information will be shared with and discussed within the multi-stakeholder platforms. Lessons and good practices will be shared more widely through regular project progress reports, special thematic studies, and the project website. Data, information and knowledge will be disseminated beyond the project level via IFAD and EKN newsletters, workshops, seminars and communication channels.

4.3 Preparation of future investments in char development in the Southeastern delta.

4.3.1 Introduction

All areas included in CDSP so far are part of the Meghna estuary; Each year the Ganges (Padma), Jamuna (lower reach of the Brahmaputra) and Meghna rivers of Bangladesh transport more than one billion tonnes of sediment from their catchments in the Indian subcontinent and Himalayas to the delta region. Due to this vast amount of sediments carried towards a bay with a high tidal energy, the estuary is very dynamic in nature and characterized by erosion and accretion on an extensive scale. As there is a net growth of land area, many much needed opportunities for development are present in an area which is not only the second largest delta of the world, but also region with a very high population pressure.

However, settlement on land (chars) in an area like this is risky, as the course of channels and creeks in the delta are very dynamic. An area which was previously growing in land area because of lying next to an area where flow slows down, can suddenly change to an area where high velocity flow along the bank will pick up sediments causing the bank to become unstable and retreating inland. This change of deposition and erosion patterns has occurred, for example, along the Northeastern bank of the Lower Meghna in chars which have been developed under CDSP. In this area high investments have been made in developing infrastructure and facilities for settlers on relative new chars, which have been lost again due to a change in the course of river and tidal channels causing bank line erosion.

To prevent losing more investments already made and having more settlers displaced in the future, it is crucial to understand how the current dynamics in the delta work and how it might change in the near future. Thus, understanding, assessing and predicting the hydro-morphology and a continuing hydro-morphological monitoring system is a very important aspect of water resources planning, development and management. It will help determine the quantification and distribution of water though different channels and how this influences the morphology in and around the estuary.

In the scope of climate change it will also be important to understand better how sea-level rise and a change in weather patterns is most likely to affect the region and its hydromorphic processes. In conclusion, for sound planning to determine which areas should be developed for settlement, coastal protection etc. understanding the regional hydro-morphology is a prerequisite. ***This should not only include a single study, but also a reoccurring monitoring exercise to be done at regular intervals.***

4.3.2 Hydromorphological Study

As already explained, the Meghna estuary is an area where the morphology changes continuously. For any kind of regional planning it is essential to understand the hydro-morphology of the area and how this is likely to affect existing land. In this area new chars are emerging at locations where suspended sediment settles and at other locations where high velocity currents are eroding the bank. CDSP has previously selected sites for development relying on the assumption of prevailing patterns of erosion and accretion during earlier studies, and these patterns have now changed in many dimensions. To ensure that future investments made by the Government of Bangladesh and international partners and by the people living and working in this area, it is essential to have reliable predictions of how the morphology of the Meghna estuary region is behaving now and is likely to change in the coming decades.

Objectives of the study

The objectives of the hydro-morphological study are threefold:

- To understand the hydraulic and morphodynamic processes that are going on in the estuary, linked to the findings of previous studies and of new survey results.
- To define areas of high risk, medium risk and low risk in the existing CDSP areas (a) if no further bank erosion control actions are taken, (b) with BWDB bank protection in place and (c) with cross dam to Urir Char, Jajaher Char or Sandwip Island.
- To define areas of high risk, medium risk and low risk in the whole estuary as part of a pre-feasibility study for the selection of further chars to be developed under CDSP V.

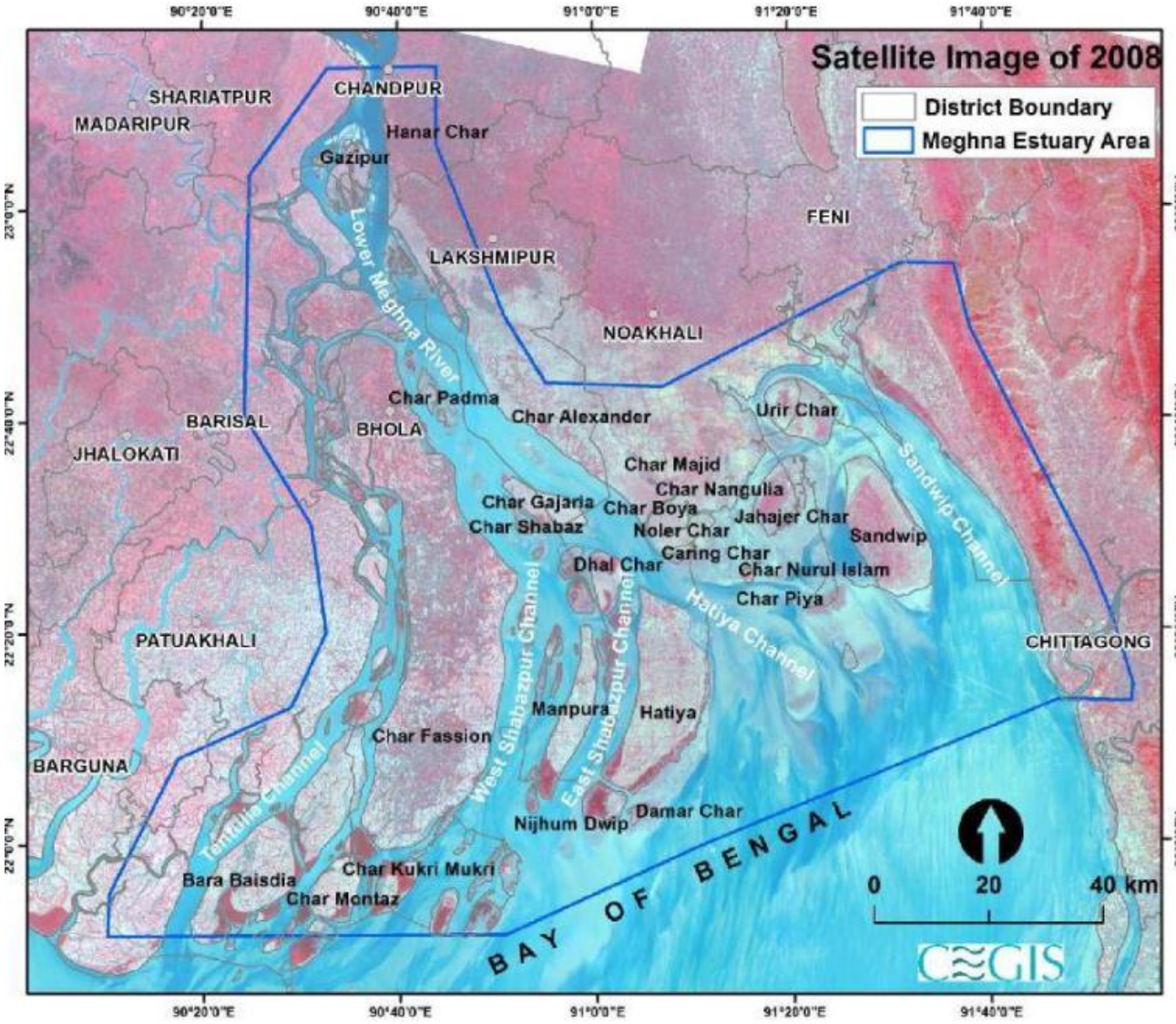


Figure 3: Proposed study area (in line with previous studies)

The proposed study continues surveys previously done under the Estuary Development Programme (EDP, 2011) and Meghna Estuary Study (MES II, 2001). In both studies predictions have been made on where new land is to be accreted within a short period (3 years) and how this process can be enhanced by constructing cross-dams on 19 selected location of which 4 have already been implemented. The planning of the Urir Char-Noakhali cross dam is already under way and expected to

be constructed during 2019-2022[3]. This planned project between Urir Char and Noakhali mainland will end the anti-clockwise current around Urir Char accelerating accretion of the area as well as protecting the Noakhali mainland against bank erosion.

The study planned under CDSP-B will identify stable areas for char development and areas vulnerable to erosion, with a focus on long-term processes. The study area is defined in the figure below and corresponds with the area that was taken in previous studies like MES II, 2001 and EDP, 2011. This area extends from Chandpur at the northern boundary, Chittagong Coast at the left bank of Sandwip Channel in the east and the right bank of the Tetulia River at the west. The channel west of Bhola Island and Char Fasson has to be included in the study only as far as sediment balance and river discharge distribution are concerned. No new surveys will be done in this area and it will not be included in the numerical model domain. However, since the Coastal Embankment Improvement Project Phase-I (CEIP-I) has already taken up a study entitled “Long Term Monitoring, Research and Analysis of Bangladesh Coastal Zone (Sustainable Polders Adapted to Coastal Dynamics)” and will conduct surveys in and around the Tetulia River and around, the same data could possibly be used for the CDSP-B study. This possibility will be explored.

In order to reach the stated objectives of understanding the local hydro morphology and learning which areas are suitable for future development a modelling exercise will be done with hydrological time-series and new survey data collected during this study within and around the estuary.

Survey and data collection

In order to get good quality data for the modelling exercise missing data will be collected in a series of surveys. The figure below presents the locations of specific interest to obtain data of discharge including sediment sampling (green lines) and water level (yellow) through a survey for the purpose of calibration of the hydraulic and morphodynamical model. In case recent data is available for the identified locations or nearby, it may not be required to include these in the survey.

In areas where changes are relatively slow, like in the open sea south of Sandwip Island, *recent* can be defined as *2015 or later.* In highly dynamic areas *recent* means *2018 or later,* while the channels next to Char Nangulia, around Jahajer Char and Urir Char and west of Sandwip Island should be surveyed in any case.

The bathymetrical surveys will be done once, while discharge and water level measurements will be done twice: in dry season and in monsoon. Each discharge measurement should cover the full tidal cycle (approximately. 13 hours). The tide gauges should run for at least 28 days in both seasons and should be operational at the time of the discharge measurements. If permanent water level stations are present in the vicinity of the locations proposed in the figure, these stations can be used and the location in the figure can be skipped.

The yellow markers indicate the desired locations for which to retrieve collected data on water level, sediment content. When installing temporary tide gauges there it will be essential to level them properly, because knowledge of the differences in Mean Sea Level (MSL) between stations is very important. The gauges should preferably record automatically, as manual reading of gauges may easily include errors. The type of current velocity recorders for the discharge measurements should be Acoustic Doppler Current Profiler (ADCP).

The Bathymetric surveys required for locations for which no recent data is available should be done with suitable echosounder, DGPS or RTK positioning system and suitable processing software. Alongside data collection to run the model, historical maps and satellite images will be collected and

[3] Chief Engineer BWDB Comilla. personal contact 03-09-2019.

analysed to understand the long-term changes and trends in the estuary. For completing the data set, samples of soil on the bank line at selected locations will be taken, especially on eroding old lands.

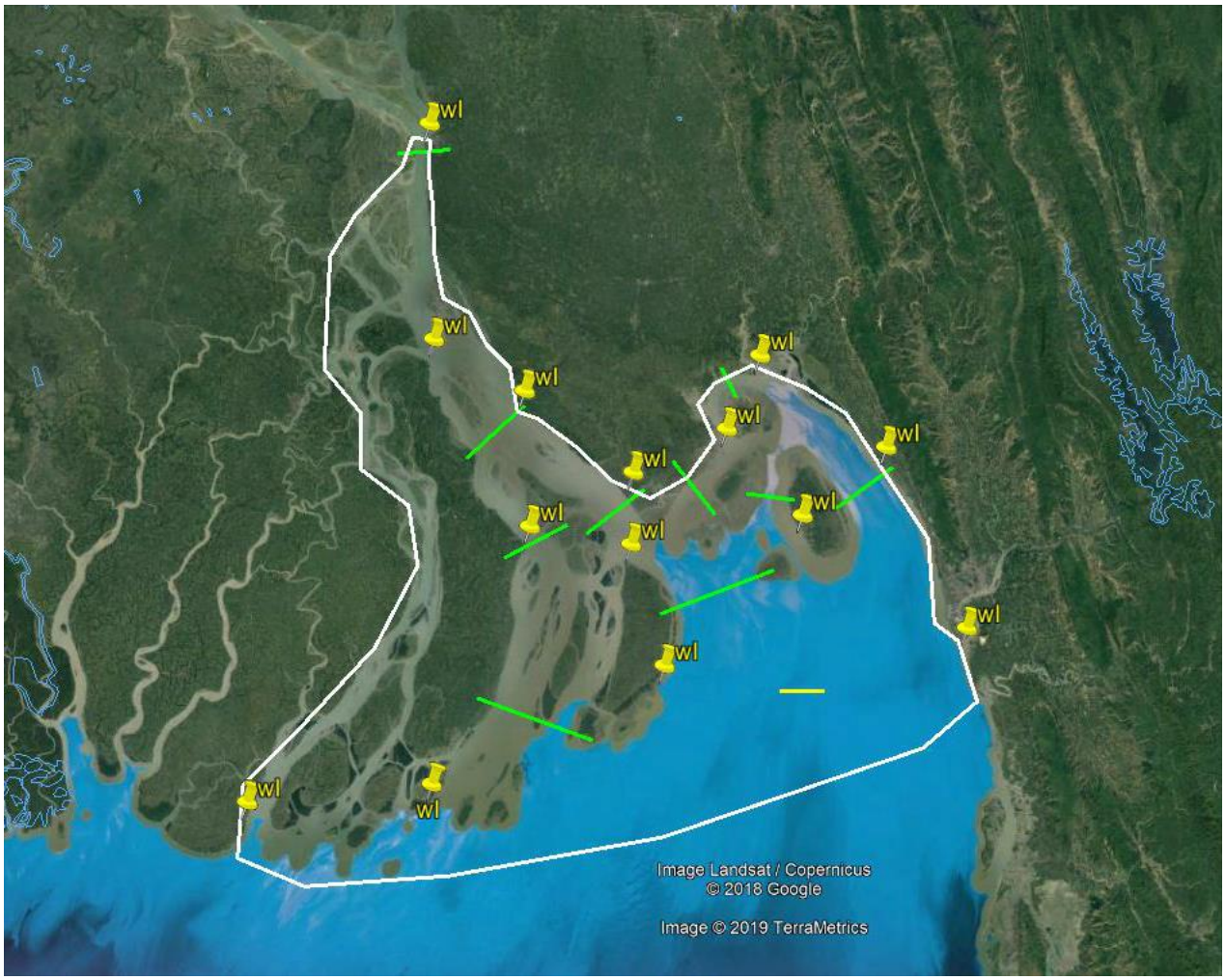


Figure 4: Definition of survey requirements

White line indicates bathymetrical survey area, green lines indicate discharge measurement sections and yellow markers indicate water level gauges.

Specifications of the hydraulic and morphodynamical model

The numerical model to be applied for the hydro and morphodynamical study should have the following specifications:

- Flexible grid with coarse grid in the open sea (grid size 2-5km) and fine grid in the dynamic char areas (grid size 100-300m).
- Model should update bathymetry online during the calculation to cope with the impact of gradually changing bathymetry on the currents.
- Model should produce proven stable results for calculation periods of at least 20 years.
- Depth averaged flow (2D model) is satisfactory.
- There is probably no need to include sea and swell waves in the model, but option to interfere online with wave model like SWAN should be available.
- Sediment transport based on characteristics of sand and mud, including sand-mud interaction.
- Model should have the possibility that land is being eroded in the model (no fixed model boundaries at present bank lines and no fixed position of chars).

Prior to running the model historical riverbed developments should be reproduced over a period of 20 years. Deviations between model outcome and survey data should be identified and analysed. Sensitivity analyses should be done to minimize the discrepancies between model and reality. These analyses should also be done for different climate change scenarios. These scenarios may include increase of river discharge, sea level rise and/or increased wave climate or cyclone frequency. Scenarios for proposed and planned cross dams, existing and proposed bank protection measures expected (DPP under process of approval) to be implemented shortly and mangrove planting at specified locations.

The DPP for Construction of Cross-Dam between Noakhali and Urir Char is expected to be implemented during 2019-2022 and is under process of approval, so this will have to be considered in the Model run.

Dredging of a 65 km stretch of Ramnabad channel for Payra Port is expected to be implemented by Payra Port Authority (PPA) shortly which will produce a huge volume of dredged materials which can be used to develop new chars at and around the Tetulia river outfall. SIBDP (Support to Implementation of Bangladesh Delta Plan) Project is considering and giving importance to this possibility. If any developments along these lines take place during the study, they should also be taken into consideration in the model run.

Once calibrated the model will be run for a period (projection) of 5, 10, 15 and 20 years ahead. The outputs of this study will be predictions on where new chars are likely to emerge and where existing chars are at risk of erosion. These outputs will then be used for the next step in which potential new chars for development will be assessed.

It should be noted that the draft IFAD Project Design Report (PDR) dated 07/04/19, Annex 3: Detailed Cost Tables, on page 54 provides as follows:

Study of Morphological Dynamics	$ 871,000
Strategic Planning for Char Development and Settlement	$ 601,000

However, the Technical Assistance budget, from which this is to be financed only provides € 207, 865 for the Hydromorphological Study and € 52,632 for Strategic Planning. Therefore the most urgent and essential items in each will be prioritised in discussion with the PMC It is a concern that the limited funds available may, for example, reduce the bathymetry which can be undertaken to determine bed levels and current velocities and therefore reduce the reliability of model predictions.

4.3.3 Strategic Planning for Char Development and Settlement

Identification of new chars with potential for development

Hydro-Morphological Study outputs will be applied to ascertain the hydrodynamic and morphological processes of the Meghna Estuary at present and anticipated future periods to:

- assess land accretion and erosion processes;
- identify stable chars ready for potential engineering interventions
- identify emerging chars that would be considered for development at or after certain period(s)
- identify erosion prone locations of old/stable Chars/Polders where protection measures are to be taken up.

For sites where new cross dams are planned to be constructed in the near future (e.g. Urir Char-Noakhali) the expected area to accrete as consequence of this measure should also be taken up in the list of potential chars. The study will also make an impact assessment of proposed interventions elsewhere in the estuary.

Study of Individual Chars

Char areas which are found to be suitable for development will be identified for further study or review of a previous feasibility study, if any. During CDSP IV feasibility studies have been done on several chars, so these areas may be included for a review instead of a completely new study[4]. Future studies may include but not be limited to the following:

- Establishment of baseline condition
- An assessment of the prevailing and predicted hydro morphology in and around the char.
- Selection of potential locations of polder infrastructure
- Design parameters for hydraulic structures and embankment alignments taking into account predicted changes in precipitation and mean sea level related to climate change.
- Assessment of environmental and social conditions in relation to settlement and development

A dedicated model can also be run for existing old/stable Chars/Polders are known to be at risk of bank erosion. This may include scenarios in which protection measures are to be taken up.

Initial infrastructure plans and designs n these studies will be reviewed in relation to adapting to predicted effects of climate change (see section 4.2.1 above).

Relation with national planning

During this process, outcomes and recommendations, will be checked for conformity, agreement/disagreement with historical National Planning and Policy documents of the Water Sector and related sectors. This may include but not be limited to the following water policies:

- IECO Master Plan 1964
- National Water Plan (Phase I & II)
- Bangladesh Water and Flood Management Strategy 1995
- National Water Management Plan 2004
- National Water Policy 1999
- Guidelines for Participatory Water Management 2001
- Coastal Zone Policy 2005
- Coastal Zone Strategy 2006
- National Water Act 2013
- BWDB Act 2000
- Participatory Water Management Rule 2014
- the Bangladesh Delta Plan 2100
- National Adaptation Plan of Action
- Bangladesh Climate Strategy and Action Plan

Plan and policy documents of other related sectors may include but not limited to:

- Environment Policy (1992)
- National Agriculture Policy 1999
- National Forestry Policy (1994)
- National Energy Policy (1996)
- National Fisheries Policy (1998)
- National Policy for Safe Water Supply & Sanitation (1998)
- National Agricultural Policy (1999)
- Industries Policy (1999)
- National Land Use Policy (2001)
- Inland transport and shipping policy
- Tourism policies

[4] Initial infrastructure plans and designs n these studies will be reviewed in relation adapting to predicted effects of climate change (see section 4.2.1 above).

In addition, attention will be paid to the Sustainable Development Goals (SDG), Bangladesh Vision 2021 and Vision 2041and Bangladesh Delta Plan 2100. In relation to possible future investments in CDSP V the Bangladesh Delta Plan 2100 is especially significant. No project will be approved, unless it is reflected and in line with the BDP, in the context of its relationship with the coastal strategy. To ensure this, a close liaison with the Support to the Implementation of the Bangladesh Delta Plan Project (SIBDP) will be maintained throughout, especially noting recent information on developments related to the planned Urir Char – Noakhali cross-dam and the possibilities for land reclamation related to dredging of a 40 km channel under the Payra Port Dredging Scheme.

Strategic considerations

Any developments efforts taken up in the Meghna estuary should be in line with existing and future policies, strategy and guidelines set by GoB. The most recent macro planning document of GoB; the BDP 2100 has been formulated and approved by the highest authority of GoB in October 2018. This document defined national level vision as “Achieving a Safe, Climate Resilient and Prosperous Delta” and its Mission is to “Ensure long term water and food security, economic growth and environmental sustainability while effectively reducing vulnerability to natural disasters and building resilience to climate change and other delta challenges through robust, adaptive and integrated strategies, and equitable water governance.” In accordance with the mission of the BDP the Delta Goals (GED 2018; p 182) have been defined:

1. Ensure safety from flood and climate change related disasters
2. Enhance water security and efficiency of water usage
3. Ensure sustainable and integrated river systems and estuary management
4. Conserve and preserve wetlands and ecosystems and promote their wise use
5. Develop effective institutions and equitable governance for in-country and trans boundary water resources management
6. Achieve optimal and integrated use of land and water resources

In accordance with these goals, several activities can be selected to achieve the goals through strategies and sub-strategies. As in this case the planning and research will mostly focus on newly reclaimed lands in the Meghna estuary; this exercise will concern mainly on Costal Zone and Estuary strategies. Specific strategies and sub-strategies related to the Strategic Planning exercise are:

Coastal Zone strategy:

CZ 3: Reclaim new land in the coastal zone (GED 2018: p. 274)

CZ 3.1: Conduct research on morphological behaviour of the Meghna estuary to assess the effect and potential of land reclamation.

CZ 3.2 Accelerate land reclamation process in the Meghna estuary

CZ 3.3 Protection, development and zoning of reclaimed land

Estuary strategy:

Sub-strategy RE 4.1: Preservation of ecosystems

Strategy RE 6: Strengthening river and estuaries management in the newly accreted char areas

The Strategic Planning exercise will translate the vision, mission and strategies into actions or activities to achieve the national level goals and micro-level or project level goals. These actions will be presented in the project form to be implemented in and around the Meghna Estuary which may include:

- Multipurpose development of stable, publicly accessible and safe chars by empoldering.
- Acceleration of accretion processes in prospective areas for land reclamation.
- Protection of land and settlement at risk of erosion through appropriate measures

The Strategic Planning exercise will define an outline implementation plan, probable sources of financing and operation and maintenance of completed projects. The Hydromorphological Study and

Strategic Planning exercise will be the responsibility of the TA-team (under the ultimate responsibility of the PMC). Parts of the studies may be sub-contracted to others (Bangladeshi institutes and consulting firms). Parts will be implemented by members of the TA team.

4.3.4 Design of more permanent institutional arrangement or structure

Action will be taken to facilitate the design and initiation of the first steps of a more permanent and longer term institutional and organisational structure which will be able to act as a mechanism for data analysis, planning and coordination between the GoB agencies involved in char development in the coastal areas. Careful attention will be given to coordinating this process in relation to morphological analysis and specific planning of viable investment opportunities since it is essential for its long-term success that it is seen to have a substantial and meaningful role in land development and settlement and so in sustainable development. Experience with the ICZM Project Development Office will be used to inform this process using a broad approach to stakeholder involvement in specific areas, going beyond the institutions and NGOs financially involved in projects but continuing and developing links with important institutions such as Department of Agricultural Extension and PKSF, while encouraging coordinated NGO activities in key areas, even without specific funding.

The first step towards a stronger institutional structure has been taken on 14 June 2016 at the Prime Minister's Office, chaired by the Chief Secretary. The Ministry of Land was instructed to constitute a wing or specialized unit or directorate to operate the activities of riverine and coastal char land reclamation and development. To implement the decision Ministry of Land prepared a detailed structure of the proposed directorate in the month of December 2018 and sent the proposal to the concerned ministries for comments and suggestions. Specifically:

- Ministry of land will constitute a wing or specialized unit to operate the activities of land reclamation and development of lands that gained from the river and sea. Ministry of Public Administration and Finance Division will give full cooperation in this regard.

- Directorate of Land Survey will take all necessary steps including appointment of more manpower for completion of Diara survey of newly accreted lands in the coastal zone especially in the area of Meghna estuary.

- A unit will have to be constituted in the Ministry of Water Resources and Water Development Board to operate activities of land reclamation from rivers and sea. It will make a work plan including projection of future land reclamation to construct cross dams.

- All Deputy Commissioners of coastal zone area with the help of Upazila Nirbahi Officer, Assistant Commissioner (Land), Forest department, Water Development Board and other offices within their jurisdictions, will prepare an informative list within a month of all newly accreted lands, inundated young chars (land) and probable chars which could be raised shortly, will send to the Land Ministry. Moreover, if they notice the necessity/probability of forestation, cross dams for the purpose of land reclamation during making the lists, they will determine it and will inform to the Ministry of Forest & Environment or Ministry of Water Resources as it concerns.

- At present activities of giving settlement of accreted lands by the district administration will have to be kept postponed. Only the initiatives that already been taken can be finished.

- Forestation activities of the Forest Department in the Sundarban and other coastal areas will have to be continued and after getting fit for use the land will have to handed over.

- Required allocation of fund will have to be sanctioned by the Finance Division for the activities of land reclamation, development and its planned use.With the help of Director General-1, Secretary, Prime Minister's Office will coordinate and monitor the respective activities.

This initiative will be closely followed and supported as an important initiative towards the necessary strengthened institutional structure for land development and settlement. It may be noted that a Program Co-ordination Unit (PCU) for Integrated Coastal Zone Management (ICZM), a multi-ministerial unit, was established earlier within the Water Resources Planning Organisation (WARPO), and this should also be noted. However, apart from the land zoning programme, it appears that no major activities have yet been implemented.

It should be stressed that a ***crucial part of any planned structure is the institutionalisation of Hydromorphological Survey and Study (see 4.3.3) as not only include a single study, but also a reoccurring monitoring exercise to be done at regular intervals.***

In considering and planning an appropriate permanent institutional arrangement or structure it should be borne in mind that the Bangladesh coastal zone is characterised by an extremely dynamic land-sea boundary. It is furthermore characterised by areas of high biodiversity and at the same time high population density. There are numerous threats to this fragile co-existence of man and nature. The 'natural threat' comes in the form of: erosion of coastal chars, flooding, cyclones, salinity intrusion

The need for integrated coastal zone management was made clearly visible again after cyclones Sidr and Aila. Under the influence of climate change the frequency of such major cyclones is likely to increase. However, other effects of climate change also pose a threat to the coastal zone. This includes increase in flooding, increase in salinity in surface as well as groundwater. Most of the natural threats will be compounded by the effects of climate change. These include: increase in flooding, rise in sea level and associated flooding and salinity intrusion, increase in number of severe cyclones. The 'human threat' comes in the form of conflicts over land use, pollution, over- fishing, destruction of biodiversity, overuse of groundwater.

The challenge is to ensure that the resources in the coastal zone of Bangladesh are used in a sustainable way. The present environment is not particularly conducive as there is a lack of coordination of activities in the coastal zone and no comprehensive working framework to address the threats in the coastal zone. A major issue is the availability and use of land. With an expected population increase in the coastal zone from 36.8 million people in 2001 to 60.8 million people in 2050, the amount of land per person will decrease from 0.13 ha to 0.08 ha. This is well below the subsistence level of 0.6 ha per person. If not addressed in the coming years, it can lead to conflict and pressure on existing relatively pristine areas with low population. This effect will be made more severe by the effects of climate change. If sea level rises as predicted it will cause a decline in land area available in the coastal zone and lead to salinity increase in groundwater and topsoil thus making it difficult for people to survive. An increase in flooding will make the coastal zone an even harsher place to live this will put pressure on social and economic development of the coastal population.

If addressed properly and in a timely manner, some of the threats can be averted, the effect of others weakened. This, however, requires an environment that is conducive to integrated management of the coastal zone. The policy framework for this largely exists but implementation of a suitable institutional framework is lacking.

Bangladesh has an enormous natural resource, namely sediment. When channelled and managed properly the sediment dumped in the Bay of Bengal by several rivers can be used to create new land. At the same time this new land can be used as a barrier against sea level rise. One of the risks of this is however disruption of natural processes in the coastal zone and water logging in the hinterland of

the newly created areas. However, research suggests that strategic land reclamation is possible and has a high economic return.

Activities are already being undertaken in the coastal zone which can be brought under an integrated planning institutional 'umbrella'. Several donor organisations including The Paris Declaration on Aid Effectiveness provides a good framework for donors to strive for harmonisation and alignment. The drive for harmonisation of donor practices and procedures should lead to a more coordinated approach to land development and settlement from the donor side. This will ensure that a high-level coordinated Government – Development Partners dialogue can take place around land settlement and development issues. A number of priorities can be considered in order to create an enabling institutional environment including the following:

Institutional Capacity Building	To support the whole process. This includes capacity building at national and local level.
Research	To support the decision-making process and provide information on trends in the coastal zone, especially in accretion and erosion of land.
Communication	Stakeholder forum, sensitising stakeholders and decision makers on issues, activities, progress and results.
Monitoring	Monitoring should take place at two levels, namely monitoring on overall indicators and monitoring of implementation of activities. This also involves setting-up a good information management system.
Coastal Infrastructure	This includes civil engineering works in terms of both water management and rural development.
Land accretion	Activities to speed up land accretion and support for subsequent long-term planning / management of newly developed chars.
Disaster Preparedness	This should act as a 'semi-overarching' issue. Activities that contribute to better disaster preparedness or increase access for emergency services should have priority over similar projects that do not contribute to this.
Economic Development	Involvement of private sector and focus on creating employment in the settled zones.
Sustainable and equitable use of natural resources	This includes agriculture, fisheries, waste management, pollution and conservation. This also includes safeguarding ground water from salinity intrusion and providing people with clean drinking water.
Climate Change	Climate change is having a profound impact on coastal dynamics and socio-economic patterns. It is an issue that must be fully included in the planning process for the coastal zone in order to ensure proper adaptation to negative effects of climate change.

The main overarching principles should be: participatory water management; effective monitoring and evaluation; support to the national policy of decentralization; involvement of and development of the private sector linkages were possible; linking with existing policies and government structures; integrated implementation through line agencies

Possible Institutional Set-up

Optimal land development and settlement requires input (and output) from multiple Ministries in a coordinated manner. Experience shows that horizontal fund flows are very difficult to manage within

the Government system. CDSP has been a good example of a project with effective and efficient vertical fund flows. 4-5 Ministries have come together with funds transferred to one Government Bank account and payments are drawn based on approved claims of expenditure. In this case the statements have been checked and approved by the Technical Assistance team.

There are four institutional issues that need to be addressed, namely:

- Policy level coordination
- Implementation coordination
- Monitoring
- Financial flows

It is suggested that an Inter-Ministerial Steering Committee will provide policy guidelines based on existing policies and will set a programme of work for the different Ministries, including a monitoring framework.

A Forum on Land Development and Settlement may be formed consisting of representatives from the government, universities, NGOs and other experts to provide input to the IMSC on policy issues and will provide feedback on field level implementation and outcomes.

Focal points within the different ministries will be responsible to implement the IMSC policies and the programme of work. Together these focal points would constitute the Inter-Ministerial Technical Committee (IMTC). This IMTC would meet on a regular basis for removing planning and implementation bottlenecks and resolving conflicts. The task of this committee is to ensure that activities are implemented in coordination.

A Programme Development Office (PDO) can be created to assist the focal points in developing their programme of work. These programmes will then be discussed during the IMSC meetings. The PDO will also be responsible for the development of annual and overall targets for the ministries/programmes and setting up the monitoring framework.

Each ministry will implement the activities according to their own financial regulations. Donors can either fund programmes directly or through a pooled fund, using the same functioning and set-up as the funding mechanism under the Char Development and Settlement Project. This means that all funding will be transferred to a government bank account at the Bangladesh Bank.

The Technical Assistance team under the direction of the Project Management Committee will encourage a process to consider these possibilities by liaising closely with the Bangladesh Delta Plan team in order to immediately:

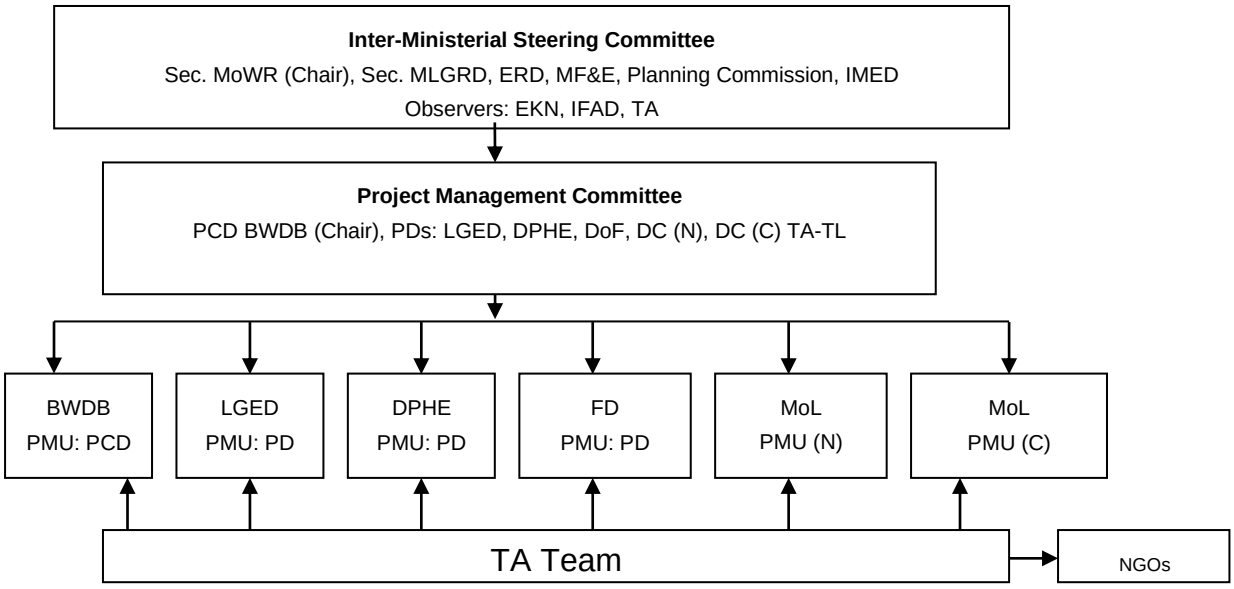
- Prepare a draft Concept Note on ‘institutional structure’, following the approach outlined above.
- Initiate discussion of the Concept Note in the CDSP Project Management Committee.
- Present a revised draft to the next Inter-Ministerial Steering Committee.
- Initiate a workshop to discuss a review a detailed proposal involving IFAD, EKN, GoB and other key players during the first half of 2020.

Further steps will be defined jointly at the workshop.

5. Project organization

5.1 Overall institutional set-up

The institutional set-up of the project is depicted in the figure below. The top two levels are formed by the coordinating bodies at national level (the Inter-Ministerial Steering Committee) and at project level (the Project Management Committee). The five implementing agencies report to and are coordinated by the PMC. The agencies are supported by the Technical Assistance team.



Note: NGOs will come under LGED as well as (partly) under the TA team as explained below.

5.2 The governmental implementing agencies

There will be five implementing agencies in CDSP-B: Bangladesh Water Development Board (BWDB), Local Government Engineering Department (LGED), Department of Public Health Engineering (DPHE), Ministry of Land, and the Forest Department (FD).

BWDB

BWDB is the lead agency among the implementing agencies. It is responsible for the coordination at project level of all interventions and at the same time for the implementation of the water management related infrastructural works, such as embankments, sluices and drainage channels. BWDB will be responsible for periodic maintenance. With assistance from the Technical Assistance team, BWDB will support Water Management Organisations. The staffing of the BWDB's Project Management Unit at Dhaka and Noakhali level will be as indicated in Table 5.1.[5] It should be noted that the Noakhali staff is residing under BWDB Feni Circle, not under PCD. Accounts are handled in the Feni RAC office.

[5] LGED Table will be corrected after DPP approval.

Table 5.1: BWDB Project Management Unit Staffing

	Dhaka	Noakhali
Project Coordinating Director	1	
Executive Engineer	2	
Sub-Divisional Engineer	2	3
Assistant Engineer	3	1
Sub-Assistant Engineer	1	6
Deputy Director (Accounts) / Accounts Officer	1	
Upper Divisional Assistant (UDA)	1	1
Accounts Assistant	2	1
Data Entry Operator	1	1
Driver	3	3
Office Assistant (MLSS/Peon)	2	2
Cleaner	1	1
Security Guard	1	2
Work Assistant		4

LGED

LGED is responsible for all internal infrastructure. The main objects of construction are rural roads, bridges, culverts, cyclone shelters, rural markets, clustered villages and Union Parishad Complexes. The Project Management Unit of LGED will be headed by the Project Director based at the headquarters in Dhaka, while the Executive Engineer, Noakhali will execute the work on behalf of the PD. LGED will also implement Agriculture and Social Livelihood Activities by hiring NGOs and outsourcing field work. The PMU will have the following staffing:

Table 5.2: LGED Project Management Unit Staffing

	Dhaka	Noakhali
Project Director	1	
Assistant Engineer	1	1
Sub-Assistant Engineer	1	1
Accountant	1	2
Computer Operator	1	-
Driver	1	-
Office Support Staff	1	2
Project Management set up for Agricultural Staff.		
Project Agriculturist		1
Field officers		4
MLSS		1

DPHE

DPHE will be responsible for public water supply and sanitation. The instalment of deep tube wells is the most important drinking water intervention. Each household will be provided with a sanitary latrine (rings and slabs). The Project Director of the DPHE component will be based at headquarters in Dhaka, while the XEN Noakhali will execute the work on behalf of the PD. The Project Management Unit will have the following staff:

Table 5.3: DPHE Project Management Unit Staffing

	Dhaka	Noakhali
Project Director*		1
Assistant Engineer		1
Sub-Assistant Engineer/estimator		2
Accounts Assistant		1
Computer/data entry Operator		1
Driver		1
MLSS		1
Staff for LCS supervision		
Sub-Assistant Engineer		2
Community Organiser		1
Work Assistant		1

Ministry of Land

The main task of the Ministry of Land will be the allocation of khas land to landless households (land settlement and entitlement). The Ministry will also further expand the introduction of the Land Management Record System (LRMS) and be responsible for the agreements with implementing agencies that require land for public infrastructure. The Project Directors for this project component are the Deputy Commissioner of Noakhali District and the Deputy Commissioner of Chattogram District. In the Project Management Committee (PMC) of CDSP-B, they will be represented by the ADCs Revenue / Senior Assistant Commissioners. These officials will also be in charge of the Project Management Units of the Ministry of Land. The PMUs are staffed as follows:

Table 5.4: MoL Project Management Unit Staffing

	Revenue	
Positions	Noakhali	Chattogram
Project Director	1	-
Additional Project Director	-	1
Deputy Project Directors	3	2
Assistant Project Director	2	1

Forest Department

The Forest Department will be responsible for all tree plantations in the project, such as road- and embankment plantations, plantation along drainage khals, foreshore plantations (mangrove and non-mangrove). The principles of social forestry will be followed in these activities. The Department will form Social Forestry Groups, with the assistance of the Technical Assistance team. The Project Management Unit for this component will be based in the office of the Divisional Forestry Officer in Noakhali and the DFO Noakhali will be the Project Director on behalf of the Forest Department. The staff pattern is given in the table below. As can be seen, a part of the staff is current staff, paid out of the revenue budget, and a part will be recruited just for the period of the project.

Table 5.5: Forest Department Project Management Unit Staffing

Post	Revenue staff	Project staff	Total number
Divisional Forest Officer	1		1
Assistant Conservator of Forest (ACF)	2		2
Range Officer (RO)	3		3
Forester	10		10
Plantation Mali		8	8
Computer Operator		1	1
Accountant		1	1
Office Assistant		1	1
Peon/photocopier/MLSS		1	1
Boat driver		1	1
Boat helper		1	1

5.3 The Technical Assistance team

The Technical Assistance team is contracted by the Embassy of the Kingdom of the Netherlands. After a tender process, the contract for the technical assistance was awarded to Euroconsult Mott MacDonald of the Netherlands, in a consortium with BETS Consulting Services and Socioconsult Limited of Bangladesh. The staffing pattern for senior- and mid-level staff is presented below:

Table 5.7: Technical Assistance Team: Senior and Mid-Level positions

Senior Advisors	No. of posts
Team Leader (International)	1
Deputy Team Leader (Infrastructure)	1
Deputy Team Leader (Development)	1
Hydromorphology and Planning Advisor	1
Land Settlement Adviser	1
Quality Control Engineer	1
M&E and Knowledge Management Adviser	1
Gender and Nutrition Adviser	1
Financial Adviser	1

Technical/administrative staff	No. of posts
Accounts Officer	1
Assistant Land Settlement Adviser	1
Logistic Officer	1
Project Area Co-ordinators	4
Social Forestry Co-ordinator	1
NGO Sector / Gender Specialists	5
Project Engineer	4
Office Manager	1
MIS and Computer Specialist	1

The overall strength of the team for the whole project period of three years is: Expatriate advisers: 15 months intermittent long term (input of the Team Leader) and 6 months short term; Bangladeshi advisers 288 months long term; mid-level technical and administrative staff 474 months long term and support / field staff 1,463 months long term. The Staffing Schedule and the names and designations of staff on 1st September 2019 are presented in Annexes.

The TA team will also include three young professionals (from the Netherlands and Bangladesh). The Netherlands YP will support the Hydromorphology and Planning Adviser during July 2019 to June 2020, The Bangladesh YPs will be fielded during 2019 for a period of eighteen months each with activities to be decided shortly.

The Technical Assistance team has a variety of ***functions***:

- advising and supporting the five governmental implementing agencies;

- monitoring the quality control activities of the implementing agencies and advising IFAD with regard to loan disbursements to be made; the Guidelines for Quality Control as applied in CDSP III and as included in the Project Implementation Manual of IFAD, will be used;
- supporting the coordination of NGO activities;
- commissioning studies and surveys;
- undertaking training activities;
- generating knowledge from the results of the project interventions and facilitating the feedback of relevant knowledge and information into future project activities and into the further development of land development and settlement in Bangladesh.

Three observations have to be made with respect to these functions. *Firstly*, there is a potential tension between the advisory and support functions with regard to the implementing agencies on the one hand, and the monitoring of quality control and recommendations on payments on the other hand. In previous phases of CDSP this tension has manifested itself occasionally, but meetings between the agency concerned and management of the Technical Assistance-team have always led to a situation in which both functions could be fulfilled to the full extent. *Secondly*, the activities for which the Technical Assistance team has an initiating and leading role (the last four of the abovementioned functions) always take place under the responsibility of the Project Management Committee and the Project Coordinating Director of the BWDB. All activities will be tabled and discussed in the meetings of the PMC before they are started, and progress will be reported to the PMC. The *last observation* is that the sub-contracting, and in most cases tendering, for those activities for which that is required (for instance selection of NGO under TA funding, commissioning of studies), will be done by the main consulting firm. The Technical Assistance team as such is not a legal entity and cannot enter into contracts. The Technical Assistance team will, however, do all the work during preparation and implementation, and will be in charge throughout the process (under responsibility of the PMC, as pointed out above).

To stimulate the *coordination within the team*, a management team has been formed, consisting of the Team Leader, the two Deputy Team Leaders, the Hydromorphology and Planning Adviser, the Financial Adviser and the Monitoring and Evaluation Adviser. This management team will meet regularly and will also organise regular meetings with the full Technical Assistance team.

The *control of the quality of the work* of the staff of the Technical Assistance team will be hierarchically organized. The quality of the work of the field staff is controlled by a senior consultant or directly by one of the two Deputy Team Leaders (for instance the NGO Sector Specialists and the Project Area Coordinators). The Team Leader controls the quality of the outputs of the Gender and Nutrition Adviser and of the Monitoring and Evaluation Adviser. The quality of the work will be a recurrent topic in the meetings of the management team. The Team Leader is responsible for the overall quality and he reports to the Project Manager in the head office of the main consultant. The Project Manager is ultimately responsible to the client for the quality of the work. The most important instruments of quality control will be desk study of reports, field visits to check the quality of activities at grass root level, and discussions with the concerned implementing agencies and Technical Assistance staff.

Changes in the construction plan are proposed because of the recent changes in bank erosion (see section 4.2.1) and this will be reflected in deployment of the four Project Engineers as follows:

i) In comparison with CDSP IV, the project area has increased from 28,000 ha to 57,000 ha, while the construction period has decreased from 6 years to 3 years some of which has already passed. This requires rapid progress to reach project targets.
ii) In case of the work of DPHE to be supervised, the number of tube-wells are the same the number of single pit latrines 75% of the previous number, but the time available is only half.
iii) Sluice and embankment construction under BWDB may be postponed but embankment re-sectioning, khal excavation and re-excavation remain the same, spread over a much larger

area. In addition, dwarf embankments are planned to check saline entry as sluices may be dropped,

iv) In the case of LGED, the proposed activities are less than before but the area is much larger with a shorter construction season. It is also planned to protect the existing culverts and bridges from erosion due to open tidal flow, which is a large amount of work.

Technical and managerial back-up for the Technical Assistance team will be provided through support of short term national and international consultants. Fields that are supported by short term inputs include project management, planning, among others inception report, annual plans and budgets, feasibility studies, institutional issues related to water management and WMO's, extension approaches, land registration and management, climate resilience and disaster management, monitoring and evaluation. The tentative short-term international input is indicated in the staffing schedule. Any input of short term national and international consultants will be based on a well defined need for the expertise, reflected in dedicated, detailed Terms of Reference for the required input, approved by the PMC. On a day-today basis, the Project Manager at the head office of the main consultant will provide managerial support to the Team Leader, while the financial department at the head office will extend assistance to the Financial Adviser.

The size of the project area, and the fact that relevant stakeholders are seated in Dhaka, brings a number of logistical issues. The Technical Assistance team will have two *offices*. The main office will be in Noakhali at the premises of the BWDB, in Sonapur. A liaison office, will be maintained in Dhaka within the Bangladesh office of the lead consultant. It is foreseen that the Team Leader, the two Deputy Team Leaders and the Financial Adviser will visit Dhaka regularly. The Financial Adviser is located in the premises of the BWDB PCD will be explored. A number of field offices will be reopened or established as required.

As far as transport is concerned, it is required to have a total of seven vehicles available in the project. These are all available from CDSP IV. Of the seven, one car will be stationed in Dhaka, six in Noakhali. The existing CDSP IV speed boat is to be in Noakhali. The project needs to spend limited funds for repair and some replacement of office equipment and furniture, as well as to replace old materials.

5.4 Coordination mechanisms

The highest level of coordination is in the hands of the ***Inter-Ministerial Steering Committee (IMSC),*** with the Secretary, Ministry of Water Resources in the chair. Members will be the Joint Secretaries of the parent Ministries of LGED, DPHE, Forest Department, and the Ministry of Land, the Joint Chief Secretary of the MoWR, and representatives of IMED, ERD and the water/irrigation wing of the Planning Commission. The PCD of CDSP IV will act as Member-Secretary, while a representative of UNIFAD, the Embassy of the Kingdom of the Netherlands and the Team Leader of the Technical Assistance team will have an observer status. The IMSC will have functions with regard to policy issues, planning, monitoring of implementation, coordination and internalisation and dissemination of lessons and results of CDSP-B (AF) and previous phases. The IMSC will preferably meet once in every six months but at least once a year.

The central decision making body and the main coordinating mechanism with regard to planning and implementation of project interventions is the Project Management Committee. This Committee is chaired by the PCD of the BWDB, with the PDs of the other four implementing agencies as members. In case of the Ministry of Land, the (Senior) Assistant Commissioners appointed by the Deputy Commissioners Noakhali and Chattogram will attend the PMC meetings on behalf of the DCs. The Team Leader of the Technical Assistance team and the Deputy Team Leaders are members as well. The Team Leader will act as secretary to the PMC and will advise the PCD in all PMC matters. The Office of the PCD of BWDB will serve as the secretariat of the PMC. The main functions of the PMC are related to planning, monitoring of implementation, coordination and knowledge management and

dissemination. The PMC will aim at meeting once a month but will certainly have a meeting every three months.

It is expected that the Ministry of Land will form district Project Monitoring Committees, chaired by the relevant DC; members will be the ADC Revenue, the RDC, concerned UNOs and ACs (Land), the (Senior) Assistant Commissioner of the Land Settlement PMU and the Land Settlement Adviser of the Technical Assistance team. It will report to a Project Monitoring Committee in the Ministry of Land, headed by the Joint Secretary (Development). Other implementing agencies may follow this example if required.

5.5 Monitoring of the project and reporting

The main monitoring bodies of the overall project, overseeing the interventions across the board, are the Inter Ministerial Steering Committee at policy level (with meetings preferably twice and at least once a year) and the Project Management Committee at implementation level (with meetings at least once in three months, but usually once every month).

Monitoring of the implementation of field activities in each of the implementing agencies will be carried out by the respective Project Directors. The Team Leader of the Technical Assistance team will monitor those activities for which the team takes the first responsibility for execution, such as for instance the Monitoring and Evaluation System and the special studies.

The project will be supervised from the side of the development partners by IFAD, with active participation of the Embassy of the Kingdom of the Netherlands. Annual supervision will be the main instrument, complemented by regular meetings between the management of the Technical Assistance team and IFAD and Embassy staff.

The project will provide consolidated Progress Reports on activities and finance, covering a period of six months (July to December and January to June), not later than two months after completion of the six months period. These will be integrated with continuous reporting within the International Aid Transparency Initiative (IATI) Standard Reporting System (see 4.2.9 above for details). The Progress Reports will be based on Annual Work Plans and Budgets (AWPB), covering calendar years, which will be submitted before 1st November of the preceding year. The AWPB will be accompanied by a Procurement Plan for 18 months, for which the form provided in the Project Implementation Manual (PIM) of IFAD will be used. In addition, a series of Mission Reports and Technical Reports will be produced as well as a separate series of M&E reports, including IFAD Core Indicator Reporting using 39 RIMS core indicators.

5.6 Training

There is no scope to recruit a separate training coordinator in the TA Team. However, the experience of the previous phases of CDSP shows that there is a need to coordinate the many training courses, orientations and workshops on various issues for the beneficiaries, field level institutions, LGIs, and for the officials of the implementing agencies.

The training activities will be looked after by the TA Team and will be reported and communicated to all concerned through the progress reports and other documents as required. Deputy Team Leaders will take overall responsibility of training activities within their areas of responsibility. Field level personnel will organize and implement the training activities as per schedule. It should be noted that the training activities under the NGO components will be dealt with, implemented and reported upon separately in line with the ToRs of the NGO activities.

5.7 Timetable

The timetable of project key activities under the project components as described in Chapter 4 and are presented in an Annex. The timetable for construction activities of BWDB is dictated by the monsoon seasons: Construction of embankments and other water management infrastructure is only possible during the dry season, from 1st December to 1st June. The same holds true for the LGED infrastructure development activities, to a lesser degree.

6. Project finances

6.1 Project costs and financing

Overall project costs are estimated at US$ 51.23 million. The project will be financed by IFAD (40.27% of total costs), the Government of the Netherlands (11.03%) and the Government of Bangladesh (48.57%). In addition, there will be a contribution from the population in the project areas (0.13%).

The IFAD loan of US$ 20.63 million will be used for 30.64% of the costs of protection from climate change component (US$ 8.28 million), 64.60% of the costs of the internal infrastructure component (US$ 9.18), 52.81% of the land settlement component (US$ 0.94 million) and 81.68% of the support to livelihood sub-component (US$ 2.23 million).

The grant from the Government of the Netherlands of US$ 5.65 million will be used to fund 8.42% of the support to livelihood (US$ 0.23 million) component and 100% of the Technical Assistance (US$ 5.42 million).

The contribution from the Government of Bangladesh of US$ 24.88 million will cover taxes and duties, salaries, operating costs and infrastructure.

The contribution of the local NGOs through microfinance is estimated at US$ 3.68 million and of the population at US$ 0.07 million.

A Component wise summary of the total cost of the Project for the three year period is presented below in **Error! Reference source not found.**.

Table 6.1 Summary of project cost by cost component

Slab	Cost Components	Total Cost in US$ '000,000
01	Protection from Climate Changes	27.02
02	Internal Infrastructure	14.28
03	Land Settlement and titling	1.78
04	Support to livelihood	2.73
05	TA and Management Support	5.42
	Total Project Cost	**51.23**

The detailed cost of the Project in Bangladeshi Taka and US Dollar for the three year period is provided in an Annex**.**

A summary of the total cost of the project and percentages of financing for the three year period is presented in **Error! Reference source not found.** below:

Table 6.2 Project cost and percentages of financing

Slab	Financer	US $ 000,000	Percentage
01	IFAD	20.63	40.27
02	GoN	5.65	11.03
03	GoB	24.88	48.57
04	Beneficiary Contr.	0.07	0.13
	Total	**51.23**	**100.00**

The Project Costs by Component and the Financing Plan of the Project in given in Annexes.

6.2 Fund flow

Funds for Infrastructure

The IFAD loan will flow to a Special Account maintained in BDTK at the Central Bank of Bangladesh Bank/nationalised scheduled bank. This account will be operated by the Project Coordinating Director of BWDB. The fund from this Special Account will flow to the five Project Accounts maintained in BDTK at a nationalised scheduled bank which will be operated by the five implementing agencies. The transfers from this Special Account to the bank accounts maintained by the five implementing agencies will be made on a quarterly basis under RPA.

The grant from the Netherlands Government will flow to other account(s) maintained in BDTK at a scheduled bank(s) in Bangladesh which will be operated by the TA Team. The funds received to this account(s) by the TA Team under the Netherlands Government approved budget under Cooperative/Administrative Agreement signed between the Royal Netherlands Government and the Government of Bangladesh will be spent as per the approved budget under purview of the said agreement.

Funds for TA and NGO support

The Netherlands Government based on an agreement signed with the main consultant, Euroconsult Mott MacDonald for the implementation of the Technical Assistance will provide support to the NGOs in part. The money will flow from the Embassy of the Kingdom of the Netherlands in Dhaka to the consulting firm on the basis of half yearly invoices against the Technical Assistance budget and the AWPBs. The Technical Assistance budget is part of the contract with the consultant.

The consultant will make disbursements to the NGO(s) and will include these payments in the quarterly invoices. In addition to the NGO funds provided through the TA fund, NGOs in the program will be mainly functioning through the LGED Part of the project. Substantial funding will be provided through this wing from the IFAD funds. Outsourced activities will follow an open tender procedure. This procedure will have to be approved in advance by the Project Management Committee and the Netherlands Embassy. The Technical Assistance budget is shown in an Annex.

The Technical Assistance team will maintain accounts in Bangladesh and will maintain proper records and documentation of all expenditures. Financial statements will be sent each month to the head office of the consulting firm in the Netherlands. The head office will maintain consolidated statements, in which the expenditures done in the Netherlands or elsewhere are included. The consulting firm will have its own auditing procedures. The Netherlands embassy can engage an external firm to audit the Technical Assistance accounts.

6.3 Fund disbursement by financers

IFAD will make an initial advance of about 10% of the loan and grant into the Special Account in order to expedite the start-up of the activities, once the IFAD loan becomes effective and ERD has requested the advance. Replenishment from the Special Accounts by IFAD will occur by way of withdrawal applications. These applications will be prepared by the Technical Assistance team and will be supported by appropriate documents and statements of expenditures. The withdrawal applications will be signed by the Project Coordinating Director (PCD) and submitted to IFAD for approval. The Technical Assistance team will, on a regular basis, compile and consolidate eligible project expenses based on inputs provided by the five implementing agencies.

The implementing agencies and the Technical Assistance team will follow the Guidelines for Quality Control (as developed in previous CDSP phases and as taken up in the PIM of IFAD) in the process that leads to withdrawal applications.

The funds to the implementing agencies are to be disbursed under the RPA concept. The implementing agencies will incur the cost of the respective components and pay the selected Service Providers (Contractors) from their project accounts receiving advance RPA fund from PCD Office, subject to the certification of the bills of the Contractors by the TA Team. Advance RPA funds will be provided to the Implementing Agencies by the PCD Office based on Bangladesh Government approved Annual Development Plan (ADP) and/or Revised Annual Development Plan (RADP) as the case may be.

6.4 Procurement

Procurement of goods and services will follow the Public Procurement Regulations (PPR) of 2008, provided they are consistent with IFAD Procurement Guidelines. The procurements must be included in the Procurement Plan and approved by IFAD in advance.

Labour intensive and low value physical works will be implemented by Labour Contracting Societies (LCS), with materials procured by the concerned implementing agency. Contracts with LCSs will be awarded under the direct procurement method, as permitted by PPR regulation no.18 (1) (a). For the work done by contractors and for purchase of project goods (vehicles, office equipment etc.), the NOTM applies. If any equipment has to be procured abroad, the International Competitive Bidding (ICB) method will be used.

6.5 Financing Rules

Financing rules have been adopted for each of the Project Cost components. The taxes and duties are to be paid by the Government of Bangladesh (GoB Taxes). The GoB cash contribution for the civil works, salaries, and operating costs is called Government of Bangladesh Cash (GoB Cash). Financing of all civil works, office equipment, computers and accessories and office furniture would be divided between IFAD (70%) and GoB Cash (30%), the GoB share being sufficient to cover any taxes that may be payable. Only the items of training and studies implemented by the GoB partner agencies will be financed 100% by IFAD with operating costs (vehicle running, office costs etc.) also to be funded 70% by IFAD and 30% by GoB Cash.

6.6 Accounting and auditing

As mentioned above, there will be one Special Account and five Project Accounts. The Technical Assistance team will identify appropriate project accounting software (see section 6.8 below). This will be done in consultation with IFAD, and may include the following:

(a) financial data entry procedures;
(b) creation of data base;
(c) auto recording System in Cash Book, Bank Book, General Ledger, Subsidiary Ledger;
(d) preparation of Trial balance;
(e) implementation of Budgetary Control system;

(f) performance Analysis through Budget variance;
(g) Financial Reporting; and
(h) Other Reporting.

The Technical Assistance team will submit a half yearly Progress Report to IFAD and Netherlands embassy not later than ninety days after the close of each half year.

The implementing agencies will maintain the records listed below and send certified copies of these records to the Technical Assistance team on a monthly basis. This will be done within the first seven days of the following month. The records are:

Cash Book for RPA and GoB funds;
Bank statement of Project Account and Sub Project Accounts where applicable;
Bank reconciliation statement;
Supporting vouchers and documents;
Advance Register.

The Technical Assistance team will facilitate the Implementing Agencies (IAs) in entering the transactions into the project accounting software and generate a monthly trial balance. Project Financial Statements on quarterly and on annual basis will be generated by the individual IAs and Consolidated Financial Statements for the project as a whole will be generated by the TA Team.

TA Team will engage an independent internationally recognised external auditing firm with concurrence of PMC. Auditing will be based on Terms of Reference approved by IFAD. The Technical Assistance team will ensure that the audit report indeed covers the Terms of Reference. Auditing will follow International Standards of Auditing as applicable in Bangladesh. Certified audit reports have to be submitted to IFAD not later than six months after the closing of the financial year (1st July to 30th June). Draft Terms of Reference for the external audit can be found in the Project Implementation Manual (PIM) of IFAD.

6.7 Synchronisation between IFAD's and GoB's Financial Management and Reporting System and Training on Financial Management

Although the current phase of CDSP-IV (Additional Financing) is a Bridging Phase with a shorter duration of three years, the current phase will carry forward the previous financial management and reporting system. Even if with IFAD's cost sharing up to 40.27% of total project cost in this phase (53% in CDSP-IV) no major changes are expected in the financial management sector in the current phase of the project. Rather efforts will be made to make the existing system more compliant with IFAD's requirements in view of the latest developments within IFAD.

It is expected that IFAD will provide training/orientation right at the start of the project to the relevant members of the Technical Assistance team to make them familiar with the latest developments in its systems of accounting and disbursements. If required, staff of the implementing agencies will be trained as well. This trainings and orientation is all the more necessary to explore how far the project Financial Management and Reporting System can be made compliant with IFAD's requirements. Of course, there are gaps between the systems of the Bangladesh Government and those of IFAD or any other donor/financing agency and foreign aided government projects in Bangladesh are naturally inclined to follow the GoB systems as much as possible. However, in the context of bilateral or multilateral financing or cooperation agreements, GoB projects are bound to follow the partners' requirements and the TA Team will endeavour to make the system meet all partners' requirements as far as possible.

6.8 Accounting and Financial Management Software

Tally software has been introduced fully in all IA offices of CDSP Project, although so far only partially in the BWDB. Tally software has its own limitations and cannot be customised fully to the requirements of IFAD as far as the generation of certain statements disaggregated by donor and component are concerned.

A possibly better alternative will be explored, which is available in the government sector. The ***Central Procurement Technical Unit (CPTU)*** under the GoB Planning Commission has designed a financial management software named ***Project Management Information System (PROMIS)*** with provision for financial management of government agencies and its projects. This software will be explored to see if it meets the requirements of the CDSP-B (AF) project. If found compatible, steps will be taken to adopting the software in the project, although the installation and full operation may take some time.

If and when the PROMIS software is introduced in the project sufficient training will be provided to the accountants of the IAs of the project to ensure there will be a more useful automated financial management system which will also fulfil IFAD's requirements. Until then refresher training will be conducted by the TA Team to all relevant IA staff for continued improvement of financial management and compliance with the recommendations of IFAD supervision missions.

7. Sustainability and risks

7.1 Introduction

This last chapter of the Inception Report dwells on the sustainability of the project and on the risks the project faces in achieving its objectives. The ranking is summarized in a risk matrix (see Annex). In conclusion the chapter looks at the role of the Technical Assistance team in mitigating the identified risks.

7.2 Sustainability

7.2.1 Sustainability of the project outputs

For all infrastructure (water resources related as well as internal infrastructure such as roads, bridges, cyclone shelters, tube wells etc.) the arrangements for funding and implementation of O&M is crucial with respect to sustainability. Well prepared maintenance plans and adequate allocations for maintenance on the budgets of the agencies concerned, are necessary conditions. For management of water resources, well-functioning WMOs are required, as well as enough field staff. In maintaining the protective tree plantations (foreshore, embankments, roads), trained and motivated SFGs are of vital importance. Well trained and functioning TUGs, to be formed by DPHE and NGOs, are required for O&M of tube wells.

Experiences in earlier phases of CDSP show that a great majority of the households that received an official land title, stay on the land. Still, some families sell their land, which is illegal, or lose it to erosion and move out of the area.. Prerequisites for improved livelihoods and household resilience are strong field level groups (Farmer Forums, NGO groups), adequate staffing of agencies. As with the land settlement output, it is important that all other outputs are delivered successfully and at the same time. The whole package will enhance the probability of sustained, improved livelihoods. Adaptation of appropriate agricultural technologies for salt affected lands and of cultivation methods that decrease the salinity will contribute to sustainability.

Ensuring that the knowledge generated by CDSP IV is applied in a sustained way depends on the relevance of the knowledge and on the way dissemination takes place. Internalization into participating agencies (for instance by incorporating acquired knowledge into standard training events) is of importance. Knowledge will also be imparted to the field level institutions through training and extension efforts. Knowledge, but also experience with the management system in CDSP, will help to make the planned establishment of permanent institutions for char development and settlement sustainable.

7.2.2 Sustainability of the CDSP process

In this proposal, sustainability of the CDSP process is defined as the capability of institutions to continue with the CDSP approach of cooperation and consultation in the project areas after project completion, and as the capability of in particular state agencies to undertake similar programs as CDSP in other char areas. Prerequisites for the continuation of the process in the project areas are strong and self-reliant field level institutions (such as WMOs, SFGs etc.), effective and motivated local

government (Union- and Upazila level), adequately trained field staff of key state agencies and an effective District Administration. In particular the relations in the triangle communities/ local government/ agencies, will determine the sustainability of the process. Maintenance plans, to which all three sides have agreed, form a core element in that pattern of relations.

Whether implementing agencies, and their parent Ministries, are willing and capable to carry out CDSP-like programs in new chars, depends on the extent to which CDSP experiences and lessons have been internalized by the institution, but also on resources as staff and budget. The CDSP-management model (based on the principle of common planning and implementation with coordination to the extent that it is really needed; with an umbrella DPP and DPPs for each agency, an IMSC and a PMC) seems a generally accepted model. Certain procedures (as for example the streamlined and more transparent land settlement process and the identification of productivity zones for agriculture) have been adapted because they are seen as an improvement.

7.2.3 Strategies to ensure sustainability at local level

At field level: Field level institutions as WMOs, SFGs, FFs and LCSs, have a key role in sustaining the results of the project. Strong community based institutions will put pressure on agencies to continue to deliver the services in order to sustain the outputs. As remarked above, their relation with local government and state agencies is vital in the continuation of the CDSP process. An important strategy of the project is to strengthen the field level organizations: training, advice, monitoring their activities, implementing surveys in a participatory manner. A strategy to ensure sustainability of the land settlement component has to include: a very strict application of the procedures of land settlement; a strengthening of the position of the settlers versus vested interests that are eager to buy the newly acquired land (or forcefully grab it); information campaigns that selling of land is illegal. Satisfactory achievement of other outputs also will support the retention rate: a more secure environment with improved economic opportunities will keep people in the same location.

At Local Government Institution (LGI) level: Unions and Upazilas are expected to contribute to O&M of infrastructure in their jurisdiction, together with state agencies as BWDB, LGED and DPHE, and the Water Management Organizations. The fact that Union Chairmen are advisory members of Water Management Groups is important in this respect. They have to play a key role in the triangle between community/ local government/ government agency. Elements in a strategy for sustainability will thus be: support for O&M agreements; training of LGI members on their role in the aforementioned triangle contacts with the District Administration, Project Management Committee and National Steering Committee (where a high level representative of the Ministry of Local Government is a member).

At District level: Since the Deputy Commissioners of Noakhali and Chattogram will be Project Directors of this component, the District Administrations are closely associated with the land settlement interventions of CDSP IV. Involvement with other components will be stimulated by regular meetings with the DCs and staff about the project as a whole and by trying to put CDSP related issues on the agenda of the monthly meetings of the District Development Coordination Committees.

7.2.4 Strategies to ensure sustainability at national level

To ensure sustainability of the outputs, important policy decisions at national level are related to an increase of allocations (on the revenue budget) for O&M for the implementing agencies. Though allocations for O&M have increased over the years, more funds are required. A second decision to ensure sustainability would be to shift O&M costs from project budgets (development budget) to the revenue budget. Project staff can raise this issue in the Inter-Ministerial Steering Committee. Other important policies at national level to ensure sustainability of outputs, purpose and goal, are in the economic field, outside the purview of the project. The continuation of the CDSP process, explained as the continued capability to plan and implement similar programs, will be further supported by the

coordination measures initiated by the Prime Minister's office (see section 4.3.4 above). Dissemination of information on the project will strengthen the commitment of authorities and institutions at national level to continue with char development programs.

7.3 Identification of risks and risk mitigating measures

7.3.1 An overview of the risks

At output level:
A very important risk is the continuing erosion on both bank lines in the Southern part of the CDSP project area which has accelerated since the preparation of the Project Design Report in July 2018 with the flow of the Meghna has joining the short-cut channel on the Eastern side of the project area (see recent erosion shown in Map 2). This risk and measures related to it are discussed in section 4.2.1 above and may well (a) delay construction start of replacement infrastructure and (b) reduce the overall project area and population to some extent.

There are several other risks to the project, both internal and external, that can impede the progress and quality of project implementation. One is that *good quality staff* of the implementing agencies, including the selected NGOs, is available.

The *non-availability of funds* at the right time is a second risk that can be avoided by good coordination between the funding and implementing agencies.

The fact that certain materials *required for construction are not available* on the market and unexpected increases in market prices are real risks, threatening the progress of the infrastructure development component.

Problems with the acquisition of land where structures have to be built are a risk. The absence of good quality contractors that are willing to take on works in remote char areas is another risk in this respect.

Collusion between contractors can cause delays in tender procedures, because of necessary re-tendering. Also, *low quality work of construction* can cause delays, due to the time required for the rectifications, and thus threaten the intended achievements at purpose level. *Coordination of all involved institutions* is at the heart of the ICZM approach and of the management model of CDSP. The long-term goal, the project purpose and the outputs can only be achieved if the planning of interventions is properly coordinated and the implementation is done by each implementing agency, with a constant view on what other agencies are doing. The proper platforms where coordination can take place are the Project Management Committee and the Inter-Ministerial Steering Committee. Regular monthly meetings of the PMC, preferably in Noakhali, and maximum attendance of PDs in these meetings, are essential. In addition, discussions on CDSP can take place in the Development Coordination Committees at District- and Upazila level and in the NGO coordination meetings, organized by the TA-team. The preparation of maintenance plans is an important subject for a coordinated approach, involving state agencies, local government and local communities. As argued earlier, *sufficient allocations for O&M* are absolutely necessary to sustain project outputs.

Political support is a prerequisite for approval of CDSP IV at national level, while support of elected politicians as Members of Parliament, Upazila Chairmen and Union Chairmen is indispensable for a smooth implementation of project activities. Opposition of local politicians can severely impede the progress of the project.

Political stability will facilitate project implementation. The same can be said, with more emphasis, of a calm *law and order situation* in the project area. Both the safety of the settlers as of project personnel

is at stake when law and order are missing. The experience is that, over time, the situation will improve, due to the impact of project interventions and the enhanced presence of the government.

Erosion of embankments is a risk and the establishment of *foreshore plantation* can mitigate impact of wave action on embankments and accelerates stabilization of the land outside the embankment. It should be noted that this does not provide protection against *bank erosion* (see above).

Salinity of the soil hinders growth of crops (water cannot enter the roots) and poses a risk to economic development. Although already high-yielding rice varieties have been identified and introduced with higher salt resistant properties, and cultural practices (as mulching of the soil) have been promoted in CDSP-areas, more work on appropriate technologies for salt affected lands will be undertaken.

The *knowledge on groundwater in coastal areas* is still limited and its use for irrigation purposes is discouraged. The access to safe drinking water can be impeded if unexpected changes in ground water quality would occur. In the western part of Boyer Char, even at a depth of 800 to 1200 feet, test tube wells have produced water with a too high salt (and iron) content. Although early indications, from existing tube wells, are favourable for the other chars (Nangulia, Noler, Caring), groundwater quality continues to be a concern.

A number of risks are related to the land settlement component. The fact that char lands have emerged in relatively recent times can lead to *disputes about the jurisdiction of the area*. These disputes can cause delays in the land settlement process, because it is unknown how to channel the settlement cases. *Vested interests* that have protected or initiated the work of the *jotdars* can try to recapture lost ground by applying all kinds of tactics to disrupt or delay the settlement, or to illegally buy back allocated land.

*Unfavourable weather condition*s are an obvious risk for many of the project activities, especially the development of infrastructure. Storms and exceptionally high water levels can damage incomplete embankments and roads, and can flood trenches where sluices and culverts are built etc. An early onset and late continuation of the monsoon season can severely shorten the duration of the period of a series of construction activities. Bad weather can damage agricultural production, can cause farmers to revert to traditional methods and hamper adaption of modern technologies.

Limitations of the Hydromorphological Study: due to limitation of funds (see section 4.3.2) some recommended surveys, especially bathymetry, may not be possible, which may reduce the accuracy of predictions of the model. This may be compensated for by developing a long-term permanent institutional set-up for estuary survey and study (see section 4.3.4).

<u>At outcome level</u>:
Risks that play a role at purpose level are in particular the absence of occurrence of natural disasters, the lack of economic growth and economic instability, an unfavourable law and order situation with continued influence of vested interests and of the connected *jotdars* and *bahinis*. The lack of political support and of political stability would make achieving the project purpose more difficult. All the identified risks at output level have an indirect influence at purpose level: insufficient outputs will not lead to improved and more secure rural livelihoods for 57,000 households in coastal chars.

Even with a successful implementation of all project interventions and with realization of the project purpose, the long-term goal of reduced poverty and lower incidence of hunger is under threat if food prices, especially rice prices, increase faster than wages. As explained, those settlers that cannot produce enough for their own household have to rely on additional streams of income. The additional income will usually come from labour on the basis of daily wages.

Annex 1. CDSP-B (AF) Logical Framework

Narrative summary	Indicators in logframe	Data	Data at baseline	Data at end of CDSP-IV	Change at completion	Expected change after Bridging project	Means of verification/ Source	Assumptions
Outreach: Direct beneficiaries receiving project services	No. of HHs reached No. of persons receiving services, promoted or supported by the project							
Goal: Reduced poverty and hunger for poor people living on newly accreted coastal chars	90% increase in household income	Average annual HH income	Tk. 71,950	Tk. 296,925	313% increase	150% increase	Baseline, outcome & impact surveys	Real price of rice does not rise relative to wages
	50% increase in household assets	Average total value of assets per HH	Tk. 35,162	Tk. 261,480	644% increase	200% increase	Baseline, outcome & impact surveys	
	No. of HHs with 5 months or more of food shortage reduced from 46% to 23%	% HH with actual food storage	82%	4%	78% points reduction	50% points reduction	Baseline, outcome & impact surveys	
		Average period able to meet basic needs from own production	7 months	10.6 months	3.6 months (51%) increase	4.0 months (57%) increase	Baseline, outcome & impact surveys	
Purpose: Improved and more secure rural livelihoods for 57,000 households in coastal chars	20,000 HHs reporting increased agricultural production	Households reporting increase in paddy production			22,850 households (79%) report increase. 127% increase in production.		Impact survey	No major natural disasters Economic growth and stability Law and order in char areas
	40,000 people in income earning occupations;	Household members generating income		83,592 persons earning income (40% women)				
	21,000 HHs with improved access to improved water supply and sanitation	Hand washing after latrine use	26,320 HH (97%) wash hands with plain water	27,550 HH (95%) wash hands with soap or ash				

Narrative summary	Indicators in logframe	Data	Data at baseline	Data at end of CDSP-IV	Change at completion	Expected change after Bridging project	Means of verification/ Source	Assumptions
		Reduction in diarrhea = reduced ORS demand	2012: 570,464 packets of ORS	2016: 157 ORS packets				
Output 1: Water resources managed effectively to protect land from tidal and storm surges, improve drainage, and enhance accretion	1a. 80% WMG rated effective/sustainable 1b. 70 km strip and 1100 ha of mangrove protected by plantations 120 SFGs	WMG rating from A to E		A=4%, B=46%, C= 21%, D=17%, E=13%			1a. Assessment of WMG (TR-15) 2017 1b. Project report	Emergency defences adjusted for bank erosion are effective. Sufficient allocations for O&M by the Government. Possibility of carrying out successful foreshore plantation.
Output 2: Improved road communication, available. Infrastructure for multi-purpose use. Safe water and hygienic sanitation ensured	1b. 70% empoldered land has reduced soil salinity, flooding and improved drainage	Average salinity levels in April (peak month). Farmers' perception of change.	2012 average ECe 23.2 ds/m (extremely saline)	2016 average ECe 7.7 ds/m (moderately saline)	Farmers reporting reductions in: salinity = 93%, flooding = 89%, waterlogging = 91%		DAE monitoring (progress reports) Impact survey at completion.	Sufficient allocations for O&M by Government. No unexpected changes in groundwater quality due to sea water intrusion.
	Better communication in different places	Number of HH with access to school and market via pucca road and travel time	No pucca or brick roads.	1.5 km to school, 2.5 km to market. 75% of these journeys use pucca or brick roads.	Journey time to school reduced by 50% and to market by 60% 60% to 80% reduction in transport cost of ag products.		Baseline and impact survey Traffic and transport survey	

Narrative summary	Indicators in logframe	Data	Data at baseline	Data at end of CDSP-IV	Change at completion	Expected change after Bridging project	Means of verification/ Source	Assumptions
	No. of people having access to shelter	Shelter number and capacity	Only one shelter: Urir Char	37 shelters: capacity 92,500 people			Progress reports	
	No. of children at school in shelters	Number attending shelter schools		7,746 in 23 shelters			TR-14: Rapid survey of cyclone shelters	
	21,000 HH with access to safe water and hygienic sanitation	Number of HH with good water supply and distance to source	27,720 HHs, 345 m (dry), 418 m (wet season)	29,000 HHs, 59 m (dry), 61 m (wet season)	Distance to source reduced by 321 m (84%)		Baseline and impact surveys	
		Number of HH with hygienic latrines	1,680 HHs (6%)	27,442 HHs (98%)	92 percentage point improvement		Baseline and impact surveys	
Output 3: Secure possession of land	No. of households maintaining possession of land	No of HH with land titles in CDSP I, II, III and IV areas	CDSP IV: 1.2% have land titles	CDSP I&II: 58% with title CDSP III: 87% CDSP IV: 71%	70 percentage point increase in CDSP IV		Baseline survey AOS 2017	Vested interests do not disrupt land settlement.
Output 4: Improved livelihoods and household resilience	20,000 farmers report adoption of improved agriculture	Number of adopters of specific improved practices in crops, livestock and aquaculture	CV from ag baseline	New paddy CVs adopted by 20,600 households New vegetable varieties adopted by 21,200 HHs			Impact survey 2017	Appropriate technologies for extension and salt affected land available.
	Nos. of women involved with their own IGA	No. of women earning income and managing IGA		68% women earn income 62% women have direct IGA			Impact survey 2017 PR-12, 8th round PME	
	% HH using H&FP services	Contraceptive acceptance rate (CAR)	CAR = 41%	CAR = 91%	50 percentage point increase in CAR		NGO data	
		Vaccination coverage,	52% children vaccinated	99% children vaccinated			Baseline and impact surveys	

Narrative summary	Indicators in logframe	Data	Data at baseline	Data at end of CDSP-IV	Change at completion	Expected change after Bridging project	Means of verification/ Source	Assumptions
			34% use of family planning	100% of eligible couples use FP 23,021 couples				
	% of women are aware about legal rights	Knowledge of specific key legal rights		Knowledge: 42% Moderate: 58% Good Practice: 72%.			2016 KAP	
Output 5: Technical assistance and management support for studies and knowledge management	Hydro morphological studies, CDSP-strategic plan, Institutional frameworks, project reports, studies, workshops, and other events	Study Reports, Plans & Frameworks	PCR of CDSP-IV	PCR of CDSP-IV		Future CDSP phase formulated Dynamics of Meghna estuary better understood	Project reports	Government continues to support coastal development
Activities:								
1**. Protection from climate change**: (a) internal embankments; (b) drains and canals, (c) water control sluices, (d) Water Management Organisations; (e) water infrastructure maintenance; (f) formation of social forestry groups; (g) tree planting on embankments, roadsides, foreshores etc; (h) plantation caretaking								
2. **Climate resilient infrastructure**: (a) village and union roads; (b) cyclone shelters & killas; (c) rural markets; (g) deep tube wells; (e) drinking water ponds; (f) hygienic latrines; (g) Labour Construction Societies for construction. (h) O&M user groups; (I) market management committees; (j) infrastructure maintenance								
3. **Land settlement and titling**: (a) Surveys to assess availability of land and current ownership status; (b) selection of target group households; (c) land titling process.								
4. **Livelihood support**: (a) formation of groups; (b) identification of appropriate technologies; (c) capacity building of service providers; (d) crop training and demonstrations; (e) other skill training; (f) access to livelihood opportunities and markets; (g) promotion of better health and hygiene; (h) social support and rights; (i) disaster preparedness and climate change resilience.								
5. **Technical assistance and management support**: (a) support from TA team for implementing agencies; (b) quality control; (c) specialized training; studies, CDSP strategic planning & institutional framework, (d) M&E system; (e) dissemination and sharing of experiences.								

Note: monitoring of progress and performance will be based on the revised Logframe at CDSP-IV completion.

Detailed indicators will be quantified in a participatory manner during detailed design of specific activities.

Annex 2. Staffing Schedule

Designation	Year 1	Year 2	Year 3	Total (pm)
Senior Consultants				
Team Leader (International)				15
Deputy Team Leader (Infrastructure)				36
Team Leader (Development)				36
Hydro-morphological Planning Advisor				36
Land Settlement Advisor				36
Quality Control Engineer				36
M&E and Knowledge Management Advisor				36
Gender and Nutrition Advisor				36
Financial Advisor				36
Technical and Administrative Staff				
Accounts Officer				36
Logistic Officer				36
Assistant Land Settlement Advisor				36
Project Area Coordinators (4)				132
Social Forestry Coordinator				33
Project Engineer (4)				132
Project Agriculturist				33
NGO Sector Specialists (5)				165
MIS and Computer Specialist				36
Technical and Administrative Staff				
WMO/Gender Facilitator (2)				66
Monitoring and Evaluation Officer (2)				66
Surveyor Engineering (4)				132
Surveyor Land (2)				66
LCS Facilitator				33
Consolidator (Land) (2)				66
Administrative Assistant, NPO				33
Administrative Assistant, DPO				36
Accounts Assistant				33
Computer Operator (2)				66
Driver (5)				246
Driver (2)				66
Peon/office Asst./Guard /Cook/Cleaner (8)				420
Peon/office Asst./Guard /Cook/Cleaner (4)				132

Assignment of Project Engineers has been revised taking into account changes in planned construction work (see 4.2.1)

Annex 3. Present Project Staffing

Status of Project personnel on 31st December 2019

Sl.		Designation	Date of Joining	Recruiting Firm
Technical Assistance Team: Senior Positions				
1	Andrew Jenkins	Team Leader	01 July 2019	EMMD
2	Mihir Kumar Chakraborty	Deputy Team Leader(I)	01 August 2019	EMMD
3	Md. Bazlul Karim	Deputy Team Leader (D)	01 July 2019	BETS
4	Rezaul Karim	Land Settlement Advisor	01 July 2019	BETS
5	Sajjad Ahmed Khan	Financial Advisor	01 July 2019	SCL
6	A H M Kausher	Hydro morphology and Planning Advisor	01 July 2019	EMMD
7	Kiran Sanker Sarkar	Monitoring, Evaluation and Knowledge Management Advisor	01 July 2019	SCL
8	Rahima Khatun	Gender and Nutrition Advisor	01 July 2019	EMMD
9	Engr. Md. Mainul Islam	Quality Control/Design Engineer	01 July 2019	BETS
Technical Assistance Team: Technical and Administrative				
1	A M M Yahia Shawon	Accounts Officer	01 July 2019	EMMD
2	Mesbahuddin Ahmed (Bahar)	Logistics Officer	01 July 2019	SCL
3	Md.Nurul Islam	Assistant Land Settlement Advisor	01 July 2019	EMMD
4	Md. Mizanur Rahman	MIS/Computer Specialist	01 July 2019	BETS
5	Md.Mizanur Rahman	Project Area Coordinator	13 October 2019	SCL
6	Md .Liakat Ali Khan	Project Area Coordinator	13 October 2019	BETS
7	Md.Basedul Alam Siddiqui	Project Area Coordinator	13 October 2019	BETS
8	Md. Alauddin	Project Area Coordinator	13 October 2019	EMMD
9	Md.Zahirul Islam Chowdhury	Social Forestry Coordinator	13 October 2019	BETS
10	Zulfiquer Aziz	Project Engineer	13 October 2019	EMMD
11	Md. Abul Hossain	Project Engineer	13 October 2019	BETS
12	Sajjadur Rahman	Project Engineer	13 October 2019	EMMD
13	Sanker Chandra Saha	Project Engineer	13 October 2019	EMMD
14	Radheshyam Sutradhar	Project Agriculturist	13 October 2019	BETS
15	Motaher Hossain	NGO Sector Specialist	13 October 2019	SCL
16	Mozammel Hoque Chowdhury	NGO Sector Specialist	13 October 2019	SCL
17	Ms. Jannatul Naim	NGO Sector Specialist	13 October 2019	SCL
18	Md. Liakat Ali	NGO Sector Specialist	13 October 2019	BETS
19	Md. Abul Basar	NGO Sector Specialist	13 October 2019	EMMD
20	Ahmad Siraji	Office Manager	1 March 2020	EMMD

Supporting Staff				
1	Shilpi Gonsalves	Administrative Assistant	13 October 2019	BETS
2	Md.Sanaullah	Accounts Assistant	13 October 2019	EMMD
3	Zahidur Rahman	Administrative Assistant (Dhaka)	01 July 2019	EMMD
4	Md.Rafiqul Islam	Data Collector (PCD Office)	01 July 2019	EMMD
5	M A Kader	Monitoring & Evaluation Officer	13 October 2019	SCL
6	Most. Khaleda Akter	Monitoring & Evaluation Officer	13 October 2019	BETS
7	Fatema Begum	WMO/Gender Facilitator	13 October 2019	EMMD
8	Nahid Farhana Akter	WMO/Gender Facilitator	13 October 2019	BETS
9	Sazedul Kabir	Computer Operator	13 October 2019	SCL
10	Abul Kashem	Computer Operator	1 July 2019	BETS
11	Mohamed Ali	Surveyor (Engineering)	13 October 2019	SCL
12	Md.Sajib Hossain	Surveyor (Engineering)	13 October 2019	BETS
13	Khalek Khan	Surveyor (Engineering)	13 October 2019	EMMD
14	Nazrul Islam	Surveyor (Engineering)	13 October 2019	SCL
15	Habibur Rahman	Surveyor (Land)	1 July 2019	EMMD
16	Md.Kamal Uddin	Surveyor (Land)	13 October 2019	BETS
17	Md.Delwar Hossain	Consolidator (Land)	13 October 2019	EMMD
19	Md. Shahidul Islam	LCS Facilitator	13 October 2019	SCL
20	Flavian Gonsalves	Driver	01 July 2019	BETS
21	Md.Gayez Alam	Driver	01 July 2019	SCL
22	Md.Abdul Latif	Driver	13 October 2019	SCL
23	Md. Abdul Jalil Miah	Driver	13 October 2019	SCL
24	Md. Abdul Hai (Bahar)	Driver (DPO)	01 July 2019	EMMD
25	Md. Abdul Wohab	Driver	01 July 2019	BETS
26	Chandra Bhushion Majumder	Driver	01 July 2019	BETS
27	Md. Shohan	Peon	01 July 2019	SCL
28	Md. Abul Hossain	Peon	01 July 2019	BETS
29	Bino Fernandez	Guard	01 July 2019	SCL
30	Md. Abdul Kader	Cook/Site Office Peon	01 July 2019	SCL
31	Md.Johiruddin	Cook (Noler Char)	01 July 2019	BETS
32	Mohammad Shamsul Haque	Cook (Urir Char)	13 October 2019	BETS
33	Md.Jewel	Cook (Boyer Char)	13 October 2019	BETS
34	Bashir Ahmed	Peon (PCD Office)	01 July 2019	EMMD
35	Md. Shah Alam	Cleaner cum Peon	01 July 2019	SCL
36	Mohammad Kabir	Guard (Urir Char)	01 July 2019	BETS

Annex 4. Short Term Inputs

Technical and managerial back-up for the Technical Assistance team will be provided through support of short-term consultants. Fields that are supported by short term inputs include monitoring and evaluation and climate resilience/disaster management.

On a day-today basis, the Project Manager at the head office of the main consultant will provide managerial support to the Team Leader, while the financial department at the head office will extend assistance to the Financial Adviser.

In the budget there is provision for 6 months input of short-term international experts and 48 months of Young Professionals. The input of short term national and international consultants will be based on a well defined need for the expertise, reflected in dedicated, detailed Terms of Reference for the required input, approved by the PMC.

Inputs of the following consultants are tentatively foreseen, requirement for other inputs may emerge as the project develops:

Short-term Input	***Consultant***	***Months***
Monitoring and Evaluation	Edward Mallorie	2
Climate Resilience /Disaster Management	Natasha Haider	3
Young Professional (international)	Wolfgang Duifhuizen	12
2 x National Young Professionals	TBD	2x18
Unspecified	TBD	1

International Short-term

Besides the Team Leader, the international core team includes Mr. Edward Malorie MSc. as the M&E Specialist. Mr. Malorie is an economist and financial analysist with over 30 years of experience with project design and implementation, monitoring and evaluation, and policy formulation for water resources, rural development and poverty reduction.

Ms. Natasha Haider MSc. is the climate resilience and disaster risk reduction specialist, who focuses on impacts of climate change, climate change adaptation, and disaster resilience.

Annex 5. Responsibilities of the Inter-Ministerial Steering Committee (IMSC)

The Inter Ministerial Steering Committee (IMSC) is the highest coordinating body of the project. This Committee is chaired by the Secretary Ministry of Water Resources (MoWR) and consists of Joint Secretaries of the parent Ministries of the other five involved implementing agencies, and the Joint Chiefs of MoWR and of the water/irrigation wing of the Planning Commission. The Project Coordinating Director for BWDB will act as Member-Secretary of the IMSC. A representative of the Embassy of the Kingdom of the Netherlands (EKN) and the Team Leader of the TA team will participate with observer status. The Office of the BWDB Project Coordinating Director will serve as secretariat of the IMSC.

The IMSC will preferably meet once in every six months but at least once in every 12 months.

The responsibilities of the IMSC can be summarised as follows:

Policy

- Discuss policy and conceptual papers on char development and settlement issues in general, especially with reference to the Coastal Zone Policy, Coastal Development Strategy and Delta Plan.
- Discuss and approve policy documents on char development and settlement issues in the framework of CDSP IV.

Planning

- Discuss and approve the Inception Report.
- Discuss and approve the Annual Work Plan and Budget of the overall project.

Monitoring of implementation

- Discuss the overall six monthly Progress Report
- Discuss and decide on any implementation issue that the Project Management Committee has referred to the IMSC.

Coordination

- Discuss and resolve any inter-agency cooperation issue that the Project Management Committee has referred to the IMSC.
- Provide coordination on the implementation of the Coastal Zone Policy and the Coastal Development Strategy by the parent Ministries of the six implementing agencies.
- Discuss and review plan and proposals for the institutionalisation of char development and settlement.

Internalization and dissemination

- Discuss and approve the implementation strategy of the internalisation and dissemination activities under CDSP-B (AF).
- Discuss and approve the internalisation activities aiming at senior management of the five implementing agencies and of their parent Ministries.
- Discuss and approve major dissemination activities aimed at civil society and at the media.

Annex 6. Responsibilities of Project Management Committee (PMC)

The Project Management Committee will be the central decision making body of CDSP-B. The PMC will be chaired by the Project Coordinating Director (PCD) of BWDB, with its members being the PDs of LGED, MOL (with the Senior Assistant Commissioner/ Assistant Commissioners appointed by the DCs to support CDSP land settlement attending PMCs on behalf of the DCs), DPHE and DAF and the Team Leader (TL) of the TA team. The TL is, at the same time, an advisor to the PD, and the TL will act as secretary to the PMC. The Office of the PCD BWDB will serve as the secretariat of the PMC.

The PMC will aim to meet once a month but should at least meet once in every three months.

The responsibilities of the PMC can be summarized as follows:

Planning

- Discuss and approve the Inception Report and recommend it for approval by the National Steering Committee.
- Discuss and approve guidelines for project implementation.
- Discuss the Annual Development Plans and Annual Work Plan and Budget of the five Implementing Agencies.
- Discuss and approve the overall Annual Work Plan and Budget, which incorporates these five plans and also includes all other CDSP IV activities not directly related to one of the agencies.
- Discuss and formulate recommendations on changes in the individual Development Project Proformas.
- Discuss and approve the Terms of Reference for studies for future char development programmes and the draft study reports
- Discuss and approve any changes to the composition of the TA team and to inputs by short-term consultants.

Monitoring of implementation

- Continuously monitor progress of project activities against the DPPs, the Inception Report and the subsequent AWPs.
- Discuss the progress reports of the six individual agencies and discuss and approve the overall six-monthly Progress Reports.
- Discuss financial reports of the six individual agencies and discuss and approve the financial report as it is included in the overall Progress Report.
- Discuss and resolve any disputes that might arise between any of the agencies with regard to matters of implementation.
- Discuss any dispute issues related to the disbursement of funds by the donors (IFAD and the Netherlands Government).
- Review, prioritize and approve proposals from partner agencies or TA team regarding short term consultancies.

Coordination

- Discuss and approve coordination mechanisms and processes among the parties involved in CDSP, in particular at District and field level.
- Maintain and continuously assess the relations and interactions between CDSP and the agencies responsible for the development of the coastal zone, in particular with regard to the implementation of the Coastal Development Strategy.
- Discuss and approve working papers for the meetings of the IMSC.

Knowledge management and dissemination

- Develop and monitor implementation of programmes for lesson learning from the CDSP concept and achievements (working methods; information; organizational culture) in the participating agencies.
- Stimulate the internalisation of the CDSP concept and dissemination of CDSP achievements within the organisation of the five Implementing Agencies.
- Discuss the preparation of the Technical Reports published under the responsibility of the PMC and share their contents after publication and decide on the dissemination of those Technical Reports.
- Discuss the contents of reports published by short term consultants under CDSP IV and decide on the dissemination of these reports.
- Discuss and approve a programme for dissemination of CDSP experiences and achievements among a wider public.
- Discuss any report, article or study of any source relevant to the objectives and activities of CDSP IV and decide on further dissemination of those publications.

Miscellaneous

- Decide on all major day-to-day issues within the framework of the project documents.
- Discuss and decide on any other matter related to the smooth functioning of CDSP IV.

Annex 7. Time schedule

Activity (Objectives 1&2)	Performance Indicators	Expected Outputs	Year 1	Year 2	Year 3
C1a Water Management					
Review location of new infrastructure	Selection of safe sites	Site confirmation	==		
Designs and Tender	Correct process followed	Contracts	==		
Construction			==	==	==
Land Acquisition	Timely fund placement	Compensation paid	====	====	====
C1b Social Forestry					
Site selection	Good project coordination	Sites available	==		
SFG Formation	Groups formed and trained	Good SFGs	==		
Establish Nurseries	Nurserers trained	Seedlings available	=	==	
Plantation	Planned area planted	Planned forestation		=	===
C2a Internal infrastructure					
Review location of new infrastructure	Selection of safe sites	Site confirmation	==		
Designs and Tender	Correct process followed	Contracts	==		
Construction			==	==	==
Land Acquisition	Timely fund placement	Compensation paid	====	====	====
C2b Water and sanitation					
Social organization for WATSAN	Engagement of NGO	Fund collection, WU groups formed/trained	====		
Trial well drilling	Selection of suitable sites	Feasibibilty confirmed	==		
Full well drilling	Participatory site selection	Full coverage ensured		==	==
Produce rings/slabs by contracted LCSs	LCSs formed and trained	Full sanitation coverage ensured	==	====	===
C3 Land settlement/titling					
Resolve Urir Char boundary	Effective support to Ministry of Land	Boundary agreement	====		
Settlement/titling Urir Char /Char Nangulia	Correct procedures followed with integrity	Settlment/titling targest achieved	==	====	===
Upgrading LRMS etc.	Clear concept of streamlined system	More effective and transparent system	===	====	
C4a Commercial Agriculture					
Support LGED to engage NGO for provision of agricultural advice	Evaluation of scope for PBAS, ACIT and further developed value chains.	Effective and competent extension. Increased income.	====	====	====
C4b Institutional and Livelihood Support					
Manage WATSAN NGO Support/encourage NGO legal, WMO activities etc.	Clear guidance to and positive relationships with NGOs.	Continued/expanded provision of NGO services			
C5: Technical Assistance and Management Support					
Hydro-morphological Study	Clear ToRs, capable agency	Clear analysis of trends	===	==	
Strategic Planning	Suitable method/process	Investment options	= =	===	
Facilitate development of Appropriate Institutions	Capacity Assessment Stakeholder Consultation Option Formulation		===	== 	===

Designs and Tenders (C1a and C2a) may be extended into Year 2 because of delays related to bank erosion (see section 4.2.1).

Annex 8. Cost of the Project

SL #	IA	Ministry	GOB	IFAD RPA	DPA	RPA+DPA		Total Tk	US Dollar
				Loan	Grant	Sub-total	BC		
1	*2*	*3*	*4*	*5*	*6*	*7=5+6*	*8*	*9=7+4+8*	*10*
1	FD	MEF	20,160.00	87,612.00		87,612.00		107,772.00	1,283.00
2	MoL	MoL	71,121.00	78,771.00		78,771.00		149,892.00	1,784.83
3	LGED	LGRD	395,934.00	725,235.00		725,235.00		1,121,169.00	13,347.25
4	DPHE	LGRD	107,378.00	239,061.00		239,061.00		346,439.00	4,124.28
5	BWDB	MoWR	1,553,724.00	608,025.00	475,000.00	1,083,025.00		2,636,749.00	31,389.87
	Total		**2,148,317.00**	**1,738,704.00**	**475,000.00**	**2,213,704.00**		**4,362,021.00**	**51,928.82**
	NGO					-			
	BC					-	5,880.00	5,880.00	70.00
	Total		**2,148,317.00**	**1,738,704.00**	**475,000.00**	**2,213,704.00**	**5,880.00**	**4,367,901.00**	**51,998.82**
	Percentage		**49.18**	**39.81**	**10.88**	**99.87**	**0.13**	**100.00**	**100.00**
	US$		**25,575.20**	**20,698.86**	**5,654.76**	**26,353.62**	**70.00**		**51,998.82**

Legend:
BC = Beneficiary Contributions
IA = Implementing Agency

Note: Since DAE was not able to join in CDSP-B (AF), the PD LGED agreed to incorporate a component on agricultural activities in the relevant DPP to support the CDSP Bridging Project. LGED will contact one or more NGOs to implement field activities including strengthening and support for farmer organisations (including farmer training, demonstration etc.) and field facilitation for ACIT and value chain development.

Annex 9. Cost of the Project by Component

SL	Cost Components	FD	MoL	LGED	DPHE	BWDB	BC	Total
1	**Protection from Climate Change**							
	Water Resources Management					2,161,749.00		2,161,749.00
	Social Forestry	107,772.00						107,772.00
	ST	**107,772.00**	**-**	**-**	**-**	**2,161,749.0**0	**-**	**2,269,521.00**
2	**Internal Infrastructure**							
	CC protection Infrastructure			911,321.00				911,321.00
	Water and Sanitation				346,439.00		5,880.00	352,319.00
	ST	**-**	**-**	**911,321.00**	**346,439.00**	**-**	**5,880.00**	**1,263,640.00**
3	**Land Settlement**		**149,892.00**					**149,892.00**
4	**Support for Livelihood**							
	Agriculture Development			137,750.00				137,750.00
	NGO Support			72,098.00		19,320.00		91,418**.00**
	ST		**-**	**209,848.00** -	**-**	**19,320.00**	**-**	**229,168.00**
5	**TA Management**					**455,680.00**		**455.680.00**
	Grand Total	**107,772.00**	**149,892.00**	**1,121,169.00**	**346,439.00**	**2,636,749.00**	**5,880.00**	**4,367,901.00**

Annex 10. Project Financing Plan

SL	Cost Components	IFAD	GoN	GoB	BC	Total
1	**Protection from Climate Change**					
	Water Resources Management	608,025.00	-	1,553,724.00		2,161,749.00
	Social Forestry	87,612.00	-	20,160.00		107,772.00
	ST	**695,637.00**	-	**1,573,884.00**	**-**	**2,269,521.00**
	USD	**8,281.39**	-	**18,736.61**	**-**	**27,018.00**
	%	**30.64**	**-**	**69.36**		**100.00**
2	**Internal Infrastructure**					
	CC protection Infrastructure	537,760.00	-	373,561.00		911,321.00
	Water and Sanitation	239,061.00	-	107,378.00	5,880.00	352,319.00
	ST	**776,821.00**	-	**480,939.00**	**5,880.00**	**1,263,640.00**
	USD	**9,247.87**	-	**5,725.56**	**70.00**	**15,043.33**
	%	**61.47**	-	**38.06**	**0.47**	**100.00**
3	**Land Settlement**	**78,771.00**	-	**71,121.00**	**-**	**149,892.00**
	USD	**937.75**	-	**846.68**	**-**	**1,784.43**
	%	**52.55**	-	**47.45**		**100.00**
4	**Support for Livelihood**					
	Agriculture Development	117,057.00		20,693.00		137,750.00
	NGO Support	70,418.00	19,320.00	1,680.00		91,418.00
	ST	**187,475.00**	**19,320.00**	**22,373.00**	**-**	**229,168.00**
	USD	**2,231.85**	**230.00**	**266.35**	**-**	**2,728.20**
	%	**81.81**	**8.43**	**9.76**		**100.00**
5	**TA Management**		**455,680.00**			**455,680.00**
	USD		**5,424.76**			**5,424.76**
	%		**100.00**			**100.00**
	GT	**1,738,704.00**	**475,000.00**	**2,148,317.00**	**5,880.00**	**4,367,901.00**
	Exchange Rate : USD 1 = BDT	84.00	84.00	84.00	84.00	84.00
	USD as per DPP	**20,698.86**	**5,654.76**	**25,575.20**	**70.00**	**51,998.82**

Annex 11. Technical Assistance Budget Summary

Note, this is not fully consistent with Annexes 8-10, which are taken from the (IFAD) draft PDR, Revision of these Annexes will be made after a final PDR is received

Price Component A consultant team	€ 2,092,218.00	
Price Component B technical, administrative and support staff	€ 1,682,748.00	
Price Component C Operational costs and training	€ 1,200,910.00	
Grand total: overall project budget	**€ 4,975,876.00**	including VAT and indexing for 3 years
Maximum allowed overall project budget	€ 5,000,000.00	

Annex 12. Risk Assessment Matrix

Risks	Probability of occurrence	Impact	Risk level	Mitigation measures	Responsible agency	TA Role	Residual risk level
Output level							
Continuing and increased bank erosion	High	High	High	Careful planning based on Hydro morphological study	BWDB	Advisory	Medium
Land settlement disputes	High	High	High	Strict application of procedures	MoL; District Administration	Monitoring and advice	Medium
Court Cases	High	High	High	Positive measures at court	MoL; District Administration	Monitoring and advice	Medium
Upazilla Boundary Disputes	High	High	High	Adequate attempts for disposal	MoL; District Administration DGLRS	Monitoring and advice	Medium
Insufficient allocation of funds for O&M	High	High	High	Lobby at agencies for adequate fun-ding	Implementing agencies	Continuous attention	Medium
Unfavourable weather conditions during construction	Medium	High	High	Adequate planning and adherence to plan	Implementing agencies/ contractors	Verification and advice	Low
Shortage of good quality staff with IAs	High	Medium	Medium	Stick to the staffing stipulated in the DPP's	Implementing agencies	Assess and report in PMC meeting	Medium

Risks	Probability of occurrence	Impact	Risk level	Mitigation measures	Responsible agency	TA Role	Residual risk level
Non-availability of funds	Medium	High	Medium	Timely fund requisition	Implementing agencies	Continuous attention	Medium
Non-availability of construction material	Medium	Medium	Medium	Supervision of adequate procurement by contractor	Implementing agencies	Verify and alert implementing agency	Low
Problems with land acquisition at construction sites	Medium	High	Medium	Early acquisition	Implementing agencies	Verify and alert implementing agency	Medium
Absence of good quality contractors	Medium	High	Medium	Strict tendering procedures; intensive field supervision	Implementing agencies	Strict monitoring of quality	Low
Collusion between contractors	Medium	Medium	Medium	Strict tendering procedures	Implementing agencies	Strict monitoring of tender process	Low
Low quality of construction works	Medium	Medium	Medium	Implementation quality control procedures; checking of bills	Implementing agencies	Monitoring quality of works; checking of bills	Low
Erosion of embankments	Medium	High	Medium	Maintaining sufficient set- back distance; fore-shore plantation	BWDB; FD	Verification and advice	Medium
Unfavourable weather conditions during construction	Medium	Medium	Medium	Adequate planning and adherence to plan	Implementing agencies/ contractors	Verification and advice	Low

Risks	Probability of occurrence	Impact	Risk level	Mitigation measures	Responsible agency	TA Role	Residual risk level
Salinity of groundwater	Medium	High	Medium	Alternatives like PSF and RWH; groundwater monitoring	DPHE	Verification and advice	Medium
Absence of good quality staff with NGO's	Medium	Medium	Medium	Adequate selection (criteria)	PMC/ TA Team	Tendering; NGO program management	Low
Law and order situation in the project area	Medium	Medium	Medium	Project implementation; close relation with DC and SP	All		Low
Absence of sufficient coordination between agencies	Low	Medium	Low	Regular PMC InterMinisterial and other Coordination meetings	PCD BWDB	Convene PMC meetings; stimulate attendance	Low
Absence of good quality staff with consultants	Low	Medium	Low	Adequate management and recruitment	Consulting firms	Project Management	Low
Purpose level							
Natural disasters	High	High	High	Preparedness and resilient infrastructure; adequate designs	All	Creation of awareness	Medium
Political instability	Medium	Medium	Medium	Good relations at all levels	All		Low

Annex 13. Coordination Meeting Minutes

Minutes of Coordination meeting of CDSP-Bridging (Additional Financing) held on 18-07-2019 at 10:00 AM at Mott MacDonald Office, Plot # 77 (Floor-6), Road # 11, Block M. Banani, Dhaka

The agenda of the coordination meeting are as follows:

1. Start up of CDSP-Bridging (CDSP-IV-AF) Project on July 1, 2019 and introduction of TA team with Project officials.
2. Status of- Project DPPs and steps required for early approval.
3. Preparation of Inception Report of CDSP-Bridging Project (CDSP-lV AF) and support from implementing agencies.
4. Major intervention of the project and challenges, if any.
5. New reporting system.
6. Miscellaneous

The meeting was presided over by Project Coordinating Director Md. Shamsuddoha, BWDB, Dhaka

The Chairperson of the meeting welcomed all the participants with special thanks to the First Secretary, EKN, Mr. Peter de Vries and IFAD CPO Ms. Sherina Tabassum for their presence in the meeting.

Then he requested the Team Leader TA team Mr. Andrew Jenkins to facilitate the meeting. Mr. Jenkins introduced himself as Technical Assistance Team Leader in CDSP-B (Additional Financing) project and welcomed all PDs, TA members and representatives of all concerned departments.

Agenda 1: Start up of CDSP-Bridging (CDSP-IV-AF) Project on July 1, 2019 and introduction of TA team with Project officials.

All participants introduced themselves and appreciated the new phase of the project. The TL mentioned about the priorities of the new phase especially the hydro-morphological study of the Eastern estuary and coastal chars and the exploration of new areas for a possible CDSP-V. He informed the meeting that, in line with the new TA contact with the EKN, essential colleagues, i.e. senior consultants with support staff have been mobilized from 1st July 2019.

Agenda 2: Status of the Project DPPs and steps required for early approval

The status of DPP approval by the concerned departments is as follows:

BWDB: DPP under review in Planning Commission and approval hoped for by August 2019.

MoL: DPP under review in the Planning Commission; a PEC meeting is expected very soon and approval hoped for by August 2019.

FD: Proposal for manpower has been sent to Finance. After this, approval by August 2019 may be carried out by the Planning Commission.

DPHE: DPP under review by the Ministry; a PEC meeting expected within 15 days.

LGED: DPP final draft is ready for submission to the Ministry.

After detailed discussion the following decisions was taken:

Decision 2.1: All PDs were requested to follow up regularly to get the DPP approval as early as possible.

Agenda 3: Preparation of the Inception Report of CDSP-Bridging Project (CDSP-AF) and support from implementing agencies

The TL informed the meeting that the TA team is preparing its Inception Report broadly following the previous approach of CDSP-IV, closely related to the Project Document and in line with proposed DPPs; hence the TA team has close contact with respective departments for their support. Although the report submission is required by December 2019, the team is trying to submit early so that the full team can then be mobilized to start the field work.

Mr. Peter de Vries informed the meeting that:
CDSP has special characteristics which need a clear vision and also needs creativity, strategic thinking and the development of long-term institutional arrangements. Planning needs to take into account the Delta Plan of the Government, and the specific activities of the TA have already been outlined in the Project Document. In addition, Complete gender disaggregation of beneficiaries is important, and a new creative form of agricultural development should be introduced.

Ms. Sherina Tabassum informed the meeting that:
The gender component is important especially in relation to land title. IFAD has defined this as a gender transformation project, so this should be highlighted. The project loan agreement will be signed on 8th August 2019 and the next IFAD Board meeting may be held in September.

In September, the short-term consultant Ms. Soma along with CPO Ms. Sherina Tabassum will visit CDSP-B area in relation to the compliance status of the GoB land Resettlement Action Plan (RAP) and will like the support of the of the DC Noakhali and the TA team. A visit from Global Affairs, Canada, is also expected in September. The first IFAD Supervision Mission is planned for November 30 to December 14, 2019.

Dr. Nigel Brett, IFAD, Director Asia Pacific Region will visit Bangladesh during 27/7/2019-01/8/2019, so a formal start up may be organized by the project. However, in reply, the PCD informed the meeting this may not be possible due to various reasons.

After discussion the following decisions were taken:
Decision 3.1: All PDs are requested to provide required information on DPPs to the respective TA members, which will be helpful for preparation of the Inception Report.

Decision 3.2: Gender Mainstreaming in all components should be highlighted and given more importance in line with the Project Document of the EKN and IFAD reports.

Decision 3: CDSP-B should focus on strategic planning and long-term institutional aspects.

Decision 3.4: A startup workshop for CDSP-B will reviewed by the project and a date fixed considering the DPP approval and other related matters mentioned by the PCD.

Decision 3.5: PCD and XEN BWDB will follow up compliance with the RAP and ensure an update before the mission of IFAD due in September 2019.

Agenda 4: Major intervention of the project and challenges.

Discussion focused several points:
Unanticipated river erosion may negatively affect outputs, outcome and impact of CDSP-B. Therefore, execution of the hydro-morphology study is a priority. Strategic planning exploring new areas for the next phase is important. It should be noted that the overall project implementation time covered in DPPs is the period January 1, 2019 – December 31, 2021.

Agenda 5: New reporting system

The TL informed the meeting that from now on reporting will continue to meet the three partners' (GoB, IFAD and EKN) requirements and so will comply with the IATI (International Aid Transparency Initiatives) on-line system. About 10 key indicators will be selected and regularly updated and a half yearly narrative report of 8-10 pages uploaded. In addition, financial reporting following the IFAD system will also be followed. If necessary, a special session on reporting will be convened to ensure all are clear on this.

Decision 5.1: It was decided to follow the proposed reporting system considering the requirement of EKN, IFAD and GoB. If required a clarification sessions may be organized.

Agenda 6: Miscellaneous

1) **CDSP Book: New Land New Life publication**

The TL informed the meeting that the text and design (including photographs) of the book proposed by Thierry Benoit has been completed. The identified publisher has submitted an estimate of about BDT 10,00,000.00 (Ten lakh) for 500 copies, and funding has to be explored. One source may be that each DPP has some provision of publication under the IFAD Loan agreement, and these may be assembled. However, the EKN indicated that this might be covered under the TA budget, so both options may be explored.

Decision 6.1: Team Leader TA team will send a copy of book to the CPO IFAD for text approval.

Decision 6.2: PCD and TL will determine the latest cost estimate and explore possibilities for funding.

2) **Approval of Short term International Consultant for hydro-morphological study**

The TL proposed immediately fielding a Short-term International Consultant (draft terms of reference were circulated) to examine the hydro-morphology in relation to replacement sea dyke and sluice setback distances. It is important to examine the possible locations of this infrastructure, in relation to proposed DPPs. Since the last bank erosion measurement was in

September 2018, the TA team has mobilised a team to update the data update, to support the proposed mission and it is planned to engage Mr. Bram Bliek, who will arrive on August 16, 2019.

Decision 6.2: The meeting unanimously approved the mission of the Short-term International Hydro-Morphology expert Mr. Bram Bliek.

3. **Senior Consultant support from TA team for Social Forestry component**

Project Director FD informed the meeting that in CDSP-B phase there is no provision of Senior Consultant: Social Forestry Advisor although it is a major component of the project. We have a separate DPP which needs support by the TA team throughout the implementation period. In previous phases many activities have been included such as mangrove plantation, foreshore plantation, social forestry plantation, maintenance of earlier plantation etc. There was always a provision for that post in CDSP I, II and III, hence it is requested to please consider the matter in this period. The PCD has also supported the proposal of the PD, FD.

In reply Mr. Peter de Vries replied that, in case of necessity the issue may be considered, if there is sufficient justification for this particular post but the tradition of the post n CDSP I, II and III cannot be sufficient justification. The PD can propose this if there is sufficient and convincing justification for considering the issue.

Then the meeting ended with a vote of thanks from the chair.

(Md. Shamsuddoha)
Project Coordinating Director.

Annex 14. Environmental and Social Monitoring Plan (ESMP)

Environmental/ Social risks	Recommended mitigation action	Project proposed action
Environmental		
The CDSP-IV areas have been adversely affected by a combination of sea level rise and an increased wave interaction induced by rising sea surface temperature. As a consequence, even the areas which were thought to be 'established' and not at risk of erosion, have already been facing severe form of erosion[6].	Since the risk of further erosion is highly probable, the mitigation measures are: (a) retirement of part of the embankment at risk, along with replacement of the DS-2 and other structures in the short run, and (b) erosion prevention infrastructure along the lower Meghna river in the longer run, the latter option being costly and beyond the scope of the Additional Funding phase. This can be a menu for the anticipated CDSP V in line with the GoB Delta Plan. (c) a feasibility study before initiating infrastructure works (d) IFAD implementation support to include water management specialist	(a) retirement of part of the embankment at risk, along with replacement of the DS-2 and other sluices in CDSP-III and IV area following the indicated position of the eroding bank line after 10 years is not feasible within CDSP-B(AF) period, but can be a planned activity for the anticipated CDSP V after getting confirmation from hydro-morphological survey and model study, Construction of all major structures to be confirmed inside the 10 years safety line,
Social Forestry model to replace Acacia spp.	Immediately prioritize silvicultural trial	Project to implement
Arsenic contamination in tube wells	Establish arsenic monitoring protocol that DPHE has for other areas	Project to implement
Social		
Component 1: HHs with land titles between river and new embankments, who lose homes/ land/ productivity to river erosion	Quantify/ identify HHs	Project to implement/ ongoing
	Immediately prioritize for livelihoods rehabilitation and also give them the option of settlement in undeveloped chars, after existing settlers, in line with GoB policy.	Project to implement/ ongoing
	Project to negotiate with microfinance providers for better terms for those with loans, and seek other partners to support these HHs.	Project to implement.
Component 1: HHs with land titles, who lose homes/ land/ productivity to acquisition to prevent damage to entire CDSP area	Project to ensure full FPIC process and public meetings to ensure that HH are aware of their rights and processes including grievance mechanisms enshrined in law.	Project to implement/ ongoing
	Support GoB and facilitate dialogue/ resolution of any disputes.	Project to implement/ ongoing
	Project to work with HHs to ensure land title owners have separate bank accounts and do not give up husband/ wife rights to separate cheques.	Intra-household support for gender-equitable decision-making in general is planned. Project to implement FPIC meetings will stress this dimension e.g. encourage new assets etc to be in same joint name as original land titles. Project to implement

[6]Along Char Nangulia and Noler Char; while two-thirds of Caring char has been eroded between 2013 and 2018.

	Project to encourage HHs to plan and make good and equitable investments with compensation, where assets purchased are in same joint names as in land titles that entitle them to compensation.	Intra-household support for gender-equitable decision-making in general is planned. Project to implement FPIC meetings will stress this dimension e.g. encourage new assets etc to be in same joint name as original land titles. Project to implement
	Project to develop incentive(s) to encourage HH equity in how compensation is used e.g. legal support to make those investments, possibly through the relevant field level organization.	Project to identify potential for incentives, led by Gender and Nutrition Adviser/ Project to implement
Component 1: Host communities	Project to sensitize local authorities in neighbouring areas as many HHs are likely to stay in broader area.	No longer relevant as wide dispersion of affected households
Component 1: LCS members may run health and safety risks	Check IFAD and LCS experience (a study was done in early 2018) and introduce measures e.g. handcarts to avoid head load, regular rests, on-site WASH etc. Actively seek income opportunities for LCS groups	Project to support LGED in identifying possible measure Project to explore viability
Component 2: LCS members engaged for internal infrastructure may run health and safety risks	As above	As above
Component 4: Most HHs lack 'sufficient' savings and are still vulnerable to shocks and slipping back into poverty	Project to consider establishing HH 'sufficient' savings target within a 'resilience' framework e.g. enough to survive for x months without taking a loan, and promote saving culture in livelihoods component.	Project to explore viability
	Project to pilot simple community-based savings models e.g. revolving funds	Project to explore viability
	Project to facilitate HHs to access local social protection services to counter uptake by non-poor and supplement income of HHS.	Project to explore options
Component 4: HH productivity and access to drinking water/ social conflict due to potential over-extraction of water from deep tube wells.	Project to identify more sustainable options to increase irrigated area / or regulate water extraction.	Project to explore options
Component 5: lack of TA continuity	Project to explore how to ensure some continuity, especially at field level, whilst respecting GoB and IFAD guidelines	N/A
Component 5: need for greater in-country presence of Team Leader	Consider greater physical presence, at least 2 consecutive months per quarter, to promote proactive and integrated horizon scanning of social risks and opportunities	N/A
Priority social impacts to be leveraged	Gender: tackling entrenched intra-HH gender bias in decision-making, possibly as part of HH mentoring under a time bound resilience model	Intra-household support for gender-equitable decision-making in general is planned/ ongoing FPIC meetings will stress this dimension e.g. encourage new assets etc to be in same joint name as original land titles. Project to implement
	Climate-resilient market/ storage/ processing facilities: if not possible to implement in this Additional Financing Phase, the technical studies could be supported through climate finance.	Project to explore options