



Oxford Policy Management

Climate finance and water security

Bangladesh case study

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26 June 2015

Acknowledgements

This study was commissioned by WaterAid. We would like to thank Dr Mohammad Kabir and colleagues at WaterAid Bangladesh, Mr Abul Basher, and all key informants for their support and contributions to this study.

The views expressed do not necessarily reflect WaterAid's official policies. The authors are solely responsible for the content of this document.

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List of abbreviations

ADB	Asian Development Bank
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCRF	Bangladesh Climate Change Resilience Fund
BCCTF	Bangladesh Climate Change Trust Fund
BFP-B	Business Finance for the Poor in Bangladesh Programme
BIDS	Bangladesh Institute for Development Studies
BWDB	Bangladesh Water Development Board
CDMP	Comprehensive Disaster Management Programme
CFF	Climate Fiscal Framework
CFU	Climate Funds Update
CIF	Climate Investment Funds
CPEIR	Climate Public Expenditure and Institutional Review
DFID	UK Department for International Development
DRM	Disaster Risk Management
DHS	Demographic and Health Survey
DPHE	Department of Public Health Engineering
ERD	Economic Relations Division
FSF	Fast Start Finance
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GEF	Global Environment Facility
GIZ	German Federal Enterprise for International Cooperation
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IWRM	Integrated Water Resources Management
IFC	International Finance Corporation
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change

JICA	Japan International Cooperation Agency
JMP	WHO / UNICEF Joint Monitoring Programme
KWASA	Khulna Water Supply and Sewerage Authority
LDCF	Least Developed Countries Fund
MoEF	Ministry of Environment and Forests
MoF	Ministry of Finance
MWR	Ministry of Water Resources
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NCC, B	Network on Climate Change in Bangladesh
NDA	National Designated Authority
NGO	Non-Governmental Organisation
NIE	National Implementation Entity
NPP	National Perspectives Plan
NSDS	National Sustainable Development Strategy
OECD CRS	Organisation for Economic Development and Cooperation – Creditor Reporting System
OECD DAC	Organisation for Economic Development and Cooperation – Development Assistance Committee
OPM	Oxford Policy Management
PKSF	Palli Karma-Sahayak Foundation
PPCR	Pilot Program for Climate Resilience
PPP	Public-Private Partnership
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SLR	Sea Level Rise
SPCR	Strategic Programme for Climate Resilience
UK	United Kingdom
UNDP	United Nations Development Programme
UNICEF	United Nations Children’s Fund
US	United States

WARPO	Water Resources Planning Organisation
WASH	Water, Hygiene and Sanitation
WHO	World Health Organisation

1 Introduction

This Bangladesh case study has been developed for the project '**Research on climate finance and water security**', funded by WaterAid. The project aims to identify the type and scale of national and sub-national programmes and projects that have been funded by climate finance and how they relate to local water security.

The methodology and definitions used are fully explained in the Inception Report and so are not repeated in this assessment, but are referenced where appropriate. This report is based on:

1. A review of secondary literature;
2. Key informant interviews with water and climate change stakeholders in Bangladesh; and
3. Project-level data from the Climate Finance Update (CFU) and the OECD Creditor Reporting System (CRS).

The Bangladesh case study is structured as follows:

- [Section 2](#) reviews the evidence base on water security and climate change for Bangladesh, and explores the nexus between the two thematic areas;
- [Section 3](#) reviews policy and institutional frameworks for climate finance in Bangladesh, and sets out an analysis of the reported climate finance funds flowing from international donors (as reported in the Climate Funds Update database);
- [Section 4](#) sets out an analysis of the identified climate finance flows categorised in terms of their relevance to a hierarchy of water security issues;
- [Section 5](#) presents the conclusions and recommendations.

The [Annexes](#) contain the complete list of climate finance projects for Bangladesh, together with a list of all stakeholders interviewed. A total of 11 key stakeholders, including donors, government parties and national climate change agencies, were interviewed. Summary notes for these KIIs can also be found in the Annexes. Fieldwork was undertaken by Federica Chiappe of OPM and Abul Basher of the Bangladesh Institute of Development Studies (BIDS) in February 2015.

2 Water security and climate change

2.1 Water security

Bangladesh is located within the floodplains of three major rivers: the Ganges, Brahmaputra and Meghna, as well as their tributaries. Around 7% of the total surface area of the country is covered with rivers or other surface water bodies. Nonetheless, there is great variability in the availability of water resources throughout the year, especially between the monsoon (June – September) and dry seasons, with 80% of rainfall occurring during the former (Frenken, 2012). Floods, droughts and cyclones are also key determinants of the availability of water in the country.

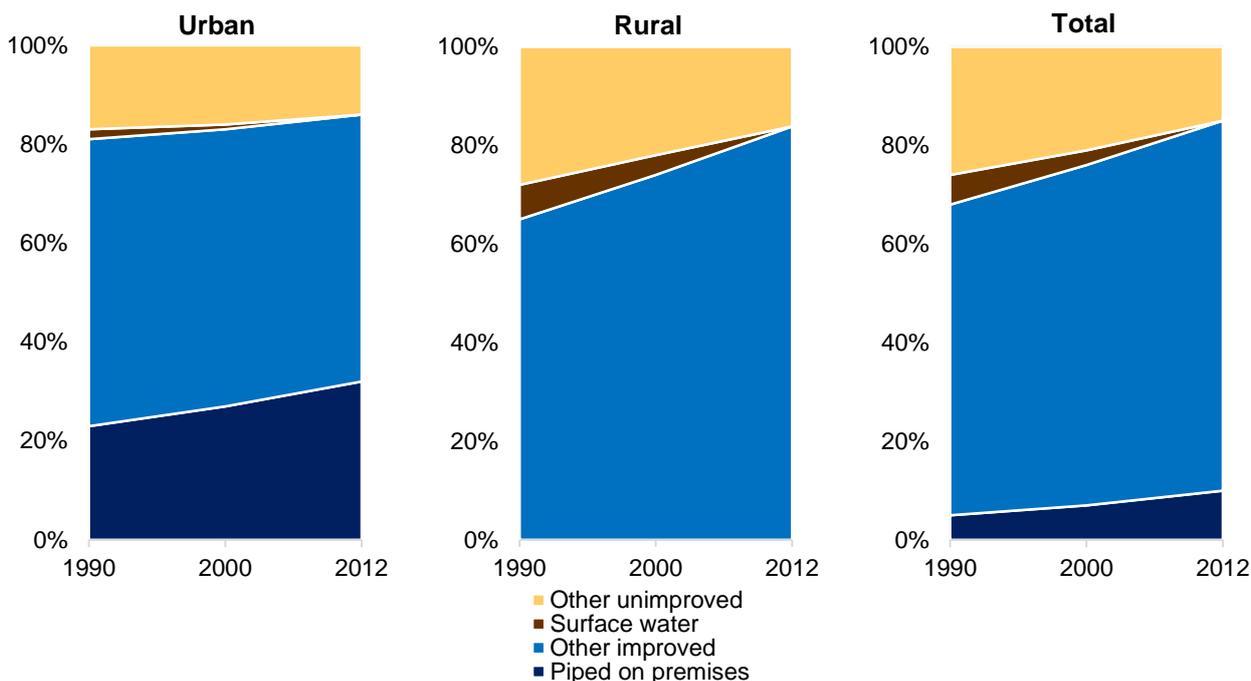
Estimates suggest that around 88% of total water withdrawal is used for agriculture, followed by household consumption (10%) and industrial use (2%) (Ibid, 2012). Although agriculture relies heavily on surface water, it has become increasingly dependent on groundwater resources due to the high variability of surface water availability. Indeed, in 2008 around 79% of total water withdrawal came from groundwater resources, with the remaining 21% originating from surface water.

The increased demand for groundwater has led to its over-abstraction, which has been associated with lowering water tables, water pollution, saltwater intrusion in coastal areas, and land subsidence. There is also evidence of groundwater depletion, especially around the Dhaka metropolitan area and in the northwest region of the country. Chemical water quality is also an issue, with iron and arsenic concentrations in certain areas being beyond the limits of the safe water quality standards of the World Health Organisation (WHO). Indeed, 1.4 million tubewells have been found to be affected by arsenic contamination, exposing around 30 million people to arsenic toxicity (Ibid, 2012).

Regarding household consumption, Joint Monitoring Programme (JMP) data show that improved water supply and sanitation coverage have increased steadily since 1990. By 2012, the majority of people in Bangladesh used either piped water (10%) or other improved water sources (75%), with the remaining 15% relying on unimproved sources. The 2011 Demographic and Health survey (DHS) shows that the majority of households (in both urban and rural areas) used tubewells or boreholes, suggesting a high dependence on groundwater resources for drinking, as described above. By 2012, no households relied on surface water for drinking – this holds for both urban and rural areas (Figure 1).

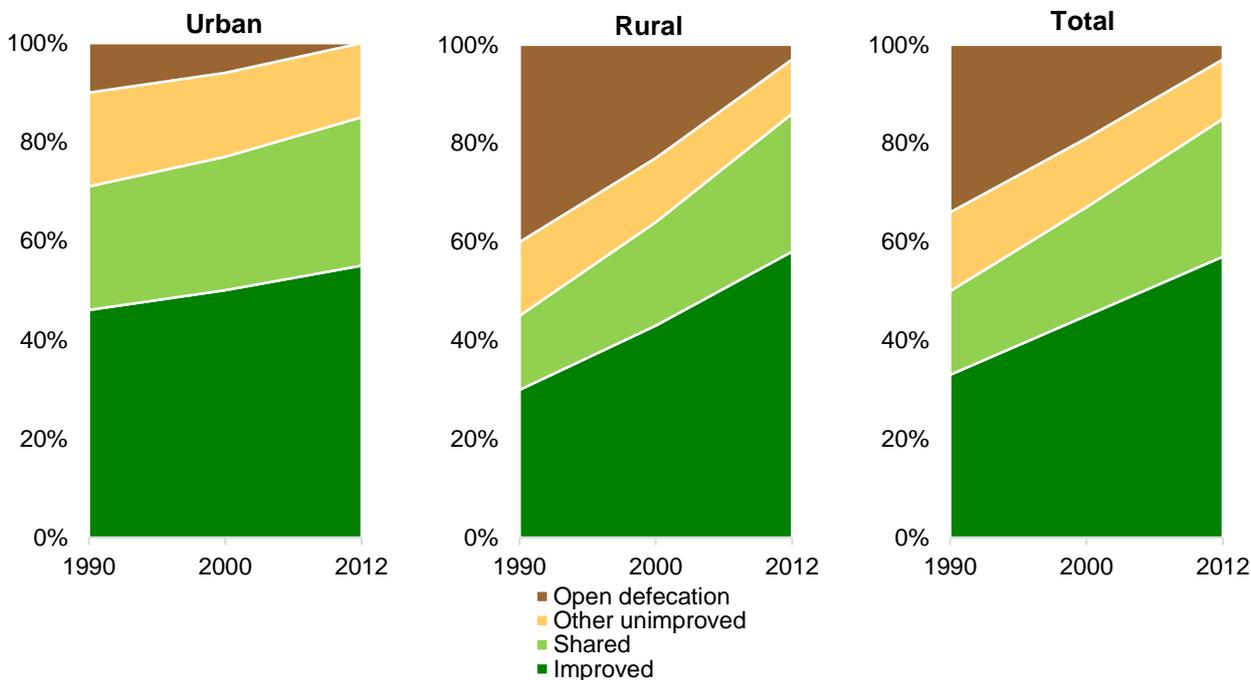
Similar achievements have also been observed in sanitation: access to shared or improved services increased from 50% in 1990 to 85% in 2012 (Figure 2). Progress has been mainly driven by achievements in rural areas: in 1990, only 45% of the rural population had an improved or shared sanitation facility, while 86% did so in 2012. This has implied a reduction in the practice of open defecation in rural areas from 40% to 3% within the same time period. Although progress in urban areas has been less significant, open defecation was no longer practiced in cities in 2012, decreasing from a rate of 10% in 1990.

Figure 1 Trends in water coverage by area (1990, 2000 and 2012)



Source: WHO / UNICEF JMP (2014).

Figure 2 Trends in sanitation coverage by area (1990, 2000 and 2012)



Source: WHO / UNICEF JMP (2014).

Considering all water security dimensions (household water; water for agriculture, industry and energy; urban water; environmental water, and resilience to water-related disasters), Bangladesh fares quite poorly, scoring a 1.4 out of 5 in the ‘national water security index’ of the Asian Development Bank (ADB, 2013) (Table 1). In particular, Bangladesh has the lowest ‘urban water security’ among

the countries assessed, having very poor access to safe piped water and inadequate wastewater treatment and drainage systems. ADB also highlights the country's high levels of surface water pollution and the lack of coping mechanisms to deal with water-related hazards, especially in coastal areas.

Table 1 National water security index

Dimensions of water security	Score (out of 5)
Household water security index (access to safe piped water, sanitation access, hygiene)	1
Economic water security index (agriculture, industry, energy)	3
Urban water security index (piped water access, waste water treatment, flood damage)	1
Environmental water security index (river health, watershed, infrastructure, ecosystems)	1
Resilience to water-related disasters index	1
Average score	1.4

Source: ADB (2013).

2.2 Observed and projected climate trends

Observed climate trends

Bangladesh has a tropical monsoon climate with significant variations in temperature and rainfall across the country. Broadly, there are four main seasons:

1. Pre-monsoon, from March to May;
2. Monsoon, from June to September;
3. Post-monsoon, from October to November; and
4. Dry season, from December to February.

The mean annual temperature is 25°C, ranging from 18°C in January to 30°C between April and May, and with extremes as low as 4°C and as high as 43°C. The Northern and Western regions of the country tend to be hotter in the summer and colder in the winter. Mean annual rainfall is 2,200mm, of which about 80% falls during the monsoon months. The Northern and Western regions also experience lower rainfall as compared to other areas of the country (MoEF, 2012).

Estimates suggest that between 1948 and 2008, Bangladesh experienced an increase in the minimum temperature by 0.5°C during both dry and monsoon seasons, while maximum temperatures increased during pre- and post-monsoon seasons by 0.9°C and 0.4°C respectively. Mean annual rainfall during the same period was estimated at 2,347mm, ranging between 1,640 and 2,831mm (Ibid, 2012).

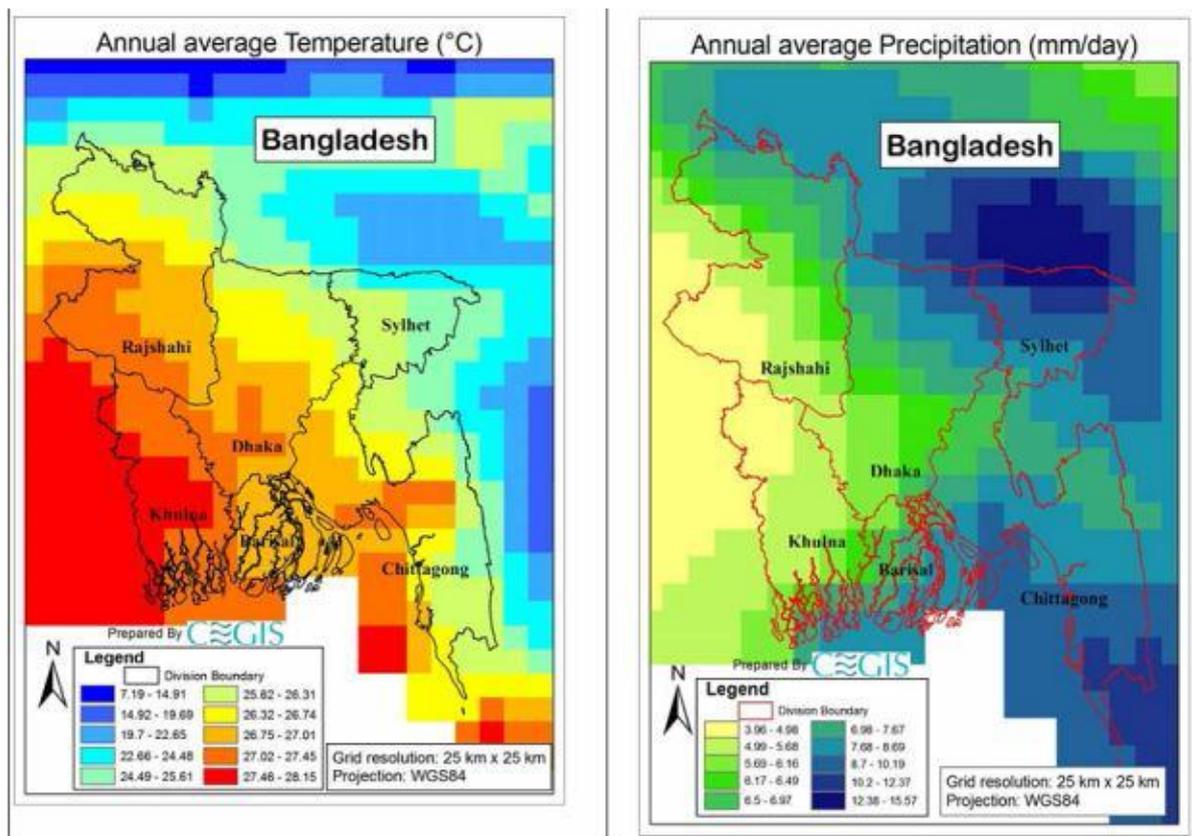
Projected climate trends

MoEF (2012) suggests that mean annual temperature is expected to rise by around 1°C by 2030 and 2°C by 2050. Mean annual rainfall is also expected to increase by a maximum of 2% by 2030 and by 2 – 4% by 2050. Expected changes in rainfall vary significantly with seasons, with estimations indicating a decrease during the dry season and an increase during monsoon months. Projected trends further suggest that there will be heavier rainfall in coastal areas, but there is no clear pattern

across seasons, except for post-monsoon months where rainfall is likely to increase (Frenken, 2012; MoEF, 2012).

Figure 3 shows the changes in average temperature and precipitation by 2050 under an A2 emissions scenario¹. On average, by 2050, mean annual temperature is expected to increase by 1.3°C, while mean annual precipitation is projected to increase by 8%. As explained by MoEF (2012), although these changes appear relatively small, given climate variability and the likelihood of natural disasters, they are expected to lead to an increase in both the magnitude and frequency of floods, droughts and cyclones.

Figure 3 Changes in average annual temperature and precipitation by 2050 (A2 scenario)



Source: MoEF (2012).

Climate change effects

Bangladesh is particularly vulnerable to coastal hazards and future sea level rise (SLR), given its large extensions of low-lying coastal areas. SLR projections indicate that the sea level may rise between 5.1 and 7.4mm per year by 2050, with inundated areas increasing by 14%² (MoEF, 2012).

Overall, an increase in extreme weather-related events such as floods, heavy rains, cyclones and storm surges is expected. Indeed, in drought-prone areas in the Northwest region of the country, Ramamasy & Bass (2007) predict higher temperatures in the dry season, which will be accompanied by reduced soil moisture and increased water scarcity. This area is also likely to experience increased rainfall variability during the monsoon months and intermittent dry spells.

¹ An A2 emissions scenario is characterised by independently operating nations, increasing population and regionally-oriented economic development. For further information, please refer to <http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=94>.

² Estimations for the proportion of inundated areas rely heavily on rainfall assumptions, which makes them less reliable.

Table 2 summarises some of the main climate change impacts expected up to 2050.

Table 2 Climate change impacts in Bangladesh

Sector	Climate change effects
Water	<ul style="list-style-type: none"> • Western regions will be at greater risk of drought, with drought severity increasing with increasing temperatures. • Flooded areas will increase by 6% by 2030 and 14% by 2050. • Cyclone and storm surge affected areas will increase, putting at risk the lives of 38 million people by 2050. • Coastal areas will face salinity intrusion and freshwater scarcity during the dry season, which will be worse with SLR. • Erosion of riverbanks will worsen.
Agriculture	<ul style="list-style-type: none"> • Decrease in crop yields and increased crop damage associated with floods.
Fisheries	<ul style="list-style-type: none"> • Capture fish production may increase in floodplain fisheries while freshwater habitats may be negatively affected.
Health	<ul style="list-style-type: none"> • Spatial distribution of vectors may be altered, increasing the incidence of malaria. The incidence of cholera and diarrhoeal disease may also increase, especially if floods become more frequent.

Source: Authors based on MoEF (2012).

2.3 The water security and climate change nexus

The IPCC 5th Assessment suggests that water scarcity is likely to be a major issue for Asia, with climate change compounding the effects of population growth, rapid urbanisation, industrialisation and economic growth. Sea level rise driven by climate change poses an important risk for the region, increasing the likelihood of coastal flooding, erosion and saltwater intrusion in coastal areas, as is the case of Bangladesh. Indeed, by the 2070s, Dhaka will be among the top Asian cities with population exposed to coastal flooding (Hijioka et al, 2014).

MoEF (2012) also anticipates an increase in the risk of drought and drought severity in the Western regions, as well as an increase in the number of areas affected by freshwater scarcity and water-related disasters during the dry season (Table 2). Furthermore, Table 3 shows some of the projected effects of climate change in drought-prone areas in Northwest Bangladesh. These areas are characterised by highly variable rainfall, low moisture retention capacity, and a high dependency on surface water resources (Ramamasy & Bass, 2007). There is a very high level of confidence in the occurrence of changes in extreme temperatures, reduced soil moisture, and increased water scarcity in the dry season.

Table 3 Projected climate change effects in drought-prone areas

Level of confidence	Effects
Very high	<ul style="list-style-type: none"> • High temperature in winter and changes in extreme temperature • Reduced soil moisture in the dry season • Increased drought and water scarcity in the dry season
High	<ul style="list-style-type: none"> • Increased monsoon rainfall variability • Increased potential evapotranspiration • Intermittent dry spells
Medium to high	<ul style="list-style-type: none"> • Increased risk of extreme rainfall event during the monsoon season • Change in the beginning of rainfall
Moderate	<ul style="list-style-type: none"> • Change in stream flow • Declining surface water availability
Low	<ul style="list-style-type: none"> • Abrupt change in average monsoon season rainfall

Source: Ramamasy & Bass (2007).

Besides the effects of climate change described in Table 3, the Network on Climate Change in Bangladesh (NCC, B) also highlights a potential scarcity of safe drinking water in drought-prone areas, and more generally, across the coastal belt. Likewise, both the Business Finance for the Poor in Bangladesh Programme (BFP-B) and WaterAid Bangladesh anticipate problems with the quality of drinking water due to increased salinity intrusion, groundwater depletion and surface water contamination. Vulnerability to floods and river erosion are also key concerns.

3 Climate finance

3.1 Climate policy architecture

From an institutional perspective, climate and environmental policy is managed through the Ministry of Environment and Forests (MoEF). The Five Year Plan initiated by the Planning Commission activated the National Environmental Council, which is a cross-sector body headed by MoEF.

A 2010 – 2021 National Sustainable Development Strategy (NSDS) and National Perspectives Plan (NPP) bring together many climate-relevant development aspects. The NSDS has identified five strategic priority areas along with three cross-cutting areas, with a view to achieving its stated vision (see NSDS, 2013). These strategic areas are:

1. Sustained economic growth;
2. Development of priority sectors (agriculture and rural development, industry, energy, transport and human resources development);
3. Urban environment (urban housing, management of urban slums, water supply and sanitation, pollution management, urban transport and urban risk reduction);
4. Social security and protection; and
5. Environment, natural resources and disaster management (water resources; forestry and bio-diversity; land and soil; coastal and marine resources; natural disasters, and climate change).

Likewise, the three cross-cutting themes are good governance, gender, and disaster risk reduction and climate change.

3.1.1 National Adaptation Programme of Action (2005, 2009)

From a mainstreaming perspective, Bangladesh has historically included climate considerations into its sector plans (including the National Water Management Plan), and these efforts have been consolidated into the National Adaptation Programme of Action (2005, 2009). The National Adaptation Programme of Action (NAPA) explores the vulnerability of Bangladesh to climate change and disaster risk. Prepared in 2005 with 15 projects, it was updated in 2009 to include 45 programmes. Among other priorities, the NAPA emphasises the need to develop a comprehensive strategy for safe drinking water supply in coastal areas. One water supply and sanitation project was prioritised within the NAPA – ‘Providing drinking water to coastal communities to combat enhanced salinity due to sea level rise’.

3.1.2 Bangladesh Climate Change Strategy and Action Plan (2009)

More recently, the Bangladesh Climate Change Strategy and Action Plan (BCCSAP), launched in 2009, identifies three main climate hazards – tropical cyclones / storm surges, inland flooding, and droughts. The strategy contains 44 programs formulated around six key themes: (i) food security, social protection and health; (ii) comprehensive disaster management, (iii) infrastructure; (iv) research and knowledge management; (v) mitigation and low carbon development, and (vi) capacity building and institutional strengthening. The majority are focused wholly or partially on adaptation, and are heavily oriented towards vulnerable communities. Examples of activities include developing early warning systems, improving climate modelling capacity, developing biodiversity monitoring,

and disaster forecasting. Specific initiatives are included on health, community adaptation and social safety nets. The plan was estimated to require US \$500 million in the first two years, and then approximately US \$5 billion for the first five years of implementation.

The BCCSAP does include priorities on water and sanitation by listing ‘implement drinking water and sanitation programmes in areas at risk from climate change (e.g. coastal areas, flood and drought prone areas),’ in the fourth objective under the first theme and consequently incorporating a single programme: ‘Water and sanitation programme for climate vulnerable areas (T1P7)’. The latter encompasses two actions: (A1) ‘Monitor changes in water quality and quantity available for drinking and forecast future changes due to climate change’; and (A2) ‘Plan for and invest in additional water supply and sanitation facilities’ (MoEF, 2009, p. 39; M. R. Bijoy, personal communication, 5 February 2015). Water-related activities are also predominant under the infrastructure theme, with objectives oriented towards the repair and maintenance of structures for the prevention of water-related disasters and the improvement of drainage systems in urban areas (Ibid, 2009, p. 32).

3.1.3 Effectiveness of policy architecture

There has been little formal assessment of the effectiveness of climate policy in Bangladesh. Among respondents, it was generally accepted that the NAPA was more a list of projects than an overarching climate adaptation strategy, with the National Adaptation Plan (NAP) still under preparation.

The BCCSAP provided the basis for the development of the two national climate funds (see below), and it is primarily through these that policy has been enabled. The BCCSAP is pro-poor in nature, but has been criticised for being too top-down and as lacking sufficient detail on implementation (Rabbani & Bijoy, 2013). From a water sector perspective, the Ministry of Water Resources (MWR) has received nearly half of the allocated funds, which have been implemented through more than 60 projects managed by the Bangladesh Water Development Board (BWDB), but these have been primarily oriented towards infrastructure activities rather than adaptation (Ibid, 2013). The BCCSAP has also overlooked specific needs to develop short- and long-term strategies for alternative sources of safe drinking in vulnerable areas (M. R. Bijoy, personal communication, 5 February 2015).

A report by IIED (2014) further indicates that climate finance is poorly integrated into the mainstream development planning process (i.e., Annual Development Programme) managed by the Planning Commission, and that the climate programme is managed in parallel through the specific climate funds and the Ministry of Finance (MoF). This limits the potential for mainstreaming climate into the development agenda, and further integration could be considered. It should be noted that the policy framework in Bangladesh has been reviewed by the Green Climate Fund (GCF) as part of the accreditation process and is regarded as sufficiently robust for direct access arrangements.

3.2 Climate finance architecture

The policy frameworks described above support a number of financing structures, including two dedicated climate change funds. The first of these is the Bangladesh Climate Change Trust Fund (BCCTF), managed directly by the Government of Bangladesh. The second is the internationally-funded Bangladesh Climate Change Resilience Fund (BCCRF), managed by the World Bank. However, the effectiveness of both has been questioned by stakeholders. In addition, Bangladesh has accessed Global Environment Facility (GEF) funds for climate change, including the Least Developed Countries Fund (LDCF), and has a programme running under the World Bank’s Pilot Programme for Climate Resilience (PPCR). There is also a multi-donor funded programme covering disaster risk reduction and climate change – the Comprehensive Disaster Management Programme (CDMP) – which has been running since 2005. These initiatives are complemented by a number of bilateral programmes. Further details are provided below.

3.2.1 Bangladesh Climate Change Trust Fund

The BCCTF was established in 2010 under the Climate Change Trust Act. It received a block budgetary allocation in the form of an endowment from the Government of Bangladesh, financed from state revenues. It is managed by a trustee board (with representatives of 10 ministries), together with a technical committee to review proposals. The majority of allocations are made to projects proposed by sector ministries, with a small set aside for NGO funds managed by the Palli Karma-Sahayak Foundation (PKSF). The fund comprises approximately US \$385 million allocated over a 5-year fiscal period up to 2015. 66% of these resources were allocated to projects, and the remaining 34% as an emergency response fund. By mid-2014, 218 projects had been identified, totalling approximately 80% of the funds allocated to government-led projects. On the other hand, NGOs were implementing 63 projects.

A proportion of funding was directly allocated to the water sector. As of June 2014, the fund reported³ the following water-related investments:

1. 142km construction, rehabilitation and repair of embankments;
2. 535km excavation and re-excavation of canals;
3. 122km of river bank protection;
4. 166km of drainage construction;
5. 44 water-control infrastructures (i.e. regulators, sluices); and
6. 740 deep tubewells for safe drinking water.

In 2014, the Government of Bangladesh announced that it would not be providing additional funds for the BCCTF, and that instead the BCCRF (see below) would become the main focus for financing climate change projects.

3.2.2 Bangladesh Climate Change Resilience Fund

The BCCRF is a coordinated financing mechanism by the Government of Bangladesh, development partners and the World Bank to address the impacts of climate change. The fund was established in May 2010 with financial support from Denmark, the European Union, Sweden and the United Kingdom. Switzerland, Australia and the United States subsequently joined the fund (M. R. Bijoy, personal communication, 5 February 2015).

This mechanism is enabling the Government to channel in over US \$188 million grant funds to millions of Bangladeshis to build their resilience to the effects of climate change. The Government of Bangladesh leads on the management and implementation of the BCCRF. Approximately US \$144 million have already been allocated to implement seven projects, primarily in the areas of food storage, solar irrigation, community climate change, agricultural adaptation, afforestation and cyclone shelter. The Fund has also financed a number of research studies. A technical assistance portion of the BCCRF is executed by the World Bank under agreement with the Government of Bangladesh. On behalf of contributing donors and for a limited duration, the World Bank, in consultation with the Government, is performing some functions, such as ensuring due diligence

³ As listed in the BCCTF website: www.bcct.gov.bd/index.php/key-achievements.

requirements on the BCCRF (including fiduciary management, transparency and accountability), and ensuring projects are implemented with due regard to economy, efficiency and effectiveness.

3.2.3 Pilot Programme for Climate Resilience

The Pilot Programme for Climate Resilience (PPCR) is an initiative managed by the Climate Investment Funds (housed at the World Bank). In Bangladesh, the programme is making available US \$110 million in grants (45%) and near-zero interest credits (55%). The programme was designed under the leadership of the government, in coordination with the Asian Development Bank, members of the World Bank Group (IBRD, IDA and IFC), key Bangladeshi stakeholders, and other development partners. Project financing will focus on improving climate resilient agriculture and food security; strengthening the security and reliability of fresh water supply, sanitation, and infrastructure; and enhancing the resilience of coastal communities and infrastructure.

In particular, the PPCR is preparing to finance the 'Coastal Climate Resilient Water Supply, Sanitation and Infrastructure Improvement Project' as part of its investment portfolio. The PPCR is providing US \$30 million (of which US \$10m are in the form of grants), alongside US \$120 million of co-finance. The project aims to improve water supply, sanitation and connectivity, and build water supply and sanitation systems that are resilient to climate change impacts (particularly post-disaster), alongside other infrastructure improvements (e.g. roads). This initiative also supports the development of water management cooperative associations for the maintenance of water systems.

3.2.4 Effectiveness of financial architecture

As part of the BCCSAP, Bangladesh envisaged an investment requirement of approximately US \$5 billion in climate-sensitive activities for the period 2009 – 2013. A report by IIED (2014) indicated that Bangladesh had only leveraged approximately US \$1 billion of the required investment.

Bangladesh uses a range of financial intermediaries to access climate funds from public and private sources (including the national trust funds and partnerships with international financial institutions). IIED find that while the current structure has supported efficiency, allowing each intermediary to focus on its area of expertise, it has resulted in a somewhat fragmented and 'projectised' finance landscape, with the need for greater synergy among intermediaries. More fundamentally, fragmentation has also contributed to the lack of consensus on basic climate finance concepts and strategies, and has emphasised the need for leadership and political commitment (M. R. Bijoy and A. A. Khan, personal communications, February 2015). Fragmentation has created a greater need for institutional arrangements that have a mandate to coordinate activities between different stakeholders, potentially through the consolidated Climate Fiscal Framework, which is currently under development. One option might be to work through the Planning Commission, in association with the Ministry of Finance.

Another area of weakness is the lack of local level financial intermediaries who can support implementation and disbursement. Local government institutions might play such a role, but would require a new mandate and significantly increased capacity. The IIED report also identifies the need to scale-up efforts to access international funds, and innovative blending of different financial instruments (i.e. grants, loans and guarantees).

3.2.5 Going forward

Bangladesh is currently undertaking a process for accreditation to the Green Climate Fund, in expectation of direct financing from this mechanism from 2016 onwards. The Economic Relations Division (ERD) at the Ministry of Finance has been appointed as the National Designated Authority

(NDA), and is currently being supported by a number of donors (e.g. UNDP, GIZ, and DFID) as part of this accreditation process. The NDA should facilitate an inclusive dialogue with all government stakeholders, civil society and the private sector (M. R. Bijoy, personal communication, 5 February 2015). Fourteen national entities have also been identified as potential National Implementing Entities (NIEs) under the GCF and an assessment is currently underway.

The ERD also completed a ‘self-assessment’ process to identify the strengths and gaps of the prioritised institutions. To assist with the selection process, the Government of Bangladesh, in close partnership with GIZ, appointed an international consultant who completed ‘one-to-one’ meeting sessions with the potential institutions. Following the self-assessment process, the Economic Relations Division organised a consultation workshop, called the ‘NIE Accreditation Process: Getting Bangladesh Ready for the Green Climate Fund’. The workshop discussed the outcomes of the self-assessment process, the capacity and eligibility gaps of the potential institutions, and explored the technical assistance needed to make Bangladesh ready to gain access to the GCF.

At the same time, Bangladesh continues to work with multilateral partners as a potential access route. In this context, the operation of the BCCRF is also under review, with the World Bank indicating it no longer wishes to be the fund trustee (R. Ahmed, personal communication, 4 February 2015). It is possible that the Fund will be restructured as part of a wider national development process.

Following a Climate Public Expenditure and Institutional Review (CPEIR) conducted in 2012, the government of Bangladesh continues to work towards the development of a Climate Fiscal Framework (MoF, 2014). The CPEIR identified that climate-relevant expenditure constituted between 5-8% of total government budgets. A Climate Fiscal Framework (CFF) would identify the demand (expenditure) and supply (revenue or finance) sides of climate fiscal funds, and promote the establishment of a transparent and sustainable climate fiscal policy. This would also help to (i) identify existing expenditures and modalities for delivering climate-related finance; (ii) identify additional expenditure requirements drawing from action plans, such as the BCCSAP, and other sources; (iii) identify financing gaps and preferred modalities for delivering further sources of public investment (external and domestic); and (iv) create an enabling environment for private financial flows. The CFF is expected to be in place by the end of this year or beginning of the next (B. Wang, personal communication, 19 June 2015).

3.3 Climate finance to date

According to the Climate Funds Update (CFU) project-level database⁴, a total of US \$489 million of climate finance have been approved⁵ in Bangladesh since 2003. This is based on CFU’s definition of ‘climate finance’ (see Inception Report, Section 2.4 for definitions) and is only representative of multilaterally-governed funds. Given that national climate funds are predominant in Bangladesh (as allocated through the BCCTF and the Annual Development Plan), the total amount of climate funds reported by the CFU is likely to be underestimated. Indeed, since its establishment, more than 300 projects have been funded through the BCCTF (B. Wang, personal communication, 19 June 2015), while the CFU only captures 22 projects.

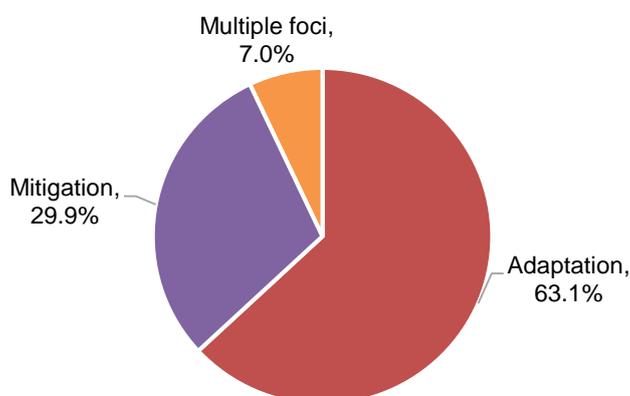
Figure 4 shows that the majority of climate finance in Bangladesh has been allocated to adaptation activities (63%), followed by mitigation (30%) and multiple foci (7%), the latter of which may also encompass REDD+ activities. This distribution is consistent with the identified vulnerabilities in

⁴ The CFU database is cumulative since 2003, and tracks all multilateral-governed funds focussed on climate finance. Data also contains information about some major bilateral initiatives and national climate change funds, but coverage is not universal. For more information, please refer to <http://www.climatefundsupdate.org/about/data-figures-notes>.

⁵ The CFU defines approved funds as those that have been “officially approved and earmarked to a specific project or programme”.

coastal and drought-prone areas (see Section 2.2), and the activities outlined in the BCCSAP – only one of six themes directly addresses mitigation and low carbon development.

Figure 4 Distribution of climate finance by focus



Source: CFU (2014).

Climate finance in Bangladesh has been mainly provided by bilateral funds focused on climate change. Indeed, Japan's Fast Start Finance (FSF) has contributed with 58% of the resources approved for the country, while the UK's International Climate Fund has contributed with 13% of approved funds. Among multilateral funds, most of the projects since 2003 have been financed by the Pilot Program for Climate Resilience (PPCR), which has contributed with 21% of total funds to date. Among these major funders, data suggests that only the PPCR has disbursed any resources (i.e. funds have been spent), and these only correspond to 3% of the committed amount. Regarding disbursed amounts, only the GEF Trust Fund (4 and 5) has disbursed 100% of approved amounts, followed by the Global Climate Change Alliance (GCCA) with 51% and the Least Developed Countries Fund (LDCF) with 24% (Table 4).

Table 4 Distribution of climate finance by funder

Funder	% of total funds approved	Funds approved (US million)	Funds disbursed (US million)	Funds disbursed (% of funds approved)
GEF Trust Fund (GEF 4)	1%	\$3.0	\$3.0	100%
GEF Trust Fund (GEF 5)	2%	\$10.7	\$10.7	100%
Global Climate Change Alliance (GCCA)	2%	\$11.6	\$5.8	50%
Japan's Fast Start Finance	58%	\$284.2	\$-	0%
Least Developed Countries Fund (LDCF)	3%	\$14.5	\$3.5	24%
Pilot Program for Climate Resilience (PPCR)	21%	\$100.0	\$2.5	3%
UK's International Climate Fund	13%	\$64.9	\$-	0%

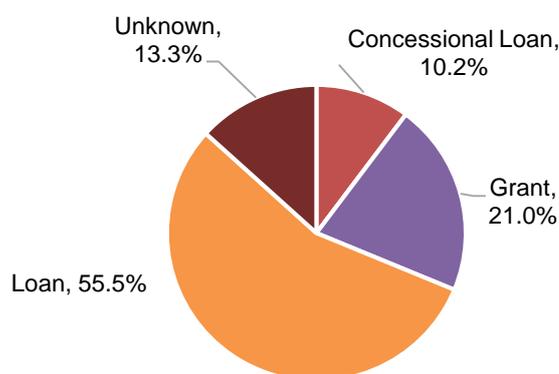
Source: CFU (2014).

There are several explanations for the low disbursement rates observed. First, there are data quality issues related to the frequency of updates to the CFU database, specifically with regards to the amounts of funds disbursed for each project. It is unclear if projects are systematically tracked by the CFU or if project data is entered on a one-time basis. For instance, A. Faisal from ADB suggested that around 20% of PPCR funds have been disbursed as compared to just 3% currently reported in

the CFU database (Personal communication, 7 June 2015) Second, there are data availability constraints related to the very limited or inexistent information regarding the amounts disbursed per project, as funders generally only report pledged amounts (B. Wang, personal communication, 19 June 2015). Finally, unlike national projects that are implemented under tight annual plans and budget frameworks, time frames for international projects are usually longer (Ibid, 19 June 2015). Delays are common at the initial stage of a project, with disbursements and implementation beginning 1-2 years after project and funds approval. These delays may be related to drafting of implementation plans, the recruitment and mobilisation of consultants, transparency concerns, contractual obligations, and land acquisition where required. It is worth noting that these delays are not exclusive to climate finance but are rather experienced across all development programmes and projects (A. Faisal, personal communication, 7 June 2015).

Figure 5 shows the distribution of climate finance by type of instrument. As shown, the majority of funds have been approved as loans (56%), followed by grants (21%), and other unknown instruments (13%)⁶. Although it may seem surprising to find such a high proportion of loans (given that the majority of activities funded are focussed on adaptation), these resources mainly correspond to the two largest projects in Bangladesh: (1) the Khulna Water Supply Project, focused on adaptation, and (2) the Rural Electrification Upgradation Project, which focuses on mitigation. In particular, the Khulna Water Supply Project seems to fall under the infrastructure theme (T3) of the BCCSAP, which is commonly funded by loans (E. Morsheda and A. Faisal, personal communication, 3 February 2015). Both of these projects were also funded by Japan's FSF.

Figure 5 **Distribution of climate finance by type of instrument**



Source: CFU (2014).

⁶ A 'grant' is defined as a transfer with no required repayment; a 'concessional loan' is provided under more generous terms than market rates, and a 'loan' is offered at or close to market rates.

4 Climate finance for water security

Following the methodology presented in the Inception Report, we have categorised CFU project-level data to estimate the amount of funding directed towards water security or related activities. Using the OECD Creditor Reporting System (CRS) coding, projects have been distributed across the following water security categories:

- **Category A** includes projects that are primarily related to Water Supply, Sanitation and Hygiene (WASH);
- **Category B** includes projects primarily pertaining to ‘natural security resources’ that are inter-related to water security, such as integrated water resources management (IWRM), agricultural water resources, and water-related energy security;
- **Category C** encompasses projects that are indirectly related to water security – mainly those activities that present potential co-benefits or trade-offs from mitigation activities, such as forestry; and
- **Category D** includes climate finance projects that are not related to water security.

For Bangladesh, there are a total of 22 projects in the CFU database. We looked for each of these projects in the OECD Creditor Reporting System (CRS) to be able to attach a specific CRS code to each of them, and then proceed with the categorisation. 17 of the projects were found in the CRS, indicating a cross-over between ODA and climate finance as listed in the CFU database. However, 5 of the projects were not found in the OECD database, so project-specific documentation was used to make a subjective judgement and allocate them accordingly. The full list of projects, along with CRS codes and categorisation is reported in Annex A.

Table 5 shows the final distribution of projects by water security categories. Out of 22 projects, only 3 are directly related to water security, and correspond to 39% (US \$190m) of total climate finance. All of these projects fall into Category A (i.e. WASH)⁷. There are no projects related to other natural water security resources (Category B), and there is only 1 project that presents co-benefits or trade-offs related to afforestation and reforestation (Category C). Thus, the bulk of international climate finance in Bangladesh is allocated to projects that are not related to water security – these account for 60% of the total resources approved. The majority of the projects in Category D correspond to environmental policy and administrative management, including activities such as the ‘Bangladesh Climate Change Programme’ or ‘Community-Based Adaptation through Coastal Afforestation’, among others.

The projects funded encompass both national and sub-national level activities. The majority of climate finance directed to country-wide initiatives pertains more to environmental policy and management, including allocations to the BCCRF or the NAPA. On the contrary, sub-national projects are directed to specific activities, such as renewable energy, urban transport or afforestation. At least 5 projects out of the 22 reported by the CFU are related to adaptation activities in the coastal belt of Bangladesh, given that these are the areas that have been found to be most vulnerable to climate change impacts (see Section 2.2).

⁷ It should be noted that this involves categorisation of the whole project budgets into Category A, when in fact some projects contain items which are not category A. For example, in Section 4.2 below, The Coastal Towns Infrastructure Improvement Project contains activities related to solid waste and drainage. These activities would be in Category B if they were separate projects.

It should be emphasised that Table 5 only includes climate finance from the CFU. Arguably, most activities under the BCCTF and BCCRF could also be included, but these are not in the CFU database and so do not fall under the definition of climate finance in our methodology.

Table 5 Distribution of climate finance by project categories

Project categories	% of total funds	Funds approved (US million)	Funds disbursed (US million) ⁸	No. of projects
Water supply and sanitation activities (A)	38.9	\$190.24	\$-	3
Other water-related activities (B)	0.0	\$-	\$-	0
Indirectly related to water (C)	1.2	\$5.65	\$-	1
Not related to water (D)	59.9	\$292.92	\$25.55	18

Source: CFU (2014).

To have a better understanding of the types of activities funded within WASH, as well as the way in which they are funded, we have summarised the main project features for all projects in Category A in the following sections.

4.1 Water supply and sanitation activities

All of these activities address key climate change risks related to water security in the coastal areas of Bangladesh, such as sea level rise and saltwater intrusion. They are also broadly in line with the climate change hazards identified by the IPCC 5th Assessment.

4.1.1 The Khulna Water Supply Project

Project characteristics

Funders	Asian Development Bank, Japan International Cooperation Agency (JICA, co-financer), Government of Bangladesh
Focus	Adaptation
Financial instrument	Loan
Project cost	US \$363.6 million
Approval / closing year	2011 / 2018
OECD CRS coding	14021 / 14031

Source: ADB (2011), CFU (2014), and OECD CRS.

Context

Khulna city is located in the coastal belt of Bangladesh and its population relies entirely on groundwater. Thus, this city is seen as highly vulnerable to climate change impacts, mainly due to sea level rise and its subsequent intrusion to nearby aquifers.

⁸ CFU data does not seem to be updated on a regular basis, which may explain the low proportion of disbursed amounts since 2003. Given the limited availability of this information, we are not able to classify projects using disbursed amounts.

In 2010, only 23% of the population had access to a piped water supply, with the remaining population relying on public taps or private tubewells, which tend to be poorly maintained and not readily accessible by all households (ADB, 2012).

To expand the coverage of piped water supply, ADB approved this project in June 2011. A simulation of climate change impacts in Khulna city was carried out for this project and complementary adaptation strategies were incorporated in the project design.

Project objectives

This project aims to contribute to the achievement of MDG7 by increasing access to improved water sources (ADB, 2011).

The specific outputs of this project are:

1. Sustainably managed water sources in Khulna city;
2. An extended and efficiently managed distribution network in Khulna city; and
3. Professional and sustainable management of the Khulna Water Supply and Sewerage Authority (KWASA).

Within output (1), the project will develop a surface water treatment plant to meet the growing demand for water and avoid over-abstraction of groundwater resources. Groundwater and surface water will be used simultaneously to enhance a more sustainable and efficient water resource management. Output (2) is mainly concerned with increasing the piped water supply coverage from 23% in 2010 to 62% by 2018. Finally, output (3) aims to support KWASA in implementing its 5-year business plan, which encompasses capital investment, financial, and human resource development strategies (ADB, 2011).

Budget and financing plan

Item	Amount (US million)
Civil works and equipment	\$238.9
Consultants	\$18.2
Land acquisition and resettlement	\$5.9
Administration costs	\$1.6
Contingencies	\$37.9
Interest charges during implementation	\$2.7
Taxes and duties	\$58.4
Total	\$363.6

Source: ADB (2011).

JICA will mainly finance output (1), while ADB will finance outputs (2) and (3).

Source	Amount (US million)	% of total
Asian Development Bank	\$75.0	20%
JICA	\$184.0	51%
Government of Bangladesh	\$104.6	29%
Total	\$363.6	100%

Source: ADB (2011).

4.1.2 The Coastal Towns Infrastructure Improvement Project

Project characteristics

Funders	Asian Development Bank, Government of Bangladesh
Focus	Adaptation
Financial instrument	Grant / Concessional Loan
Project cost	US \$117.1 million
Approval / closing year	2013 / 2020
OECD CRS coding	14031 / 14032 / 41050

Source: ADB (2013), CFU (2014), and OECD CRS.

Context

Bangladesh's coastal belt is highly vulnerable to cyclones, storm surges, sea level rise, and saline intrusion. In particular, coastal areas have low access to piped water supply, and are subject to increased pollution of aquifers due to saltwater intrusion and over-abstraction of groundwater resources. Similarly, for households that have adequate sanitation facilities, there are no treatment systems, which is reflected in increased pollution levels and a high incidence of water-borne diseases. Other key infrastructure needs in coastal towns include emergency access roads and cyclone shelters.

The high vulnerability of coastal cities is not only related to the lack of climate-resilient infrastructure, but also to poor governance and low adaptive capacity. Hence, institutional capacity, governance and public awareness need to be enhanced to complement infrastructure investments. This will contribute to the development of an integrated approach to climate change resilience and disaster preparedness (ADB, n.d).

Project objectives

The project will strengthen climate resilience and disaster preparedness in eight vulnerable coastal towns of Bangladesh. Specific outputs include:

1. Providing climate-resilient municipal infrastructure, including drainage, water supply, sanitation, and solid waste management, among others;
2. Strengthening of institutional capacity and public awareness for improved urban planning and service delivery, which takes into consideration climate change and disaster risks; and
3. Project management and administration support.

This project is prioritised in the government's Strategic Program for Climate Resilience (SPCR), and is consistent with the Bangladesh country partnership strategy that targets assistance to vulnerable coastal areas that may be affected by climate change.

Budget and financing plan

Item	Amount (US million)
Improved climate-resilient municipal infrastructure	\$81.5
Strengthened institutional capacity, governance and awareness	\$4.1
Project management and administration support	\$17.6
Contingencies	\$11.2
Financing charges during implementation	\$2.8
Total	\$117.1

Source: ADB (2013).

Source	Amount (US million)	% of total
Asian Development Bank – Special Funds (loan)	\$52.0	44%
ADB Strategic Climate Fund (loan)	\$30.0	26%
ADB Strategic Climate Fund (grant)	\$10.4	9%
Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility (grant)	\$1.6	1%
Government of Bangladesh	\$23.1	29%
Total	\$117.1	100%

Source: ADB (2013).

4.1.3 The Programme for the Improvement of Capabilities to Cope with Natural Disasters Caused by Climate Change

Project characteristics

Funders	Japan International Cooperation Agency (JICA)
Focus	Adaptation
Financial instrument	Grant
Project cost	US \$13.0 million (from JICA)
Approval / closing year	2010 / 2016 (?)
OECD CRS coding	14031

Source: CFU (2014), and OECD CRS.

Unfortunately, we were not able to find detailed information related to this programme.

We know that it is being implemented in 19 different countries, among them Bangladesh. There is a specific contract for the procurement of a saline water treatment plant that is expected to (1) provide safe drinking water both during and after natural disasters to people living in the coastal belt (i.e. Khulna and Barisal); and (2) increase disaster management capacity within the Department of Public Health Engineering (DPHE). Other specific projects within this programme remain unknown.

4.2 Future scope for water projects

Despite the clear links between climate change and water security, as delineated in the BCCSAP and national development plans, there are still many water projects that have not been formally

linked to climate change. On one hand, the full linkages between water and food security could be further developed (A. Khan and M. Kabir, personal communication, 2 February 2015). On the other hand, although coverage of improved water resources is high, there are many issues with water quality, which point to increased saline intrusion and groundwater pollution, both of which pertain to climate change (R. Ahmed, personal communication, 4 February 2015). Generally, WASH is overlooked in national policy as coverage has significantly improved during the last decade, undermining potential improvements in service levels.

More broadly, to determine where climate finance should be directed, a clear methodology for quantifying the effects of climate change and their respective costs is needed. Indeed, there are currently no updated vulnerability maps or indices that allow for the identification of priority areas, with several projects (if not the majority) targeted towards coastal and drought-prone areas as identified in international assessments. Suggestions include the creation of a national climate vulnerability index, which should be aligned with medium- to long-term national development plans (A. Faisal, personal communication, 7 June 2015).

Finally, alternative schemes of delivery could also be explored, including public-private partnerships (PPPs) or the active involvement of water user associations (R. Ahmed, personal communication, 4 February 2015).

5 Conclusions and policy recommendations

Based on the country review, we have the following conclusions and policy recommendations.

5.1 Conclusions

1. Bangladesh experiences significant variability in relation to water resource availability. Although there is improving access to clean water and sanitation, there is an increasing dependence on groundwater extraction, which is depleting reserves and is also subject to saline intrusion in the coastal belt. Bangladesh is severely exposed to the impacts of climate change, in particular sea level rise, drought and flood events, which are in turn exacerbating the existing challenges related to the water sector.
2. Bangladesh has a long history of climate mainstreaming with regard to the water sector. Water and sanitation were identified as elements in the 2005 NAPA and the 2009 BCCASP. However, while some projects are being financed through the national climate funds (i.e. BCCTF and BCCRF), these activities represent only a small part of climate finance flows and WASH is not seen as a major priority for national funds. Examples of projects being supported include deep drinking water wells financed under the BCCTF and coastal water and sanitation infrastructure supported under the PPCR.
3. To date, more than US \$600 million have been mobilised through the national and international climate finance structures, with significant future flows expected as part of the UNFCCC process. However, the domestic climate finance architecture is now undergoing significant restructuring. Bangladesh is implementing readiness activities for direct access accreditation to the Green Climate Fund. The structure and governance of the BCCTF is also evolving, with the BCCRF no longer receiving funds from the Government of Bangladesh. This creates a level of uncertainty about how future climate finance modalities will operate in the country going forward.
4. Our analysis of CFU data finds that 39% (US \$190 m) of total climate finance in Bangladesh between 2003 and 2014 was directly related to water security. This all falls into Category A (WASH), with the bulk of this finance coming from large ADB and JICA projects targeted at water supply and water management in urban areas. However, this study excludes the majority (if not all) of domestic climate finance, which is likely to be larger than total international funds.
5. Stakeholders generally hold the view that climate change institutions and funding are relatively developed in the country, with preparations being made for the launch of the GCF. However, coordination across different institutions, as well as monitoring and evaluation mechanisms are still required to ensure that project implementation is done adequately. They think that, although WASH (and water security more broadly) is a priority in national policy – and even more so in the context of climate change – there are limited investments in the sector currently funded by climate finance.

5.2 Recommendations

1. From an advocacy perspective, WaterAid should promote water security as a more mainstream concept within the climate resilience agenda both to the Government of Bangladesh, IFIs and bilateral donors. There is already some traction within the BCCASP, and the BCCTF and PPCR are providing a platform for evidence and learning at project level.

In particular, there may be thematic traction around the area of coastal zones, where both water and sanitation are exposed to rising sea levels, natural disasters and saline intrusion.

2. While, much climate finance is rightly being directed at addressing the adaptation deficit (i.e. vulnerability), WaterAid should engage with donors and Government of Bangladesh to ensure that water security projects are not just undertaking 'business as usual' activities, but also take into account future climate change (e.g. increases in flooding, natural disasters and saline intrusion over the historic baseline).
3. In terms of finance, WaterAid should continue to monitor developments in the changing climate finance infrastructure in Bangladesh (engaging with the BCCRF, BCCTF and Ministry of Finance), and understand how finance from the Green Climate Fund will flow to water security type activities within the government budget, as there is likely to be direct access for the relevant ministries and other State bodies.
4. WaterAid should work with non-government institutions in the water sector to support climate-finance compatible WASH-related programme design, and create an evidence-based case for community-led approaches that have been under-represented in the existing climate finance portfolio. Evidence might then be shared with existing climate funds, and ideas promoted as potential programming concepts to the NDA and National Implementing Entities under the GCF.

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Annex A List of CFU projects and categorisation

The table below presents the main categorisation of projects. It should be read in tandem with Section 3.2 of the Inception Report.

ODA	OOF	CRS Code	Climate tag	OPM category	Project	Focus
Y		14021 / 14031	Y	A	Khulna Water Supply Project	Adaptation
				D	Rural electrification upgradation project	Mitigation - general
Y		41010	Y	D	Climate Change Programme - Jolobayoo-O-Jibon	Adaptation
Y		31220 / 41010 / 41050 / 41082 / 74010		D	Coastal embankment improvement project	Adaptation
Y		21020 / 31191 / 41050	N	D	Climate Resilient Infrastructure Improvement in Coastal Zone Project	Adaptation
Y		23062	Y	D	Bheramara Combined Cycle Power Plant Development Project	Mitigation - general
Y		14031	Y	A	Programme for the Improvement of Capabilities to Cope with Natural Disasters Caused by Climate Change	Adaptation
Y		41010 / 41020	Y	D	Bangladesh Climate Change Resilience Fund (BCCRF)	Multiple foci
				D	Bangladesh Climate Change Programme I	Multiple foci
Y		41050 / 14031 / 14032	N	A	Coastal Towns Infrastructure Improvement Project	Adaptation
Y		31210	Y	C	Integrating Community-based Adaptation into Afforestation and Reforestation Programmes in Bangladesh	Adaptation
Y		41010	Y	D	Ecosystem-based Approaches to Adaptation (EbA) in the Drought-prone Barind Tract and Haor "Wetland" Area	Adaptation
Y		21010 / 21020	N	D	ASTUD: Greater Dhaka Sustainable Urban Transport Corridor Project	Mitigation - general
Y		23030	Y	D	Development of Sustainable Renewable Energy Power Generation	Mitigation - general
Y		41010	N	D	Community Based Adaptation to Climate Change through Coastal Afforestation	Adaptation
				D	Promoting Climate Resilient Agriculture and Food Security	Adaptation
Y		41010	N	D	Improving Kiln Efficiency in the Brick Making Industry in Bangladesh	Mitigation - general
Y		41010	Y	D	Third National Communication to the UNFCCC	Multiple foci
Y		21020 / 31191 / 41050	N	D	Climate Resilient Infrastructure Improvement in Coastal Zone Project (Project Preparation Grant)	Adaptation
				D	Climate Change Capacity Building and Knowledge Management Technical Assistance (preparation grant)	Adaptation

				D	Feasibility study for a pilot program of climate resilient housing in the Coastal Region (TA)	Adaptation
				D	National Adaptation Programme of Action	Adaptation
Y		41010	N	D	UN-REDD Bangladesh	Mitigation - REDD

Annex B List of stakeholders consulted

The following stakeholders were interviewed as part of the country case study.

ID	Name and role	Organisation	Date
1	Rashed Al Hasan , Policy Manager	Business Finance for the Poor in Bangladesh Programme (BFP-B)	1 February 2015
2	Mohammad Abdul Qayuum , National Project Director	Comprehensive Disaster Management Programme II	2 February 2015
3	Imrul Kayes Muniruzzaman , Director Fundraising and Organisational Learning; Arif Abdullah Khan , Programme Manager; Dr Mohammad Lutful Kabir , Research Manager	WaterAid	2 February 2015
4	Dr Sultan Ahmed , Joint Secretary Director	Natural Resources Management and Research, Department of Environment, Ministry of Environment and Forests	2 February 2015
5	Elma Morsheda , Senior Project Officer Urban Infrastructure Arif Mohammad Faisal , Environment Specialist	ADB	3 February 2015
6	Lia Carol Sieghart , Lead Climate Change Specialist	World Bank	3 February 2015
7	Md Abdul Quddus , Additional Secretary, Managing Director	Bangladesh Climate Change Trust Fund	3 February 2015
8	Rokeya Ahmed , Water and Sanitation Specialist	World Bank	4 February 2015
9	Minazur Rahman Bijoy , Coordinator	National Climate Coalition, Bangladesh	5 February 2015
Follow-up interviews			
10	Arif Mohammad Faisal , Environment Specialist	ADB	7 June 2015
11	Dr Saleemul Huq , Senior Fellow	IIED	18 June 2015
12	Bowen Wang , Visiting Researcher	IIED	19 June 2015