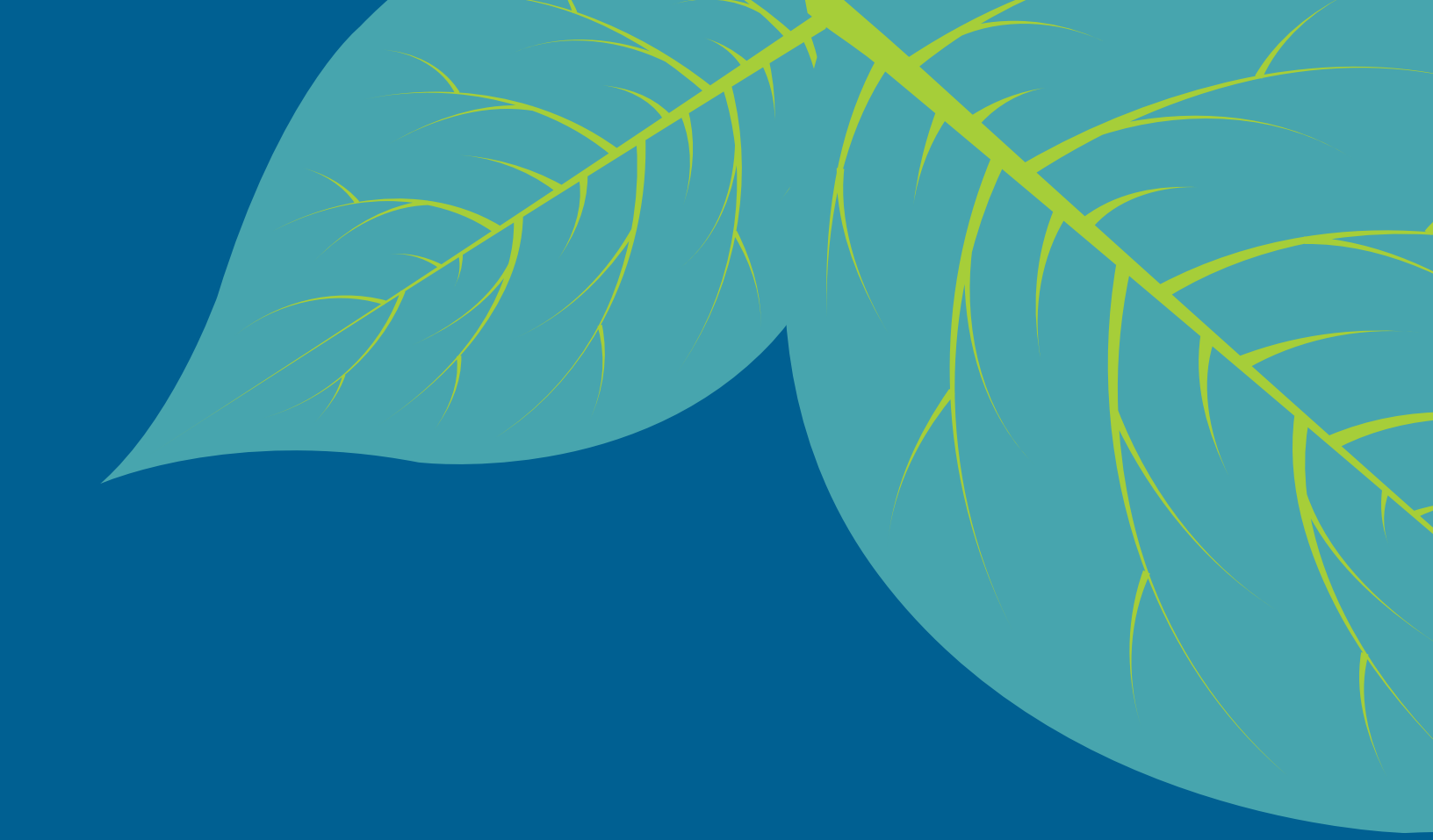

1 OVERVIEW

1
OVERVIEW

Bangladesh is one of the most vulnerable countries in the world to the potential impacts of climate change. To address this challenge, Bangladesh launched its first Climate Change Strategy and Action Plan (BCCSAP) in 2008 and revised it in 2009. The plan seeks to build a medium- to long-term program for enhancing resilience to climate shocks and facilitating low-carbon, sustainable growth. The BCCSAP identified six main pillars: (1) food security, social safety, and health; (2) comprehensive disaster management; (3) infrastructure; (4) research and knowledge management; (5) mitigation and low-carbon development; and (6) capacity building to address climate change impacts on various sectors of development.

To support implementation of the BCCSAP, development partners—the U.K. Department for International Development (DFID), Denmark, Sweden, and the European Union (EU)—established the Bangladesh Climate Change Resilience Fund (BCCRF). In May 2010, the Government of Bangladesh (GoB) and these four development partners jointly signed a Memorandum of Understanding (MOU). Switzerland became a development partner in December 2010, while the Australian Agency for International Development (AusAID) and the U.S. Agency for International Development (USAID) joined in 2012. Together with supplemental contributions by Sweden and Switzerland in 2012, the total amount pledged as of the end of 2013 was approximately US$187 million. Box 1 presents the key dates.

Box 1. Key Dates

May 31, 2010	MOU signed
July 6, 2010	DFID and Denmark sign contribution to BCCRF
November 8, 2010	Sweden signs contribution to BCCRF
December 6, 2010	Switzerland signs contribution to BCCRF
December 15, 2010	EU signs contribution to BCCRF
February 23, 2011	1st MC meeting
April 13, 2011	2nd MC meeting
April 25, 2011	3rd MC meeting
May 19, 2011	1st GC meeting
October 13, 2011	4th MC meeting
November 16, 2011	5th MC meeting
May 1, 2012	AusAID signs contribution to BCCRF
May 3, 2012	USAID signs contribution to BCCRF
June 7, 2012	6th MC meeting
June 12, 2012	2nd GC meeting
July 5, 2012	7th MC meeting
December 12, 2012	MC members vision statement meeting
January 30, 2013	9th MC meeting
April 17, 2013	10th MC meeting
June 19, 2013	3rd GC meeting
November 24, 2013	Mid-term review starts

The BCCRF is owned and managed by the GoB. The Governing Council (GC), comprising a core group of cabinet ministers of the government, civil society, and donor representatives, provides overall strategic guidance, while the Management Committee (MC), led by the secretary of the Ministry of Environment and Forests (MoEF), reviews grant requests, among other responsibilities (see annex 1 for BCCRF governance and

roles). The BCCRF Secretariat, anchored in the MoEF, works in close collaboration with the World Bank. On behalf of the contributing development partners and in consultation with the GoB, the World Bank is executing due diligence requirements for the BCCRF (including fiduciary management, transparency, and accountability) for a limited duration. The BCCRF is designed such that all investment projects are recipient-executed grants—that is, they are executed by the GoB and its designated agencies or other eligible institutions. The Bank is executing analytical and advisory activities (AAAs) as agreed jointly with the GoB.

During the current reporting period (January–December 2013), several milestones were reached in program management: first, the MC met twice, the GC met once, and both made significant decisions, such as endorsing the results framework and the project concept for Secretariat for the BCCRF Project Phase II (Capacity Building Project Phase II). The mid-term review (MTR) of the BCCRF started in November. The program manager to be based in Dhaka was appointed on November 1. Five professionals have been in place since late 2013 for the BCCRF Secretariat at MoEF, and the MoEF joint secretary leads the Secretariat as the project director.

At the project level, two investment projects began regular disbursements in 2013 (Table 1). The first disbursement, under the Community Climate Change Project (CCCP), started in March 2013. As for the Climate Resilient Participatory Afforestation and Reforestation Project, regular disbursement started in August 2013.

Table 1. Investment Projects Disbursed in 2013

Projects	Total disbursement by December 31, 2013 (US$)
Community Climate Change Project	2.3 million
Climate Resilient Participatory Afforestation and Reforestation Project	3.2 million

In June 2013, the GC gave final approval to the two projects listed in Table 2. On December 30, 2013, the executive directors of the World Bank approved the Modern Food Storage Facilities Project. The grant agreement for the Solar Irrigation Project, which is co-financed by the International Development Association (IDA) Rural Electrification and Renewable Energy Development (RERED) Project II, was signed in September 2013. The project became effective on December 19, and disbursement is scheduled to start in March 2014.

Table 2. Investment Projects Approved in 2013

Projects approved by GC	Committed amount (US$)
Modern Food Storage Facilities Project	25.0 million
Rural Electrification and Renewable Energy Development Project II (RERED II), Solar Irrigation Project	24.5 million

As of December 2013, seven AAAs[1] were ongoing, for which stakeholder consultation was carried out intensively during 2013. One was planned to be finalized in early 2014.

With regard to outreach activities, the BCCRF received media coverage through several national channels in 2013, which improved its visibility significantly. The *Annual Report 2012* was widely circulated and was posted on the BCCRF website. The communications strategy was being developed during the second half of 2013, and three blog articles were posted.

For the current reporting period (January–December 2013), program and project status was reported to stakeholders, as shown in Table 3.

Table 3. Reporting in 2013

Reporting period	Date of issuance
October 1–December 31, 2012	January 22, 2013
January 1–July 12, 2013	July 12, 2013
July 13–November 8, 2013	November 8, 2013
November 9–December 31, 2013	January 26, 2014

The details of achievements in 2013 are described in subsequent sections.

[1] In January 2014, it became clear that one of the AAAs (Scaling up Innovation in Disaster Risk Management in Bangladesh: A Proposal to Support Human and Financial Resilience to Natural Hazards) was similar in scope to research being conducted by the Asian Development Bank. Because of the overlap, this AAA will be canceled; see section 3.2.2 (5) for details.

2
PROGRAM MANAGEMENT

2 PROGRAM MANAGEMENT

2.1 OVERVIEW OF PROGRAM MANAGEMENT

During the second half of 2012, stakeholders worked diligently to agree on the ultimate objectives of the BCCRF. On December 12, 2012, stakeholders agreed on a BCCRF vision statement (Box 2), which became the guiding principle in developing the Capacity Building Project Phase II, the results framework, and the communications strategy in 2013.

Box 2. Vision Statement

A vision that:

By 2020 the BCCRF will be a government led, owned, and managed collaborative and sustainable climate change financing mechanism, which is transparent and accountable, aimed at developing capacity and resilience of the country to meet the challenges of climate change.

BCCRF will support the implementation of the BCCSAP through an institutional framework by:

1. Providing a platform for coordination of BCCRF stakeholders and acting as a catalytic agent for wider coordination
2. Serving as a climate fund, which also brings innovation, harmonization, and added value to the GoB's climate change initiatives
3. Serving as a financing mechanism to bring global climate change funding to Bangladesh
4. Supporting implementation of prioritized, results-oriented climate change interventions that deliver sustainable outcomes particularly targeting the least resilient.

There were some notable achievements in program management during 2013. In addition to the events listed in Table 4, stakeholders engaged in intensive consultation on issues such as the vision statement, results framework, and communications strategy, for which detailed minutes were prepared. The details of program management are described in subsequent sections.

Table 4. Dates of Key Events

Date	Events
January 26	Heads of agencies (HoA) meeting
January 30	MC meeting
February 23–27	A mission to facilitate development of the results framework and preparation of the Capacity Building Project Phase II
March 9–13	A mission to facilitate development of the results framework and preparation of the Capacity Building Project Phase II
March 26–30	A mission to facilitate development of the results framework and preparation of the Capacity Building Project Phase II
April 7	HoA meeting
April 17	MC meeting
May 15	Local Consultative Group (LCG) meeting
May 20	LCG meeting
June 16	HoA meeting
June 19	GC meeting
June 30	HoA meeting
September 23–26	A mission to facilitate development of the communications strategy
October 1–11	A mission to prepare the Capacity Building Project Phase II

2.2 CAPACITY BUILDING

As shown in the BCCRF vision statement, there is a clear understanding among stakeholders that capacity building is one of the critical building blocks of the BCCRF program. Annex 1 describes the governance structure and the current functions of institutions engaged in the

BCCRF program. It is envisioned that the functions of the BCCRF Secretariat will be transferred gradually from the Bank team to the BCCRF Secretariat at MoEF so that the BCCRF will truly be "government led, owned, and managed," as indicated in the vision statement. To this end, preparation of the Capacity Building Project Phase II started in 2013. The intention was to build on the ongoing Secretariat for the BCCRF Project (Capacity Building Project Phase I) and to prepare Phase II in alignment with the BCCRF vision statement.

To develop the project concept, in-depth discussions were held over several months with the government, donors contributing to the BCCRF, as well as other donors and implementing agencies contributing to capacity building for climate change in Bangladesh. The Swiss Embassy and the DFID contributed resources for developing the project concept.

To conclude the consultation process, the Local Consultative Sub-Group on Environment and Climate Change (LCG), co-chaired by the DFID and the MoEF, brought together donors and the GoB in May 2013 to agree on a common platform for building capacity and coordinating climate initiatives under the leadership of the MoEF. At that meeting, it was also agreed that the institutional form of the BCCRF and climate change financing are under the purview of the government and might take some time to develop fully. This project concept is aligned with the common framework and is therefore well coordinated with relevant stakeholders in the country and fully in line with the principles and functions agreed by the LCG, which is an important multiple-stakeholder platform in Bangladesh.

Following virtual approval by members of the MC, the project concept was presented to the GC on June

19. In particular, the chair was of the opinion that the proposed budget of US$7 million for the Capacity Building Project Phase II needed to be smaller during project preparation since the majority of BCCRF funds had to be allocated for poverty reduction interventions and actions on the ground. Subsequently, the GC approved the project concept and requested that the project team revisit the budget.

The first preparatory mission for this Capacity Building Project Phase II visited Dhaka from October 1 to 10, and the Bank and the MoEF agreed as follows: (1) the MoEF will initiate discussions to secure a full-time director (joint secretary level) for the Capacity Building Project Phase II, and (2) the Bank will conduct rapid needs assessments on institutional and fiduciary aspects. Detailed terms of reference for such assessments were prepared, and relevant consultants were selected as of the end of 2013. The institutional assessment is scheduled to be finalized by March 2014.

2.3 RESULTS FRAMEWORK

The results framework was seen to serve as an important accountability tool for donors to ensure that activities support the broader objectives and vision of the BCCRF. The BCCRF vision statement agreed among stakeholders in December 2012 was the first step towards the development of a results framework, and subsequently, a lead monitoring and evaluation specialist at the World Bank headquarters traveled to Dhaka from February 16 to 27 to facilitate the discussion. During the meetings held in late February to discuss the results framework, stakeholders expressed satisfaction with the progress made and requested that consideration be given to devising achievable outputs that can be monitored on an annual basis.

A subsequent version of the results framework was prepared on March 30 to deepen the discussion among the development partners and the MoEF. On April 17, key elements of the results framework were discussed at the MC meeting. A final draft consisting of (a) a results road map, (b) a BCCRF reporting framework, and (c) a results measurement guide was circulated on May 8. On June 16, the final results framework was discussed at the HoA meeting, and it was agreed that the results framework in its current form would be piloted over the next several months, after which it would be reviewed and output indicators would be dropped or changed, as necessary.

Finally, the GC members discussed and endorsed the results framework on June 19 (the final framework is attached as Annex 2). A monitoring report based on the results framework will be prepared annually, and the first annual monitoring report is attached as Annex 3. This annual monitoring report captures the verification of the reporting framework done during recent months to ensure that target values and output indicators are appropriate and data are easy to collect.

2.4 COMMUNICATIONS

Communications strategy: Subsequent to agreeing on the results framework, the process of developing a communications strategy was started during the second half of 2013. Experience since 2010 has shown that strategic communications could be of support to achieving the ambitious goals set by BCCRF. To come up with a realistic communications strategy, stakeholders needed to agree on key elements such as the scope of core audiences, the vision of BCCRF, associated human resources, and budget and timeframe to implement the communications strategy.

As the first step, a rapid communication needs assessment (CNA) was conducted. A series of individual and group meetings were held in Dhaka; consultations were conducted with a range of stakeholders representing various groups and interests, including members of the BCCRF Secretariat at the MoEF, representatives of the development partners, national and international civil society organizations, journalists, the CCCP team at the Palli Karma–Sahayak Foundation (PKSF), and officials from the Asian Development Bank (ADB), the International Finance Corporation (IFC), the United Nations Development Programme (UNDP), and the World Bank. The CNA benefited from both the information and insight they shared with the BCCRF

communications team. The USAID team also shared the proposed publication and stationery guidelines for BCCRF, underlining the case for developing a unique identity for this program.

The initial draft communications strategy was circulated to development partners and the GoB on November 8; based on the feedback, a draft was revised by December 9. As of December 31, 2013, the draft was being reviewed by the Bank team.

Blog articles: During the reporting period, three blog articles related to the BCCRF were posted on the BCCRF website and the Bank's external website. (All blog articles in full are included in Annex 4.)

"Saving Lives from Cyclone Mahasen in Bangladesh" (June 16, 2013). The Local Government Engineering Department (LGED) and the cyclone shelter team explained how increased preparedness minimized the loss of life and property when cyclone Mahasen hit Bangladesh on May 17. The cyclone caused 17 fatalities and damaged about half a million households, but damages could have been much greater if resilience and preparedness had not been improved through the cyclone shelter program.

"Becoming a 'Forest Savior': Community Participation for Conservation" (November 4, 2013). The Bangladesh Forest Department (BFD) and the afforestation team prepared an article based on interviews with project beneficiaries in Cox's Bazar. The article highlights improved livelihoods through stable employment at nurseries and greater awareness of the consequences of illegal felling.

"Bangladesh: The Most Climate Vulnerable Country" (November 21, 2013). During the Warsaw Climate Change Conference, Arastoo Khan, additional secretary at the Economic Relations Division (ERD), wrote an article saying that the BCCRF program was an operational financial mechanism, but that it did not have the necessary funds. He appealed to the international community to fund the BCCRF program so that it could develop further.

2.5 BCCRF MID-TERM REVIEW

In the process of developing the implementation manual in 2011, the BCCRF stakeholders agreed that, after two years of implementation, the BCCRF requires a mid-term review (MTR). The goal of the assignment is to provide recommendations to facilitate the best way forward for BCCRF in terms of programmatic and

operational implementation. The review process was initiated when the terms of reference and discussion paper were circulated among stakeholders in October 2013. The MTR will take place in two phases:

- In the first phase, independent consultants will conduct a technical evaluation of the programmatic and operational aspects of the BCCRF and provide recommendations on meta-level questions indicating the value added by the BCCRF.
- In the second phase, the Bank will facilitate the process by establishing consensus with the GoB and development partners on the priority recommendations, future work plan, and administrative issues linked to the BCCRF.

The development partners and the Bank jointly evaluated several candidates for the consultancy and agreed to give this MTR assignment to a team consisting of a U.K.-based expert and a Dhaka-based expert, both with rich experience in evaluating trust-funded programs. The assignment given to the team comprised the following: (i) examine the programmatic aspects of the BCCRF, including the vision, results framework, capacity-building plan, communications strategy, and evaluation criteria; (ii) review the status of the constituent projects in the BCCRF with respect to the pace of implementation and added value of the operations; (iii) address the larger meta questions around BCCRF such as the added value of the fund and its alignment with the BCCSAP; and (iv) prepare a report on recommendations to improve the effectiveness of the fund.

The consultants started the assignment on November 24. A second mission took place in mid-January 2014, and the MTR is scheduled to be completed in early 2014.

2.6 COORDINATION WITH OTHER PROGRAMS

Many bilateral and multilateral assistance initiatives seek to build capacity with regard to addressing climate change in Bangladesh. The ADB supports targeted capacity-building initiatives on climate change, especially training in certain sectors, and plans to develop a comprehensive climate change–related database (knowledge bank). The UNDP supports the Planning Commission in its role as overseer of all government programs and has contributed to the Public Expenditure Review on Climate Change. The Food and Agriculture Organization (FAO) has carried out a comprehensive needs assessment of climate change capacity building for the MoEF and has submitted a proposal to the MoEF for developing a capacity-building plan, which is likely to attract USAID funding. The Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ) has allocated about EUR 4 million, principally to support the MoEF. The DFID played an important role in developing the BCCSAP.

To avoid overlapping efforts, in-depth discussions were held over several months with the government, civil society, BCCRF donors, as well as other donors and implementing agencies contributing to capacity building for climate change in Bangladesh.

To conclude the consultation process, the Local Consultative Sub-Group (LCG) on Environment and Climate Change, co-chaired by the DFID and the MoEF, brought together stakeholders on two occasions in May 2013 to agree on a common platform for building capacity and coordinating climate initiatives under the leadership of the MoEF. This resulted in an agreement on the overall approach, 10 principles, a set of 9 functions, and a common process on which to pursue capacity building (see the LCG website: http://www.lcgbangladesh.org).

2.7 STAFFING

The new program manager officially came on board on November 1 and was scheduled to relocate to Dhaka in mid-January 2014. The task team leadership of relevant trust funds was transferred from the interim program manager to the new program manager as of November 30, 2013, and the new manager became the task team leader (TTL) for the Capacity Building Project (Phases I and II).

Finally, the Bank's task team consists of competent technical staff covering multiple disciplines as well as serving as TTLs of BCCRF projects and AAAs. They are given below.

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World Bank BCCRF core team:

- Interim program manager (January 1, 2013 until the appointment of the new program manager), New Delhi
- Program manager (appointed as of November 1, 2013), Washington, DC, and scheduled to relocate to Dhaka in mid-January 2014
- Senior environmental specialist, Washington, DC (part-time)
- Senior monitoring and evaluation specialist, Dhaka (only until December 31, 2013)
- Environmental specialist, Dhaka (part-time)
- Communications short-term consultant, Dhaka
- Administrative support staff, Dhaka (part-time).

Project TTLs: In cooperation with project management units (PMU) at implementing agencies of the Bangladeshi government, the following TTLs provide support from the Bank side to ensure technical, legal, and financial due diligence during project preparation and implementation:

- Emergency 2007 Cyclone Recovery and Restoration Project (Multipurpose Cyclone Shelter Construction Project): lead water resources specialist
- Community Climate Change Project: environmental specialist
- Climate Resilient Participatory Afforestation and Reforestation Project: senior environmental specialist
- Secretariat for BCCRF (Capacity Building Project Phase I): BCCRF (interim) program manager
- Rural Electrification and Renewable Energy Development Project II (Solar Irrigation Project): senior energy specialist
- Supporting Agriculture Adaptation to Climate Change: lead rural development specialist
- Modern Food Storage Facilities Project: lead rural development specialist.

In addition to the technical specialists who are TTLs, all of the task teams include specialists for environmental and social safeguards, financial management, procurement, legal due diligence, and administrative support.

Analytical work TTLs:

- Impact of Climate Change on Climate-Sensitive Diseases and Implications for the Health Sector: senior environmental economist
- Waterlogging of Urban Areas in a Changing Climate: Potential Damage and Adaptation: lead environmental economist
- Detailed Design of Environmental Studies for Construction of Urir Char–Noakhali Cross Dam: water resources specialist
- Eco-Engineering, Climate Adaptation, and Innovations in Flood Risk Mitigation: senior environmental specialist
- Scaling up Innovation in Disaster Risk Management in Bangladesh: A Proposal to Support Human and Financial Resilience to Natural Hazards: senior disaster risk management specialist
- Making Climate Data Relevant to Decision Making in Bangladesh: Spatial and Temporal Downscaling: lead environmental economist

2.8 FINANCIAL REPORTING

During the reporting period, no supplemental financial contribution was made. The total amount pledged remains the same as in the previous year. However, because of fluctuations in the exchange rate, the dollar value of the pledged amount was slightly lower than the previous year (Table 5). Activities approved by the MC are presented in Table 6, and details are given in Section 3.

Table 5. Development Partners' Contributions to BCCRF (as of December 31, 2013)

	Pledges			Deposits		
Development partners	Currency	Amount in pledged currency (million)	Amount in US$ (million)	Amount in pledged currency (million)	Amount in US$ (million)	Ratio of unpaid contribution (%)
AusAID	AUD	7.0	7.1	7.0	7.1	0%
Denmark	DKK	10.0	1.8	10.0	1.8	0%
DFID	GBP	60.0	96.0	43.0	66.4	28%
EU	EUR	28.5	37.1	14.3	18.5	50%
Sweden	SEK	130.0	19.3	130.0	19.3	0%
Swiss	CHF	11.4	12.6	5.4	8.2	35%
USAID	USD	13.0	13.0	9.0	9.0	31%
Total			**186.8**		**130.2**	

Note: 1. Numbers may not add up due to rounding.

2. Exchange rate:

   a. The exchange rate used for the pledged amount is as of December 31, 2013, and the fund volume in U.S. dollars is an indicative amount.

   b. Funds are converted from pledged currencies to U.S. dollars when deposited, and fully paid contributions are converted at the exchange rate actually used.

3. In addition to the resources shown, by December 31, 2013, the BCCRF had earned an investment income of US$889,313 since its inception. The entire investment income is correctly credited to the BCCRF and forms part of its current fund balance to be used for its purposes.

Table 6. Activities Approved by MC by December 31, 2013

Investment projects and responsible agencies	Amount (US$ million)	Status as of December 2013
1. Emergency 2007 Cyclone Recovery and Restoration Project (Multipurpose Cyclone Shelter Construction Project), Local Government Engineering Division	25.0	Disbursement rate was 56%, and the construction of shelters was, on average, 70% completed
2.1 Secretariat for BCCRF Phase I (Capacity Building Project Phase I), Ministry of Environment and Forests	0.2	Eight staff are on board; disbursement rate was 46%
2.2 Secretariat for BCCRF Phase II (Capacity Building Project Phase II), Ministry of Environment and Forests	5.5[a]	Project concept review was conducted in June 2013; institutional assessment and a preparation mission are planned for March 2014
3. Community Climate Change Project (CCCP) (NGO Window), Palli Karma-Sahayak Foundation	(17.0)[b]	Disbursement started in March 2013; disbursement rate was 18%
4. Supporting Agriculture Adaptation to Climate Change, Department of Agriculture Extension, Ministry of Agriculture	22.8	Project concept review and Bank appraisal were scheduled for early 2014
5. Climate-Resilient Participatory Afforestation and Reforestation Project, Bangladesh Forest Department and Arannayk Foundation	33.8	Project became effective on July 2, 2013, and regular disbursement started in August 2013; disbursement rate was 9%
6. Rural Electrification and Renewable Energy Development Project II (Solar Irrigation Project), Infrastructure Development Company Limited	24.5	Grant agreement was signed in September 2013 for the first tranche of US$10 million
7. Modern Food Storage Facilities Project, Ministry of Food and Disaster Management	25.0	GC approval was obtained in June 2013; the Bank Board approval was obtained on December 30, 2013
Analytical and advisory activities (AAA)	3.2[c]	
1. Impact of climate change on climate-sensitive diseases and implications for the health sector	0.3	Scheduled to be finalized in January 2014
2. Waterlogging of Urban Areas in a Changing Climate: Potential Damage and Adaptation	0.5	Supervisory mission took place in September 2013
3. Detailed Design of Environmental Studies for Construction of Urir Char–Noakhali Cross Dam	0.73	The final feasibility study was scheduled to be finalized by the end of 2013, but was delayed for three to four months
4. Innovations in Flood Risk Mitigation in Dhaka	0.3	Project concept was under preparation
5. Scaling up Innovation in Disaster Risk Management in Bangladesh: A Proposal to Support Human and Financial Resilience to Natural Hazards	0.2	A strategy was being developed to build on the ADB's ongoing study
6. Making Climate Data Relevant to Decision Making in Bangladesh: Spatial and Temporal Downscaling	0.3	A workshop scheduled for late 2013 was postponed due to political unrest
	157.03[d]	**84% of total pledged amount**

Note:

a. As described in section 2.2 above, the GC agreed that the proposed budget of US$7 million of the Capacity Building Project Phase II needed to be smaller and requested that the volume of funds be revisited during project preparation. The project is currently under preparation, and the figure for volume of funds is tentative.

b. The GC approved allocating US$12.5 million for CCCP, but also agreed to reserve US$4.5 million in BCCRF resources so that it could be allocated to the CCCP as additional funding in the future; for this reason, the fund allocation for CCCP is shown as US$17 million. Refer to section 3.1.3 (3) for details.

c. US$3.2 million for AAA is the amount allocated, not the total amount approved.

d. Trust fund fee is calculated at 1% of total contributions, and program and project management fees are estimated to be US$4.1 million.

3
THE BCCRF PORTFOLIO


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3

THE BCCRF PORTFOLIO

3.1 INVESTMENT PROJECTS

The BCCRF has been designed (except for AAAs, which are Bank executed) so that all investments are recipient-executed grants, that is, they are executed by the GoB, its designated agencies, or other eligible institutions. Of the recipient-executed grants, 10 percent are allocated to the CCCP (NGO Window), and 90 percent are executed by government institutions. Sections 3.1.1 to 3.1.3 describe the review of proposals during the reporting period and project status as of December 31, 2013, for recipient-executed projects.

3.1.1 Review of Project Proposals

There were no replenishments during 2013, and since a large part of the funds were in the pipeline and already committed, only one project proposal was discussed. This discussion took place during the MC meeting on April 17: Modernizing Hydrological Information Services and Strengthening Resilience to Climate-Related Risks, by the Bangladesh Water Development Board (BWDB). At that time, MC members agreed to postpone the proposal review.

The Secretariat for the BCCRF Project Phase II (Capacity Building Project Phase II) is an integral part of the BCCRF program and vision statement. The task team started to develop the project concept note in February 2013. After intensive consultations among ministries and development partners, the project concept note was finalized and endorsed at the GC meeting in June, as described in section 2.2.

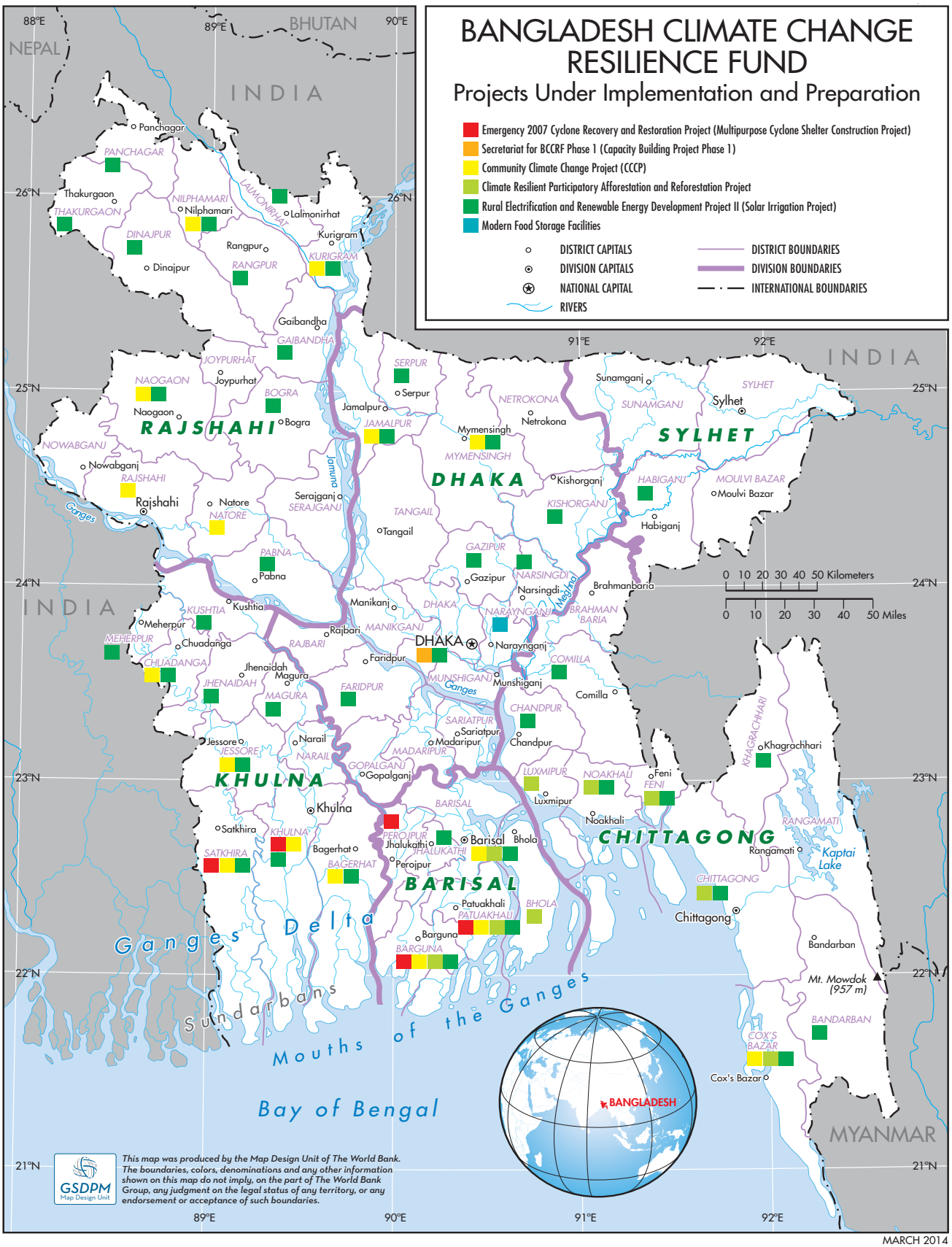
3.1.2 Sites of Projects under Implementation and Preparation

Table 7 shows the divisions and districts in which BCCRF investment projects are under implementation or preparation.

Table 7. Sites of Projects under Implementation and Preparation

Project	Division	District
1. Emergency 2007 Cyclone Recovery and Restoration Project (Multipurpose Cyclone Shelter Construction Project)	Barisal	Barguna, Pirojpur
	Khulna	Khulna, Patuakhali, Satkhira
2. Secretariat for BCCRF Phase I (Capacity Building Project Phase I)	Dhaka	Dhaka
3. Community Climate Change Project (CCCP)	Barisal	Barisal, Patuakhali, Barguna
	Chittagong	Cox's Bazar
	Dhaka	Jamalpur, Mymensingh
	Khulna	Satkhira, Khulna, Jessore, Bagerhat, Chuadanga
	Rajshahi	Kurigram, Nilphamari, Rajshahi, Natore, Naogaon
4. Supporting Agriculture Adaptation to Climate Change		(Sites were not finalized by the end of the reporting period)
5. Climate-Resilient Participatory Afforestation and Reforestation Project	Barisal	Barisal, Pakuakhali, Barguna, Bhola
	Chittagong	Cox's Bazar, Chittagong, Feni, Noakhali, Lakshmipur
6. Rural Electrification and Renewable Energy Development Project II (Solar Irrigation Project)	Barisal	Barisal, Barguna, Jhalakhati, Patuakhali
	Chittagong	Bandarban, Chandpur, Chittagong, Comila, Cox's Bazar, Feni, Khagrachari, Noakhali
	Dhaka	Dhaka, Faridpur, Gazipur, Jamalpur, Kishoregong, Mymensingh, Narsindi, Sherpur
	Khulna	Bagerhat, Chuandanga, Jessore, Jhenaidah, Khulna, Kushtia, Magura, Meherpur, Satkhira
	Rajshahi	Bogra, Naogaon, Pabna
	Rangpur	Dinajpu, Gaibandha, Kurigram, Lalmonirhat, Nilphamari, Panchagarh, Rangpur, Thakurgoan
	Slylet	Habiganj
7. Modern Food Storage Facilities	Dhaka	Narayanganj

Map 1. Bangladesh Climate Change Resilience Fund: Projects under Implementation and Preparation



3.1.3 Details of Projects Approved by MC for Preparation

(1) EMERGENCY 2007 CYCLONE RECOVERY AND RESTORATION PROJECT (MULTIPURPOSE CYCLONE SHELTER CONSTRUCTION PROJECT)

Project number: P111272

Grant amount: US$25 million

Responsible agency: Local Government Engineering Department (LGED)

Background and objectives

Coastal regions, such as Barguna, have always been prone to disasters such as tropical storms and tidal waves. From 1980 to 2000, nearly 60 percent of deaths worldwide from cyclones occurred in Bangladesh alone. With the effects of climate change likely to increase the frequency and severity of cyclones and other natural disasters, Bangladesh needs to adapt to heightened uncertainty and be prepared for even the worst storms. To protect people from cyclones, Bangladesh has constructed a network of multipurpose shelters (for example, schools) and developed a community-based early warning system that has become a model for countries throughout the world. Schools, hospitals, and local government offices double as cyclone shelters and play a critical role in saving lives during cyclones and other natural disasters. Owing to the growing network of cyclone shelters and the early warning system, the number of fatalities in the 2007 cyclone Sidr was around 3,500, which is a significant decrease from 140,000 fatalities in the 1991 cyclone.

The Bangladesh Climate Change Strategy and Action Plan (BCCSAP) calls for the repair, maintenance, and construction of additional cyclone shelters throughout the coastal zones of Bangladesh and estimates that 2,000 to 4,000 new shelters are needed. At its first meeting in June 2011, the GC approved a US$25 million grant for a project to address this issue, which was to be co-financed with an ongoing IDA project called Emergency 2007 Cyclone Recovery and Restoration Project (ECRRP) (P111272). When the grant agreement (TF099305) for the BCCRF project was signed on August 8, 2011, the project planned to construct 55 new multipurpose shelters, rehabilitate 40 existing shelters, and construct 40-kilometer evacuation routes. The scope was subsequently adjusted, and BCCRF support now aims to construct 61 new shelters. Road construction was scaled down to an 11.57-kilometer stretch, and funds are being reallocated to other activities.

Updated status

When cyclone Mahasen hit Bangladesh in May 2013, the ECRRP shelters were occupied by 40,219 people and 4,307 livestock. Mahasen affected 8 coastal districts with flooding and waterlogging and caused 17 fatalities. However, according to the LGED, thanks to the ECRRP, the greater number of usable shelters this year meant that the loss of life was much less than it could have been. LGED executive engineer in Bhola, Mr. S. M. Akbar Hossain, is quoted as saying (Annex 4), “Not only did the shelters house people; they were also the safe point for relief activities, such as precautionary

stocking of dry food. These shelters provide a safe haven during killer cyclones and during non-cyclone times are used as primary schools targeting the ultra-poor, thus providing hope and mobility to the communities." Specific features of the technical design are as follows:

- **Durability.** The shelters are designed to withstand wind speeds of 260 kilometers per hour, are made of a reinforced frame with Factor of Safety 2.5, and have 60-grade deformed bars and stone aggregates in the shelter foundation, footings, columns, beams, and so forth, making these structures sustainable during severe cyclones. Also, the ECRRP shelters are built as three-story structures with provisions for vertical extension in the future.
- **Design.** Design features such as separate floors for livestock, separate rooms for pregnant women, gender-marked toilets, store rooms, enhanced toilet facilities with soak pits and septic tanks, emergency water supply (tube wells), first aid facilities, solar lights, rainwater harvesting, and tree plantation are unique to the ECRRP shelters. Stakeholders provided inputs to the design and use of the shelters during normal times and during cyclones. Shelters were built in compliance with land use planning and environmental and social safeguards requirements.

Under the BCCRF, one contract package in Pirojpur District (NW-13) had been completed as of September 30, 2013. At the end of 2013, about 70 percent of the construction of new shelters had been completed, and construction of one road in Barguna District (11.505 kilometers) had been 67 percent completed. Disbursement of this project started in January 2012, and the disbursement rate at the end of 2013 was 55 percent.

However, work was stopped during the last few months of the peak construction period in 2013 due to political unrest that resulted in transportation blockades, which were particularly serious in some districts, such as Satkhira and Khulna. An extension to the grant closing (BCCRF Grant no. TF099305) date from December 31, 2014, to December 31, 2015, is likely to be needed for completing the remaining disaster shelters. The IDA, the parent for this BCCRF project, has already extended the closing date from June 30, 2014, to December 31, 2015.

(2) SECRETARIAT FOR BCCRF (Capacity Building Project Phase I)

Project number: P128445

Grant amount: US$0.2 million (phase I)

Responsible agency: Ministry of Environment and Forests (MoEF)

Background and objectives

The MOU signed in May 2010 states that a Secretariat will be established at the Climate Change Unit of the MoEF to support the BCCRF program. The Secretariat's main functions will include day-to-day support for the MC and GC, screening of proposals, advocacy, communications, donor coordination, program-level monitoring and evaluation, and preparation for and implementation of the eventual transfer of the functions of the BCCRF Secretariat from the Bank to the MoEF.

In February 2011, the MC approved establishing the Secretariat at the MoEF. In May 20, the GC approved this stand-alone project consisting of BCCRF resources in the amount of US$0.2 million. A grant agreement for US$0.2 million was signed between the World Bank and the ERD in November 2011. Since recruitment of staff for the MoEF Secretariat was delayed, the World Bank BCCRF team initially performed a large part of the Secretariat functions. However, as the capacity and number of MoEF Secretariat staff increase, functions are being transferred gradually to the MoEF.

Updated status

The MoEF BCCRF Secretariat is located in the old "Ban Bhaban" building in Mohakhali, Dhaka, which is being refurbished and is nearing completion. Procurement of goods such as computers, telephones, air conditioners, and office furniture is ongoing. Disbursement of this project started in October 2012, and the disbursement rate at the end of 2013 was 46 percent.

As described in section 2.2, preparation of the Capacity Building Project Phase II started in 2013, and a transitional arrangement should be considered to minimize the gap between the end of Phase I and the start of Phase II. All of the staff members who were scheduled to come on board for Phase I had been appointed by the end of 2013. In addition to the five members shown in Table 8 funded under BCCRF, a joint secretary of the MoEF leads the team as project director, and drivers and messengers funded by MoEF are also part of the team.

Table 8. List of MoEF Secretariat Staff

Title	Appointed date
Climate change technical adviser	May 2013
Climate change managerial adviser	October 2012
Financial management consultant	December 2013
Procurement specialist	December 2013
Junior consultant (administration)	May 2013

During the Bank's implementation support mission (October 1–11, 2013), the GoB and the Bank agreed to improve the implementation of this project, which is scheduled to be closed on December 31, 2014. The agreed actions and the status as of December 31, 2013, are shown on Table 9.

Table 9. Agreed Actions and Status as of December 31, 2013

Issues	Status as of December 31, 2013
Procurement and financial management consultants will be contracted no later than November 15, 2013	Both consultants had been appointed as of December 1, 2013
Interim unaudited financial reports (IUFR): IUFRs were due for the periods ending September 2012 and March 2013. The project is yet to submit these IUFRs to the Bank. IUFRs for the period ending September 2013 were due to be submitted by October 31, 2013, along with the two previous IUFRs.	(The final IUFRs covering the four quarters during 2013 were submitted to the World Bank in mid-February 2014 after a few corrections)
A consolidated progress report of the Secretariat for the period ending September 2013 was due to be submitted to the Bank by November 15, 2013	The consolidated progress report covering 2012 and January–October 2013 was submitted on November 13, 2013
Procurement of goods and services contracts was due to be completed by January 31, 2013	Procurement is in progress. Refurbishment of the office space on the fifth floor of the Old Ban Bhaban building at Mohakhali is largely completed.

(3) COMMUNITY CLIMATE CHANGE PROJECT (NGO WINDOW)

Project number: P125447

Grant amount: US$12.5 million

Responsible agency: Palli Karma-Sahayak Foundation (PKSF)

Background and objectives

The Community Climate Change Project (CCCP) is an important window that allocates BCCRF grant funds to nongovernmental organizations (NGOs) through a competitive process to support community-driven interventions for climate change adaptation. The GC has designated the PKSF as the responsible agency for the CCCP.

In June 2011, the GC approved the allocation of 10 percent of BCCRF resources, calculated as US$12.5 million. Of this amount, US$10 million was to fund subprojects in the three most climate-vulnerable zones in Bangladesh, as shown in Table 10.

The subproject proposals are also required to address at least one of the six pillars of the BCCSAP. The subprojects will range from US$20,000 to US$1 million, and all will be completed three months before the project closing date of CCCP. The proposals will also be reviewed for social and environmental safeguards, including gender and social inclusion, as per Bank policy. Remaining funds of US$2.5 million will be allocated to monitoring, learning, and subproject refinement, through knowledge sharing and dissemination of lessons learned.

Upon approval of this project in June 2012, the GC members discussed the volume of funds for the CCCP. When the GC approved the allocation of 10 percent of BCCRF resources to the CCCP in June 2011, total BCCRF resources were US$125 million. By the time of the GC meeting in 2012, total resources had reached US$170 million. For this reason, GC members considered whether to increase the amount allocated to the CCCP. The GC recommended approving US$12.5 million for the project and reserving US$4.5 million as additional funding for the future.

Updated status

The CCCP launching ceremony on November 17, 2012, was widely reported in the national media, and in 2013, the PKSF screened 496 concept notes. Of these, 30 NGOs were asked to submit detailed proposals, and 338 were told that their concept notes did not meet the minimum criteria. As of September 1, 2013, the CCCP signed the commitment to fund 11 subprojects with a total amount of US$3.99 million (BDT 311,394,877), which was widely reported in national newspapers (Annex 5). As of December 31, 2013, the following NGOs had received awards:

- RDRS Bangladesh
- SatkhiraUnnayanSangstha (SUS)
- Wave Foundation

Table 10. Selected Types of Zones and Districts

Types of zones	Districts
Saline-affected coastal zones	Satkhira, Khulna, Jessore, Bagerhat, Patuakhali, Barguna
Flood-affected areas and charlands	Barisal, Cox's Bazar, Jamalpur, Mymensingh, Bagerhat, Jessore, Khulna, Kurigram, Nilphamari
Drought-affected or rain-scarce areas in northwestern Bangladesh	Chuadanga, Jessore, Naogaon, Rajshahi, Satkhira, Natore

- SKS Foundation
- GanaUnnayanKendra (GUK)
- NazrulSmritiSangsad (NSS)
- Ashrai
- National Development Programme
- DakDiye Jai
- JhanjiraSamajKallyanSangstha (JSKS)
- Jagrata Juba Shangha (JJS).

Activities to be supported under the BCCRF include homestead plinth raising, repair of roads and embankments with tree plantations, promotion of renewable energy such as installation of solar panels, establishment of community grain banks to improve food security during lean periods, installation of tube wells for safe drinking water, slatted housing for goats to improve livelihoods, training and exchange visits to improve resilience, promotion of flood-resilient rice varieties, supply of inputs to promote saline-tolerant vegetables, support to improve food security and livelihoods (ducks, poultry, goat, sheep rearing), installation of rainwater harvesting systems at the household level, installation of community-based solar irrigation systems, and support for cultivation of drought-resilient fodder.

The PKSF communicated transparently with the NGOs whose concept notes were not adopted. Official letters were sent to 338 unsuccessful NGOs clearly indicating the selection criteria they had not fulfilled. The rejection criteria for the concept notes were also posted on the CCCP website. Out of the 338 NGOs, seven sought further clarification, and the PKSF responded promptly.

Disbursement of this BCCRF project started in March 2013, and the disbursement rate at the end of 2013 was 18 percent.

Project website: http://www.pksf-cccp-bd.org/.

(4) SUPPORTING AGRICULTURE ADAPTATION TO CLIMATE CHANGE

Project number: P147043

Grant amount: US$22.8 million

Responsible agency: Department of Agriculture Extension (DAE)

Background and objectives

Climate change is likely to have significant negative impacts on Bangladesh's agriculture—a sector accounting for a fifth of the country's gross domestic product and employing more than half of its workforce. Immediate attention is needed to address issues of food insecurity, rural poverty, climate-induced relocation, and mass rural-urban migration, which are possible consequences of agriculture being affected by climate change.

The Ministry of Agriculture (MoA) has taken the approach of shifting from response and relief to proactive risk reduction. In this context, the DAE has been identifying, testing, and validating climate change adaptation (CCA) and disaster risk management (DRM) options with the aim of mainstreaming them into national food security strategies and policies.

This BCCRF project, with US$22.8 million in funds to be implemented by the DAE, with technical assistance from the FAO, focuses on developing a working approach, replicating validated options for agricultural CCA, and pilot testing the development of viable local cropping adaptation practices in salinity-, flood-, and drought-prone areas. The project facilitates "demand-driven" and "learning by doing" approaches through stakeholder capacity building, participatory adaptive research, dissemination of adaptation technology, and field demonstration to identify and implement viable adaptation practices in close collaboration with local communities. The implementation process will draw largely on experiences from previous pilot initiatives in the agriculture sector in Bangladesh, where the extensive profiling of livelihood systems and training and capacity-building elements have been prototyped in the national context. The following are the key objectives:

- Validate and replicate agricultural CCA technologies and practices targeting resource-poor smallholder farmers in drought-, flood-, and saline-prone areas
- Strengthen the capacity of the DAE and other stakeholders to undertake agricultural CCA for climate change risk management and DRM.
- Develop community-based rural early warning systems in drought-, flood-, and salinity-prone areas
- Enhance awareness raising, knowledge sharing, communications, and multiple-stakeholder engagement in agricultural CCA.

Updated status

The Bank team for the project was strengthened with the addition of a lead rural development specialist as the task team leader in early 2013. The team continued its regular technical and operational dialogue with the MoA, the DAE, and the FAO. The project is scheduled to have a concept review in early January 2014. An overview of the proposed project, its background, objectives, components, and institutional arrangements, proposed as additional financing for the ECRRP (P111272), will be presented and discussed at the review. The following issues will also be discussed: the closing of the agriculture component under the ECRRP; the closing date of the BCCRF (December 31, 2016) and project results; the modalities for distributing input in the BCCRF project as compared to the modalities employed under the ECRRP; and geographic overlap between the BCCRF project areas and the ECRRP agriculture component areas.

(5) CLIMATE-RESILIENT PARTICIPATORY AFFORESTATION AND REFORESTATION PROJECT

Project number: P127015

Grant amount: US$33.8 million

Responsible agency: Bangladesh Forest Department (BFD)

Background and objectives

Afforestation has benefits for both mitigating and adapting to climate change. Forests can reduce the global stock of greenhouse gases through carbon sequestration and act as a barrier against storm surges, thus saving lives and protecting communities vulnerable to climate change.

In Bangladesh, forests have a significant role in adaptation. In coastal areas, foreshore afforestation is a proven cost-effective method of dissipating wave energy and reducing floods on embankments during storm surges. This was evident during the 1991, 2007 (Sidr), and 2009 (Aila) cyclones. The virtual absence of mangrove forests in coastal Chokoria and surrounding areas resulted in significant damage to property and loss of life in 1991. In contrast, even scattered and unplanned afforestation on the foreshore of embankments affected by cyclone Sidr substantially lessened the storm surge velocity, reducing damage and loss.

Deforestation is also a major challenge in hilly areas of Bangladesh. Along with heavy rainfall, deforestation causes soil erosion and serious landslides. In 2007, deforestation aggravated the impact of a landslide in Bangladesh's second-largest city, Chittagong, which caused nearly 900,000 houses to collapse. Change in land-use patterns, encroachment of forest land, forest fires, uncontrolled and wasteful commercial logging, illegal felling of trees, conversion of forest land into grazing fields, and collection of wood for fuel are considered major reasons for rapid deforestation.

Coordinated action is needed to counter deforestation. Planting in coastal zones protects against storm surges,

while afforestation in hilly areas improves soil stability, thus reducing the risk of landslides and erosion. On April 13, 2011, the MC allocated US$25 million to afforest and reforest areas exposed to cyclones, storm surges, and landslides. The aim is to afforest and reforest 17,000 hectares and 2,500 kilometers of strip plantations in seven coastal and hilly districts and to improve the livelihoods of forest-dependent communities by generating alternative activities. The fund also supports innovative studies to improve forest management in Bangladesh.

The GC and MC approved the increased allocation of US$33.8 million in June 2012 to cover higher costs of labor, travel, maintenance, monitoring and supervision, and community consultation as well as to fund the alternative livelihood option component.

Updated status

The grant agreement for this project was signed on February 27, 2013, and a press release was prepared,

attracting wide media attention. The project became effective on July 2, 2013, and the first implementation support mission was conducted over the period of July 7–24. The main objectives of the mission were to review the project readiness and its first year's implementation plan under each component. An extensive orientation program was organized for concerned staff at the Bangladesh Forest Department and the Arannyak Foundation as well as for stakeholders. The scope of the orientation included the project objectives, institutional arrangements, approaches, species selection criteria, procurement actions, financial management, environmental and social safeguards, contract management, quality control, reporting, monitoring of indicators for development and outcome objectives, and a governance and accountability action plan.

A request for expressions of interest for materials such as bamboo, soil, and compost was advertised in the national newspaper, the *Financial Express*, in mid-November 2013. Terms of reference were prepared for the project manager, financial management specialist, communication and information specialist, accounting specialist, and 20 field-level junior consultants. Requisite no-objections have been provided, and these positions have been short-listed. The request for expressions of interest for computers and printers was posted on the BFD website, with a deadline of November 19, 2013.

Regular disbursement of this BCCRF project started in August 2013, and the disbursement rate at the end of 2013 was 9 percent.

(6) RURAL ELECTRIFICATION AND RENEWABLE ENERGY DEVELOPMENT PROJECT II (Solar Irrigation Project)

Project number: P131263

Grant amount: US$24.5 million

Responsible agency: Infrastructure Development Company Limited (IDCOL)

Background and objectives

Rain-fed agriculture was dominant in Bangladesh until mechanized irrigation was introduced in the 1970s to increase agricultural productivity and meet the demands of the growing population. Diesel-driven irrigation plays an important role given the low access to electricity in rural Bangladesh. As irrigation schemes became popular, fuel costs became a burden on rural households as well as on the national economy. As part of the GoB strategy for addressing off-grid electrification, mitigating climate change, and ensuring food security, in June 2012 the MC approved further preparation of a Solar Irrigation Project to replace diesel-driven pumps with solar pumps.

This project is co-financed with RERED II (P131263), an IDA project that is expected to provide electricity to 2.5 million people and clean cooking solutions to more than 1 million households. The co-financing arrangement with an IDA project expedited the formulation of the Solar Irrigation Project, and appraisal was completed two months after MC approval.

The GoB established the IDCOL in 1997 to bridge the financing gap for developing infrastructure and renewable energy projects. IDCOL is responsible for implementing RERED II and, based on the current assessment for the Solar Irrigation Project, plans to finance 1,500 solar irrigation pumps. Of the US$24.5 million in BCCRF funding, US$23 million will be used for a capital buy-down grant for the irrigation scheme, while US$1.5 million will be used for technical assistance, which includes feasibility studies, site-specific due diligence, inspection and monitoring, training, and

impact assessment (baseline, mid-term, and final) for the irrigation scheme.

The final listing of resources for RERED II is as follows: IDA, US$155 million; BCCRF, US$24.5 million; Kreditanstalt für Wiederaufbau (KfW), US$12.9 million; and USAID, US$7.6 million. BCCRF funds will be used solely for the solar irrigation component.

Updated status

The Bank Board approved RERED II on September 20, 2012, and the GC approved the Solar Irrigation Project at the June 2013 meeting. The grant agreement for the first tranche of US$10 million was signed in September 2013 (see Annex 4). As of December 19, 2013, conditions for effectiveness were satisfied, and the fund for this project became effective. Disbursement is expected to start in March 2014.

(7) MODERN FOOD STORAGE FACILITIES PROJECT

Project number: P120583

Grant amount: US$25 million

Responsible agency: Ministry of Food and Disaster Management

Background and objectives

Bangladesh is one of the most vulnerable countries in the world to natural disasters that are influenced by climate change. During the past 20 years, 60 percent of the worldwide deaths caused by disasters were in Bangladesh. In Bangladesh, cyclones generally travel from the southwest toward the north-northeast and may hit anywhere along the southern coast. However, the severity of the cyclone depends on the depth of inundation and destruction, and if the storm hits the coast during a high tide and a new or full moon, the depth of inundation may reach 6 meters, causing colossal damage. Around 42 million people live in 19 vulnerable coastal districts, and they need food security, especially after natural disasters.

The project proposal submitted to the MC in June 2012 planned to install grain storage facilities to provide food security for the most vulnerable 10 million people for three months after a natural disaster. The project proposal included the following three components, requiring a total fund of US$50 million:

- Construction of two modern rice silos with auxiliary facilities (US$38.46 million)
- Rehabilitation of existing grain terminal facilities (US$4.89 million)
- Construction or upgrade of silo yards, approach roads, and internal roads (US$0.61 million).

At the June 2012 MC meeting, the project proposal was approved for further preparation under the following

conditions: (1) construct one silo instead of two, reducing the total grant amount to US$25 million, and (2) consider establishing the facilities in Narayanganj.

Updated status

The GC approved this food storage project in June 2013, and the Bank approved it on December 30, 2013, as an IDA co-financed project. Financial resources include US$210 million from the IDA, US$25 million from the BCCRF, and US$5 million from project beneficiaries. BCCRF funds will be used to support the construction of a public silo in Narayanganj, with a storage capacity of 50,000 tons to increase the grain reserve and improve the efficiency of grain storage management. The grant agreement is expected to be signed by the end of fiscal year (FY) 2014. IDA and BCCRF support the construction of eight public silos, and the Narayanganj silo under BCCRF aims to improve disaster preparedness of Dhaka area, having the strongest strategic importance.

3.2 ANALYTICAL AND ADVISORY ACTIVITIES (AAAs)

Collaborating closely with the GoB and other stakeholders, the World Bank provides analytical support to address knowledge gaps affecting implementation of the BCCSAP. Through a consultative process, six knowledge gaps were identified in 2010: (1) impacts of climate change on vector-borne diseases and implications for the health sector; (2) natural disasters in a changing climate and the applicability of risk-financing instruments; (3) waterlogging of urban areas in a changing climate and potential damage and adaptation; (4) coastal zone in a changing climate and ingress of the salinity frontier; (5) assessment of the threat of climate-induced out-migration from vulnerable areas; and (6) economic assessment of ways to improve energy efficiency and green growth in Bangladesh. The following sections present an overview of the selection process and the six AAAs that were approved by the MC and are under implementation.

3.2.1 Review of Analytical and Advisory Activity Proposals

The process and selection in 2013: On November 12, 2012, the MC approved a second round of proposals for AAAs after a 10-day virtual review (Table 11). The approval was endorsed at the MC meeting in January 2013.

Table 11. List of AAAs

Date of approval	AAA proposal	US$ million
October 2011 (MC approved modification in November 2012)	Impact of Climate Change on Climate-Sensitive Diseases and Implications for the Health Sector	Original 0.2; modified 0.3
October 2011	Waterlogging of Urban Areas in a Changing Climate: Potential Damage and Adaptation	0.5
June 2012	Detailed Design of Environmental Studies for Construction of Urir Char–Noakhali Cross Dam	0.73
November 2012	Innovations in Flood Risk Mitigation in Dhaka	0.3
November 2012	Scaling up Innovation in Disaster Risk Management in Bangladesh: A Proposal to Support Human and Financial Resilience to Natural Hazards	0.2
November 2012	Making Climate Data Relevant to Decision Making in Bangladesh: Spatial and Temporal Downscaling	0.3

3.2.2 Details of Analytical and Advisory Activities Approved by the MC

(1) Impacts of Climate Change on Climate-Sensitive Diseases and Implications for the Health Sector

Project number: P143457

Grant amount: Originally approved US$0.2 million, increased by US$0.1 million to US$0.3 million

Background: Climate change and increasing climate variability threaten the attainment of the Millennium Development Goals in Bangladesh. Added to the climate risks are rapid population growth and fast and unplanned urbanization, water scarcity, inadequate safe water and sanitation facilities, high level of poverty, and high prevalence of malnutrition. The impact of climate variability and extreme weather events on health is likely to become a major issue in Bangladesh in the coming decades. The *2008 Human Development Report* highlighted that changes in climate may alter the distribution and incidence of climate-sensitive diseases, including vector-borne and water-borne diseases.

Important vector species (for example, mosquitoes) may increase the spread of vector-borne diseases, such as malaria, dengue fever, lymphatic filariasis, kalaazar, encephalitis, and chickungunia to new and existing areas that lack strong public health infrastructure. Climate change is also likely to increase the incidence of water-borne infectious diseases and bring additional stresses, such as dehydration, malnutrition, and heat-related morbidity, especially among children and the elderly. A high priority for policy planning in the coming decades is to improve the ability of the health system to deal effectively with the changing health risks both in scale and spatial distribution.

Objective and expected outcome: To understand the health implications of climate change, this component will examine detailed data on rainfall, temperature, and extreme weather events in Bangladesh and analyze the links between climate variability and incidence of climate-sensitive diseases. The second part will examine the implications of this assessment for the design of prevention and treatment policies. As the GoB needs to plan some of the health-related public expenditures in advance, this type of analysis could influence policy options in the next 10–15 years.

The analysis will also review existing health projects and studies on the costs of health interventions (planned actions) to reduce the incidence of disease and related mortality and morbidity, with a specific focus on areas that are expected to be most vulnerable to the health impacts of climate change. The study will test various methodological approaches for estimating the costs of dealing with major climate-sensitive diseases. The proposed research will make a major contribution to better public health policy making in the context of climate change adaptation in the region.

Methodology and data: The study will undertake the following:

- Quantify the impact of climate variability and extreme events on the incidence of climate-sensitive diseases using econometric models
- Project future health burdens, taking account of population growth and estimating the population at risk across space
- Estimate the costs of health adaptation, using project information to assess costs based on unit values multiplied by the target population living in vulnerable areas and by incidence of diseases
- Estimate the costs of health adaptation, including the costs of treating additional cases (reactive

adaptation) and the costs of taking preventive measures to reduce the incidence of disease (proactive adaptation)

- Estimate the costs of health adaptation, considering health outcomes, type of intervention (treatment or prevention), expected reduction in the incidence of mortality and morbidity in relation to all identified vector-borne diseases, and geographic region where the impact is expected
- Use cost-benefit and cost-effectiveness analysis to assess whether these costs are reasonable
- Use data from various sources, such as national health surveys, weather station data, and various time-series disease-monitoring data.

Updated status: The final draft of the study was discussed with key stakeholders in October 2013. The draft final report was prepared in close collaboration with local counterparts: the Climate Change and Health Promotion Unit at the Ministry of Health (MoH) and the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B).

This study was presented at a brown bag lunch at the World Bank headquarters in May 2013, which was organized by the South Asia chief economist's office. The feedback received was very positive.

On October 9, 2013, a workshop was held in Dhaka to share the output of the AAA. The audience included the MoH, MoEF, think-tanks, research organizations, and academics. It was organized jointly with the Climate Change and Health Promotion Unit of the MoH. The study is expected to be finalized and launched in early 2014.

(2) Waterlogging of Urban Areas in a Changing Climate: Potential Damage and Adaptation

Project number: P133511

Grant amount: US$0.5 million

Background: Projections by the Inter-governmental Panel on Climate Change (IPCC) and the World Meteorological Organization (WMO) using various emissions scenarios suggest that the frequency and intensity of climate extremes will increase in the twenty-first century (WMO 2011; IPCC 2007). Heavily urbanized cities in low-lying deltas of Asia have been identified as "hotspots" that are especially vulnerable to climate risks (ADB 2008; IPCC 2007). In many such cities, flooding and waterlogging during the rainy season are already recurrent annual occurrence. Furthermore, poor inhabitants of these urban centers are among the most vulnerable, as large and densely populated conglomerations of slums and shanties are invariably located in areas of unplanned and unregulated development (World Bank 2010; UNFCCC 2008).

It is anticipated that climate change will aggravate the vulnerability of major urban centers in Bangladesh to floods (GoB 2009; Alam 2004). However, only two studies (Alam and Rabbani 2007; Huq and Alam 2003) have been conducted on urban vulnerability to floods, and a joint study by the Collaborative Research on Flood Resilience in Urban Areas and the Institute of Water Modeling is under discussion to address the vulnerability of Dhaka City to floods and flood management.[1] A knowledge gap exists in the understanding of the impacts of climate change on other urban centers, especially the implications for marginalized segments of society and adaptation alternatives.

[1] A literature survey identified a number of studies discussing the possibilities and constraints for urban centers in adapting to climate change that may be applicable to Bangladesh (Huraera 2009; McGranahan, Balk, and Anderson 2007; Satterthwaite et al. 2007).

Objectives and expected outcome: The project seeks to assess the capacity of Dhaka metropolitan area to address current climate variability, predict climate change–induced flooding and waterlogging, forecast changes in the depth and duration of location-specific waterlogging, and estimate potential damage. It will also identify adaptation options and define key policy priorities for decision makers in dealing with the impacts of climate change.

Methodology and data: The analytical work will require the following:

- Evaluate the current knowledge base, including historical climate information, coping strategies, and local capacity to deal with natural disasters (especially related to flooding)
- Analyze the adequacy of existing infrastructure to current climate variability
- Assess climate change scenarios and their consequences
- Quantify the likely magnitude of social, environmental, and economic damages expected because of climate change and variability
- Identify the infrastructure and communities that are most vulnerable to the impacts of climate change and variability
- Identify and assess appropriate alternative intervention scenarios and prioritize suitable interventions according to their effectiveness in reducing vulnerability to the threats from climate change and variability, as well as the associated costs and implementation potential within the institutional setting of the city
- Analyze the capacity and effectiveness of the city's government to deal with natural disasters (emergency prevention and preparedness, early warning system, emergency evacuation system, notification procedure) vis-à-vis international best practices and provide appropriate recommendations.

The analysis will be based on geo-coded data on assets and activities, digital elevation models, as well as data on rainfall and drainage. This analytical work will be conducted by various agencies and think-tanks of Bangladesh in consultation with international experts.

Updated status: A focus group discussion on potential adaptation measures for the greater Dhaka area, which was organized by the World Bank and the BCCRF, took place at the BRAC University on May 30, 2013. Participants discussed in detail location-specific potential adaptation measures for urban flooding in the current and changing climate for Eastern Dhaka, Western Dhaka-Goranchatbari, Western Dhaka-Kalyanpur, Central Dhaka, Old Dhaka, Dhaka-Narayanganj-Demra, and Narayanganj. A summary of the discussion was prepared and shared electronically with the MC on June 19, 2013.

In September 2013, modeling of location-specific inundation depths was finalized. The options for adaptation suggested by the focus group are now being incorporated. In parallel, work is ongoing to compute potential damage for the housing sector from urban flooding in Dhaka and to estimate the costs of adaptation measures. The draft reports will be reviewed during April–September 2014, the third stakeholders' workshop is planned for August 2014 (after Eid and Ramadan), and the final reports will be delivered in the last quarter of 2014.