

PEOPLE'S REPUBLIC OF BANGLADESH

ADB – KfW – IFAD

COASTAL CLIMATE RESILIENT INFRASTRUCTURE PROJECT (CCRIP)

Design Completion Report
[for IFAD funded activities within the overall CCRIP Design]

Volume I: Main Report

Asia and the Pacific Division

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Table of Contents

Fiscal year	iii
Currency and Equivalents	iii
Units and Conversions	iii
Abbreviations, Acronyms and Glossary	iii
Map of the CCRIP Project Districts	v
Executive Summary	vii
Design and Monitoring Framework (DMF or Logframe)	xi
I. STRATEGIC CONTEXT AND RATIONALE	1
A. Background.....	1
B. Country and Rural development and poverty context	2
C. Rationale	4
D. Scaling-up	9
II. PROJECT DESCRIPTION	10
A. Project area, poverty and target group	10
B. Project Goal and Objective (“Impact and Outcome”)	12
C. Components.....	12
D. Lessons learned and compliance with IFAD policies	17
III. PROJECT IMPLEMENTATION	19
A. Approach.....	19
B. Organisational Framework	20
C. Planning, monitoring and evaluation, learning and knowledge generation	20
D. Financial management, disbursement, procurement and governance	24
E. Supervision.....	29
F. Risk identification and mitigation	29
IV. PROJECT COSTS, FINANCING, BENEFITS	30
A. Project Costs.....	30
B. Summary benefit and economic analysis.....	31
C. Sustainability	34

KEY FILE TABLES

Table 1: Rural poverty and agricultural sector issues

Table 2: Organisational capabilities matrix

Table 3: Complementary donor initiative / partnership potential

Table 4: Target group priority needs and project proposals

Table 5: Stakeholder matrix / project actors and roles

Fiscal Year

1 July to 30 June

Currency and Equivalents

Currency Unit	=	Bangladesh Taka (BDT)
October 2012 USD 1.00	=	BDT 82.00

Units and Conversions

1 lakh (lk.)	=	100,000
1 crore (cr.)	=	10,000,000
1 acre	=	0.407 ha
1 decimal	=	0.01 acre

Abbreviations, Acronyms and Glossary

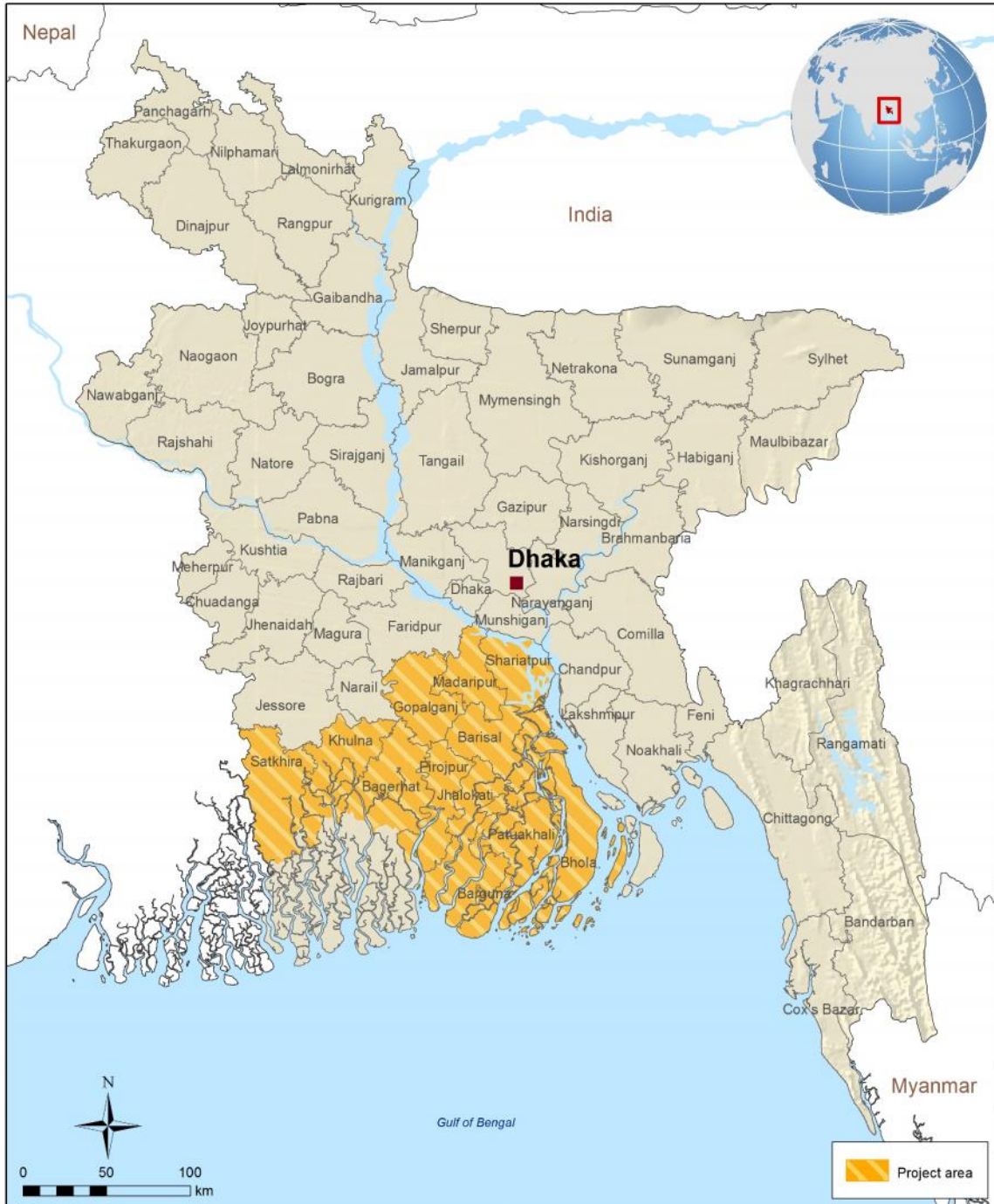
ADB	Asian Development Bank
ADP	Annual Development Plan
AE	Assistant Engineer
Aman	Main rice crop grown during the rainy season
Aus	Early rice crop grown during the early part of the rainy season
BARI	Bangladesh Agricultural Research Institute
BBS	Bangladesh Bureau of Statistics
BC	Bitumen carpeted
Boro	Irrigated rice crop grown during the winter season
BIDS	Bangladesh Institute of Development Studies
BRRRI	Bangladesh Rice Research Institute
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
CARE	An international NGO
CBO	Community Based Organisation
CC	Climate Change
CCP	Community Collection Point
CDSP	Char Development and Settlement Project
Char	Newly accreted land
COSOP	Country Strategic Opportunities Paper (IFAD)
DAE	Department of Agricultural Extension
DC	Deputy Commissioner (head of district administration)
DD	Deputy Director
DFID	Department for International Development (UK)
DLS	Department of Livestock Services
DPHE	Department of Public Health Engineering
DTW	Deep Tubewell
EIRR	Economic Internal Rate of Return
ERD	Economic Relations Division
FAO	Food and Agriculture Organisation
FY	Financial year
GB	Grameen Bank
GDP	Gross Domestic Product
Ghat	A Bangla word of boat landing boat platform
GMC	Growth market centre
GoB	Government of Bangladesh
HBB	Herringbone brick bond

Haat	A Bangladesh word for a rural market or bazaar, which assembles everyday with small number of buyers/sellers but meets twice a week in a large-scale where buyers/sellers from wider areas converge to do business
hh/HH	household
HIES	Household Income and Expenditure Survey
HILIP	Hoar Infrastructure and Livelihood Improvement Project
IFAD	International Fund for Agricultural Development
IRRI	International Rice Research Institute
JICA	Japan International Cooperation Agency
Khal	Drainage channel (natural or man-made)
Kharif	Summer cropping season
LCS	Labour Contracting Society
LGD	Local Government Division (of MLGRD&C)
LGED	Local Government Engineering Department
M&E	Monitoring and Evaluation
MIDPCR	Market Infrastructure Development Project in Charland Regions (IFAD)
MFMSFP	Micro Finance for Marginal and Small Farmers Project (IFAD)
MFTSP	Micro Finance and Technical Support Project (IFAD)
MFI	Microfinance Institution
MIS	Management Information System
MLGRD&C	Ministry of Local Government Rural Development and Cooperatives
MMC	Market Management Committee
MOF	Ministry of Finance
MoU	Memorandum of Understanding
MTR	Mid-Term Review
NATP	National Agricultural Technology Project (World Bank – IFAD)
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
p.a.	per annum
PCR	Project Completion Review
PD	Project Director
PAM	Project Administration Manual
PKSF	Palli Karma-Sahayak Foundation, Government established apex funding agency for MFIs/NGOs
PMO	Project Management Office
PSC	Project Steering Committee
PY	Project Year
QA	Quality Assurance
Rabi	Winter cropping season
RCC	Reinforced cement concrete (e.g. road)
RIMS	Results and Impact Management System
SAE	Sub-Assistant Engineer
SCBRMP	Sunamganj Community Based Resource Management Project
SDC	Swiss Development Cooperation
TA	Technical Assistance
UE	Upazila Engineer
UNO	Upazila Nirbahi (Executive) Officer
UP	Union Parishad
Upazila	Sub-district
USAID	United States Agency for International Development
WFP	United Nations World Food Programme
XEN	Executive Engineer (of LGED)

Map of the CCRIP Project Districts

People's Republic of Bangladesh
Coastal Climate Resilient Infrastructure Project

Design report



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

IFAD Map compiled by IFAD | 18-06-2013

Executive Summary

- Background:** The Coastal Climate Resilient Infrastructure Project (CCRIP) jointly funded by ADB, KfW, IFAD and Government of Bangladesh is a merger between the former Sustainable Market Infrastructure for Livelihoods Enhancement project (SMILE) of IFAD and the Climate Resilient Infrastructure Improvement in Coastal Zone Project (CRIICZP) of ADB/KfW. The overall design of CCRIP project had already been accepted by all three donor agencies and the Government, and approved by ADB Board in September 2012. ADB, KfW, and IFAD have signed an aide memoire on June 19, 2012 accepting the overall scope, financing and implementation aspects of the project. Later on, the Government confirmed the aide memoire. This project design report (PDR) presents the final design of IFAD funded activities as part of the overall project design. CCRIP is the first of two projects to be funded under the new Country Strategic Opportunities Program (COSOP) 2012–2018 of the International Fund for Agricultural Development (IFAD).
- Rationale:** Bangladesh is expected to be among those countries to be seriously affected by the adverse effects of climate change. Today, Bangladesh is already one of the most disaster prone countries among the least developed countries. Severe flooding and cyclones during the monsoon season is regularly causing serious damage to crops and properties, with severe adverse impact on rural livelihoods. Climate change is expected to increase the severity and frequency of cyclones and floods causing widespread destruction of land, roads, houses and other assets. In addition to the adverse climate change effects, rural producers, especially the poor and the small producers, suffer from two sets of constraints that limit the development of their livelihoods: a) poor road and market infrastructure that limits access to larger markets, increases cost of production because of higher input and transportation costs, and lowers prices due to remoteness; and b) limited access to demand-driven financial services, especially seasonal agricultural credit and loan for microenterprises, and limited access to good technology and inputs, knowledge and support services such as vaccination services for livestock etc.
- CCRIP will build climate resilient road infrastructure, cyclone shelters, and improve access to market to address acute poverty and climatic vulnerability in 12 south-western districts. By joining the ADB/KfW funded project and forming the CCRIP, IFAD will be able to render the former SMILE to a climate smart project in addition to the focus on connectivity and accessibility for smallholder producers. This is fully aligned with the COSOP objectives 1 and 2.
- Currently, the above two sets of constraints are being addressed at a comparatively small scale by two IFAD-funded projects: MIDPCR for rural infrastructure development; and FEDEC for agricultural and ME lending, and value chain development. The CCRIP project will scale-up MIDPCR's successful experiences mainly in rural roads (Union and village roads), boat landing platforms (ghats) and community (village) markets which are strategically located in the designated project areas. The experiences of MIDPCR, CDSP (I, II, and III), SCBRMP and similar rural infrastructure development projects have demonstrated that paved roads and markets improve communication and benefit households income through higher farm prices, increased wages, enhanced investment in agri-business and trade, better access to higher quality inputs, support services, credit and reduced cost of production and transport. Access to child education and primary health care also improves due to better transport facilities, especially in wet season. Overall, protection and enhancement of livelihoods is greatly expected. Moreover, MAPP, which will be designed as the follow-on project of FEDEC in 2014 to scale up the value chain and financial services development in the same area and to complement CCRIP "hardware" investments. CCRIP and MAPP each, will be implemented by specialized agencies: LGED for infrastructure and PKSF for rural finance and value chain development.
- CCRIP Project Area:** The IFAD funded activities under CCRIP will be implemented in 32 Upazilas of 12 South-western districts (Satkhira, Khulna, Bagerhat, Gopalganj, Madaripur, Shariatpur, Pirojpur, Jhalkati, Barisal, Bhola, Borguna, and Patuakhali). These district are known as very poor, least developed and vulnerable to natural disasters such as tidal surges, cyclones, and floods. The 32 Upazilas have been selected on the basis of seven indicators related to poverty, vulnerability, remoteness and quality and scale of infrastructure. IFAD expects that activities ("sub-projects") funded by ADB (Upazila roads and growth centre markets) and KfW (cyclone shelters and disaster preparedness capacity building) should also be implemented in these 32 upazilas to maximize project impacts.

6. Target groups and expected benefits: The project target group comprises the population in the catchment areas of project markets and user of roads, in particular, small and marginal farmers, small traders and micro-entrepreneurs, landless people and poor women. It is estimated that 3.5 million people will benefit from the project. Direct beneficiaries include 5,000 people contracted to LCS (of which at least 80% will be very poor women, with priority for women-headed households); 162,400 traders in the markets under the project; 52,600 transport owners; and 235,000 households living in the areas of influence of roads/markets. The benefits will come in the form of being able to use all weather communications, increased sales, reduced cost of transportation, higher farm price, future investments opportunities in agri-business and trading, and improved quality of agricultural inputs and support services. The improved road access is expected to encourage private investors to increase investments and service providers to expand into the project areas.
7. The project goal (ADB: Impact) of CCRIP is to achieve ‘Improved livelihoods (higher incomes and food security) for poor households (women and men) in selected Upazilas of 12 coastal districts’. The development objective (ADB: Outcome) is to achieve “enhanced climate resilience of coastal road and market infrastructure and people in selected Upazilas of 12 project districts”.
8. Components: The project will have the following three components:
 1. Improved Road Connectivity: The outcome of this component is ‘Improved road connectivity for men and women living in project Upazilas to access markets and social services’. Under this component, 130 km upazila road (ADB funded), 501 km union and village roads (IFAD funded) along with associated small bridges and culverts (2,455 meters) will be built. Roads will adopt climate resilient and or climate adaptation features. Roads that benefit highest the number of people, connect project markets (see below) and other important markets and remote villages will receive high priority.
 2. Improved Market Services: The outcome of this component is ‘Enhanced marketing of farm and non-farm produce in project markets’. This component will build/improve physical markets (common shed, fish shed, open paved/raised area, women section, toilet bloc, internal drainage etc.), build ‘commodity collection points (CCP), build boat landing platform (ghats), form market management committees (MMCs), and create employment for the poor women (LCS members). The plan is to develop 88 growth centres and large rural markets (ADB funded), and 197 community (village) markets, 5 CCPs. 15 women sections and 38 boat landing platform (IFAD funded), and for LCS group and MMC management system.
 3. Enhanced climate change adaptation capacity: The outcome of this component is ‘Rural communities and local authorities are able to cope with volatile climate events and meet their basic needs during climatic shocks.’ The activities, which will be funded by KfW under this component include: a) construction or extension of 15 cyclone shelters; b) improvement of 10 existing shelters for persons and livestock (Killah); c) upgrading 15 km access tracks; and d) complementary support measures to enhance capacity for disaster preparedness. In addition, IFAD will fund the training of LCS in construction skills and on social issues, and MMC members on planning, supervision of works and management of the markets.
9. Project management: A Project Management Office (PMO) at the LGED headquarters in Dhaka and three regional project offices (RPOs) located in Khulna, Madaripur and Barisal district headquarters will be established. A technical assistance team will assist the LGED officials in Dhaka, 12 districts and upazila level to implement the project. The PMO will be responsible for implementation of all project activities, supervision and monitoring, quality control and project progress, train staff members, and gather lessons and disseminate knowledge generated from the project. IFAD ADB and KfW will jointly monitor and supervise the project.
10. Selection and implementation of IFAD funded infrastructure: It is important to note that IFAD funded union and village roads and community (village) markets have already been selected through a rigorous process and are part of the approved DPP (“development project pro-forma”, the Government’s project report). The PMO with the help of XENs and Upazila engineers will finalize cost estimations for individual roads before tendering out and developing a master plan for the development of each selected market. Basic engineering design and typical unit cost estimation for roads and markets have already been completed.

The selected roads and markets are ready for development. The PMO will prepare annual implementation plan only. No additional selection exercise will be necessary unless a unforeseen incidence occurs. Since the selection of IFAD funded roads and markets is already final they will not be linked with the selection of ADB funded subproject. It is clearly emphasised that this approach aims at avoiding any delays of implementation of IFAD funded activities due to subprojects' selection and related studies of ADB/KfW funded activities.

11. Project costs and financing: The CCRIP is estimated to have an overall cost of US\$ 150.0 million (total investment and incremental recurrent project costs including physical and price contingencies), of which ADB will be financing US\$ 20 million through ADB's Special Funds resource (loan), another US\$20 million through ADB Strategic Climate Fund loan and a US\$10 million grant, both to be administered by ADB. IFAD will provide two loans equivalent to US\$59.0 million and a grant equivalent to US\$1.0 million. IFAD first loan of approximately US\$ 39 million will be allocated in its three-year PBAS cycle of 2013-15. From PBAS cycle of 2016-2018, IFAD will provide an additional US\$20 million loan. The Government of Bangladesh will provide US\$31.2 million equivalent, including LGED staff salaries and operating costs, land acquisition and resettlement costs as well as identifiable taxes and duties as no taxes or duties could be financed out of the proceeds of the IFAD loan. KfW will provide a grant of €7.157 million (US\$ 8.8 million).
12. Timeframe: The anticipated duration of the project would be six (6) years beginning July 2013.
13. Project implementation and coordination: The project implementation will be led by the Local Government Engineering Department (LGED) of the Ministry of Local Government Rural Development and Cooperatives (MLGRDC). Overall coordination will be through an Inter-Ministerial Steering Committee, chaired by the Secretary of the Local Government Division of MLGRDC and represented by relevant line ministries and agencies including the Economic Relations Division (ERD) of the Ministry of Finance. The project will also participate in District and Upazila Development Coordination Committees.
14. Sustainability and exit strategy: The roads will be maintained beyond project period by LGED with resources from the Government. The markets will remain the property of the Government and be managed by the MMCs, whose head is the Union Parishad chairman. Based on the experience of MIDPCR and similar infrastructure projects, project benefits are expected to become sustainable when the local rural economy is linked and integrated with national economy due to improved connectivity in terms of infrastructure and market networks.

CCRIP: Design and Monitoring Framework (DMF or Logframe)

Design Summary	Performance targets and indicators	Monitoring Mechanism & Information Sources	Assumptions
<p><u>Project Goal [ADB: Impact]</u> <u>Project Goal</u> Improved livelihoods (higher incomes and food security) for poor households (women and men) in selected Upazilas of 12 coastal districts</p>	<p>ADB - by 2021: Household incomes in project areas increased by 20% in 2012 prices (2012 baseline: Tk70,000)</p> <p>IFAD - by 2018 (from baseline): 20 % increase of households reporting improvements in household asset ownership index (RIMS) 30 % reduction in the prevalence of child malnutrition (RIMS) 60 % increase in incomes in 50% of poor households from a range of farm, fishery and non-farm sources, disaggregated by sex</p>	<p>Bangladesh Bureau of Statistics</p> <p>Multiple Indicator Cluster Survey (MICS) of the RIMS surveys Impact surveys at baseline, mid-term and completion Qualitative assessment (PRA) with target HHS in project Upazilas/Unions/Villages.</p>	
<p>Development objective [ADB: Outcome] Enhanced climate resilience of coastal road and market infrastructure and people in selected Upazilas of 12 project districts.</p> <p>[Project Target: Overall approximately 600,000 HHS; 3.5 million people]</p>	<p>By 2018: < 5# of days of inundation of infrastructure reduced (baseline 20 days)</p> <p>60 % more beneficiaries reporting improved food security, by women/men (RIMS) 50 % reduced loss of lives and assets during disaster</p>	<p>Independent evaluation of robustness and resilience of infrastructure design.</p> <p>CCRIP project assessment report after each monsoon season and natural disaster event. IFAD annual supervision report. PRA after each monsoon season and natural disaster event.</p>	<ul style="list-style-type: none"> Climate change related impacts are within predicted level
COMPONENT 1: Improved Road Connectivity			
<p>Outcome 1: Improved road connectivity for men and women living in project Upazilas to access markets and social services.</p>	<p>By 2018, ADB: Increased average traffic volume per day on project roads (target: 500; baseline: 200) Reduced average vehicle operating costs on project roads (target: BDT 10 / km; baseline BDT15 /km) IFAD (from baseline): 50% increase in average traffic volume per day on project roads 25% reduced transportation costs on project roads 50% reduced travel time</p>	<p>Traffic data surveys (volume and price) Transport worker and user surveys</p>	<ul style="list-style-type: none"> Government sustains or increases funds for road and market maintenance. Investments in polder protections by other programmes and projects continue

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

Design Summary	Performance targets and indicators	Monitoring Mechanism & Information Sources	Assumptions
<p><u>OUTPUTS:</u> Upazila, union and village roads upgraded to climate resilience standards Bridges and culverts built</p>	<p>By 2018, ADB funded: 130 Km Upazila road upgraded and climate proofed 780 meters of bridges and culverts in Upazila roads IFAD funded: 160 Km union road upgraded 341 Km village road completed or upgraded 2245 m length of bridges and culverts</p>	<p>Independent monitoring of construction of roads, bridges and culverts Site inspections Environmental assessment Project reports and MIS</p>	<ul style="list-style-type: none"> • No major delays due to price escalation of materials and labour • Public procurement process remains adequate and adheres to ADB/IFAD requirements • Sufficient availability of labour • Roads properly maintained • LGED remains committed to apply acquired knowledge
COMPONENT 2: Improved market services			
<p>Outcome 2: Enhanced marketing of farm and non-farm produce in project markets</p>	<p>By 2018, ADB funded: 90% increase in the volume of goods marketed in growth centre markets, (baseline: 23,000kg in 2012) % increase of traders (disaggregated by sex) IFAD (from baseline): 20% additional income from construction of infrastructure 50% increase in the volume of goods marketed in village markets 25% increase of traders (disaggregated by sex)</p>	<p>Market surveys (at baseline, mid-term and completion)</p>	<ul style="list-style-type: none"> • Services of MAPP are reinforcing CCRIP interventions
<p><u>OUTPUTS:</u> Market infrastructure expanded and upgraded Women market sections built Boat landing (facilities) platforms (ghats) built Market Management Committees (MMC) established LCS formed, trained and employed</p>	<p>By 2018, ADB funded: 88 growth center and rural markets; All 88 growth centers and rural markets have a women section. IFAD funded: 197 community (village) markets of different categories 15 community markets with a women section 5 Community collection points built 38 new landing ghats built 5,000 poor women and men employed in construction of markets through LCS (IFAD)</p>	<p>Site inspections and surveys</p>	<ul style="list-style-type: none"> • Adequate functioning of MMCs • Climate trends do not reduce on- and off-farm productivity, or quality ; production levels remain stable • Public policy continues to allow procurement of works with the participation of LCS

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

Design Summary	Performance targets and indicators	Monitoring Mechanism & Information Sources	Assumptions
COMPONENT 3: Enhanced Climate Adaptation Capacity			
Outcome 3: Rural communities and local authorities are able to cope with volatile climate events and meet their basic needs during climatic shocks	Climate resilient rural infrastructure management plan is operational % of population using shelters during natural disasters [Target: -- %]	Qualitative surveys: Focus group discussions and key informant interviews after completion of shelters Post-climate shock surveys, PRA on effectiveness of response, management of shelters	Local Government maintains emergency and recovery plans
<u>OUTPUTS:</u> Village authorities develop and LGED approve climate resilient rural infrastructure management plan LGED pilots sustainable road maintenance plan Climate disaster shelters built/improved LGED and local Government are trained on climate-proofing of rural infrastructure Knowledge management framework for climate change developed Innovations on garbage management tested KM effective	By 2018 LGED approved plan by 2015 Sustainable road maintenance plan 15 of multipurpose cyclones built/extended 10 existing cyclone shelters improved 15 km of cyclone shelter access tracks upgraded 5 killas constructed 100 training units on climate proofing infrastructure ; > 15% female participant >4 knowledge products published >3 Rural radio programs developed	LGED reports, workshop minutes Project reports Site inspections and surveys	<ul style="list-style-type: none"> Management & maintenance plans are integrated into policies and enforced

I. STRATEGIC CONTEXT AND RATIONALE

A. Background

1. This project design report (PDR) represents the final design of IFAD funded activities under the overall scope and design of the Coastal Climate Resilient Infrastructure Project (CCRIP) jointly funded by ADB, KfW, IFAD and Government of Bangladesh. A six members IFAD mission¹, which was working from 1 October to 3 November 2012 in the project area, prepared the project design report (PDR) that presents overall project activities and management system in order to (i) offer greater details of IFAD funded activities, (ii) address observations and recommendations of the QE review on the IFAD 'Briefing Note' of CCRIP and (iii) refine activities along with project targets, cost estimates, co-financing arrangements, and implementation modalities.
2. The design of CCRIP is the outcome of a merger of the Sustainable Infrastructure for Livelihoods Enhancement (SMILE) project of IFAD and Climate Resilient Infrastructure Improvement in Coastal Zone Project (CRIICZP) of ADB and KfW – had been accepted by all three donor agencies and the Government, and approved by ADB Board in September 2012. ADB, KfW, and IFAD signed an aide memoire on June 19, 2012 accepting the overall scope, financing and implementation aspects of the project. Later, the Government of Bangladesh confirmed the aforementioned aide memoire.
3. ADB, KfW and IFAD had designed independently from each other CRIICZP and SMILE, respectively, until May 2012, when both agencies met and decided to merge the projects. It had become clear at that time that the scope of the two projects was similar and both projects were designated to be implemented in the same 12 districts. The main intention of the merger was to generate synergies from (i) a joint focus on rural transport and market infrastructure development, (ii) a common project area, (iii) a reduction of adverse impacts of climate change on livelihoods, and (iv) reduced management costs.
4. The objectives of CCRIP place considerable emphasis on adaptation to climate change and assistance to livelihoods through rural infrastructure development, which is fully aligned with the COSOP and the priorities of the Government of Bangladesh. ADB and IFAD agree to bring together their dedicated loans and grants under a collaborative co-financing arrangement. Total project costs would amount to about USD 150 million while the outreach would increase from 430 000 households (as it was assessed for SMILE) to about 600 000 households or 3.5 million people under CCRIP in 12 selected districts in coastal, south-west Bangladesh. Out of this large target group, it is estimated that at least 46% or 1.6 million people are poor or very poor.
5. Furthermore, IFAD and its national partners in Bangladesh designed the concept of CCRIP together with the Micro-enterprise and Agriculture Promotion Project (MAPP) as part of the project pipeline under the new COSOP 2012-2018. Both, the project pipeline and the new COSOP 2012-2018 were approved by the OSC in December 2012 and subsequently by the Government of Bangladesh in a validation meeting held in Dhaka in January 2012. The COSOP for Bangladesh for 2012-2018 including the two project concept notes were also supported by the IFAD Executive Board in April 2012.
6. IFAD has scheduled the presentation of the loan and grant for CCRIP to the Executive Board in April 2013. The ADB loans and grants and the KfW grant have been approved during October 2012. It is expected that the financial resources of both, ADB and IFAD would be available during 2013, maybe within a small time gap of a few months.
7. The final design mission a) finalized selection of community (village) markets and union/village roads to be built/upgraded under the project, b) updated engineering design and costs by incorporating climate resilient and adaptation features, c) finalized allocation

¹ Mr. Dewan A.H. Alamgir (Mission Leader), Prof. Dr. Shamsul Hoque (Rural Infrastructure Engineer), Mr. Harry W. Denecke (Rural Infrastructure Engineer), Ms. Alexandra Sokolova (Economist), Ms Lakshmi Moola (Finance Officer, IFAD) and Mr. Shankar Achutan Kutty (Regional Procurement Adviser, IFAD). Mr. Thomas Rath (Country Program Manager, IFAD) joined the mission as of 8 October 2012 and participated in the wrap-up meeting on 22 October 2012. Mr. Golam Md Hashibul Alam, Country Program Officer, IFAD, supported the mission and participated in various meetings. Mr. Rezaul Karim Khan, ADB Task Manager for CCRIP project participated the mission from 17 to 22 October, 2012 and attended wrap-up meeting on 22 October 2012.

and related cost tables for the components funded by IFAD, d) revised the project management including accounting, financial management, and procurement systems and e) updated financial, economic analysis related to IFAD funding and in line with IFAD's requirements. Prior to the arrival of the mission, LGED with IFAD's assistance conducted a survey of community (village) markets and roads as per criteria agreed previously. The PDR includes final list of markets and roads to be developed/upgraded under the project.

8. The final design of IFAD funded activities, management system and co-financing had been approved at a wrap-up meeting held on 22 October 2012 chaired by ERD and attended by representatives from ADB, LGED as the executing agency, and various Bangladesh Government departments. LGED is committed finalizing the project DPP as per design presented in this report.

B. Country and Rural development and poverty context

9. Overview. CCRIP will be implemented in 12 south-western coastal and low-lying districts of the country, where people are poor and vulnerable to natural disaster and where recent development activities had only limited effects. The project plans to build climate resilient and or adaptive road and market infrastructure in about 32 Upazilas (sub-districts)², which will help boosting agricultural development and food security while reducing rural poverty. Poverty has been a pervasive problem in rural Bangladesh because of limited availability of land and other natural resources, low agricultural productivity, lack of non-farm economic opportunities, high population density and poor governance. Bangladesh is home to the third highest number of poor people world-wide. About 80% of the population live in rural areas and are mainly engaged in agriculture and related non-farm activities. More than two thirds of the rural population are landless or functionally landless (i.e. owning less than 0.2 hectares of land), 44% are below the national poverty line and 29% are classified as very poor.
10. Climate change. Bangladesh is expected to be among those countries to be seriously affected by the adverse effects of climate change. Today, Bangladesh is already one of the most disaster prone countries among the least developed countries. Two-thirds of the country lies less than 5 meters above sea level, making it one of the most flood prone countries in the world. Severe flooding during the monsoon season causes regularly serious damage to crops and properties, with severe adverse impact on rural livelihoods. Climate change is expected to increase the severity and frequency of cyclones and floods which will likely cause more widespread destruction of land, roads, houses and other assets.
11. National water adaptation master plan: Bangladesh prepared national water management plan (NWMP)³ in 2001. The coordination of the activities under the NWMP lies with the National Water Resources Council (NWRC) part of the Ministry of Water Resources. The NRWC through its Executive Committee can issue directives as needed to enhance the different stakeholders implementing projects and programmes to be congruent with the policies and strategies of the NWMP. Within the Ministry of Water Resources the Water Resources Planning Organization (WARPO) maintains a database to facilitate the work of the NWRC.
12. The NWMP report states that in the dry season less rainfall than usual may be expected while during the wet season rainfall could increase by 29% until 2050 as a result of climate change. Relative sea level rise (versus land levels) is stated to be difficult to predict as it is the combined effect of sedimentation (land accretion), land subsidence, and increase in amplitude of the tidal waves (from 1.8 to now already 3.0 m approximately). The range of sea level rise based on different studies and assumptions is from 6.5 – 44 cm by the year 2050.
13. Other impacts of climate change are the expected increase in intensity and frequency of cyclones or storm surges. The consequences are already taken into account as needed e.g. by constructing cyclone shelters. The magnitude and impact of saline water intrusion is more difficult to assess in view of increased rainfall and uncertain river discharges. The potential

² IFAD funded activities will be in 32 selected upazilas whereas ADB funded roads and market development subprojects could be in any of the 82 upazilas of 12 project districts including IFAD selected 32 upazilas. IFAD proposes that CCRIP gives priorities to subproject proposals located in these 32 upazilas in order to obtain maximum synergies.

³ (<http://www.warpo.gov.bd/nwmp.html>).

impacts of climate change have been taken into consideration while designing infrastructure under CCRIP as explained in relevant sections and annexes.

14. Economic outlook. In spite of all its limitations, Bangladesh has continued to accumulate economic gains over the past decade with a steady economic growth of 5–6% annually, a relatively low inflation and fairly stable domestic debt, interest rates and exchange rates. However, growth has not reached the rate of 7.5%, which would be needed for Bangladesh to graduate to a middle-income status country within the next 10 years⁴. After a slowdown in GDP growth to 5.7% during 2008/09⁵, growth recovered to 6.0% in 2009/10 with a 6.3% forecast for 2010/11. The inflation rate has been increasing to double digit figures (i.e. more than 12%) in 2011/12 which has become a major concern for the consumers and also the Government. The high inflation hurts mostly the poor and people with a fixed income.
15. Increased import⁶ and decreased inflow of foreign direct investment (FDI) and aid have shifted the balance of payments into a deficit (net outflow of USD 586 million for July to November 2011, compared with surplus of USD1,585 million for the same period a year earlier). After a long period of stability, the value of the Bangladesh Taka has depreciated over the last six months from Taka 70 to Taka 83 per USD 1 in January 2012, which causes the upswing in import costs and deteriorates the current account balance. The national macro-economic management has been under severe stress lately. Besides, the fall of the stock market index has caused massive losses for small investors.
16. Agriculture. Rural development in Bangladesh is explicitly linked to the development of agriculture and the farming community. Most programmes aim at infrastructure development, higher agricultural production, improved access to financial services, better farm prices, lower input prices and improvement in school education and health services. Over the last decades, agricultural growth has been around 4% per annum. The country is currently almost rice self-sufficient in a normal year: rice production increased from 10 million tons in 1971 up to 33.9 million tons in 2009/10. There is, however, no room for complacency as Bangladesh has to import rice in times of large flooding and severe droughts - especially if they occur during the critical crop growing period. Due to the dense population and the continued loss of arable land, caused by urbanisation and other reasons⁷, the need persists to enhance the productivity of rice cultivation and other staple food.
17. Among agricultural commodities, fruits, vegetables and fisheries are considered to be more profitable than rice which in turn is encouraging farmers to diversify production away from rice. Consultations with farmers reveal that they are increasingly looking for more profitable commodities. The price of rice remains usually steady at the time of harvest, whereas cost of inputs and labour goes up causing a drop of the net profitability of rice production. CCRIP may contribute to reduce production costs, simply by lowering transport costs through better connectivity to farm areas.
18. Land holdings are becoming increasingly fragmented as farms are inherited by and divided among the sons and daughters (54% of converted land is used for house construction), and more land (especially that of the larger land owners) is sold or rented out as people move into non-farm occupations⁸. Although staple food production has kept pace with the growing population, it is expected that with rising incomes the demand for better quality foods – fruit, vegetables, meat, milk, eggs and fish – will increase as well. Diversification into these higher value products will put further pressure on land for paddy rice and on the national goal of rice self-sufficiency. Agriculture also suffers from severe damage caused by natural disasters and climate change.

⁴ Bangladesh: Strategy for Sustained Growth, World Bank 2007 projected that a rate of growth of GDP of 7.5% would result in the country joining the ranks of middle-income countries within a decade (by 2016).

⁵ 2008/09 and similar numbers in the text refer to the financial year in Bangladesh starting 1 July and ending 30 June of the following year.

⁶ Imports grew to 36% during July 2010 to January 2011, partly due to rising commodity prices and large fuel imports for power plants.

⁷ It is estimated that about 0.56% of agricultural land is converted into non-agricultural use annually. (Source: Md Abul Quasem (2011). 'Conversion of Agricultural Land to Non-Agricultural Use in Bangladesh: Extent and Determinants', Bangladesh Development Studies, Vol. XXXIV, March 2011, No. 1).

⁸ Source: Md Abul Quasem (2011). 'Conversion of Agricultural Land to Non-Agricultural Use in Bangladesh: Extent and Determinants', Bangladesh Development Studies, Vol. XXXIV, March 2011, No. 1. See also Hossain, Mohabub and Abdul Bayes (2009). Rural Economy & Livelihoods: Insights from Bangladesh. A H Development Publishing House, Dhaka, Bangladesh.

19. In the context of poverty and development, the concept for the CCRIP project has been developed to contribute to the development of agriculture by building climate resilient infrastructure, improving access to local and “outside” markets, reducing production costs and dealing with inconveniences related to communication. The COSOP 2012-18 reflects GoB’s priorities and the concept of the CCRIP (former SMILE project) is fully in line with the Government’s sixth five-year plan. In the sixth five-year plan rural roads and markets, agriculture, livestock, community-based fisheries, etc. are all focal areas for pro-poor growth. The plan emphasises the need to create employment opportunities for rural poor and women in agriculture and livestock and building rural infrastructure for ensuring good prices. Annex 1 and Annex 2 offer for further discussions on poverty and country social and economic conditions.
20. The broad directions for development over a longer time-span are set out in the Perspective Plan for Bangladesh 2010-2021. Amongst other things, this plan would like to see genuine devolution of power to the local Government level, and also says that in the process of socio-economic development of the country, agriculture will still continue to play a vital role in the long run in terms of food security, generation of income and employment for multitudes living in the countryside and eradicating poverty.
21. Poverty in the CCRIP area. While national headcount rates of poverty declined from 49% to 40% between 2000 and 2005 (using the upper poverty line), those in the southwest changed very little. The World Bank attributed the widening gap between the south-west and, in particular, the eastern part of the country, to the lack of access of the southwest to the development opportunities in form of garment industry and remittances. In particular, the incidence of poverty measured by head count rate (HCR) shows that the Barisal division is a lot poorer than the national average: 26.7% of people in Barisal division are below the lower poverty line (and considered extreme poor) compared to a national average of 17.6%. The Khulna and Dhaka divisions are slightly better off except for three project districts in the Dhaka division – Gopalganj, Madaripur and Shariatpur. The Barisal region is one of the poorest regions in the country where 25% of population live at the lowest wealth quintile. Furthermore, other social indicators - such as access to sanitation, safe drinking water, and access to primary health care - are worse than the national average in the targeted districts. Female-headed households are also high in the area. Salinity in river water and soil is on the rise in three project districts of Khulna division. Discussions with numerous village groups revealed the following main reasons for poverty in the project area: less productive land; one crop instead of three crops such as in other parts of the country; frequent natural disasters including floods and river erosion; negligible non-farm employment; and poor infrastructure. Poor people tend to migrate from the targeted project area to Dhaka and other places to avoid hardship. See Annex 2 for detail discussion on poverty.
22. A similar pattern emerges in terms of sources of livelihoods notwithstanding some differences in within and between Upazilas: a) field crops (rabi and aman rice, oil seeds, pulses, jute); b) vegetables, fruits and spices; c) livestock, pond fisheries, shrimp and open water fisheries including sea fishing; d) small trade; e) petty jobs; and f) agricultural labour.

C. Rationale

23. Vulnerability to Climate change. The rationale of the project has been well elaborated in the overall CCRIP design document and aide memoire signed by GOB/IFAD/ADB/KfW. Bangladesh is one of the most vulnerable countries to climate variability and change because of its geographical location, low deltaic floodplain and hydro-meteorological influence or erratic monsoon rainfall and other extreme climate events. Climate change threatens the significant achievements made by Bangladesh in the last two decades in raising incomes and reducing poverty. By 2050, climate change impact could make an additional 14% of the country extremely vulnerable to flooding and dislocate more than 35 million people in the coastal districts. The climate change impact will aggravate the infrastructure vulnerability as a result of sea level rise, increased wet season rainfall; increased annual temperatures and increased frequency of severe cyclones. The culmination of these impacts will be a rapid deterioration of rural infrastructure. The project will pilot and demonstrate ways to mainstream climate resilience in rural infrastructure.
24. The area suffers under river erosion (almost all of the Bangladesh rivers flow through the project districts), and low-lying river char areas where crop intensity is low (some areas produce only one crop per year). Two major cyclones (Sidr in 2007 and Aila in 2009) affected several of the designated project Upazilas resulting to large-scale losses of lives,

livelihoods, houses and rural infrastructure. The frequency of such natural disasters and floods is expected to increase with climate change. The low-lying coastal zone is highly vulnerable both to the normal tidally enhanced monsoon floods and to regular impact from tropical cyclones. Fifty eight (58) tropical cyclones have impacted Bangladesh during the period (1960-2010). Of these, 28% hit the coast of Sundarban (Satkhira, Khulna and Bagerhat), 22% west central coast (Borguna, Patuakhali, Barisal, Bhola and Meghna estuary), 26% east central coast (Noakhali and Chittagong) and 24% south-eastern coast (Chittagong, Cox's Bazaar and Teknaf). The vulnerability of the physical infrastructure to the impacts of the current climatic environment is a consequence of the impact of monsoonal rainfall and floods and in addition, the severe rainfall, flood and wind effects of tropical cyclones. The climate changes as predicted thus far will increase this vulnerability as a result of sea level rise, increased wet season rainfall, increased annual average temperatures and increased frequency of strong cyclones. Therefore, the people would require climate resilient infrastructure, social and economic opportunities to protect and develop lives and livelihoods.

25. The focus of the project is placed on climate-proofing of rural infrastructure in 12 rural coastal districts vulnerable to climate change. The project, while enhancing longevity and sustainability of rural infrastructure, will improve livelihoods in 12 rural coastal districts of Bangladesh. The project primarily addresses acute rural poverty in South-western Bangladesh by reducing adverse impact of climate change by building resilient and adaptive infrastructure and improving access to market to enhance livelihoods. The South-Western districts of Bangladesh are poor due to poor connectivity, predominance of small-scale agriculture as the main source of income, absence of industries and related job opportunities, limited availability foreign remittance as compared to the Eastern part of the country, adverse effects of natural disasters, especially in coastal Upazilas.
26. Specific impacts of climate change on infrastructure: A common understanding is that with increased water level and frequency of cyclones roads need to be strengthened and raised for physical protection and reduction of number of days of inundation. Scientific predictions on the extra rainfall resulting from climate change impact on the drainage capacity, which may have to be enlarged. The consequences for design of union and village roads are discussed in detail in Annex 5. They differ as to the development within or outside polders. Areas protected from flooding (polders) will take into account the extra rainfall, areas not protected from flooding (chars) will take into account both the extra rainfall and sea level rise. Eventually the detailed designs will be assessed by the project's hydrologist.
27. Constraints faced by the poor and small producers. During the development of the COSOP 2012, IFAD's portfolio was reviewed in terms of its effectiveness and relevance for poverty reduction and rural development in Bangladesh. The process concluded that poverty reduction should remain priority for Bangladesh and consequently, for IFAD. The rural population, especially the poor and small producers, remains the core target group for IFAD. Within the population, IFAD funded projects target in particular poor women and men, landless, small and marginal farmers, other professional groups such as fishers, small traders and other small producers. In almost all situations, these groups depend directly or indirectly on agriculture for supporting their livelihoods and are producers and consumers at the same time. As such, the development of agriculture benefits all categories of rural population in the form of higher income and productivity, and improved livelihood opportunities. Table 1 presents priorities of various groups of beneficiaries
28. Besides the above constraints caused by climate change, rural producers, especially the poor and the small producers, suffer basically from three sets of constraints that inhibit the development of their livelihoods: a) poor transport and market infrastructure that limits access to larger markets, increases cost of production because of higher input and transportation costs, and lowers commodity prices due to remoteness; b) limited access to demand driven financial services, especially seasonal agricultural credit and loans for microenterprises, and limited access to appropriate technology and inputs, and knowledge and support services such as vaccination services for livestock etc.; and c) vulnerability to the effects of climate change. Lack of all-weather road connections limits their access to markets, increases the cost of production because of higher transportation costs, lowers commodity prices due to the remoteness, and hinders access to education and health services. Poor road connectivity also restricts their access to financial services, technology, and development support services provided by various agencies. During extreme climatic events, the poor lose their assets as well as livelihood options. Often after extreme conditions, men tend to migrate, leaving their families behind. Poverty incidence is widespread, with many households headed by women. The women are more vulnerable than

men because of (i) poorer access to education and health services, and economic opportunities; (ii) limited mobility; and (iii) other social restraints.

Table 1: Priority needs of different occupational and social groups

Prioritized Needs	Wage labor	Small farmer /producer	Small trader	Women/ children	Businessmen/ well off class
Employment opportunity					
Potable water					
Irrigation water					
Rural access road					
Market infrastructure					
Educational institutions					
Electricity					
Hospitals					
Cyclone shelters					
Loan with lower interest rate than NGOs					

Source: Field interviews by IFAD design mission

29. Infrastructure. The lack of adequate transportation and marketing infrastructure in the project area is limiting the development opportunities for agricultural commodities value chains and impacting negatively farmers' and traders' income. With regard to agricultural value chain development, the current situation is characterized by:
- Weak and unbalanced linkages among value chain stakeholders, who are dominated by very few input suppliers. These suppliers rarely visit remote villages and markets or supply them with low quality inputs. This in turn results in low yields and low quality. Moreover, a handful of buyers, mainly wholesalers, often purchase the crops just after harvest when they are generally at their lowest price level or at prices which were fixed unilaterally;
 - Very limited access to improved technologies and technical advisory services leading to a low quality of the crops;
 - Limited access to adequate financial products such as agricultural loans. Branches of most agricultural banks are inadequate due to poor communications, which puts additional burden on developing satisfactory terms and conditions for farmers. Microfinance institutions may also not be present in remote villages; and
 - Unattractive market facilities affecting the increase in local agricultural production and sales. Annex 4 offers additional discussions on agricultural value chain development issues.
30. The construction of adequate infrastructure is seen as a necessary but not sufficient condition for the establishment of sustainable value chains. Once the required infrastructure is in place, other critical value chain factors such as access to financial services, technology and extension, high quality inputs, market information and buyers need to be addressed by dedicated projects such as MAPP.
31. Harsh weather conditions such as storms and inundations are affecting already livelihoods today. Climate change is expected to aggravate the current, negative impacts especially on the poor. Infrastructure like roads are often flooded or destroyed after storms and rendered unusable, with high repair and maintenance costs to follow. During the design of SMILE in spring 2012, IFAD and ADB/KfW decided to join SMILE and CRIICZP given the similarity of these projects. Implementing one jointly funded project, IFAD will be able to render the SMILE project to a climate-smart one (i.e. CCRIP) and add value to the original focus of connectivity (roads) and accessibility (markets) for smallholder producers. Moreover, by this approach, CCRIP addresses the COSOP objectives 1 and 2.
32. Impact of infrastructure in IFAD funded projects. Based on results of the on-going, IFAD funded Market Infrastructure Project in Charland Regions (MIDPCR) activities, the construction of roads and markets combined with the provision of technical assistance and advisory services have led to the following changes:

- Sale prices increased as a result of an increased competition among a larger group of buyers;
 - Production and marketing costs for some inputs and crops decreased due to factors such as access to improved technologies, equipment, other inputs and affordable transportation due to an increased volume of trade;
 - Yields increased and the quality of production improved, and
 - Access to adequately designed financial products and services improved.
33. Such changes represent triggers for a substantial increase in farmers' and producers' income and for a structured and sustainable value chain development.
34. Table 2 illustrates the changes in production yields and in farmers' net income for six products after two years of MIDPCR support: infrastructures, provision of technical advisory services, linkages among value chain stakeholders, introduction of improved technologies and access to adequate financial products. Although it is difficult to attribute the results to different project activities, at least a part of the incremental income can be safely attributed to the infrastructure activities. A more detailed analysis on value chain and financial services has been prepared in the working paper 1 for CCRIP and placed in project life file (PLF).

Table 2: Changes in yield and net income for six selected products

Product	Baseline					Current situation					Change	
	Yield/dec.	Prod cost / kg	Mkt cost / kg	Selling price per kg	Income per kg	Yield / kg	Prod cost / kg	Mkt cost / kg	Selling price per kg	Income per kg	Yield 'dec.	Net income per kg
	kg/dec.	Taka	Taka	Taka	Taka	kg/dec.	Taka	Taka	Taka	Taka	%	%
Paddy-Rice	9	6.89	1.33	12.56	4.33	12	9.17	3.67	17.92	5.08	33	17.31
Fish	10	33.40	10.50	92.40	48.50	24	40.75	7.21	119.79	71.83	140	48.11
Tomato	73	2.12	0.93	10.55	7.49	172	1.89	0.78	10.38	7.70	136	2.81
Cucumber	77	3.73	1.43	9.22	4.06	150	4.48	1.03	10.82	5.31	95	30.55
Country bean	43	2.72	1.74	15.58	11.12	95	2.11	1.08	17.87	14.68	121	32.10
Mungbean	4	22.50	7.00	65.75	36.25	9	13.33	5.56	62.22	43.33	125	19.54

Source: MIDPCR (value chain component)

35. The experience of the Char Development and Settlement Project (CDSP) phases I to III, Sunamganj Community Based Resource Management Project (SCBRMP) and rural infrastructure development projects funded by other agencies demonstrate that paved roads and markets improve communications and subsequently livelihoods. The main benefits to the households comprise better access to markets to sell own produce and purchase inputs, improved access to agricultural and financial services, leading to increased production and higher farm gate prices, higher agricultural labour wage rates, increased investments in agri-business and trade, and additional private investments in markets.
36. The access to school education and primary healthcare is usually improved with better communication, especially during the wet season, when river and canals are difficult to cross, pathways and roads are inundated. Poor women particularly benefit from health care services as their mobility within the area increases greatly. Another benefit from all-weather roads is the protection of lives and livelihoods (as roads include embankments and drainage systems).
37. Overall, protection and enhancement of livelihoods would be greatly enhanced if adequate transport and market infrastructure were in place in the Southwest and other disadvantaged areas in Bangladesh. The demand for adequate infrastructure from the population is enormous, especially from the poor population. Following the demand, CCRIP will focus on building rural markets and roads in some of the poorest and most vulnerable Upazilas in South-western districts of the country. For more details, Annex 3 offers a discussion on experiences and lessons in IFAD-financed projects in Bangladesh.
38. Value chain development. Once the infrastructure is being addressed, the implementation of a project addressing the constraints for agricultural and non-farm production and

marketing faced by the IFAD target group becomes important. This will be the task of the Micro-enterprise and Agricultural Promotion Project (MAPP), as outlined by the approved COSOP 2012-18. MAPP will follow CCRIP one year later, as the approval for this loan is scheduled for the Executive Board in April 2014.

39. MAPP will scale-up the successful experience of rural enterprise development (RED) activities of MIDPCR (besides the market and road development) and FEDEC, another IFAD-funded project. The latter is implemented by PKSF and provides microfinance and agricultural and micro-enterprise loans, while it promotes technologies and facilitates training and other support services to rural small producers. Building MAPP “on top” of CCRIP is part of the COSOP’s programmatic approach. CCRIP will expand the infrastructure approach of MIDPCR into 32 Upazilas of 12 districts, MAPP will expand the successful activities of FEDEC, MFSTP, MFMSFP and the RED activities of MIDPCR into the entire CCRIP area and probably throughout the country. MAPP will build on the physical infrastructure of CCRIP as a foundation to promote better access to agricultural and microenterprise loans as well as the promotion of agricultural technology and support services. This means that the two new projects will serve the same communities and will capitalize on the comparative advantages of two implementing agencies – LGED in infrastructure and PKSF in financial, technological and support services.
40. The rationale for the above described, programmatic approach, i.e. designing two complementary projects with a distinct focus on infrastructure and access to finance and value chain development, was developed during the development of the new COSOP, when all partners concluded that the project activities of MIDPCR cannot be simply replicated in a larger area like CCRIP would cover. The combination of infrastructure and value chain development activities would simply overwhelm LGED’s capacities as an engineering institution. The promotion of value chain activities at a larger scale requires a specialised institution with sufficient capacities. It was therefore decided to separate infrastructure development and value chain activities into two distinct projects, but connect them through the same geographical area. LGED would design and implement infrastructure activities in CCRIP.
41. LGED has a proven track record as a solid and fast implementer for infrastructure projects in rural areas, with IFAD and other international agencies. After successful projects such as SCBRMP and MIDPCR, LGED has mainstreamed the use of Labour Contracting Societies (LCS) in their institutional policies and implementation approach. The LCS approach substitutes the usual contractors for small infrastructure works by forming community groups of mainly destitute women – the Labour Contracting Societies or LCS. These women receive a wage and premium for the work accomplished and then can build their own development path by either continuing this works or investing it in agricultural or other economic activities.
42. PKSF would be leading the value chain activities in MAPP, which would start implementation by 2014. PKSF is one of the four largest microfinance institutions in Bangladesh, besides BRAC, Grameen Bank and ASA. It works as an apex organisation for microfinance institutions and has developed a number of promising new approaches within the IFAD country program. PKSF led projects like MFTSP, MFMSMFP and FEDEC have piloted efficient ways for linking microfinance with smallholder agriculture, for example, through agricultural loans and livestock insurance. PKSF has developed a large micro-enterprise loan program with FEDEC where value chains for agriculture and non-agricultural business proliferate and grow at an impressive pace. PKSF is interested to work with IFAD to scale up these successful experiences to a national scale. See also Annex 3 for detail discussion on IFAD Bangladesh portfolio and lessons learned.
43. Complementarity and synergies. The rationale for merging SMILE and CRIICZP projects lies in their complementarity and in obtaining synergies. Both projects had been designed to work in the same project area and focus on roads and market improvements, although they would support different types of roads and markets. While ADB funds will be improving mainly Upazila roads, large markets and growths centres, the IFAD funds will be used to build union and village roads and community (village) markets. By their scope of works, both projects will complement each other.
44. CCRIP has placed considerable emphasis on climate change adaptation and resilience. This would benefit also the IFAD funded roads, now designed with climate resilient and adaptation features in villages. Climate adaptation standards would apply for union and

village roads in vulnerable areas and link them to the higher level road network (upazila) and markets.

45. The challenge for CCRIP is to obtain synergies between ADB-funded Upazila roads and growth centres development and IFAD funded village markets and union/village roads to create a maximum impact for the rural poor and other dwellers. The ideal situation would be to implement all activities, i.e. large and minor roads and market improvements, within the same most vulnerable Upazilas. Compromises are likely to be made for the selection of the sub-projects due to the limited availability of resources, different types of roads and markets, number of Upazilas and locations of roads and markets that are already fixed because existing markets will be improved and roads will be built on existing alignments. The final design mission took into consideration the needs and maximum possible linkages of selected union/village roads and village markets with the proposed upazila roads and growth centres to be built by ADB funds. By this, close links and hence, the project is expected to create synergies in terms of transport and marketing are expected to develop.
46. The merger of the two projects is expected to generate efficiency gains, as only one project management unit will be needed and one technical assistance team. Admittedly, due to the large size of the project, the units need to be strengthened, for example 2 deputy project directors will be needed to coordinate the implementation of the ADB and IFAD funded operations. However, the required staffing of the PMO will be less than for two single projects.
47. In the same vein, the coordination requirements at LGED headquarter and at its district and upazila offices are expected to decrease with one project management structure, one project administration manual and a well aligned financial management system. There will be one AWPB and procurement plan, one annual supervision and audit, one mid-term review and one M&E and knowledge management plan and so forth.
48. LGED has a proven track record to implement large infrastructure projects and MIDPCR and SCBRMP experiences show that the procurement of contractors alongside with contracting LCS have been well managed within one project.

D. Scaling-up

49. Pathways. The new COSOP foresees to scale-up successful projects and approaches to a level where high impact and high efficiency gains can be obtained. Scaling-up requires an early definition of its pathway or sequence of steps to be taken to ensure that they are appropriate in the context of Bangladesh. The dimension, drivers, spaces and risks of up-scaling are presented below following IFAD guidelines and framing questions approach.
50. Scale and Dimension. The scaling-up of MIDPCR activities is mainly the expansion to a larger project area in terms of a horizontal replication from 5 to 12 districts. This represents an increase in terms of scale of operations, which is expected to deliver considerable impact on poor rural livelihoods. LGED has implemented successfully other operations of similar scale. In terms of vertical scaling-up, the main issue for policy dialogue will include the confirmation of Government funds for road and market maintenance. Other project features such as the women market section and the organisation of market management committees (MMC) will be monitored and successful practice distilled for the attention of policy makers and eventual inclusion in national policies.
51. Drivers and spaces. The models and implementation modalities for scaling-up are being delivered by MIDPCR. Supervision, mid-term review and project surveys confirm the success of the LCS approach for market infrastructure development. LGED under the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C) has taken the leadership for implementing CCRIP by replicating successful MIDPCR approaches. This opens up also opportunities for policy dialogue and further scaling up. LGED and LGRD&C are monitored and held accountable by the Government of Bangladesh against the project targets as per a Government ratified Development Project Pro-forma (DPP).
52. The policy space is probably the most relevant one for this project. LGED through LGRD&C has promoted CCRIP and its precedent concepts namely SMILE and CRIICZP. It received full support through the inclusion of CCRIP in the planning cycle of the Government. The wrap up meeting for the design of CCRIP was chaired and concluded by the Economic Relation Department (ERD). The institutional space is clearly addressed with LGED as the lead implementing agency with a proven track record. ADB and KfW are the partners that support the scaling up financially with additional resources, which will allow reaching up to 3.5

million people. In addition, the financial resources will include the provision of technical assistance to boost the capacities of LGED. The learning space will be devised through the M&E and KM frameworks as detailed in the design report. MIDPCR produced significant knowledge in areas dealt with constructions and their management that has been fed directly into the CCRIP design. A dedicated PMO and its branches in the districts will be set up as per usual and successful practice by LGED to be supported by a technical assistance team. The PMO will be staffed with current LGED personnel to ensure that experiences and learning remain within LGED and be used for similar interventions in the future.

53. Risks. The risk that is usually associated with a larger geographical replication includes that the institutions are not well suited for implementation and may be overwhelmed with the new challenge without proper training and coaching. CCRIP balances this in two ways. First, project management is designed in a way that a dedicated deputy project director who is well familiar with union/village road construction and LCS works will coordinate IFAD funded activities. Secondly, the MIDPCR approaches like LCS, MMC and women section have been well documented and there is a wealth of experienced project staff who will be ready to deal with the implementation and to train new staff. This can be done as CCRIP will cover districts where MIDPCR is already working such as Bhola, Patuakhali and Barisal. Last and most importantly, CCRIP will not scaling up the value chain approach and will focus on engineering works for which LGED has a proven track record in the country, and with IFAD and other donor agencies.

II. PROJECT DESCRIPTION

A. Project area, poverty and target group

54. Project Upazila selection process. To reduce high incidence of poverty in the south-western region of Bangladesh, the project will cover selected vulnerable Upazilas in Satkhira, Khulna, Bagerhat, Gopalganj, Madaripur, Shariatpur, Pirojpur, Jhalkati, Barisal, Bhola, Borguna, and Patuakhali districts. IFAD had evaluated data for 77 Upazilas from 13 districts to identify project upazilas. The criteria and weighting of scores aim to reflect an emphasis placed on poverty, vulnerability to disaster, remoteness and present level of infrastructure development in order to ensure that poor, vulnerable, remote (char and low-lying areas) and least developed Upazilas are identified and included in the project area. In addition, quantitative data are used for scoring, field observations are used when quantitative data are insufficient to possibly include those Upazilas that were excluded by quantitative scores. The data sources are BBS/WFP/World-Bank poverty maps, LGED inventory on rural roads and markets, district and union information, and field observations. The following criteria have been applied for the selection of project Upazilas (See Working Paper 2 to obtain detailed information on the evaluation process and data used for the selection of Upazilas) and were completed and validated by field observations:
- percent of population below poverty line,
 - agricultural labour rate,
 - vulnerability to tidal surge, storm, floods and river erosion,
 - remoteness,
 - poor communication (percent of paved road to total road),
 - road density by population,
 - percent of undeveloped markets, and
55. The process has produced a list of the least developed and most vulnerable Upazilas. In qualitative terms, the coastal, flood-prone, char, low-lying, and infrastructure-poor Upazilas have received the highest priority, which is in line with GoB and IFAD policies with regards to poverty reduction and targeting of vulnerable communities. In Bhola and Patuakhali, two districts under MIDPCR, the project will continue to complement the MIDPCR project, where several Upazilas that are still poor in communication even after MIDPCR have been included through the same selection process. Annex 5 offers additional information and further detailed project description.
56. The process led to selection of 32 Upazilas from 12 districts (See Table 3). IFAD will fund activities in these 32 selected vulnerable upazilas while ADB funded subprojects may be selected from any of upazila subjected to the outcome of the approval process during implementation. It means that ADB's design process did not identify specific Upazilas for implementation of sub-projects from 12 project districts as all Upazilas are eligible to submit a proposal for sub-projects. IFAD has suggested that if the ADB funded upazila roads and

growth centres and large markets were developed in above identified vulnerable Upazilas, CCRIP could increase significantly its impact on the basis of the complementarity of the project components and activities.

57. The IFAD final design mission validated the selected markets and roads in order to support expediting the start-up of the project implementation, as no time would be required anymore to select the project sites and launch feasibility studies. The selected markets and roads will become part of the DPP to be approved by the Government prior to implementation of the project.
58. CCRIP will not “spread thin” its resources over too many Upazilas and instead, it will follow a strategy of having rather a significant impact and reduced management costs by working in fewer and well selected Upazilas. Table 3 provides a full list of the target districts and upazilas of the IFAD funded activities in CCRIP.

Table 3: Project Area: Districts and Upazilas

	District	Project Upazilas	Names of CCRI P Upazilas
1	Barisal	3	Uzirpur, Banaripara and Babuganj
2	Bhola	3	Charfasion, Borhanuddin, and Lalmohan
3	Patuakhali	5	Sadar, Galachipa, Rangabali, Kalapara, and Mirzaganj
4	Borguna	4	Amtali, Betagi, Bamna, and Patherghata
5	Pirojpur	2	Matbaria and Zianagar
6	Jhalkati	1	Kathalia
7	Madaripur	2	Shibchar and Rajoir
8	Gopalganj	2	Tungipara and Kotalipara
9	Shariatpur	2	Zanjira and Naria
10	Bagerhat	2	Sarankhola and Moralganj
11	Khulna	3	Botiagata, Dacope, and Koyra
12	Satkhira	3	Shymnagar, Ashashuni, and Kaliganj
	Total: 12	32	32

59. Target group. The target group will be the population in the catchment areas of project markets as road communication and markets benefit everybody irrespective of income and profession. It is expected that small and marginal farmers, small traders and micro-entrepreneurs, landless people and poor women will particularly benefit. The economy and livelihoods in the selected Upazilas is predominantly dependent on agriculture (rice, jute, vegetables, fish, livestock, pulses and oil seeds) and agricultural labour.
60. Targeting. The Upazila selection process has ensured the inclusion of very poor and vulnerable Upazilas to allow that most of the project benefits reach the poor (geographical targeting). The second level of targeting has focus on rural markets and connecting roads in the least developed villages/unions within each Upazila, especially rural markets from char, low-lying and disaster prone (floods/tidal surge) and infrastructure poor villages. LGED has carried out Upazila level survey before the final design mission to identify markets and connecting roads in remote unions/villages within the selected Upazilas. The IFAD final design mission has verified the survey data and finalized selection of markets and roads. A household level targeting will apply at the time of implementation for the specific activities such in the case of the Labour Contracting Societies (LCS), whereby destitute women and men will be organised as wage labour to carry out the infrastructure works.
61. Gender Issues. IFAD attaches great importance to addressing issues in the project design process that affect the women, especially the poor women to help them engage in economic opportunities and enhance their capacity and mobility. The experience of MIDPCR and also SCBRMP show that poor women can benefit in a number of ways: LCS members who constructed markets received wage and profits; poor women received IGA training and loans from MFIs; training on constructions of markets (masonry) have enabled them to work in other construction works; number of women buyers and sellers has increased and; the mobility of women in the project area has increased due to road communication. It is noted in MIDPCR and SCBRMP project areas that the improved communications have given women an increased access to health services. Similar opportunities are expected to be available for the poor women in CCRIP.
62. Appendix 7 of the ADB/IFAD/KfW report outlines a summary Gender Action Plan for planning and monitoring purpose. The project will target the poorest women to create employment

opportunities and livelihood support by involving them in construction of markets and some roads and linking them with microfinance institutions and another IFAD-funded value chain development project (MAPP) to be implemented by PKSF in the project areas. The gender action plan presents income generating opportunities, capacity building for technical skills as well as for women empowerment. Especially the latter aligns fully with the COSOP objective 3. Targets will need to be set at or before projects start aiming that the women obtain equal opportunities in all project activities. See also Annex 2 and Working Paper 2 in the Project Life File for further discussion on gender issues.

63. Safeguards. IFAD project design report, specifically in the environmental and social assessment note, addressed the potential environment and social issues for implementation of community (village) markets and rural roads. Design and implementation arrangements will not be in conflict with the ADB environmental and social safeguards standards

B. Project Goal and Objective (“Impact and Outcome”)

64. There are some differences in terminologies and structure of project design and monitoring framework (DMF) or project logframe between IFAD and ADB. IFAD follows a four-tier framework - Project Goal, Project Objective, Outcome and Output, as opposed three-tier design and monitoring framework – Impact, Outcome and Output - of ADB. IFAD has accepted the overall CCRIP DMF (Impact and Outcome) along with approved indicators but adapted it to the IFAD structure and added several indicators to meet IFAD’s requirements. Resources have been allocated to conduct appropriate studies to measure additional indicators.
65. Accordingly, the project goal (ADB: Impact) of CCRIP is to achieve ‘Improved livelihoods (higher incomes and food security) for poor households (women and men) in selected Upazilas of 12 coastal districts’. The development objective (ADB: Outcome) is to achieve “enhanced climate resilience of coastal road and market infrastructure for people in selected Upazilas of 12 project districts”.

C. Components

66. The ADB/KfW/IFAD report (page 13-16) presents the overall description of all project components referred to as “outputs”. The project have three components - 1) Improved Road Connectivity, 2) Improved Market Services, and 3) Enhanced Climate Adaptation Capacity, and Project management. Each component is briefly described below:

Component 1: Improved Road Connectivity

67. The outcome of this component is ‘Improved road connectivity for men and women living in project Upazilas to access markets and social services’. The outputs under this component are: upgrading of upazila roads (ADB funded); and improvement or partly newly constructed BC union roads (Scenario B9: Climate resilient; Scenario C10: Climate adaptive) and village roads (Scenario B only, with either a BC, RCC or block pavement) along with associated minor bridges and culverts. The project will build 130 km of upazila roads by utilizing ADB resources. With IFAD funding the project will build approximately 501 km of union and village roads, 2455 meters of associated small bridge/culverts and individual bridge (see table 4). The exact quantities will depend on actual cost during implementation. Prior to final design mission in October 2012, LGED conducted a survey in all project Upazilas on the basis of which the IFAD design mission has finalized the list of proposed union and village roads. Priority has been given to those roads that benefit the highest number of people and connect village markets (see below) with each other and growth centres.
68. The survey and mission field visits confirmed that most of the proposed roads are within existing embankments. It has been agreed that union roads within embankments will be of Scenario B type and outside embankments and in low-lying char will be of Scenario C type. In all cases, the actual road type will be chosen on a case to case basis. In the case of village roads, Type B roads will be built only.

⁹ Scenario B: 600 mm above highest flood level under normal climatic condition; plus additional climate proofing design parameters such as extension of sub-base up to slope, embankment protection based on variable impacts (such as flood, erosive flood, wave action and overtopping).

¹⁰ Scenario C: Additional (above scenario B) 200 mm to address forecasted climate conditions for next 20 years.

69. Three different types of union and village roads are envisioned under the project: a) Bituminous roads; b) Reinforced Concrete Cement (RCC) roads where roller (road compacting machine) cannot be taken and in flood prone areas; and c) block roads where frequent flooding is expected. The selection of roads type will depend on its suitability for prevalent local situation. In some areas, HBB roads may be upgraded to bituminous or even RCC roads.
70. The project will aim to strike a balance between the proportion of village BC roads and RCC roads, which will depend on the local conditions. The unit costs of BC roads are lower than those of RCC roads, but the former is less durable and requires a higher maintenance than RCC roads. Commonly, RCC roads will be built in those areas where the machinery for BC roads such as rollers cannot be moved because of the narrowness of the road or the area is so remote that transporting machines and materials is difficult for construction and maintenance. The advantage of RCC roads is that they are durable and resilient to flood and tidal surges, while they require very little maintenance as compared to other road types. The mission will provide basic designs of all road types in the main report.
71. The project target for road/bridge constructions will be divided according to the demand from 32 project upazilas. The names, connecting points, LGED identification numbers and lengths of selected roads by project upazilas have been identified through a survey and are available in Annex 7. LGED has incorporated this list in the project DPP for Government approval. It is important to stress that CCRIP activities will not overlap with other projects in terms of roads selected. The project will recruit poor women for road-side tree plantations and maintenance for a two years period.
72. Table 1 below presents physical targets for construction under this component. According to design mission estimates that adopted scenario B and scenario C for union roads and scenario B for all village roads, CCRIP under this component will build 160 km union roads and 341 km of village roads, 2,445 meters of small-bridge/culverts including 110 meters of individual bridges. A total of 5 km of block road is planned in the whole project area, which will be suitable for areas which are frequently submerged. However, if these are not required, the target can be converted into RCC or BC village roads. As given in Annex 7, the demand for paved roads is varied due to past investments. The identification has also avoided overlapping with other projects in the selection of roads. See Annex 7A for physical total and annual targets and Annex 7B (XL file electronic version) for Tables extracted from COSTAB.

Table 1: Project targets under Component 1

Description	Infrastructure type or activity	Quantity
Component 1: Improved Road Connectivity	Upazila road (km)	130
	Union Road (Scenario B and Scenario C) (km)	160
	Village Road [All Scenario B: BC, RCC and block road] (km)	341
	Total road length (km)	631
	Small bridge/culverts/individual bridge (m)	2455

73. All union roads are planned as BC and RCC roads. Village roads may be BC, RCC and block roads. See Annex 8A for structural design of transport infrastructure, Annex 8B detail cost calculation for various road types (XL file), and 8C for unit costs for both transport and market infrastructure (XL file).
74. The construction and rehabilitation of roads will be by contractors while block roads will be constructed by LCS. Since the small local contractors do not have the financial capacity to purchase and maintain expensive equipment, CCRIP will acquire compacting machinery (rollers) to be owned and managed by LGED, who will rent it out to local contractors.
75. LCS members will be trained (25 members per LCS for one km of block road). The project will also do road-side tree plantation in 75 km by LCS members, as has successfully been done under MIDPCR.

Component 2: Improved Market Services

76. The outcome of this component is 'Enhanced marketing of farm and non-farm produce in local markets and growth centres'. The outputs of this component include: improved community (village) market facilities (multi-purpose shed, fish shed, open paved/raised area, women section, toilet block, internal road and drainage), improved hygienic conditions, functioning MMCs, employment for poor women as LCS members; construction of commodity collection points (CCP) for farmers and fishermen who live in remote locations and want to bring their produce for sale to be transported to nearby markets.
77. IFAD so far fielded three missions that visited all project upazilas and almost all proposed village markets. The following four different types of community (village) markets have been identified:
- Type I: Special markets (approx. more than 200 permanent shops): They are large rural markets known for transacting specific commodities in large quantities. For example, in Amtali Upazila, Fakir haat, is situated near the sea and is an important fish landing centre. In addition to the typical items, it needs a large landing platform ("ghat") for the fish catch and sheds to accommodate the numerous fishing boats at a given time in order to sort and pack large quantities of fish. Such markets will have unique design and unit cost.
 - Type II: Medium market (approx. more than 100 permanent shops): They are important rural markets that serve 7-10 villages and act as assembly markets where a large number of traders (beparis) assemble to buy farm produces to be transported to distant and larger markets. This type of markets will have two sheds, one open platform, toilet block, internal roads and drainage system, and garbage pit.
 - Type III: Small village markets (approx. 10-50 shops): They are located in remote areas and normally serve 3-4 villages. They are usually poorly connected to larger markets due to insufficient roads network. This type of markets will have one shed, open sale platform, toilet block, internal roads and drainage system, and garbage pit.
 - CCPs, managed by sellers of farm produce, are information spots in rural areas where farmers/fishers assemble their products to be transported by buyers. CCPs provide access to sellers and buyers and are simple facilities allowing for motorized vans and alike to on and off load goods.
78. The experience of MIDPCR and similar projects indicate that physical improvement of rural market facilitates the access of villagers including the poor to markets and moreover, they may obtain higher price for their farm produce. In addition, improved markets facilitate the purchase of farm inputs. The CCRIP project is also expected achieve similar benefits.
79. CCRIP project will expand and develop 197 community (village) markets among the three aforementioned categories, build 5 additional commodity collection points and 38 ghats (Table 4) (all IFAD funded). Besides, the project will improve 88 growth centres and large rural markets with ADB funds.
80. LGED with IFAD have already identified the community (village) markets to be developed in each Upazila. The list is presented in Annex 7 and LGED has incorporated it in the project DPP. The selection of sites within a market and size of market infrastructure may vary for each market. CCRIP will prepare a master plan for each market before construction, and development cost for each market is expected to vary. IFAD/LGED has used the following selection criteria for this purpose:
81. Basic pre-conditions: i) the market is strategically located and serves as an assembly market to benefit a large number of villages and connect other larger market and growth centres; ii) the location is not vulnerable to river erosion in the short and medium term; iii) there is considerable potential for development in terms of availability of space and placing suitable layouts; iv) the market stakeholders (UNO, UP, market leaseholder, and MMC) support the proposed construction; and v) there is an agreement to share lease income with the MMC as per GoB rules.
82. Secondary criteria: Markets which meet the basic pre-conditions have been prioritized according to the following criteria: i) the potential for poor women to participate in the construction of the market and as buyers and sellers; ii) stakeholders share a part of the development cost to be used for the further expansion of the works; and iii) stakeholders

agree to reserve a part in all sections of the markets for temporary sellers, especially for women and small producers. As practiced in the MIDPCR project, markets will be built in collaboration with MMCs. MMCs will also be responsible for properly maintaining the markets for which they receive 25% of the lease revenues, in accordance with GoB rules. This practice is expected to ensure sustainable operations of the markets.

83. The project does not foresee any land acquisition for market development, because all development activities will be carried out on Government owned land only.

Infrastructure for markets

84. Type I: Special market: Beside from special needs such as large ghat and large fish platform, or any different structure, a special market will have other common structures similar to a large market (see below). Demand for special structures has to be determined for each such market. That is design and structures will be unique for each such market.
85. Type II: Medium markets: Subject to availability of land, a medium market under CCRIP may receive the following package of infrastructure: a) a fish shed; b) a multi-purpose shed; c) an open air platform; d) internal, paved roads; e) internal drainage and a garbage collection pit; f) a toilet block; g) a women section (8-12 shops); h) a boat landing ghat, if the market is located near a river or canal; and i) a paved truck parking area.
86. Type III: Small markets: Subject to availability of land, a small market under CCRIP can receive the following package of infrastructure: a) one to two sheds; b) an open air platform; c) a toilet block; d) internal road and drainage; and e) a ghat and truck parking space, if needed.
87. Community collection points: Subject to the needs, a community collection point may receive the following infrastructure: a) a ghat, if market is located near to a river or canal; b) a paved truck parking space for three trucks; and c) an open air platform or simply paved space with or without shed.
88. Women section: The women's market section is a special facility provided women, especially widows and other independent women. It may host 8-10 shops. The need a for women's market section may not be limited to special markets but also some large markets may need this facility.
89. Project Target for Markets Development: Table 4 presents project targets for this component. The detail annual plan is presented in Annex 7A and 7B.
90. Structural design and unit costs: The structural design for each structure of markets is given in Annex 9A and Annex 9B (ghats). The detail cost calculation for individual structure of markets and unit costs for all types of markets are given in Annex 9C and Annex 8C respectively. MIDPCR/LGED has electronic version of the drawing and design information.

Table 2: Project target for main activities under Component 2

Component 2: Improved Market Services	Community (Village)Markets and growth centres	
	Growth centres and large rural markets (#)	88
	Type I: Special markets (#)	4
	Type II: Medium markets (#)	33
	Type III: Small markets (#)	160
	Community Collection Points (#)	5
	Women market sections (#)	15
	Boat landing platform (ghat)	38

91. All markets and collection points except special markets will be built by LCS groups. The project will form LCS groups at the rate of one group of 25 poor women per market who will be trained in construction and management. Each market will have a market management committee (MMC), which will supervise the construction and later manage the market and do routine maintenance. MMCs will be trained by the project. See Annex 7A and Annex 7B for details plan for LCS and MMC as well as training for these two groups.
92. Functions of MMCs; As per GOB rules each rural market should have a 11-member MMC headed by Chairman of respective Union Parishad (UP). Other members include

representative of shop owners, local UP member, female UP member, representative of land administration department (Tahsildar), and representatives from temporary traders, rickshaw pullers etc. MMCs are supposed to ensure security of buyers and sellers and cleanliness of the markets, and do routine maintenance. However, often the MMCs are not active at all. The project, based on the experience of MIDPCR, will organize training courses for MMC members to help them participate in market development process, supervise LCS works and more importantly, strengthen their institutional capacity so that they perform well beyond the project period. Special attention will be given to receiving 25% of the annual market lease funds from the Office of UNO and use that for routine maintenance and future development.

93. The cost for each type of market has been reviewed and COSTAB has been revised accordingly.

Component 3 - Enhanced climate change adaptation capacity

94. The outcome of this component is 'Rural communities and local authorities are able to cope with volatile climate events and meet their basic needs during climatic shocks.' Resources from three agencies – ADB, KfW and IFAD – will be utilized to finance activities under this component. The following activities are planned under this component to be financed by KfW and/or ADB: a) Construction or extension of 15 cyclone shelters; b) Improvement of 10 existing shelters; c) Upgrading of 15 km access tracks; d) Construction of about 5 livestock shelters - killas in selected locations; e) Enhancement of LGED MIS/GIS system enhanced; e) Design and operate special web-portal (SCF financed); f) Establishment of Communities of Practice - CoP; g) Organization about 100 training sessions on climate-proofing of rural infrastructure and knowledge management; h) Development of a climate change assessment and adaptation strategy; and i) Development of a climate resilient rural infrastructure management plan for LGED.
95. Resources from IFAD will be allocated to train:
- a. LCS members (ca. 5000 persons) on construction of village markets and RCC roads and social issues; and
 - b. MMC of 197 village markets on:
 - participation in development of village markets,
 - supervision of LCS works and
 - management of markets beyond project period.
96. Innovation, Rural Radio, Studies and Project Design: IFAD has mobilized USD one million in grant to be placed under project management unit to carry out activities under two specific categories:
- a. Innovation: i) development of bio-digester based garbage management in two markets, ii) research on climate resilient slope protection, and iii) introduction of quality test protocols for road and market constructions. The three activities will be contracted out to reputed national academic institution(s) (See Annex 5 for concept notes of the three innovative activities); iv) rural radio for mass information on agricultural, markets, cultural and social topics as well as project related information.
 - b. The project will conduct a baseline survey, impact and environmental studies. These will be managed by the PMO.

IFAD will manage directly, with the concurrence of GoB, a portion of the grant resources to finance the Mid-Term Review of CCRIP and the design of the forthcoming IFAD-funded project in Bangladesh.

D. Lessons learned and compliance with IFAD policies

Lessons Learned

97. The ongoing and recently completed projects offer the most relevant lessons learned in terms of project activities, implementation processes and the selection of institutions. The most relevant lessons for CCRIP can be summarised as follows (see also Annex 3):
98. Small-scale infrastructure in terms of rural markets and communication roads showed impressive impact on the local economy and employment. The trade volume increased substantially within a short period of time, while cost of transport could be halved and local wages doubled with the increased demand for labour. Prices increased as demand increased due to more buyers arriving from far away. The village roads built in Sunamganj have boosted the local economy and improved livelihoods. A study carried out by SCBRMP found a major change in terms of increased use of light-motorized vehicles, increased cropping intensity and expanded area under crops, especially with high value cash crops grown, and sales of crops. The cost of transporting crops and fertilizer could be halved, and more labour was being hired for both farm and non-farm businesses. Survey respondents reported increased employment opportunities, increased wages and income, better access to education and health services, and finally, greater mobility of women. Land values near the road had more than doubled. Similar benefits have been found in the MIDPCR project area. Additional benefits would include a decrease in losses of perishable products as goods are sold more rapidly, decreased transport time and costs and increased value of land and construction of other facilities (such as shops) in the area around the market. These points form also the justification of scaling up markets and communication infrastructure in the CCRIP project.
99. The on-going IFAD-funded SCBRMP project has pioneered the construction of village (community) roads using reinforced concrete (RCC). Unlike conventional bitumen road pavements, concrete roads are submersible and can withstand flooding. It has also successfully tested use of concrete blocks in flood prone areas. Maintenance seems easier for this type of roads, as LCS can recover and place back dislocated concrete blocks after floods.
100. Roads would preferably be BC, RCC and Block roads. These roads require less maintenance and are more durable than brick based roads. RCC and Block roads are more climate resilient than the BC type as they withstand better flooding and inundation with salt or brackish water. Earthen roads may be replaced by a paved road if justified.
101. Climate resilience design requires higher and wider road shoulders (see ADB/IFAD/KFW report) and may also require adding culverts in the road infrastructure to cope with higher extreme discharge volumes than previously foreseen. In addition, water control gates may be added at the culverts for improved water control.
102. The use of LCS as a principal mechanism for constructing markets and some village roads is an effective way of targeting the poorest women. A baseline survey for MIDPCR showed that 68% of the women members were the principal bread-winners for their families with two-thirds of respondent households. The use of LCS instead of a commercial contractor for construction of markets and roads creates employment, enhances skills, increases cash in the hands of the poorest women and boosts their self-esteem. All village markets and block roads under CCRIP are expected to be built by LCS.
103. Agricultural development and financial services remain critical to ensure food security and employment. IFAD-funded projects show that the combination of agricultural development with access to financial services and adequate extension services augment the scale of impact and sustainability of a new technology. A value-chain approach can ensure the input supply and diversification alongside the promotion of technology to assist farmers and micro-entrepreneurs to enhance profits, generate business and employment. Microfinance including microcredit remains critical although the financial services have expanded greatly in the country but the emphasis needs to be on developing demand driven services and customizing the service as much as possible.
104. Management issues. It is important that the right institutions and the right mix of activities are chosen to successfully implement a project and ensure impact. LGED's core competence is implementation of infrastructure projects, and it has skillfully implemented both SCBRMP

and MIDPCR infrastructure components whereas it struggled to deal with MFIs and managing value chain activities. In addition, combining infrastructure with financial services and value chain development means also managing very diverse activities under one project. It seems to be more efficient to separate financial services and value chain development from infrastructure and to have LGED focusing mainly on infrastructure.

Compliance with IFAD policies

105. Targeting: CCRIP has followed IFAD's policy on targeting by applying a rigorous geographical targeting process for the selection of the least developed and most vulnerable Upazilas. CCRIP will also employ a specific focus on household level targeting to reach the most destitute echelon of the population which are very poor men and women headed households, as only they will be selected for participating in LCS and related construction works.
106. Gender: CCRIP's approach is compatible with IFAD's gender policy. Poor and destitute women will directly benefit as they will participate in LCS for the construction of markets and selected village roads. The experience in MIDPCR and SCBRMP confirm that by obtaining own income and learning new skills women feel socially and economically empowered leading to a strong rise in gender equalities. Besides, the construction of roads contributes to increased social and physical mobility, access to additional wage employment, access to village markets as buyers and sellers and access to school and health services. See Annex 2 for detail discussion on gender. In the ADB/IFAD/KfW report, appendix 7, a detailed gender action plan is presented.
107. Land: The project does not foresee any relocation of housing settlement to build roads and markets under CCRIP project component 1.2 (union and village roads) and 2.2 (village market development), and as such, no acquisition of land is foreseen. All roads and markets will be built on existing alignment and khas land (or land donated) for market development respectively. Resettlement or eviction has neither been an issue in MIDPCR project nor is it foreseen in the CCRIP project component 1.2 and 2.2. The other component 1.1 and 2.2 foresee some limited land acquisition and resettlement. This will be dealt with in line with ADB land settlement frameworks as detailed in the report. Should a resettlement under component 1.2 and 2.2 be unavoidable, the same procedure as for component 1.1 and 2.1 will apply.
108. Environmental assessment: There is no major environmental concern in CCRIP. In fact, the development of markets with internal roads, drainage and garbage collection system will improve the micro-environment in and around the markets. Since the markets are expected to be managed by MMC, the cleanliness in markets is expected to be maintained beyond the project period. The project must remain constantly vigilant about design specifications of culverts/bridges so that water flows in canals and small rivers are not obstructed due to narrowing width of culverts/bridges built by the project. The design mission has prepared an environmental note (see Annex 11). As per GoB rules, it is mandatory to receive an environmental clearance from the Department of Environment by submitting a properly done environmental assessment report. This will be conducted right at the beginning of the project, as has been the case in HILIP, when funds will have been allocated under the CCRIP budget.
109. Private sector: The project may not have direct participation from the corporate private sector but the second IFAD-funded MAPP project is expected to work with and promote private sector as part of value chain development activities. However, road and market constructions will promote business of small farmers, traders and other producers who in effect supply to large markets as part of supply chain. It has been found in MIDPCR and other similar project areas that with good roads and improved markets large companies such as pharmaceutical, seed, fertilizer, processed food, consumer durables, construction material companies expand their marketing networks even in formerly disconnected remote areas. Therefore, the project in fact would assist larger business as well as increase access to better quality goods and services in rural areas.

Donor and GOB policy harmonisation

110. The project fits very well with the Government's sixth five-year plan. The COSOP 2012 reflects GoB's priorities and the Project Concept Note (PCN) of CCRIP is fully in line with it as well. In the sixth five-year plan (6FYP), rural roads and markets, agriculture, livestock and community-based fisheries are all focal areas for pro-poor growth. The 6FYP emphasises the

- need to create employment opportunities for rural poor and women in agriculture and livestock and to build rural infrastructure to develop the rural economy.
111. The broad directions for development over a longer time-span are set out in the Perspective Plan for Bangladesh 2010-2021. Amongst other things, this plan would like to see genuine devolution of power at the local Government level, and also states that in the process of socio-economic development of the country, agriculture will still continue to play a vital role in the long run in terms of food security, generation of income and employment for rural poor and poverty eradication.
 112. Other donors are also supporting the development of infrastructure in the project area. CCRIP intends to complement rather than overlap these initiatives. The World Bank will fund a Coastal Embankment Improvement Project (2013-18) which will strengthen polders in a number of Upazilas within the CCRIP project districts. CCRIP Upazilas will benefit where embankments will protect the whole Upazilas and in these cases there will be less need to raise the level of union/village roads, which in turn would save costs and eventually may increase lengths of roads. The design assumption is that any roads within a polder will consider scenario B that is less expensive to construct.
 113. More information on lessons learnt can be found in Annex 3 "country performance and lessons learned", Annex 4 "value chain development and infrastructure" and Annex 6 "review of rural infrastructure needs under CCRIP". These provide detailed insights and justifications for the proposed IFAD funded interventions under CCRIP.

III. PROJECT IMPLEMENTATION

A. Approach

114. The overall project development approach has been explained in the ADB/IFAD/KfW CCRIP project document. The Upazila roads, growth centres, large markets and cyclone shelters funded by ADB/KfW will be built by contractors selected through competitive bidding process. The project will follow the successful strategy of MIDPCR regarding the construction of union/village roads and community (village) markets funded by IFAD. The union/village roads excluding block roads will be implemented by contractors recruited by LGED/XEN office in each project district following routine LGED contracting procedures. Block roads construction and road-side plantation will be done by LCS groups.
115. All community (village) markets except the Type I: Special markets will be constructed by LCS composed mostly of poor women (destitute women will be given preference) recruited and trained by the project. MIDPCR has developed a set of strict standard guidelines for the formation, training, management and assistance from LGED, and profit sharing in LCS groups. CCRIP will follow also the management guidelines for market development under MIDPCR. Women sections and ghats will be built by LCS and contractors, respectively.
116. Prior to starting development of a market, an agreement will be signed with the respective Market Management Committee (MMC) formed according to GoB rules and regulations. The 11-member MMC is headed by UP chairman and represented by permanent shop-owners, women, temporary traders, van/rickshaw pullers, farmers etc. The project, in collaboration with MMC and other local participants, prepares a 'master plan' for each market, which is later approved by UNO to be accepted for development by the project. The MMC supervises the construction and takes over management of the market. Each market is leased out by the respective UNO and 25% the lease value will be transferred to the MMC for routine maintenance of the market.
117. IFAD funded union and village roads and community (village) markets have already been selected through a rigorous process and are part of approved DPP. The PMO with the help of XEN and Upazila Engineer will finalize cost estimation for individual road before recruitment of contractor(s) and develop master plan for development of each selected market. These roads and markets are ready for development. The PMO will prepare annual implementation plan only. No additional selection exercise will be necessary unless any unforeseen incidence happens. It is important to note that since the selection of IFAD roads and markets is already final they should not be linked with future subproject selection under ADB funded activities. There should not be any delay of implementation of IFAD funded activities due to any delay in subproject selection and analysis under ADB/KfW funded activities.

B. Organisational Framework

118. The project management, supervision and financial management have been devised in the ADB/IFAD/KfW report (page 19-20). In addition, a project administration manual has been prepared incorporating implementation procedures of IFAD funded activities.
119. The executing agency will be Local Government Engineering Department (LGED) in the Local Government Division of the Ministry of Local Government, Rural Development, and Cooperatives. A project steering committee will provide policy guidance for project implementation.¹¹ The committee will meet twice a year to review the progress of project implementation.
120. A Project Management Office (PMO) will be established at the LGED headquarters in Dhaka, with three Regional Project Offices (RPOs) located in Khulna, Madaripur, and Barisal district headquarters. The PMO will be responsible for overall management, implementation and monitoring and the RPOs will be responsible for progress supervision, monitoring of LCS works, quality control, impact monitoring and for maintaining close links with other stakeholders, for example, UNO, MMCs, UP. The construction of roads under the Improved Road Connectivity Component except for the block roads will be outsourced to professional contractors. LGED district XENs and Upazila Engineers would be responsible for managing these contracts. The PMO will be assisted by consultants with expertise in engineering design and supervision, climate resilience, economics and finance, social and gender development, participatory approaches, environmental and climate assessment, monitoring and evaluation, and local governance. The LGED district offices, headed by executive engineers, will be responsible for implementing subprojects under the guidance of the PMO. The project will need to coordinate with Bangladesh Water Development Board for development interventions. See also Figure 1: Project Organization Structure. See Annex 10 for further details.
121. GOB will provide 107 fulltime staff members for the project in all four tiers of project management, namely at PMO, RPOs, XEN offices and Upazila Engineer's offices. A TA team comprising of international and national professional staff and support staff (8 international and 37 national professional staff, and 16 support staff with a total of 1975 men-months) will directly work as design and supervision consultants and management support consultants.
122. Additional Human resources: The IFAD design mission has analysed functions, skill requirements and responsibilities of each tier of technical and support staff. The mission has recommended the following additional project staff financed from IFAD resources:
- i. One full time Market planner at PMO level (Dhaka) to develop a master plan for each community (village) market in collaboration with LGED Upazila office and respective market management committee;
 - ii. One part-time financial management specialist (Chartered accountant) at PMO to set up a double entry and software based accounting system and assist the project keep records and prepare reports according to ADB/IFAD/KfW's requirements. This will complement services of financial management specialist in the ADB funded TA team;
 - iii. One accounts assistant to strengthen accounts keeping;
 - iv. One full time GIS specialist and one full-time hydrologist at PMO; and
 - v. 32 Sub-assistant engineers, one in each project upazila, to ensure full supervision and quality of construction of all IFAD funded infrastructure.

C. Planning, monitoring and evaluation, learning and knowledge generation

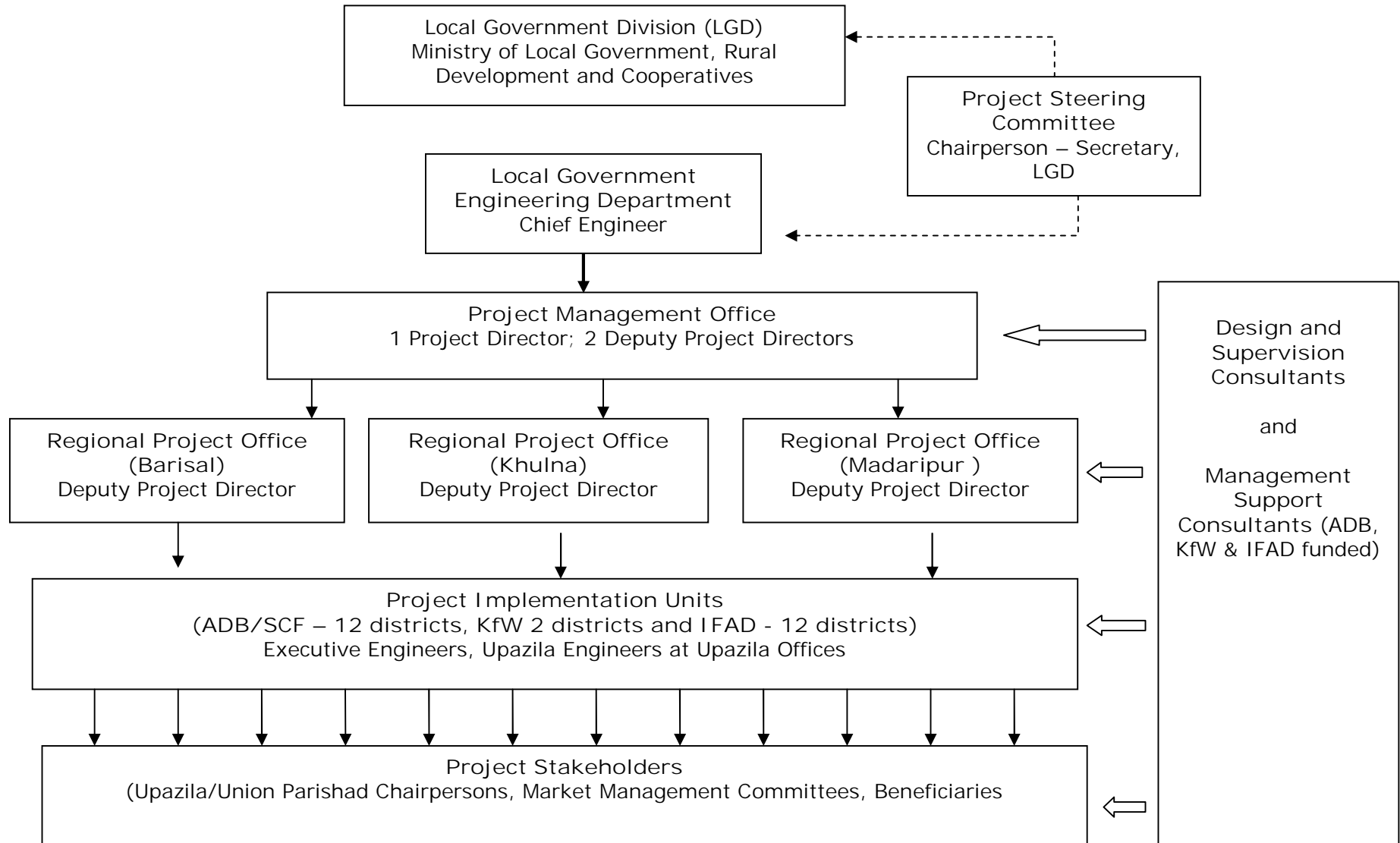
123. Planning and implementation. The PMO will be responsible for overall implementation and achieving the quantitative and qualitative targets of the project. Specifically, it will perform the following functions:

¹¹ The secretary of the Local Government Division will chair the committee, which will include representatives from the Local Government Division; LGED; Roads and Highways Department; Planning Commission and Implementation, Monitoring, and Evaluation Division of the Ministry of Planning; Economic Relations Division and Finance Division of the Ministry of Finance.

- Start Up: a) Recruit and mobilize all staff members as per plan of the project; b) train all staff members as per plan; c) recruit TA team; d) procure goods and services as per plan; d) conduct start-up workshops as planned; e) Install accounting and financial management system; d) Install full management system;
 - Studies: a) Conduct baseline study; b) Conduct RIMS studies (baseline, mid-term and completion); and c) Conduct environmental study and receive environmental clearance from the Department of Environment;
 - Planning: a) Prepare an annual plan for CCRIP to be cleared by ADB/IFAD/KfW; b) revise DPP;
 - Implementation: a) Develop village markets and union/village roads already selected by IFAD/LGED; b) prepare a road maintenance plan ; c) Prepare master plans for each market and prepare/customize engineering design for each market by following typical designs already prepared during the final design mission; c) Customize design for union/village roads already selected; e) Select upazila road subprojects and growth centres and large markets, and complete analysis and design; f) Authorise tendering of all construction works; g) Perform all activities related to LCS, MMC, staff development and similar.
 - Supervision: a) Upazila engineers will supervise progress and quality of work done by the LCS groups and contractors; b) Professional staff members from RPOs will perform additional supervisions of construction works; c) Engineers from TA team will perform independent monitoring of construction works.
 - Financial payment: Payments against goods and services will be made by the PMO through XENs after clearance from RPOs and Upazila Engineers.
 - Fund withdrawal: PMO will be responsible for the function.
 - Progress report: PMO will prepare all reports including financial reports for all activities. It will prepare quarterly reports and annual reports to be presented to IFAD, ADB and KfW.
 - Coordination: PMO will be responsible for coordination with IFAD, ADB/KfW, LGD, MLGRDC, ERD and other stakeholders of the project.
124. Monitoring and evaluation. The design and monitoring framework guides the project monitoring and evaluation along with indicators and tools The PMO will have a Monitoring Specialist and an assistant to a) organize the baseline survey by a consulting firm, b) organize three RIMS Studies – at start-up, mid-term and completion of the project, c) conduct studies on impacts of markets development, LCS, construction of roads, and other project impact, d) prepare case studies, and e) mid-term and completion project impact studies. The team will carry out daily monitoring of progress and quality of (i) LCS activities and training, and (ii) MMC activities and training. The quality/supervision engineers of the TA team will perform independent monitoring of construction works. The PMO will prepare reports to be shared with ADB/IFAD/KfW. Details are referred to in Annex 12 and PAM.
125. Women Empowerment in Agriculture Index (WEAI) which was launched earlier this year by USAID, IFPRI and Oxford Poverty and Human Development Initiative was piloted in Bangladesh and its use has now been scaled up by the Government in the national system. The WEAI is being considered by IFAD's gender team as a tool for strengthening IFAD's impact assessment studies and will be considered for application in CCRIP.
126. Learning and Knowledge management. The project is expected to produce important lessons and knowledge in areas such as market waste management using bio-digester, protection of slopes of roads, quality assurance for constructions by developing engineering testing protocols, management of rural infrastructural project, impact on livelihoods, overall impact of the project, appropriateness of various types of roads (RCC, BC, block road), role of and impact on LCS and poverty, complementary role of value chain project etc. These will be gathered in the form of implementing three pilot initiatives mentioned earlier, impact studies, case studies, field visit observations, progress reports, newsletters, occasional papers etc. The project will share them with IFAD/KfW/ADB, Government and other national and international stakeholders by widely distributing, publishing them on websites as well organizing seminars and workshops. It will use IFAD's knowledge management network to publish all activities as well as studies and publications. IFAD will have a KM Specialist in Bangladesh who may also be involved in disseminating project information and other documents and publications. See Annex 12 for further discussion on planning, M&E and knowledge management.

127. The project will support the recently start rural community radio initiative in Bangladesh to enhance the dissemination of important information for farmers and small producers such as market days, commodity prices, weather forecast and messages for extension of crop, fish and livestock production. CCRIP will explore collaboration with the FAO-supported Krishi radio. This activity will be funded from the built-in IFAD grant.
128. Supervision and evaluation: IFAD, ADB and KfW will carry out joint supervisions. Besides ADB/IFAD/KfW annual supervision mission, an independent mid-term and final evaluation will also be conducted. As in the case of MIDPCR and other projects, mission reports will be the important sources of knowledge about the progress, quality, lessons and impact of the project.

Figure 1: Project Organization Structure



D. Financial management, disbursement, procurement and governance

Financial management and disbursement.

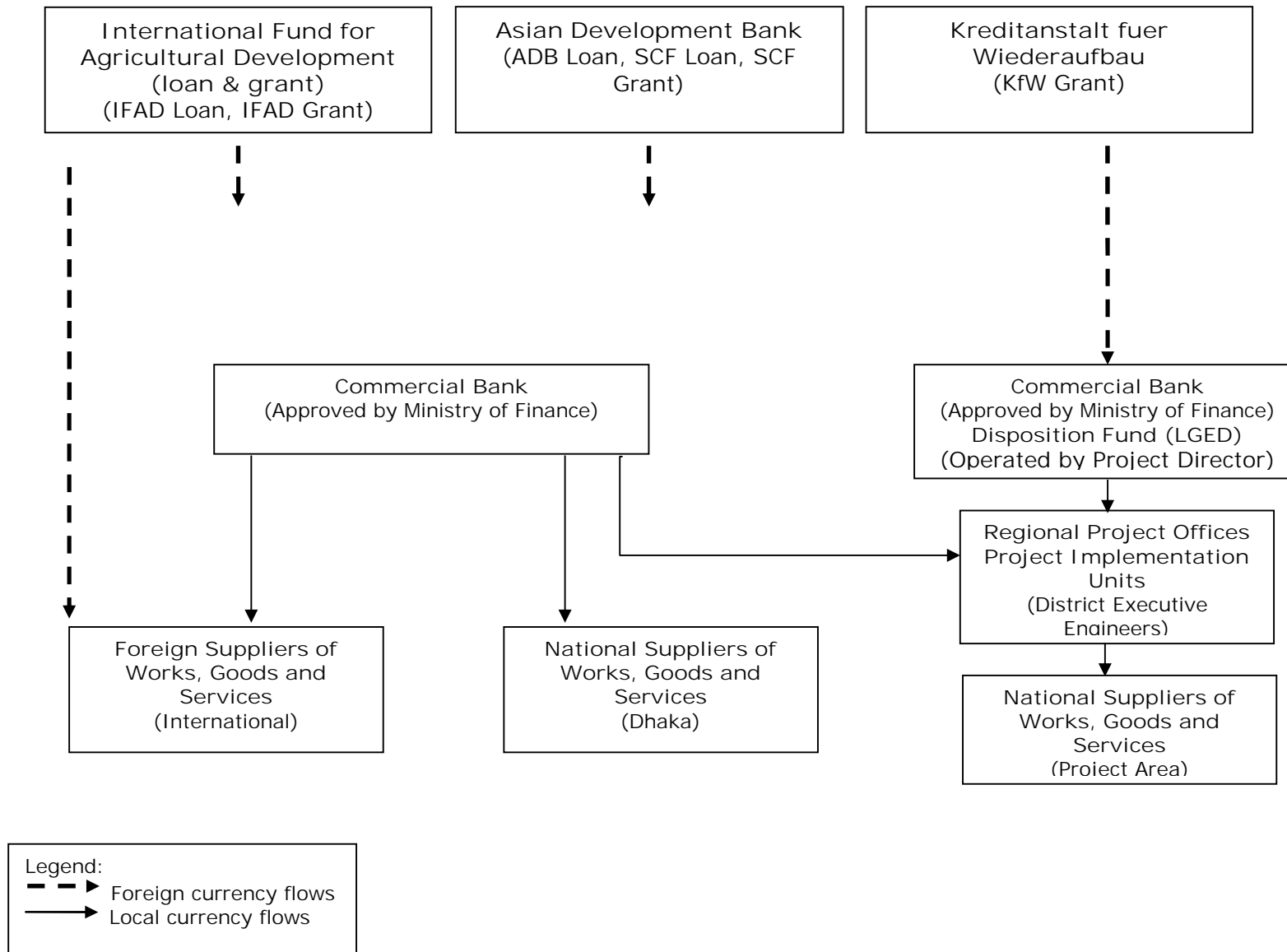
129. The mission has sought to ensure that the financial management arrangements proposed for CCRIP are sufficient for the effective and efficient usage of funding in alignment with those of the other financiers. To this end the Financial Management Assessment Questionnaire (FMAQ) at Design and the Risk Analysis using the Guidelines for Financial Management at Design, conducted for SMILE, has been revisited and updated (See Annex 13). Additionally, this mission visited a village in the Noakhali District of the MIDPCR project to further explore the workings of the Labour Contracting Societies (LCS) to assess the sufficiency of the financial management systems and ensure that arrangements are adequate to mitigate risks of funds flow to the ultimate beneficiaries.
130. The mission has reached the conclusion that fiduciary risk is rated at medium and the financial management arrangements, as they exist in MIDPCR, would not provide the maximum assurance that the funds are used, efficiently and effectively, for the purposes intended. Therefore, the areas in which change is recommended are – (1) procurement and installation of a multi-lingual accounting software before implementation begins; (2) hiring of a financial management specialist or a chartered accountancy consulting firm, on a part-time basis to ensure the appropriate use of the system and of the financial management arrangements; (3) ensuring that sufficient accounting staff, with appropriate qualifications and experience, are recruited; and (4) to maintain sufficient liquidity in the accounts, payments will be made from the PMO to the District bank account based on receipt of a certified summary sheet of works performed by contractors from the XEN. Note that the financial management risks assessed (see Annex 13, Appendix 3) are mitigated by the fact that IFAD and the collaborating co-financier (ADB) will assign the responsibility to a “quasi-independent” Project Management Unit (PMO) within the LGED structure.
131. Budgeting: The PMO will be responsible for the budgeting as part of the AWPB exercise. With respect to Government of Bangladesh (GoB) financing, the counterpart funds are budgeted in the DPP and released in four instalments. Occasional delays in release of GoB funds are noted.
132. Funds flow and Disbursement Arrangements: The Project will use the revolving fund method for the Designated Account advances. Advances to the Designated Account(DA), for the Loan and the Grant, will be transferred in USD to two separate accounts held in USD at Bangladesh Bank. The funds from this account will be transferred to an operational account that is Project Account (held in a commercial bank in Taka) to be administered by the Project Director (PD) who will, based on type of expenditure and utilization, transfer funds to the 12 district bank accounts (held at commercial banks) administered by the respective Executive Engineers (XENs), who will follow the funds flow chart (See Annex13, Appendix 1).
133. Documentation of expenditures made from the DA will be done, at a minimum, on a monthly basis following the statement of expenditures thresholds indicated in the Letter to the Borrower (LTB). To align IFAD with ADB, the SOE threshold is set at USD 100 000 equivalent for all categories of expenditures. Direct payments from IFAD may be made to suppliers/ contractors/consultants per the instructions in the LTB.
92. Funds, for all activities, except contracts performed by contractors, will be transferred to the District Office Bank Accounts (maintained separately for the Project), at the start of each quarter or as per requirement from those offices. These requisitions must be prepared based on realistic forecasts for the upcoming quarter and must be net of the closing cash balance of the quarter just ended. To avoid delays in reporting from sub levels to the PMO, they will need to send only Excel files of their Cash Book (clearly indicating Category & Component of expenditure and source of funding), Bank Statement and bank Reconciliation Statement to the PMO on a monthly basis. It will be the responsibility of the PD and the Accountant to ensure that there is no build-up of idle funds in the project sub-accounts.
134. Funds for contractor payments: To ensure an efficient utilization of funds between 12 districts and limit the amounts of unutilized resources, the payments for all contractors will be made on receipt of a summary of contractors bills passed for payment at the District Offices. The summary sheet, certified by Upazila and District engineers, will be prepared and submitted by the XEN to the PD, who will review and approve the payment to the District

- bank account via electronic transfer. The summary sheet will be sent to the PMO on an expedited basis.
135. As the accounting system is expected to be in place before implementation begins, retroactive financing is recommended for the procurement of the software, the hiring of the project finance manager, the 2 accountants and training costs for the same.
 136. Internal Controls: Internal control systems at the PMO were assessed based on those in existence for the on-going project also implemented by LGED and found to be weak with respect to segregation of duties; retention of records; security of information. The risks have been mitigated by ensuring the following is in place (as described in Section F) before implementation commences. Assessments of the internal controls will also be included in the TORs for the internal audit department of LGED. Procedural aspects related to Financial Management and Disbursements are detailed in the live document – the Project Implementation Manual (PAM), allowing for revisions when these controls are assessed to be risky.
 137. Financial Accounting and Reporting: GoB and all institutions under its purview maintain their records per Bangladesh Accounting Standards. The last Report on the Observance of Standards and Codes (ROSC) is dated (2003) but significantly states that gaps exist between the Bangladesh Accounting Standards and International Accounting Standards. It is noted that GoB maintains accounts using single-entry, cash basis accounting. At a minimum IFAD expects that projects maintain their books using IPSAS cash basis. As the single-entry account is deemed insufficient for this project, the procurement of an off the shelf accounting software, with local language capabilities should be in place before implementation commences. The mission had requested and received a demo of an off the shelf software and found the requirements compatible with the project. All finance and accounting staff at the PMO will be trained on double-entry accounting to build capacity to international standards. The project accounts will reflect all financial transactions during the project period, both of the IFAD loan/grant and other sources of financing by project component and separately by standard expenditure categories. Reporting requirements are detailed in the PAM.
 138. Internal audit: The LGED internal audit unit has 15 internal auditors that prepare an annual work plan with respect to Districts and Projects selected for audit. In the internal audit of Districts, both, GoB and Donor funded projects are examined. The financial capacity and staffing of the IA department is adequate to perform this task. It is possible that a project might not get selected for internal audit and therefore clarification was sought and the following recommendations are made on the basis of the responses: (1) the project may request the internal audit cell to perform an internal audit on the project. IFAD recommends that in the event the project is not chosen for internal audit, a request will be made in all years after the first year of implementation; (2) draft TORs for the internal audit will be provided by the PMO (with the assistance of the Donors) to the Audit and Accounts Cell; and (3) in the event that IFAD is not satisfied with the internal audit arrangements and reporting, IFAD can recommend the hiring of an external chartered accountancy firm to conduct an internal audit.
 139. External Audit: The external audit for all donor-financed programmes/projects is conducted by the Foreign-Aided Projects Audit Directorate (FAPAD). FAPAD will also conduct the audit for CCRIP. TORs, to ensure that all financiers' requirements are being met, will be harmonized and presented to FAPAD before the audit exercise commences. Prior audit works of FAPAD have been rated as satisfactory, thereby showing FAPAD's compliance with its TORs and IFAD Project Audit Guidelines. FAPAD will utilize International Standards of Auditing when undertaking its audit work. As the fiscal year end of CCRIP will be June 30, the audited financial statements are due at IFAD no later than December 31 (within six months). The audit report will contain a separate management letter with an opinion on the Internal Control system of CCRIP and related audit observations; separate opinions on certified Statements of Expenditure (SOE), the Special Account and the Project Financial statements; a statement as to the adequacy of the accounting system and internal controls and whether IFAD funds have been used for their intended purpose; a confirmation that SOEs correctly reflect the expenditures incurred; and commencing with the second year audit a follow-up on the implementation of prior year recommendations. Annex 14 on Procurement, and are presented in details in Working Paper 4. Figure 2 further below show the flow of funds in CCRIP.

Procurement

140. Procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with IFAD's Procurement Guidelines and Handbook (dated September 2010, or as amended from time to time). In all cases whereby procurement is packaged along with goods, works and services financed by ADB, the procurement would be undertaken in conformity with ADB's Procurement Guidelines (2010, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).
141. International Competitive Bidding (ICB) shall be undertaken in accordance with the rules and regulation for ICB as established by the World Bank in line with the provisions of the IFAD Procurement Guidelines. Goods and Civil works and goods procured using NCB will follow the Public Procurement Act, 2006 and Public Procurement Rules, 2008 of the Government of Bangladesh. All procurement to be financed by IFAD proceeds require the details of the procurement, types of procurement methods, the need for pre or post-qualification, estimated cost, prior or post review requirements to be respectively included in the Procurement Plan to be submitted by the PCO. IFAD's approval of the procurement plan is mandatory and any changes or modifications must be communicated and approved by IFAD.
142. All procurement for goods, works and services financed from resources funded or administered by IFAD require bidding documents and the contracts to include a provision requiring suppliers, contractors and consultants to permit IFAD to inspect their accounts ,records and other documents relating to the bid submission and contract performance, and to have them audited by IFAD-appointed auditors.

Figure 2: Flow of Funds



143. All advance contracting and retroactive financing of resources provided or administered by IFAD regarded as an exception by the IFAD General Conditions must be clearly established (detailed cost and procurement packages) in the Project Design Document and approved by the IFAD and will be undertaken in conformity with provision of IFAD General Conditions and IFAD Procurement Guidelines and Procurement Handbook (2010, as amended from time to time). The issuance of invitations to bid under advance contracting and retroactive financing will be subject to IFAD prior review and no objection. The approval of advance contracting and retroactive financing does not commit IFAD to finance the Project.
144. Procurement of civil works should be undertaken in sizable bid packages ensuring road works are not split to accommodate contractors financial capacities to qualify for the bidding or to intentionally avoid seeking IFAD prior review. Any civil works which are to be split into small bid packages due to specific implementation consideration must to clearly established and highlighted in the procurement plan.
145. Civil works undertaken by the Labour Contracting Societies (LCS) which would be formed through a defined selection criteria, contracted directly by the CCRIP Project. The selection criteria and the operational and implementation arrangement for the LCS would be defined in the Project Administration Manual. While the LCS has been accessed as incapable of handling implementation, administration, financial management and procurement of the activities, the Project Administrative Manual (PAM) shall define the roles and responsibilities of the intermediaries who will assist the LCS in performing the activities.
146. Procurement of materials and goods by the LCS for the civil works contracted would be undertaken in accordance with the provision of the IFAD Procurement Guidelines and shall be largely limited within the markets in each district. Any requirement for the Project to purchase specific goods from markets in outside of the district shall be justified and documented by the Project. This justification should provide details of materials and goods to be purchased and reasons for the purchase which included a comparative analysis of the cost of procuring the materials in markets outside the district where these activities are implemented.
147. As highlighted in the FM section, a double entry accounting software would be introduced and this ERP software would facilitate in the tracking of monitoring of contracts, inventories and vendors payments. The software however would be managed by the PMO which requires manual monitoring of these contracts by the District and Upazila Offices.
148. IFAD shall introduce as a control measure as part of its annual supervision mission or as separate mission biennial reviews of the LCS contract performance with regards to the implementation of activities contracted which includes the accounting and procurement of goods and materials carried out by the LCS (with the assistance of the intermediaries).
149. IFAD will undertake to review the provisions for the procurement of good, works and services to ensure that the procurement process is carried out in conformity with its Procurement Guidelines. The extent to which these review procedures will be applied to CCRIP will be defined in the letter to the Borrower/Recipient and the procurement plan.
150. Project Procurement Thresholds. International Competitive Bidding (ICB) shall be the mandatory procurement method for activities estimated to cost: (i).Goods estimated to cost above USD 200,000 or equivalent; (ii). Civil works estimated to cost above USD 1,000,000.00 or equivalent; and (iii). Services estimated to cost above USD 100,000 or equivalent. All other threshold shall be defined in the letter to the borrower/recipient.

Governance

151. A framework for good governance has been included in the ADB project document and the PAM. These address important governance aspects such as anti-corruption, accountability, assessment of financial management and procurement system, internal and external audit and institutional arrangement for project implementation. This framework aims to ensure: (i) transparency, with information in the public domain; (ii) accountability in the use of resources; and (iii) participation with the people having a voice in decisions that may affect them. The involvement of affected communities in all stages of projects can simultaneously improve development outcomes and reduce the scope for fraud and corruption. Key features of this framework are:

- Inclusive targeting of women and disadvantaged households.
 - Local level participation in planning with participation from Union Parishad (UP) representatives.
 - Community and participatory monitoring of project activities, training of MMC, and LCS members in accounting and management, making payments in public to LCS members.
 - Audits of project accounts – both internal and external.
 - IFAD supervision and support, including spot checks by regular supervision missions, implementation support for financial management and procurement, and technical audits if needed.
 - Regular outcome surveys will provide information on how well project outputs are being delivered – both in terms of coverage and quality.
 - Reporting of results to IMSC, ADB, IFAD and KfW and to local Government institutions, with key information published on a project website.
 - Complaints and remedies mechanism including circulation of phone numbers of project group leaders and project managers.
152. In addition, the ADB/IFAD/KfW report presents a detailed Gender Action Plan (appendix 7) covering issues from women involvement in the infrastructure construction to enhance their capacities and empower them. The environmental examination (appendix 8) assist the design in assessing the potential impact of project interventions. The resettlement framework (appendix 10) will assist in dealing with issues of land acquisition for the infrastructure improvements which are eventually needed.

E. Supervision

153. The main responsibility of project supervision will remain with the PMO. LGED is charged with detailed preparation of tender documents for Market Development (physical) and Transport Infrastructural works. After an independent evaluation of bidders and awarding of contracts, supervision staff is assigned to supervise the implementation of contractors. The staff in charge must be fully independent and be given adequate allowances to function independently. They should be provided with transport (motorbikes + fuel), a small digital GPS equipped camera, technical equipment, allowances to stay at sites, do routine supervision and make surprise visits. They should report their findings of contractors' performance to the RPO and PMO and call on LGED to intervene as needed according to prevailing procedures.
154. IFAD, KfW and ADB jointly will conduct regularly supervision and review missions to verify the performance of the project and to monitor physical progress as well impact. It also provides detailed technical and management recommendations to PMO, which were found very useful and effective in MIDPCR. All partners will conduct the MTR, impact studies and a final project completion review as per standard practice.

F. Risk identification and mitigation

155. The revised project design and monitoring framework reflects the summary of some of the key risks which have been presented in the ADB/KfW/IFAD draft final report (page 25 and appendix 11). The risks and proposed mitigation measures are presented in Table 3.

Table 3: Risk analysis

Design and Monitoring Framework	Risk	Probability of occurrence	Impact on project objectives	Mitigating measures
Goal	Natural disasters destroys project investments	Medium-high	High	Coordinate with other agencies/projects for protection/climate adaptation measures and post-disaster rehabilitation; Accelerate construction works after disasters creating employment for the poor.
	Real price of rice and other essential commodities consumed by the poor increases relative to wage increases.	Medium	Medium	MAPP project starts as planned and expands activities in project areas. MAPP will support diversification and commercialisation of smallholder production.
Development Objective	Lower than expected economic growth accompanied with inflation	Medium	Low	CCRIP and MAPP project complement each other to boost the local economy and render it more resilient to external shocks.
Outcome	Project roads and markets are damaged by tidal surges, floods in some Upazilas	Medium	High	Climate standards being introduced; strong supervision for road and market construction; hydrological issues properly considered in design, especially for construction sites located near rivers.
Outputs	Price escalation reduces project output	Medium	Medium	Price & physical contingency have been included in total project costs. GoB rules for price escalations will be enforced and supervised.
	Performance of implementing agencies including corruption	High	High	Internal and external audit being implemented and followed up; IFAD direct supervision assesses regularly the compliance of fiduciary aspects
	GOB rules do not allow direct procurement of services from LCS groups	Low	Medium	Assurance to recruit LCS is sought for from GoB. Alternative will be to use contractors.
	Limited availability of khas land for market development	Low	Medium	Only markets with assured khas land will be accepted for development; proper agreement will be signed with MMCs prior to development.

IV. PROJECT COSTS, FINANCING, BENEFITS

A. Project Costs

156. Project costs are estimated as of October 2012 prices. Estimates for vehicles, equipment, salaries, local technical assistance, DSA, operation and maintenance were based on recent data provided by LGED. The costs of the IFAD-funded activities were estimated by the IFAD team using revised 2012 LGED rate schedule. The costs of the ADB- and KfW-funded activities were finalized and presented during a joint fact-finding mission of ADB, IFAD and KfW in June 2012. Both teams used the same technical assumptions in the cost estimations of their respective activities: number of project years, physical contingencies, and exchange rate and inflation rates. The costs of union and village roads were estimated on the basis of "B" and "C" scenarios; the "C" scenario applies only on the areas outside polders; village roads are all estimated on the basis of scenario "B". During the final design mission carried out by IFAD, the IFAD-funded activities were updated in order to keep consistency between unit costs and to avoid duplication of the project activities. The project is estimated to cost \$150.0 million.

Table 4: **Components Project Cost Summary**

	(BDT Million)			(US\$ Million)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
	A. Improved Road Connectivity							
1. Upgraded Upazila Roads	2,314.1	257.1	2,571.2	28.2	3.1	31.4	10	23
2. Upgraded Union and Village Roads	4,122.0	458.0	4,580.0	50.3	5.6	55.9	10	42
Subtotal	6,436.1	715.1	7,151.2	78.5	8.7	87.2	10	65
B. Improved Market Services								
1. Upgraded Growth Centers and Large Markets	748.6	83.2	831.8	9.1	1.0	10.1	10	8
2. Upgraded Community Markets	558.0	62.0	620.0	6.8	0.8	7.6	10	6
Subtotal	1,306.6	145.2	1,451.8	15.9	1.8	17.7	10	13
C. Enhanced Climate Change Adaptation Capacity								
1. Enhanced Capacity and Knowledge Management	193.2	21.5	214.7	2.4	0.3	2.6	10	2
2. Upgraded Climate Disaster Shelters	582.9	64.8	647.7	7.1	0.8	7.9	10	6
Subtotal	776.2	86.2	862.4	9.5	1.1	10.5	10	8
D. Project Management	1,194.6	369.9	1,564.5	14.6	4.5	19.1	24	14
Total BASELINE COSTS	9,713.5	1,316.4	11,029.9	118.5	16.1	134.5	12	100
Physical Contingencies	873.1	95.5	968.6	10.6	1.2	11.8	10	9
Price Contingencies	2,177.3	270.6	2,447.9	1.4	0.2	1.6	11	1
Total PROJECT COSTS	12,763.9	1,682.6	14,446.4	130.5	17.4	147.9	12	110
Interest During Implementation	-	205.0	205.0	-	2.2	2.2	100	2
Total Costs to be Financed	12,763.9	1,887.6	14,651.5	130.5	19.6	150.0	13	112

157. The CCRIP is estimated to have an overall cost of US\$ 150.0 million (total investment and incremental recurrent project costs including physical and price contingencies), of which ADB will be financing US\$ 20 million through ADB's Special Funds resource (loan), another US\$20 million through ADB Strategic Climate Fund loan and a US\$10 million grant, both to be administered by ADB. For the outputs proposed to be financed in parallel by KfW, KfW will provide a grant of €7.157 million (US\$ 8.8 million). The Government of Bangladesh will provide US\$31.2 million equivalent, including LGED staff salaries and operating costs, land acquisition and resettlement costs as well as identifiable taxes and duties as no taxes or duties could be financed out of the proceeds of the IFAD loan.
158. IFAD financing. For the project activities proposed by IFAD, IFAD will provide two loans equivalent to US\$59.0 million and a grant equivalent to US\$1.0 million. IFAD first loan of approximately USD 39 million will be allocated in its three-year PBAS cycle of 2013-15. This has already been notified to ERD. From PBAS cycle of 2016-2018, IFAD will provide the second loan of approximately USD 20 million. IFAD grant will finance: a) innovation research, rural radio program and knowledge management, b) baseline survey, c) impact studies, d) RIMS studies, e) mid-term review and project closing report mission, and f) design of MAPP project.
159. The financing plan is presented in Table 5. The details of project cost, financing and annual targets over the project period are presented in Annex 7A and 7B (XL file).

Table 5: **Financing Plan by Components (US\$ Million)**

	ADB		SCF Loan		SCF Grant		IFAD First Loan		IFAD Second Loan		IFAD Grant		KfW		The Government		Total		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
A. Improved Road Connectivity																			
1. Upgraded Upazila Roads	15.1	43.2	13.5	38.7	-	-	-	-	-	-	-	-	-	-	6.3	18.1	34.9	23.3	
2. Upgraded Union and Village Roads	-	-	-	-	-	-	32.8	52.9	17.5	28.2	-	-	-	-	11.8	18.9	62.1	41.4	
Subtotal	15.1	15.5	13.5	13.9	-	-	32.8	33.8	17.5	18.1	-	-	-	-	18.1	18.6	97.0	64.7	
B. Improved Market Services																			
1. Upgraded Growth Centers and Large Markets	4.3	38.4	4.9	43.3	-	-	-	-	-	-	-	-	-	2.1	18.3	11.2	7.5		
2. Upgraded Community Markets	-	-	-	-	-	-	5.5	65.6	1.5	17.4	-	-	-	1.4	17.0	8.4	5.6		
Subtotal	4.3	22.0	4.9	24.8	-	-	5.5	28.0	1.5	7.4	-	-	-	3.5	17.7	19.6	13.1		
C. Enhanced Climate Change Adaptation Capacity																			
1. Enhanced Capacity and Knowledge Management	-	-	-	-	0.8	31.1	0.3	10.8	0.1	1.9	1.0	37.1	0.3	9.6	0.3	9.4	2.7	1.8	
2. Upgraded Climate Disaster Shelters	-	-	-	-	-	-	-	-	-	-	-	7.3	82.8	1.5	17.2	8.8	5.8		
Subtotal	-	-	-	-	0.8	7.4	0.3	2.6	0.1	0.4	1.0	8.8	7.5	65.5	1.8	15.3	11.5	7.7	
D. Project Management	-	-	1.6	7.9	9.1	46.2	0.9	4.4	0.4	2.3	-	1.3	6.6	6.4	32.6	19.7	13.2		
Total PROJECT COSTS	19.4	13.1	19.9	13.5	10.0	6.7	39.5	26.7	19.5	13.2	1.0	0.7	8.8	6.0	29.8	20.1	147.9	98.6	
Interest During Implementation	0.6	28.7	0.1	3.2	-	-	-	-	-	-	-	-	-	1.5	68.0	2.2	1.4		
Total Disbursement	20.0	13.3	20.0	13.3	10.0	6.6	39.5	26.3	19.5	13.0	1.0	0.7	8.8	5.9	31.2	20.8	150.0	100.0	

B. Summary benefit and economic analysis

160. Given the merging of the Sustainable Market Infrastructure for Livelihoods Enhancement (SMILE) Project with the Climate Resilient Infrastructure Improvement in Coastal Zone Project (CRIICZP) co-financed by ADB, the initial analysis carried out for the SMILE has been updated to include additional activities funded by ADB. The analysis of the ADB-funded activities has been done by the ADB team and included in the Bank's project documents

submitted to the Board. The CCRIP analysis aims to consolidate the analyses of both IFAD- and ADB-funded activities.

Beneficiaries

161. The beneficiaries include (i) LCS groups; (ii) market operators, traders, and market users (iii) road users (i.e., bus and truck owners and operators, passengers, and businesses using freight services); and (iii) communities in the areas of influence of subprojects who will have improved access to services and increased employment opportunities.
162. An overall estimate of 3.5 million people will benefit from the project. Direct beneficiaries include: 5,000 participants contracted to LCS (at least 80% of who will be very poor women, with priority for women-headed households); 162,400 traders in the markets under the project; 52,600 transport owners; and 235,000 households members living in the areas of influence of subprojects. See Annex 15 for detail estimation.
163. Given the nature of investments and the interconnection between them, the same beneficiaries within the community might benefit from different investments.

Table 8: CCRIP beneficiaries

	Beneficiary type	Beneficiaries (#)	Nature of benefits
I.	Overall beneficiaries		
1	Households in market and road catchment areas [125 Unions:583 300 HH]	3.5 million	Improved transport and access to market, educational institution, health services; improved livelihoods opportunities due to increased investments.
II.	Direct beneficiaries, of which		
1	LCS members for construction of markets and block road (at least 80% are poor women)	5,000	Assured employment as day labour; profit from LCS contracts; skill development; investments in income generating activities.
2	Permanent shop owners and temporary traders (growth centers, community markets, and collection points)	162,400	Increased sales due to increased buyers and future investments; increased profits
3	Transport owners	52,600	Increases in income
4	HHs living within market and road catchment area [455,000 HH]	2,730 800	Improved access to buyers, better price, improved access to good quality inputs and support services.

HH: households

Benefits

164. Quantified Benefits. The project is expected to generate substantial net incremental benefits to farmers and rural entrepreneurs (shop keepers, traders, transport owners). The benefit stream comprises the following elements:
165. Market infrastructure development benefits. Improved and expanded market infrastructure (Growth Market Centers, village markets sheds, drainage systems, sanitary latrines, garbage pits, etc.) will have two categories of direct beneficiaries: (i) permanent traders (shop-keepers); and (ii) temporary traders of daily morning/afternoon markets and more, importantly of haat days (twice a week). Impact assessment of the MIDPCR project, as well as the field visits and interviews conducted by the ADB and IFAD missions, demonstrate that the incremental benefits for market infrastructure investments will come from: (i) reduction in spoilage of perishable products; (ii) increased sales, through higher volume and value of the agricultural produce traded; and (iii) increased number of traders at the village markets.
166. Upazila, village and union roads construction: The project will be building mainly three types of roads: (i) upazila roads; (ii) village roads and (iii) union roads. The benefits from these rural roads are mainly derived from the generated commercial activities. The

estimation of the benefits is made on the basis of the earnings expected from these new activities. Incremental benefits from these investments will be: (i) from upazila roads - vehicle operating cost savings from the existing traffic using the roads as well as from the new traffic generated; (ii) from village roads - increased volume of transported goods (mainly agricultural production) and reduced transportation costs; and (iii) from union roads - increased traffic, reduced transportation costs for goods and passengers (due to the vehicle operating cost savings).

167. Agriculture production benefits: Farmers living within the market catchment area and the road catchment area will be able to increase the volume of the agricultural production sold due to the increased traffic and will be able to fetch higher selling prices due to larger numbers of buyers coming to the market and hence higher demand for the agricultural production. In addition, farmers will also benefit from the reduced transportation costs and better access to markets and inputs contributing to higher productivity at the household level.
168. Benefits to the transport owners: Construction of the village and union roads will have an impact on the small private entrepreneurs/vehicle owners. The vehicles operating on this type of rural roads will be of two types: (i) motorized vehicles (mainly CNG/Tempo/Motor cycle) and (ii) non-motorized vehicles (such as rickshaw/ rickshaw van). The results of the MIDPCR impact assessment study demonstrate that, even if the average fare per km decreases, it is more than compensated by the volume of traffic generated by a new road (and the number of additional journeys per vehicle) as well as by the travel time and the vehicle operating costs savings. The motorised vehicles will also benefit from the increased fuel efficiency while for the non-motorised vehicles the improved smooth surface of the road will reduce the pain and the difficulty of the driver to pedal the rickshaw.
169. Income Generating Activities undertaken by the LCS members: Some of the Local Contracting Societies' members will be willing to invest a portion of wage and profit received after the completion of the construction works (about 10% of the construction cost) in sustainable income generating activities. A recent report on impact market assessment of the MIDPCR project (September 2011) demonstrates that almost 89% of the households participating in the LCS had invested some of their income in different IGA activities.
170. Non-quantified Benefits. In addition to the quantifiable benefits, the project interventions will yield some benefits related to the project activities that are much more difficult to quantify in monetary terms; thus they were not included in the economic analysis. However, they certainly amount to substantial socio-economic values. Among the non-quantified benefits are the following:
 - a. Improved communication, better access to a wide range of social services including both educational and health facilities through improvement of the road network;
 - b. Improved hygiene standards in the markets. During the interviews with the MIDPCR traders, many of them recalled the problems of the old market, when they had to move around in knee-deep mud in the monsoon and in dust in the dry season. The market improvements in terms of better water supply, toilet facilities, general cleanliness and security make the market more attractive to customers and vendors;
 - c. Human lives saved with the cyclone shelters. Assessing the economic benefit of a cyclone shelter is fraught with difficulty, as it is difficult to predict how many people and the type and number of livestock that will actually use a shelter in any given circumstance and perceived risk. Furthermore, it is extremely difficult to attach a monetary value to a human life, compared with that of financial damage to or loss of assets.
 - d. Capacity building of Market Management Committees and Banik Samities (Shopkeepers associations) and their higher involvement in market maintenance and functioning.
 - e. Increased possibilities of income generation for women and positive impact on women's empowerment through LCS activities and development of women's market sections in the markets and increased women's trade.

Financial and Economic analysis and sensitivity

171. The detailed financial and economic analysis is presented in Annex 16 of the project design documents. The financial analysis aims at demonstrating that income-generating activities on farm (related to the main commodities supported by the project) and off-farm (mainly trade), as proposed in CCRIP, are profitable and sustainable. While the economic analysis aims at demonstrating that, from an economic perspective, the project as a whole is viable, taking into account, as much as possible, all quantifiable and additional costs and benefits in with and without project situations.
172. For the purpose of the financial analysis, a number of indicative economic activities, which will benefit from CCRIP, were identified during the project design process. In total eight illustrative models (six crop models, one livestock model/dairy and one fishery model) were prepared to illustrate the impact of the potential investments on agricultural production within markets and roads catchments areas.
173. For the economic analysis, the incremental quantifiable benefit stream comprises following elements: (i) benefits from upazila, village and union roads improvements; (ii) benefits from growth market centres (GCM) and village market infrastructure development; (iii) agriculture (crop, livestock and fish) production benefits.
174. The illustrative crop, livestock and fishery models prepared for the purpose of the financial analysis (as described above) have been used for the calculation of the overall benefit stream from the agricultural production, on the basis of economic prices. In addition to that, for the economic analysis, three separate models have been developed to illustrate the benefits from roads and market infrastructure development. The models are presented in the relevant Appendix of the Annex 10 of the project documents.
175. Cost Stream. In order to estimate the project's economic viability, in the form of the Economic Internal Rate of Return (EIRR), the cash flow calculated includes the project base costs (as extracted from the COSTAB tables) with their physical contingencies but without taxes and price contingencies (therefore in constant BDT). The costs include all investments for all project components as well as their replacement (for transportation, office and computer equipment/materials, etc.) and recurrent costs (mainly operation and maintenance for transportation, equipment and materials).
176. Project Estimated Return. The base case Economic Internal Rate of Return (EIRR) is estimated at 16% over 20 years. The base case net present value of the project's net benefit stream, discounted at 12%, is BDT 2,414 million.
177. Sensitivity analysis. Sensitivity analysis assessed the effect of variations in benefits and costs and for various lags in the realisation of benefits. A number of scenarios were tested to establish the economic viability of the total project in the event of adverse factors. The EIRR is relatively stable with regard to cost increases, benefit reductions and lags. Even in the case of extreme delays of the realisation of project benefits of two years or a relatively unsustainable nature of project benefits, represented by an annual 20% decrease of benefits, the EIRR remains equal or above the assumed opportunity cost of capital of 12%.

C. Sustainability

178. Three aspects of sustainability of the project are defined as follows:
 - Sustainability of benefits to the population in general and direct beneficiaries in particular is defined as the continuity and the enhancement of benefits due to better access to transport and market infrastructure;
 - Sustainability of transport and market infrastructure is defined as good usable conditions of physical infrastructure; and
 - Sustainable management of market is defined as clean and properly maintained markets where number of buyers and sellers and sales increase over time.
179. Sustainability of benefits. The benefits to the households in the catchment areas in the form of access to health services and schools, access to better agricultural inputs and processed goods, increase in mobility and so forth are expected to be sustainable although may periodically be hampered due to poor maintenance. As seen in MIDPCR, roads and improved markets lead to increases in sales by traders in the markets, new shops and houses in their vicinity and additional investments in production. The number of motorized traffic is also expected to increase and continue. The increase in prices of agricultural

commodities due to an increased number of buyers is expected to continue once supply chains are established. Prices could decrease due a natural disaster but would recover quickly. Similar to MIDPCR, additional investments in high value agriculture such as livestock and fisheries are expected to increase and continue when good inputs such as fingerlings and support services such as animal health care are available in a reliable fashion. These aspects of impact are expected to be further strengthened due to the implementation of MAPP, which will bring agricultural finance and value chain development activities.

180. Sustainable infrastructure. The responsibility of road maintenance rests with LGED, which receives an annual budget to maintain roads constructed under various projects. However, the availability of resources may be uneven and not on time, which could cause the creation of potholes along the BC roads. To reduce such incidence the project would give emphasis on good quality construction as planned; and independent monitoring will be critical in this respect. Construction of RCC roads reduces maintenance problems.
181. Sustainability of market management. Cleanliness and proper repair and maintenance of markets depends on the capacity and responsiveness of MMCs. The project will construct garbage pits, and MMCs need to ensure that the market lease (Ijarader) cleans the markets after hat days. The project will train market committees and encourage them to elect active persons in the MMCs. The repair and maintenance will depend on lease value and availability of 25% lease value to MMCs. IFAD should negotiate with GOB to ensure regular competitive bidding to lease out the markets.
182. Exit Strategy. The exit strategy is built in the design: roads will be handed over to LGED/GOB and markets will be taken over by UNO but will be managed by MMCs, where the UP chairmen are ex-officio presidents.
183. Assurances. Government confirmed that maintenance funds for all constructions built under CCRIP will be allocated throughout and beyond the project implementation period, in the amount that is sufficient to ensure that investments remain at the level of its original construction quality.
184. In addition, Government agreed to develop sustainable road maintenance plan for all constructions under CCRIP by 1. quarter in 2014.

KEY FILE TABLES: Table 1: Rural poverty and agricultural sector issues

Priority area	Major Issues	Actions needed
Rural poverty	<ul style="list-style-type: none"> 80% population lives in the rural areas, 44% live below the national poverty line and 29% are classified as very poor. Over 30 % of the net cultivable area is in the coastal region*, but these vast cultivable lands are in great threat due to rapid climate change and natural disasters. Two major tidal surge and storms (Aila and Sidr) affected the coastal areas resulted major loss of lives, livelihoods, houses and rural infrastructure. Low intensity of crop cultivation (in some areas only one crop per year) and fishing and they remain frequently unemployed due to tidal flooding and other natural disasters resulting food insecurity in the areas. Low crop productivity and less cropping intensity due to increased salinity, incidences of pests & diseases, drought, tidal surges, cyclone, submergence, large fallow lands/water bodies, land degradation and unemployment. Disease of poultry and livestock 	<ul style="list-style-type: none"> Employment generation through expanding local businesses Extended safety net program Skill development for self-employment and IGAs through training Easy access to potable water and re-excavation of fresh water ponds Land ownership increase; distribute khas land Access to health facility Ensure vaccination and other input services for poultry. Build physical protection from floods and cyclones.
Agriculture	<ul style="list-style-type: none"> Mostly single crop Aman cultivated due to saline water and scarcity of fresh water in dry season, therefore, farming is possible only for 4-6 months. In some places no vegetable is grown due to acute salinity. Scarcity of quality fry, seeds as well as limited access to water bodies and which are almost controlled by the elite (Government lease). Limited access to good technology and inputs, knowledge and support services such as vaccination services for poultry and livestock. Virus attack and risk of washing away of fish, shrimp and other crops due to heavy rain fall, tidal surge. Submergence of rural access road hinders carrying the perishable commodities. Increases cost of production because of higher input costs, and lower price due to remoteness Limited access to demand driven financial services, especially seasonal agricultural credit and loan for microenterprises 	<ul style="list-style-type: none"> Improve water control system. Introduction of saline friendly profitable crops/diversified crops with appropriate technologies. Expansion of existing agricultural products with establishment of network with DAE, DoF and DLS Quality fry, seeds, fertilizer and other inputs need to ensure. Establishment of value chain and linkage among all stakeholders (the farmers, input suppliers, buyers/traders) build their capacity, which is likely to reduce producers operating cost and increase net income. Access to financial services (NGOs and Bank)
Markets	<ul style="list-style-type: none"> Poor road network cost high transport cost, poor marketing facilities. No shed and have to sit with produces in open space as a result cannot stay longer in the market, rather obliged to sell earlier in the rainy season and other inconvenient circumstances (no water and toilet facilities). Less buyer and whole seller comes because of poor connecting road with market. Inactiveness of MMC and thus poor management and maintenance of markets Market leasing system does not provide incentives for investment or maintenance. 	<ul style="list-style-type: none"> Construction of rural access road and market infrastructure. Access to toilet facilities and water for drinking and cleaning. Women friendly environment such as separate place for women temporary and permanent sellers. Strengthen market management committees Reform leasing system to reduce costs of access to markets and provide incentives for investment and maintenance
Gender equalities	<ul style="list-style-type: none"> Women are disadvantaged and destitute group with inadequate access to education and health facilities. Less skilled and depend on manual work for minimal wage. Over burdened with household responsibilities along with scarcity of potable water, fuel wood, poor housing and sanitation 	<ul style="list-style-type: none"> Year round employment opportunities and skill development training for the destitute women in market development, some access roads and tree plantation as well as maintenance Women friendly market environment for buying and

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

Priority area	Major Issues	Actions needed
	<ul style="list-style-type: none"> • Less wage than male which varies 60-80 Taka • Dowry is practiced everywhere. • Limited access to assets and employment opportunities • Less participation in market due to unfriendly environment for selling and buying • Limited mobility due to submerged road in the rainy season 	<p>selling (particular space for temporary as well as permanent women sellers need to allocate).</p> <ul style="list-style-type: none"> • Training on IGAs (poultry, cattle rearing, vegetable gardening, handicrafts and so on) • More access to potable water, health services and education. • Increase awareness among men and women about gender issues and legal rights.

- BCAS 2010, Assessing long term impacts of vulnerabilities on crop production due to climate change in the Coastal areas in Bangladesh

KEY FILE TABLES: Table 2: Organisational capabilities matrix

Organisation	Strengths	Weaknesses	Opportunities	Threats
LGED	<ul style="list-style-type: none"> • Outreach – offices in all districts and Upazilas; staff in all Upazilas • Capacity to implement large rural infrastructure projects using contracted staff. • Experience of implementing similar project (MIDPCR) • Interface with local Government, and remit to support local Government. • Flexible approach to use of LCS • Skilled human resources; • Established management system (financial management and program management) • Efficient management 	<ul style="list-style-type: none"> • Centralised management in Dhaka • Large number of projects stretch management resources and weaken quality control 	<ul style="list-style-type: none"> • .To utilise the capacity of LGED for developing the coastal region and disaster prone region. • Utilise the enhanced capacity of UPs and greater availability of funds to assume greater responsibility for local development and maintenance of existing infrastructure. 	<ul style="list-style-type: none"> • Ensuring the secondment of committed staff to CCRIP • Maintaining quality of management • Attempts of undue influence of local politician on infrastructure selection
Local Government (Upazila and Union)	<ul style="list-style-type: none"> • Local presence and contact with local people • Responsible for delivering a number of Government services such as safety nets • Knowledge about local infrastructure needs and demand; Can assist CCRIP in market and road identification • UP can complement CCRIP project by paying for part of market development costs, e.g. earth filling • UP chairman is ex-officio president of MMC • Regulatory, justice and disaster management functions. 	<ul style="list-style-type: none"> • Limited financial resources. • Election often on political grounds. • Are not always pro-poor oriented. • Not all UP chairmen members are active in local development 	<ul style="list-style-type: none"> • Informal partnership with UPs may help speedy and smooth implementation of CCRIP project. • Involvement helps enlist local support for the project. • Utilise growing UP resources to supplement CCRIP expenditure • Opportunity to transfer some of infrastructure maintenance functions to them. 	<ul style="list-style-type: none"> • Political interference.

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

KEY FILE TABLES: Table 3: Complementary donor initiative / partnership potential

Major Donor	Project	Geographical Area	Remarks
JICA	South-Western Rural Development Project Core activities: Construction of 110 upazila roads, 18 union roads, amounting to 1034 km of roads. Project budget: USD 140 million	14 districts of 3, i.e. Greater Barisal, Greater Khulna, Faridpur	The roads built under CCRIP are typical village and Union roads. There is no overlap, moreover the information is known in local LGED offices and must be verified.
World Bank	Emergency Cyclone Recovery and Restoration Project (ECRRP) Core activities: 1. New construction of Multi-purpose Cyclone Shelters; 2. Rehabilitation of existing cyclone shelters; 3. Roads connecting population centers with cyclone shelters (it includes construction of Killa's (mounds) to provide for shelter of livestock and ponds for drinking water) Project budget: USD 121 million	Coastal Areas, 9 districts	In as far as the area covered by CCRIP is located within areas covered by the World Bank project; CCRIP does not construct cycle shelters; coordination for rehabilitation of roads should be established.
World Bank	Coastal Embankment Improvement Project (2013-18) which will strengthen polders in a number of Upazilas within the CCRIP project districts	17 upazilas in South-western districts	Feasibility studies are being conducted.
ADB	Participatory Small-Scale Water Resources Project (PSWRP) Core activities: construction of canals, regulators, rubber dams, flood mitigation of areas smaller than 1000 ha Project budget: USD 82 million	61 districts (all districts except for 3 hill districts)	CCRIP must consult with ADB where projects are bordering rural roads rehabilitated by CCRIP and for operation of water control gates
DANIDA	Rural Roads & Market Access Infrastructure Development Project (RRMADP) Core activities: labour-based (LCS) construction of earthen roads, small structures, carpeting of roads (combination of LCS and contractors); functional training of women, navigable canals (excavation) Project budget: DKK 170 million	Patuakhali, Borguna, Laxmipur (9 Upazilas)	There is no overlap, CCRIP should consult the project for information on their intervention areas. (www.rrmac.net) (www.lged.gov.bd)
FAO	Several Projects	Country-wide	Consult with FAO on available knowledge on specific topics (agricultural data, markets, trade, livestock, fisheries)

KEY FILE TABLES: Table 4: Target group priority needs and project proposals

Typology	Poverty level and causes	Coping strategies	Priority needs	Support from other programs	Project response
Extreme poor (no homestead and arable land)	<ul style="list-style-type: none"> • Landless • Food crisis almost throughout the year • Limited wage labor work in the rural area • Affected by any kind of natural disaster • No or very little access to micro-credit and bank • Housing structure is weak (mostly with local materials and tin which they received as relief after Aila and Sidr) • Open pit toilet • Crisis of potable water due to salinity • No livestock, only some poultry • Many HHs are female headed (abandoned, widow, disable husband) • Limited health access and suffer from various diseases • Children go to school but high drop out 	<ul style="list-style-type: none"> • Daily wage labor work in agricultural field, fish ponds, earth cutting for road, house and other purposes • Seasonal migration (both national and international) and permanent migration for searching temporary employment • Starvation or consumption cut • GoB safety nets through union parishad (40-day program for the extreme poor, twice per year), VGD, VGF cards • Women work in others house as maid-minimal pay • Make local quilt and mat with local materials • Children become involved with earning • Women collect fuel wood from Sundarban • Catch fish and fry in river (twice within 24 hours according to ebb and flow tide) 	<ul style="list-style-type: none"> • Employment generation • Self employment • Access to potable water • Development of rural roads and markets • Food assistance • Training on IGA • Health support 	ASA, BRAC, GRAMEEN, World Vision, UNDP and other local organizations provide loan, training on IGAs.	<ul style="list-style-type: none"> - Employment generation for the destitute women in LCS; - IGAs through MAPP implemented by PKSF in the CCRIP project areas - Improved infrastructure will increase local employment opportunities - Health services may improve due to better access
Poor (homestead land)	<ul style="list-style-type: none"> • No arable land but homestead land • Food crisis almost 6 months of the year • Insufficient wage laboring work for the year round relative to need • Very few have livestock and poultry • Little access to NGO and no access to Bank • House is made with local materials and ring slab sanitation • Crisis of potable water due to salinity 	<ul style="list-style-type: none"> • Same as extreme poor • Take dadon (advance sale of crops/fish) 	<ul style="list-style-type: none"> • Employment generation • Self employment • Access to potable water • Development of rural roads and markets • Food assistance • Training on IGA • Health support 	ASA, BRAC, GRAMEEN, World Vision, UNDP and other local organizations provide loan, training on IGAs	<ul style="list-style-type: none"> Employment generation for the destitute women in LCS; - IGAs through MAPP implemented by PKSF in the CCRIP project areas Improved infrastructure will increase local employment opportunities Health services will be improved

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

Typology	Poverty level and causes	Coping strategies	Priority needs	Support from other programs	Project response
	<ul style="list-style-type: none"> • Chronic debt • Vulnerable to natural disaster 				
Marginal farmer /functional poor (up to 1.5 acre land)	<ul style="list-style-type: none"> • Vulnerable to natural disaster, probability of crop damage by heavy rain and water logging • Virus attack on shrimp and wash away by flood, lack of quality fry • Food crisis for 1-2 months (due to salinity mostly one crop is cultivated) • Poor access to health facilities and potable water • No or limited access to agricultural information or technology • Less price of produce due to undeveloped market and thus less bargaining scope • High carrying cost because of earthen road that is totally difficult in monsoon • Lack of cold storage facility at the local level, therefore bound to sell to the fixed customer/businessmen • Limited access to Bank 	<ul style="list-style-type: none"> • Loan from NGO with high interest • Loan from Bank by mortgaging the land • Seasonal migration • Rear poultry & livestock • Small trading based on local production • Very few HH have petty job holders in NGO and Government level • Sell land 	<ul style="list-style-type: none"> • Agricultural development through access to extension services including inputs • Development of market and rural roads for better price and easy transportation • SME loan • Access to potable water 		<ul style="list-style-type: none"> • Improved infrastructure will increase the volume of production and transaction • Agricultural and fisheries extension services will be increased with improved communication • Input supply will be improved • Value chain activities under MAPP; NE loan under MAPP • Access to health service and education will be improved
Middle class (1-5 acre)	<ul style="list-style-type: none"> • Vulnerable to natural disaster, probability of crop damage by heavy rain and water logging • Virus attack on shrimp • No or limited access to agricultural information or technology • Less price of produce due to undeveloped market and thus less bargaining scope about the price • High carrying cost because of earthen road that is totally difficult in monsoon • Lack of storage facility at the local level, therefore forced to sell to fixed 	<ul style="list-style-type: none"> • Business • Own boat, nets, cold storage, lease in land • Service holder HH member • Own livestock, poultry • Access loan to bank, NGO • Sell land 	<ul style="list-style-type: none"> • Improved access to information and services regarding agriculture and fish production • Developed market and rural connecting roads • Improved economic opportunities 		<ul style="list-style-type: none"> • Improved infrastructure will increase the volume of production and transaction • Agricultural and fisheries extension services will be increased with improved communication • Value chain support and agri/ME loan under MAPP

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

Typology	Poverty level and causes	Coping strategies	Priority needs	Support from other programs	Project response
	customer/businessmen.				
Non-poor (above 5 acre)	<ul style="list-style-type: none"> • Vulnerable to natural disasters • Own assets and business • Poor rural access road and market facilities, input services 	<ul style="list-style-type: none"> • Access to bank loan • Businessmen • Move to the town and lease out the lands 	<ul style="list-style-type: none"> • Better infrastructure 		<ul style="list-style-type: none"> • Improved infrastructure will increase the volume of production and transaction; • ME loan and value chain support under MAPP

Bangladesh: Coastal Climate Resilient Infrastructure Project (CCRIP)
Design Completion Report
Main Report

KEY FILE TABLES: Table 5: Stakeholder matrix / project actors and roles

Component	Activity	Coverage	Perennial Institution(s) Involved	Potential Contractors/ Periodic Inputs	Other Possible Partners in Execution
Transport infrastructure	<ul style="list-style-type: none"> • Construction of Union and village roads • Construction of block road • Construction of bridges and box culverts for Union and village roads 	<ul style="list-style-type: none"> • 31 Upazilas 12 project districts (mostly coastal and flood prone areas) 	<ul style="list-style-type: none"> • LGED via district level XEN and Upazila Engineers. Funds disbursed from the PMU HQ to XENs. 	<ul style="list-style-type: none"> • Construction contractors 	<ul style="list-style-type: none"> • Collaboration with Small Scale Water project of ADB/IFAD; • Collaboration with MAPP project of PKSF/IFAD
Market development	<ul style="list-style-type: none"> • Selection and development of four types of rural markets (Special, Large, small and collection points) • Construction of rural markets • Formation of LCS and training • Train MMCs • Build boat landing ghats 	<ul style="list-style-type: none"> • 31 Upazilas 12 project districts (mostly coastal and flood prone areas) 	<ul style="list-style-type: none"> • LGED (CCRIP PMU via its offices at the Upazila level) • Union Parishads • LCS groups • MMCs 	<ul style="list-style-type: none"> • Labour Contracting Societies (LCS) 	<ul style="list-style-type: none"> • BUET on design of village roads • Incorporate experience of MIDPCR and SCRMB project.
Management Support	<ul style="list-style-type: none"> • Project management • Project coordination • Staff development training • Monitoring and evaluation • Conduct surveys, impact studies, environmental assessment • Lesson learning and dissemination 	<ul style="list-style-type: none"> • 12 project districts 	<ul style="list-style-type: none"> • LGED CCRIP PMU • Project Steering Committee • District Development Coordination Committee • Upazila Development Coordination Committee 	<ul style="list-style-type: none"> • Consulting firms specialised in M&E, environmental assessment • International training providers 	<ul style="list-style-type: none"> • Academic & research institutions • Other donor agencies including LCG