

Wildlife conservation need of the hour

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CONSERVATION is the optimum rational use of natural resources and the environment, having regard to the various demands made upon them and the need to safeguard and maintain them for the future. It is the protection, improvement and use of natural resources according to principles that will assure their highest economic or social benefits.

Wildlife may be defined as the community of the non-domestic species of plants, animals and microbes growing under wild conditions, excluding those who have been recently introduced. Wildlife Conservation includes all human efforts to preserve wild animals and plants from extinction. It involves the protection and wise management of wild species and their environment. Man's indifference and ignorance has led him to believe that he is independent of natural laws and of natural environments and to forget that he himself is a biological being and is directly and/or indirectly dependent on the natural resources available to him. He exploits, destroys and reduces the renewable natural resources, eradicates wildlife and leads his own race to levels verging on catastrophe. However, all these can be put to an end by careful, long-range ecological planning and conservation.

Ex-situ and in-situ conservation

Ex-situ conservation is the conservation of biodiversity away from its natural habitat. Viable populations of many organisms can be maintained in cultivation or in captivity. Plants may also be maintained in seed banks and germplasm collections; similar techniques are under development for animals (storage of embryos, eggs, sperm) but are more problematic. The maintenance of biological diversity at all levels is fundamentally the maintenance of viable populations of species

or identifiable populations. This can be carried out either on site or off site. The maintenance of wildlife diversity *on site* may be designated as conservation of wildlife diversity *in-situ*. The maintenance of a significant population of the world's biological diversity at present only appears feasible by maintaining organisms in their wild state and within their existing range. The term wildlife covers all living organisms ranging from microbe to higher animals (microbes, plants and animals), the conservation of wildlife is synonymous with the conservation of biodiversity. So, some times, the term 'biodiversity conservation' is replaced by the term 'wildlife conservation'.

Impact of human actions

The plants are the source of energy for most of the living organisms, especially of the animals. The plants do not provide only the nutritional source for the heterotrophic animals, but suitable shelters and habitats for them which become available in the biosphere because of the plants.

The UNDP's 1995 report suggests that time is running out for tackling Bangladesh's environmental problems and it calls for urgent action. The report identified that the growing population demands, along with other related demands of agriculture and industry, are seemingly devouring natural resources at an alarming rate without replenishment. The wildlife depletion is caused by degradation of land, erosion of valuable top soil, creeping salinity, over extraction of ground water, indiscriminate land conservation, declining soil fertility, water logging and destruction of forests.

The wholesale change of the country's environment is happening due to both human and natural causes. The country is situated at downstream of major transboundary rivers between India and Bangladesh. The diversion of Ganges water occurs at Farakka point just 10 miles from the north-west border of the country. This is causing severe water shortage and affecting the

Bangladesh has got enormous possibility to protect forests. If ecotourism management could be made functional in cooperation with local people, then the forests will automatically attain the participatory forest status. In the participatory forest status, the local people will be very much eager to protect the forests for their own interests when they will understand that the forests are essential not only for environmental soundness but also for their economic support.

flora and fauna in the north-west region. To an ecologist it is the question of alteration of natural hydrological phenomenon over a geographical area in the biosphere.

Such kind of alteration causes severe climatic changes in an ecological area where it has been functioning since long. This abrupt climatic change creates adverse situation for survival of biological resources (both plants and animals) there. Moreover, not only Farakka barrage over the Ganges, various types of water control structures have been constructed by India on about 50 shared rivers between Bangladesh and India. These water control structures are the major causes for desertification and depletion of wildlife.

Exotic species

In Bangladesh, some plant and animal species have been introduced from different countries. These exotic species have hampered endemic species both in their population dynamics and in the position of their trophic levels. At the same time, in many cases the importation has opted for changing ecosystem. In the aquatic ecosystem, the major introduced species those have changed a lot the ecosystem are African magur (*Clarias gariepinus*) and red Piranha (*Pygocentrus natteri*). In the terrestrial ecosystem the species are *Tectona grandis* (Shegun), *Acacia* spp., *Eucalyptus* spp. and *Swietenia mahagoni*.

The introduction of exotic species changes the ecosystem and affects endemic species severely. It is important that how the exotic species cause obstacles for endemic ones and affect the environment and wildlife conservation (both ex-situ and in-situ). For example, the forest area of our country from Karer Hat to Teknaf in the Chittagong division has been dominated by the population of garzon (*Dipterocarpus turbinatus*) tree as canopy layer since long time; and it is endemically sustained also for long time. The garzon forests have got some important characters for maintaining the three layers of vegetation. These three layers of vegetation are the endemic characteristics of our forest in connection with the typical rain forests of the south Asian region.

First layer of vegetation is with the soil surface and does not come up to the height of more than one meter. They are mainly the grasses and the members of Zingiberaceae family. They keep the soil surface wet. This layer is the suitable shelter for microbes' growth and sustainability. It supports the second layer of vegetation and also the third canopy layer.

Second layer of vegetation is the vegetation of man height level in the forest. This layer is above the first layer of vegetation. The layer is comprised of vines, grubs, hedges and shrubs plants. These provide enough shades, protection and make favourable conditions for plants and microbes growth in first layer of vegetation. The layer is called "Undergrowth Vegetation" in the forest.

Third layer is the canopy layer of typical Garzon population or the population with other related trees. This third layer protects the grubs, vines, shrubs and hedges. During the variation of the

seasons in a year or because of seasonal changes, the leaves fall on the ground and the fallen leaves provide enough organic deposition for the growth of both first and second layer of vegetation.

In this way the entire typical forest ecosystem in the endemism sustains and survives in a normal and usual situation. If any unusualness appears because of introduction of any exotic species then the change or alter of the ecosystem makes conservation of wildlife vulnerable.

The introduced species firstly hamper the phonological stages (for plants) and the stages of life cycle (for animals) of the endemic species. Secondly they reduce the functioning of the organisms in-situ and their respective trophic level. Thirdly, population of endemic species is seriously threatened to extinction. Fourthly, ecosystem of harbouring exotic species becomes weak. Fifthly, alteration of the ecosystem happens and gets established on a permanent pattern. There are obvious short-term consequences, but all too often the long-term effects cause the depletion of wildlife.

Deforestation

The Bangladesh forest with its exuberant majesty and biodiversity depleted and shrank to six percent from 20 percent of land area within a time span of 50 years after 1947. This happened due to policy weakness, over-exploitation and law and order failures. It is a fact that there is lack of legislation to provide protection to the national forest but poor implementation mechanism of the existing rules perhaps cause greater damage in this regard.

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Since the beginning of the British rule, the Indian subcontinent including Bangladesh appeared to hold inextinguishable forest resource base. Rennell's map (1886) indicated that the Sundarbans, sal forest of the Bhawal-Madhabpur tracts covered an area several times larger than it is at present. The hill forests of Chittagong, CHT, Sylhet, Mymensingh and Comilla were also densely populated by more than 2000 flowering plant species including 300 tree species. Nearly 30 tree species in hill forest 20 species in plain land forest and 30 species in the littoral forests used to be commercially exploited.

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