



Design Workshop Report

Bangladesh Academy for Climate Services (BACS)

Cofounded by

Bangladesh Meteorological Department (BMD)

International Centre for Climate Change and Development (ICCCAD) at Independent University, Bangladesh (IUB)

The International Research Institute for Climate and Society (IRI) at Columbia University, USA

The International Maize and Wheat Improvement Center (CIMMYT)

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Workshop Venue: **Bangladesh Meteorological Department (BMD)**

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Introduction

Climate services are the connecting link between climate scientists and the society. Indeed, climate services are helping in translating climate science information and communicating them to the users (non-scientists). In other words, climate services are making sure that the users understand the weather they are going to experience in a more simplified way at the most convenient time. Furthermore, climate services are also providing users with information related to soil moisture, sea level conditions, wind etc. with long and short-term projection.

The provision of climate and weather information assists various decision makers in evaluating and developing the best adaptation strategies. Various sectors can benefit from a better access to climate services from policy makers to individuals, as well as by industries and humanitarian workers. Thus, access to tailored and well-prepared climate services can help the society and the economic sector to cope with climate change and current variability in weather and resulting natural disasters risks.

Also, as for all services, the climate one needs to meet users' needs, be based on credible information and requires a mutual engagement from the users as well as providers (scientists or researchers). Having a dedicated academy for climate services in Bangladesh will help ensure that the country dispose of the best and most credible climate science information for dissemination to a large audience. Additionally, this project will help in engaging with various actors in order to have an in depth understanding of the kind of climate and weather information which is required and to satisfy it in the best possible way. This mutual engagement will also ensure not only that climate science information or knowledge are developed with a better understanding of contexts, but also that it is useful and understood by the final users. Finally, it will help ensure that effective climate information access mechanism will be developed and strengthen the already existing ones in Bangladesh.

Objectives of the Workshop

The objectives of the workshop are:

- To work towards creating a platform for conveying climate information to the users from the climate producers
- To identify how weather and climate variability impede the users' ability to achieve organizational successes, and map the challenges and needs for a better access, integration and use of climate information and climate services in different sectors,
- To further explore the needs and demands for capacity building and educational training to aid climate informed decision making in Bangladesh.

Welcoming Remarks

Dr. Timothy J. Krupnik, Systems Agronomist at Climate Services for Resilient Development (CSR) in South Asia and Project Leader at The International Maize and Wheat Improvement Center (CIMMYT), set the tone of the workshop by sharing the objective of this workshop. He started by emphasizing that today, there is a need to better understand how climate and

weather information can be used by the different sectors for better informed decision. “The goal of today's event is for you, the participants, to give us your ideas and thoughts on how to develop the educational and climate capacity in Bangladesh through BACS”, he specified. Indeed, climate services are a valuable contribution to various sectors and we need to understand how we can strengthen those in Bangladesh. One of the way to achieve this is by creating the Bangladesh Academy for Climate Services (BACS). The Bangladesh Academy for Climate Services will support educational and capacity building related initiatives and networking across different sectors that can contribute to providing or working with climate information around Bangladesh. He finished by saying that “after the day long workshop, everyone will have better understanding on what kind of approach we need to follow in terms of setting up an academy”.

Ms. Melody Braun, Research Staff Associate, Financial Instrument Sector Team, IRI, The Earth Institute, Columbia University, mentioned that when “we started working in Bangladesh on our next project BACS, one of the main point that came back a few times was the existing gap between the scientist and the non-scientist users of climate and weather information. We started to think about how we can make the current available information more directly usable in the field and more understandable for those in need of climate and weather information but who are not scientists. The idea that came up was to create the BACS and this was already presented by ICCCAD at the last Gobeshona conference. Currently, we are formalizing the process and we want your help in taking BACS further.”

Dr. Saleemul Huq, Director, International Centre for Climate Change and Development (ICCCAD) in his welcoming address, mentioned that “capacity building in Bangladesh needs to be thought on the long term and involves all generation. In this context, my conviction is to do something on the long term and the idea to develop the BACS came up and was presented at the last Gobeshona conference”. He also added that this meeting was a follow up to organize the concept on the academy by soliciting various experts’ input on how it should be set up. The idea is to gather the different existing ideas and point of views to be able to have another meeting where we could seat and prioritize on the next actions that can be taken, as well as those that need to be considered in the future and in the long term. “We also hope that all of you will keep being involved not only with the building of the academy but also during its running and beyond to make it a long-term institution that can help set up a long-term capacity building for climate services in Bangladesh”, he added.

A Representative from Bangladesh Meteorological Department (BMD) addressed that BMD is the only organization that is mandated to provide meteorological services in Bangladesh. “We are providing daily forecast for weather and warning for disaster as well as more field specific information. For example, we are producing each seven days an advisory note for farmers, informing them about weather, rainfall among other things so that they can effectively plan their agriculture activities. This also helps to strengthen food security in the country. Another example is aviation. We provide them with information about wind and weather situation on different highs. However, our climate service needs to be updated and a lot more needs to be done. Today's activities are a good opportunity to think about how to improve climate services in Bangladesh”, she said.

Program Description

The workshop followed a participatory approach.

i. Ice-breaker

Dr. Timothy J. Krupnik from CIMMYT facilitated the introductory session by encouraging the participants to network. The goal of this exercise was to stand up and to find two other people in the room that they didn't know and to meet each other and introduce themselves and talk about what they are doing. This helped them to find new networking opportunities and more actively take part in the next two exercises called: Problem and Solution Identification Exercise and BACS Design Exercise.

ii. Problem and Solution Identification Exercise

The workshop exercise's main goal was to identify existing gaps in information network between producer of climate and weather data and users of it. The goal was to get a better idea of climate and weather information that can be used or need to be collected for various sectors as well as interaction between the different actors.

The participants were divided in four work rotating groups, each related to one of the four climate service topics: climate science, financial instruments, disaster risk reduction and food system. The exercise consisted of the three following steps:

- i. Identification of key groups of actors and how they depend/ connect with each other.
- ii. Identification of challenges and risk preventing the achievement of use of climate and weather information.
- iii. Identification of solution (data, policies, tools etc.) to previous challenges and risks.

iii. BACS Design Exercise

The participants together brainstormed on how the Bangladesh Academy for Climate Services could be run. They discussed how BACS can align strategies, work plans, and partnerships in future.

Content of the Workshop

1. Problem-Solution Identification Exercise

The four outputs from the participatory exercise are discussed below:

1.1 Climate Science

Climate science or climatology is the scientific study of climate and more precisely of weather conditions averaged over a (specific) period in a specific region. Climate models have various purposes, including the study of the dynamics of weather and climate system. However, arguably one of the most important utilization of climate science resides in its use for the determination of future climate projection as well as short term weather forecasting. Enabling decision makers to anticipate changes in weather and climate conditions will lead to better informed actions today and in the future. Furthermore, understanding climate science information will continue to be crucial for decision making as climate change is

becoming a more and more important variable affecting various economic and social activities.

However, different sectors are requiring a different set of climate and weather information. It is then important to deepen the understanding of the kind of information that will be the most useful and adapted to the various activities. This also requires a mapping of already existing and available information for the decision makers as well as identifying gaps that needs to be filled. The “climate science” group tried to address those needs.

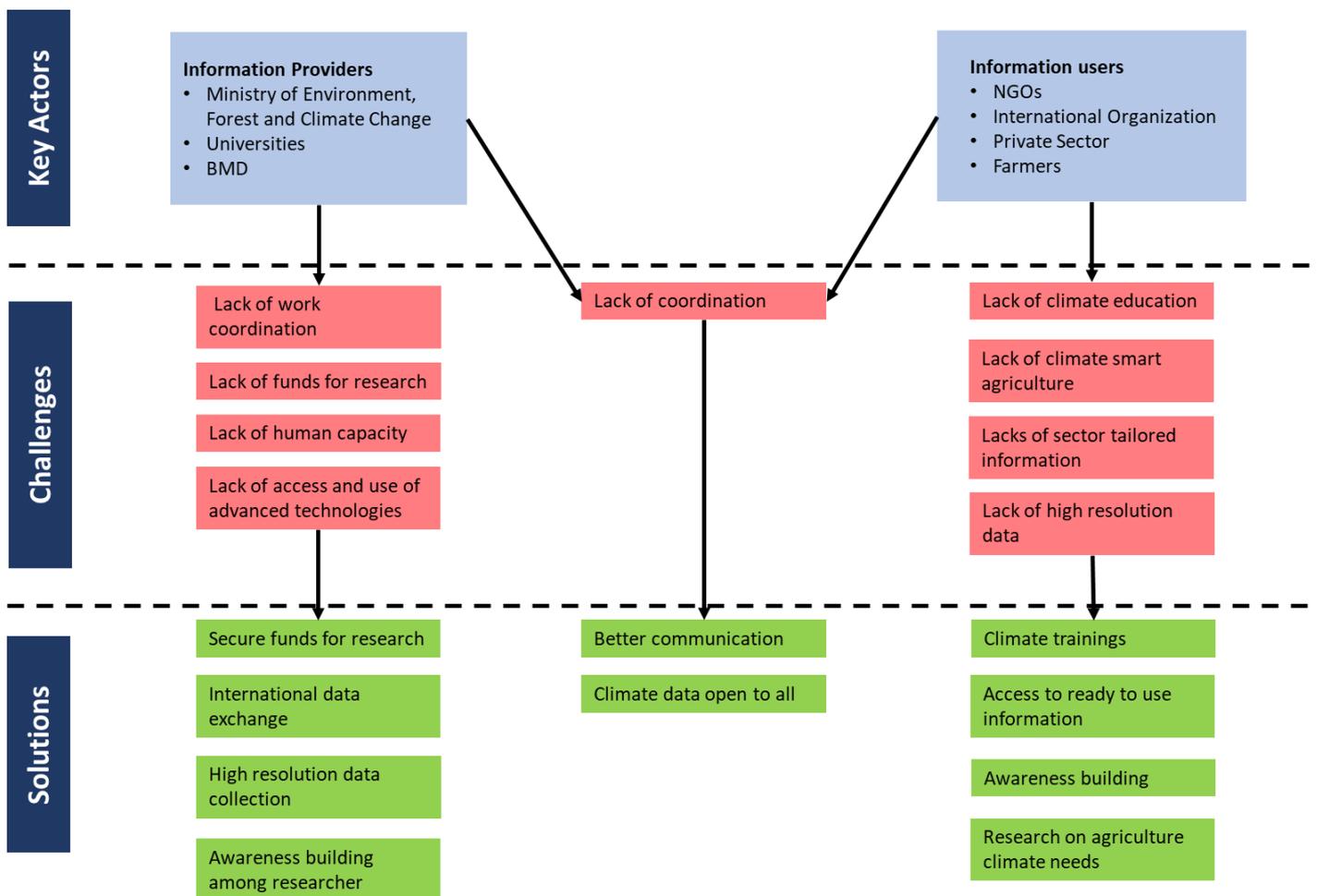


Figure 1: Climate science schema in Bangladesh

In the climate science sector, two groups of main actors can be identified: those who are producing the information and those how are using the created information. The first group is composed of climate scientist who have the necessary tools to produce climate and weather information and can explain the link between climate and human life. They comprise of the Ministry of Environment, Forest and Climate Change, the Bangladeshi Meteorological Department as well as various public universities. In the second group there are actors who in their work need to use climate and weather information such as various NGOs, farmers and the private sector. Thus, having a better access to this information and being trained in climate literacy can help them to make better informed decisions and use

climate and weather information as solid and valid arguments to support and justify their decisions.

Climate science has different branches and requires an ongoing process of research and application. It is understandable that one institution or individual will not be able to provide all required information and conduct necessary researches. Thus, all actors involved in climate and weather information creation need to cooperate with the aim to come up with a program of work covering the vast area of climate science (ex: low cost weather station network). This cooperation should be conducted not only on the national level but also with international climate scientist in order to share knowledge and build a better understanding of the global climate system. Another area prone to improvement is the collaboration between users of climate and weather information and providers of information. Indeed, users need to be able to know about available information and access it as well as voice their need for specific data. This requires an ongoing dialogue and awareness building on this topic between providers and users of information. There are already existing thematic group between BMD and their clients, which produce tailored information related to specific needs of a specific sector such as fisheries, agriculture among others. Those initiatives are a good start and should be taken forward. It was suggested that one way of doing this could be the creation of an inter-Ministerial policy platform that integrates weather and climate information in various policies with the same direction and understanding as well as tailored to particular social issue covered by the said policy.

Another important issue raised during the group discussion was that of climate and weather education. There is a lack of educated people in climate science in various sectors who are requiring or could tremendously benefit from the use of that information. The idea is not to create a new community of scientists who are going to put these information into practice, but rather to enable on larger scales various decision makers to understand the available information and use it more effectively (ex: aquaculture app of BMD). This can be achieved via various trainings which are tailor made for a sector or on a precise question that will help build the capacity to use climate and weather information of the recipient. The more climate science educated people existing in the different level and sectors in a society the better understanding of the influence of human activity on the climate and vice versa, that in the long term will result in an improved process of decision making for a better life for all.

However, this also requires strong human and economic resources to contribute to the continuous growth of knowledge of the interconnected components of the climate system. As highlighted during the group work there is a considerable lack of human resources to produce research in this area as well as a lack of appropriate funds to enable those research. Indeed, there is a need to produce high resolutions data collection of various climate and weather conditions (air, temperature, rainfall, soil, wind speed etc.), better climate projection, various short and long-term weather forecast needed for example for flood prevention, specific data linked to particular region in Bangladesh and including climate change information (sea level rise, flash flood etc.).

During the discussion two sectors were identified as important. The first one is agriculture, were the participants made some suggestions on how to improve the link between climate

science and agriculture. The working group identified the need for season based information for crop production, data and prediction for long term adaptation in water and crop sector, training targeting particularly farmers, translation of data in simple term for the farmers using vocabulary related to agriculture like savings, transplants, land preparation, crop change, harvesting etc.

The other area that caught the participants' attention is linked to the Rohingya Camps that are facing risk disasters related to the upcoming heavy monsoon rain. There is a dramatically important need for early warning systems for cyclones and floods as well as better resolution forecast and projection.

1.2 Disaster Risk Reduction

The disaster risk is a forward-looking concept, expressing the probability of loss of life, destruction and damages from a disaster over a time period. A disaster risk is the consequence of three factors coming together which are hazard, vulnerability of people and of a given place to damage and finally the number of people exposed to the hazard. Disasters are often following natural hazards and are linked to the high exposure and high vulnerability of people experiencing it. Additionally, each hazard can induce a set of subsequent hazards (ex: cyclones can bring wind and rainfall causing landslides). Moreover, one of the drivers of the three elements constituting the disaster risk are climate change and environmental degradation. Indeed, climate change is impacting the frequency and intensity of some natural weather-related hazards and affects the resilience of vulnerable and exposed people towards those events.

However, a disaster risk can decline following the decrease in vulnerability to natural hazard. Thus, a better use of weather and climate information to conduct preparedness activities in response to potential and foreseeable natural weather-related hazards can help decrease the risk disaster. A better understanding of climate and weather can help in making vulnerable and exposed population more resilient towards natural hazards via early warnings and appropriate preparedness actions. Thus, the importance to understand more deeply the kind of weather and climate information needed to achieve the goal of reducing disasters risk.

Three main categories of actors dealing with the question of risk disaster reduction and management were identified as follows.: governmental (Department of Disaster Management, Ministry of Disaster Management and Relief, BMD, Ministry of Water Resources, Upazilla Disaster Management Committees etc.), non-governmental (NGOs, Development Partners, International Organization etc.) and others (Media, local population, farmer, HCCTT coordinating body etc.).

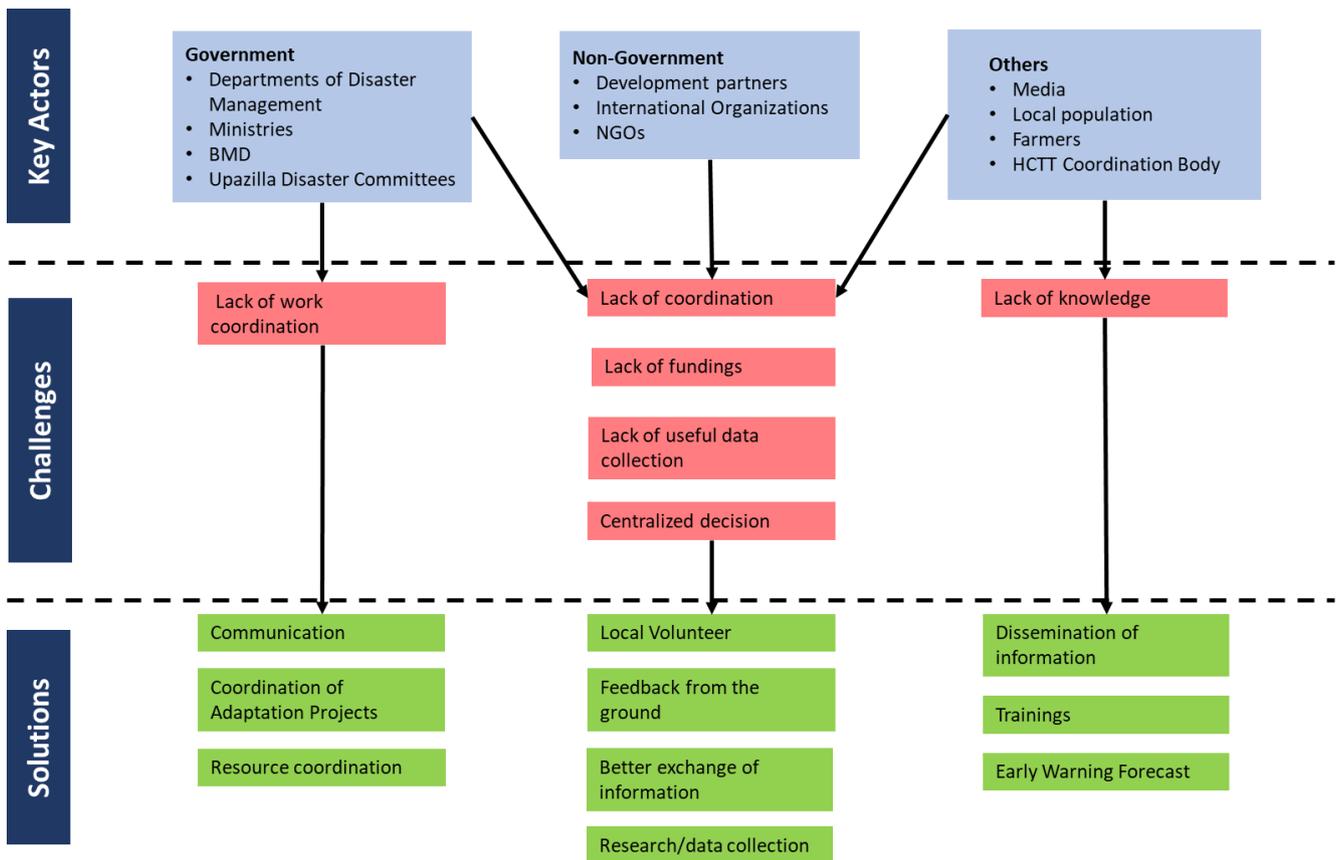


Figure 2: Risk Disaster Reduction schema in Bangladesh

Despite the variety of actors engaged in the sector, there are still some challenges that can affect the success of disaster risk reduction. One of the main obstacles is the centralization of the decision that are taken by the government without or with limited data of a given local situation. There is a need to have more local volunteers trained in the use of warning alert system and to climate and weather data. Another solution would be the creation of a timely feedback system of the situation on the ground to the central level.

Furthermore, there is also a lack of coordination between the different governmental bodies and the tasks they undertake for risk disaster management. The same lack of coordination can be observed among the various NGOs and developing partners, which calls for an increase in communication and joint work among them. All the governmental and non-governmental actors should exchange information and data on their activities as well as information on weather and climate in a particular region. This will help in better designing of long and short-term intervention to build resilience of vulnerable population more effectively.

The last main challenge identified by the work group lies in the lack of funding and coordinated resources among the different actors for adaptation projects but also for specific data collections (early monsoon warning, wind speed increase, flash flooding, salinity risk, precise weather forecast on the short and long term, early warning forecast, higher resolution maps, early flood forecast etc.). the available information should be repackaged in a language that can easily be understood by vulnerable communities and

linked to specific actions that they can undertake to be better prepared to upcoming hazard. Secondly, the information needs to be effectively disseminated to the concerned population via Media and the Union Disaster Management Committees as well as digital application and sharing platforms.

Another sector discussed during the group work was agriculture and more precisely the lack of capacity of farmers to respond to natural weather-related hazards. Several solutions were identified to respond to farmers needs such as specific trainings and school targeting climate and weather information for disaster risk reduction, creation of farmers sustainable groups and usage of locally based technology use.

1.3 Food Systems

A food system includes all processes and infrastructures involved in growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal of food and food-related items. It also includes the inputs needed and outputs generated at each of these steps. Climate change will affect more in the agricultural yields and earnings, food prices, reliability of delivery, food quality, and, notably, food safety. Low-income producers and consumers of food are more vulnerable to climate change owing to their comparatively limited ability to invest in adaptive institutions and technologies under increasing climatic risks.

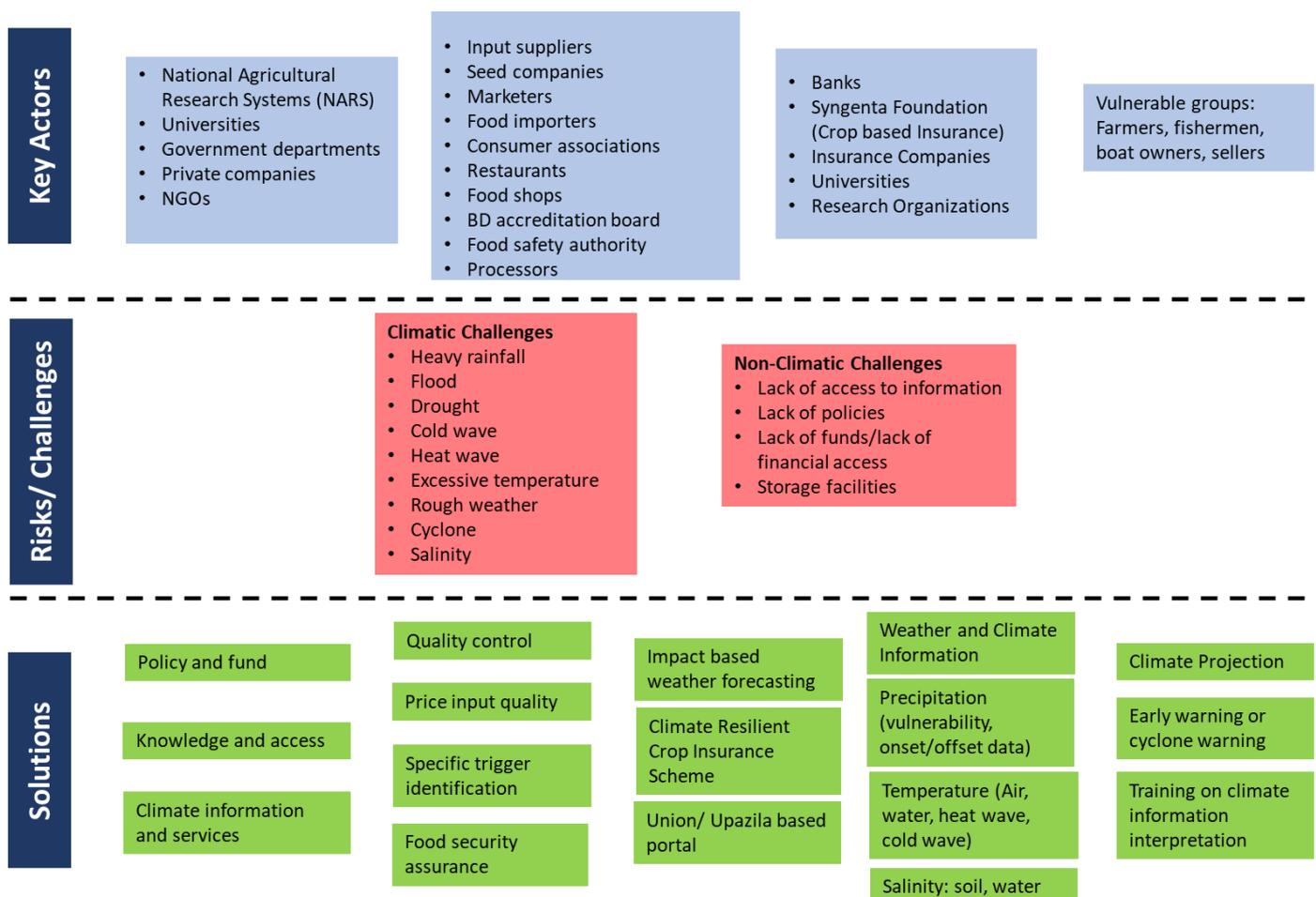


Figure 3: Food system mapping

The above diagram shows the key actors who are involved in the food system chain. It also shows how the food systems are being affected due to various climatic and non-climatic factors which have been mentioned in the above diagram.

From the top level, governance related issue such as policy and fund reformation is needed. The suppliers need to be careful about price input quality and quality control. Climate information and services should be made available and disseminated at the local level so they have knowledge and access to various services. As a solution to this issue, participants highlighted that the vulnerable groups need more weather and climate related information and data regarding climate projection. Monitoring tools for higher crop production will help. In addition, policy advocacy with development of short term (10 days), medium term (1-3 month), long term (1 or more year) courses for DAE staff will also be beneficial in this regard. Long term forecasts will help the local farmers, fishermen. Having a portal or entity per Upazilla/ Union (for example: Union Digital Centre) to broadcast specific information to the community related to early warning, precipitation (vulnerability, onset/offset data), temperature (Air, water, heat wave, cold wave), soil and water salinity will be helpful for the local people. Farmers need to know the information regarding the best time for crop harvesting, fish harvesting and that’s why they need to know the information related to early rainfall, or the starting of the dry season. With all these data, they also need to know how to interpret the climate information.

1.4 Financial Instruments

Climate change threatens development gains from water, agriculture, energy, and infrastructure in Bangladesh. Hence it is crucial to identify, develop and pilot climate finance instruments that can tackle the climate change adaptation and mitigation challenges in developing countries.

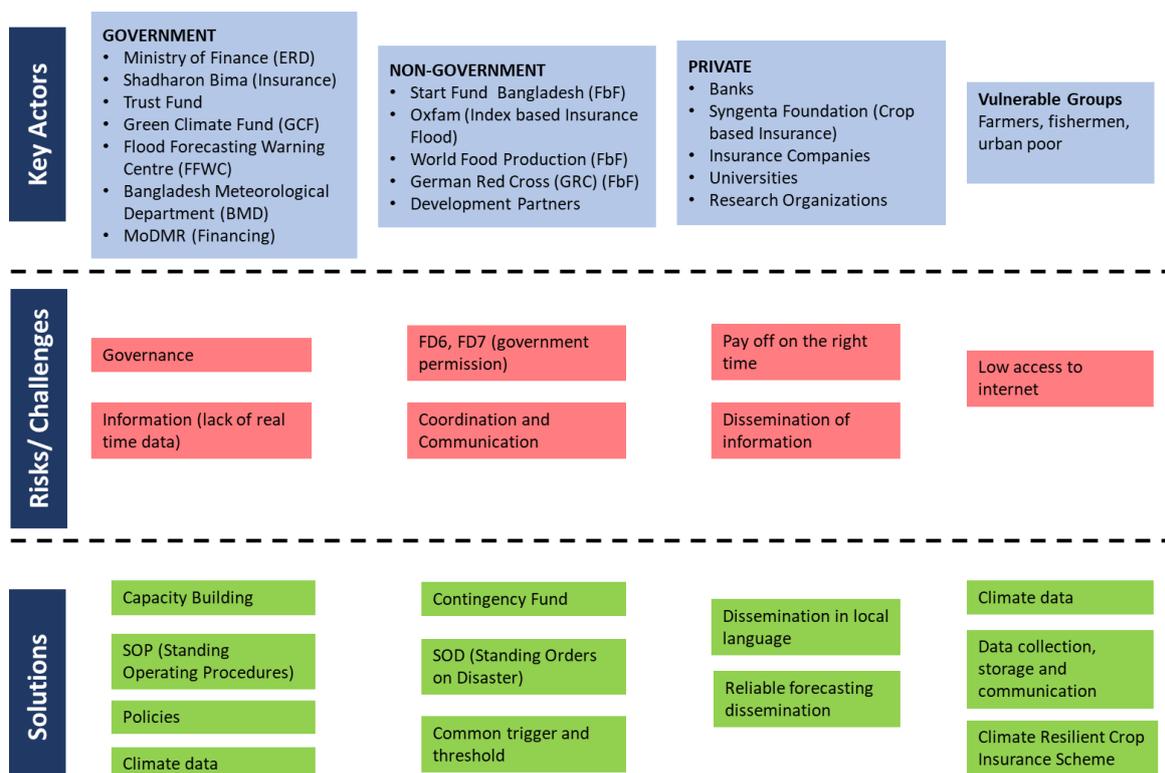


Figure 4: Financial Instruments mapping

Participants identified various government, non-government and private actors in the financial instruments area.

They identified that the lengthy processes of the governance structure as a challenge, since permissions from government can take a long procedure before one can proceed. Other challenges identified by participants included the lack of coordination and communication (common within every actor), the lack of real time data, dissemination of information at the local level to the vulnerable group (with a mention that poor farmers have lower access to internet), the right timing of paying off the insurance, and finally participants emphasized small farmers' vulnerability.

There is a need for capacity building to understand the policies in place, and what Standing Operating Procedures (SOP) need to be developed. During any disaster, the Standing Orders on Disasters should be followed. There can be some Contingency Fund to finance the loss during any disaster. The need for institutional capacity building with research NGOs and BACS universities is strongly voiced. University and research organizations have to act as the knowledge providers by working on more action-oriented research. There was a further strong call for motivational training to farmers for participating through knowledge sharing with NGOs using the BACS platform, to learn about mechanisms such as ecosystem based adaptation for cropping, and take decision accordingly. Universities were urged to carry out more applied research and training in this area.

Climate data has a great impact on crop or high yield crop. On the dissemination of climate data, it was mentioned that more dissemination of what is considered reliable forecasts (which opens the question of how to define the reliability of a forecast) is needed. Dissemination in the local language to the community is necessary. Participants expressed their interest in receiving training on data communication tools and workshop on communication. On translation and use of climate data, participants would like to be trained on how to practically acquire data from the field or from various organizations, and suggested that a process to facilitate data collection and analysis, that can be applied to different sectors, should be designed. For example: development of a data analysis software for storage platforms. Financial instruments were identified as a tool that can improve access to climate resilient crops. Crop insurance scheme should target vulnerable groups, and could improve their decision-making processes.

2. Bangladesh Academy for Climate Services (BACS) Design Exercise

Ms. Melody Braun, IRI and Dr. Timothy J. Krupnik (CIMMYT) facilitated this session and in a group exercise welcomed participants to think about how their organizations could benefit more from climate information. The envisioned Academy has three main purposes: providing a platform to convene stakeholders around climate services that helps them to identify the need, introduce certification course for the professionals working around the various sectors of climate services, and finally to develop masters level module for students. The academy will also serve as a network for graduate student and awareness building as well as a platform for forecast based weather information hub in Bangladesh.

2.1 Working Groups

During the workshop, several possible working groups for the Academy were identified by the participants as follow : climate change and migration, climate and health, financial instruments, forecast-based decision making, capacity building and knowledge sharing for agriculture (suggestions and interest included topics as diverse as a workshop between universities researcher and farmers, solar power pumps, best climate-smart practices for agriculture, development of saline tolerant variety, soil less agriculture etc.).

2.2 Short Training for Awareness Raising and Professional Certification Programmes

Some short-term trainings on various issues or topics were suggested by the different groups of stakeholders. Basic training on definition of climate change, social and physical impacts of climate change and climate change impact on people, specifically women and children will be helpful to create awareness among stakeholders. Participants felt the urge to learn about and discuss use and integration of climate information into their respective fields, such as aquaculture, (seasonal) crop production, DRR and CCA. Data collection techniques, analysis and maps were suggested as helpful to present the results. There was a sentiment that existing data is not specific enough to Bangladesh and that more downscaled data should be developed. Monitoring of climate change projection and impacts such as sea level rise is also an important aspect to consider in the learning. Specific projection on sea level rise is required for designing coastal polder to protect storm surge. It was suggested that, University and college teachers need to be informed about short courses so that they can teach their students.

2.3 Graduate Degree

Participants proposed that climate change science modules be included in all disciplines in the undergraduate and postgraduate courses of universities, with a particular emphasis on civil engineering and water resources engineering. The need to initiate a master degree course focusing specifically on climate variabilities related to flood, flash floods, drought was also suggested. More generally, BACS was viewed as a way to help bring all academic organizations doing climate research on a single platform. Research interests of participants included data for sea level rise and its impacts on the coastal region in Bangladesh, agrometeorology, different types of modeling for agriculture, disaster risk reduction in humanitarian or emergency response, adaptive research on coastal belt of Bangladesh.

2.4 Climate Science

Each working group, trainings, certification program and graduate degree will contain a climate science component. Indeed, a basic science knowledge is essential to give a complete understanding of climate and weather information. The science component will ensure that all participants of the academy have knowledge of climate science terminology, can interpret climate products and transactions, can execute climate analysis and downscale climate projections and receive necessary software training for climate analysis. More advanced and tailored trainings on climate science can be considered for specific users in the area of weather forecast, remote sensing (radar, satellite), seismology and interpretation of climate projection and its application.

Conclusion

The academy should be need-based with the aim to bring all diverse expertise together into one platform and create linkages so that everyone can help each other when it comes to climate services related information.

Takeaways

- There are needs and demands for capacity building and educational training, including options for internships, certification and formal degree courses, around climate services in different sectors through various hands-on, participatory, and discussion.
- The Bangladesh Academy for Climate Services will act as a platform which will bring various group of stakeholders to share their information and knowledge and seek solutions from climate information producers.

Workshop Support

ICCCAD would like to warmly thanks its partners, the Bangladesh Meteorological Department, the International Research Institute for Climate and Society (IRI) at Columbia University, and the International Maize and Wheat Improvement Center, for cofounding and supporting the successful organization of the design workshop for the Bangladesh Academy for Climate Services.

Annex: List of Participants

SL	Participant	Designation	Organization
1	Martin L. van Brakel	Scientist Livelihood Resilience	WorldFish
2	Md. Emdad Hossain	Project leader	WorldFish
3	Md. Wahidul Amin	Senior Specialist	Monitoring and Evaluation, HarvestPlus
4	Sajid Raihan	Country Manager	Start fund Bangladesh
5	Lamiya Mahpara Ahmed	Analyst	Start fund Bangladesh
6	Dr. Shawkat Begum	Country Representative	CIP (International Potato Center)
7	Shamsun Nahar	Senior Programme Associate (R1)	WFP (World Food Program)
8	Damien Joud	Cluster Coordinator	Food Security Cluster, Bangladesh (FAO/WFP)
9	Wais Kabir	Director	KGF
10	Mazharul Aziz	Project Director, Agrometeorological Information Systems Development Project	DAE (Department of Agricultural Extension)
11	Dr. M. Shahab Uddin	Additional Director Planning, Project Implementation & ICT Wing.	DAE (Department of Agricultural Extension)
12	. Rahana Sultana	Agricultural Economist, Planning, Project Implementation & ICT Wing.	DAE (Department of Agricultural Extension)
13	Md Saiful Islam	Additional Deputy Director, Crop Wing	DAE (Department of Agricultural Extension)
14	Dr. M. A. Farukh	Professor & Head Department of Environmental Science	Bangladesh Agricultural University (BAU)

15	Md. Jafar Iqbal	Program manager, emergency response	CARE
16	Muhammad Iqbal Zuberi	Professor	Department of Environmental Science, Gono bishwabidyalay
17	Papia Rahman	Deputy Managing Director	Pragati Insurance
18	Anwarul Alam	Senior Specialist - Resilience (DRR & Agriculture)	Practical Action, Bangladesh
19	Rezaul Karim	Programme Head, Disaster Management and Climate Change	BRAC
20	Md. Jahangir Alam	Assistant Director	BDRCS (Bangladesh Red Crescent Society)
21	Md. Aminul Moven	Insurance Project Manager, SFSA-AIS	Syngenta Foundation Bangladesh
22	Tagdira Naznin Smriti	Actuarial Associate	Syngenta Foundation
23	Uthpal Kumar	PhD Researcher	Wageningen University & Research
24	Dr. Abdul Khaleque	Dean, Schollo of Environmental Science & Management	Independent University, Bangladesh
25	Zahirul Khan	Director	IWM
26	Mr. S Nahiduzzaman	Jonior Specialist	IWM
27	Professor Kawser Ahmed	Chairman, Department of Oceanography	University of Dhaka, Bangladesh (DU)
28	Dr. Nasreen Akter	Professor	Department of Physics, Bangladesh University of Engineering and Technology (BUET)
29	Dr Monirul Islam	Associate Professor	Department of Fisheries, University of Dhaka

30	Sukhee Chae	Project officer	IOM
31	Syed Hasan Shahriar Miraj	IT Officer	Bangladesh Institute of ICT in Development (BIID)
32	Md. Shahid Uddin Akbar	Chief Executive officer	Bangladesh Institute of ICT in Development (BIID)
33	Md. Asaduzzaman	Distinguished Fellow	Bangladesh Institute of Development Studies (BIDS)
34	MD. Zoynal Abedin	Meteorologist	BMD
35	MD. Abdur Rahman	Deputy Director	BMD
36	Md. Muzammel Haque Tarafder	Deputy Director (Engineering)	BMD
37	Mahnaz Khan	Deputy Director	BMD
38	Mohammad Abul Kalam Mallik	Meteorologist	BMD
39	Md. Muzammel Haque Tarafder	Deputy Director (Engineering)	BMD
40	Mahnaz Khan	Deputy Director	BMD
41	Md. Shadukul Alam	Deputy Director	BMD
42	Mossammat Ayesha Khatun	Deputy Director	BMD
43	Md. Mohsin	Meteorologist	BMD
44	Dr. Saleemul Huq	Director	ICCCAD
45	Tasfia Tansim	Research Officer	ICCCAD
46	Anne Laurie Pilat	Researcher	ICCCAD
47	Feisal Rahman	Assistant Professor	IUB
48	Redwanul Haque	Student	IUB

49	Ms. Melody Braun	Research Staff Associate, Financial Instruments	IRI
50	Dr. Timothy J. Krupnik	Systems Agronomist and CSRD Project Leader	CIMMYT
51	Dr. Carlo Montes	Agricultural Climatologist	CIMMYT
52	Dr. Sk. Ghulam Hussain	Partner & Technical Coordinator(CSRD)	CIMMYT
53	Fahmida Khanam	Program Assistant	CIMMYT
54	Saleh Mohammad Shahriar	Data operator	CIMMYT
55	Sarah Gazi	Communication Intern	CIMMYT