

APPRAISING CLIMATE CHANGE IMPACT MITIGATION STANDARDS TO GROUND REALITIES: THE LESSONS FROM BANGLADESH CLIMATE CHANGE TRUST FUNDED PROJECTS

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ABSTRACT

Increase in disaster risk has been a recurrent phenomenon throughout the world. Unique physiographic feature, location and different socio economic factors have made Bangladesh extremely prone to climate change and consequent diversified natural hazards. It is a matter of regret that till now our country is not fully resilient in the struggle with reducing the disastrous effects of climate change. The Government of Bangladesh has undertaken Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2009, which incorporates six pillars concepts for mitigating the impacts of climate change. The Government has also established the Bangladesh Climate Change Trust Fund (BCCTF) based on revenue from the national budget to ensure the implementation of these six pillars. BCCTF funded projects are distributed among different government organizations like Local Government Engineering Department (LGED), Department of Relief and Rehabilitation, Bangladesh Water Development Board, SPARSO and many others. About 236 projects have been allotted by the fund of BCCTF till 2014. This particular study focuses on investigating the available BCCTF (Bangladesh Climate Change Trust Fund) projects for climate change effect mitigation on the basis of the six pillars of BCCSAP, 2009. Among 236 projects of BCCTF till 2014, 151 available projects have been analyzed depending on their objectives and addressing themes. As a key finding, this study revealed that the collected projects predominantly focused on the infrastructure development that is the third pillar of BCCSAP, 2009 while ignoring the others one.

Keywords: Climate Change, Natural Hazard, Bangladesh Climate Change Strategy and Action Plan (BCCSAP), Bangladesh Climate Change Trust Fund (BCCTF), Six Pillars.

1. Introduction

Climate change has already begun to transform life on Earth from the very beginning. Around the globe, seasonal changes, rising temperatures and sea levels all are the impacts of climate change. According to a study of Stern in 2007, Bangladesh is one of the earliest and hardest affected countries due to climate change. The IPCC has identified Bangladesh, a land of low lying alluvial plain, as one of the most vulnerable least developed countries (Ahmed, 2012). To eliminate poverty and prioritizing disaster risk reduction, adaption and mitigation approaches, a climate change strategy and action plan has introduced in Bangladesh in 2009. BCCSAP states that an integrated approach is necessary and the only way to gain sustainability is where economic and social development is perused to the exclusion of disaster management (Wikipedia, 2015). This action plan states six main themes or pillars on which the climate change mitigation strategy of Bangladesh will have to be established (MoEF, 2009). Besides having long term effort as the plans, a more concentrated short-term plan is also needed. So, Bangladesh has established the Bangladesh Climate Change Trust Fund (BCCTF) under the Ministry of Environment and Forest and the Bangladesh Climate Change Resilience Fund (BCCRF) which are allocating \$200 million and cumulating around further \$114 million respectively in disaster resilient infrastructure development (Wikipedia, 2015).

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Scientists of Bangladesh are playing a key role in the international science of adaptation and now loss and damage in particular. However, although a great deal of research in this arena has already come into light in Bangladesh, very little of it is of international quality. Hence, there is an urgent need to improve the quality of the research in Bangladesh to be an important part of the global scientific community for combating climate change impacts and preparing action plans for formulating effective implementation strategies (The Daily Star, 2014). Under this circumstances, this particular study aims at contributing to the climatic adaptation and impact mitigation research along with the motive to investigate the gap between the standards and ground realities to combat climate induced disasters in Bangladesh. Thereby this article focuses on assessing the available projects of BCCTF including their objective and implementation process whether the projects are compatible with the six pillars of BCCSAP, 2009. Moreover, it will create a platform for policymakers to host ingenious footsteps towards the climate change impact mitigation and adaptation.

2. Research Framework

This study is primarily based on the secondary database on 151 BCCTF projects collected from different organizations like LGED, BWDB, DoE, BIWTA, SPARSO, Bangladesh Meteorological planning department, Department of Relief and Rehabilitation etc. The collected information of the projects includes: Name and Objectives of the projects; Implementing Body; Timeline and budget allotted for the project, and addressing pillar or theme of BCCSAP. All these projects have been analyzed mainly based on their objectives and addressing themes. The BCCSAP of 2009 has been critically reviewed to understand the strategies which have been stated to control the climate change effects in Bangladesh. Moreover, the six pillars on which the climate change action plan of Bangladesh is based on and which are also the basis of climate change mitigation projects in Bangladesh are also analyzed. Finally, BCCTF projects on climate change have been investigated on the basis of the six pillars of BCCSAP, 2009 to assess their compatibility with the action plan.

3. Projects of BCCTF on Climate Change Impact Mitigation

The climate change action plan comprises immediate, short medium and long term programs. There are 44 programs under these 6 pillars to address the issues of climate change mitigation. The Climate Trust Fund has been established under the Climate Change Trust Act 2010. The main objectives of this trust fund are: addressing most vulnerable communities, people living in Coastal Areas, farming Communities, researchers and above all those who are fighting with cyclone, flood and drought for their survival. This fund ensures funding source from revenue budget of the Government to fulfill certain targets namely: to develop adaptive capacity of vulnerable communities exposed to climate change impacts by improving their livelihoods and minimizing risks; to address climate change adaptation and mitigation through technology development, biodiversity and environment; and respond to climate change induced post disaster emergency activities (Shakila, 2013). The allocation of fund of the climate change trust fund is based on the six thematic areas of BCCSAP, 2009. The total allocated budget is USD 95.38 million (Khan, 2011).

4. Assessment of the BCCTF Projects on the Basis of Six Pillars of BCCSAP

4.1 Pillar 1: Food Security, Social Protection and Health

Among the 151 collected projects of BCCTF, only twenty-three projects address the first pillar ‘Food Security, Social Protection and Health’. The implementation body of most of these projects is ‘Bangladesh Water Development Board (BWDB)’. All of these projects have already been implemented within 2016. These projects of BCCTF dealing with the first pillar of BCCSAP have multi objectives include: Improving Irrigation system, improving cropping pattern, increase in crop production, improvement of agricultural work, ensuring food security etc. These projects aimed not only at ensuring food security but also emphasized on the physical infrastructure developments for ensuring food security and social protection. Besides, one of the main focuses of these projects is to protect the cultivable land from disasters so that food security as well as public health can be maintained.

4.2 Pillar 2: Comprehensive Disaster Management

This pillar of BCCSAP is to strengthen the government's capacity and that of civil society partners and communities to manage a natural disaster. Moreover, community based adaptation programs enhancement and implementation in each of the disaster prone parts of the country are one of the major tasks under this theme. Enabling the early warning systems for the cyclone, storm surge and flood for establishing more accurate short, medium and long-term forecasts is another focus of this pillar of BCCSAP. As disaster management for Bangladesh is a crucial issue, among 151 projects, fourteen projects are focusing on this matter. In case of ensuring comprehensive disaster management, the objectives of these projects are well formed. These include: to protect the life and property from flooding, to build climate resistant houses for the landless, poor and cyclone affected people; to protect the areas from the impacts of climate change, to reduce the impact of flood and tidal surge, to reduce the effect of flood and water logging etc. From the point of view of ensuring the second pillar, the five projects are well focused on the main errands of this pillar. But the number of projects is very less. As Bangladesh is a disaster prone country, the projects related to disaster management should be much more both in number and effectiveness. Another weakness of these projects is that there are no objectives related to community based disaster management which is one of the main tasks of the theme "Comprehensive Disaster Management".

4.3 Pillar 3: Infrastructure

The BCCSAP elaborates the third pillar including well maintenance, repair and rehabilitation of existing infrastructures (e.g. Embankments) planning, designing and constructing urgently needed for new infrastructures (cyclone shelter, coastal and river bank embankments etc.) to meet the challenging condition of climate change. Among the collected projects of BCCTF, seventy projects address the third pillar. Most of the projects of BCCTF focuses on this pillar. The primary objectives of these projects include: to protect the road cum embankment, enhance climate resilience of coastal infrastructure, to connect routes of different project areas, efficient water management, to improve the transportation, to create a green belt, by re-excavation of river/khal- to improve the drainage condition of the project and to increase the reservation of water which may be utilized for irrigation purposes, implementation of permanent protection work of the project etc. All the projects ensuring the third pillar have well-defined objectives. Most of these projects have already been implemented. The project objectives fulfilled the tasks and targets which have been stated under the theme "Infrastructure" in BCCSAP. But there is no such strategic planning for future infrastructure development in the objectives which will be needed in the long term for sustainability.

4.4 Pillar 4: Research and Knowledge Management

The most important issue that is addressed in this pillar is to establish a research and knowledge centre for climate change. Among the collected projects of BCCTF, only six projects address the fourth pillar "Research and Knowledge Management". The implementation bodies are Bangladesh Water Development Board (BWDB) and Space Research & Remote Sensing Organization (SPARSO). The objectives of these projects on this theme include: to study and improve the geo-spatial technology, the changes in forestry, fisheries, water resource and agriculture with the help of remote sensing, developing a country wise statistical database, variability, parameter etc., establishment of monitoring network to assess groundwater salinity and surface water-ground water interaction, identification of aquifers where ground water is threatened by salt water intrusion, assessment of salinity distribution in ground water due to rise of sea level etc. As the number of projects under this theme is very less in number, the scope of working on research and knowledge management in Bangladesh is not enough. More projects are needed to be implemented in different areas of Bangladesh to work on research. Moreover, these two projects have also been implemented a number of years ago. So, new projects are needed to propose to estimate the likely scale and timing of climate change.

4.5 Pillar 5: Mitigation and Low Carbon Development

Among the collected projects of BCCTF thirty-five projects address the fifth pillar "Mitigation and Low Carbon Development". The objectives of these projects are diversified and effective. The objectives incorporate: reducing the negative impact of climate change, creating an environment in the coastal areas for stabilizing climate change, saving the lives and properties of coastal people from tidal surge and cyclone,

community awareness and capability building of coastal people for adaptation, creating tourist attraction towards the natural scenic beauty and bio-diversity of Sundarbans, reduction of greenhouse gas (GHG) from the municipal waste etc. Different types of issues for mitigation and low carbon development have been addressed in the projects which declare the fifth pillar. Almost all the projects have been implemented.

4.6 Pillar 6: Capacity Building and Institutional Strengthening

Among the collected projects of BCCTF, only three project address the sixth pillar “Capacity Building and Institutional Strengthening”. The implementation body is the Department of Environment (DoE). The implemented projects of BCCTF on capacity building has some objectives, such as, to emphasize on monitoring of the activities related to the impacts of climate change, to control oceanic pollution, to monitor the intraregional water. Capacity building is very important for the country like Bangladesh in case of climate change mitigation. But the visible interventions in this sector are very few till now. There are no such objectives that denote reviewing policies or regulations which are one of the main tasks of the sixth pillar. The capacity building projects are needed to be increased in number and their objectives should be specific and multi-dimensional that would be able to fulfil the targets of this pillar according to BCCSAP, 2009.

5. Conclusion

With higher population and rapid industrialization, Bangladesh should be on its way to develop a comprehensive methodology to improve its state in face of the impact of climate change as well as to achieve national goals of economic growth and social development. The positive aspect is that there exist well recognized awareness of the climate change problem amongst all stakeholders. Over the last few years, Bangladesh has slowly been able to gain its reputation in the context of climate change from being one of the most vulnerable countries to becoming one of the most adaptive countries. Different projects of Bangladesh Climate change trust fund are the examples that the concern of climate change issue is now a burning one in Bangladesh.

The projects lack adaptation strategies considering migration, alternative job opportunity, livelihood strategies. The Minimum fund has been allocated in this thematic area (2 percent). Most of the projects under this thematic area are related to post disaster response with no emphasis on pre-disaster preparedness and mitigation options. Community based adaptation is not emphasized in any of the projects. Majority of the projects, i.e. 58 percent are undertaken under infrastructure thematic area. Projects related to public awareness, transportation policy, mitigation policy, community based project, etc. are absent. For capacity building and institutional strengthening there is lack of consideration for civil society and the private sector. Now it is high time to re-evaluate the objectives of the projects which have been implemented and going to be implemented in near future. Besides, it is very important that the regular monitoring and the proper application of the implemented projects in different project areas. The missing approaches like qualitative carbon emission measures, research and knowledge activities, mitigation policies, capacity building programs, adaptation program etc. should also be included in the future projects for climatic impact mitigation.

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