

## They are ubiquitous and call for concerted action: Wetlands

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Wetlands, Water and Aichi Targets, was one of the themes of the side event held at the eleventh Conference of Parties to Convention on Biological Diversity COP-11 CBD.

Dr. Ritesh Kumar (Wetlands International – South Asia) highlighted the links between wetlands water management and Aichi targets. It was explained, how water and wetland management sectors had markedly failed to capitalize on opportunities for creating co-benefits as wetlands continued to be lost and degraded. He stressed on the need for water sector to consider wetlands not merely from the perspective of water allocation but as a means to deliver the objectives of water, food and energy security more efficiently and with significant co-benefits.

As the Aichi Targets ([www.cbd.int](http://www.cbd.int)) have high significance, achieving progress under several targets, for example target 11 (seeking conservation of at least 17% of terrestrial inland water areas and 10% of coastal and marine areas), target 14 (conservation of ecosystems providing essential services including services related to water), is significantly dependent on the way in which water management improves balancing the needs of different users including wetland ecosystems and use of wetlands as infrastructure to achieve its goals. The overarching strategy for the conservation of wetlands was discussed by a panel during COP-11, on the practical mechanisms for ensuring better and effective integration of wetland and water management objectives. The discussion reflected the new challenges for wetland conservation and the increasing relevance of wetland condition to human well-being in today's time.

Water and Wetlands play a critical role in maintaining overall environment of the planet and in sustaining mankind, as they impinge on their wellbeing, livelihood and economic prospects of the rural masses. It is the rural poor who are directly dependent upon natural eco-systems such as Wetlands for their survival, and thus are the most susceptible when eco-systems undergo degradation.

The Wetland, a term which includes water bodies of different types ranging from lakes, estuarine area, and riparian flood plains to tidal mud-flats, play a vital role in ensuring both the quantity and quality of water for



Discussion on Wetland Conservation at CBD COP-11, Hyderabad, 2012



Loktak Lake, Manipur

human beings and the entire range of flora and fauna. The assets wetlands provide to humanity are numerous and fundamental to meeting some of our most basic needs. They provide fresh water for agriculture, livestock and domestic consumption, and recharge the groundwater levels which are under immense strain of over-exploitation.

In India, they occupy 58.2 million ha, including areas under wet paddy cultivation (Directory of Indian Wetlands). The majority of the inland wetlands are directly or indirectly dependent on the major rivers like Ganga, Bhramaputra, Narmada, Godavari, Krishna, Kaveri and Tapti. They occur in the hot arid regions of Gujarat and the east and west coasts, highlands of central India, wet humid zones of south peninsular India, the

Andaman and Nicobar and Lakshwadeep Islands.

### Wetlands: play a critical role in maintaining the quality of the environment

They play a critical role in maintaining the quality of the environment by absorbing and processing waste products. They sequester (trap) and release carbon, regulating climate change. Globally, wetland peat deposits take up just 3% of the land area but store 14-16% of the soil carbon pool. According to the Wetland Ecological Functions Assessment Report (2008), wetlands biologically cycle carbon dioxide, methane and hydrogen sulfide. And also support a rich diversity of plants and animals. These species and

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**Phumdis, series of floating Island, exclusive to the Loktak Lake in Manipur state, of Northeastern India**

their diversity help to maintain wetland processes such as water storage, sediment trapping and nutrient cycling, and are also important for several migratory birds.

Wetlands have great significance for more than one reason, most notably because they act as pollution filters, charge aquifers, conserve moisture, and are habitat for rich biodiversity. In the 20th century while the world's population has grown manifolds, freshwater withdrawal has increased six times, due to massive urbanization, growing dependence on irrigated agriculture, and higher standards of living. Thus, availability of water for meeting multiple requirements of ecosystems as a whole has become a major challenge confronting us in the 21st Century. The role of Wetlands, which encompass in their range lakes, estuaries, river flood plains, mangroves, & coral reefs for human well-being, can hardly be overstated.

**Wetland ecosystem services improve human well-being**

Wetland ecosystems provide many benefits that add to human well-being. These include fish and fiber, coastal protection, recreational opportunities and, increasingly, water supply, water purification, climate regulation, flood regulation, tourism. The livelihoods of people living in, or on the borders of, wetlands often depend partially or entirely on wetland ecosystem services. Loss or degradation harms them directly.

**Other wetland services with strong linkages to human wellbeing include**

The Integration of water and wetlands session, at COP-11 was attended by over 40 national delegates, development banks, representatives of non-governmental organizations and media. The discussion highlighted the wetland linkages with their ecological character, including human well being. It was conferred, that wetlands, not only help in water purification and detoxification of wastes. But, also play a major role in treating and detoxifying a variety of waste products. Some

wetlands have been found to reduce the nitrate concentration of by more than 80%.

One of the most important roles of wetlands may be in the regulation of global climate change through impounding and releasing a major proportion of fixed carbon in the biosphere. For example, peatlands are estimated to hold 540 gigatons of carbon, representing about 1.5% of the total estimated global carbon storage and about 25–30% of that contained in terrestrial vegetation and soils.

Wetlands, such as mangroves and floodplains, can play a critical role in the physical buffering of climate change impacts. It also plays a critical role in mitigation of climate change. Cultural services add to the vast array of opportunities wetlands provide for recreation and tourism besides significant aesthetic, educational, cultural, and spiritual benefits (Ramsar Convention).

**Wetland fulfills Water requirement**

While globally there may not be dearth of water in the aggregate, it is clear that there is not enough water in the right places. As per the information made available by Ramsar Convention 1.1 billion people in the world do not have access to safe drinking water and 3 million die each year, many of them children, from ailments caused by polluted water. Thus, we are confronted with the challenges of ensuring adequate quantity of fresh water, as also of the quality of water. It's there, wetlands perform numerous vital functions and, thus, need to be looked after and used wisely. From water storage; to purification, flood control; to ground water replenishment, providing shoreline stabilization and protection against nutrient and sediment retention, wetlands have abundant supplementary roles to stabilize environmental balance. To work more extensively on all this, wetlands conservation has to be taken up as a crusade at district, State, national, regional, and global levels for the

welfare of present and future generations.

**Threats to wetlands is a threat to ecological balance**

Wetlands are also one of the most threatened habitats of the world. Wetlands in India, as elsewhere are increasingly facing several anthropogenic pressures. Thus, the rapidly expanding human populations, large-scale changes in land use/land covers, burgeoning development projects and improper use of watersheds have all caused a substantial decline of wetland resources of the country. Significant losses have resulted from its conversion threats from industrial, agricultural and various urban developments. These have led to hydrological perturbations, pollution and their effects. Unsustainable levels of grazing and fishing activities have also resulted in degradation of wetlands.

The current loss rates in India can lead to serious consequences, where 74% of the human population is rural and many of these people are resource dependent. Healthy wetlands are essential in India for sustainable food production and potable water availability for, humans and livestock.

**Ramsar Convention**

The Convention on Wetlands is an intergovernmental treaty adopted on 2 February 1971 in the Iranian city of Ramsar, on the southern shore of the Caspian Sea. Thus, though nowadays the name of the Convention is usually written "Convention on Wetlands (Ramsar, Iran, 1971)", it has come to be known popularly as the "Ramsar Convention". Ramsar is the first of the modern global intergovernmental treaties on the conservation and sustainable use of natural resources, but, compared with more recent ones, its provisions are relatively straightforward and general ([www.ramsar.org/](http://www.ramsar.org/)). Over the years, the Conference of the Contracting Parties has further developed and interpreted the basic tenets of the treaty text and succeeded in keeping the work of the Convention abreast of changing world perceptions, priorities, and trends in environmental thinking. The mission of the Ramsar Convention, as adopted by the Parties in 1999 and refined in 2002, is "the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".

## Countries join the Ramsar Convention

For achieving national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world, involvement at all levels is essential. According to the Ramsar Convention on wetlands;

- It entails an endorsement of the principles that the Convention represents, facilitating the development at national level of policies and actions, including legislation that helps nations to make the best possible use of their wetland resources in their quest for sustainable development;

- brings increased publicity and prestige for the wetlands designated for the List of Wetlands of International Importance, and hence increased possibility of support for conservation and wise use measures; presents not only an opportunity for a country to make its voice heard in the principal intergovernmental forum on the conservation and wise use of wetlands; but also brings access to the latest information and advice on application of the Convention's internationally-accepted standards;

- brings access to expert advice on national and site-related problems of wetland conservation and management through contacts with Ramsar personnel and consultants and through application of the Ramsar Advisory Mission mechanism when appropriate; and encourages international cooperation on wetland issues and brings the possibility of support for wetland projects, either through the Convention's own.

### Key messages to take cognizance of

Everyone in the world depends on nature and ecosystem services to provide the conditions for a decent, healthy, and secure life. Environmentally, we are at the most critical point in the history of humanity. Unless humanity acts quickly and in a significant way, the next generation may not have this opportunity.

- Humans have made unprecedented changes to ecosystems in recent decades to meet growing demands for food, fresh water, fiber, and energy.

- The fast pace changes have helped to improve the lives of billions, but at the same time they weakened nature's ability to deliver other key services such as purification of air and water, protection from disasters, and the provision of medicines.

- Among the outstanding problems identified by this assessment are the dire state of many of the world's fish stocks; the intense vulnerability of the 2 billion people living in dry regions to the loss of ecosystem services, including water supply; and the growing threat to ecosystems from climate change and nutrient pollution.

- Human activities have taken the planet to the edge of a massive wave of species extinctions, further threatening our own well-being.

- Measures to conserve natural resources are more likely to succeed if local communities are given ownership of them, share the benefits, and are involved in decisions.

- Even today's technology and knowledge can reduce considerably the human impact on ecosystems. They are unlikely to be deployed fully, however, until ecosystem services cease to be perceived as free and limitless, and their full value is taken into account.

- Better protection of natural assets will require coordinated efforts across all sections of governments, businesses, and international institutions. The productivity of ecosystems depends on policy choices on investment, trade, subsidy, taxation, and regulation, among others.

### Wetland Conservation requires big changes

Wetlands are neither ecosystem specific nor confined to particular biodiversity hot-spots. They are ubiquitous and call for concerted action by all States and Union Territories. The Central Government can at best play a catalytic role. The National Programme for Conservation and Management of Wetlands has emerged as a flagship scheme of the conservation sector under which Central assistance is provided as 100% grant. The State Governments are looked upon to commit budgetary and non-budgetary support, establish multi-disciplinary entities like the Wetland Development Authorities as done in the States of Andhra Pradesh, Karnataka, Odisha and West Bengal for formulation of scientific and comprehensive Management Action Plans (MAPs), and to have an effective interface with researchers.

Better conservation policies may be of limited value, however, unless governments, businesses, and communities take natural systems into account in a wide range of other

decisions. Increasing aid programs for developing countries, shall lead to priority of protection or restoration of natural services. Recipient governments, donor nations, and lending institutions could do far more to direct funds at supporting those services in a way that would bring long-term benefits.

The questions, we all need to understand and find answers to is:

1. **How critical are these wetlands for peoples' livelihoods?**
2. **What ecological role do these wetlands play – particularly in terms of micro catchment water security?**
3. **Is the widely-held but largely unsubstantiated view that these wetlands are degrading, true? If so, is this a direct result of subsistence activities within the wetlands and what are the linkages?**
4. **What are the implications of degradation both for peoples' livelihoods and ecosystem health?**
5. **What can collectively be done to protect these diverse hydrological entities, and fulfill various targets concerning water and biodiversity, as a cross cutting theme?**

Achieving this, however, will require radical changes in the way nature is treated at every level of decision-making. Resilience and abundance can no longer be confused with indestructibility and infinite supply. The warning signs are there for all of us to see. The future lies in our hands.

Ultimately, an overarching developmental issue is to understand how to design an appropriate and sustainable rehabilitation and management plan based on such understandings. A methodological objective shall be designed to test an approach for integrating social, institutional and biophysical considerations. The overriding conclusion lies within the power of human societies to ease the strains we are putting on the natural services of the planet, while continuing to use them to bring better living standards to all.

Wetlands provide valuable ecosystem services to society; thus, let us dedicate ourselves to the cause of healthy and dynamic aquatic ecosystems, and sensitize other members of society to the need for their effective conservation and scientific management.