CapNet

National Workshop on "Drought Risk Management Based on IWRM in Bangladesh

Workshop Report |
Date:1-2 July 2015
Venue: Rigs Inn, Gulshan-1

Submitted to CapNet
Pretoria, South Africa

Submitted by
Secretariat, CapNet-Bangladesh

BANGLADESH CENTRE FOR ADVANCED STUDIES
House 10, Road 16A, Gulshan-1, Dhaka-1212, Bangladesh
Tel: (880-2) 8851237, 8851986, 8852217, 8852904; Fax: (880-2) 8851417
E-mail: info@bcas.net Website: www.bcas.net

Abbreviations:

BCAS	Bangladesh Center for Advanced Studies
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
D. A. E	Department of Agricultural Extension
DDM	Department of Disaster Management
DPHE	Department of Public Health and Engineering
IRRI	International Rice Research Institute
IWRM	Integrated Water Resource Management
MoD	Ministry of Disaster
MoFL	Ministry of Fisheries and Livestock
MoLGRD	Ministry of Local Government and Rural Development
MOWCA	Ministry of Women and Children Affairs
MOWR	Ministry of Water Resources; Bangladesh
NGO	Non Government organization
SOD	Standing Orders on Disaster
UNISDR	United Nations International Strategy for Disaster Reduction
WASA	Water And Sewer Authority

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1.0 Background

Bangladesh Centre for Advanced Studies (BCAS) as the the secretariat of Cap-Net Bangladesh Had organized a two day long national workshop titled "Drought Risk Management Based on IWRM in Bangladesh". This workshop was organized by BCAS in association with Cap-Net International (International Network for Capacity

Building in Integrated Water Resources Management) on 1st and 2nd July 2015 at Hotel Rigs Inn, Gulshan- 2.

The main objective of the workshop was to strengthen and enhance the capacity of water professional and practitioners on Drought and associated impacts, vulnerabilities and the adaptation options in the key sectors. A total of 29 people participated in the workshop.

Five topics where covered in the workshop, details of the presentation on each topic is discussed in the section 2.1 of this report.

2.0 Inaugural session

The inaugural session was conducted by Mr Golam Rabbani, Research Fellow, BCAS. He briefed the participants on the Background and aims of Cap-Net; Cap-Net had started in the year 2007, and it works with sustainable water resource Management. Cap-Net is a capacity building network and anyone can join this network. The network has one meeting every 1 to 2 years to plan out activities. Mr. Rabbani than gave an overview of the workshop. He talked about the main objectives of the workshop; Understanding the impact of climate change on drought and scopes of Integrated Water Resource Management (IWRM) in Bangladesh; Impacts, vulnerability and adaptation option of Drought on Major Sectors (Water, Health and Agriculture Sector) of Bangladesh.

Participants Introduction: as part of ice breaking between the participants and the facilitators a Participant's Introduction session was facilitated by Mr. Rabbani. Participants of the workshop were asked to introduce themselves and share their work experience. The participants were encouraged to share their experience if any on working on the lines of drought, agriculture and water.

After the Particpants introduced themselves Dr. Atiq Rahman, Executive Director, BCAS and Secretariat Cap-Net South Asia, gave the welcome address were he highlighted the impacts and implication of drought on Bangladesh. He thanked everyone for attendance and reminded everyone that that it is not a training program but an exchange program, Please use this workshop as a platform to share knowledge. Mr. Rahman said this workshop is a pro equal collegial atmosphere; here everyone is welcome to share their experience. He further adds that variable experience and expertise will help us exchange views and knowledge. Cap-Net has a big impact in many countries working with it. The Impact of climate change on water is a very important concern as wrong timing of water leads to water logging, flood, drought etc.

He wished success for the program and concluded his welcome address.

2.1 Presentation:

Day-1

Topic 1:

Professor Masfiqus Salehin delivering his lecture on "Climate Change, Drought and IWRM; Bangladesh Perspective

Professor Masfiqus Salehin, IWRM, BUET presented his presentation on **"Climate change, Drought and Integrated Water Resources Management: Bangladesh Perspective"**. His presentation integrated 3 over ridding criteria of IWRM; I. Sustainable growth, II. Equity and III. Economic Efficiency. Sustainable growth should not be at the cost of equity, we have to ensure that everyone has access to safe water, as well as economic efficiency. Conflict of these criteria's happen when there is water scarcity. Population is growing so is economy, anthropogenic pressure is stressing on water resources. Women have become one of the negative sufferers of this disparity.

Climate Change and Climate variability, though we cannot attribute all the climatic phenomena experienced to climate change without adequate data, Bangladesh is already stressed by natural hazard. Climate change is only reinforcing the existing stress. When rainfall is less drought is likely when rainfall is more flood is likely to occur. Rainfall also creates an impact on surface water. Ground water table helps to give water to the river during the dry season. The water gradient that exists between the surface water and ground water due to difference in their base level causes this water movement in dry season.

The three basins of Ganges, Brahmaputra and Meghna (GBM) rivers vary in the flow. The snowmelt water contribution in Ganges is less than the Brahmaputra. Brahmaputra is the major player in floods in the GBM Basin. For the last 30-35 years the Farakka Barrage has been the affecting the coastal zone of Bangladesh. Water resource management in Bangladesh becomes difficult due to natural hazards; Floods; Erosion; Drought; Water availability variability during dry season etc. Different water resource management schemes that were adopted in the past had a fragmented approach. Lack of cross sectoral exchange of information and coordination has always limited Bangladesh to adopt a integrated water resource

management system. IWRM is integration in all and across sectors, when all level of planning is in line and aligned with national plan of IWRM can be achieved. Some water management principals are: (1) Fresh Water is finite and vulnerable resource (2) Water Development and Management should be based on participatory approach, involving users planners and policymakers at all levels (3) Women play central part in the provision and safeguarding water.

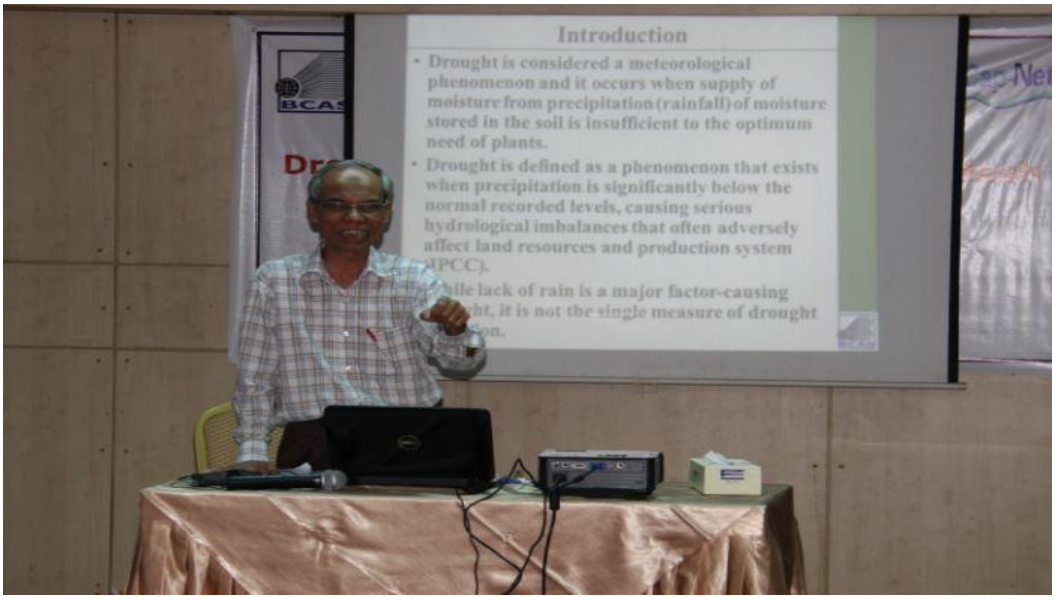
Later Mr. Salehin presented on the concept of IWRM which included maximize the benefits and minimize the damages. Water is not a economic but also a social good. Surface water and ground water are interlinked and uncontrolled extraction of water from one source puts stress on the other source. Thus for successful IWRM basin wide management is important.

Finally Mr. Salehin defined drought how it is a condition caused by climate change and how it has been affecting IWRM. Drought is a temporary meteorological event, which stems from a deficiency of precipitation over an extended period of time compared to some long-term average conditions. Precipitation deficiency impacts meteorological cycle, Soil moisture and surface water table will decrease due to lack of precipitation and will affect the agriculture sector and the hydrological cycle respectively. In summary deficiency in water availability and water shortage will effect socio economic situation of the people. Drought season in Bangladesh are Pre kharif and Kharif. During drought a major concern is that drinking water sector is affected due to high demand of water by irrigation sector.

Mr. Salehin concluded his lecture by saying that services has to be given to everyone for water. IWRM is a process that will allow everyone to use water and share equally. IWRM is intended to maximize the benefits and minimize the damages.

Post the presentation an interactive group discussion took place between the participants and the facilitator. One participant suggested that Bangladesh being a riverine country the water network has a huge potential in interstate navigation. It would have been appreciated if the presentation included a section on water and navigation. Another participant made a remark that Consumerism is severely impacting the fisheries sector of the country, many aquatic species has been lost, study should be done to analyze the extent of damage done in the aquatic life. A participant Added that Dams and Barrages built upstream by our neighboring countries is a huge concern and creates a barrier for Bangladesh to implement IWRM thus I suggest Multilateral agreements is extremely important to ensure IWRM.

Topic-2:



Mr Khandaker Mainuddin, presenting on "Impacts and Vulnerability of Drought on Agriculture of Bangladesh"

Khandaker Mainuddin, Senior Fellow, BCAS presented on the "**Impacts and Vulnerability of Drought on Agriculture of Bangladesh"**. He started the presentation by highlighting that the famers working at their land transplanting paddy knows more about drought then we will ever know sitting in this AC rooms. His presentation was based on the classification of Drought, Causes of Drought and how drought has major implications on livelihood then flood. The Loss and Damage due to drought in Bangladesh is much more severe than that incurred due to flood. Seasonal drought is common in Bangladesh. There are four types of drought, but amongst them three are widely recognized; Agriculture drought; Hydrological Drought; Meteorological drought. In Bangladesh Agriculture drought is categorized into two broad categories; Kharif and Pre Kharif. According Bangladesh Agriculture Research Institutes Kharif drought has 4 classes (Very severe, Severe, Moderate and Slight) and Pre Kharif has 6 classes (Very severe, Severe, Moderate, Less moderate, Very slight and Slight). Some of the causes of drought include: irregularities in Rainfall, Lowering of sub surface water level, inadequate recharge of aquifers and cross boundary anthropogenic interventions of the upper riparian countries. The effects of Drought is worse than that of flood, flood has a few benefits (such as bringing rich nutritious sediments) but drought has Social, Economic, Livelihood, Health, Political and Cultural implications. The loss and damage of Drought cannot be easily identified or assessed as that of floods. Drought is a hazard that must be incorporated in disaster and hazard management.

Post the presentation the group discussion session acted as a knowledge sharing portal where the participants shared how grassroots people are practicing their indigenous knowledge to cope with drought. Then one participant shared how in Gaibandha household compost is used to improve the soil quality and in this soiling

method pumpkin/ watermelon are cultivated. Another participant shared how mulching with water hyacinth, planting deep rooted species, native species plantation and use of green manure etc indigenous knowledge is practiced in drought prone rural areas. Another participant shared that since 2009 Aus Hybrid is being cultivated, this method has high cost benefits as this crop variety uses the pre monsoon water during May to June. This lowers the stress on surface water. A participant suggested that the drought mapping which is used in most research based work is old; a new and updated map must be done locally so that the extent and impact of drought can be identified. Another participant had suggested that in future CapNet should work with drought stress on Gender issues.

Topic-3

Mr. Nepal C Dey delivering his case studies on "Assessing Environmental and Health Impact of Drought in the Northwest Bangladesh" under Topic 3

Mr. Nepal C Dey presented on "**Impacts, vulnerability and adaptation options of Drought on Water and Health sector of Bangladesh."** He presented his research on "Assessing Environmental and Health Impact of Drought in the Northwest Bangladesh", the study was based in two sub-districts namely Badarganj and Kishoriganj of Rangpur and Nilphamari districts where drought is frequent. Through this case study he tried to represent the real scenario of Drought in Bangladesh and how it impacts the health of the people living in the Northwest Region of the country. His presentation included how people are adopting to the water crisis created by drought. From his research he had identified that lack of rainfall lowers ground water table. From the year 1981 to 2012 the lowest annual

rainfall was recorded in the year 1994. As a result the ground water table (in the northwestern region) in that year and the following year in 1995 was recorded lowest in the same timeline (1981-2012). Drought also has direct and indirect health implications, Compared to Normal year in Drought Years incidences of fever, dysentery was high and as a result doctors were consulted more during the drought years.

Mr. Nepal also discussed on health problems in dry season in Dacope Upazilla, Khulna which is in the south of Bangladesh. During his study in this upazilla Mr. Nepal Observed that increases in salinity has increased the problem of hypertension amongst the people living in these southern regions prone to salinity. He said that salinity is a common issue in the coastal belt of the country, due to high salinity in drinking water the people in this region are suffering from hypertension. Pregnant women are also suffering from hypertension. Drought impacts food security and also availability of drinking water. In the Tala Upazila of Bangladesh many women have to travel really long distance to fetch drinking water. These women have little or no security while travelling this long distance every day. The data collected from Dacope shows that after rainfall water table is replenishing but the table height is declining the rate of recharge of water is not as much as the rate of water consumed or taken out for irrigation or other purpose. Thus both ground water and surface water is declining. Moreover lack of wetlands or decrease in the size of wetlands has also lowered the ground water replenishment rate. When rate of evapotranspiration is higher than the rate of precipitation, (usually during the month of January to May) the water table of ground water decreases and salinity of surface water increases. The people from the Tala Upazila said that people have been suffering from severe diarrhea after consuming pond water. This is a common phenomenon occurring in the southern coastal belt of the country. People of these places are adapting to this situation by harvesting rainwater, by using pond sand filter, water treatment plant etc. with decrease in availability of surface water ground water dependence has increased for drinking, washing, bathing, cooking and other purposes.

Mr. Nepal also elaborated that in rural areas very few treat water prior to consuming it. Ring slab without water seal is also increasing as lack of water has led people to go back to old practices. Thus it is crucial that safe water is available to this people otherwise lack of hygiene practices will lead to spread of diseases. Thus it is highly important that water is conserved, many practice rainwater harvesting but this preserved water might get infested by worms etc if not preserved properly. A question was raised by one of the participants that (Q) in Nilphamari people have hearing and speech problem, many people also have temper problem, are these traits related to drought? (Ans) Mr. Nepal replied that he has not conducted such research but sees it as a great prospect for future endeavors. He further added that in drought prone area we have a project where we are providing psychosocial training at root level to distressed people. In some cases the outcome has been very satisfactory. We have found that the menstrual

cycle of women aged 13-45 are being affected due to long term exposure to saline water. These women are suffering from hypertension and their biological chemistry is also being altered, especially that of pregnant women. Both the mother and the child are affected by this saline problem.

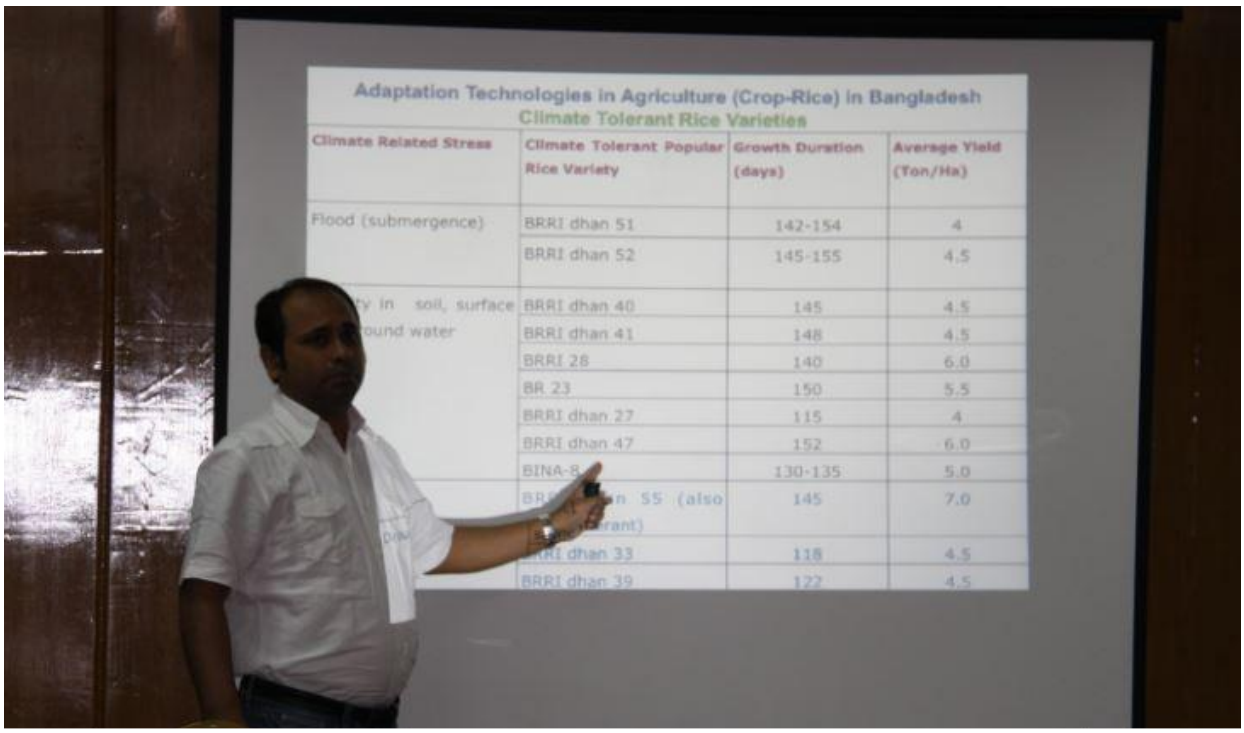
He has observed from his study that though rainfall replenishes ground water still the total water table is decreasing. Surface water availability is also decreasing increasing dependence on ground water for different purpose. His study also shows how Ring Slab without proper water seal is becoming more common due to lack of water. Moreover he stated that in his study area the local population and especially the pregnant women are suffering from hyper tension due to prolonged exposure to saline water.

After the presentation a group discussion and recommendation session took place. Where participants shared the importance of psycho social health of the impacted communities and how research should be done on this sector. Recommendation was also made that gender dimensions should be considered during different research to be more dynamic in social perspective. A question was raised on the following (Q) are there and safety or security for the women travelling long distance for water collection? (Ans) In a social baseline survey we have experienced that these women face harassment, physical and mental violence, but in many cases due to social stigma these incidences are hid and not recorded. A recommendation was then made that sex segregated data during research can help bring out such issues and will allow gender dimensions to be incorporated in different research.

Mr. Rabbani wrapped up activities of the Day-1 and highlighted the key points discussed throughout the day.

Day -2

Topic 4:



Mr Golam Rabbani discussing on the saline tolerant rice varies

Dr Raghib Hassan, prepared his presentation on **"Agriculture Adaptation options to Drought in Bangladesh"** but due to unavoidable circumstances he was unable to make it to the workshop. On behalf of Mr. Hassan, Mr Golam Rabbani presented topic 4 at the workshop. The Presentation elaborated on how climate change induced hazard has impacted the agriculture sector of Bangladesh. Mr. Rabbani also explained that there are three types agriculture technology: (i) Hardware, (ii) Software (iii) Orgware, all three of these are institutional arrangement. He later elaborated onto different elements of climate change (temperature variations, erratic rainfall, drought, Flood, salinity) and the hard and soft technology adopted for crop agriculture. A method of Alternative water and drying is done by IRRI (International Rice Research Institute) it is a modern technology that helps the farmer to identify the water level is the paddy bed and efficiently irrigate the crops.

Mr. Rabbani then talked about a few saline tolerant varieties of crop that is being used in the vulnerable costal zones of Bangladesh highly affected by salinity. A participant then suggested that BINA-14 is the latest saline tolerant varieties and it is already available to the farmers. Another participant added that there are 14 stages that a crop has to go through from seed to harvest, and all these stages are affected by rainfall temperature etc. in the discussion another participant said that cropping intensity has also increased. She added that in Mithapukur area, up to 6 crops are cultivated in a year. This pattern of cropping is called relay cropping; here the cropping is done by overlapping.

Through three case studies Mr. Rabbani talked the adaptation technology adopted in Flood prone areas and in the coastal zone. Floating garden is adaptation technology used in the flood prone zones. *Chal kumra* is grown by the floating garden technology. Another adaptation technology used in the costal zones is homestead vegetable gardening on raised plinth. In this technology the more saline tolerant varieties are grown at lower platforms and the less saline tolerant are grown in higher plinth. In this technology due to capillary motion the higher platform is less saline then the lower platform. Changes in crop pattern also has significant impact on irrigation pattern Mr Rabbani then talked about a few cropping pattern; T. Aman (BINA dhan7) followed by Chickpea (BARI Chola 5); T. Aman-Wheat-Mung bean pattern; T. Aman-Mustard-Mung bean Cropping pattern; T.Aman-Chickpea-Mung bean cropping pattern. When T.Aman is used the irrigation stress is lower on the crop cultivated next as even after harvesting of T. Aman soil moisture is still persistent. Dry seed bed is another method that can be used in drought prone areas, where by using polyethene moisture is locked in seed bed and thus germination can be done with minimum irrigation stress. Another adaptation method in drought prone or saline areas can be supplemental irrigation from ponds. To limit seepage of salinity in the pond, polyethene is used in the base to prevent salinity. And these ponds are called magic pond. A participant added that many reuse their domestic waste water to irrigate their homestead gardens. The domestic water is collected in the ponds with plastic into the magic ponds and then is used in irrigation. Another participant shared her experience from Gaibandha, She said that in Gaibandha Upazilla every inch of the land around peoples home is used for homestead gardening.

Topic 5:

Mr. Golam Rabbani presented on "**Drought Risk Management Framework for Bangladesh."** The impact of drought is silent and has a slow onset. In Bangladesh there are three types of drought and all three have social economical and environmental impact. Mr. Rabbani feels that our country needs a wakeup call for drought and it is crucial that stakeholders sit and find out a balance for water resource usage. No documents highlight drought there is little research done on drought compared to research done on flood. A reason for it can eb drought is hard to decipher. To establish relationship whether Mongla is related to drought or any diseases impacted by drought to interlink between drought and its impacts more study is required. Thus terminologies must be reviewed so that we can define the type of drought in international platform same should be done is national platform otherwise adaptation will be a problem. Flood is highlighted in the national policy but drought is not. Therefore it is crucial that data is collected and incorporated in policies so that it can be managed under national framework, but the problem with this is drought is not as easy to quantify as flood. The impact of drought is yet to be

acknowledged by people of the country. People are still not aware of the impacts of drought, thus assessment should be done in this sector. In both India and Pakistan they have linked several health issues to drought.

Based on Hyogo Framework for Action/UNFCCC,UNISDR says there are 5 main elements needed in a framework: (1)Policy and Governance (2) Drought Risk identification, impact assessment and early warning (3) Drought awareness and knowledge management, (4) Reducing Underlying factors of drought risk, (5)Strengthening preparedness. Once risk is identified, then assessment of the impacts should be done so that early warning can be thought off. Strengthening the awareness and knowledge management is important for adaptation. Adaptation for drought must integrate and overall climatic events of a period of time and political alliance and commitments from local level must back the adaptation strategies for it to work. A very important part of all of this is documentation. Until everything is well documented there is not implementation. To control discrepancy at local and community level a good rapport with Upazilla Nirbahi Officer (UNO) and other local leaders is very important. Stakeholder's involvement is crucial in integration and coordination.

Mr. Rabbani then discussed on the 10 steps that can be followed to achieve a policy. Later he asked the participants do they feel Drought should be incorporated in existing policies of a separate policy should be established for drought. Most participants then agreed amongst themselves that there are already many policies in Bangladesh, thus incorporating it will be the best options as new policy formation will require formation of a new department specialized on this sector and can create conflicts amongst the existing departments. Independent policies may be overlooked by many and integration may be a problem.

After the presentation on Topic 5 a group activity was done.

2.2 Group work:

The participants were divided into 2 equal groups and were asked to brainstorm on the major institutions that should be involved in Preparedness, Risk Reduction and Emergency Response to minimize drought impacts. The groups were asked to design and present an institutional/stakeholder framework.

Group -1

Group member:

1. Mr. Moyen Uddin Ahmed,
2. Mr. Elish Arun Majumder,
3. Dr. Md. Sohrab Ali,
4. Mr. Saad Siddiqui,
5. Ms. Dabanjali Saha,
6. S.K. Mamun,
7. Mr. Debbrota Kumar Gain

Presentation by Group -1

Sl.	Institution	Preparedness	Risk Reduction	Emergency Response
1	BMD	Forecast Weather on Drought	Long term Forecast and seasonal dissemination	As per the assessment addressing the victims for emergency response.
2	Health Department	Reporting on Health Hazard	Ensure adequate health service	
3	D.A.E	Situation analysis/report on crops	Drought tolerant crops demonstration and Market Availability	
4	BWDB	Reporting surface water and ground water availability	Adapt infrastructure measure for drought mitigation	
5	DPHE/WASA	Reporting Safe Drinking water availability	Adequate safe drinking water supply	

6	DDM	Disaster declaration and act as per SOD	Adapt risk reduction measure accordingly	
7	Department of Food	Ensure Emergency of food	Increase food reserve	
8	NGO	Awareness, Assessment Distribution	Crops diversification and awareness	
9	Research institutes(BRAC, Universities, etc)	Impact Assessment Documentation, Way forward and adapting innovating technology	Drought Zoning and mapping. Scenario development to address drought through adaptation options/measure	
10	Print and electronic media	Deploy team to report on the drought affected area	Information dissemination and accountability form drought areas	

Group -2

Group Members:

1. Ms. Qudratussama,
2. Ms. Rabeya Begum,
3. Ms. Rokeya Khatun,
4. Mohammad Alamgir,
5. A. M. M. Mamun,
6. Md. Asadudzaman,
7. Mr. Atiqur Rahman ,
8. Mr. Mohammad Mahabubur Rahman Talukder

Group-2 busy brainstorming their institutional framework

Sl.	Institution	Preparedness	Risk Reduction	Emergency Response
1	MOA(DAE)	• Drought resistant varieties	• Use of organic manure • Early warning • Follow crop calendar and time planting	• Inputs support
2	MOWR	• Policy integration • Drought Modeling	• Early Warning • Awareness raising	• Ensure safe water • Supplementary irrigation
3	MOWCA	• Co-ordination and communication with relevant departments	• Pipe water supply • Safety security	• Ensure emergency services

		(WIDP,CCFP)		
4	MOEF	• Afforestration and Reforestation • Drought Tolerant species	• Protection of forest • Conservation of ecosystem	• Well equipped
5	Ministry of Health	• Integration of drought issues in sectoral plan • Awareness campaign/department	• Long-term preparedness	• First Aid • Adequate Medicine • Satellite Camp
6	Ministry of Food	• Storage of food • Food safety	• Action in time	• Communication with related ministry
7	MoLGRD	• Emergency drought plan • Considering Drought issue in development plan • monitoring	• Monitoring and implementation plan • Create emergency funds	• Coordination and immediate services
8	Mo Disaster	• Drought inclusion in long-term planning	• Liaison with local level stakeholder • Community planning for Drought preparedness	• Declare emergency • Ensure relief
9	MoEducation	• Drought issues in education	• Awareness buildup	• Supplementary school feeding
10	MoFisheries and Livestock	• Drought issues incorporation in	• Alternative adaptation	• Emergency medical

		policy and plan	mechanism	camp and vaccination
11	NGO and private coporate sector, civil society	• Drought issues in integration in their respective plan • Right information preparation and sharing • Act as policy influencing agents	• Dissemination of Right information • Implementation of CSR	• Emergency Fund Distribution

2.3 Closing Session

The closing session of the workshop was facilitated by Dr. Atiq Rahman, he appreciated the enthusiasm with everyone participated in the group activity. He liked how group-2's approach for the framework was institution based and how group-1 activities where activity oriented. He added that the approach could have been more dynamic if local governments' participation was included by the two groups, because the local people are the people who will work on the project and establish it. He then welcomed all the participants to the Members meeting to discuss on future prospects and activities that Cap-Net can get involved with.

3.0 Members Meeting:

The members meeting was headed by Mr Golam Rabbani, where the members of the Cap-Net where asked to name any prospective research, case study or capacity building workshop that could be conducted under Capnet in the future. Every participant present in the meeting where representative of Cap-net and some are core members thus as members we can host any of the agendas in future that will be discussed today. BCAS being the secretariat will convey the message to the Cap-net head quarter on the interested issue, if the head quarter and the core group members agree than any program can be organized by 50-50 fund sharing between Cap-net and the organizing body(capnet member).

The agendas that were recommended by the members are listed below:

1. Tidal River Management,
2. Take this workshop on Drought Risk Management at regional level/local level.
3. Workshop on Drought Risk Management directed for policy maker
4. Rain water efficiency and recycling training.

5. Rainwater harvesting systems in rural and urban ares
6. Mongla research: How to make bed of soil where salinity will was out by rain
7. Water Resource Management; Innovative technology
8. Indigenous Practices of water conservation, WRM
9. Barind Tract-Ground water resource in BMDA area
10. Study on Socio-economic situation of women in Barind tract
11. Gender on IWRM with special focus on drought and flood-Workshop
12. On Farm Water Management-Efficient irrigation
13. Climate Change and Water
14. Coastal Zone Management
15. Water Smart Agriculture
16. Surface Water opportunities and challenges
17. Technology for LGI

Post the discussion Mr. Rabbani thanked everyone and wished everyone for better endeavors and collaboration in the future and wrapped up the 2 day training workshop.

4.0 Evaluation of the Coursework "Drought Risk Management in Bangladesh"; Assessment by the participants

A course Evaluation form attached in Annex 4 was circulated amongst the participants post the completion of the two day workshop. Majority of the workshop participants felt that the course content was relevant to the current work or function they are involved with. 13 participants from the 21 participant who filled the evaluation form felt that the workshop met their objectives and expectations with which they had participated in the workshop. Many of the workshop participants had appreciated the course content and felt that it is a vital for Drought Risk Management to be incorporated into their respective project planning.

When the participants were asked on what action they will take after they have gained the knowledge form the coursework? Many had written that they will disseminate the knowledge they have gained from the project amongst their respective colleagues and will incorporate Drought Risk Management into their work

4.0 Annexure

Financial Statement of National Workshop on "Drought Risk Management (DRM) in Bangladesh"

Particulars	Agreed Budget Amount in (USD)			Expenditure Amount	
	Total (US$)	BCAS/ Member Contribution	Cap-Net Contribution	Amount in (US$)	Amount in BDT
Coordination and Management					
Workshop Associate for finalizing the participants, follow up with participants and logistics management (1 for 7 days @100 USD/day + 10% Tax)	770	770	-	770.00	59,444
Sub Total (+ 10% Tax)	**770**	**770**	**-**	**770.00**	**59,444**
Logistic Support (Sub-total +15% VAt)					
Banner	100	50	50	97.15	7,500
Stationary	200	200	-	345.92	26,705
Print & Photocopy of Workshop Materials	450	90	360	379.53	29,300
Phone, Fax & Communication	500	500	-	500.00	38,600
IT Charge including all IT support multimedia, laptop, camera etc.	1000	-	1000	1000.00	77,200
Local Transport including outside Dhaka participants transport allowance	500	500	-	506.80	39,125
Bag	1050	1050	-	1065.41	82,250
Vat 15%	570	570	-	283.20	21,863

Sub Total (+ Vat 15%)	**4370**	**2960**	**1410**	**4178.01**	**3,22,543**
Participation & Facilitation					
Trainers honorarium	2500	-	2500	2500.00	1,93,000
Transport Allowance for Participants	900	900	-	809.59	62,500
Sub Total	**3400**	**900**	**2500**	**3309.59**	**2,55,500**
Food and Venue					
Lunch/Dinner/Ifter (for 2 days)	2400	-	2400	2629.53	2,03,000
Venue Charge (for 2 days)	1000	1000	-	777.20	60,000
Service Charge10% &Vat 15%	680	680		696.83	53,795
Sub Total (Service Charge10% &Vat 15%)	**4080**	**1680**	**2400**	**4103.56**	**3,16,795**
Grand Total(A+B+C+D)	**12620**	**6310**	**6310**	**12,361.16**	**9,54,282**

Program schedule:

DAY 1 (1 July 2015)

Time	DAY 1 (1 July 2015)	
09:30-09:40	Registration and Opening	
09:40-10:00	Welcome address- Dr. Atiq Rahman, Excecutive Director, BCAS, Secretariat CapNET Bangladesh	
10:00-10:20	Introduction of Participants	
10:20-10:30	Introduction and process of the workshop- Golam Rabbani, Research Fellow, BCAS and Focal Point, CapNet South Asia	
10:30-11:10	Topic 1	Climate Change, Drought and Integrated Water Resources Management: Bangladesh Perspective (Prof. Mashfiqus Salehin, IWFM, BUET)
11:10-11:30		Open Discussion
11:30-12:10	Topic 2	Impacts and Vulnerability of Drought on Agriculture Sector of Bangladesh (.....)
12:10-13:00		Group Work/Group Presentation
13:00-14:00	LUNCH BREAK/PRAYER	
14:00-14:50	Topic 3	Impacts, vulnerability and adaptation options of Drought on Water and Health Sector of Bangladesh: Dr. Nepal C Dey, BRAC Research and Evaluation Division
14:50-15:00	Open Discussions and closing the day	

DAY 2 (2 July 2015)

Time	DAY 2 (2 July 2015)	
09:00-10:00	Recapitulation of Previous Day	
10:00-11:00	Topic 4	Agriculture Adaptation options to Drought in Bangladesh (Dr. Raghib Hassan, DAE/FAO)
11:00-11:15	Health Break	
11:15-12:15	Topic 5	Drought Risk Management Framework for Bangladesh
12:15-12:45	Group Discussion	Group Work/Discussion
12:45-13:00	CLOSING THE PROGRAM	
13:00-14:00	LUNCH/PRAYER	
14:00 – 16:00	CapNet Bangladesh Member's Meeting	

Participants list:

Sl No.	Name	Address	Contact
1	Md. Sazzadul Karim	UN-Women	Cell # 01711786001 Sazzad.bcas@gmail.com
2	Dr. Md. Sohrab Ali	DOE	Cell # : 01712125880 sohrab@doe.gov.bd
3	Mr. Elish Arun Majumder	Disaster Management Advisor Tear Fund House # 196, Lane #2 (1st loor) DOHS Baridhara	Email: elish.majumder@tearfund.org Cell # 01711003504, 01971003504
4	Mr. Moyen Uddin Ahmed	BRAC	Cell : 01729071032 01716649236 moyenuddin.ah@brac.net
5	Ms. Qudratussama ,	Society for People's Actions in Change and Equity (SPACE)	Cell # 01970212012. Shama.space@gmail.com
6	Mohammad Alamgir	Water Resources and Planning Organization (WARPO)	Cell # 01556555684 alamgirforester@yahoo.com
7	Md. Mamun Kabir	Bangladesh Water Development Board (BWDB)	Cell: 01740954418 Mak.du@yahoo.com
8.	Mr. Mohammad Mahabubur Rahman	Joinior Agriculture Specialist and Fisharies Division CEGIS	Cell # 01716486534 mahabuburrahman36@yahoo.com

	Talukder	House# 6, Road# 23C, Gulshan-1, Dhaka	Email: cegis@cegisbd.com
9.	Mr. Saad Siddiqui	Institute of Water Modelling (IWM)	Cell # 01841930009 E-mail: sds@iwmbd.org
10	A.M.M. Mamun	(BELA)	Telephone: 8614283,8618706 Fax: 880-2-8612957, E-mail: bela@bangla.net Mamun: 01819895154
11	Ms. Dabanjali Saha	Lecturer Institute of Water and Flood Management (IWFM) Bangladesh University of Engineering and Technology (BUET), Dhaka	Telephone:880-2-9665650 (Ext.7506) E-mail: debanjalibuet@gmail.com
12	Ms. Rokeya Khatun	Gender and Water Alliane GWAPB House# 16, Road # 30, Gulshan 1, Dhaka, Bangladesh	Cell # 01714986746 rokeya1952@gmail.com rokeya.khatun@gwapb.org
13	Md. Asadudzaman Asad	BRAC	Cell : 01711070187 asad.za@brac.net
14.	S.K. Mamun,	GUK Nashratpur, Post Box-14 Gaibandha-5700, Bangladesh	Cell: 01713484604, Email: mamun.guk@gmail.com)

15.	Syeda Nuhara Begam,	RDRS Bangladesh	Cell # 01730328356. nuhara@rdrsrangpur.org
16.	Md. Ekram Ullah	Senior Scientific Officer; WARPO, House#103, Road#01, Banani, Dhaka	8814554-309 bd.ekram@gmail.com Cell: 01715064922
17.	Mohammad Ariful Haque	CDMP	Cell : 01938261101 arifthatsall@yahoo.com
18.	Mr. Debbrota Kumar Gain	LEDARS, Shyamnagar, Satkhira	Cell : Cell # 01854802312 debbrotagain@gmail.com
19.	Mr. Md. Toriqul Islam, ,	Programme Engineer, NGO Forum for Public Health NGO Forum for Public Health Telephone: +880 2 811 95 97 / 99 Fax: +880 2 811 79 24	E-mail: ngof@bangla.net Mobile No. 01717463588 E-mail: toriqul@ngof.org
20.	Md. Romez Raihan	CREL	Cell # romizraihan@yahoo.com
21.	Mr. Milan Biswas, ,	BWDB Geologist, Directorate of Ground Water Hydrology, BWDB	Cell # 01716505570 Milan_geo@yahoo.com
22.	Ms. Nasreen Sultana,	Geologist, Groundwater Processing Branch, BWDB, 72 Green Road, Dhaka	Cell # 01813364918 nasrinbwdb@gmail.com
23.	Ms. Rabeya Begum	SDS	Cell # 01754446907 Email: rabeyabegum224@gmail.com
24.	Dewan	PPP Project	Cell # 01712691131

	Mohammad Ali Emran		emranipsi@gmail.com
25.	Mr. Atiqur Rahman	Institute of Water Modeling (IWM) House# 496, Road# 32, New DOHS, Dhaka-1206	Cell # 01716049123 atq@iwmbd.org
26.	Ms. Sharmistha Debnath	DPHE	Cell # 01842001922 Sharmi_bgd97@yahoo.com
27.	Ms. Faiza Haque Toma	DPHE	Cell# 01717713386 Haque.faiza1@gmail.com
28.	Ms. Nazzina Mohsin	TNC	Cell # 01730098667 nazzinz@gmail.com
29.	Mr. Asaduzzaman	UN-Women	01850-930193 Asad.sahin82@gmail.com