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Natural Resources Governance: Role of Local Administration in Bangladesh

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Abstract: Natural resources are the key elements in the surviving process of human being. Though the technological advancement and modernity have enlightened the life style of mankind, the main sources of the technological advancement are some way or other related with the natural resources. Therefore, natural resources are the everlasting essential components of day to day world. As a result the effective management of natural resources is essential for ensuring greater development. In these days the term governance is one of the most discussed issues in all most all sectors. Natural resources sector is not an exception. This article tried to identify the natural resources management from governance perspective. The legal aspects from national and international perspective are being briefly addressed in the article. The institutional mechanism at the central and local level has been discussed. The emphasis was given to explore the functions and role of district administration along with the local government institutions and NGOs in ensuring the natural resources governance. An effort was also taken to depict the relationship between the existing developing process and the natural resources management in Bangladesh. This article also tried to identify the challenges of local administration in terms of natural resources management and ensuring the good enough governance.

1.0 Introduction

Natural resources are the gifts of the almighty. This is for sure that no human being can produce a single piece of natural resource without the blessing of the almighty. However, the mankind can utilize and manage the resources for the greater interest of the civilization. The good enough governance in this regard will help to bring about positive change in the national development of the country.

2.0 Governance of Natural Resources

Natural Resources governance and management is closed related and very difficult to understand one without understanding another. Therefore, at the very outset the understanding about the management of natural resources is a prerequisite to understand the whole governance process. Natural resource management refers to the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both

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present and future generations. Natural resource management is congruent with the concept of sustainable development, a scientific principle that forms a basis for sustainable global land management and environmental governance to conserve and preserve natural resources. Natural resource management specifically focuses on a scientific and technical understanding of resources and ecology and the life-supporting capacity of those resources.[1] The term Environmental management is also similar to natural resource management

Governance is about power, relationships and accountability. It thus has a major influence on the achievement of management objectives (effectiveness), the sharing of relevant responsibilities, rights, costs and benefits (equity), and the generation and sustenance of community, political and financial support for wise and sustainable use (sustainability). Governance can be qualified in at least two major ways. One has to do with "type", the other with "quality"

"Governance of natural resources" can be understood as the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say in the management of natural resources-including biodiversity conservation. (IUCN:2004)

2.1 Types of Natural Resources Governance

"Types" of governance of natural resources can be distinguished on the basis of "who holds management authority and responsibility and is expected to be held accountable according to legal, customary or otherwise legitimate rights". In this sense, four broad types (see Table 1) have been discussed at the 5th IUCN World Parks Congress for the case of protected areas 1 and can be cautiously extrapolated to refer to natural resources in general and to biodiversity in particular. Out of the broad context of all existing land and natural resources, which would take us very far, we are concerned here only with the governance of crucially important ecosystems and biodiversity, which demand strong and well-focused conservation efforts. For those, we may have:

2.1.1 A. Governance by the Government

Authority, responsibility and accountability rest with a government ministry or an agency at national, regional or municipal level. The land and resources are subjected to use rules and regulations under the law, and often included as part of a system of protected areas. Management may be directly exercised or delegated but the government retains full ownership and control. At times, the government is committed to inform or consult other concerned parties prior to making management decisions.

2.1.2 Joint Governance by several concerned parties

Authority, responsibility and accountability are shared among a variety of parties, likely to include one or more government agencies, local communities, private landowners and other stakeholders. The parties recognize the legitimacy of their respective entitlements and chose or are required to collaborate. Examples include co-managed protected areas and conservation easements. Ecosystems designated for trans boundary conservation and high-seas protected areas are other promising candidates.

2.1.3 Private Governance

Authority and responsibility rest with the landowners, which may exercise it for profit (e.g., tourism businesses) or not for profit (e.g., foundations, universities, conservation NGOs). Usually, the landowners are fully responsible for decision making and their accountability to the society at large is quite limited.

2.1.4 Community Governance

Authority and responsibility for managing the natural resources rest with the indigenous peoples and/or local communities with customary and/or legal claims over the land and natural resources. The communities have in place some forms of traditional governance, or otherwise locally agreed organizations and rules. Land and resources are usually collectively owned and managed, but partial private or clan-based "ownership" can also be accommodated. Accountability to society at large remains usually limited, although is at times achieved as a counterpart of recognized rights or economic incentives.

• Some basic principles for Natural Resources Governance:

governance of na	
ernoples of good government or valuable biodiversity and scheysterns	The United Nations Principles and other broadly accepted goals and rules of conduct on which they are based?
. Respect human rights. Do no harm!	Universal Declaration of Human Rights Millennium Development Goals
2. Legitimacy and Voice	Participation in governance (Milleunium Declaration) Consensus orientation
3. Subsidiarity	Subsidiarity
s. Falmess	Fair and equitable sharing of the benefits arising out of th utilization of genetic resources (CBO) Rule of law
5. Accountability	Accountability and transparency
i. Performance	Responsiveness Effectiveness and efficiency
7. Direction	Strategic vision Embracing complexities

Source: IUCN, 2004

• Existing International Convention, Treaty and Protocol (ICTPs) on Natural Resources Management

			- 1	
No	Convention, Treaty and Protocol and Place and Year of Signing	Signed	Ratified or Accessed	Being Ratified
1.	International Plant Protection Convention (Rome, 1951)		01.09.78	
2.	Plant Protection Agreement for the South East Asia and Pacific Region (as amended) (Rome, 1956.)		04.12.74 (AC)(entry into force)	
.3	Convention on International Trade in Endangered Species of Wild Fauna and flora (Washington, 1973.) ("CITIES Convention")	20.11.81	18.02.82	
4	United Nations Convention on the Law of the Sea (Montego bay, 1982)		10.12.82	
5	Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal 1987.)		02.08.90 31.10.90 (AC)(entry into force)	
6	Agreement on the Network of Aquaculture Centres in Asia and the Pacific (Bangkok, 1988.)	i,	15.05.90(ratified)	
7	International Convention on Oil Pollution` Preparedness, Response and Cooperation (London, 1990.)	30.11.90		
8	United Nations Framework Convention on Climate Change (New York, 1992)	09.06.92	16.02.94	
9	Convention on Biological Diversity, (Rio De Janeiro, 1992)	05.06.92	20.03.94	
10	International Convention to Combat Desertification, (Paris 1994.)	21.06.94		Ratified by cabinet during October 1995. Instrument has been sent by the Foreign Ministry very recently.
11	United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (Paris, 1994.)	14.10.94	26.01.96	

3.0 Prominent Natural Resources in Bangladesh

The following sections briefly describe the key natural resources of Bangladesh including land, water, fisheries, forestry, biodiversity and agricultural productivity. Each section contains brief discussion on productivity the resources as well as the trends and causes of degradation of the natural resources.

3.1 Land Resources

Bangladesh is a country of about 143,999 sq. km including inland and estuarine water surfaces and has a population estimated at about 132 million in 2000. Although the country is predominantly a plain surface, it is criss-crossed by a very high density of river systems. This gives the country a riverine nature. Being a densely populated country, there has been serious competition for access to and control over land. Over 58% people are functionally landless in Bangladesh, About 17.8 million acres are cultivated land and average household farm (those who have farm land) size is 1.5 acre. Thus, land is the most important resource in Bangladesh and it is under intense use threatening its carrying capacity. The pressure of population on land is a crucial factor in the management of land resources in the country. Availability of land is a major constraints in Bangladesh as virtually all available land is utilized for crop production, homestead, commercial establishment, road network, urban development, forestry, fishing etc. The country lacks a comprehensive land use policy emphasizing the most appropriate and productive use of land. There have been many driving forces compelling people of Bangladesh to over exploit land. These are high population, poverty, improper land use, absence of land policy and ineffective implementation of laws and guidelines. Unplanned agricultural practices (use of agrochemicals) and encroachment of forest areas for agriculture and settlement also put pressure on scarce land resources. Further, unplanned and unscientific rural infrastructure development and the growing demand for increasing urbanization are devouring productive land. Natural process such as river bank erosion, siltations also cause to degrade land.

3.2 Water Resources

The economic growth and development of Bangladesh has been all highly influenced by water - its regional and seasonal availability, and the quality of surface and groundwater. Spatial and seasonal availability of

surface and groundwater is highly responsible to the monsoon climate and physiography of the country. Availability also depends on upstream flow and withdrawal for consumptive and non consumptive uses. In terms of quality, the surface water of the country is unprotected from untreated industrial effluents and municipal wastewater, runoff pollution from chemical fertilizers and pesticides, and oil and lube spillage in the coastal area from the operation of sea and river ports. Water quality also depends on effluent types and discharge quantity from different type of industries, types of agrochemicals used in agriculture, and seasonal water flow and dilution capability by the river system. The contribution of local rainfall to the annual surface runoff is about 25 per cent, with significant seasonal variation. Annual rainfall and evapotranspiration of the country show that there is a substantial excess of rainfall everywhere in the monsoon season. From the annual overall averages, dependable rainfall exceeds evapotranspiration by over 10 per cent in most parts of the country, except in the Northwest (NW) and Southwest (SW) regions. In the NW region, rainfall and evapotranspiration are almost equal, but in the SW the overall deficit is about 10 per cent. From November to May, evapotranspiration exceeds rainfall all over the country, except in the Northeast (NE) region. The largest use of water is made for irrigation. Besides agriculture, some other uses are for domestic and municipal water supply, industry, fishery, forestry and navigation. In addition, water is of fundamental importance for ecology and the wider environment. Water stress occurs when the demand for water exceeds the amount available during a certain period or when poor quality restricts its use. This frequently occurs in areas with low rainfall and high population density or in areas where agricultural land or industrial activities are intense. Even where sufficient long-term freshwater resources do exist, seasonal or annual variations in the availability of freshwater may at times cause water quality degradation. Bangladesh has two problems with water i.e., scarcity of water for agriculture, industrial and domestic uses in the dry season and sometime, abundance of water in monsoon causes flood and natural hazards. But people treat normal flood as boon rather than bane. It is viewed that the country would face serious scarcity of fresh water for agriculture, industry, fisheries and other livelihood activities in near future. Three things happen; flow of up-stream water is decreasing and ground water level is going down particularly in the dry season and at the same time, saline water is intruding to the inland area. The water development and flood control projects have serious negative impacts on wetlands, fisheries and on the ecosystems of some parts of the

country. The increasing urbanization and industrialization of Bangladesh have negative implications for water quality. The pollution from industrial and urban waste effluents, and from agrochemicals in some water bodies and rivers has reached alarming levels. The long-term effects of this water contamination by organic and inorganic substances, many of them toxic, are incalculable. The marine and aquatic ecosystems are affected, and the chemicals that enter the food chain have public health implications. Water quality in the coastal area of Bangladesh is degraded by the intrusion of saline water that has occurred due to lean flow in the dry season. This affects agriculture significantly, as well as other consumptive uses of the water. A common phenomenon in the lower riparian countries is that of enough water in monsoon, but water scarcity during the dry season. It is also common in Bangladesh for areas that were once inundated facing water scarcity in the dry season. Dry season water availability depends on water use for irrigation, dry season rainfall and withdrawal or diversion of water upstream. It has implications for navigation, and the wetland ecosystem and its productivity.

3.4 Fisheries

The people of Bangladesh largely depend on fish to meet their protein needs, especially the poor in rural areas. Several decades ago there was an abundance of fish in this country. But recently, capture fish production has declined to about 50 per cent, with a negative trend of 1.24 per cent per year. Despite the constant depletion of the river, canal, and flood plain habitats for years, Bangladesh still holds the world's most diverse and abundant inland fisheries. But the availability of many species that were very popular locally has been drastically decreased, and some are no longer found in the country. On the migration journey to the floodplains and the return to safe sanctuaries, populations of fish now face many obstacles and hazards, which seriously disturb reproduction in the open water and ponds (Gain, 2002). The physical loss, shrinkage, and modification of aquatic habitats for fish, prawn, turtle and other aquatic organisms are said to be the major factors involved in depleting fish varieties. Such loss or shrinkage of aquatic habitats has been the result of thousands of physical structures, dikes, and drainage systems that have been constructed in Bangladesh in an effort to control floods, cyclones, and other natural calamities. These structures have disrupted the natural flow of waters in closed rivers, diverted rivers, and have dried up water bodies. Such physical constructions have also changed or damaged the local ecosystems and hydrological features, resulting in irreparable

damages to fisheries resources. Studies done under the Flood Action Plan (FAP) declared that all Flood Control Drainage (FCD) and Flood Control Drainage and Irrigation (FCDI) projects contributed to the decline of fish stocks and fisheries by creating obstacles in the fish migration routes. As a consequence, fish production ave declined. Land reclamation required for the implementation of these projects has also reduced the permanent water bodies. The extensive irrigation schemes for agricultural fields, and indiscriminate use of agrochemicals are changing the feeding and breeding grounds of many indigenous fish species. Discharge of pollutants into water bodies (rivers, canals, ponds, etc.) from industries, and over-fishing (especially of juvenile and brood fishes) are highly responsible for the destruction of fish species throughout the country. Short term leasing of haors and baors to individuals for commercial exploitation has led to many species becoming locally extinct. This can be attributed to the practice of almost total intake of fish stocks by dewatering the water bodies while harvesting fish. Moreover, there has been a reduction of sanctuaries for natural replenishment of fish species throughout the country, which is another factor leading to shrinkage and destruction of aquatic habitats.

3.5 Forests

Bangladesh is a forest poor country. The forest cover of the country has shrunk to six percent in the recent years. But still forestry contribute to economy, livelihood of many and ecological stability. Gain P (2002) reports that officially the Forest Department of Bangladesh is supposed to manage around 2.6million hectares or 18 per cent of the land surface of the country, but most part without trees and plants. This is a land mass recorded as forest land when the Forest Act of 1927 came into being. However, according to the Forest Department's latest information it now controls 10.3 percent of land surface (Forest Department 2001). The largest category of the forests of Bangladesh are "reserved forests" which include the Sundarbans (mangroves) in the southwest (601,700 ha), the CHT region in the southeast (322,331 ha) and the Madhupur tracts in the north-central region (17,107 ha). The much smaller category of forest is the protected forests. The basic difference between the reserved and the protected forests is that the inhabitants in the reserved forest areas have no rights over the forest produces but in the protected forests they have far more rights. In many cases the protected forest is an intermediate category which eventually turns into reserved forest. The last category of forest is the unclassed state forests (USF), most in the Chittagong Hill

Tracts (CHT). Village common forests managed by the indigenous people in the CHT include substantially forested portions of the USF lands. The three main types of public forests are; (i) Tropical evergreen of semievergreen forest (640,000 hectares) in the eastern district of Chittagong, Cox's Bazar, Sylhet and the Chittagong Hill Tracts region (hill forest); (ii) Moist of dry deciduous forest also known as sal (Shorea robusta) forest (122,000 hectares) located mainly in the central plains and the freshwater areas in the northeast region; and (iii) Tidal mangrove forests along the coast (520,000 hectares)-the Sundarbans in the southwest of the Khulna and other mangrove patches in the Chittagong, Cox's Bazar and Noakhali coastal belt (Gain, 2002). Population pressure is often cited as a primary reason for encroachment of forest areas and conversion of it to crop lands. While this can sometimes be true, there are many instances of people (especially tribals) living in harmony with forests while protecting and consuming them. Unfortunately, such traditional practices have been lost and a more commercial approach to forest exploitation has led to largescale deforestation in Bangladesh over the last several decades. Natural forests throughout the country are increasingly being depleted. Various types of development activity, such as dikes, highway, road construction, and other infrastructure development have further intensified deforestation, and destruction of natural forests in Bangladesh. Briefly, the other causes of deforestation are listed below. The State of the Environment report of Bangladesh (2001) listed the following factors of degradation of forest resources.

- Shifting cultivation (Jhum), and inappropriate utilization of forest resources,
- Overgrazing, illegal felling, and fuel wood collection,
- Uncontrolled and wasteful commercial exploitation of forest resources,
- Monoculture and commercial plantation,
- High population pressure on forestlands,
- Conversion of forests and wetlands for agricultural use,
- Poverty and unemployment in the rural areas, and
- · Encroachment into forestland.

3.6 Bio-diversity

Bangladesh possesses good terrestrial and aquatic environment that provides habitat for large number of plants, animals and birds. The country has been very rich in biodiversity. The rivers and other inland water bodies provide habitats for 266 indigenous fish species and 150 birds. In Bangladesh, 22 species of Amphibians have been recorded by the IUCN-B in 2000. Some of these are economically important and thus are being exploited commercially. Until the early eighties many traders in the country were exporting frog legs in large quantities. Most of the frogs were collected from the wild, and exported as a frozen food item. This practice also causes insect and predator populations to be affected. The depletion of reptilian fauna in the country is noteworthy. Reptiles are environment friendly as they eat many agricultural pests, and help control their numbers. However, turtles, tortoises, snakes, lizards, and crocodiles are exploited economically because of a tradition of making useful commodities from their body parts, e.g., bones, skins, etc. Therefore, most of them are in high demand by traders in these items, and are overexploited. The mammalian fauna of Bangladesh is the most highly affected from their habitat destruction and over exploitation. Very exceptionally people in Bangladesh use some wildlife species. Most of them are used either as food (e.g. turtles, lizards, snakes, parakeets and hill Mayna, etc.). However, the country is yet to formulate appropriate policies and guidelines to manage the utilization of these biological resources in a sustainable manner. Most of them are exploited in an unsustainable way, and hence, a number of wildlife species have become threatened (State of Environment Report Bangladesh, 2001). Bangladesh has one of the most biologically resourceful and unique mangrove forests known as the Sundarbans. The Sundarbans is the largest mangrove forest in the world. Mangrove forests have a unique combination of terrestrial and aquatic ecosystems. The mangrove forests serve as a natural fence against cyclonic storms and tidal surges, stabilize coastlines, enhance land accretion, and enrich soil near the aquatic environment. The Sundarbans Reserve Forest occupies an area of 601,700 hectares of which 406,900 ha forests, 187,400 ha water (rivers, rivulets, ponds, and canals), 30,100 ha form wildlife sanctuaries, and 4200 hectares are sand bars. It is home to several uniquely adapted flora and fauna, and provides feeding and nursery grounds for many animals. Many animals spend their entire life in the mangroves, whilst others spend some part of it. The mangrove forest is very rich in biodiversity and supports 334 species of plants, as many as 77 insects of different orders, 7 crabs, 1 lobster, 23 shrimp/ prawns, 400 fish, 8 amphibians, 35 reptiles, 270 birds, and 42 species of mammals. There are about 13 and 23 species of orchids and medicinal plants, respectively, found in the Sundarbans. It is also the largest honeyproducting habitat in the country with giant honey bees (Apis dorsata). The best tree for producing honey in the Sundarbans is Khulshi (Aegiceras comiculatum) The Sundarbans is the only remaining habitat of the famous Royal Bengal Tiger (Crocodylus porosus) ocfur extensively in the rivers. The forest harbors large numbers of threatened wildlife species including Python, King Cobra, Adjutant Stork, Whitebellied Sea Eagle, Clawless Otter, Masked Fin-foot, Ring-lizard, and River Terrapin. The Sundarbans is also home to thousands of Spotted deer (Axis axis). Out of 26 species of mangroves, the two dominant ones are the Sundari (Heritiera fomes) and Gewa (Excoecaria agallocha). Among the trees, Gewa and Goran (Ceriops roxburghiana) are being used in newsprint mills for paper production, as well as for fuel-wood. The Sundari and Keora (Sonneratia apetala) are used as timber woods. Leaves of gol pata (Nypa fruticans) are used for thatching. At present, there is no commercial timber felling due to a moratorium imposed by the Government of Bangladesh, with the exception of Gewa and Goran (BCAS,2001). Both flora and fauna are threatened by the loss of habitats resulting from unwise human interventions and resources uses. The unplanned and rapid urbanization and industrialization degrade the ecosystems and thus affect the bio-diversity. The State of Environment report of Bangladesh identified the following key factors that cause to affect flora and fauna: destruction of habitats, overexploitation of flora and fauna, indiscriminate use of agro-chemical and pesticides, industrial pollution, encroachment of wetland and forests and change in land use patterns.

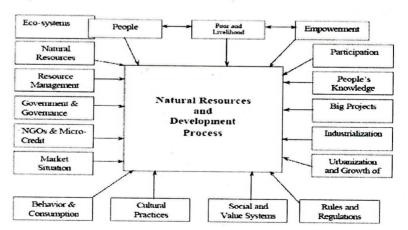
3.7 Agricultural Productivity

The economy of Bangladesh is primarily dependent on agriculture. About 84 percent of the total population live in rural areas and are directly or indirectly engaged in a wide range of agricultural activities. The agriculture sector plays a very important role in the economy of the country accounting for 31.6 percent of total GDP in 1997-98 at constant (1984-85) prices. The agriculture sector comprises crops, forests, fisheries and livestock. Of the agricultural GDP, the crop sub-sector contributes 71 per cent, forest 10 per cent, fisheries 10 percent and livestock 9 per cent. The sector generates 63.2 percent of total national employment, of which crop sectors share is nearly 55 %. Agricultural exports of primary products constituted 10.4% of total exports of the country in 1997-98 (SDNP, 2002).

4.0 Natural Resources Management (NRM) and Development Process in Bangladesh

The development activities and process including development of communication, urbanization, industrializations, growth of agriculture have direct impact on NRMs i.e., land, water and forestry. In Bangladesh, the resources bases are degraded by the un-coordinated planning and development of development activities and programme. A set of people mainly the rich and power elites take the most benefits by utilizing the political power and authority, bureaucracy and market mechanism. On the other hand, the poor and marginal people are powerless and the most vulnerable groups in terms of economic situation, societal and institutional setting. They often do not have enough access to resources as well as credit facilities. They often lack in skills and essential knowledge for resource management and technologies in a changing development process. The existing government policies of Bangladesh are enforced in favor of a small but powerful rich and power-elites while the vast masses are deprived. These unequal systems disbenefit the poor and marginal groups as well as the natural resources and processes. Thus, the mismanagement of resources and unequal control of resources coupled with sometimes counterproductive development policies and processes and increasing population and poverty are largely responsible for environmental degradation. The multi faceted and complex relationships of population, NRMs and development process could be further demonstrated in the following way:

Figure 1: Secondary Linkages of Population, Natural Resources and Development



5.0 District Administration and Natural Resources Governance

Natural resources management and conservation is a priority agenda for the government of Bangladesh. The governing mechanism in this regard has two dimensions. At the central level the ministries and the directorates are mainly formulating the policies and guidelines and in the periphery the district and the upazilla level field offices are responsible for the implementation of the policies and programs. Besides these organizational arrangements the district administration and the upazilla administration are playing key role in terms of monitoring and co coordinating of the development activities of the government at their respective levels. NGOs, voluntary organizations, local communities along with the development partners are also playing important role in ensuring the natural resources management in the district and upazilla levels. The process can be described as follows:

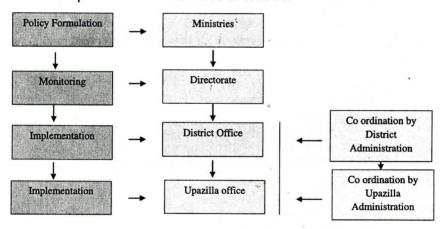


Figure 2: The organizational arrangement and their realationship at the center and peripheri.

District Administration is the chief co-ordinating agency in the district. All most all the activies in a district some way or other are linked with the district administration. The main mechnism of co ordination of the district administration is operanonalized through various committes. There are around hundrad committes in a district. These committes are generally formed by the central governemnt through circulars and notifications in various times. In all most all cases the chairperson for the committes are the Deputy Commissioner (DC). The member secretaries of the committees are generally the district level head of the concern

departments except the district development co ordination committee, district law and order committee and the land related committees. Some committes sit each and every month, some are preiodic and some other sit occasionally (irregular). The key committee in the district is the district development co ordination committee (DDCC). It is headed the DC and comprised of all the district level departmental heads except the district judge. The principles of the government colleges and nominated renowned personalities of the district are also the members of the committee. This committee mainly monitors the developments, look after the problems and challenges and co ordinates all the development works in the districts. Besides this committee there are some specific committees for the various departments. The natural resources in a district is usually refers to the agricultural product, the land resources, the water body, the forest, the fisheries, the livestocks and the mineral resources. The mangement of the natural resources is the concern of mainly some ministries in the central level and their field offices in the district level. The institutional arragement regarding the natural resources mangement are as follows:

Central Agencies:

- · Ministry of Forest and Environment
- · Ministry of Land
- Ministry of Agriculture
- Ministry of Fisheries and Animal Resources.
 - Ministry of Energy, Power and Mineral Resources.

District Level Agencies:

- Office of the Divisional Forest Officer
- · Office of the Deputy Director of Agriculture
- · Office of the Upazilla Nirbahi Officer
- · Office of the Assistant Commissioner Land
- District Fisheries Office
- District Livestock Office.
- · The district Environment Courts (Responsible courts for related cases)

5.1 Legal basis for the Natural Resource Governance in District

The district administration discharges the responsibilities regarding the natural resources governance under certain laws and rules. The major laws and rules encompassing the management of the natural resources in a district are as follows:

Laws, Rules and Policies:

- The Environment policy 1992
- The Bangladesh Environment Conservation Act, 1995
- The Bangladesh Environment Conservation rules, 1997
- The Bangladesh Environment Conservation (Amendment) Act, 2002
- The Bangladesh Environment Court (Amendment) Act, 2002
- The Environment pollution Control Ordinance, 1977
- The Water pollution Control Ordinance, 1970
- The Forest Act, 1927
- The Forest (Amendment) Act, 2000
- The Land Reform Policy 1972
- The Land Reform Policy 1984
- The Play Ground, Open Lake and Ditch, Park and Natural Water body Conservation Act 2000
- The Fisheries Protection and Conservation Act, 1950
- The Bangladesh Wild Life (Preservation) Order, 1974
- The Mine and Mineral Resources (Control and development) Act, 1992
- The Land Management Manual 1990
- The Land Administration Manual, 2003
- The Jalmahal Management and Allotment Policy 2009
- The Agricultural Khas Land Management and Allotment Policy 1997
- The Non Agricultural Khas Land Management and Allotment Policy, 1995

5.2 Governing mechanism and the natural resources governance in district

The management and conservation of the natural resources in a district are run by few tools. The management of natural resources are usually maintained by district level committees on the other hand the conservation and control of non compliances issues are taken care off by the executive and judicial authority. In districts the there are designated courts like the Environment Court and the Mobile Court. The Mobile courts are available in district at the places where any sort of non compliance of laws regarding the natural resources management occurred. There are mainly 15 different committees related to natural resources governance along with the District development co-ordination committee (DDCC). The committees are as follows:

Name of the committee	Concern Department	Key Person	Meeting
District Environment Committee	DC Office	DC,ADC (Gen)	monthly
District Environment Conservation Committee	Divisional Forest Office	DFO	monthly
The District Forest Conservation Committee:	Divisional Forest Office	DFO	Irregular
District Forestation Co ordination Committee:	Divisional Forest Office	DFO	Irregular
District Tree Plantation implementation, monitoring and Evaluation Committee:	Divisional Forest Office	DFO	monthly
District Agriculture Khas Land Management and Allotment Committee:	DC Office	DC,ADC(Rev)	monthly
District Land Reform Taskforce:	DC Office	DC,ADC (Rev)	monthly
The District Jalmahal Management and Allotment Committee:	DC Office	DC,ADC (Rev)	Irregular
District Land Allotment Committee:	DC Office	DC,ADC(Rev) LAO	Irregular
District Under Ground Water Management Committee	Public Health Engineering	Ex -Engineer ,PHE	monthly
District Rock and Sand mahal Lease committee	DC Office	DC,ADC(Rev)	Irregular
District Environment and Forest Development Committee	Divisional Forest Office	DFO	
District Unutilized Acquired Land Management Committee	DC Office	DC,ADC(Rev)L AO	Irregular
District Age Old Tree Cutting and Reforestation beside the Roads and High ways co ordination and implementation Committee	Divisional Forest Office	DFO	Irregular
Land Leasing Committee of water development board	Water development Board	Ex -Engineer WDB	Irregular

- ADC (Rev) Additional Deputy Commissioner Revenue
- LAO Land Acquisition Officer
 DC Office- Office of the Deputy Commissioner
- DFO Divisional Forest Officer

- Major Functions of Some Important Committees at District Level:
 - The District Environment Committee:
 - Preservation of water body, forest and lands.
 - > Recommending necessary initiatives for preventing environment pollution
 - > Implementation of environment related policies.
 - The District Forest Conservation Committee:
 - > Awareness building about the importance of forest
 - > Strengthening the conservation of forest
 - > Eviction of illegal encroachments in the forest.
 - District Forestation Co ordination Committee:
 - Monitoring and implementation of forestation and nursery projects of Asian Development Bank in upazillas
 - District Environment Conservation Committee:
 - Monitoring and co ordination of environment related issues in district
 - District Tree Plantation implementation, monitoring and Evaluation Committee:
 - > Implementation and monitoring of tree plantation under World Food Program.
 - District Agriculture Khas Land Management and Allotment Committee:
 - Monitoring and allotment of khas land among the competent persons or organizations according to the agricultural khas land allotment policy.
 - District Land Reform Taskforce:
 - > Management of class change of various categories of land
 - District Jalmahal Management and Allotment Committee:
 - > Leasing out the government water body
 - > Management of Public water bodies
 - > Eviction of illegal encroachments in the public water bodies.
 - District Land Allotment Committee:
 - Activities regarding the land acquisition and allotment among the requiring body
 - District Under ground Water Management Committee:
 - Monitoring and co ordination of optimum utilization of under ground water.
 - Monitoring the set up of the deep tube wells
 - > Management of class change of various categories of land
 - District Environment and Forest Development Committee:
 - > Tree plantation
 - Social forestry program
 - > Wild life preservation
 - > Maintaining Eco diversity

5.3 Challenges for District Administration in terms of Natural Resources Governance

In a district there are around hundreds of committees headed by Deputy Commissioner. The Deputy Commissioners are over burden with the committees. As a result the intensive monitoring in every sector is not always possible. Though district administration is playing the main role of co ordination in the district, it is lacking of legal authority to monitor and control of activities of other departments in true sense. The judicial authority of the district administration has been reduced through the separation of judiciary. Now the authority of sanction for non compliances of rules and regulation is limited. Sometimes the political interferences in the decision making process is also creates problem in taking the effective and appropriate initiatives. However, the effective decision making and implementation sometimes largely depends on the personal efficiency and managing capacity of the Deputy Commissioners.

5.4 Natural Resources Governance through Various Local Government Acts in Bangladesh

In Bangladesh there are mainly three functional local government bodies exists. They are as follows:

- Upazilla Parishad ----- For Upazilla level
- Pourosova-----For Municipalities
- Union Parishad-----For Union level

All the above local government bodies are run by the elected people's representatives under the guidelines of separate acts of the parliament.

Name of the Act	Target Area	Year of Enactment (latest)
The Upazilla parishad (Repeal act reactivate and amendment) Act, 2009	Upazilla	2009
The Local Government (Union Parishad) Act, 2009	Union	2009
The Local Government (Pourosova) Act, 2009	Municipalities	2009

5.4.1 Natural Resources Governance and the Upazilla Parishad Act

The government of Bangladesh has promulgated the upazilla parishad acts to ensure greater people's participation at the upazilla level. This act has some specific provisions regarding the natural resources management

and preservation. The salient provisions regarding the natural resources management in the act are:

Section 23/ Schedule -2:

According to the section and the schedule of the act the major responsibilities of upazilla parishad as regard to the natural resources governance are as follows:

 Taking initiatives for social forestation and other related activities to ensure environmental conservation and development.

-- Schedule -2 (SL: 17)

 Introduction and implementation of small irrigation projects for better utilization of under ground water.

--Schedule -2 (SL: 4)

Taking initiatives for the development of agriculture, forest and fisheries resources.
 Schedule-2 (SL: 11)

Section 29:

As per the provisions of the section there are obligations for formulating 14 different standing committees in upazilla among which 4 standing committees are directly linked with natural resources governance.

- o Committee on Environment and Forest
- o Committee on Land
- o Committee on Agriculture and Irrigation
- o Committee on Fisheries and Livestock

5.4.2 The Union parishad Act and the Natural Resources Governance

Schedule -2:

According to the schedule-2 of the act the major responsibilities of Union parishad as regard to the natural resources governance are as follows:

- Taking necessary initiatives regarding conservation and development of environment
- Protection and conservation of public Places, parks and play grounds.
- · Taking initiatives for tree plantation and conservation
- Management and preservation of lake, ponds and other sources of water under the government ownership
- Taking initiatives for the development of fisheries, agriculture and livestock

Section 7:

As per the provisions of the section one of the major responsible of the word committee is to prevent the environment pollution and to ensure environment conservation.

Section: 45:

According to the section-45 there are provisions for 13 standing committees in Union parishad among which two standing committees are directly related with the natural resources governance.

- o Environmental conservation, improvement and tree plantation committee
- o Agriculture, Fisheries and Livestock development committee

5.4.3 The Local Government (Pourosova) Act and the Natural Resources Governance

The municipal areas outside the City Corporation is governed by the municipal authorities (popularly known as Pourosova) under the guidelines stipulated in the Local government (Pourosova) Act 2009. In the act there are specific provisions that are related with the natural resources governance.

Section - 50.2 (h):

According to section of the act the one of the major responsibility of Pourosova as regard to the natural resources governance are as follows:

- Conservation of Environment
- Maintenance of Public health
- Tree plantation and preservation

Schedule -2:

According to the schedule -2 of the act the major responsibilities of the Pourosova is as follows:

- o Maintenance of public water body --- (sl:16)
- o Tree plantation -----(sl:50)
- o Maintenance of park-----(sl:51)
- o Maintenance of public open space-----(sl: 52)
- o Forestation-----(sl:53)
- o Activities against the destruction of trees---(sl:54)

5.5 Evaluation of the local government act provisions and the Natural Resources Governance

All the acts have specific provisions regarding the natural resources management under their respective jurisdictions. But the terms of reference of the standing committees and the schedule for regular meetings have not been specified in the acts. And in practices some times the committees have not been formed at all.

6.0 Concluding Remarks

The effective management of natural resources is largely depends on realistic and need based policy frame work as well as on strict and professional implementation of the policy decisions. People's participation specially the stake holder participation is an important tool for ensuring natural resources governance in Bangladesh. And above all it is a huge task, both the public and private sector needs to work together to make it a success.

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