



**LAKE 2014: Conference on Conservation and Sustainable Management of Wetland
Ecosystems in Western Ghats**

Date: 13th -15th November 2014

Symposium Web: <http://ces.iisc.ernet.in/energy>

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Symposium Venue Details	
13 th November 2014	Parisara Auditorium, Swarnavalli, Sirsi
14 th November 2014	Patavardhan Hall, Lions English School, Sirsi
15 th November 2014	Sharadamba Hall, Bhairumbhe High School, Sirsi
16 th November 2014	Field Work
Organised by	
Energy and Wetlands Research Group [http://ces.iisc.ernet.in/energy], Centre for Ecological Sciences, Indian Institute of Science, Bangalore 560012	
Gramabhyudaya unit, Sri Swarnavalli Mahasamsthana, Sonda, Sirsi	<i>Vriksh Laksha Andolana</i> , Karnataka
School of Life Sciences, Assam University, Silchar	School of Environmental Sciences, M. G. University, Kottayam
Centre for <i>infrastructure</i> , Sustainable Transportation and Urban Planning (CiSTUP), IISc	K.K. High School, Varthur, Bangalore
Vidyaniketan Public School, Ullal, Bangalore	Vagdevi Vilas Institutions, Bangalore
Lions English High School, Sirsi	<i>Sharadamba</i> Education and Rural Development Society (R), <i>Bhairumbe</i>

LAKE 2014: Conference on Conservation and Sustainable Management of Wetland Ecosystems in Western Ghats

Venue: Parisara sabhangan, Shri Swarnavalli Mahasamsthana, Sonda, Sirsi, Uttara Kannada

Date: 13th – 15th November 2014

Recommendations of LAKE 2014

Symposium focusing on lakes popularly known as “**Lake Symposium**” was initiated by the Energy & Wetlands Research Group at Centre for Ecological Sciences, Indian Institute of Science, Bangalore in the year 1998. The theme was broadened in 2000 (Lake 2000) with a wider participation of education institutions, Governmental and non-governmental organisations, etc. The basic idea of the symposium was to bring out the trends in ecosystem conservation, restoration and management including the hydrological, bio-physical, people’s participation and the role of non-governmental, educational and the governmental organizations and the future research needs. **Lake 2014** was the 9th Biennial Lake Conference and the focus of this event is “**Conference on Conservation and Sustainable Management of Wetland Ecosystems in Western Ghats**”. The theme of world wetlands day 2014 was “*Wetlands and Agriculture: Placing a focus on the need for the wetland and agricultural sectors (and the water sector too of course) to work together for the best shared outcomes*” and this conference provided a unique opportunity to increase understanding of the role of wetlands in sustaining the food production and challenges faced by these fragile ecosystems.

LAKE 2014 conference was organised by Energy and Wetland Research Group, Indian Institute of Science, Shri Swarnavalli Mahasamsthana, Shri Sharadamba Educational Trust, Lions Club and Village Forest Committee Shigehalli

Lake 2014 was inaugurated by Sri. Ananth Kumar, the Minister of Chemicals and Fertilisers, Government of India. Mr. Ananth Kumar emphasised the need for clean and green India. He assured support to implement the recommendations of the Lake 2014 through the government of India.

LAKE 2014 provided a platform for interaction among the researchers, policy makers, academicians and NGO’s and has addressed issues related to wetlands and biodiversity in the era of climate change. There were 64 oral presentations and 24 poster presentations in this symposium covering 9 different sub-themes. Uniqueness of this event is the participation of 115 school students, who took part actively and presented 48 papers and 18 posters. Participants from all over the country – 9 states and 14 districts in Karnataka came forward to present their research findings. The three day symposium proved to be an appropriate venue for raising the critical water issues and bring forth the severity of the problems faced by the water bodies. The beginning of the

symposium was marked by the key note lectures from experts highlighting the issues of biodiversity, ecology and hydrology.

The key recommendations of Lake 2014 forum are:

1. Documentation and protection of locality-wise water bodies and water sources, their current status, with estimates of hydrological services, ongoing and potential, are essential.
 2. Action plans for rejuvenation of all locally and regionally important water bodies, to their natural standards, are essential.
 3. Efforts to be made through community participation towards restoring natural vegetation of water-body catchments to be prioritized.
 4. The state government should prepare special plan to conserve lakes and water bodies of Western Ghats.
 5. State education board should promote scientific study of wetlands at school and college level as extra-curricular activity.
 6. The state forest department should make special schemes to protect forests in catchment area of lakes and streams and also promote afforestation in these regions.
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7. Cleaning of lakes and water bodies should be done on priority as a part of 'Clean India Campaign'. Local voluntary organisations and working groups should spread awareness among communities through Lake Cleaning Campaign, Lake Festival, etc.
 8. Stringent laws are required to prevent lake encroachment. The government should take immediate actions on lake encroachers and those lakes shall be rejuvenated.
 9. De-silting of lakes in *Malenadu* region should be carried out and local communities have to be motivated for the sustained process.
 10. Temple management committee should take a step to conserve and protect Temple Ponds and Holy Waters in the region while spreading the awareness about these pristine water bodies.
 11. The state government should not permit mining in places such as Kappatagudda, Kodachadri, Hogrekangiri etc. which are the water towers of southern India.
 12. Village level lake management and conservation organisations should be made active and strengthened by the state government through which lake rejuvenation and development plans shall be executed. Village forest committees should monitor such activities with schools and the state government officials.
 13. Sacred groves (*kan* forests) and swamps must be categorised under eco-sensitive zones and protected.
 14. Small lakes of *Malenadu* region (area less than 5 acres) should also be considered under the micro irrigation department and protection and development schemes should be made available to these water bodies.

15. Lake development authority, Irrigation department, District panchayat and water development organisations should be integrated to work on conservation of water bodies under single window system.
16. Disposal of municipal solid waste in the lake or lake bed should be prohibited immediately and severe actions should be taken against such illegal activities.
17. Streams, rivers, lakes, swamps of Western Ghats are the water resources for entire peninsular India. Commissioned hydroelectric projects in southern India depend on the water availability in rivers which originate in Western Ghats ranges. Any projects on water exploitation, connecting the rivers or changing the direction of rivers in these regions should not be allowed that will severely affect the hydrology leading to water scarcity.
18. Swamps and marshes and shola forests of Western Ghats, being the storage areas for monsoon rains and perennial sources of water need to be mapped, and given high rank in conservation efforts.
19. Myristica swamps, ecosystems of high conservation value from hydrological perspective, need to be systematically mapped and their ancient biodiversity showing lineage to Gondwanaland, should be recognized as rare centres of biodiversity endemism, and as sources of perennial streams, or enriching such streams with gradual releases of water. Diversions of streams passing through Myristica swamps are often diverted for human uses causing decline and death of such streams. Such stream diversions should be stopped and the integrity of Myristica swamps along with their catchments needs to be safeguarded for water security of the region.
20. Sacred groves, known as *kans*, *kavus*, *banas*, *devarakadus*, or *devrais* in different States of Western Ghats, being also the last remains of the original primeval forests, with rare species of plants and animals, and having functioned as sources of perennial water, such as streams and rivers, springs and ponds and with proven positive contribution towards ground water recharging had benefitted humans through generations. Such sacred forests, belonging to India's inspiring tradition, were very important elements of conservation and culture in the pre-British period rural landscapes of Western Ghats. To this day various distinct art forms and folk traditions such as *Theyyam*, Nagamandalam, Bhtadakola etc. are still associated with sacred grove tradition which is also at the core of *Adivasi* tradition. The Government has to uphold the ecological values, hydrological importance and cultural significance of sacred groves and enable in all ways the local communities and State forest departments in protecting the groves.
21. Hydrologically rich forests of Western Ghats are also centres of floral and faunal endemism and rarity and therefore deserve special attention towards safeguarding their integrity.
22. As high school and college students have proven their ability in documenting water bodies of central Western Ghats and associated plant and animal diversity and human lives, the students who take part in such studies and documentation would deserve academic credits for their contribution. As such exercises of students, including village biodiversity studies

as a whole, while sensitizing themselves on environmental issues also can raise awareness on environmental conservation in the society. The younger generation can eventually contribute substantially towards preparation of People's Biodiversity Registers as is mandatory for all gram panchayats and other local self- governments under the Biodiversity Act-2002 of India.

23. Water being at the heart of human civilizations and existence at least 10% of Government funds should be used for creation, restoration, maintenance and management of water bodies. As the Western Ghats function as water tower for Indian peninsula environment management in Western Ghats should have water as the core issue. Needless to say that much of human problems and environmental issues can be tackled successfully through hydro-centric approach.
24. People tend to migrate to the cities in larger numbers mainly from hydrologically depleted villages, in search of better livelihoods. Overcrowding of cities create various environmental problems including encroachments and reclamations and pollution of urban water bodies necessitating expensive schemes for transport of water from Western Ghats in increasing quantities to urban areas like Bangalore or Hubli or Mumbai, depriving local people of this vital necessity. State Governments are compelled to contemplate on environmentally disastrous projects on diversions of rivers from their natural courses to meet increasing demands for water in cities. The rising needs for hydro-electricity by harnessing Western Ghat rivers are on the rise, necessitating execution of dams submerging forests, making roads and transmission lines, also taking heavy toll on the precarious forest wealth.
25. To tackle the ever rising problems of the above kind we propose the concept of creation of "smart villages" as the ultimate solution. By smart villages we mean providing the village communities with greater facilities for education, employment, energy, healthcare facilities, transportation and communication etc. For achieving such objective we have already prepared a model blueprint for Uttara Kannada district. This blueprint is about grouping of gram panchayats and small towns depending on their proximity, kind of natural, human and agricultural resources into clusters for integrated, sustainable development models, aimed at maximum utilization of human and natural resources within respective clusters, with opportunities for appropriate trainings for expertise development. Implementation of such models on a wider scale, at relatively lower costs, is expected to reduce the pressure on cities while making life in villages and small towns much easier than at present. Promotion of thematic ecotourism will be ideal for benefitting local people economically and culturally.
26. The pollution of water bodies is recognized as due to disposal of solid and liquid wastes from diverse sources from urban and rural areas. Chemical pollution from industrial and agricultural sources and from runoff from lands containing pollutants, including leachates from landfills, are recognized important sources. Considering the paramount of importance of pure water in human health and welfare, the governments, both of States

and Centre, should aim at achieving zero pollutant input into the water bodies through tackling sources of pollution and awareness creation.

27. Water bodies of Western Ghats are being polluted due to extensive use pesticides and chemical fertilisers in agriculture and horticulture. Region has already witnessed the tragic incident due to massive usage of Endosulfan. It is recommended that the use of biopesticides and biofertilizers may be promoted to dispense with use chemical substances harmful to environment, humans and animal health. Production of these, especially from local plants, and also production of various herbal dyes and food colors from local plants will not only reduce pollution, including carbon emissions, but also increase employment opportunities. For sustaining such activities the peripheral forests/VFC managed forests and private holdings may be enriched with plant sources of such biochemicals. Technology transfer and training programmes are necessary for success of such activities.
28. The existing regulations pertaining to boundary demarcations of water bodies within different states need to be reviewed according to updated norms and based on geomorphology and other scientific aspects pertaining to individual water bodies. Inviolable buffer zones should be created around or bordering water bodies or water courses, and these should be maintained along with their natural vegetation.
29. Preparation of management plans for individual water bodies is necessary as most large water bodies have unique individual characteristics.
30. Industries polluting water bodies be levied Environmental Cess, which can be utilised for conservation measures by the competent authorities.
31. Restoration of original linkages between water bodies, which have been lost due to urbanisation, is necessary for health of water bodies.
32. Coastal estuaries being among highest productive and most biodiverse ecosystems they should be protected from ongoing developmental pressures (such as upstream dams and industries, from the waste disposal etc.).
33. As abandoned prawn farms are many along the coast the Government may assist estuarine stakeholders financially and through technical assistance in restoring their natural environment to make such areas productive and biodiverse.
34. Bio--shielding of the coast is seen as a most ideal, eco-friendly, aesthetically appealing, low cost and durable defense against sea level rise than construction of high cost, ecologically devastating and aesthetically unwelcome sea walls.

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LAKE 2014 Symposium