

# Uttar Pradesh State Biodiversity Board



22 MAY 2013  
INTERNATIONAL DAY  
FOR BIOLOGICAL DIVERSITY  
WATER & BIODIVERSITY

## A Report on IDB-2013 Celebration and National Conference on "Water and Biodiversity" organized by U.P. State Biodiversity Board, Lucknow on 22<sup>nd</sup> May 2013

Uttar Pradesh State Biodiversity Board celebrated the International Day on Biological Diversity (IDB-2013) on 22nd May 2013 at Dr. Ram Manohar Lohia National Law University Campus, Lucknow. On this occasion, a National



Conference on "Water and Biodiversity" was also organized in which more than 400 delegates including various research organizations/ institutes, universities, officers from U.P. Forest Department and other states as well as NGO's etc participated. The conference was inaugurated by Hon'ble Minister of State, Zoological Gardens, Dr. Shiv Pratap Yadav.

**Shri J.S. Asthana**, PCCF Forest Deptt., Govt. of U.P. welcomed the gathering including the Hon'ble Minister and all the dignitaries and delegates of the National Conference and delivered the welcome speech. He also made some introductory remarks on the importance of water and biodiversity conservation. He said that 70% of our planet earth is covered with water. Water is life and so many living creatures are derived from it. The human societies have been developed at the banks of rivers and water bodies in general. Water has prime importance in the development of cities, industries and human resources. Shri Asthana believed that the outcome of the conference deliberations will be definitely helpful in conservation of biological diversity.



*J.S. Asthana*

**Shri Rajendra Singh**, Jal Purush, Alwar (Rajasthan) In his fight against faulty water policies, its mismanagement and conservation of rivers into sewer, Rajendra Singh popularly known as 'Jalpurush' apprised of water crisis and the urgent need for water conservation. In his talk, Mr. Singh said that we will only get success in conserving our biodiversity through love with our planet earth and nature in view of our common future and sharing of benefits in true sense and not only by celebrating the day as such. He further said that pollution, exploitation, encroachment cannot ensure biodiversity conservation. Particularly the modern day contractor-driven actions cannot protect biodiversity. He demonstrated that water harvesting structures in fracture zone of about 1057 ha (53 structures) in Rajasthan can be useful for aquifer recharge, which works against evapo-transpiration. Conservation, restoration of greenery around river areas is possible by this method to bring unproductive lands to productive lands with agricultural/horticultural practices.



*Rajendra Singh*

Singh also demonstrated through his presentation the community water management project which water was brought back to 1000 villages in Rajasthan by building various water conservation structures which were used to collect rain water for dry season. According to him his campaign aimed to help communities, particularly the poorest to regain rights, responsibilities and control over access to water resources and equity in water distribution.

Speaking on this occasion, **Shri Pawan Kumar**, Secretary, U.P. State Biodiversity Board, Lucknow focused on the importance of the year 2012 for India as the year for 20<sup>th</sup>



*Pawan Kumar*

year is celebrated as International Biodiversity Day for the past many years the U.P. State Biodiversity Board has organized national seminars on themes relating to forestry, climate change and biodiversity. This year too, the national seminar is being organized on the theme of water and biodiversity. Ever since the landmark event of U.N. conference on Environment and Development held in Rio in 1992, several nations have become party to three conventions viz. climate change, biological diversity and desertification, including India signing in the year 1994.

Anniversary of the Rio Conference on Environment and Development, 20<sup>th</sup> Anniversary of Convention on Biological Diversity (CBD) and 40<sup>th</sup> Anniversary of the 1992 first UN Conference on the Human Environment held in Stockholm in 1972. He highlighted that decade of 2011-20 has been declared as the International Decade of Biodiversity and 22 May of each

Sri Pawan Kumar further spoke on variety of life i.e. biodiversity including Gene, Species and Ecosystem diversity. He said that only 2.5% of water on earth is available as fresh water and the remaining 97.5% is bound as seas and oceans. The threats of aquatic biodiversity include over exploitation, pollution, habitat alteration and flow modification. The aquatic water bodies play a major role in ecosystem services of biodiversity, cycling of nutrients, ecotourism, food, medicine and aesthetic values etc. Further they also support fisheries and regulate water cycle. Therefore, the catchments of water bodies should be protected for conservation of biodiversity.

**The Hon'ble Minister of State, Zoological Gardens, U.P. Dr. Shiv Pratap Yadav**, congratulated the Forest Department for 50 Hectare green belt developed in each districts for forest plantation etc in the state. He highlighted the different policies of government in protecting the forests and biodiversity areas of Uttar Pradesh. He cited that actions of government have been initiated such as Lion Safari Park in Etawah.



*Dr. Shiv Pratap Yadav*

He spoke of Uttar Pradesh becoming a "Harit Pradesh" and said that by conserving soil, forests and water, we could also encourage eco-tourism in the state. He said that the tradition of conserving natural resources e.g. forests, vegetation, wild animals, water resources, rivers and ponds etc. in our state is directly linked with our cultural diversity as well.

In his talk, **Dr. Gurdeep Singh**, Vice-Chancellor, Dr. Ram Manohar Lohia National Law University, Lucknow highlighted that the significance of 22<sup>nd</sup> May is that on this day, the official U.N. conventions were adopted after the Nairobi Meet in 2000. All our present actions of destructions which are going on in a rapid pace of growth would make life becoming extinct in 500 years from now as estimated by U.N. He further highlighted that genetic resources of developing countries were being exploited by developed countries for biotechnology in agriculture, pharma, pollution control etc.



*Dr. Gurdeep Singh*

Now all bioresources are not considered as common heritage of mankind but common concern; where the biodiversity exists those countries have the sovereign rights, access can be provided on mutual agreed terms. It is a major victory for developing nations although still few countries are not signatories to the conventions. Although GM technology is useful for being miracles in certain cases of fruits, agriculture, medicine, pollution control etc, but if they escape to

environment, it will be harmful and fatal. Although Biosafety Protocol-2000 exist but there is no liability of polluters and for redressal.

**Dr. Ashok Kumar Jain**, Advisor (Rural Development, Water Resources and Planning Commission) delivered his talk on "Status of Water Resources in India and their Impact on Biodiversity". He said that a scarce natural resource, water is fundamental to life, livelihood, food security and sustainable development. India has 18 % of the world's population, 4% of its fresh water resources and 2.4% of world land area. Groundwater is the major source of water in our country with 85% of the population dependent on it. Issues



*Dr. A. K. Jain*

related to water governance not addressed properly and mismanagement of water resources has led to critical situation. He told that according to a recent U.N. report, human kind persists with thoughtless extravagant consumption of water. Thus, earth is hurtling towards an unprecedented resource crunch. Over utilization of resources beyond the consumption levels are fast depleting the world's resources and India is no exception to it. The resources needed to sustain present levels of consumption have reached such alarming levels that on a per capita basis we are consuming one third more resources that we cannot afford to lose.

He further expressed that climate change poses fresh challenges with its impacts on the hydrologic cycle. More extreme rates of precipitation and evapo-transpiration will exacerbate impacts of floods and droughts. Both our rivers and groundwater are being polluted by untreated effluents and sewage continuing to be dumped into them. The 2030 Water Resources Group (2009) estimates that if the current pattern of demand continues, about half of the demand for water will be unmet by 2030. Giving a brief account of recommendations of National Water Policy, 2012, Dr Jain told that there should be an Emphasis on the need for a national water framework law. Water, after meeting the pre-emptive needs and high priority allocation for minimum eco-system needs, is treated as economic good so as to promote its conservation and efficient use. Ecological needs of the river should be determined and a portion of river flows should be kept aside to meet ecological needs. Adaptation strategies to be followed in view of climate change for designing and management of water resources structures. Thronging Light on the issue of Water and Biodiversity, Dr Jain said water resources and aquatic biodiversity are intimately interrelated and interdependent. Both provide a wide range of functions and have intrinsic value as well as provide for the sustenance of human populations. Biodiversity and conservation of freshwater ecosystems has been the focus of regional assessments recently, since

aquatic ecosystems have been increasingly placed under pressures to provide renewable resources while being exposed to the ravages of poor planning and pollution. He further added that Water quality and habitat quality affect the composition, diversity and therefore health of aquatic ecosystems. The management of water resources and aquatic ecosystems rests heavily on land management and sustainable land use practices. Degradation of water quality, depletion of water resources and loss of aquatic biodiversity are prominent features of the environmental landscape requiring urgent attention at global and national scales. Listed among the identified impacts on aquatic biodiversity are deforestation, agriculture (including pesticides & irrigation), urban and industrial development, river regulation for water and hydropower production, mining, petroleum extraction, introduction of exotic species, dumping of solid wastes, dredging & channelization and overfishing etc.

He suggested that too much interference with the natural flow of water should be avoided. The minimum ecological flow of water in river while designing the large dams/ hydro power projects etc. should be maintained. The over drawl of the ground water in coastal areas should be controlled to reduce the sea water ingress. He said that there is a need in controlling the indiscriminate encroachment of water bodies and their natural drainage system to reduce the impact on the aquatic eco-system.

**Dr. Ravi Chellam**, Director (Research & Conservation), Madras Crocodile Bank Trust/ Centre for Herpetology, Vice-Chairman, Ghariyal Conservation Alliance delivered his talk on "Challenges and opportunities for conserving ghariyals and managing National Chambal Sanctuary". Talking about the status of Ghariyals, Dr. Chellam told that it is included in Schedule I of the WLPA (1972), critically endangered under IUCN list due to their



*Dr. Ravi Chellam*

restricted distribution. Population size less than 250 mature animals (actual figure is around 200 mature animals). He highlighted the types of crocodiles found in India particularly ghariyal which are found in fresh water areas particularly rivers. Ghariyals have a significantly long snout having protuberance in the case of males and not in the case of females. Ghariyals particularly are dependent on fresh water fishes as prey. In India U.P. has a vast majority of ghariyals in locations such as Chambal River Sanctuary, Son River, Corbett Sanctuary etc. For ghariyals sand banks are very important for basking and nesting.

He expressed that for effective conservation and management of ghariyals within their natural habitats, it is necessary that we understand the biology and ecology of the species. Very little is known about the population size, age structure, feeding ecology, seasonal movement, survival and recruitment of different size-classes, and other aspects of ghariyal ecology. Similarly, not much is known about other associated species in the Chambal, their interactions with each other and with their environment.

**Dr R.K. Singh**, Senior Scientist, Central Pollution Control Board, Lucknow delivered his talk on groundwater remediation, Kanpur India. He described the technique of bioremediation used for removal of heavy metals and other chemical pollutants from heavily polluted soils, surface water bodies as well as groundwater. Through the light on phytoremediation Dr. Singh expressed that it exploits natural ability identified plant species to entrap the target pollutant in their cellular structure to accumulate and/or degrade them into harmless products. He gave a brief account of a case study on Kanpur Groundwater Remediation Project. He concluded that of groundwater remediation the technology is quite suitable to Indian conditions. The successful outcome forms sound basis for scaled-up Full Scale Remediation.



*Dr. R. K Singh*

Dr. Singh also highlighted the technique of ground water remediation through decontamination/treatment both *in-situ* and *ex-situ* experiments demonstrated for the change of the state of pollutants particularly Chromium, Arsenic etc. The soil bacteria i.e. *Pseudomonas aeruginosa* is introduced/injected to reduce the concentration to < 1.0 mg/l. This method can be scaled up to other areas to the country including hard rock areas as suggested by Dr. Ashok Kumar Jain for taking up in the state of Andhra Pradesh.

**Dr. Raghuvansh Saxena**, Country Director, Earth watch Institute, New Delhi. Talking about freshwater bodies-issues and concerns, he spoke that Water security continues to be a cause for serious concern. Ground water level hits dangerously low. Habitats for aquatic and avian biodiversity vanishing. Due to rapid urbanisation, flows from catchments to water bodies are interrupted. Issues concerning siltation and solid waste disposal and vector diseases. Water bodies disappearing across cities and towns. There is urgent need to conserve water bodies: Augment declining groundwater reserves, protect habitats for aquatic and



*Dr. Raghuvansh Saxena*

avian biodiversity, To cool the micro-climate; to increase soil moisture for supporting enhanced vegetation growth, To act as carbon sinks, To enable sustained tube well operations for decentralised water supply. He expressed concern of Earth watch's mission which is to engage people in scientific field research and education to promote the understanding and action necessary for a sustainable environment.

He emphasized that safeguarding of threatened ecosystems is an opportunity of our life time, especially the urban fresh water ecosystems including wetlands and water bodies. Recharging of ground water, aquatic flora and fauna and climate change programmes are some of the studies being done in western guards.

**Dr Sandeep Kumar Bahera**, Associate Director, River Basin and Biodiversity, WWF- India, New Delhi delivered his talk on “Protecting aquatic biodiversity in Upper Ganga River through community participation”. He told that Ganges River basin is the largest basin in India covering an area of 861,404 sq. km and in a source of livelihood for over 450 million people. It supports rich aquatic biodiversity such as Dolphin, others, Ghariyals and Turtles etc. He further said that since past two decades WWF-India is working in the upper Ganga River for the conservation of aquatic biodiversity through community participation. Two important species have been identified as a species of particular concern, the Ganges River Dolphin “National Aquatic Animal” and three species of fresh water turtles. Populations of Ganges River Dolphin and fresh water turtles have been declined drastically during the last few decades as a result of direct and indirect human interventions.



*Dr. Sandeep Kumar Bahera*

Through his presentation, Dr. Behera demonstrated the various conservation methods adopted in the project. He expressed that the local community played a significant role in the conservation of the river dolphins and fresh water turtles. Various awareness programmes were conducted in different villages along the bank of Ganges river which include talks and lectures of experts, discussion and film shows focusing on field demonstration of wise use of the river banks, pesticides/fertilizers etc. Besides, promotion and adoption of vermin-composting practices were also carried out among the farmers. The turtle habitats were also improved by organizing awareness programmes and workshops in different stretches of the Ganga River. Highlighting major achievements of the activities, he said that the river stretch has been declared as a Ramsar Site because of its rich biodiversity and wise use concept. Scientific database has also been

prepared with regards to population status of major aquatic animals. Besides, mortality of dolphins and other major aquatic animals were reduced.

**Shri Romit Sen**, Senior Assistant Director, FICCI said that there is a close connection between business and ecosystem services. Businesses rely on various ecosystem services and they also impact them. The various biodiversity related business risk include – operational, market, regulatory, reputational and access to capital.



*Romit Sen*

He said that the gap between India's ecological footprint and its bio capacity is increasing which indicates that our ecological debt is increasing. India's water footprint is mainly her agricultural water footprint. Projections by the Ministry of Water Resources indicate an increase in demand for all sectors – agriculture, domestic, industry and energy. When it comes to industrial water use, Thermal Power Sector use the maximum amount of freshwater. This is followed by the engineering, pulp and paper, textiles, steel sectors.

Increasing water stress is a major cause of concern. It is important to note that the planned industrial growth is likely to occur in basins that are water stressed. This will increase the competition amongst various users of water. More so, with groundwater depletion the problem will intensify.

He identified three major risks relating to water. These are –

- Physical risks: a lack of water in terms of quantity or adequate quality
- Regulatory risks: from the conditions under which water may be used or discharged
- Reputation risks: competing for freshwater access with alternative social, economic and environmental uses.

Availability of water is becoming an area of concern for the industries. This is true for industries across the sectors surveyed as part of the FICCI –CWC Water Risk Study. With regard to the current availability of water, while 60% of the respondents agree that availability of water is impacting their business today, the figure rises to 87% after 10 years. When asked about the nature of risks associated with water there are a variety of responses that emerge from the study.

While inadequate availability is the major risk facing the industries, others agree that poor water quality is another major risk in the running of business. Regulatory policies in respect

of allocation of water (mainly in the state water policy) is also an important risk that industries see will have a bearing on their functioning in the coming years.

There is a correlation between the forest rich areas which are also mineral rich areas and are also areas which have increased water stress. He emphasized that our development plans need to balance these sensitive considerations while planning for development.

A photography competition was held in which Shri Sanjay Kumar, DM, Moradabad won the first prize. Shri Neeraj Mishra from Kanpur and Ms Sonika Kushwaha, Lucknow won the second and third prizes respectively.

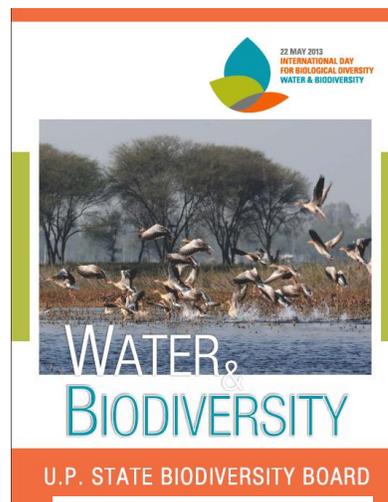
On this occasion, two books were also released. One was a souvenir on Water and Biodiversity with 24 articles related to the theme in 188 pages. The second was a book on Lichens Diversity in Uttar Pradesh. This book has identified over 40 new species of Lichens in Uttar Pradesh for the first time, in addition to 10 new varieties recorded for the first time in India.



**Release of Souvenir on Water and Biodiversity**



**Release of Book on Lichens Diversity in Uttar Pradesh**



**Cover Page of the Souvenir**