

Impact assessment of CCAFS support to the 7th Five Year Plan in Bangladesh

Working Paper No. 341

CGIAR Research Program on Climate Change,
Agriculture and Food Security (CCAFS)

Maliha Muzammil



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



Working Paper

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To cite this working paper

Muzammil M. 2020. Impact assessment of CCAFS support to the 7th Five Year Plan in Bangladesh. CCAFS Working Paper no. 341. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

About CCAFS working papers

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About CCAFS

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is led by the International Center for Tropical Agriculture (CIAT), part of the Alliance of Bioversity International and CIAT, and carried out with support from the CGIAR Trust Fund and through bilateral funding agreements. For more information, please visit <https://ccaafs.cgiar.org/donors>.

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Abstract

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) addresses the challenges of climate change and food security by mobilizing CGIAR and partner science and expertise to achieve positive change through evidence-based policy impacts with respect to climate-smart agriculture (CSA), food systems, and landscapes under climate change (CAS Secretariat, 2020). The future scenarios project under the theme uses multi-stakeholder regional and national scenarios to explore key socio-economic and uncertainties for food security, environments and livelihoods under climate change through integrated qualitative-quantitative scenarios describing futures up to 2050. The CCAFS South Asia (SA) Regional Scenarios Coordinator along with the Future Scenarios Project Team has been supporting the Government of Bangladesh (GoB) with successful policy guidance by using participatory scenarios for planning, training and capacity building from 2014. Since then, the SA Scenarios Coordinator has worked on building long-standing, effective collaborations with the government, civil society and academic stakeholders for strategic planning and research to explore the feasibility of strategies, plans and policies toward improved food security, environments and livelihoods under different socio-economic and governance conditions. The CCAFS future scenarios work has impacted the key economic development policy of Bangladesh – the Five Year Plan (FYP).

Keywords

Agriculture; climate change; food security; impact assessment.

About the author

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Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) addresses the challenges of climate change and food security by mobilizing CGIAR and partner science and expertise to achieve positive change through evidence-based policy impacts with respect to climate-smart agriculture (CSA), food systems, and landscapes under climate change (CAS Secretariat, 2020). The future scenarios project under the theme uses multi-stakeholder regional and national scenarios to explore key socio-economic and uncertainties for food security, environments and livelihoods under climate change through integrated qualitative-quantitative scenarios describing futures up to 2050. The CCAFS South Asia (SA) Regional Scenarios Coordinator along with the Future Scenarios Project Team has been supporting the Government of Bangladesh (GoB) with successful policy guidance by using participatory scenarios for planning, training and capacity building from 2014. Since then, the SA Scenarios Coordinator has worked on building long-standing, effective collaborations with the government, civil society and academic stakeholders for strategic planning and research to explore the feasibility of strategies, plans and policies toward improved food security, environments and livelihoods under different socio-economic and governance conditions. The CCAFS future scenarios work has impacted the key economic development policy of Bangladesh – the Five Year Plan (FYP).

Along with the International Centre for Climate Change and Development (ICCCAD), Bangladesh, CCAFS has been supporting the Planning Commission, Government of Bangladesh since the inception and formulation of its 7th Five Year Plan (FYP) in 2014. The 7th FYP is a key policy document as it is through this strategy that the commitments to the Sustainable Development Goals (SGD) and the vision of the perspective plan are being met.

Policy support was initiated during the inception of the 7th FYP, with a participatory scenarios workshop to test the feasibility of the 7th FYP and explore ideas to make the Plan more robust, flexible and concrete. Collaborative work with the GoB has been further continued to bring in other relevant ministries with achieved by CCAFS collaboration two other projects: the Zero Hunger, Zero Emissions (ZHZE) project led by the University of Oxford and the Re-Imagining Anticipatory Governance Project (Re-Imagine) led by Utrecht University in

collaboration with ICCCAD, Independent University Bangladesh with the SA Coordinator driving work towards a resilient and greener transformative future.

To make future scenarios methodology effective in the policy sphere, concrete policy and strategy processes are targeted, and the outcome sought is to inform and influence those decisions. One of the major outcomes of the South Asia Future Scenarios work has been the successful integration of the results of using the participatory scenarios methodology into the national 7th FYP objectives and activities. The South Asia Regional Coordinator spent months working in the Planning Commission in Dhaka, together with the FYP Team on the policy process to integrate analysis results into the final plan. The scenario-guided policy process also offered the opportunity for the inclusion of diverse societal actor perspectives and thus the concerns of community members, youth, vulnerable and marginalized groups had a better chance of being addressed – we were able to integrate concepts of resilience in educational strategies that would otherwise have been difficult.

The assessment of the potential impact of the continued policy making, training and capacity building support to the 7th FYP and consecutive long-term, in-person collaboration between the South Asia Regional Coordinator and the Planning Commission is an original case to address. The objective is not to explore and quantify the returns from the investment in CCAFS research, but to examine in more detail how CCAFS research effectively informs strategies that help CCAFS achieve its goals. It could enable us to capitalize on the question of the efficiency of forging a long term collaboration and directly supporting developing country governments by providing them with the new methods, knowledge and capacity to by using participatory scenarios planning as a way to guide policies and strategies for agriculture and food security in the face of climate change. Such an assessment could contribute to the discussion around the effectiveness of CCAFS theory of change and its strategy of scaling climate resilience (resilient food systems, agricultural practices and development practices) through policy support and its engagement strategy. Understanding the link between policy and impact is key for CCAFS and the CGIAR and it is both important for research and funding, which can impact further scaling and uptake. The goal of this paper is to examine in more detail where CCAFS research informs evidence-based policy and thinking that help CCAFS achieve its goals. As discussed and researched by other CCAFS researchers this focus will contribute to filling a key knowledge gap and complement other

related assessments (Kristjanson, 2020); in particular, one that focuses on mapping the influence and reach of CCAFS (Carneiro et al. forthcoming), another on lessons regarding enhancing science-policy engagements (Dinesh et al. 2018), and a third that examines the challenges and opportunities for unlocking financing towards sustainable food systems (Limketkai et al. 2020).

When the Government of Bangladesh (GoB) was conceptualizing and planning the formulation of the 7th Five Year Plan (FYP), which seeks to build a medium to long-term programme for enhancing resilience to climate shocks and facilitate low-carbon, sustainable growth. The Future Scenarios Team from CGIAR's research programme on climate change, agriculture and food security (CCAFS) planned to support the GoB by using socio-economic and climate scenarios to guide the 7th FYP through stress-testing it in terms of scope, robustness, flexibility and concreteness in the face of future uncertainty. This is a significant outcome for CCAFS work in South Asia. While outcomes are important milestones in the pathway to impact, they are not measures of actual impact, which are further downstream and long term in nature; CCAFS interprets outcomes as use of research by non-research partners to develop new, or change, policies and practices' (Dinesh et al. 2018)

Science-policy engagement efforts are crucial to ensure that scientific findings from climate change and agricultural research for development inform the actions of governments, private sector, non-governmental organizations (NGOs) and international development partners, that in turn can help accelerate progress toward the global goals (Dinesh et al, 2018). Knowledge gaps on policies and strategies and on the ground projects that work limits this progress (Dinesh et al, 2018).

The gap between research and implementation (Knight et al, 2008; Sayer et al, 2008) needs to be bridged, and agricultural research for development (AR4D) will need to transform to enable achievement of development outcomes (Thornton et al, 2017) in a rapid and effective manner, where innovations emerging from research inform policies and implementation efforts (Dinesh et al, 2018). In this context, the CGIAR the world's largest and most experienced research network for AR4D (Clark et al, 2016; Ozgediz, 2012) has a major role to play to ensure that its approach to AR4D responds to the challenges and opportunities posed by climate change (Dinesh et al, 2018). The climate change program of

the CGIAR, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), was developed to respond to these challenges and opportunities in a concerted manner (Ozgediz, 2012). CCAFS adopted a theory of change approach to achieve development outcomes (Thornton et al, 2017) and science-policy engagement efforts are at the heart of this approach (Vermeulen et al, 2012).

The interface between science and policy has emerged as an important aspect of research efforts in the context of global environmental change, and can offer valuable insights to improve science-policy engagement. Science-policy engagement has been shown to enrich decision-making through exchanges, co-evolution and joint construction of knowledge by interactions between researchers and policy actors. Enriching decision-making involves the use of scientific knowledge in policy processes to understand the problem setting, to explore, design and implement policy responses, to inform policy evaluations, and to apply knowledge systematically in dialogue between diverse stakeholders (Dinesh et al, 2018). While several studies have identified “best” practices for science-policy engagement, including clear and strategic communications, targeting and ensuring accessibility to research findings, timing, developing a policy acumen, participation in policy processes, knowledge brokering, and joint knowledge production. However, operationalizing the best practices identified and generating outcomes involves various challenges including trade-offs in terms of time and resources, maintaining quality, oversimplification, maintaining continuity of engagement efforts, institutional and organizational challenges, and achieving coherence between demand and supply of knowledge. In relation to climate change, the fragmented nature of scientific knowledge of its causes, mechanisms, effects, response strategies and time horizons involved and the shift in governance, from a state centric approach to an approach also focusing significantly on non-state actors, make science-policy engagement complex (Dinesh et al, 2018). This report aims to contribute to addressing this gap by offering an inside perspective on evidence based policy making to enable better design of science-policy engagement efforts (Dinesh et al, 2018). It will also make an important contribution to the literature on science-policy engagement, especially into what works in practice.

During the planning of the 7th FYP formulation, there was a strong interest from the GoB to integrate climate change into the over-all development plan. The 7th FYP aimed to develop

strategies that would allow Bangladesh to further accelerate job creation and reduce poverty as well as comply with new commitments to meet Sustainable Development Goal (SDG) targets. While Bangladesh's priority focus was adaptation to climate change, it was actively exploring and implementing low carbon, climate resilient development pathways in various sectors as well.

CCAFS supported knowledge; tools and approaches were used to enhance the capacity and ability of key decision-makers to mainstream climate change adaptation and climate-smart actions across the 7th FYP. The CCAFS Future Scenarios Team was able to support the policy-makers with credible, science-based scenarios about the possible trajectories the GoB could take in the short, medium and long-term future. This was also the first time participatory future scenarios methodology for strategic planning was introduced for evidence-based policy-making within the GoB.

The workshop led to:

- an assessment of the robustness of the 7th Five Year Plan strategies and draft and key options for long-term improvement; activities and objectives that were an outcome of the participatory future scenarios workshop were integrated into the final plan. Strategies to better mainstream climate change adaptation were integrated into all the sectors the plan covers.

- tailored socio-economic/climate scenarios for Bangladesh;
- an introduction to scenarios methodology for strategic planning for all participants.

Proposals for further use of scenario-guided planning in Bangladesh were also identified.

The 7th FYP aligns itself with the overall framework and strategies of the National Sustainable Development Strategy (NSDP) that was prepared to meet the challenges to development.

While the plan was not specifically formulated to be consistent with the Sustainable Development Goals (SDG), the SDGs are so all encompassing that the 7th FYP obviously has several overlaps with the goals, but specific planning and integrating of the goals into the sectoral targets could improve this aspect. The 7th FYP is the first national economic development plan of Bangladesh that has been designed with an aim to implement the SDGs. The development approach underlying the 7th FYP aims to be consistent with the global agenda for higher growth in developing countries with measures for protecting the

environment and to implement just, equitable and inclusive economic development. It was therefore an ideal time to inform policy through the use of the CCAFS Future Scenarios. The use of scenarios can help yield policies that are more thorough, inclusive and robust, to adapt to the adverse effects of climate change while allowing economic growth.

The Bangladesh Climate Change Strategy and Action Plan (BCCSAP) was revised in 2009; the country was the first LDC to develop its own comprehensive plan to tackle climate change. Bangladesh has been an active participant in the global discourse on climate change. Bangladesh was also the first LDC to complete and submit its National Adaptation Programme of Action (NAPA) to UNFCCC. The process of developing the National Action Programme (NAP) is underway. The Sixth Five Year plan included climate change in a single chapter along with environment and disaster management; however, it did not go into much detail on integrating climate change adaptation and mitigation into the other sectoral activities. During the formulation of the 7th Five Year Plan there was a strong interest from the government to integrate climate change into the over-arching economic development plan. There was thus a strong foundation to move forward on adaptation and mitigation. While Bangladesh's priority focus is adaptation to climate change, it also actively explored ways of implementing low carbon, climate resilient development pathways in various sectors. In order to plan for the future policy-makers need credible, science-based scenarios about the possible trajectories their countries could take in the future, this was where the CCAFS evidence based policy support was extremely useful and timely.

The Planning Commission, which is the highest policy making body, is in charge of undertaking the state development policy initiatives for all the Ministries. The Planning Commission is well placed to mainstream adaptation and mitigation into the state's development plans. The International Center for Climate Change and Development (ICCCAD), Bangladesh and CCAFS arranged the workshop with the Planning Commission, the Ministry of Finance, Ministry of Agriculture, Ministry of Environment and Forests, the Bangladesh Agricultural Research Council and other researchers from the Bangladeshi scientific community in August 2014.

Methodology

The review used three complementary approaches: desk review of relevant literature, publications, policy documents and frameworks on climate change, agriculture, food and nutrition security; semi-structured key informant interviews with experts from relevant government ministries and agencies, and research organizations were conducted based on their engagement and contribution to relevant policies and frameworks on economic development, climate change, agriculture, food and nutrition security. The semi-structured interviews provided insights into the processes of science-policy engagement adopted by the CCAFS SA Regional Scenarios Coordinator in collaboration with the Government of Bangladesh and other project partners. Keeping the interviews open-ended allowed space for discussion to understand the challenges and failures faced by the Future Scenarios Project Team throughout the engagement process in Bangladesh. The qualitative data from the interviews were then assessed to further understand and improve the process of science-policy engagement through the use of participatory future scenarios methods.

Relevant national and sector-specific policies, frameworks and programs regarding the extent to which they are designed to address climate change adaptation and mitigation, agriculture, food and nutrition security were identified and assessed. Policies and frameworks influenced that are directly related to the 7th FYP on climate change, agriculture, food and nutrition security were reviewed, including establishing the extent of their correlations with the 7th FYP.

Institutional and policy review – An institutional review to assess the country’s policy frameworks to identify the key entry points of the 7th FYP. Including in depth analysis of the 7th FYP, as well as its articulation with other policy documents at national and sectoral levels. Policies and project documentation related to agriculture, climate change and food security in Bangladesh have been reviewed.

Bangladesh is one of the lower middle-income countries in South Asia least responsible for climate change and most affected by the impacts of climate change. Bangladesh’s geographical location makes the country highly exposed to a number of climate change induced sudden and slow-onset disasters such as flash floods, monsoon floods, landslides,

cyclones, storm surges, salinity intrusion, droughts and unpredictable rainfall. Bangladesh is still developing, in 2018, it fulfilled the eligibility criteria for graduation from the UN's Least Developed Countries (LDC) list for the first time and is on track for graduation in 2024. With a rising level of economic growth and major developmental concerns such as food security, poverty reduction, education and health on its national agenda, the impacts of climate change have exacerbated the already long list of developmental goals it has to fulfil. Climate change will heavily affect food security, water resources, coastal areas, human health and agriculture in Bangladesh (MoEF, 2009).

Bangladesh's economy has demonstrated its resilience by maintaining sustained growth over the past two decades; however, despite the increased resilience, climate related disasters continue to result in large economic losses by reducing economic growth and slowing progress in reducing poverty (MoF, 2020). The poorest segments of society are more vulnerable to the impacts of climate change as they live in areas more susceptible to flooding, cyclones, droughts and have limited capacity to adapt to shocks; they are also more dependent on ecosystem services and products for their livelihoods (UNDP, 2009).

Bangladesh currently dominates climate change response strategies and funding, they have been classified according to vulnerabilities, with flood and drought respectively dominating international perceptions. Bangladesh is rapidly growing and has an expanding economy. It is widely understood that climate adaptation can yield economic, social, and environmental benefits.

The Government's commitments to address the vulnerabilities arising from climate change are well articulated in its overarching vision, national plans and climate policy framework (MoF, 2020). To demonstrate its pledge and readiness to address climate vulnerabilities, the GoB adopted the Bangladesh Climate Change Strategy and Action Plan (BCCSAP), and created Climate Change Trust Fund (CCTF) from its own resources to finance projects for implementation of BCCSAP. The GoB also adopted a Climate Fiscal Framework (CFF) in 2014 and updated it in 2019 to provide a roadmap for embedding climate dimension in the country's public financial management systems which is another significant step towards linking climate policies and strategies with the resource allocation process.

The GoB conducted the Climate Public Expenditure and Institutional Review (CPEIR) in 2012 and delivered recommendations having analyzed the policy and institutional context together with the financial management arrangements of the agencies involved in climate activity in Bangladesh. Adoption of a Climate Fiscal Framework (CFF) to make the public financial management (PFM) system climate inclusive was another milestone in its journey towards establishing climate finance governance by embedding climate dimension in the budgeting exercise under the Medium Term Budget Framework (MTBF) as well as in the fiscal policies. Inclusive Budgeting and Financing for Climate Resilience (IBFCR) Project, of the Finance Division, has included in its agenda the relevant actions. The Climate Financing for Sustainable Development: Budget Report 2020-2021 is the fourth climate budget report covering 25 Ministries/Divisions. The report provides analytics on both budget allocation and expenditures that will certainly provide an important basis for taking informed decisions on allocative efficiency of climate public finance management.

Integration of climate change into agriculture, food and nutrition security policies and frameworks

7th Five Year Plan (FYP) (FY2016 - FY2020)

The 7th FYP seeks to build a medium to long-term programme for enhancing resilience to climate shocks and to facilitate low-carbon, sustainable growth. The 7th FYP focuses on accelerating growth and empowering citizens, and proposes ambitious social, economic and environmental targets. The 7th FYP also incorporates the key elements of the National Sustainable Development Strategy (NSDS) that was developed to address the challenge of mainstreaming the SDGs across sectors. The plan aims to be consistent with the Sustainable Development Goals (SDG) but lacks severely in that aspect. The 7th FYP is the first national economic development plan that aims to align itself to implement the SDGs through relevant projects and programs at all ministries. The development approach underlying the 7th FYP aims to be consistent with the global agenda for higher growth in developing countries with measures for protecting the environment and to implement just, equitable and inclusive economic development. The General Economics Division (GED) has complemented mapping of Ministries/Divisions by SDG targets to link climate change

adaptation to the development agenda; recognizing that climate change impacts threaten to undermine the development achievements. Many climate change adaptation issues are about building more resilient systems that align well with the development agenda of strengthening systems of the Government of Bangladesh (GoB).

The GoB mentions in the 7th FYP that it will strengthen efforts to protect the population from the adverse consequences of climate change and build climate change resilience of the development strategy. The plan identifies institutional coordination as a serious hindrance towards effective climate change adaptation measures and that focal points have been designated in each ministry and a few specialized, relevant agencies. The Planning Commission has undertaken efforts to integrate climate change in national development processes through a coordinated manner and many other such changes were seen during the course of this research.

In order to have more coordinated, and result based actions, the General Economics Division (GED) in 2017 undertook an initiative to facilitate the Ministries/Divisions outlining/fixing their own specific targets to be attained under the 7th FYP, called A Handbook of the 7th FYP, specifying tasks to be accomplished by each Ministry/Division. This was to help each Ministry more clearly understand the SDG tasks to be accomplished as part of the Five Year Planning. GED identified the relevant targets for each Ministry/Division, and they were then asked for feedback on the draft, upon receiving feedback, the GED team scrutinized inputs of Ministries/Divisions for any inaccuracy or redundancies. With the finalization of this Handbook, the Ministries/Division no longer need to go through the entire document to search for their respective task to be accomplished. In the handbook, the whole plan has been organized into 13 thematic sectors and not by ministries so these can act as guidelines for identifying future projects/programmes in attaining quantitative and qualitative targets. The Ministries/Divisions can also use it to monitor the progress based on set targets underlined in the 7th FYP, as many of the targets are quantifiably measurable. The document was prepared to aid participants on the 7th FYP and SDGs to be acquainted with their respective Ministry's objectives/targets to be attained during the plan period.

The 7th FYP states that mitigation activities and policies need to be consistent with the country's energy security and identifies the requirement of increased energy and cost

efficiency in the development of traditional energy (GED, 2015). While the promotion of renewable energy is emphasized, the country will depend on coal to meet its energy demands. As Bangladesh industrializes and develops its coal reserves, the country will seek the transfer of state-of-the-art technologies from developed countries in order to follow a low-carbon growth path (GED, 2015). However, in order to progress with mitigation the plan aims to enhance understanding on Low Carbon Development (LCD). The 7th FYP aims for government officials and stakeholders at both the national and local level to be trained with comprehensive knowledge regarding LCD. The plan also aims to build capacity of energy saving sectors as a crucial element of LCD. It mentions that existing tax and tariff structures will be reviewed to better manage energy demand, energy saving will be encouraged, with targeted programmes involving private sector.

While there is a separate chapter on *Sustainable Development: Environment and Climate Change* in the 7th FYP, climate change adaptation and mitigation have not been mainstreamed thoroughly into the rest of the plan. In the mitigation section, the plan asks for due emphasis to be given to the promotion of renewable energy, particularly Solar Home Systems (SHS) and however no linkages of mitigation from the agriculture sector are identified. It is stated that along with industrialization and developing coal reserves, the country will seek the transfer of state-of-the-art technologies from developed countries to follow a low-carbon growth path.

The 7th FYP strategizes for appropriate policy and institutional capacity building for sustainable land and water management, biodiversity conservation, forest ecosystem restoration, climate resilient development and disaster management which are essential at all levels of government, especially with a greater emphasis at the local government level where most of the programmes will be implemented. The 7th FYP sets out to incorporate a Green Growth strategy to harmonize economic growth for better environmental sustainability. The present 7th FYP's articulation of a sustainable development strategy involves a large range of actions under the key themes: (i) Climate Change Management and Resilience (comprised of adaptation and mitigation) (ii) Environmental Management and (iii) Disaster Management. These actions are aligned with the overall framework and strategies of the National Sustainable Development Strategy (NSDS), and are broadly consistent with the scope of the post-2015 SDGs.

Relevant key objectives under the 7th FYP include:

- To attain good governance in environmental sustainability.
- To meet energy demands of development through a low carbon strategy.
- To eradicate extreme poverty and achieve national food security.

The 7th FYP states that a successful mitigation strategy will incorporate the concerns of all stakeholders without imposing harsh restrictions on carbon emissions. The plan aims to mainstreaming mitigation strategies into planning and implementation to make it easier to achieve the desired results. While the plan identifies that Bangladesh will grow considerably in the years to come, and with increased industrialization, the state of the environment will be further jeopardized without a sustainable development approach. The 7th FYP aims to address promoting the use of agricultural technology with supportive policies, reforms, regulations and incentives in place for raising productivity and profitability; increasing private sector participation in agriculture; reducing instability of production; increasing resource use efficiency; reducing loss of arable land; minimizing yield gap; maintaining food security, expanding irrigation and farm mechanization through appropriate technology; and developing resilience to climate change impacts. The Sixth Five-Year Plan (6th FYP 2011-2015) was aimed at raising agricultural productivity, fostering diversification and boosting rural infrastructure that has been superseded by the Seventh Five Year Plan (7th FYP 2016-20), which focuses on developing the crop sub-sector to raise rural income and generate employment opportunities for poor rural people (FAO, 2016). The development vision for agriculture under the 7th FYP aims at ensuring food and nutritional security, sustainable intensification and diversification of climate resilient agricultural production with increased commercialization and livelihood improvement through technological innovations and use, and linking farming community with markets, both national and international (FAO, 2016). The 6th FYP included issues related to climate change in a separate chapter (10) which was titled environment, climate change and disaster risk management. While it was suggested that climate change adaptation will be integrated into the 7th FYP period and mainstreamed into all Annual Development Programme (ADP) projects, reviewing the plan shows that there is much further scope of integration of CCA across the 7th FYP other than the specific chapter on sustainable development. In the mid-term review of the 7th FYP, the Development Research Framework (DRF) indicators on environmental management and climate change

suggest slow progress with a largely unfinished agenda. Lack of availability of data and statistics prevents assessment of progress adequately. A more focused and results-oriented strategy along with associated policies; regulations, incentives, investment and capacity building are needed.

The GoB allocates funds to the individual ministries through the Annual Development Budget (ADP) for the financial year to implement a range of projects and programmes. The ADP consists of projects in different economic sectors and each ministry sets priorities to implement their own projects, this is not in synchronisation with the sectoral categories of the FYP, which leads to the long-term planning and visioning of the Planning Commission to not be completely integrated into the individual ministries' plans. The Planning Commission prepares the ADP, sectors and projects related to national economic development to get more priority and funds are then allocated to implement development projects included in the ADP.

The introduction of a more strategic and performance/results orientated budget and the successful development and implementation of medium-term budget frameworks could eventually lead to the development of more holistic Integrated National Financial Frameworks that will be necessary to mobilize the resources required to achieve the SDGs. There are many aspects in this process that must be consolidated and further strengthened (i) the weakness in the links between the Annual Development Programme (ADP) and the 7th FYP; (ii) remaining important disconnects between the ADP and the Medium Term Budget Framework (MTBF); (iii) the undertaking of public capital investment through two parallel streams: ADF and non-ADF; (iv) the medium term budget process in order to fulfill some of its strategic goals; and (v) there is room for improving the operational efficiency of the budget.

8th Five Year Plan (2021 - 2025)

The 8th FYP is still under review and being finalized. However, rapid recovery from the Corona virus crisis, GDP growth acceleration and job creation has taken centre stage in the draft Plan for the fiscal period from 2021-2025. The draft 8th FYP, titled "Promoting prosperity and fostering inclusiveness," was placed before the Local Consultative Group with the country's global development partners. The 8th FYP's main task is to start the

implementation of "Vision 2041" to bring Bangladesh closer to the goals of attaining upper middle income country status, the SDGs and eliminating extreme poverty by 2031.

The 8th plan aims at restoring human health, employment, income and economic activities from the effects of Covid-19. Besides GDP growth acceleration, new job creation and rapid poverty reduction have also been prioritised. The plan identified six policy areas to be effective in reducing inequality: universal health coverage, universal access to quality education, early childhood development and nutrition interventions, cash transfers to poor families, rural infrastructure, especially roads and electrification, and progressive taxation. A significant lack of continuation of objectives and targets from the previous plans has been noticed in the five-year plan processes.

The Bangladesh Delta Plan 2100 (BDP 2100)

Alignment with Bangladesh Delta Plan 2100: GoB approved the Bangladesh Delta Plan 2100 (BDP 2100) in 2018 with the objective of moving Bangladesh forward for the next 100 years towards the 21st Century. BDP 2100 is the combination of long-term strategies and subsequent interventions for ensuring long term water and food security, economic growth and environmental sustainability while effectively reducing vulnerability to natural disasters and building resilience to climate change and other delta challenges through robust, adaptive and integrated strategies, and equitable water governance (Alam, 2019).

The BDP 2100 aims to integrate all individual sectoral plans and was approved in 2018 by the GoB. The BDP 2100 is a comprehensive, strategic planning document that covers the longest period (50-100 years) and identifies investable sectors for action to reduce climate risk and environmental losses in the delta region. The GoB considers the BDP 2100 as an overarching 'umbrella' plan for future development in Bangladesh, a plan to guide the development and implementation of macroeconomic, climate and water projects for the country (Hasan et al, 2020).

The BDP 2100 seeks to integrate the medium to long term aspirations of Bangladesh to achieve upper middle income (UMIC) status and eliminate extreme poverty by 2030; being a prosperous country beyond 2041 with the longer term challenge of sustainable management of water, ecology, environment and land resources in the context of their interaction with natural disasters and climate change. The BDP 2100 focuses primarily at the delta agenda up

to 2050 but also recognizes that the decisions taken now have implications up to 2050 and beyond. It sets up a long-term vision for the evolution of the Bangladesh Delta by the end of the 21st century, but also defines short and medium term goals as steps to reach that vision.

A number of sectoral initiatives and plans for the water and agriculture sectors have been adopted in Bangladesh since 1960. Furthermore, national-level strategic plans such as the Five Year Plans (FYP) and Perspective Plan have been formulated by the GoB. More recently, the 17 Sustainable Development Goals (SDGs) with 169 targets are on the new global agenda and Bangladesh is highly committed to meeting these goals. The challenge lies in integrating these sectoral, national and global targets and plans into long term coherent strategies taking climate change and future demands into account, as well as in effective implementation of the needed interventions in a well-coordinated manner, following a no regret approach.

The sectoral plans tend to be short term oriented and independently pursued by the formulating ministries or departments, the lack of coordination with national plans is a serious hindrance to the mainstreaming of new ideas and ideology on climate change adaptation. Most goals and targets are at the national level where climate change and natural disaster risks present major downside challenges and risks that require long-term strategies and multi-sectoral coordinated policy management under uncertainty. Eg. the national challenge to maintain food security in the face of increasing population and decreasing agricultural land as well as the threat posed by climate change requires coordinated policy actions involving ministries for agriculture, environment, forests and climate change, land, fisheries and livestock, water resources, LGRD&C, shipping, food, disaster management and relief, finance and planning. Similarly, to meet the higher water demand for achieving a greater standard of living and to protect the ever increasing level of investment in housing and industry from disasters needs long term vision, planning and implementation involving all government ministries and agencies that contribute to this objective.

BDP 2100 is envisioned as a long term integrated and holistic plan that takes a long term view on water resource management, climate change and environmental challenges with a view to supporting long-term development of Bangladesh. The opportunities, risks and

vulnerabilities emerging from the interface of water, climate change and environmental issues are long term in nature. Therefore, the strategies, policies and programs must also be formulated with a long-term perspective. Yet there are immediate and medium term challenges that must be addressed now or in the near future. The associated short to medium term strategies, policies and programs will have implications for long-term developments. As a result, long term planning is complicated by considerable uncertainties. Water, climate change and environment are heavily influenced by the behaviour of nature that is not often predictable.

The development of BDP 2100 very much was a process of negotiating ideas and building coalitions between actors with different interests and positions. Conceptualizing policy transfer as a process of translation thus helps draw attention to the relations of power, collegiality and diplomacy that always infuse and co-shape both how transfer happens and its outcomes. Important in a context of development cooperation, it also usefully emphasizes the agency of the so-called recipient country in creatively adapting and changing that what is transferred (Hasan, 2020).

Bangladesh Perspective Plan (2010-2021): Vision 2021

The GoB's long-term development strategy (Vision 2021), aims at transforming Bangladesh into a middle-income country by 2021. The GoB has prioritized the attainment of self-sufficiency in food grain production and achievement of nutritional requirement by 2021. Vision 2021 is being implemented through medium term Five Year Plans. With aims for widespread poverty reduction, gaining middle-income country status, the vision acknowledges that basic food security and development needs to be ensured, and aims to achieve all this on a sustainable basis without damaging the environment. Providing energy security, mitigating the impacts of climate change and promoting innovation in a knowledge-based society are also mentioned.

The objectives for the energy sector include: ensuring energy security, making the power sector financially viable for facilitating economic growth; increasing the sector's efficiency by economizing the use of natural gas, coal and oil as primary fuels for electricity generation; increasing private sector participation to mobilize finance and ensuring a reasonable and affordable price for electricity by pursuing least cost options. The plan states that adaptation

must be the main focus; but identifies that a lack of mitigation actions by developed countries will make adaptation increasingly difficult. Adding that ‘all development initiative needs to be pro-poor, environmental sustainable, climate change and disaster resilient’ (GED, 2012: 97).

In order to reach middle-income status by 2021, Bangladesh has to ensure energy security by adoption of a coherent and long-term approach to managing the demand and supply of energy resources (GED, 2012). According to the GoB the basic approaches in BCCSAP, NAPA, NPDM, NEP, NFP and NSDS are the wise use of natural resources, disaster and climate resilient development initiatives, pro-poor adaptation and mitigation strategies, green growth, eco-system based disaster risk reduction, risk resilient urban development and pollution management (GED, 2012). The plan covers a range of issues related to sustainable development and states that ‘although not required to reduce GHG given its status as a LDC, Bangladesh is committed to following a low carbon path, success of which would depend on provision of resources by the international community but Bangladesh will not compromise on the need for accelerated economic growth and poverty reduction’ (GED, 2012: 95).

Bangladesh Climate Change Strategy and Action Plan (BCCSAP) (2009)

The BCCSAP provides information on physical and climate contexts, core socio-economic realities and policies in Bangladesh and the significance for a strategy on climate change. The strategy focuses on sustainable development, poverty reduction and increased wellbeing of the vulnerable groups with an emphasis on gender sensitivity. While there are six themes within the plan there is no detailed costing or priority implementation actions initiated beyond the initial infrastructure spend of US\$500m in years 1 and 2 and a total figure of US\$5bn over five years (GED, 2012). The BCCSAP is built on six pillars (MoEF, 2009):

1. Food security, social protection and health
2. Comprehensive disaster management
3. Infrastructure
4. Research and knowledge management
5. Mitigation and low carbon development
6. Capacity building and institutional strengthening

The second part elaborates a set of programmes based on the six pillars of the BCCSAP. It describes Bangladesh's current planning to build climate resilience into the economy through adaptation to climate change as well as mitigation for a Low Carbon Development (LCD) path. The 44 programmes listed in the Annex are not exhaustive, and aim to outline the first set of activities to be undertaken in line with the needs of the communities and for the overall development of Bangladesh (MoEF, 2009). The BCCSAP aims to be a 'pro-poor' climate change management strategy which prioritizes adaptation and disaster risk reduction, and also addresses LCD, mitigation, technology transfer, and the mobilization of international provision of adequate finance (Ayers et al., 2014:45). The Plan has elements of 'climate proofing', but also explicitly recognizes the need for a more integrated, development first approach to adaptation planning. The BCCSAP considers mitigation and LCD as cornerstones of the strategy and stresses on energy efficiency, energy conservation, and renewable energy. The BCCSAP is being revised to be compatible with the 7th FYP and other strategies and plans related to climate change, in order to make it a functional strategic document (Ahmed et al., 2015). It is planned that the National Adaptation Plan (NAP) will be synergised with 7th FYP, the new National Plan on Disaster Management (2016-2020) and subsequent ADP projects.

The BCCSAP acknowledges that Bangladesh's contribution to emission of GHG is minimal; Bangladesh emitted only 0.053 to 0.045 billion tonnes (with or without LUCF), less than one-fifth of one percent of world total, reflecting its extremely low consumption of energy (MoEF, 2009). Despite the extremely low level of energy use the country is unable to meet the present demand that is expected to rise 50% faster with a rise in GDP per capita. While there is scope to raise efficiency in production and consumption of energy, thus lowering GHG emissions per unit of energy use, these activities must not jeopardize the legitimate demand for and supply of energy. There is a long-standing concern amongst national stakeholders that any form of mitigation might act as a deterrent to national growth and is an unfair option for Bangladesh. Even though climate change has moved up as a global political agenda, national mitigation policies remain a subject of intense debate in LDCs.

The focus of mitigation in the country has been largely through energy efficiency, alternate energy use, clean cook stoves, off-grid solar home programs, energy efficient bulbs,

afforestation programmes (creating green belts, carbon sinks, CDM). The general criteria used to select priority adaptation activities include: level or degree of adverse effects of climate change; poverty reduction to enhance adaptive capacity; synergy with other multilateral environmental agreements and cost effectiveness. Sectoral prioritization has been selected according to the most vulnerable sectors to include agriculture, health, and energy security. The BCCSAP has been successful in producing a relatively robust consensus on a set of actions around adaptation and mitigation separately, framing climate change as an opportunity, including access to international climate finance. The BCCSAP aims to assist the GoB to realize existing renewable energy projects and most surprisingly features the 'development of coal mines and coal fired power stations'. By working within existing socio-technical systems, discourses of energy development and power relations, the BCCSAP has found a place alongside existing policies, without challenging the status quo.

While the previously completed NAPA was driven and structured by the priorities of the UNFCCC process, the national strategy, BCCSAP, is a product of development planning at the national level which seeks to cut across the international divide between the elements of climate change adaptation and mitigation and address the sectoral impacts of climate change holistically (Fisher, 2013). Despite the country having a Climate Change Strategy and Action Plan (BCCSAP), the Climate Public Expenditure and Institutional Review (CPEIR) findings clearly demonstrate the need for a whole of Government approach in climate change and a comprehensive country program framework based on new knowledge and needs. The NAP Road Map, Climate Fiscal Framework (CFF) and NDC also need to be considered in developing the country program framework (GCF, 2015).

The National Sustainable Development Strategy (NSDS) (2010 - 2021), (2013)

The National Sustainable Development Strategy discusses climate change under the environment, natural resources and disaster management priority areas. The NSDS identifies strategic priority areas (sustained economic growth, development of priority sectors, social security and protection, environment, natural resources and disaster management) along with crosscutting areas (disaster risk reduction and climate, good governance and gender) with a view to achieving the strategic vision and addressing long-term sustainability of productive resources (FAO, 2016).

National Agriculture Policy (NAP) (1999)

The National Agriculture Policy aims to improve food and nutrition security and the quality of life for rural people through increased productivity and agricultural diversification (FAO, 2016). The GoB has also prepared the Country Investment Plan for Agriculture, Food Security and Nutrition (CIP, 2011-2015), which plans and identifies 12 investment programmes to ensure implementation of the National Food Policy: Plan of Action (NFP PoA) (FAO, 2016). However, the CIP does not explicitly link any of the 12 investment programmes to climate change. While it is stated that the CIP is a 'results based tool' to improve food security and provides costing, financing gaps and priority funding requirements and that there was a 'strong consensus throughout the consultation process that effective strategies for climate change adaptation and mitigation are a priority', out of the 12 investment programmes only one sub-output mentions the promotion of development of responses to adapt agricultural systems to climate change (MoFDM, 2011). There is a need for continued country level actions despite the lack of agreement on how to deal with impacts of agriculture on climate change and climate change on agriculture at the global level. Bangladesh needs to find ways to link its national strategic priorities such as the vision 2021, BCCSAP etc. with its UNFCCC ratifications. The National Food Policy (2006) & National Food Policy Plan of Action (2008 – 2015) have the goal of ensuring a dependable food system for Bangladesh.

National Agricultural Extension Policy (NAEP) (2012)

The National Agricultural Extension Policy (2012) outlines integrated agricultural extension services of the Department of Agriculture Extension, Department of Fisheries, Department of Livestock and Department of Forestry under one umbrella through the National Agriculture Extension System (NAES). One of the key principles of which is the adaptation to climate change and development of specialized extension service for climatically distressed areas (MoA, 2012).

Bangladesh is one of the most pro-active developing countries, which has acted on the impacts of climate change swiftly. The country has achieved success in developing national scientific expertise and government actions on environmental and sustainability issues. The 7th Five Year Plan (FYP) has aimed to mainstream issues related to climate change adaptation and mitigation within its programs. The 7th FYP adopted major policies and

programs in the areas of sustainable development, environment, climate change and disaster risk reduction.

Based on the desk research undertaken this report will assess the progress of implementation of the targets by reviewing major policy and institutional initiatives in these areas and provide an assessment of how much has been achieved.

Other reports assessed include:

- SDG Bangladesh Progress Report 2020
- Monitoring and evaluation framework of the SDGs: Bangladesh perspective
- Midterm progress review on the implementation of the National Social Security Strategy
- Midterm implementation review of the 7th FYP (FY 2016 – FY 2020)
- Bangladesh climate fiscal framework June 2014

Environmental policy, laws and regulations of the GoB are managed through the Ministry of Environment, Forest and Climate Change (MoEFCC). The FYP, initiated by the Bangladesh Planning Commission, activated the National Environmental Council (NEC), a cross-sectoral body headed by the MoEFCC. Ensuring habitable and sustainable environment for the present and the future generations of the country is the mission of the MoEFCC. Its two major functions amply illustrate its role as the lead ministry of the government for protection, conservation and improvement of the environment, control of environmental pollution and to undertake adaptation and implementation of appropriate clauses contained in different regional and international conventions, agreements, and protocols relating to environment, forestry and wild life (GED, 2019). The trend of climate change relevant allocations since FY 2014-15 as part of both development and non-development budget of the selected ministries shows that the total CC relevant percentage has slightly increased from FY 2014-15 to FY 2017-18 by 1.25 percentage point. The development and non-development budget also followed a similar trend across the years. Total climate relevant budget has remained broadly stable across the years under review. Total climate change relevant allocation remained almost same across the years with a decrease in FY 2016-17.

Bangladesh is the first country among the climate vulnerable countries to develop a national strategy to effectively deal with climate change induced challenges. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP) identified 44 programs under six thematic areas that demand proactive action from the GoB to better prepare Bangladesh to deal with the challenges introduced by climate change.

Allocation in BCCSAP Thematic Areas in Ministry of Environment, Forest and Climate Change Budget (GED, 2019):

The trend of CC relevant allocation since FY 2014-15 as part of both development and non-development budget of the selected ministries demonstrates that the total CC relevant percentage is a slight increase from FY 2014-15 to FY 2017-18 by 1.25 percentage point.

The BCCSAP is divided into six main pillars/thematic areas as discussed above, one of which is capacity building and strengthening.

Analysis shows that the maximum amount has been allocated to the thematic area of Capacity Building and Institutional Strengthening, which is 19.37% of the ministry budget in FY 2017-18. Since FY 2014-15 it remained around the same percentage of total ministry budget with an exception in FY 2016-17; 19.10% in FY 2014-15, 20.80% in 2015-16 and 10.99% in FY 2016-17. Research and Knowledge Management thematic area accounts for 5.81% of FY 2017-18 ministry budget. In FY 2016-17 it was 2.03% of the total ministry budget.

Out of the CC relevant allocation, climate related capacity building and institutional strengthening received the highest allocation 19.37% of Ministry budget. Research and Knowledge Management received 5.81% and Mitigation and Low Carbon Development received 5.71% of the total ministry budget.

Recognizing the uncertainties and inadequacies of international climate adaptation finance from both multilateral and bilateral sources, the GoB decided to establish the Bangladesh Climate Change Trust Fund (BCCTF). To provide BCCTF a legal footing, Climate Change Trust Act 2010 was enacted. The BCCTF was created in FY 2009-10 from the Government's own revenue sources to combat climate change impacts as well as to implement Bangladesh Climate Change Strategy and Action Plan (BCCSAP). An analysis of the allocation pattern of

approved projects per BCCSAP themes reveals that Infrastructure Sector accounts for 69% of total allocation from the BCCTF - the highest among the allocations for other sectors.

Research and Knowledge Management Sector also has a significant weight. BCCT has undertaken research projects with a total amount of TK. 108.80 crore - 4% of total project investment which are being implemented by various research organizations and public universities many of which have received national and international recognition.

From a summary of progress of projects undertaken by different ministries, it is observed that the Ministry of Water Resources is the highest recipient of allocation (Tk. 1136 crore) having 135 approved projects followed by the Ministry of Local Government, Rural Development and Cooperatives which has taken 184 approved projects with an allocation of Tk. 668 crore. The traditional practice of giving more importance to infrastructural projects and thus allocating more funds to these is visible, the water and local government sectors are also recipients of more funding. While it is of utmost importance to strengthen and built infrastructure, especially in sectors that are still being developed and also are most at risk due to climate change, unless there is amore of an allocation to research and knowledge management and, capacity building and institutional strengthening, Bangladesh will be unprepared and unable to adapt to the severe impacts of climate change.

The first Perspective Plan of Bangladesh covering 2010 to 2021 has been implemented under two five year plans –the Sixth Five Year (2010-2015) and the Seventh Five Year (2016-2020). The 7th FYP was adopted in 2016 covering 2016- 2020 period. The first year of the 7th Plan also coincided with the launch of the UN post-2015 Sustainable Development Goals (SDGs).

In the backdrop of these factors, the 7th Plan focuses on three themes:

- GDP growth acceleration, employment generation and rapid poverty reduction;
- A broad-based strategy of inclusiveness with a view to empowering every citizen to participate fully and benefit from the development process.
- A sustainable development pathway that is resilient to disaster and climate change; entails sustainable use of natural resources; and successfully manages the inevitable urbanization transition.

Accelerating growth with inclusion under the 7th FYP; the economic growth strategy of 7th FYP includes four pivotal themes:

- Break out of the sphere of 6% growth and raise the annual average growth rate to 7.4%.
- Growth will be inclusive, pro-poor, adapt well to the urban transition and be environmentally sustainable.
- By the end of the 7th FYP, poverty and extreme poverty will be substantially lowered.
- All the additional labour force will be gainfully employed, including much of the underemployed.

The Second Perspective Plan of Bangladesh (2021-2041) aims to address the global commitment of achieving the Sustainable Development Goals (SDGs). The upcoming vision and its translation into the perspective plan aims to create a strong link with government's priorities with the SDGs and their targets. The vision aims to develop pragmatic scenarios to predict the investment needs along with tools to mobilise local and external resources. SDGs, including the 17 Goals and 169 Targets, will have a synergistic relationship with the PP2041. As the end year of SDGs will mark the halfway of PP2041 implementation, successful execution of SDGs will ease the second half of the Perspective Plan (2021-2041). Similarly, the PP2041 through 8th and 9th Five Year Plan will spur the SDG attainments.

The policy environment has evolved rapidly with the development of the Bangladesh Delta Plan 2100 (BDP2100) as a living and integrated national planning document (BanDuDeltaS [2014](#)). Globally, the Sustainable Development Goals (SDGs) have also been developed (UN [2015](#)) within the lifetime of the project and are being widely applied in Bangladesh (e.g. GED [2017](#)).

The Bangladesh Country Investment Plan (CIP) for Environment, Forestry and Climate Change (EFCC) for 2016 – 2021 aims to increase the contribution of the EFCC sectors to national sustainable development through enhanced provision of ecosystem services, thereby helping reduce poverty, improve environmental and human health benefits, and increase resilience to climate change. The EFCC CIP provides a five-year (2016 – 2021) strategic framework for national and international investments to address EFCC issues in Bangladesh and to coordinate implementation among all stakeholders. The CIP is anchored

to and aligned with the national vision of becoming a middle-income country by 2021 (i.e. Vision 2021), the Seventh Five-Year Plan (7FYP), and a number of key legal and policy documents, including the following:

- The Constitution of the People’s Republic of Bangladesh and its Amendments
- National Environment Policy (1992), and draft Environment Policy (2015)
- National Forest Policy (1994) and final draft Forest Policy (2016)
- National Environment Management Action Plan (1995)
- New Agriculture Extension Policy (1996) and draft National Agriculture Extension Policy (2016)
- National Water Policy (1999)
- National Water Management Plan (2001)
- National Land Use Policy (2001)
- Bangladesh Climate Change Strategy and Action Plan (2009)
- National Biodiversity Strategy and Action Plan (2004, updated in 2016)
- Coastal Zone Policy (2005) and Coastal Development Strategy (2006)
- National Sustainable Development Strategy (2010–2021)
- Perspectives Plan of Bangladesh (2010–2021)
- Tourism Development: 7th Five Year Plan Background Paper (2010)
- Integrated Resources Management Plans for the Sundarbans 2010–2020
- National Health Policy (2011)
- Master Plan of Haor Areas (2012)
- Bangladesh Climate Change and Gender Action Plan (2013)
- Medium-Term Budgetary Framework (2013–2018)
- National Agriculture Policy (2013)
- Water Act (2013)
- Energy Efficiency and Conservation Master Plan (2015)
- National Biodiversity Assessment and Programme of Action 2020
- National Aquaculture Development Strategy and Action Plan 2013–2020

The 7th FYP has stressed the need to take into account environment, climate change adaptation and mitigation in a broader development context. The 7th FYP recognizes climate

change as an added challenge to reduce poverty and environmental degradation. Creation of alternative livelihoods and building resilience for community to lessen anthropogenic pressure on resources will be enhanced. Relevant programmes for environmental and climate change capacity building at local and national level will be the main interventions of this Plan. Government will offer greater attention to the areas in research for knowledge generation concerning environment and climate change. The GoB has adopted a number of policy and institutional initiatives including the National Adaptation Programmes of Action (NAPA) in 2005 and the Bangladesh Climate Change Strategy and Action Plan (BCCSAP).

Typically, sectoral plans tend to be short term oriented and pursued independently by the formulating ministries or departments. Whereas, goals and targets are at the national level, and climate change and natural disaster risks present major downside challenges and risks that require long term strategies and multi-sectoral coordinated policy management under uncertainty. For example, the national challenge to maintain food security in the face of increasing population and decreasing agricultural land as well as the threat posed by climate change requires coordinated policy actions involving ministries for agriculture, environment, forests and climate change, land, fisheries and livestock, water resources, LGRD&C, shipping, food, disaster management and relief, finance and planning. Bangladesh needs a long- term vision, planning and implementation involving all government ministries and agencies that contribute to this objective.

It was recommended in the CFF 2014 that the existing structure of the Ministry Budget Framework (MBF) should be changed to accommodate climate dimension in the budget setting process of Ministries/Divisions having climate actions. This necessitated some modifications in the format of Budget Circular (BC) to provide guidance to the budget desk officials of the relevant Ministries/Divisions to be able to provide information related to climate change priorities and actions in their MBFs. These changes for alignment have been brought about in line with the six thematic areas identified in the BCCSAP 2009.

The climate budget report 2020-21 presents data on allocation along with actual climate-related spending subsumed in the total budgets of relevant Ministries/Divisions, to demonstrate the GoB's commitment to address climate change. The budget report also provides a repository of knowledge on climate finance to broaden the understanding of the

wider stakeholders so they can better engaged with and contribute to policy development and monitoring. The report consists of analyses of the MBFs of twenty-five selected Ministries/Divisions for the fiscal years 2016-17 to 2020-21. The climate related allocation of twenty-five Ministries/Divisions which have climate actions and priorities of varying scale covering the period from FY2016-17 to FY2020-21 are discussed below. The total budget allocation of these twenty-five Ministries/Divisions accounts for 56.69 percent of the national budget of FY2020-21. The review was carried out using a comprehensive methodology developed bearing in mind the implications of climate change adaptation and mitigation in climate finance. The climate relevant allocation as percentage of total budget of twenty-five Ministries/Divisions for FY2020-21 has declined to 7.52 percent as compared to last year's allocation of 7.81 percent and 7.55 percent of revised budget for twenty Ministries/Divisions.

In FY2016-17, the climate relevant allocation was TK.14,323.1 crore in absolute terms and stood at TK.24,225.7 crore in FY2020-21 (MoF, 2020). The climate allocation has increased in the development budget by around 146 percent and in the operating budget by around 18 percent since FY2016-17 (MoF, 2020). During the reporting period, actual expenditure ranges from 82.21 percent in FY2016-17 and 93.63 percent in FY2018-19 respectively of the revised climate relevant allocation. This reflects the government's commitment to use climate allocation during this period (MoF, 2020).

Since FY2016-17 it was seen that the climate related allocation as percentage of the budget of selected 25 Ministries/Divisions according to BCCSAP thematic areas, the maximum allocation was made to Food Security, Social Security and Health followed by Infrastructure. The budget allocated for climate allocation spending on 'infrastructure' and 'mitigation and low-carbon development' also shows an increasing trend since the beginning of the reporting period of 2016/17.

Out of the total allocation, the distribution as per the BCCSAP thematic areas in FY2020-21 for twenty-five selected Ministries/Divisions, 7.52 percent is climate relevant. This allocation is further distributed across six thematic areas where the largest share of 41.25 percent goes to Food Security, Social Protection and Health. The Climate relevant allocation for Research and Knowledge Management, and Capacity Building and Institutional Strengthening remain

as low as 3.5 percent and 5.23 percent, respectively. Among the twenty-five Ministries/Divisions, according to their climate relevance in their budget over the years from FY2016-17 to FY2020-21, five top climate spending Ministries include: Ministry of Environment, Forest and Climate Change; Ministry of Water Resources; Ministry of Agriculture; Ministry of Disaster and Relief; and Ministry of Fisheries and Livestock. They allocated on an average 32.37 percent of their total budget for climate change relevant activities, which ranges from 24.01 percent for Ministry of Disaster and Relief to 43.58 percent for Ministry of Environment, Forest and Climate Change (MoF, 2020).

The importance of Ministry of Environment, Forest and Climate Change (MoEFCC) lies in its central role as the lead Ministry for framing rules, regulations and policies related to climate change. The Medium-Term Strategic Objectives like mitigating the adverse effects of climate change, conservation and sustainable management of forest resources, control of pollution and conservation of bio-diversity have direct link with climate relevant criteria. The MoEFCC selected the following priority areas/programmes in the MBF in line with Medium-Term Strategic Objectives:

- Tackling the risks arising from climate change
- Conservation and sustainable management of forest
- Control of pollution
- Conservation of bio-diversity

Most of the projects undertaken by the MoEFCC are climate relevant. Of these projects: afforestation in five coastal districts of Bangladesh, char development and settlement project-4, integrating community-based adaptation into afforestation and reforestation and climate resilient ecosystem and livelihoods (CREL) belong to the category of Strongly Relevant criterion of climate dimension. Other projects are small, but they are also in the margin of 'Strongly Climate Relevant'. The distribution of climate relevant allocation together with actual expenditure among the six thematic areas of BCCSAP for FY2016-17, FY2018-19 and FY2020-21 show that in FY2020-21, Mitigation and Low Carbon Development received highest Climate relevant allocation of 35.91 percent. Allocation for Research and

Knowledge Management had a significant rise from 7.20 percent in FY2016-17 to 11.08 percent in FY2020-21 (MoF, 2020).

Ensuring food security by enhancing productivity, increasing production in the crop sector, improving marketing system as well as diversification of crops and production of more crops with more nutrient value are the stipulated goals of the Ministry of Agriculture. The following five out of 8 major functions of the Ministry directly address the adverse impact of climate change on agriculture:

- Agricultural research and education program;
- Agricultural extension and training;
- Production, standardization, certification, preservation and distribution of quality seeds;
- Agricultural support and rehabilitation;
- Minor irrigation programs

The Ministry has initiated many investment projects/programmes which are mostly climate relevant. These projects and programmes focus mainly on increasing agricultural productivity and sustaining growth in the face of adverse effect of climate change.

The climate relevant allocation against total budget remained steady through 2016 - 2020 in absolute terms. The amount against the climate relevant allocation was TK. 5,061.03 crore in FY2016-17 and it stood at TK. 5,721.18 crore in FY2020-21. Over the period under review, the climate relevant percentage also remained unchanged. However, the climate relevant allocation in development budget has increased significantly over the period under review. During FY2016-17 to 2018-19, percentage of actual expenditure against the revised climate relevant allocation has increased significantly from 71.98 percent in FY2016-17 to 94.68 percent in FY2018-19 (MoF, 2020). The thematic area on Food Security, Social Protection and Health received maximum allocation (above 90 percent) both in terms of absolute numbers and percentage from FY 2016 till FY2020 followed by Comprehensive Disaster Management. For the Ministry of Food the thematic area on Food Security, Social Protection and Health received maximum allocation both in terms of absolute number and percentage in FY2020-21, followed by Infrastructure.

Even in the Ministry of Fisheries and Livestock budget Food Security, Social Protection and Health received maximum allocation both in terms of absolute numbers and percentage in FY2020-21 and capacity building and institutional strengthening received the second highest allocation.

For the Ministry of Primary and Mass Education allocation across BCCSAP thematic areas for the budget FY2016-17 to FY2020-21 shows that the thematic area on Infrastructure received maximum allocation both in terms of absolute numbers and percentage in FY2020-21 followed by Research and Knowledge Management, and Capacity Building. The allocation across BCCSAP thematic areas for the budget of Secondary and Higher Education Division during FY2016-17 to FY2020-21 shows that the thematic area on Capacity Building and Institutional Strengthening received highest climate relevant allocation both in terms of absolute numbers and percentage (65.6 percent) in FY2020-21, followed by Research and Knowledge Management (25.4 percent). Allocation against both the thematic areas remained steady around 60 percent and 25 percent respectively throughout the period under review.

The allocation across BCCSAP thematic areas for the budget of Power Division during FY2016-17 to FY2020-21 shows that the thematic area on Mitigation and Low Carbon Development received maximum allocation both in terms of absolute numbers and percentage during the reporting period followed by Capacity Building and Institutional Strengthening.

Allocation across BCCSAP thematic areas for the budget of Ministry of Science and Technology during FY2016-17 to FY2020-21 shows that the thematic area on Mitigation and Low Carbon Development received maximum allocation both in terms of absolute numbers (TK. 2214.0 crore) and percentage (96.8 percent) in FY2020-21. This has been the case for all the preceding years as well (MoF, 2020).

Implementation of the 7th FYP (by Ministries)

The 7th FYP is a vast policy and strategic document encompassing a wide array of issues ranging from assessment of progress made in the 6th FYP, to macroeconomic framework, to sector specific strategies setting quantitative and qualitative targets. It is a colossal task to identify both quantitative and qualitative targets set in the plan by the respective

Ministries/Divisions for implementation. The Post 2015 Development Agenda has been integrated into the national plan document at the end of the 6th FYP period and also because the unfinished agenda of the Millennium Development Goals (MDGs) ended in 2015. The 7th FYP is the first plan to be implemented in Bangladesh that aim's to contribute to the Sustainable Development Goals (SDGs). To ensure coordinated, result-based actions, it is important to pinpoint the targets embodied in the plan for each Ministry/Division. The General Economics Division (GED) took an initiative to facilitate the Ministries/Divisions outlining their own specific targets to be attained under the seventh plan, specifying tasks to be accomplished by each Ministry/Division. Working with the 53 Ministries/Divisions, the GED team organized implementable projects/programs from the whole plan under 13 thematic sectors. The list identified future projects/programmes and, quantitative and qualitative targets so it can be used to monitor the progress based on set targets underlined in the 7th FYP, as many of the targets are quantifiably measureable. This list shows uptake of the activities suggested and contributions made by the CCAFS SA Team and key objectives derived from the scenario analysis that are being and will be implemented as projects/programs of the various ministries in order to fulfill the SDGs.

1. Increasing research and extension allocation of budget as a percentage of Agricultural GDP [P 264] (SDG target/goal 2.a.)
2. Documenting farmer's indigenous innovations, farmer's creativity and establish a database for indigenous technologies (P 266) (SDG target/goal 2.5; 2.c)
3. Develop a national farmers' database for smooth implementation of agricultural policy [P 266] (SDG target/goal 2.b; 2.c)
4. Use of environment friendly green technologies (e.g. IPM, INM, AWD, etc.) and climate-smart/resilient technologies [P 267] (Q) (SDG target 2.4)
5. Encourage wider women participation in homestead based agricultural production, post-harvest management, agro/food processing, marketing and decision making for ensuring women empowerment [P 267] (Q) (SDG target 2.4)
6. Minimize the climate impact, investing on the development of new stress tolerant agricultural seeds [P 269]
7. Research for addressing the problem areas (like hills, coastal, haor, bills, char land and Barind areas) that are more prone to climate [P-270]

8. Research on climate SMART agriculture, breeding and introduction of climate resilient varieties for saline and drought tolerant, heat & cold tolerant, submergence etc. [P-270] 2.5; 2.a
9. Formulation of policy on socioeconomic, extension research, subsidy incentive to inputs and commodities etc. [P-270] 2.1; 2.a
10. Introduction and popularization of Good Agricultural Practices (GAP) [P-272] 12.
11. Carry out research on technology development for post-harvest management e.g. packaging and agro-processing by BARI [P-272] 2.5; 2.a
12. The agro processing research facility of BARI will be strengthened [P-272] 2.5; 2.a
13. Development and promotion of environmentally sound farming practices [P-274] (Q) 2.3; 2.4
14. Establishing more Agriculture Information and Communication Centre (AICC) at village level; [P-274] 2.5; 2.a
15. Strengthen human resources development programme of extension agencies through higher education, training and exposure visit [P-274] 2.3; 2.4
16. Strengthening MIS (ICT) based knowledge management system and e-agriculture [P-274]
17. Conduct research work to generate technology based timely, accurate and well-organized weather forecasting system in the context of climate change and crop production [P-276]
18. Promote multiple land use technology ensure increased productivity and supplement agricultural production
19. Raise production levels to meet the growing demand through policy support, institutional capacity building, regulatory streamlining, and easing access to credit
20. Making food production efficient and sustainable (P-619)
21. Ensure food security for the national populace (P-619)
22. Develop 'climate-smart food systems', ensuring that climate threats to other elements of food systems beyond agriculture [P-620]
23. Initiate the National Food and Nutrition Security Policy (NFNSP) (2016-2020), Plan of Action and Country Investment Plan (CIP) [P- 621]
24. Increase support for inclusive education and engage all schools in social mobilization [P-536] (Q)??

25. Integrate Environmental, Climate Change and disaster risk reduction considerations into project design, budgetary allocations and implementation process [P 26]
26. Develop 'climate-smart food systems' [P 405] [Included from the scenario analysis into key objectives]
27. Mainstream poverty-environment climate-disaster nexus in the project design phase, budgetary process, project implementation and monitoring processes [P 405] [Activity suggested from the scenario analysis, to be implemented under the 7th FYP]
28. Develop capacity of national government and regional/local offices to map and analyze land use through data-driven approaches/GIS [P 407] [Conducting micro-climatic zone specific assessments were recommended for more effective planning]
29. Promote a whole-of government approach for climate change readiness [P 415] [Recommendation from SA Scenarios Team]
30. Mainstream DRR and CCA in policy and planning frameworks of all relevant ministries and departments. [P 416]
31. Revise BCCSAP [P 417]
32. Mainstreaming climate change issues like mitigation into planning and implementation [P 418]
33. Train Government officials and other stakeholders so that they have a comprehensive knowledge regarding LCD [P 420]
34. Strengthening enforcement and monitoring capacity of DoE [P 437]
35. Strengthening DoE capacity on EIA review
36. Updating the Environment Policy 1992 taking care of all emerging issues (national, regional & international) [P 438]
37. Updating National Environmental Management Action Plan (NEMAP) through participatory planning process and devising as new Action Plan (P 438)
38. Mainstream risk reduction and climate change adaptation principles (with sustainability) within all development programmes, plans and policies [P 631] Inclusion of DRR and CCA issues in the training curriculum for local government, public representative officials, Bangladesh Ansar & VDP, religious leaders, scouts, etc. [P 633]
39. Develop risk assessment and CCA inclusion guideline and promote DRR and CCA inclusion in district level and below development planning processes [P 633]

40. Undertaking Research and development for innovation of environment friendly sustainable technology for the economically constrained communities. [P.594]

Mid-term implementation review of the 7th FYP

From assessing the mid-term implementation review of the 7th FYP

1. Suggestions and objectives of implementation of projects suggested by the CCAFS future scenario team and consecutively by the SA Regional Coordinator are evident in this document.
2. However, the targets to reach these many of these objectives and strategies are significantly much more diverse than past five year plans and therefore need a systemic and nexus approach that is multi sectoral, multilevel, and multi-stakeholder based. These ambitions are also long-term in nature and will require continuous effort, even after the five year plan period, which is why implementation has not been completed.
3. Since the MoEFCC is the lead ministry managing objectives like adaptation, mitigation of climate change, conservation, sustainable management of food resources, pollution and biodiversity conservation - there is an urgent necessity for better collaboration with them in order to ensure proper implementation of suggested activities in the 7th FYP
4. The MoEFCC selected the following priority areas/programmes in the Medium Term Budget Framework (MTBF) of 2017 – 18 in line with the medium term strategic objectives and found that all projects are climate change relevant e.g. tackling the risks arising from climate change and climate resilient ecosystems and livelihoods (CREL) project.

Key findings from national key informant/expert interviews and discussions

Enhanced science-policy engagement approach sustained through project collaboration for longer term in-country engagement

Policy support was initiated during the inception of the 7th FYP, with a participatory scenarios workshop to test the feasibility of the 7th FYP and explore ideas to make the plan more robust, flexible and concrete. The SA regional coordinator has been working with the GoB since 2014, while this started wholly on CCAFS funding, collaborative work with the GoB could be further continued to bring in other relevant ministries. This was achieved by engagement of the SA regional coordinator and CCAFS collaboration with two other projects: the Zero Hunger, Zero Emissions (ZHZE) project led by the University of Oxford and the Re-Imagining Anticipatory Governance Project (Re-Imagine) led by Utrecht University in collaboration with ICCCAD, Independent University Bangladesh with the SA Coordinator driving work towards a resilient and greener transformative future. Taking cognizance of the fact that engaging in existing processes can be more efficient than “re-inventing the wheel” every time in important (Dinesh et al, 2018), having a clear vision behind the reasons of providing evidence, capacity building and training, and how it can be achieved or continued through available processes/projects was essential. The strategy of making provisions of engagement for the CCAFS South Asia Regional Coordinator in Bangladesh for prolonged periods of time helped to influence the direction of mainstreaming CCA into the 7th FYP and then consequently led to much greater attention to capacity building for integration of climate change concerns into the curriculum of the GED, Planning Commission. Key informant interviews and discussions with the wider Planning Commission team revealed many additional complexities and lessons learned during this period.

Continuous engagement process

It is of utmost importance to cultivate relationships and trust on a personal level, both with government and research partners, in support of behavioral and institutional change. The SA regional coordinator had long standing contacts in the country of engagement, however, continual engagement with the GED, Planning Commission since the inception of the work,

through facilitation and full integration into the plan, and thereafter— in all aspects of the information generation, interpretation, and action was immensely helpful. The work is only effective with strong relationship and trust building with the department or division and strategy development with strategic partners, leading to new projects, changes in policies and practices, and eventually, institutional change. It is only with all these fundamental changes occurring that true transformational shift climate change adaptation, sustainable food systems and enhanced food security will happen (Thornton et al. 2018; CCAFS 2016).

These include the importance of participatory and demand-driven research processes with strategic partners; building scientific credibility while adopting an opportunistic and flexible approach to generating evidence that is relevant, salient and legitimate; and innovative and targeted communication efforts and inclusive capacity building efforts (Dinesh et al. 2018). CGIAR being a well-recognized global research partnership working on food security, climate change and agriculture and the credentials of the University of Oxford were important factors in getting the credibility to inform and support the national policy of the GoB. However, shifting government priorities and policies towards those supportive of more sustainable food systems takes time. The CCAFS SA regional coordinator was able to conduct inclusive multi-stakeholder processes that supported capacity building, training and co-development by public and private sector actors of strategies, action plans and policies (Kristjanson, 2020). Critically important here was finding donors, academic, civil society and local partners who would support a project with a strong, transdisciplinary research component and an equally strong linking-knowledge-with-action component.

Local partner

It is of utmost importance to select a local partner institution that has previous experience of working with the government, an institution that is open to new methods and keen to learn; where the leadership position is well respected in the government. It is important to engage the relevant local stakeholders in the processes to ensure sufficient buy-in. The local partner for all through projects in Bangladesh that allowed for continuous engagement with the GoB was the International Centre for Climate Change and Development (ICCCAD) based at the Independent University, Bangladesh. Previous studies have show that in addition to credibility of research products, the credibility of research institutes, researchers themselves, and processes are important factors (Dinesh et al, 2018).

ICCCAD's primary modality of working is by developing long-term relationships and partnerships with the government officials and departments. It works on not just enhancing knowledge but aims to continuously increase the capacity to use the knowledge. As described by the Director of ICCCAD, 'one of the features of this process is that it is very difficult to attribute what contribution we have made through continuous engagement through our projects, if someone you have trained goes on to do something using that knowledge, you cannot claim the credit to yourself only. We were able to use three projects to continue to build on this longer-term relationship with the GED, Planning Commission and this was because of how open CCAFS was, we are still continuing to work on institutional changes we could impact, or how we could integrate further inputs into the next plan (FYP)'. Co-learning in policy engagement and implementation was apparent during the participatory processes with next users, it was an important strategy to put research into use. Having tacit knowledge about the different stakeholders, including influence, motivation and limitations of the key actors as well as having strategies for tackling power and influence including stakeholder mapping, working with champions in target institutions, and combining bottom-up and top-down approaches ensured that we were able to have the desired impact of policy. Identifying leverage points within the government and using tailored approaches for the different stakeholders was also useful (Dinesh et al, 2018).

Linking work at different levels

The SA regional coordinator faced the challenge of making their research support and findings used at national being make available and impacting the regional and local levels. The 7th FYP has definitely informed the activities planned for implementation of the SDGs through projects of the various ministries, the mid term review also shows uptake of CCAFS recommendations and projects. However, the trickle down effects of the 7th FYP into other sectoral plans *has been difficult to assess*, it while it informs the sectoral plans and strategies, the project uptake and ADP, for more effective impact from the national policy to be made on the regional/local plans required further detailed coordination between the sectors planned in the FYP and ministries. One problem is how the sectors planned for in the FYP are not aligned with the Ministries and the ADP. A clear understanding of relevant national and sub-national government priorities/needs, and discourse around climate change, adaptation and developmental goals of Bangladesh helped the SA Coordinator.

Infiltration of future methods

It was found that the main challenges faced by the participants when using foresight methods were loss of institutional memory, loss of institutional capacity through transfer of key resource persons, access and knowledge for scientific credibility and the time needed for the processing and analysis of data. Even though many different groups have previously tried to mainstream the use of foresight methods for policy and planning at the GED, Planning Commission the challenges identified above have caused a significant gap in the availability of key government officials/planners trained on the method. There was confusion among the participants due to the different socio-economic, land use and global general equilibrium models and scenarios being developed and used by various external partners during targeted short periods rather than being mainstreamed as a long-term process. The unavailability of downscaled country level models and data was also identified as a large gap in country level planning and identification of long-term regional climate change impacts – through there is effort to change this now.

However, as mentioned by a government official who was heavily involved in the CCAFS future scenarios process, the continued long-term exposure to the methods allowed infiltration of future methods in the policy making process and for the successful mainstreaming of the use of future scenarios methods to plan for climate change adaptation in Bangladesh. The CCAFS Future Scenarios Project in partnership with the International Centre initiated the use of participatory future scenarios methods for Climate Change and Development (ICCCAD) during the formulation of the 7th FYP. Since then various other external partners including the Ecosystem Services for Poverty Alleviation (ESPA) Deltas Project and the Bangladesh Delta Plan's (BDP) have also extensively used future scenario methods for policy making at the Planning Commission. While the scenarios were formulated to help policymakers make informed decisions on issues of allocation and access by constructing plausible futures with differing socioeconomic and climatic outcomes, the parallel processes created some confusion for the stakeholders while also functioning separately in the policy sphere.

The CCAFS Scenario were used for a medium-term plan, the short-term nature of the process was both helpful and difficult. It was useful because the process could be followed through till the end, ensuring all the outputs and recommendations are integrated into the

7th FYP, however the medium term nature of the project meant that ensuring further integration of the future methods and process into the standard policy making approach was difficult.

The BDP Scenarios were developed for the long-term integrated techno-economic mega plan that aimed to integrate all delta-related sector plans and policies into the 2100 delta plan (BDP). The BDP benefitted from a more longer term development process along with a large allocation of funding availability from the Government of Netherlands; the scenarios created were to be treated as a living document and ideally used for 5 year periods in alignment with the Five Year Plans. Whereas, the ESPA Deltas Scenarios provided policy makers from the GED with evidence of possible development trajectories within the coastal delta plain without targetting any specific policy, making it difficult to assess its impact on any particular policy. The GoB and UNDP, Bangladesh are now formulating the National Adaptation Plan where both government and a range of non-governmental national stakeholder groups will need to be engaged. There are plans to use future scenarios to formulate the plan where the long-term experience of using future scenarios methods at the GED with a range of other government stakeholders will help GoB enhance the process.

Most external stakeholders conducted these processes without much **consistency between policy impacts and capacity building** but that was seen to be changing in Bangladesh, as donors needed to make substantial policy impacts. The process of formulating scenarios is rather complex and difficult to understand but it can be a key tool in the face of fast and slow onset climatic and socio-economic challenges that Bangladesh will be facing in the coming decades. There is a need for the development of training materials and workshops to strengthen in-country government and non-government partner capacity in applying decision support tools in targeting, priority setting, policy/investment decision making capacities and articulating national priorities in global forums. National planners need to be supported in utilising CCAFS information in policy decisions and investment plans through more extensive in-country collaboration with government, non-government, civil society, academic and private sector partners through science-policy platforms and processes. Science-policy exchange processes, stakeholder and learning alliances need to be maintained to create conditions for open policy dialogue. Going forward it was identified that both foresight experts and policymakers need to involve national universities, researchers and

non-government stakeholders and increase training and capacity building opportunities for them as a whole in order for such processes to be allowed to grow nationally without external inputs, expertise or resources. This would allow them to make an active contribution to the participatory policy processes, influence development and adaptation policy and make policies more inclusive.

Duplication and lack of coordination between external efforts to influence the same government outfit or policy is an important issue that needs to be addressed. Line ministries who would be implementing the identified changes are often left out when donors/research organisations are only keen to have an impact on the broader national economic development policy processes and often do not think about further implementable actions or how to assess if their support at the policy level has had any significant measurable impact. The General Economics Division (GED), Planning Commission receives multiple offers for training and capacity building from a range of research institutes/universities, there is often duplication of efforts from external partners which does not help given government officials are short of time to give to such capacity building and training events anyways. Where as sectoral ministries such as the Ministry of Agriculture or the Ministry of Environment, Forests and Climate Change, who are responsible for formulating sector specific policies and implementing the relevant projects have often been left out of these future scenarios workshops, training and capacity building. While backed by good intention, much of the capacity building initiatives are scattered, not integrated into internal practices or long running. Long-term retention of staff in government service is not possible at the same ministry either, which adds to the knowledge retention issue.

Institutional memory loss was identified as one of the main issues with government stakeholder capacity building. Even when government stakeholders were trained in these anticipatory practices, when they were transferred to different ministries, roles or countries the capacity and knowledge built was lost as brain drain. It was identified that the trained government stakeholders needed to ensure capacity building and training of their junior colleagues. Often times, the processes are run on external funding and with inputs from external experts, it was identified that the government organisations needed to ensure their own personnel and allocate funds to ensure such capacity building is not dependent on external experts. If regular follow-ups were provided these kinds of events would be more

effective in furthering thinking about mainstreaming climate change. Support and capacity building for technical knowledge within the government ministries is very scattered and sporadic, again this needs to be strategic and long-term in nature.

In the case of Bangladesh, even though the General Economics Division (GED) is quite proactive and supportive of allowing their officials to allocate time in engaging with external experts to build technical knowledge, there is still a large gap with knowledge partners/universities/projects interested to build capacity. There is very little ownership of the many capacity building and training events conducted by both national and international universities and research institutes, long term partnerships need to be curated where the government ministry would take ownership and responsibility. Direct usefulness of such programs are often missing, it is difficult to use information in a properly integrated way, and monitor the usefulness of such sharing of information would allow for a greater understanding of what is more efficient and effective. Many policy formulation functions are carried out by external consultants or international researchers and not by in-house staff members, this has also led to a oversight of increasing staff capacity to formulate and finalise national plans, policies and strategies on their own.

Sometimes short-term investments in capacity building and training lead to big impacts as in the case of CCAFS support to the 7th FYP; sometimes even big investments fail to mainstream climate change in the development process. Foreign training on scenario methods and adaptive delta management of 27 officers was ensured during the formulation of the Delta Plan. While many scenarios planning workshops were conducted during the Plan and there was an investment of \$2 million only for scenario building exercises. The strategy was created based on the scenarios but in the final text of the Delta Plan the participating officials were not able to integrate any of the socio-economic and climate scenario outputs as it was difficult to these accepted the top level economists and advisors at the Planning Commission. Despite having invested quite a lot of time and funding, in the final text of the Delta Plan there was no mention of scenarios created by the stakeholders. After much persuasion the project staff were able to include the scenarios in the annex of the Delta Plan. This explains the difficult of mainstreaming new ideas and methods in bureaucratic policy making. However, progress on integration of new ideas and ideology is long-term in nature and through the various capacity building and training workshops conducted by the

multiple research partners, the benefits and knowledge of using participatory future scenarios methods for adaptation are slowly being understood.

Scarcity of data for quantitative measurement of performance: There is a **lack of adequate long-term national level data and models** in Bangladesh. It is not enough to introduce a concept; the pre-requisites for the concept need to be integrated into the system as well. Mainstreaming a concept into a system is a long-term process, there is a necessity to understand how the government system works and also assess the available resources for the process.

Unless a **link with the funding allocation/investment system** can be ensured, the scenarios will remain to be only an academic document. Successfully integrating the scenarios into the text of the plan will not be effective unless it can be translated into implementable actions via the financial allocation system, otherwise it will not have any impact at the ground level.

Capacity building for the junior to mid level, to top level through policy simulation approaches are necessary, there is a need for both technical skills building and top policy level knowledge and capacity building in order to bring new methods of thinking in policy making. These changes are only possible through investments and training at multiple levels. Mass scale capacity building and engagement is necessary to integrate scenarios thinking into the government's planning process. Engagement for capacity building needs to be regular and not sporadic, technical institutes within the government are better at uptake of new concepts than non-technical institutes and staff. For eg. building the capacity of government run and owned research institutes such as CEGIS and IWM in Bangladesh have been very effective. The GED needs a lot of technical knowledge, if there were a knowledge institute they were affiliated with they would not go to external institutions, GED needs to have its own knowledge institution for technical support. They will then become self sustainable and will not need external funding, if their capacity is built and they can make their own money by doing consultancies. Otherwise the technical expertise necessary for national economic development policies will continue to remain to be consultancy based that is never mainstreamed, and capacity of the institution will never be built.

Establishing climate change dimensions in the Annual Development Programme (ADP) and the Medium Term Budget Framework (MTBF) is necessary in order to fully mainstream

climate change into the development agenda of the country. Environmental, climate change and disaster risk reduction considerations need to be integrated into the project design, budgetary allocations and implementation process. Better, more streamlined climate finance, using Bangladesh's country systems in managing public finances would be useful. The Finance Division needs to implement these changes in close partnership with the Ministry of Planning, the Ministry of Environment and Forest, and other relevant ministries. Along with mainstreaming CCA into high level policy, improved within and between stakeholder collaboration on information exchange, coordination of information, improved decision making as well as appropriate staff training and capacity building are also necessary.

Working relationships and coordination between the national, regional and local governments also need to be improved. Improved relationships and coordination must build on the fact that effective adaptation requires local engagement and decision-making. An important part of the adaptation development process is prioritizing risks for future adaptation analysis as well as priority adaptation actions for which high quality and long-term data is necessary. There is also a need for better monitoring and evaluation of implemented actions. A framework that clearly articulates the roles and responsibilities for agencies for adaptation tasks with timeframes, clear monitoring, evaluation and reporting.

There is a **lack of a clear and comprehensive research agenda** for integration of climate adaptation into sectoral development plans. There is inadequate comprehensive recognition of climate change adaptation and integration of issues and actions across key climate sensitive portfolios. Limited vertical integration and co-ordination, ineffective implementation and identification of mainstreaming opportunities and lack of clear leadership from the Ministry of Environment, Forests and Climate Change (MoEFCC) has led to delays in mainstreaming the climate change agenda as a whole of government approach.

Implications of long-term policy support and impact on the ground in Bangladesh

The CCAFS South Asia Scenarios coordinator also worked with the WUR Modelling Team to inform policy and preparation for the SDGs in Bangladesh. By taking a food systems

approach CCAFS will support the Planning Commission, Ministry of Planning in bringing together Ministries working on Agriculture, Food, Energy, etc. to take a more holistic view of the benefits and overlaps in the work they are currently doing and identify what else needs to be done in order to achieve the Sustainable Development Goals.

The SA coordinator worked on the Zero Hunger, Zero Emissions Project (ZHZE) at the ECI in collaboration with CCAFS, which aimed to pioneer methods to help decision-makers, and stakeholders from a broad range of civil society and the food industry, to identify ways in which Bangladesh can achieve both the Sustainable Development Goal of zero hunger and the goal of a low carbon economy as envisaged by the Paris Agreement on climate change. The aim was to bring together the work done for both the CCAFS Future Scenarios and the ZHZE projects, the team used the findings from the first scenarios workshop of the ZHZE project to run through the MAGNET Model which is a general equilibrium model of the global economy that describes the development of prices, production and trade at an individual country level. The findings from the modelling were then integrated into the national discussion on SDGs through a second scenarios workshop which was run by the ZHZE project in collaboration with the SA regional Coordinator and which aimed to bring together the Sustainable Development Goals (SDG) by working with the Planning Commission, the Ministry of Agriculture, the Ministry of Energy and Mineral Resources and the Ministry of Environment and Forests.

Enhancing science-policy engagement approaches matter. Key informant interviews and discussions with project team leaders revealed many additional complexities and lessons learned regarding the investment outcome pathways conceptualized early on in CCAFS (Kristjanson, 2020). Assessment of the potential impact of the continued policy-making, training and capacity building support to the 7th FYP and the consecutive in-person collaboration between the South Asia Regional Coordinator and the Planning Commission shows that collaborative national researcher – international facilitator teams successfully integrated local knowledge and scientific expertise. This model focused on the creation of hybrid scientific–local knowledge highly relevant to community and policy maker needs (Reid et al, 2009). The “continual engagement” model better integrates knowledge from policy makers, communities, and researchers with the goal of promoting more effective action (Reid et al, 2009). The model involved the creation of core boundary-spanning team,

including community facilitators, a policy facilitator, and trans-disciplinary researchers, responsible for linking with a wide range of actors from national to local scales.

The policy coordinator's role was to work directly with decision makers at various divisions within the ministries. With policy makers, the team focused on upcoming policy issues and paid close attention to the incentives and power structures within the Planning Commission. The CCAFS fully supported communication, facilitation, and other outreach activities normally neglected in research grants; there is no question that continual engagement, produces science that is relevant to community and policy maker needs (Reid et al, 2009).

Efficiency of forging a long-term collaboration and directly supporting developing country governments by providing them with new methods, knowledge and capacity building training for planning.

The CCAFS scenarios team first developed South Asia regional scenarios with diverse stakeholders, quantified these using the International Food Policy Research Institute (IFPRI)'s International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT) and the International Institute for Applied Systems Analysis (IIASA)'s Global Biosphere Management Model (GLOBIOM) where the stakeholder-driven socio-economic scenarios were combined with climate scenarios and multiple climate model outputs. By combining socio-economic and climate scenarios, the CCAFS scenarios process allows decision-makers to understand how different socio-economic conditions affect the adaptive capacity of vulnerable actors under conditions of climate change.

They then worked closely with the government of Bangladesh to support the formulation of the 7th Five Year Plan, creating downscaled and policy-specific socio-economic scenarios with national stakeholders and analyzing the drafts plan from the perspective of each scenario. This was the first time future scenario methods were used during the formulation of the most significant national economic development plan in Bangladesh headed by the General Economics Division (GED), Planning Commission. The Planning Commission, which is the highest policy making body, is in charge of undertaking the state development policy initiatives for all the Ministries. The Planning Commission (PC) is best placed to mainstream adaptation and mitigation into the state's development plans, which is one more reason why building up a partnership with the PC is so effective, essential and timely.

Recommendations from the participatory future scenarios workshop and further long-term evidence-based support provided by the SA Regional Coordinator were integrated to create a more robust plan. The principal focus on policy development means that the outcome contributes to strengthening the policies and institutions; because it focuses both on climate change policies and plans, and on enhancing climate resilience in mainstream agricultural and socio-economic development policies it contributes to an enabling environment for climate resilience and improved livelihoods and food security. Since, the scenario-guided policy processes open planning up to a larger diversity of stakeholders, the outcome also contributes to the mainstreaming equitable gender considerations. The overall effectiveness of the work is described in more detail in the sections above, but the continued engagement that CCAFS has been able to sustain has been very effective. The assumption that future scenarios thinking and methods could be through a few workshops was ineffective. It took a lengthy engagement, with the same division and program to ensure the methods can be understood and used in the future.

The CCAFS Future Scenarios Team and partners have achieved, through different forms of engagement, various inputs into national policy and policy-making methods.

Working with the University of Oxford and WUR, the Sa regional coordinator was able to bring together stakeholders from the food and agriculture sectors, and climate change and energy sectors to engage in dialogue about the trade-offs and co-benefits of the two SDG goals of zero hunger and zero emissions in Bangladesh. Using **MAGNET**, a leading global economy-wide model used for **global projections** on agriculture and climate, the scenario narratives were quantified and used to inform the relevant ministries. Working in collaboration with the Re-Imagining Anticipatory Governance Project (Re-Imagine) at Utrecht University, the SA Regional Coordinator analysed recent anticipatory practices and their links to policy processes. This went on to inform further thinking and practice regarding the introduction of effective anticipatory governances in policy making in Bangladesh.

All the while, the SA regional coordinator used the funding and resources from the various projects to work with, build capacity and train the essential group of policy makers involved in making key national policies in Bangladesh.

Effectiveness of the CCAFS theory of change and its strategy of scaling climate resilience (resilient food systems, agricultural and development practices) through continued policy support and its engagement strategy

CCAFS adopted a theory of change approach to achieve development outcomes and science-policy engagement efforts are at the heart of this approach (Dinesh et al, 2018). The CCAFS program theory has been evaluated on science-policy engagement in relation to actual case studies of science-policy engagement leading to development outcomes, and based on the results a revised improved program theory to enhance credibility, salience and legitimacy has been proposed by Dinesh et al, (2018). In response to the climate change challenges faced by the agricultural sector, CCAFS adopted a Theory of Change (TOC) approach which is grounded in the achievement of development outcomes through the provision of incentives, greater flexibility, encouraging learning and improving effectiveness of its researchers.

The work done with the Planning Commission in Bangladesh to inform the 7th FYP clearly shows the effectiveness of the CCAFS TOC. The CCAFS TOC provides researchers with a pragmatic approach to realize development outcomes, and emphasizes on the production of demand-driven research, effective engagement in policy processes, building scientific credibility, strategic communications and capacity building – the CCAFS SA Regional Coordinator was given agency to decide on who, how and when to engage with – which made the process more effective. It takes cognizance of the political nature of policy processes and call for tackling power and influence, and for mainstreaming higher-level goals such as food security and poverty alleviation in science-policy engagement efforts; co-learning with policy-makers and internal learning by researchers, are also highlighted. (Dinesh et al, 2018). Engaging early on and with effective and influential partners was also important in making the process a success. While building in-country scientific credibility is highlighted in the TOC, there is often very limited time to engage in the processes, while simultaneously developing downscaled and not regional scientifically credible evidence. CCAFS leverage points of navigating and highlighting toward higher-level goals such as climate change adaptation and food security for the longer term, engaging through multi-stakeholder processes, and linking them with present day issues and concerns of policy-makers makes the impact process more effective (Dinesh et al, 2018).

References

- CAS Secretariat (CGIAR Advisory Services Shared Secretariat). (2020). CGIAR Research Program 2020 Reviews: Climate Change, Agriculture and Food Security. Rome: CAS Secretariat Evaluation Function. <https://cas.cgiar.org/>
- Chevallier, R., Benkenstein, A., Chesterman, S., Thornton, P., and Neely C. (2020). *Applying Foresight For Enhanced Climate Resilience and Agriculture Policy Development in the SADC Region*. Policy Briefing, SADC Futures
- Dinesh, D and Aggarwal, P and Khatri-Chhetri, A and Rodríguez, A M L and Mungai, C and Sebastian, L and Zougmore, R B (2017) *The rise in Climate-Smart Agriculture strategies, policies, partnerships and investments across the globe*. Agriculture for Development (30). pp. 4-9. ISSN 1759-0604
- Dinesh, D., Zougmore, R. B., Vervoort, J., Totin, E., Thornton, P. K., Solomon, D., Shirsath, P. B., Pede, V. O., Lopez Noriega, I., Läderach, P., Körner, J., Hegger, D., Girvetz, E. H., Friis, A. E., Driessen, P. P. J., & Campbell, B. M. (2018). Facilitating change for climate-smart agriculture through science-policy engagement. *Sustainability (Switzerland)*, 10(8), [2018]. <https://doi.org/10.3390/su10082616>
- Finance Division, Ministry of Finance (MoF), (2014). Bangladesh Climate Fiscal Framework, Dhaka.
- Finance Division, MoF. (2020). *Climate financing for sustainable development. Budget Report 2020 – 2021*.
- GED, (2019). Mid-term implementation review of the 7th Five Year Plan (FY2016 – FY2020). General Economics Division (GED), Bangladesh Planning Commission. Ministry of Planning, Government of the People's Republic of Bangladesh.
- Kristjanson P. 2020. CCAFS Investment-Oriented Outcome Pathways: Lessons and New Directions. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
- MoEF, (2017). Bangladesh Country Investment Plan (CIP) for Environment, Forestry and Climate Change (EFCC), (2016 – 2021)
- Reida, R. S., Nkedianye, D., Saida, M. Y., Kaeloa, D., Nesellea, M., Makuia, O., Onetua, L., Kiruswad, S., Ole Kamuaroa, N., Kristjansona, P., Ogutua, J., BurnSilverh, S. B., Goldmani, M. J., Boonec, R. B., Galvinc, K. A., Dicksonj, N. M., and W. C. Clarkj, (2009). *Evolution of models to support community and policy action with science: Balancing pastoral livelihoods and wildlife conservation in savannas of East Africa*. PNAS.

Vervoort, Joost M. et al. 2014. 'Challenges to Scenario-Guided Adaptive Action on Food Security under Climate Change'. *Global Environmental Change* 28: 383–94.



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