



WETLAND MANAGEMENT: A FLOOD RELATED RETROSPECTIVE

Binu Raj B.K

Abstract

Wetland is the largest and richest constituent of biosphere of earth. It is an inevitable constituent to human being and its management is so important to human sustenance. Generally as per the very word indicates Wetland is any waterlogged body stagnant or flowing which includes varied type of species and performed varied natural functions.

The paper intends to explain the varied wetland constituents and its functions in nature's balance. It also tries to explain the erosion of wetland constituent due to human intervention in geography and its consequences especially when the natural calamities like flood occurred.

Introduction

Wetland is a collective term for an ecological system which conserve large amount of water and discharging varied type of duties. It is a unique biological system which is generally distinguished from other water bodies or land forms based on their water level and on the types of plants that live within them. It is an interface between truly terrestrial eco systems and aquatic systems, making them inherently different from each other, yet highly dependent on both. Till nineteenth century there was no usage of the term wetland. Then scientists used terms such as swamp bog fen etc to describe the land that are now called wetlands. The disagreement regarding a commonly used term was due to the lack of scientific knowledge. The term wetland has come gradually into common scientific usage only in the second half of twentieth century. It was due to its position in balancing ecology it get wide attention among all countries that culminated in the famous Ramsar Convention. As per the convention definition, wetland as areas of marsh fen peat land or water whether natural or artificial, permanent or temporary with water that static or flowing fresh brackish or salt including areas of marine water the depth of which at low tide does not exceed six meters.

Wetlands constitute the most diverse biosphere on earth and quite naturally it get prime importance. Its representation in varied form constitute lakes, backwaters, swampy lands and mangroves played different functions and caring large variety of flora and fauna. Any irrational human intervention in wetland constituents will cause disastrous effect. It will not only affect the very existence of wetland constituents as such but the very existence of mankind.

Objectives of the Study

1. To explain the varied wetland constituents and its functions in nature's balance.
2. To explain the erosion of wetland constituent due to human intervention in geography.

Wetland Constituents and Its Functions in Nature's Balance

Wetland is considered as the most biologically diverse of all eco systems. The scope of wetland consists of varied ecological forms. They are lakes, backwaters, mangroves, swampy lands, paddy fields and of course rivers. Among these each has its own specific functions. It serves as a home to a wide range of plant and animal life. The lakes and backwaters are the good carriers of water especially of fresh water.

The function of mangrove as a nurturing place of new born fishes and also functions as a natural barrier to tsunami like calamities. Mangroves 'specific feature could best witness in the 2005 tsunami. Mangrove roots provide an oyster habitat and slow water flow, herby enhancing sediment deposition. The fine anoxic sediments under mangrove acts as sinks for a variety of heavy metals. Mangrove removal disturbs these underlying sediments in creating problems of metal contamination. Its effectiveness in terms of erosion control sometimes best celebrated. Wave energy is typically low in areas where mangroves grow.



The case of swampy land is so interesting, though look like a 'waste land' and people deposit their waste, but these lands silently even absorb hard materials like lead, cadmium etc. In this sense these swampy are known as 'kidneys of the earth'. The case of paddy fields is that when excessive rain comes it will carry the overflowing water of rivers and release the same water to the same river in the same place itself or somewhere else in the same river thus to check good amount of flood water. The present paper also focuses on rivers in the wake of flood. In historical perspective the river bed is known as the cradles of civilization. These rivers, not merely carrying volumes of water beyond that it fertilized its catchment area and makes agriculture possible. Though these above mentioned ecological systems are best water managers the irrational intervention of human being made things more critical.

Erosion of Wetland Constituent due to Human Intervention in Geography

It was in this context the recent flood in Kerala get special significance. As the nature's gift Kerala has forty four rivers in its entire breadth. As we know the birth of a river is a complex process. It is exactly the streams which provide water to the river. But the very origin of stream is the gift of mountains which are covered with green forest. So the conservation and preservation of forest is essential for the liveness of streams and thereby the rivers. But the contemporary Kerala witnessed natural calamity in the form of flood. Nowadays Kerala is fashioned with natural destruction in the name of development and converted its geography into human geography and disrupting the order of the nature. Almost the entire stretch of Western Ghat of Kerala is come under the threat of land mining and rock mining besides deforestation. This high lands and rocks are good carriers of water and during the rainy season they can check good amount of flood water at its lap. This natural coverage has now been eroding. The deforestation makes water flowing easy and pace and the stumps of the tree functioned as soil piping thereby accelerating the chance of land sliding. Added to this, the soil cleared from the mountain in the name of development are mostly deposited in paddy fields and swampy fields and this newly developed land be used for the construction of multi complex buildings. This makes the situation more grim since these human geographies will block the natural course of a stream or river and even functioned as a catalyst to deluge.

Conclusion

So we have to make a prudent water management system since wetland mainly addresses aquatic flora and fauna. The nature's basic nature itself is its diversity and wetland is the most celebrated diverse biosphere. We must conserve and look into our nature in the most genuine and neither hypocrite nor hilarious. We the human being must be the friend of the nature and approach it honestly. Human being cannot sustain without a rational management of nature and its gifts. It is nothing but the very sustenance of this biosphere which provides stability and vibrancy in nature's order. It is quite apt to sum up by quoting Mahatma Gandhi, 'that nature is enough for everybody's need but it is not enough for everybody's greed.'

References

1. Giri, C., Pengra B; Zhu, Z., Singh, A., & Tiegzen, L. L. (2007). Monitoring Mangrove forest dynamics of the Sundarbans in Bangladesh and India. Using multi temporal satellite data from 1973-2000 Estuarine Coastal and Shelf Science.
2. Karthika, K., Purvaja, R., & Ramesh, R. (2008). Fluxes of Methane and Nitrous Oxide from an Indian Mangrove. Current Science. 94- 224.
3. Keddy, P.A. (2010). Wetland ecology: principles and conservation (2nd Ed.). New York: Cambridge University Press. ISBN 978-0521519403.
4. Nair, G. K. Kerala's Wetlands and hills under threat: Expert. The Hindu, January 3 2008, Kochi.
5. Special correspondent. The Importance of good wetlands, Kochi. The Hindu, February 3 2011.