

# Governance Analysis on Natural Resource Management and Ecosystem Protection in Bangladesh

Shamrita Zaman

## Abstract

*Climate and its changing patterns constitute a dominant driver of natural systems. Proper management of the natural resource requires effective governance framework. This governance approach mainly focuses on the management of natural resource and ecosystem. To inquire the legal aspects on natural resource management and ecosystem protection, available legal documents in Bangladesh were studied based on a specific questionnaire. In the case of natural resource management-conservation of the protected areas, prohibition of hunting endangered species, protection of their habitats, dissemination of information such as environmental impact assessment, national report on the state of environment etc. are protected by relevant national laws. Again, in case of ecosystem protection - restoration of ecological function, management of aquatic, coastal and marine ecosystem, prevention of the decrease of harvested population of animals and plants, sustainable use of biological diversity and its component into physical planning system are also protected by national legal system. However protections of non-target species are not covered by the existing policies. Again in case of water resource management- institutional arrangements and substantive norms for sharing the river basin in an equitable manner for transboundary rivers are also protected by national legal acts and treaties. In the context of natural resource management, it is clear that established governance approach must be developed for promoting a healthy ecosystem. Overall, the goal of this analysis is, therefore, to find out whether the conservation of natural resources are protected by existing laws, acts and policies of Bangladesh or not? Finally this study will detect the existing gaps (if any) of laws & policies which should be undertaken to establish good governance in Bangladesh. The finding of the study will be helpful for the policy makers in Bangladesh as well as other climate stressed countries.*

**Keywords:** Natural Resource, Governance, Climate Change, Adaptation, Migration.

## **Introduction**

In order to attain the sustainable use of natural resources and to achieve a healthy ecosystem, environmental governance is imperative. So, this aims to have a transparent system of well functioning environmental institutions, acts, policies, and programs that actively engage people in their formulation and implementation. An established and effective environmental governance system is indispensable for the sustainable development. According to International Panel on Climate Change (IPCC) Fourth Assessment Report, the Asia and Pacific are going to face awful shocks of climate change in case of numbers of people and volume of assets. These poor impacts include sea level rise, significant temperature increases, anomalies in weather condition, differing rainfall patterns, floods and more dreadful tropical cyclones (ADB, 2012).

Bangladesh is one of the South Asian countries which is mostly vulnerable because of its high degree of exposure to environmental risks. As a consequence of the high population density, poverty and lack of consciousness; environmental degradation, depletion of natural resources and disorderliness in ecosystem approach are often observed in Bangladesh. Again due to the geographical location, this region is mostly affected by disasters which also cause a great threat to natural resources and ecosystem. By the year 2050, 8% of the low lying lands may become inundated forever, 70 million people could be affected by flood annually, about 8 million people will be affected due to drought (IPCC, 2007). This climate changing pattern often causes negative impacts on ecosystem as well as natural resources and Bangladesh has already experienced some of these impacts. Hence environmental planning is vital for Bangladesh's more than 115 million people to survive with honor as well as for sustainability of the ecosystems (MoEF, 1995). To meet up the challenges in case of protecting our natural resources and biodiversity from disastrous effects of climate change, the country should undertake different measures to ensure better governance at environmental arena.

The paper attempts to examine the current status of the existing environmental governance system) in the context of natural resource management and ecosystem protection in Bangladesh, including significant gaps (if any) and recommend possible ways onward to ensure sustained environmental management for attaining sustainable development in natural resource management and ecosystem approach.

## **Methodology**

The focus of this study is therefore, to find out, whether the conservation of natural resources and ecosystem are protected by existing laws and policies of Bangladesh or not. To inquire the legal aspects on natural resource management and ecosystem protection, existing literature like legal laws, acts, plans and policies were surveyed based on a specific questionnaire

where questions were classified into three categories: directly relevant, indirectly relevant and uncertain relevant. Again articles found in scholarly journals were also viewed for the assistance of this analysis. This study will help us to derive a gap analysis identifying areas where there are problems like absence of legislation or policy, gaps between demand of the policy and response from the legal and institutional frameworks etc.

### **Governance: Conceptual discussion**

A review of environmental governance should begin by reconsidering the concept of governance which has achieved growing attention to the authorities, policy makers and civil society. Governance is the process of making decision and the process of implementing decision. Actually, the definition of governance is abundant. The most commonly used definitions of governance from United Nations Development Program (UNDP), Europe Commission (EC) and the World Bank, respectively are given below.

According to UNDP “governance is defined as comprising the mechanisms, processes and institutions that determine how power is exercised, how decisions are made on issues of public concern, and how citizens articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. (UNDP, 2010)

According to the European Commission “Governance concerns the state’s ability to serve the citizens. It refers to the rules, processes, and behavior by which interests are articulated, resources are managed, and power is exercised in society. The way public functions are carried out, public resources are managed and public regulatory powers are exercised is the major issue to be addressed in that context. In spite of its open and broad character, governance is a meaningful and practical concept relating to the very basic aspects of the functioning of any society and political and social systems. As the concepts of human rights, democratization and democracy, the rule of law, civil society, decentralized power sharing, and sound public administration gain importance and relevance as a society develops into a more sophisticated political system, governance evolves into good governance.” (European Commission, 2003)

According to World Bank<sup>1</sup>, governance is defined as the traditions and institutions by which authority in a country is exercised for the common good. This includes (i) the process by which those in authority are selected, monitored and replaced, (ii) the capacity of the government to effectively manage its resources and implement sound policies, and (iii) the respect of citizens and the state for the institutions that govern economic and social interactions among them.

---

<sup>1</sup> What is our approach to governance. Retrieved from <http://go.worldbank.org/MKOG258V0>

So the general theme in these three definitions is how political, administrative and economic authorities handle a nation's affair. It is the composite mechanisms, processes, relationships and institutions through which citizens and groups express their interests, implement their rights and obligations and mediate their differences. Although the definitions from World Bank and Europe Commission are state oriented but UNDP's definition strictly gives an importance on the relation between the authority and the citizen.

According to UNDP, the essential characteristics of good governance is (IFAD, 1999) -

### **Participation**

All men and women should have a voice in decision-making, either directly or through legitimate intermediate institutions that represent their interests. Such broad participation is built on freedom of association and speech, as well as on the capacity to participate constructively.

### **Rule of law.**

Legal frameworks should be fair and enforced impartially, particularly the laws on human rights.

### **Transparency**

This concept is built on the free flow of information. processes, institutions and information should be directly accessible to those concerned, and enough information should be provided to render them understandable and monitorable.

### **Responsiveness**

Institutions and processes should serve all stakeholders.

### **Consensus orientation**

Good governance should mediate differing interests in order to reach broad consensus on the best interests of the group and, where possible, on policies and procedures.

### **Equity**

All men and women should have equal opportunity to maintain or improve their well-being.

### **Effectiveness and efficiency**

Processes and institutions should produce results that meet needs while making the best use of resources.

### **Accountability**

Decision-makers in government, the private sector and civil-society organizations should be accountable to the public as well as to institutional stakeholders. This accountability differs depending on the organization and whether the decision is internal or external to an organization.

## **Strategic vision**

Leaders and the public should have a broad and long-term perspective on good governance and human development, together with a sense of what is needed for such development. There should also be an understanding of the historical, cultural and social complexities in which that perspective is grounded

Good governance, for the World Bank, is synonymous with sound development management. Again it also says, Good governance is central to creating and sustaining an environment which fosters strong and equitable development, and it is an essential complement to sound economic policies. (World Bank, 1992)

On a whole the significant element of governance is to regulate the interaction of different groups like focusing the relationship between the state and the citizen, the authority and the community. Besides government has a vital role to create a peaceful environment so that all these relationships can be managed. Within the same circumstance different themes of governance will also reveal different aspects. For example, natural resource management reflects the relationship between the authority and the citizens. Again in case of governance in water resources, there exists a strong relationship between the government and citizen. Here governance system monitors not only the provision and maintenance of hydraulic structures but also regulates interaction between different user groups. Therefore the word environment has a strong relationship with natural resource management and ecosystem approach. So, we must have a clear conception on environmental governance

## **Environmental Governance**

Environmental governance is the utmost consideration for managing all activities like—political, social, natural and economic as it is a concept in environmental policy and political ecology that advocates creating sustainable development. According to United Nations Environment Program (UNEP)<sup>2</sup>, “Environmental Governance comprises the rules, practices, policies and institutions that shape how humans interact with the environment”.

In a developing country like Bangladesh it is very important to ensure environmental governance in the field of natural resource management (NRM) and ecosystem. The term natural resource governance is defined by a group of experts from Asian countries as the interactions of formal and informal laws, rules, policies and processes through which a society formulates and implements powers and responsibilities (IUCN 2012).

---

<sup>2</sup> UNEP and Environmental Governance at a Glance. Can be retrieved <http://www.unep.org/pdf/brochures/EnvironmentalGovernance.pdf>

Bangladesh has a very small area of 147,000 sq. kms with naturally blessed resources and a diversity of ecosystems. It has around 7 and 8 million hectares wetlands area and about 2.52 million hectares of forest land area. Here over 80% people are engaged in agriculture and fisheries for earning their livelihood. The ecosystem services (ES) of deltas support high population densities whose lives are vulnerable because of the environmental pollution and degradation. So it is very necessary to establish a sound environmental governance system and rightly functioning institutions and organizations responsible for managing all the environmental components (e.g soil, air, water, natural resources and biodiversity) to secure people's life and livelihood. Policymakers involving planning, making, implementing and monitoring decisions that affect natural resources and its users - including civil society, government and non-government bodies, have to understand the basic concepts, principles of environmental governance and apply them in their daily work.

### **Current state of governance in case of natural resource management and ecosystem in Bangladesh:**

Here, governance analysis has objectives to poverty reduction and natural resource management. IUCN designs the idea regarding natural resource management is to involve underprivileged communities, protect their rights and marginalized groups for the sustainable management of natural resources; is the central theme of all international development assistance (IUCN 2012). IUCN gives this idea especially for the developing countries like Bangladesh where most of the people live under poverty line.

Over the year, Bangladesh is very concern about its forests, forest timber and non-timber products, conservation of its biodiversity. Forests of Bangladesh are generally dense, irregular aged and develop in biodiversity. As we are agrarian citizen, so the necessity of forest in our national life is indispensable. Protection of forest is included in our national policy as forest is the means to control erosion and floods and it has a vast role in climate system. In 'National Biodiversity strategy and action plan' some significant strategies are taken for better conservation and management of forests which will slow the rate of runoff in watersheds. As a result, forests help to minimize flooding in watersheds besides maximize minimum stream flows during the dry season. For the protection and preservation of forest, afforestation is inevitable. In the pursuance of section 3.9.1 in Environment policy, 2013 government includes tree plantation in all relevant development schemes, as an appropriate measure, for the conservation, expansion and development of forests. (MoEF, 2013).

The establishment and management of protected areas is one of the ways to protect natural resources and restore ecosystem. All sanctuaries, national parks, community conservation areas, safari parks, ecoparks, botanical gardens are declared as protected area" (MoEF, 2012) . The most relevant

portions of the National Forest Policy, 1994 that explain on protected area management is as follows:

- About 20% of the country's land will be included under afforestation programs and this attempt will be taken by government and private sectors by year 2015. Attempt needs participatory approach among government, NGOs and the general people
- Attempts will be made to conserve protected areas like National Parks, Wildlife Sanctuaries and Game Reserves. Ultimate goal is to increase the amount of this protected area by 10% of the reserved forestland by the year 2015.
- Slopes of the hills, frail watersheds and swamps etc. which are the unapproachable areas will be conserved as protected forests.
- Tree plantation in reserved forests will be done through people's participation. NGOs will have opportunities to participate in this program. The use of agroforestry will be encouraged. Besides the available lands in Sylhet and Chittagong which are allocated for tea cultivation & still remain uncultivated should be used for afforestation program.
- Ecotourism will be endorsed taking into consideration the nature's carrying capacity.
- Consciousness among the people regarding afforestation, preservation, and use of forest resources will be increased through massive campaign by the government and non-government bodies.
- National Forestry Policy will be implemented by strengthening educational, training and research organizations. This strategy will be helpful to forestry sector development.
- Laws, rules and regulations relating to the forestry sector will be revised and if necessary, new laws and rules will be enforced with goals and objectives of National Forestry Policy.

Not only protection of forests, but also preservation of wild animals, endangered species, protection of their habitats etc. are protected by national laws and policies of Bangladesh. For the conservation of endangered species, some short, medium and long term strategies are taken by National Biodiversity strategy and action plan, (NBSAP) to protect their habitats and where necessary develop and apply recovery or restoration plans for such species. In short term action, maintain rehabilitation of the rare, threatened and endangered native, implement plans for management of species under the endangered categories, develop action plans for reducing pollution level both in rural and urban areas, steps for renovation of degraded ecosystems etc. are included. Short term actions will exist for three years. Hence medium term actions, which exist for 4-7 years, are to develop mechanisms to arrest degradation and restore ecosystems as much as possible and update and maintain Red Book lists of vulnerable and endangered species. Therefore the suggested long term actions (about 8-10 years) are to

encourage afforestation and reforestation programs, standardize shifting cultivation and introduce innovative farming practices adopted by farmers (MoEF, 2004).

There also exists some legal bindings to prevent a decrease in the quantity of harvested populations of animals and plants below the level necessary to ensure stable recruitment. Government imposes prevention on catching or destroying Shol, Gozar, Taki and carp fishes that is Ruhi, Catla, Mrigel, Kalabaus and Ghania from rivers, canals or any other sheets of water which has direct linkage with any river, canal, khal or beel during the period of 1<sup>st</sup> day of April to 31<sup>st</sup> day of August, in each year. (MoFL, 1985)

However, a growing realization is that the pressure on the fisheries sector should be lessened to prevent the decrease of fish population. So, in this case Government's taken measure is to create alternative income sectors to diversify poor people's livelihood beyond fishing, thus minimizing the pressure on the fishing resource" (Department of Fisheries, 2006).

Again for proper management of life under water, aquatic ecosystem approach is inevitable. Government policy, therefore, is to protect natural water bodies such as haors, beels, baors and natural wetlands for maintaining the aquatic environment and facilitating drainage (Ministry of Water resource, 1999).

Managing coastal systems as integrated units covering both aquatic and terrestrial components are also covered by existing laws and policies. As per the coastal zone policy, 2005 special measures to conserve natural environment in Sundarban, impede that activities which cause directly poor effects over the coastal biodiversity, synchronize in the provisions of different existing laws and enact new laws to protect coastal environment are included. (Ministry of Water Resources, 2005)

Again we have only one transboundary river sharing treaty and that is "Ganges water sharing treaty- 1996" with India where substantive norms for sharing the river water in an equitable manner without hampering the rights of either country is protected.

Besides our national environmental laws and policies oblige authorities to provide information and where necessary, publish national report on the state of environment including information on the quality of and pressures on the environment. According to the Bangladesh Environment Conservation Act, 1995 government may formulate and circulate environmental reports & guidelines relating to control and reduce environmental pollution, conservation and improvement of the environment. According to MoEF's circular on dated 22.02.2015 "all industry must publish respective EIA (Environmental Impact Assessment) report in such a manner so that it may easily be accessible to the citizen in congruence with ECA, 1995's clause 20[2][ca]<sup>3</sup>.

---

<sup>3</sup> It is obliged to make environmental impact assessment [EIA] before the establishment and development of an Industry

Therefore, despite notable progress in some areas, we also have some deficiencies. A significant gap exists in our governance system.

Although the laws, policies and acts of Bangladesh ensure an outstanding setting of governance to protect biodiversity but there remains no law enforcement to detect non target species. Non target species are “species not specifically targeted as a component of the catch; may be incidentally captured as part of the targeted catch” (U.S Department of Commerce, 2006). Non-target species in the environment including non-target plants need to be specified as it is scientifically proved that some of pesticides start reacting negatively with unspecified plants in agricultural field which are not targeted. If a positive detoxification mechanism is absent among any plant, it will ultimately die or create other adverse effects such as stunted growth of other crops. So decision makers should prepare a list of such non target plants and agro technologists and scientists should find out the tolerance level of that species, trees with different pesticides

On the other hand as like as environmental impact assessment, social impact assessment (SIA) is not addressed by the national policies and acts of Bangladesh. However Local Government Engineering Department (LGED) which is one of the leading engineering departments in Bangladesh prepares different SIA guidelines for different projects. Roads and Highway (R&H) preserves their own. WARPO upholds their own SIA guideline for screening their projects. So it is an important point that there are no legal bindings exists for Social Impact Assessment (SIA) or Strategic Environmental Assessment (SEA) guideline.

Certainly we need to take some further plans & strategies to face the existing challenges in this sector. The required actions need a participatory approach in the management of forest preservation, introducing rural forestry in numerous khas land, along roads, railway side, beside canals, haors - baors and other places where limited trees can be planted, initiating agro- forestry, farm- forestry etc. Some other effective strategies are to introduce salinity and drought-tolerant crops for the farmers to protect their agro products from natural disaster, enlarge the networks of protected areas, restore degraded habitats and ecosystem, implement proper planning to restore ecosystems to accommodate climate change. Overall by increasing environmental consciousness we can limit the challenges.

## **Conclusion**

It is known to all that, the economy of Bangladesh is heavily dependent on climate sensitive sectors and natural resources like agriculture and fisheries (Ahmed et al., 2012). So, a set of effective policy and guideline is inevitable for the proper management of natural resources and ecosystem . Here, i try to discuss some of the existing limitations, lackings of our existing policies. Hence without proper implementation of such policies, all these efforts will go in vain. So it is the major responsibility of the policy maker to emphasize

on the implementation of policy guideline. The implementation of environmental governance is a very typical issue that the government has to take the action for different strategies or policies for NRM to escape from the severe effect of climate change in the long run (Ahmed et al., 2012). Participatory approach is a positive attempt to protect natural resources as well as ecosystem from further degradation. People of all sector should realize the importance of this global issue and come forward for it's protection and conservation.

### **Acknowledgement**

This work was carried out under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), with financial support from the UK Government's Department for International Development (DFiD) and the International Development Research Centre (IDRC), Canada. The views expressed in this work are those of the creators and do not necessarily represent those of DFiD and IDRC or its Board of Governors.

### **References**

1. Asian Development Bank. (2012). Addressing Climate Change and Migration in Asia and the Pacific (Final Report). Manila, Philippines: Author
2. Intergovernmental Panel on Climate Change (2007). Climate Change 2007 Mitigation of Climate Change, (Working group III Contribution to the Fourth Assessment). Geneva, Switzerland. Cambridge University Press, Cambridge, UK
3. Ministry of Environment and Forest. (1995). National Environment Management Action Plan (Volume II: Main Report). Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
4. United Nations Development Program. (2010). A Guide to UNDP Democratic Governance Practice. New York, USA: Author.
5. European Commission. (2003). Communication from the Commission to the Council, The European Parliament and The European Economic and Social Committee: Governance and Development, (COM (2003) 615 final of 20 October 2003). Brussels, Belgium: Author
6. International Fund For Agricultural Development. (1999). Good Governance: An Overview (Sixty-Seventh Session Executive Board Document, (EB 99/67/INF.4)). Rome, Italy: Author
7. World Bank. (1992). Governance and Development. Washington, D.C, USA: Author
8. International Union for Conservation of Nature (IUCN). (2012). Natural Resource Governance: Best practices and lesson learned. Bangladesh country office, Dhaka, Bangladesh: Author
9. Ministry of Environment and Forest. (2004). National Biodiversity Strategy and Action Plan for Bangladesh. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
10. Ministry of Environment and Forest. (2013). National Environment Policy. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author

11. Ministry of Environment and Forest. (2012). Wildlife (Conservation and Security) Life Act. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
12. Ministry of Environment and Forest. (1994). National Forestry Policy. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
13. Ministry of Fisheries and Livestock. (1985). The Protection and Conservation of Fish Rules. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
14. Department of Fisheries . (2006). National Fisheries Strategy. Matshya Bhaban, Ramna, Dhaka: Author
15. Ministry of Water Resource. (1999). National Water policy. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
16. Ministry of Water Resource. (2005). Coastal Zone Policy. Bangladesh Secretariat, Dhaka, Government of the Peoples Republic of Bangladesh: Author
17. Treaty Between the Government of the People's Republic of Bangladesh and Government of the People's Republic of India on Sharing of the Ganga/ Ganges Waters at Farakka, 1996
18. Ministry of Environment and Forest. (1995).The Bangladesh Environment Conservation Act. Bangladesh Secretariat, Dhaka, Government of the People's Republic of Bangladesh: Author
19. United States Department of Commerce. (Revised Edition: June 2006): NOAA Fisheries Glossary by National Oceanic and Atmospheric Administration: Author
20. Ahmed. F., Alamin. A.Q., & Alam. G.M. (2012). Climate change issues: challenges for natural resource management in Bangladesh- a way forward, 4 (1), 68-80. <http://dx.doi.org/10.1504/IJGW.2012.047285>