

POLICY BRIEF

Climate Change Governance

Combating Climate Change: The Case of Knowledge Management

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The objective of this policy brief is to inform Members of Parliament (MPs) about adverse effects of climate change on the economy of Bangladesh and outline their role in using research-based information in advocating policy changes that would institutionalize, build capacity and raise efficiency in knowledge management system for combating adverse climate change effects.

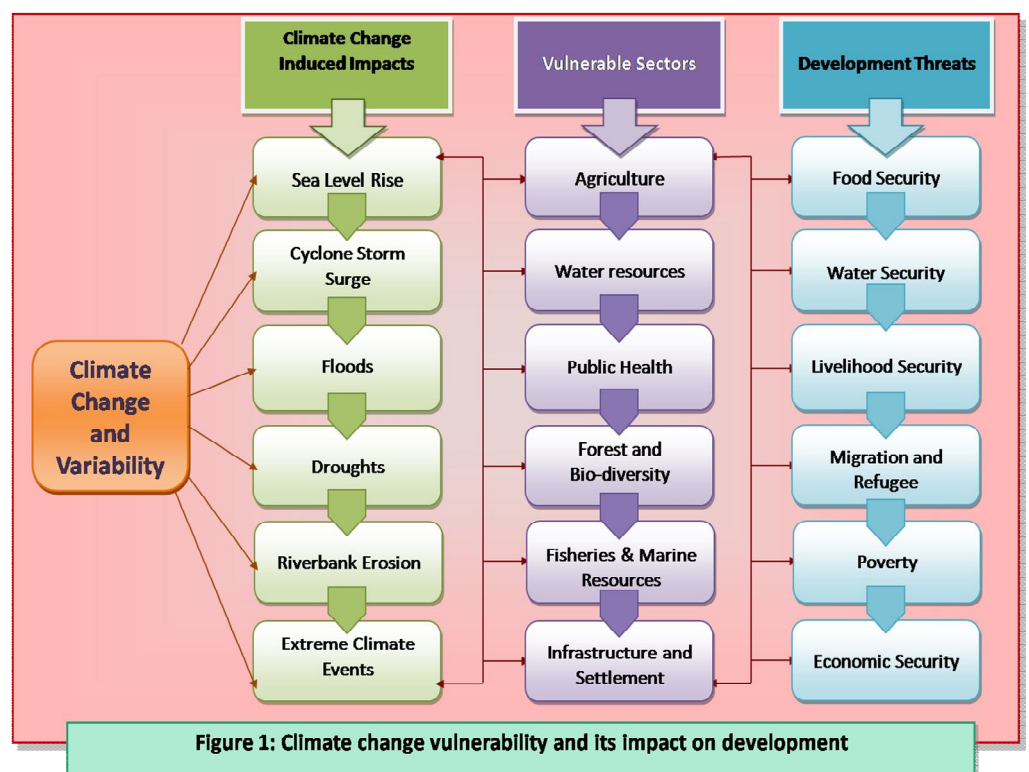
Policy Pointers

- Over the past few years, Bangladesh has generated knowledge and wisdom on climate change for which the country is addressed as climate capital.
- For the optimal use of such hard earned knowledge national web-based platform is much required.
- The Need for Managing knowledge has to be established by MPs and policy makers

CLIMATE CHANGE AND SOCIAL FACTORS

Bangladesh one of the most climate vulnerable countries of the world where the vulnerabilities and impacts are more complex and intertwined than anywhere else. Coupled with the high level of widespread poverty, social tension and increasing population density, limited adaptive capacity, ineffective local governance etc. makes the region one of the most unfavorably affected. Therefore, the need for improvement in the

effectiveness of climate change programs through knowledge management is essential. Bangladeshis are exposed to constant threats of (i) cyclone; (ii) tidal surge and tidal waves; (iii) flood, submergence and water logging; (iv) erratic rainfall, increase in temperature and low rainfall; (v) drought; (vi) foggy winter and (vii) diseases and pest infestations. Figure 1 illustrates the interface between climate variability, impact, vulnerable sectors and development threats.



It points up that climate change and variability would seriously threaten economic development, poverty alleviation, livelihood and the dream of becoming a middle income country by 2021.

CLIMATE CHANGE IMPACTS:

Climate change has damaging impacts on a wide array of sectors like agriculture, water resources, livestock, fishery and poultry, forestry, health and sanitation, infrastructure, and communication on cross-cutting issues like poverty alleviation, bio-diversity, and gender. Climate change factors, i.e. flood, drought, cyclone tidal surges, tidal waves, droughts and foggy winter, cause destruction of standing crops, fish, livestock and poultry, damage to water resource quality and availability, forestry resources, infrastructure like roads and railways, navigation and many others. Over a long-term, climate change is leading to reduction of crop yields, livestock and fisheries reproduction capacity, recharging of ground water. In coastal, high drone prone and flood depth areas, intrusion of salinity, increase in temperature and flash floods make crop growing unsuitable.

DEVELOPMENT OF ADAPTATION STRATEGIES

Faced with extreme weather events, farmers and livestock herders, fishers, water users and people in general have developed adaptation strategies in their respective areas for tackling unfavorable situations (endogenous adaptations). In addition, they have also taken up exogenous adaptation activities developed by external agencies such as research, breeding and scientific of both local and foreign organizations (e.g., BRRI, BARI, BARC, BINA, SRDI, BLRI, DLS, IRRI, ICRISAT, and CYYMIT). Adaptations, both endogenous and exogenous, can be categorized into four groups: (i) new technology adaptations, (ii) natural resource management adaptations, (iii) livelihood sustenance adaptations and (iv) institutional interventions.

STOCKPILE OF LARGE VOLUME OF DATA, INFORMATION AND KNOWLEDGE:

Given the vulnerable geo-physical location of Bangladesh, affected people have been long since practicing adaptations in different agro-ecological zones of Bangladesh. As a result, huge data, information and knowledge on adaptation methods and procedures have been generated. However, these are scattered in different communities, NGOs, Research Organizations, Implementing Agencies, Academic

organizations and so on in different formats. Consequently, this vast array of knowledge is not much of use to other climate vulnerable people as these cannot be retrieved in any user-friendly form for facilitations of adaptations. In fact, knowledge dispersed over many individuals and organizations in both un-written and written forms of leaflets, documents, posters, journals, along with soft-copy formats like word, pdf, PowerPoint, audio, video, animations etc.

NEED FOR A CLIMATE CHANGE KNOWLEDGE MANAGEMENT

The optimum use of such hard earned knowledge requires a common platform of sharing that may be accessible to all segments of people ranging from fishermen, farmers, Researchers, NGOs, Development Partners, Academicians. Moreover it needs to be cost efficient endeavor capable of expansion to include knowledge generated not only from inside the country but also outside must have linkages in multiple dimensions. To ensure accountability and transparency in the system, assigned organization will ensure accuracy, originality and genuineness. Finally the platform must be based on a technology which has acceptance of the vast majority of people. Considering all these parameters, a web-based inter-operative platform appears to be the best solution in present-day Bangladesh. In absence of the suggested climate change knowledge management, there would be:

- Only stockpiled data, information and knowledge on climate change with limited and sub-optimal use.
- Lose of data, information and climate change knowledge from lack of archiving and digitization.
- Limited scientific analysis on climate data due to

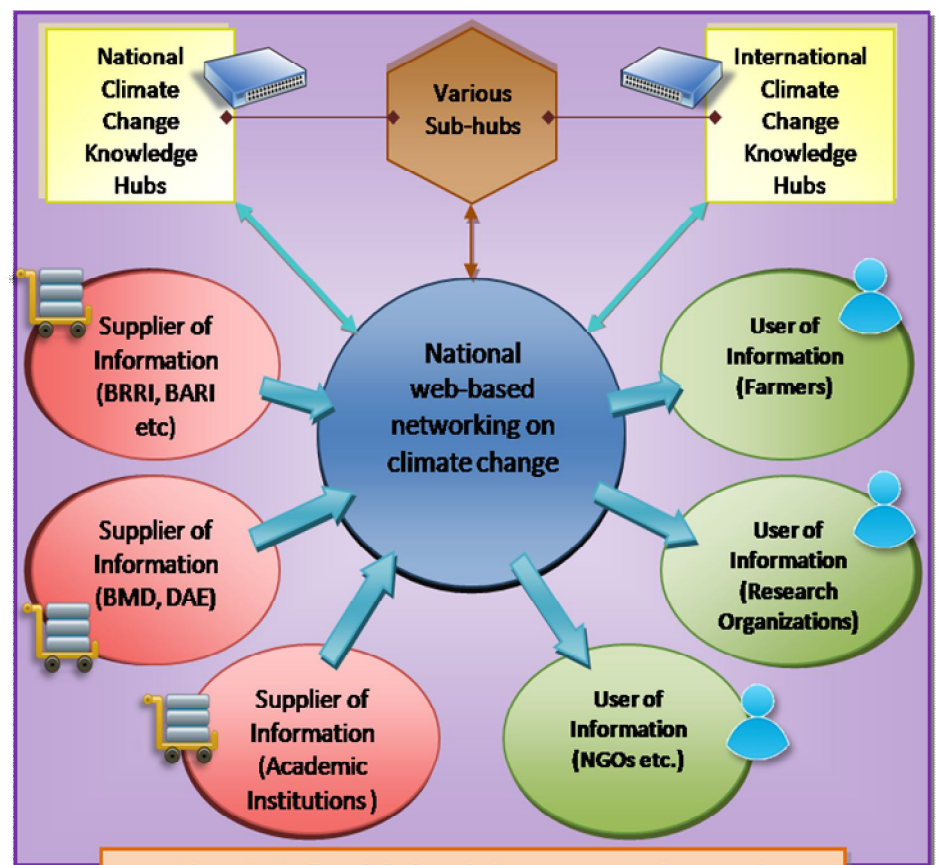


Figure 2: Outline of the knowledge management framework

absence of inter-operative web-portals.

- Difficulty in formulation of holistic climate change policies due to absence of all required information and knowledge.

THE CHARACTERISTICS OF SUGGESTED SYSTEM

Web-based inter-operative will have following features. Figure 2 depicts some of the characteristics of the suggested knowledge management system.

- Easy uploading and downloading of data, information with strong keyword based search installed engine to browse any contents in the site.
- Carrying out analysis of data through inter-operative web portals like meteorological weather forecast data combined with DAE’s cropping pattern data to suggest crop timings.
- Easy linking with web-hubs specializing on climate change related subjects like websites of LGED on local infrastructure; GED on financing and economics; BARC on agriculture, DPHE on health and sanitation; ICCARD on research.
- Dissemination of climate change information and knowledge with combinations of mobile and SMS systems. In the short run, mobile phone is the most prospective media. The use of internet is expanding rapidly and may become a significant media in the medium to long run.
- Designing the web site in both Bangla and English languages.
- Linkage with the National Web-portal architecture (e.g. azi) so that the information related to climate change can be shared between National Web Portal and proposed climate change knowledge management portal.

organization or through creation of a new section or cell of an existing organization or by contracting the function to another organization through competitive bidding. The prospective organization in whatever forms it may be needs to have following characteristics:

- Multi-disciplinary professionals from all important branches of climate change: scientists, environmentalists, hydrologists, agriculturists, fishery and livestock specialists, forestry and bio-diversity, marine biologists, economists, sociologists etc.
- Networking with local and international organizations working on climate change. Links with national hubs of specialized climate knowledge like local infrastructure, agriculture and hydrology.
- Broad vision of acquiring knowledge from conventional and unconventional sources with or without incurring cost.
- Leadership and dedication role in task of managing knowledge for betterment of both Bangladesh and other countries that needs knowledge to combat climate change challenge.
- Frequent capacity building of professionals to be in frontiers of knowledge on climate change.
- Budgetary allocations to carry-out the above functions sustainably.

POSSIBLE ROLES OF POLICY MAKERS

In view of urgent need of (i) managing knowledge; (ii) development of a national web-based platform of climate change knowledge management and (iii) development of an organization for carrying-forward the task of knowledge management, policy makers need to be advocated. Figure 3 shows procedure of public policy making in Bangladesh.

POSSIBLE BENEFITS OF KNOWLEDGE MANAGEMENT

- Facilitation of information collection in a common format and their dissemination to different stakeholders in a user-friendly style.
- Better policy formulation by the government. Crucial information will be regularly available in the network which will allow framing of coherent policies on climate change.
- Capacity development by bringing together knowledge in various organizations.
- Possible exchange of information not only nationally but also regionally and internationally.
- Bringing together vital information on project, programs and policies will help in integration of climate change in the mainstream development process.

NEED FOR AN INSTITUTIONAL ARCHITECTURE

This can be achieved either through a new

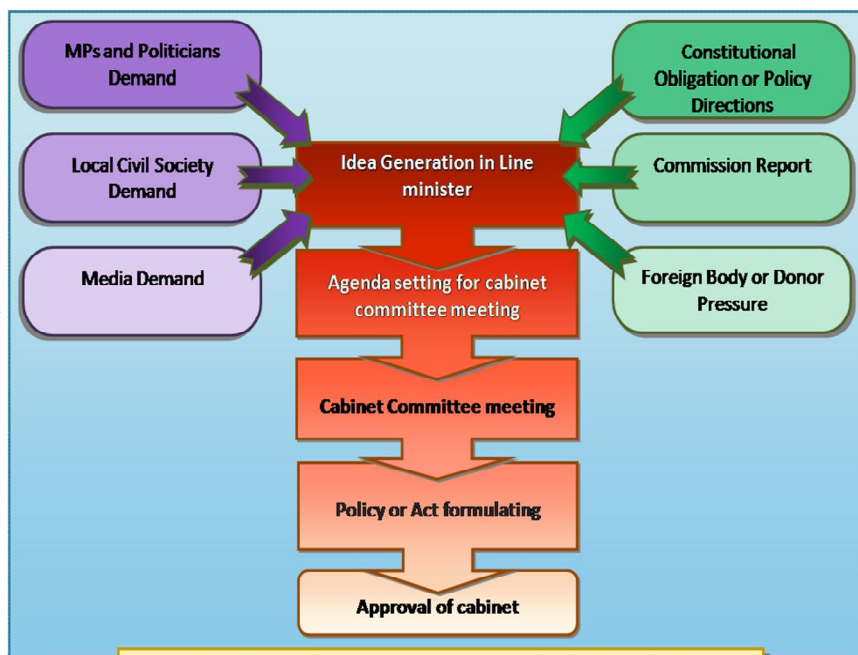


Figure 3: Procedure of public policy making in Bangladesh

MPs, Politicians and others who have influence in policy making in Bangladesh can perform the following roles in regard to the following:

ESTABLISHING THE NEED FOR MANAGING KNOWLEDGE

MPs and Policy makers may emphasize on the enormous knowledge and wisdom generated that gave Bangladesh the name “climate capital”. The benefits of managing knowledge in one hand and consequence of “business as usual” approach on the other are elaborated in the policy brief.

DEVELOPING A NATIONAL WEB-BASED PLATFORM

MPs and Policy makers can support the idea of managing knowledge through a national web-based networking system. This aligns with the government’s cherished goal of “digital Bangladesh” and progress achieved so far in ICT sector. The wide benefits of a national platform of knowledge are elaborated in this policy brief.

DEVELOPING AN INSTITUTIONAL ARCHITECTURE

Depending on the progress achieved on the previous

two roles, MPs and policy makers can inform the Ministers of Environment and Forest and Finance about the importance of creating an organization specializing on the task of managing knowledge on climate change. The diverse benefits that would result from such a move are discussed in the policy brief.

MPs and policy makers can take these messages either to Minister of Environment and Forest, Minister in charge of ICT or chairman of applicable Parliamentary Standing Committee or Prime Minister who heads the National Steering Committee on Climate Change. MPs can also inform the matter to the chairman of Private Members’ Bill committee.

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