

Towards sustainable use of natural resources



Cormorants perching on branches in water.

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One of the pillars of Sustainable Development Strategy (2016-2030), a universal development agenda of the UN, is addressing climate change issues in the course of the socio-economic development process. Of the 17 thematic goals, 13, 14 and 15 (climate action, life below water, life on land) pertain to addressing climate change impact issues which are facilitating goals to attain other transformative goals. Without addressing these climate-related issues any development effort may turn futile. Addressing these goals relates to the sustainable use of natural resources which include water, forests, land and soil, coastal and marine ecology, and energy resources management. The Sustainable Development Goals (SDGs) have covered the issue of sustainable natural resources adequately and in this context we can review Bangladesh's standing. Sustainable development denotes, "meets the needs of the present without compromising the ability of future generations to meet their own needs," (*Our Common Future*, The Brundtland Commission, United Nations, 1987). Sustainable development (SD) is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come.

The following are some of the major priorities that need to be addressed in Bangladesh urgently:

1. Properly following the environmental sustainability, conservation and efficient use of natural resources which are important cross-cutting elements in the Seventh Five Year Plan, National Sustainable Development Strategy (NSDS) and to-be-prepared Bangladesh Delta Plan (BDP) 2100.

2. Enhancing environmental governance through greater enforcement of existing laws, with active citizen participation, financial incentives and capacity building of different ministries with emphasis on local governments.

3. Promoting sustainable consumption as a key citizen responsibility through education, learning and cultural traits.

4. Greater engagement of the private sector in sustainable production and efficient resource utilisation through research and innovation of technology, and learning from the experience of other countries.

5. Increasing clean energy, clean development mechanisms and green growth strategies.

The Bangladesh government has already taken actions in the following areas: (i) air pollution management and improving urban health; (ii) forests and resilient rural development; (iii) regional cooperation on shared ecological resources; (iv) blue economy development; and (v) large scale afforestation.

Sustainable development is a constitutional obligation in Bangladesh: "The state shall endeavor to protect and

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improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests and wildlife for the present and future citizens." [Article 18A of the Constitution of the People's Republic of Bangladesh]

In pursuant of the outline agreed in the Rio+20 declarations, the NSDS (2010-2021) for Bangladesh has been finalised in 2013 by the Planning Commission.

NSDS Framework: The green economy is not the end, but is a means of achieving sustainable development and

poverty eradication through integrated economic, social and environmental development. Bangladesh also formulated relevant policies and strategies: Environment Policy and Implementation Plan (1992); National Forestry Policy (1994); National Fish Policy (1998); National Policy for Safe Water Supply and Sanitation (1998); National Rural Development Policy (2001); The National Policy for the Advancement of Women (1998); National Water Policy (1999); National Agricultural Policy (1999); National Land Use Policy (2001); Draft Coastal Zone Policy (2004) etc.

Water resources

Water use in the country is heavily dependent on its groundwater resources. In 2010-11, 67 percent of the total irrigated area of 7.45 million hectares was irrigated for groundwater. For its nearly 12.5 million city dwellers, Dhaka WASA (Water Supply & Sewerage Authority) produces 2,110 million litres of water per day, 87.72 percent of which comes from underground while the rest comes from the surface. The groundwater system is under severe threat because of arsenic in groundwater, salinity in the shallow aquifers in the coastal areas and lowering of groundwater level due to unsustainable abstraction. Rivers are the lifelines of Bangladesh. Therefore, it is of paramount importance to keep those healthy and flowing. Unfortunately, there have been developments in the past which are causing problems in sustaining the river system. Such developments include some water development projects, upstream diversion of water and pollution of river water due to industrialisation and urbanisation.

Currently, there are about 500 water development and flood control projects in the country, covering about 40 percent of the country. While these water development and flood control projects have contributed to ensuring the country's food security, there have been serious negative impacts on wetlands, fisheries and the ecosystems of some parts of the country. Different components of the riverine ecosystem such as rivers, wetlands and floodplains have become delinked from each other by these projects along with the roads. As a result, most of the services of floodplain ecosystem have been lost. Bangladesh shares 57 rivers with its upstream neighbours. The upstream water withdrawal in many cases is causing damage to the downstream

riverine ecosystems.

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Preparation of a long-term holistic and integrated plan like Bangladesh Delta Plan focusing on water and natural resources has been initiated. Bangladesh Delta Plan 2100 is under preparation now and is to be finalised this year.

Forests and biodiversity

Forestry is one of the most important components of environment balancing the ecosystem. However, its economic value is far exceeded by its environmental importance/significance.

The forestry sub-sector presently accounts for 2.93 percent of the GDP with annual growth rate of about 5 percent. Official record of forest area is 2.5 million hectares or 17 percent of the total land area of the country, but practically it is far less because of low tree density in forest lands. The forest area has declined due to clearing of forest land for cultivation, shrimp farming, industry, and settlements. However, the social/homestead and community forestry has significantly grown due to vigorous public sector campaign for plantation.

Forests in Bangladesh are home to many species of indigenous trees, plants, insects, birds and animals, some of them are now rare. Almost 80 percent of terrestrial biodiversity finds refuge in forests. Thus the forests also provide a much needed habitat for endangered species. However, in Bangladesh, forests are unfortunately being overexploited to the point of making them unsustainable. Forests in the Chittagong Hill Tracts have been especially depleted contributing to massive loss of biodiversity, making some species extinct and putting many on the endangered list.

Bangladesh is a transitional zone of flora and fauna, because of its geographical settings and climatic characteristics. There are many rivers and streams in the country covering a total length of 22,155 km. About 11 percent of the country's area belongs to different types of water bodies. In addition

to the regular inland waters, seasonally a large part of the country remains submerged for 3-4 months during monsoon. Haor basin in the northeast region of the country is such an important wetland. The wetland system is a vast repository of biodiversity. The wetland ecosystems have been suffering due to chemical runoff from agricultural practices which contain the fertilizer, pesticides, residues, and overexploitation.

The Government of Bangladesh in 1999 declared 8 areas of Cox's Bazar and Teknaf Peninsula, St. Martin's Island, Sonadia Island, Hakaluki Haor, Tanguar Haor and Marjat Baor, the Gulshan-Baridhara Lake and 10 km landward periphery of Sundarbans as Ecologically Critical Areas (ECAs). Later in 2009, 4 rivers around Dhaka city (Buriganga, Sitalakhya, Balu and Turag) were declared as ECAs. The GEF/UNDP assisted project titled Coastal and Wetland Biodiversity Management Project (CWBMP) at Cox's Bazar and Hakaluki Haor which is being implemented by the Department of Environment, has been undertaking various programmes towards conservation of the biological diversities of four ECAs. The aim is to ensure conservation, management and sustainable use of biological and other resources of the ECAs through establishing institutional arrangements.

There are 34 Protected Areas (PA) in Bangladesh, of which 17 are National Parks and 17 Wildlife Sanctuaries. The total area of PA is 265,403 hectares which is 10.51 percent of the total forest areas of the country. All the protected areas are notified under the Bangladesh Wildlife Order 1973. The biggest PA in Bangladesh is the Sundarbans (a World Heritage Site) and the smallest PA is the Ramsagar National Park. There are 4 marine PA, of which 3 are wildlife sanctuaries situated in Sundarbans and one is Nijhum Dweep National Park situated in the mangrove forests in Noakhali. Biological zoning approach has been adopted in PA to ensure the protection of wildlife species and floral habitats.

Land use
Land use in the country is diverse and often conflicting: it is intensively used for agriculture, settlements, forestry, shrimps, *ghers*, natural fisheries, salt production, industrial and infrastructural development and tourism. All these have resulted into the