

Coordination for Resilience in Disaster Management in Bangladesh

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Abstract

The debate over disaster management approaches have undergone significant changes in the recent decades and especially their effects have been profoundly felt in the disaster prone countries. The focus of this paper turns into a specific form of coordination challenges and investigates its current disaster management practices in Bangladesh. In the recent days, disaster management experts argue that disaster management is not the responsibility of any particular agency or organization rather it requires well-coordinated efforts from all concerned bodies. Therefore, coordination is required from all stakeholders such as government, NGOs, volunteers, local government, international agencies, policy makers, community representatives and other professionals from different relevant agencies with a view to making their roles and responsibilities specific related to disaster management. However, in the findings it is found that there are disaster management policies and activities in Bangladesh, but it is observed that a lack of integration and overlapping of responsibilities prevails among the agencies that hampers effective disaster management. Apart from that, there is a lack of coherence among policies in disaster management, and no accountability mechanisms are functioning in an effective manner in order to mitigate disaster in Bangladesh. I intend to discuss those issues throughout the whole paper, however, this paper will be descriptive in nature and principally, secondary data has been used to collect information and that is collected from the existing published literature on disaster management in Bangladesh.

Key Words: Bangladesh, Coordination, Disaster Management

The Status of Disaster and Disaster Management

Natural disasters increase the vulnerability of people and slow down the process of social, economic, cultural, psychological and environmental development. For example, Cyclone as a major natural disaster occurs most frequently over the northwest pacific, over the southern end of the Bay of Bengal, coast of Indian and south of Bangladesh (UNESCAP and ADB 2000,²

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² UNESCAP and ADB (2000). "State of the Environment in Asia and Pacific 2000" Economic and Social Commission for Asia and the Pacific and Asian Development Bank, New York, United Nations, Available at-

Ali 1999,³ Huang 1999,⁴ Relly and Adger 2000)⁵. Super cyclone SIDR in 2007 and cyclone Aila in 2009 have demonstrated the vulnerability of natural disasters towards its fragile coastal communities in Bangladesh.

Analyzing the history of natural and artificial disaster in Bangladesh, disaster has different categorical impacts on life and livelihoods. Damages to infrastructure severely impede economic activity. Social impacts can include loss of life, injury, ill health, homelessness and disruption of communities.⁶ Environmental pollution may include as environmental damage and finally all sorts of mental ill health are belonging to damage of psychological conditions. The ever-increasing human and economic costs have raised serious questions in disaster management approach but all the time a very few attention goes on environmental or psychological disruption. In particular developing countries are faced with increasing levels of possible hidden costs and challenges in order to meet financial and other obligations.⁷

There were hardly any governmental efforts until the 1990s to address the problem of institutional weaknesses and people's vulnerability in terms of maintaining disaster in Bangladesh. After devastating cyclone in 1991, the Government of Bangladesh (GOB) made some disaster management regulatory framework and developed institutional mechanisms to deal with such type of disaster and crisis management,⁸ such as; Standing Order on Disaster, Disaster Management Act and National Disaster Management Policy etc.

GOB initiated a project "Support to Comprehensive Disaster Management" in 1993 with overall goal to reduce the human, economic and environmental costs of disaster in Bangladesh. One of the important objective of the project was to increase the capacities of the households and local communities in the highly disaster prone areas through establishment of Local Disaster Action Plans (LDAPs) to cope with disaster situations and the other important objective was Training and awareness rising. The project has been completed on 30 June, 2001, making scope for the formulation of Comprehensive Disaster Management Programme (CDMP) for more holistic approach to risk management with support from development partners and international

<http://www.unescap.org/enrd/enviro/soe.htm#geo-2-266> (Last accessed on 12 December, 2014).

³ Ali, A. (1999). "*Ghurnijhar (Cyclone)*" Dhaka, Bangla Academy.

⁴ Huang, Z. G. (1999). "*Sea Level Change in Guangdong and its Impacts*" Guangzhou, China, Guangdong Science and Technology Press (original in Chinese).

⁵ Relly, P. M. and Adger, W. N. (2000). "*Theory and Practice in Assessing Vulnerabilities to Climate change*" 20 (4) Facilitating Management, PP. 527-39.

⁶ Crowards, Tom (May, 2000). "*Comparative Vulnerability to Natural Disasters in the Caribbean*" Caribbean Development Bank, Staff Working Paper No. 1/00. Social and Economic Research Unit, Economics and Programming Department Paper presented at the OAS/USDE-NOAA/CSC Workshop on Vulnerability Assessment Techniques, Charleston, South Carolina, March 20-22, 2000.

⁷ Sendai framework for disaster Risk Reduction 2015-2030.

⁸ Haque, Emdad and Uddin, Salim M. (2013). "*Disaster Management Discourse in Bangladesh: A Shift from Post-Event Response to the Preparedness and Mitigation Approach through Institutional Partnerships*" Approaches to Disaster Management-Examining the Implications of Hazards, Emergencies and Disasters.

agencies that was highly involved with poverty alleviation and sustainable development.

In practical condition any government alone cannot properly manage and handle all types of disasters. Base on this philosophy a new approach of managing disasters has been evolved in Bangladesh known as Community-Based Approach (CBA) which emphasizes the total participation of all people facing any hazard or disaster and makes sure to render all possible services to the community.

In January 1997 the Ministry issued the Standing Orders on Disaster (SOD) to guide and monitor disaster management activities in Bangladesh. The Disaster Management and Relief Division (DM&RD), MDMR of the GOB has the responsibility for coordinating national disaster management efforts across all agencies. A series of inter-related institutions, at both national level (10 committees) and sub-national levels (5 committees) have been created to ensure effective planning and coordination of disaster risk reduction and emergency response management.⁹

The National Disaster Management Council (NDMC) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) will ensure coordination of disaster related activities at the National level. Coordination at District, Thana and Union levels will be done by the respective District, Thana and Union Disaster Management Committees. The Department of Disaster Management will render all assistance to them by facilitating the process.¹⁰

However, the GOB *has approved the Disaster Management Act (DMA)* by the Parliament on 12 September, 2012. This Act provides a major opportunity to improve the disaster management strategies in Bangladesh. In addition, the GOB has National Plan for Disaster Management for 2010-2015. Through the regulatory frameworks GOB has Policy where specifically clarifies the disaster management objectives, strategies, resources, and institutional framework for the implementation of disaster related programs. Disaster management initiatives in the country have emphasized broad-based strategies in minimizing disaster losses.

The significance of Coordination in Disaster Management

Proper disaster management coordination activities are a cost-effective investment in preventing future losses and this contributes to the sustainable development. Nevertheless, disaster management is not the responsibility of any particular agency or organization. It requires well-coordinated efforts from all concerned bodies. International and national mechanisms for strategic advice, coordination and partnership development for effective disaster management have been instrumental in the development of policies and strategies and the advancement of knowledge and mutual learning. The Hyogo Framework for Action has been an important instrument for raising public and

⁹ National Plan For Disaster Mngement (2005-2015) in Bangladesh.

¹⁰ Ibid.

institutional awareness, generating political commitment and focusing and catalyzing actions by a wide range of stakeholders at all levels.

Disaster management depends on coordination mechanisms within and across sectors and with relevant stakeholders at all levels, and it requires the full engagement of all State institutions of an executive and legislative nature at national and local levels. For efficient and effective coordination role, Governments should engage with relevant stakeholders, including women, children and youth, persons with disabilities, poor people, migrants, indigenous peoples, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards. It is necessary to empower local authorities and local communities to reduce disaster risk, including through resources, incentives and decision-making responsibilities. Moreover, to complement national action and capacity, there is a need to enhance international cooperation between developed and developing countries and between States and international organizations.¹¹

Apart from that, Sendai framework highlights it is necessary to continue strengthening good governance in disaster management strategies at the national, regional and global levels and national coordination for disaster related activities such as disaster response, rehabilitation and reconstruction, and to use post-disaster recovery and reconstruction to “Build Back Better”, supported by strengthened modalities of international cooperation.¹²

There is a need for the public and private sectors and civil society organizations, as well as academia and scientific and research institutions, to work more closely together and to create opportunities for collaboration, and for businesses to integrate disaster management practices.¹³ Therefore, coordination is needed for architects, civil engineers, private builders and policy makers, and for community representatives and other professionals from different relevant agencies with a view to making their roles and responsibilities related to disaster management. There are sectoral polices in Bangladesh to address these issues, but a lack of integration and overlapping of responsibilities prevails among the agencies. Furthermore, there is a lack of coherence among policies and weak cooperation of host country and international agencies, unawareness or unpublished message of risk. These issues have been examined in the following section. The second section investigates briefly the dialectic relationship between disasters and accountability. It also highlights coordination failure associated with bad accountable system as a critical factor.

No Clear Direction about Coordination

In general all the disaster plans and programs in Bangladesh have been developed through techno-bureaucratic exercises. This approach does not

¹¹ Sendai framework for disaster Risk Reduction 2015-2030.

¹² Ibid

¹³ Ibid

expect participation from the many stakeholders. This finding was substantiated by another study conducted by Kurshid (2007) that the critical gaps in the disaster plans are the fact that there is no clear direction about coordinating with other stakeholders in a common national goal.¹⁴

One of the key constraints is lack of appropriate mechanism to implement the policy for sharing the space based information in timely manner between the organizations governed by different Ministries. The channel for information exchange between the organizations governed by the Ministry of Defense and the Ministry of Disaster Management and Relief is not direct which causes huge delays in information sharing.¹⁵

Duplication of Work Activities

It is important to ensure that disaster relief and post-disaster recovery are managed and coordinated by a high level committee to avoid duplication of activities or waste across the spectrum of donor agencies, including government, national and international NGOs and the private sector.¹⁶ It has also been stressed that it is essentially required to ensure an effective system within the government to coordinate the processes of planning and the management of disaster management. It is also important to link and develop networks of relevant national, regional and international organizations about disaster management.¹⁷

Policies are decisively dependent on levels of commitment and funding

Through the International Strategy for Disaster Reduction (ISDR) the United Nations has rightly understood that the root of the failure of disaster management is coordination. Thus, the Hyogo Protocol, formulated at the 2005 World Conference on Disaster Reduction in Japan, emphasizes the need to draw disaster risk reduction into the mainstream of policy formulation and implementation.¹⁸ The protocol sets out comprehensively what needs to be done with respect to awareness, education, training, planning, program-building and management. It also codifies the steps, initiatives and processes needed to achieve disaster management. The ISDR and Hyogo Protocol are important initiatives for coordination, but they are critically dependent on levels of commitment and funding at the implementation stage.

Coordination gap is a very common phenomenon

Ownership of the disaster plans is very limited due to coordination gap in Bangladesh. Therefore, it has resulted in haphazard implementation by different stakeholders. However, Disaster Management Information Centre

¹⁴ Khurshid Alam and Masroor-ul Haq Siddiqi (June, 2007). “*Disaster Preparedness for Natural Hazards: Current Status in Bangladesh*” International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Hill Side Press (P) Ltd. Nepal.

¹⁵ Ibid

¹⁶ National Plan of Government of Bangladesh.

¹⁷ SAARC Framework for Action (SFA) 2006-2015 (National Plan of Government of Bangladesh).

¹⁸ UNISDR

(DMIC) is a virtual centre for information exchange, and there are forums in which various stakeholders participate.¹⁹ But there is no formal, common communication platform on disaster preparedness for a cyclone.

The Ministry of Disaster Management and Relief (MODMR) is the main coordinating organ of the government directed by the National Disaster Management Council (NDMC; headed by the Prime Minister) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) to deal with disasters. Department of Disaster Management (DDM) is the focal point for disaster preparedness at national level, whereas various disaster management committees are responsible for disaster preparedness at district, sub-district, and local level. It is observed that there is very often overlapping of activities between the central level and local level committees.

However, Department of Disaster Management (DDM) is the lead coordinating agency for disaster preparedness. It receives support from warning issuance centers (Bangladesh Meteorological Department (BMD), Flood Forecasting Warning Centre (FFWC); warning dissemination hubs (such as the Disaster Management and Information Centre, Emergency Operation Centre, National Electronic and Print Media, Cyclone Preparedness Programme and others); and emergency management coordination [Directorate of Relief and Rehabilitation [DRR], Director General of Food, Emergency Operation Centre, Armed Forces' Division, Directorate of Health, Department of Public Health Engineering, and others. sometimes the official don't get support and message on time during a cyclone.

However, Early Warning Centre under the Ministry of Water Resources send bulletin containing information on height of water in different media and news agencies every day in advance through e-mail, fax and courier. On the other hand, Centre for Environmental and Geographic Information Services under the Ministry of Water Resources publish annual report on erosion of different major rivers in some important places.²⁰ Interestingly, it is very common to find that report on both sides about the intensity of cyclone in the coastal areas is somewhat conflicting.

Poor cooperation amongst international/bilateral Technical and Financial Cooperation

Another challenge for the effective implementation of disaster management strategies is cooperation amongst international/-bilateral Technical and Financial Cooperation. In the wake of the last cyclone, Sidr in 2007, British Broadcasting Corporation (BBC) reported, "*Plenty of agencies, but not enough*

¹⁹ Crowards, Tom (May, 2000). "*Comparative Vulnerability to Natural Disasters in the Caribbean*" Caribbean Development Bank, Staff Working Paper No. 1/00. Social and Economic Research Unit, Economics and Programming Department Paper presented at the OAS/USDE-NOAA/CSC Workshop on Vulnerability Assessment Techniques, Charleston, South Carolina, March 20-22, 2000.

²⁰ Huda, Md. Nurul 2010, cited by Oxfam-GB (March, 2011). "*Handbook Women Leadership in Disaster Management*" ISBN: 978-984-33-3086-4.

*aid- too little, too late,” and further quoted a professional working in an coastal affected area, “The reason why these people are not receiving enough help is because there is no coordination between the government and aid agencies”.*²¹

There are some striking examples of poor management and coordination in the coastal areas in Bangladesh. Southkhali village in Shoronkhola upazila of Bagerhat district was one the worst victims areas in cyclone Sidr 2007. During a visit after the event to the area, the Indian foreign minister pledged his country’s intention to build all the houses in this area and the surrounding villages. From then onwards, nominal government initiative was taken to give shelters to the affected coastal people in this area. Actaully a virtual official ban was put into effect on others, including NGOs and aid agencies, to build houses for the affected people. However, the pledged Indian support did not come in due time and even 100 days after the event. As a consequence, coastal people in this area were forced to live under the open sky. Perhaps this unfortunate decision arose from the lack of bilateral coordination between Bangladesh and India. In addition, it is also blamed that bureaucracy on both sides in these two countries, a lack of understanding of not giving shelter to victims in time, even when in disaster.²²

Absence of Inconsistency among Agencies

There is inconsistency in assessment tools used by various agencies. The challenge is to ensure that best practices and tools used by CDMP gets acceptance by DDM and other stakeholders. The systems developed at CDMP face constraints due to non-availability of baseline data, access to satellite images and weak linkages between GIS and disaster related databases.²³ Hence, the best practices of CDMP will be successful if smooth flow of information in the current bureaucratic set up is ensured.

On the other hand, as experiences of major cyclone in the context of Bangladesh have shown, funding for disaster response has not been a problem for the NGO sector in Bangladesh. Most of the relief and rehabilitation funds come from external donors. Given the humanitarian drive in funding emergency relief programs soon after a major disaster the NGOs are found to be ‘*over-inundated by funds*’ that are ‘*beyond their management capacity and*

²¹ Haque, Emdad and Uddin, Salim M. (2013). “*Disaster Management Discourse in Bangladesh: A Shift from Post-Event Response to the Preparedness and Mitigation Approach through Institutional Partnerships*” “Approaches to Disaster Management-Examining the Implications of Hazards, Emergencies and Disasters” Prof. John Tiefenbacher (Ed.), ISBN: 978-953-51-1093-4, InTech, DOI: 10.5772/54973. Available at- <http://www.intechopen.com/books/approaches-to-disaster-management-examining-the-implications-of-hazards-emergencies-and-disasters/disaster-management-discourse-in-bangladesh-a-shift-from-post-event-response-to-the-preparedness-and> (Last accessed on 13 June, 2014).

²² Ibid

²³ Report of the Technical Advisory Mission to Bangladesh 19-23 June, 2010, United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

remained unutilized'.²⁴ In this situation of 'abundance' of disaster funds supplied from external sources, the private sector tends to lack incentives in funding disaster management initiatives.²⁵

Lack of community network

Cyclone Preparedness Programme (CPP) under the MODMR publicize early warning at community level in cyclone-prone areas with the help of community based voluntary networks. It is observed that in many cases coordination gap arises due to lack of activities of community network in the coastal areas.

The CPP experience shows that proper guidance, transparency and access to information needs at all stages of a project, including the planning, implementation and evaluation stages of development initiatives. It is found that CPP lacks recognition of people's worth in coastal community's disaster management initiatives. Although volunteers' sincerity and firm commitment to the fundamental principles of humanity, impartiality, neutrality, independence, voluntary service, unity and universality are inherent in the Red Cross movement, these were cultivated through a sustained training program.²⁶

Funding for disaster management activities in Bangladesh lacks focus on preparedness and requires broad-based and long-term commitments. It has been a problem both for the government and NGOs. The culture of response to cyclone has remained reactive and short-term in nature rather than proactive and long-term. Though recent studies noted that disaster management seems to be increasingly incorporated in the policy documents of NGOs, linking of disaster management as an integral part of development programs is yet to emerge.²⁷

Unawareness to Warning Message

The cyclone warning bulletins in Bangladesh have been criticized by many experts at both home and abroad. The cyclone bulletins through electronic media are being disseminated using very polished and formal language with some meteorological terms. Many people, particularly the elderly and women, living in the coastal areas are not familiar with the language used in the weather bulletin. As a consequence, they are used to fail to understand the warning announcement. It has been attempted to understand the causes of partial understanding the news bulletins in relation to level of education. In a

²⁴ Cutler, Peter et al. (1989). "Evaluation of Post Flood Rehabilitation Projects of Four NGOs in Bangladesh" A Study undertaken on behalf of NORAD, SIDA, CIDA. (mimeo); Swedegroup International Consultants 2000 Study of the Swedish Rehabilitation Support to Bangladesh. Flood 1998. (Mimeo).

²⁵ 'Abundance' here is defined in terms of the utilizing capacity of the funds' recipients.

²⁶ Mathbor, Golam M. (2007). "Enhancement of Community Preparedness for Natural Disasters: The Role of Social Work in Building Social Capital for Sustainable Disaster Relief and Management" International Social Work, 50 (3): 357–369, Sage Publications: Los Angeles, London, New Delhi and Singapore.

²⁷ Matin, Nilufar and Muhammad, Taher and Matin, Nilufar (July, 2002). "Corporate Social Responsibility and Natural Disaster Reduction: Insights from Bangladesh"

survey it is found that about 35% illiterate people fail to understand the news bulletin clearly and about 30% people having primary and secondary education could only partially understand such bulletins. On the other hand, more than 85% people having higher secondary and above level of education can clearly understand these bulletins. Such an analysis indicates the strong positive relationship between the levels of education and the understanding of the warning signals in the coastal areas in Bangladesh. The illiterate and less educated people face difficulties in understanding properly the electronic media transmitted cyclone warning signals.²⁸

Reducing the losses of life and property caused by cyclones is now a objective receiving worldwide attention. Bangladesh is not exception to take such measures. Therefore, current cyclone warning system needs to be changed according to the needs and understanding of coastal people. It is stressed that attention should be given to transmit the warning bulletins in local dialects.

There is communication gap due to late responses of warnings and a complex decision-making process in Bangladesh. The coastal people's particular process of response to cyclone can make them vulnerable during disaster. As they are used to facing multiple hazards each year, their responses to warnings depend on the intensity of wind speed, local belief in the probability of cyclone events, or the presence of a cyclone signal hoisted by the Bangladesh Meteorological Department (BMD). If the symptoms of previous hazards coincide with a BMD warning of about six to seven on average, they start to prepare to save belongings or decide to leave their homes for a cyclone shelter or other stronger buildings nearby. Before that, they adopt a 'wait-and-see' approach, observing whether the cyclone intensity is rising.²⁹

Furthermore it is observed that the weather department of the government of Bangladesh forecasts weather bulletin and early warning signal but coastal people have little trust on these. There is apperception among the coastal people that forecasted news, in many cases, treated as fake. Furthermore, still many coastal inhabitants who usually depend upon God's mercy and follow the Wait and See policy.

The related information about cyclone formation and its tracking are collected from international satellite images. The warning system uses a scale from 1 to 11 for the sea ports and 1 to 4 for river ports. The differences in cyclone severity indicated by the 11 point scale have limited use for the coastal inhabitants because they do not contain specific information regarding the wind speed and direction, possible surge heights relative to ground levels,

²⁸ M. Shahidul Islam, Mohammad Sahid Ullah and Alak Paul (2004). "Community Response to Broadcast Media for Cyclone Warning and Disaster Mitigation: A Perception Study of Coastal People with Special Reference to Meghna Estuary in Bangladesh" Bangladesh Asian Journal of Water, Environment and Pollution, Vol. 1, No. 1 & 2, pp. 55-64.

²⁹ Ibid

possibilities of inundation and damages etc. However, there is general comprehension that the higher the number, the more urgent the need to react.³⁰ During the Cyclone Sidr on 15 November 2007, the affected people were found to have been reluctant to respond to cyclone warnings, even when the warning signal was raised to 10 for them. This was because they had not experienced a similar major cyclone since 1970 having warning signal 10. During Cyclone Sidr, most of the affected households only left their houses when they saw water coming close.³¹

Disaster response and recovery efforts require timely interaction of public emergency in order to save lives and property. Therefore, it is necessary to enhance coordination between organizations of MOD (technology providers) and MODMR (technology users). Thus it might ensure working level cooperation among DDM, DRR, SPARRSO and BMD with sole purpose of considering space based resources as a common resource for disaster management.³²

On the other hand, poverty-stricken people who used to live in the coastal areas have limited access to media in Bangladesh. Access to the media depends upon their income level. Illiterate and less educated people of these areas face some difficulties in understanding radio and television transmitted cyclone warning signals for a number of reasons. Furthermore, news disseminated by radio and television media lack authenticity, simplicity and credibility. Early cyclone warning and preventive education system can be developed to educate and create awareness among the coastal people. It is also stressed that year round programs on cyclonic preparedness and mitigation need to be published and broadcast by print and electronic media to create awareness so as to reduce coordination gap in facing any cyclone in future.³³

Weaknesses of Sustained Plan for Disaster Management

Disaster management must not only be understood as relief work, but as combination of emergency response and measures taken to reduce disaster risk in the first place. To break the vicious circle susceptibility to disasters, an integrated approach to disaster management and development planning is required.³⁴

³⁰ Ibid

³¹ (2010). “*Cyclone Disaster Vulnerability and Response Experiences in Coastal Bangladesh*” Alam, Edris Assistant Professor and Disaster and Development Centre Affiliate, Department of Geography and Environmental Studies, University of Chittagong, Bangladesh and Andrew E. Collins Reader in Disaster and Development, Disaster and Development Centre, School of Applied Sciences, Northumbria University, United Kingdom. Available at- <http://www.ncbi.nlm.nih.gov/pubmed/20561338> (Last accessed on 10 May, 2014).

³² Report of the Technical Advisory Mission to Bangladesh 19-23 June, 2010, United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

³³ Ibid

³⁴ Ahrens and Rudolph, The Importance of Governance in Risk Reduction and Disaster Management, *Journal of Contingencies and Crisis Management*, Volume 14 Number 4 December 2006, P207-220

The National Plan for Disaster Management (NPDM) 2010-2015 developed in 2010 by MODMR, which is an outcome of the national and international commitments for addressing the disaster risks comprehensively. The key focus of the plan is to establish institutional accountability in preparing and implementing disaster management plans at different levels of the country. The NPDM incorporates Disaster Risk Reduction and Hazard Specific Multi-Sectoral Plans to create effective mechanism for reducing risk and achieving sustainable development. The scope of the plan is to cover disaster threat analysis, vulnerability identification, investigations of disaster reduction measures, responsibilities assignment, funding provision, cost management and system for coordination.³⁵

Currently, there is no provision outlined in Standing Orders on Disasters (SOD) to use space based information for rapid assessment, which also reflect in practice as space based information does not contribute enough to the rapid assessment despite the presence of centers of excellence like SPARRSO and CEGIS. National Plan for Disaster Management (NPDM) 2010-2015 defines use of the space-based technology and GIS for hazard assessment mapping.³⁶

Although, the space based information is used as the reference information for disaster risk management and emergency response, it has not entered in the decision making process. The obvious reason is that it is not fully considered in the SOD and NPDM. Therefore, it is argued that a consistent effort of awareness generation and capacity building is the need for decision makers. Additionally, emphasis should be given to develop capacity of DDM and DRR to be able to use expertise and the services offered by the organizations such as SPARRSO and CEGIS.³⁷

The access to moderate and high resolution satellite data is one of the main challenge in using space based information for disaster management in Bangladesh. At present the ground stations at SPARRSO mainly receives data from low resolution meteorological satellites. The bilateral agreements need to be in place to receive such data from neighboring countries. Another challenge is that existing capacity of the staff in the skills related to image processing is not adequate to explore full potential of the space based resources. The advance training on image processing, including microwave data processing, is need of the time.³⁸

On the other hand, vision of BTRC is to facilitate affordable telecommunication services of acceptable quality for all regardless of their location. BTRC is aware of the need to plan emergency communications systems in cooperation with DDM based on the past experiences during cyclones when all existing communication systems were out of order for several days.³⁹

³⁵ Report of the Technical Advisory Mission to Bangladesh 19-23 June, 2010, United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

³⁶ Ibid

³⁷ Ibid

³⁸ Ibid

³⁹ Ibid

It is now recognized that the community require a risk-sensitive approach to ensure accelerated achievement and sustainability. Following of this path the sufferer countries also reiterated their commitment to address disaster risk reduction and the building of resilience to disasters with a renewed sense of urgency within the context of sustainable development and poverty eradication. In case of Bangladesh, the progress to attain to integrate both disaster risk reduction and the building of resilience into policies, plans, programmes and budgets at all levels and to consider both within relevant frameworks. These initiatives have included both the risks and consequences of disaster that include disaster risk and its management. In those frameworks, involvements of local government bodies and local communities consider an essential part of the disaster management strategy in the coastal area. Despite of these policy initiatives and programs, successful implementation of disaster management is still facing challenges in the coastal areas in Bangladesh.

Capacity building at Disaster Management (DM) institution is required to develop interface between the technology provider organizations and disaster management institutions. For example, appropriate capacity of DDM will require services offered by SPARRSO, BMD and other organizations like CEGIS.⁴⁰ It is also important to develop data and information sharing policies and coordination mechanism for supporting disaster management at national level. It is focused on the notion that data is a national property and need to be shared openly, particularly in the event of cyclonic disaster. To facilitate data sharing, the data catalogue and sharing platform should be created based on existing resources.⁴¹

The Importance of Accountability in Disaster Management

Accountability ensures incentive-compatibility of public action. This is one of the key features of governance structure that fosters development and supports risk reduction. This concept is applied in order to identify pointers of how to improve governance quality so that hazard management could be improved and capacities to manage disaster situations enhanced.⁴² The nexus of coordination and accountability is that the disaster management programme failure and bad governance is especially the poor in developing countries who lack the administrative, organizational, financial, and political capacity to effectively cope with disasters and who are particularly vulnerable: (UNDP, 2004). Accountability involves an agreement on clear roles and responsibilities of organisations as well as individuals and a reporting on the actions taken on

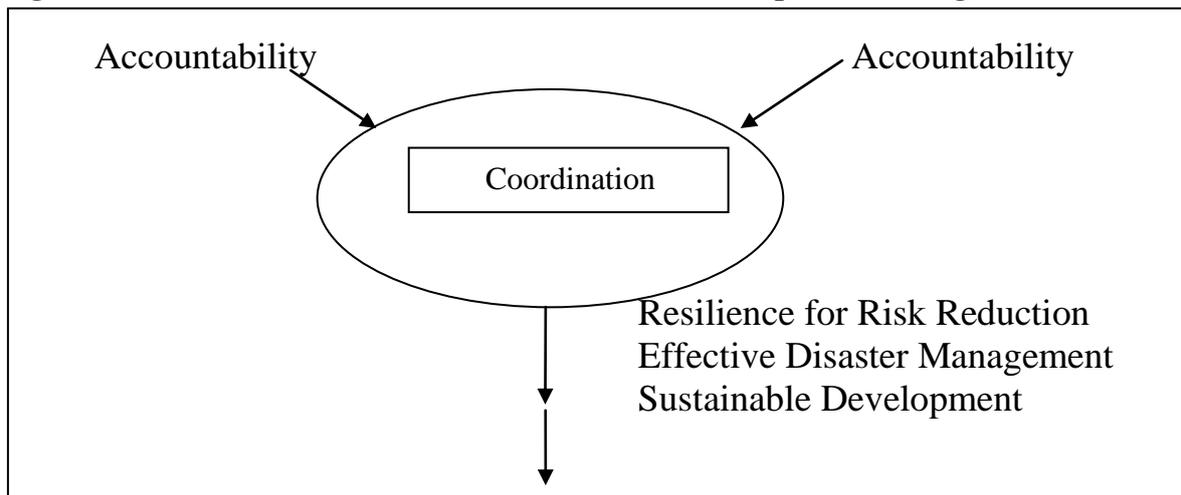
⁴⁰ Report of the Technical Advisory Mission to Bangladesh 19-23 June, 2010, United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

⁴¹ Report of the Technical Advisory Mission to Bangladesh 19-23 June, 2010, United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

⁴² Ahrens and Rudolph, The Importance of Governance in Risk Reduction and Disaster Management, *Journal of Contingencies and Crisis Management*, Volume 14 Number 4 December 2006, P207-220

the basis of which stakeholders may check if their views and needs have been taken into account and whether agreed standards of performance have been complied with.(Klitgaard, 1997; Turner and Hulme, 1997).accountability and all other strategic vision are key factors when implementing a governance structure aimed at sustainable development and disaster risk reduction (UNDP, 2004). Accountability works in two different directions: downwards, i.e. to constituencies or beneficiaries (e.g. through elections), and upwards, i.e. to donors or higher levels of government (through performance reviews, e.g.). When it comes to disaster risk reduction, downwards accountability is especially important.

Figure: Actors of Governance Structure and Development linkage



Source: Author's compilation

In conclusion, the GOB in recent years has taken a comprehensive and integrated approach to disaster management. But in the absence of coordination, a strong institutional cooperation approach remains largely on paper. It is found that the GOB and the various concerned agencies are taking part side by side to reduce the sufferings. Adequate coordination facilities should be provided to all those participating in disaster management activities and appropriate procedure of accountability can develop its efficiency and sustainability.