



P-ISSN: 2706-7483
E-ISSN: 2706-7491
IJGGE 2020; 2(2): 81-83
Received: 09-05-2020
Accepted: 13-06-2020

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Wetland environment problems and management of Bihar

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Abstract

We know that three basic amenities for living organisms are air, water and land which sometimes in the past were pure undisturbed, uncontaminated and basically most hospitable for living organisms. But the situation is just the reverse today because pressure of increasing population and progress in science and technology are all leading to pollution of environment and serious ecological imbalance which may prove disastrous for mankind including other living organisms in the long run. Presently we find warning everywhere and so environmentalism is getting a top priority in national policies among the developed and developing countries. The environmental experts during project planning give due consideration to social cultural and environmental impacts. The government of India in the sixth five-year plan (80-85) had formed the following policy "it is imperative that we use our renewable resources of water, soil, air and vegetation to sustain our economic development. Over exploitation of these is visible in soil erosion, floods, deforestation and salutation, floral and wild life resources. The depletion of these resources tends to be irreversible and since the whole population depends on these natural resources to meet their basics needs, i.e. fuel, fodder and land, it has meant deterioration in their standard of life.

Keywords: Wetland and Environment

Introduction

Among all environmental elements water has its own importance because it is most essential commodity of living organisms and without it no life can exist on earth. Among water bodies wetlands play a vital role because it is very close to mankind and other living organisms. Wetlands are also very controversial but interesting landscape. Coward in (1979) defined wetland as "lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water" so wetlands are man-made ditches, chauras, rice fields, jute fields, alluvial fans water logged areas, diaraland, shallow lakes, coastal tracts, delta, man grove areas, swampy ground terai zone etc. several years ago, DANWILLARD of Indiano university collected more than fifty different wetlands definitions. This abundance of wetlands definitions has been offered as proof that the definition of wetlands is a policy question that should be decided by politicians and administrators rather than by scientists. For a long time human being have not cared about wetland as they have been treated as marginal lands. But with the recent spurt of population in most countries of the world the wetlands need special attention for they are being reclaimed without any care for ecological principles.

Importance of wetlands

The wetlands are among the most important and productive ecosystem on earth. Much of the human population and vertebrate species are dependent on them. They contribute of earths health and survival through their biological productivity, their function in providing human kind with fuel, food lively mankind food and recreation their role in flood control and the habitat they provide for many species. There are millions in India who depend upon wetland for sustenance activities such as farming, fishing, and hunting and for collection of economically important plant including those of edible for forms. The flood plains are excellent grazing ground for cattle. Mangrove and oral after a variety of economically important products for the local coastal population. In India wetland help to lessen the severity of floods by storing rain water and releasing the runoff slowly. Wetlands also function as natural sewage and waste water treatment means.

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Many wetland plants are known to reduce phosphate and nitrate level by up to 90%. Their role in the removal of heavy metals has been widely acknowledged. Sea grasses in many parts of the world play a vital role cleaning up coastal waters and reducing the force of flood water in coastal areas. The binding action of mangrove vegetation helps to protect the shore line by preventing soil erosion. The mangrove areas also act as breeding grounds of many aquatic organisms, particularly fishes and prawns. Wetlands are valuable as sources, sinks and transformers of a multitude of chemicals, biological and genetic materials on a global scale. Wetlands are considered as CO₂ sinks and climate stabilizers. Considering the function they perform in hydrological and chemical cycles and their function as downstream reservoirs of waste, wetlands are considered as the kidney of the landscape. Wetlands are also known as biological super markets because of the extensive food chain and immense biodiversity they support. Wetlands are most famous of the world over as waterfowl habitat. Millions of bird species representing 318 species including large numbers of migratory birds are believed to be associated with Indian wetlands. In Keoladeo National Park along there are over 300 species of migratory birds. Wetlands are safe guards of our environment and maintain ecological balance. On marshes, swamps and flood plains, the civilization of Egypt, Mesopotamia and India have flourished which continue to support rural and urban communities throughout the world. Most of the wetlands are nature's gift and also contribute to scenic beauty. For a long time humans have not cared about wetlands as they have been treated as marginal land but the growth of population through countries, of the world, the wetlands need special attention for they are being reclaimed without any for ecological principle. The shallow wetlands are productive areas in the form of fishes, makhana, mochi, purslane, lotus flower and varieties of medicinal plants.

Threats to wetlands

Despite the world wide heightened interest in wetlands, the wetlands cover of our Earth has been declining consistently over the last few decades. Increase in human population and rapid urbanization have put considerable pressure on the wetlands. The pressure of denuding, polluting, draining, filling and building continues unabatedly at the wetland sites all over the globe. In India the wetlands are drained for agricultural activities and hence they no longer play their usual ecological function. Large areas of Kolleru lake in Andhra Pradesh, Deepenbill in Assam, Hokasal in Jammu and Kashmir and Vellayani Lake in Kerala have already been lost due to agricultural operation. Many wetland areas in India are now established human settlements and the encroachment continues even now. For instance rapid urban development has shrunk the area of Cochin backwaters in Kerala to 8000 hectares from the original area of 70,000 hectares. This has also reduced the fishery potential of the backwaters and led to the disappearance of the estuarine crocodile. The wetlands of the eastern edge of the Kolkata city, which were functioning as biological filters and flood control centers have been converted into residential complexes by dumping silt from the Hooghly. Now the city is under the threat of floods and it has to find out new alternatives to manage the colossal amount of sewage formed every day. India is estimated to have lost half of its mangrove forests rendering states like Orissa and Andhra

Pradesh vulnerable to the fury of cyclones. Orissa super cyclone October 99 could have been avoided or minimized if mangrove forests had not been destroyed to develop shrimp farms. One third area of Chilka remains blanketed with weeds. This coupled with aquaculture practices and silting may speed up the degradation of the Lake. India is not alone in getting its coastal areas for economic activities like ports, shrimp farms, oil refineries, luxury hotels and holiday resorts. Many of the world's largest urban, industrial and commercial centers are located on coastlines or on rivers with direct access to the coast. Approximately 35% of the world's urban population lives within 60 K.M. of coastlines. The emergence of mega cities along the sea is seen as the single greater threat to the world's coastal environment accelerated by human activities such as deforestation and dumping of wastes. This may reduce their water holding capacity and thus pave way for flooding. Construction of dams and barrages across the river has resulted in the loss of flood plains and diverse life in many wetlands. Ecological degradation of wetlands together with pollution has resulted in the loss of flora and fauna. Many natural wetlands in India have been converted into fishponds resulting in a host of ecological disturbances. Threats to wetlands may be realized even on smaller scale. For example Samastipur town in north Bihar, which was once surrounded by chauras namely Korbada, Dhaurahat and Garua, have been shrunk due to expansion of urban activities, which causes flood, like situation in Samastipur town every year in rainy season. Considering the function they perform in hydrological and chemical cycles and their function as downstream reservoirs of water, wetlands attain significance to free environment from pollutants.

In north Bihar wetlands are remnants of the Ganges trough or the Indo-Brahma River formed during courses of the rise of Himalayas in three successive periods of Eocene, Miocene and Pliocene. At the end of Pleistocene period, when denudation had taken place in the entire northern hemisphere, a vast amount of sand and silt had been deposited from the Himalayas to north Bihar.

Management of wetlands

Taking into consideration the feel of the importance and threats to wetlands, the wetlands should be conserved, protected and its environment should be improved and properly managed for economic activities and cultural improvement of human beings. The wetlands are reviving greater public attention after Ramsar convention held in Iran, 1971. Many efforts have been initiated in India for conservation of wetlands. The Ministry of Environment and Forests, Govt. of India set up a national committee of wetland mangroves and coral reefs in 1987 for framing policy, guidelines, identifying and monitoring wetlands for intensive conservation and management and for seeking international co-operation.

- Integrated watershed development and management programs should be preferred for soil and water conservation and restoring ecological balance of the area.
- Rivers, lakes, and wetlands should be cleaned properly and promptly.
- Renovation and utilization of tanks, Pokhras, Aharas and other local water sources.
- In wetlands planning people's participation should be activated. We should have to educate the people

regarding economic utility and commencement of scientific and application oriented research on the productivity of wetland even on smaller scale.

- Long term and short term development plan should be the undertaken for the development of wetlands in bigger and smaller areas.

Conclusion

On the basis of the above analysis it is concluded that wetlands are not wastelands rather they are among the most fertile and productive ecosystem which may contribute much in the development of agriculture in India especially in Bihar after its proper management and conservation. In Bihar without developing wetland agriculture we cannot change our subsistence nature of agriculture into commercial one. Farmers have to develop in their wetland fields, fishes, makhana, singhara and other crops on commercial basis. Thus a holistic approach towards conservation and development of wetland is the need of the hour. It has now become imperative to prevent the ecological degradation of wetlands and to implement appropriate conservation strategies to preserve these natural heritages for the generation to come.

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