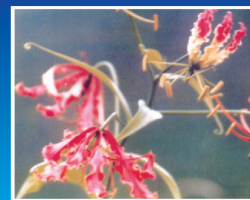




ENVIS Newsletter



Government of Tamil Nadu, Department of Environment, ENVIS-EMCBTAP Node

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Thiru. R. Vaithilingam, Hon'ble Minister for Environment, Forests Govt. of Tamilnadu delivering inaugural address at the workshop on River Conservation on August 27, 2003

The Hon'ble Minister for Forests and Environment, Government of Tamil Nadu **Thiru R. Vaithilingam** inaugurated the workshop on River Conservation on August 27, 2003 and released the first issue of the ENVIS Newsletter of the Department of Environment. The Hon'ble Minister in his inaugural address emphasised the commitment of the Government of Tamil Nadu to keep the rivers clean and detailed the initiatives taken in this regard through National River Conservation Plan (NRCP) and Chennai City River Conservation Project (CCRCP) in Tamil Nadu. He also indicated that the recently commissioned Environmental Information Systems (ENVIS) Node of the Department of Environment (DoE) would disseminate crucial information to the public about the Government's efforts in environmental conservation. **Thiru S. P. Elangovan, I.A.S.**, Secretary to Government, Environment and Forests Department, Government of Tamil Nadu presided over the function and emphasised that the sacredness of rivers should be restored. **Dr. Indrani Chandrasekharan**, Director (EI), MoEF highlighted the functioning of ENVIS Nodes in India. **Dr. S. Balaji**, I.F.S Director, DoE explained about the objectives of the workshop and emphasised the need for innovative low-cost technology to tackle sewage pollution of the rivers in Tamil Nadu. The workshop was organised by ENVIS- EMCBTAP Node of the Department of Environment and Environment Management agency of Tamil Nadu (EMAT) and was attended by more than 35 experts from all over Tamil Nadu. Four technical sessions followed the inaugural session.

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World Bank Aided:

Environmental Management Capacity Building
Technical Assistance Project (ENVIS-EMCP NODE)

Presentation on ENVIS Network



The distinguished participants at the workshop

Dr. Indrani Chandrasekharan, Director (EI), MoEF spoke about the **need for Environmental Information System (ENVIS)** and highlighted its long term and short term objectives. ENVIS provides information to policy makers, researchers and academicians. She also explained that a separate Website has been launched for ENVIS to link all the nodes and centers to have better interaction in disseminating environmental information and concluded that ENVIS network is the largest net work in the world for disseminating environmental information

Technical Session I: River conservation and Management issues:

Prof. A. Mohanakrishnan, advisor, Cauvery technical cell chaired the session. **Thiru A. Syed Zafar Hussain**, Director, Institute of Water Studies made the first presentation on **River conservation and management issues in Tamil Nadu**. He quantified the water potential of the state including surface and ground water as (46,540 MCM) and the present demand as 54,395 MCM. He also explained in detail the issues encountered in river conservation and suggested various options for conserving water. **Dr. K. Venugopal**, Director, Institute of Remote Sensing, Anna University spoke on the application of GIS in River Conservation. He stressed that the land use management should precede river management. He also stressed upon the importance of data on land sustainability analysis, land erosion assessment, identification of saline and water logged areas, desertification and emphasised the need for data on land slide, zonation and reservoir sedimentation with the help of GIS.

Technical Session II: Water Quality of Major Rivers in Tamil Nadu:

This session was chaired by **Thiru S.P. Elangovan, I.A.S.**. **Mr. A. Alagappa Moses**, Lecturer, Bishop Heber College made a detailed presentation on **water quality monitoring study in the river Cauvery**. He stated that the results of the water quality monitoring study revealed that the water quality is gradually improving and he also found that there is a greater potential for the reuse of treated wastewater for pisciculture and agriculture. **Prof. P.T.Kalaichelvan**, Professor, Centre for advance studies (CAS) in Botany, University of Madras spoke about the **Role of enzymes in Effluent treatment**. He stated that about 300 million tones of agro wastes per year are being produced in our country and these wastes can be usefully converted by adopting enzyme technology. He explained about the application of enzymes in treating the effluents and in decolourization process.

In his concluding remarks the Chairman **Thiru. S. P. Elangovan, I.A.S**, Secretary, Department of Environment and Forests, the chairman emphasised that there should be a strict enforcement of law against polluting industries and supported the concept of "**Polluter Pays Principle**". He expressed his serious concern with regret that our country has been ranked 122nd among 125 countries ranked for the quality of drinking water.

Technical Session III: Technological Option for Waste Water Treatment

The session on **various technological options for wastewater treatment** was chaired by **Dr. S. Rajamani**, Head, Department of Environmental Technology, CLRI. **Dr. S. Sundaramoorthy**, former Engineering Director, CMWSSB in his presentation pointed out that in the case of Palar the average TDS in the tannery effluents is about 7000 to 10,000mg/l. It requires a sewage volume of 8 times to get a blended TDS of less than 2100 mg/l. He supported the idea of mixing industrial effluent with municipal sewage. He indicated that in class I and class II towns, the sewage and sullage flows should be about 10 to 20 mld that can be intercepted and pumped to wastelands and used for farm forestry. A typical area requirement for anaerobic lagoon followed by aerated lagoon for about 20mld of sewage will be about 2 hectares and the operating Kw of aerators will be just about 50Kw.

Dr. Ravi, Manager, Sundaram -Clayton limited presented a paper on "**Rejuvenation of river Nambi - at Tirukkurugudi**". He said that the main concern towards conservation of river Nambi is solid waste management and water pollution. The objective of the project is to develop a community based model for environmental management. The methodology adopted were field survey, interaction with stakeholders and participatory rural appraisal. The next presentation was made by **Dr. P. Gomathinayagam**, Superintending engineer, Water Resource Division, PWD on **Dead and Dying Rivers in Tamil Nadu** He presented beautiful slides of lushgreen mountain terrains (Kurinji), forests (Mullai), agricultural settlements (Marudham), estuaries (Neithal) and deserts (Palai). He said that there are 33 river basins in Tamil Nadu, in that the Palar and Noyal basins are dead due to the dumping of tannery and textile effluents. Cauveri and Bhavani are dying rivers due to the increased pollution load from sewage & industrial effluents. He also opined that water auditing of industries to review their generation of wastewater should be undertaken at policy level. He concluded that the conservation of water should become a social and personal habit of the people.

Technical Session IV: Options for use of treated wastewater

The fourth session was chaired by **Dr. Paul P. Appasamy**, Director, Madras School of Economics. The presentation on **Utilization of Treated effluent for irrigation** was presented by **Mr. K. Shanmugam**, Environmental Engineer, Seshasayee Paper Boards Ltd, Pallipalayam, Namakkal district. He said that Seshasayee Paper Board Industry, draws water from river Cauvery at the rate of 36,000 cubic meter/day and processing, 33,000 cubic metres/day is utilized for processing 32,000 cubic metres/day effluent generated is disposed on land for sugar cane cultivation in 1500 acres of dry lands. They found that the yield of sugarcane is 10% more in these fields. The wastelands converted into wet lands benefiting the farmers economically. The paper on "**Sewage utilization and Mitigation of effluent pollution through forestry practices**" was presented by **Dr. K.T. Parthiban**, assistant professor, TNAU, Coimbatore. He elaborated on the technologies available for growing trees using treated sewage water and suggested technology package for growing trees using treated sewage water that includes land preparation and land treatment, application of treated sewage and wastewater, selection of suitable species, planting techniques

and after care. He concluded with thrust areas for further research for utilizing sewage water and industrial effluent for growing trees.

The planery session was chaired by **Dr.S.Balaji.**, I.F.S, Director, DoE. The following **recommendations emerged out of the four sessions:**

Recommendations:

1. More concerted approach to river conservation is needed by establishing institutional arrangements such as river conservation agencies.
2. Application of remote sensing and necessary GIS for studying the hydrology of the riverine system and pollution status.
3. Concerted attention is needed for water quality monitoring, arresting the sewage entering into the river which is responsible for 80% of water pollution.
4. Stringent enforcement of environmental laws is needed in respect of industries polluting river water.
5. Community involvement in river management and river cleaning activities is very essential if it has to be sustainable.
6. The project must be more people driven through planning, appraisal and monitoring by local citizens for making river conservation activities more community based and cost effective.
7. There is no specific technology for treatment of sewage as this will vary depending upon the capacity of the local body to maintain the facility and availability of land.
8. Any technology using solar energy and wind energy should be given priority.
9. In order to meet the O&M cost, the treated waste water could be sold to industries or used for growing cash crops as in SPB or used for growing tree plantation as successfully experimented by Forest College and Research Institute, Mettupalayam.
10. The choice of tree species could be fast growing indigenous species rather than exotic species as exemplified in Nesapakkam STP.
11. More innovation is required in treatment of sewage and alternatives to present method of transporting it to long distances should be explored.
12. Government funding for research institutions in this area needs to be augmented.

Wastewater Treatment through Root Zone Treatment (RZT) Technology

A four member team headed by the Director of Environment visited Auroville to study the waste water treatment and reuse through reed bed technology practised at Grace, Auroville. This field visit was coordinated by Mr. Aurolilio, Kraft & Associates, Pondicherry. The Root Zone Treatment (RZT) Technology, also known as the reed bed system or constructed wetland system, is a sealed filter bed consisting of a sand/gravel/soil system, occasionally with a cohesive element, planted with vegetation that can grow in wetlands. After removal of coarse and floating material, the wastewater passes through the filter bed where biodegradation of the organic matter present in the wastewater takes place. The functional mechanism in the soil matrix that is responsible for the mineralization of biodegradable matter is characterized by the combined effects of the filter bed material, wetland plants, micro-organisms and wastewater. The treatment process is based essentially on the activity of microorganisms present in the soil. The oxygen for degradation of organic substances is supplied through the roots of the plants. RZT Technology contain aerobic, anoxic and anaerobic zones. The filtration by percolation through the bed material is the reason for the very efficient reduction of pathogens, depending on the size of grain of the bed material and thickness of filter.

Root Zone Treatment Technology has the following salient features:

- Simple construction methods,
- No machinery or chemical is required,
- No sludge other than primary sludge is generated,
- Handles a large variety of pollutants,
- Low operation and maintenance costs
- High efficiency in removal of pathogens without chemicals or physical processes,
- Allows re-cycling and safe re-use of waste water,
- Conversion of wastes into re-usable high quality plant biomass (reeds),
- Thus rootzone systems are not only eco-friendly, but also have low operational costs, producing high water quality (up to bathing water standards) suitable for re-use.



Rootzone treatment system for domestic wastewater reuse for irrigation in operation since 1994 in Auroville Township, Tamil Nadu, India.

Loss of Ecology and the Schemes for Reversal of Ecology:

The Loss of Ecology Prevention and Payments of Compensation Authority for the State of Tamil Nadu was constituted by the Government of India in accordance to the Supreme Court judgement in WP 914/1991 to assess the extent of damage caused to the environment due to industrial pollution. The Supreme Court in its judgement stated that the industries are liable for past damages caused to the environment and ordered for reversal of damage in the affected areas in Tamil Nadu. In compliance with notification SO. No: 671(E) dated 30th September 1996 issued by Government of India constituting the Authority. The Authority has submitted its report containing schemes for reversing the ground water quality damage in Vellore and Dindigul Districts. The schemes are divided into two components namely preventing further damage and correcting the damage already occurred. The total compensation for the damage caused to the agricultural lands is estimated by the authority as Rs.26.82 crores in Vellore District

The following schemes are recommended for Reversal of Ecology :

- Watershed treatment
- Desilting tanks
- Construction of check dams
- Increasing the water use efficiency in agriculture
- Reclamation of municipal sewage water
- Roof water collection in major towns
- Waste land development
- Land reclamation by adding amendments
- Recycling of waste water in industries
- Public awareness.

Events:

Seminar on Environmental Technology :

Tamil Nadu Agricultural University organised a seminar on "Environmental Technology" for conservation of Water, Soil, Air, Land and Biodiversity of Eastern Ghats and adjoining areas at Horticultural Research Station, Yercaud, on August 22, 2003. **Dr.C. Ramasamy, Vice Chancellor, TNAU, Coimbatore** inaugurated the seminar while the key note address was delivered by **Dr. S. Balaji, I.F.S, Director of Environment (DoE)**. In his keynote address DoE requested the participants to focus on the local environmental problems such as water pollution of Yercaud lake, over exploitation of ground water in Salem, Erode and Coimbatore, deforestation in Eastern Ghats especially in the reserved forests and private plantations.

National Conference on "Conservation of Coastal Ecosystems":

Loyola College, Chennai and Loyola Institute of Frontier Energy (LIFE) conducted a national conference on Coastal Ecosystems with the help of "Biotechnological tools" from September 8-10, 2003. Speakers at the conference called for comprehensive research on preservation of marine diversity and eco friendly development in coastal areas. **Dr. S. Balaji, I.F.S, DoE** inaugurated the conference and released the first copy of the abstracts of the conference. He emphasised that the economic development should not be at the cost of ecological sustenance and detailed coastal environmental issues in Tamil Nadu such as land erosion, setting up of ports, pollution due to industrial activities, sea water intrusion due to over exploitation of ground water and the letting out of untreated sewage into the sea. He also highlighted the potential eco tourism destinations in the coastal areas of Tamil Nadu.



Release of first copy of the abstracts of the conference by Dr. S. Balaji, I.F.S.,

Western Ghats Conservation and Human Welfare:

A conference on Western Ghats conservation and Human Welfare was organised by the Western Ghats forum at the National Institute of Advanced Studies, Bangalore from September 22-24, 2003. The broad themes of the conference were **Ecosystems, Communities and species, Land Use, People economics and trade, Policies, laws, awareness and Communication**. The conference was inaugurated by **Dr. S. N. Rai, I.F.S., Principal Chief Conservator of Forests, Karnataka**. The first technical session on **Ecosystems, Communities and species** was chaired by **Dr. S. Balaji, I.F.S., DoE**.

Strategies for Efficient Water Demand Management:

Dr. S. Balaji, I.F.S., Director, DoE participated in the discussion on Strategies for Efficient Water Demand Management organised on the occasion of the **World Habitat Day** celebration at MSSRF on October 5, 2003. He indicated that the department of environment has commissioned a study on lakes and ponds in important urban towns of Tamil Nadu and the data on their ecological condition will be collected. He also said cleaning of Udhagamandalam and Kodaikanal lakes had been taken up under NLCP through bioremediation technology to tackle organic pollution.

Visit of Distinguished Experts:

- **Dr. Jens Sorensen** an expert on integrated coastal Zone Management from Boston, Massachusetts, USA along with Ms. Helen Lafave, Vice consul for public affairs. American Consulate visited Department of Environment on 3rd July, 2003 and had a discussion with **Dr. S. Balaji, I.F.S., DoE** and **Mr. Ashish Kumar Srivastava., I.F.S., Joint Director** on the implementation of Coastal Regulation Zone (CRZ) notification in India.
- **Dr. Richard E. Sparks**, Director of Research, The National Great Rivers Research and Education Centre and visiting Professor of Illinois water research Centre, U.S.A called on the DoE on 18th August, 2003 and held discussion with the Director of Environment on the river water cleaning efforts undertaken in Tamil Nadu. Dr. Sparks also appreciated the efforts taken by the Government of Tamil Nadu to keep the rivers clean.

NEWS PAPER CLIPPINGS :

Tamil Nadu tops wind generation:

Tamil Nadu has again topped this year in wind power generation. The state has achieved an additional installed capacity of 231.80 MW for 2002 and 2003. The cumulative wind power capacity of the country this year is 1,800 MW while that of Tamil Nadu stands at 990 MW.

21st May, 2003, Indian Express

Tamil Nadu moves up in Human Development Index:

The Human Development Report released by the Hon'ble Chief Minister, Selvi. J. Jayalalitha (WWW.tn.gov.in\spc) says that Tamil Nadu moved up to the third position in Human Development Index over the last two decades. With the state scoring 0.531 in 2001 as against the all-India average of 0.472. Tamil Nadu was in the seventh position in 1981 with a score of 0.343

15th July, 2003, The Hindu

Protection of Wildlife Vital:

Hon'ble Chief Minister, Selvi. J. Jayalalithaa said that Government has initiated steps to increase the number of sanctuaries to protect the wild life in the forests of Tamil Nadu. In a message on the eve of the Wildlife week she said Tamil Nadu takes pride in the fact that 12 per cent of its forest cover is preserved as sanctuaries and National parks. The state has also attained International fame in protecting forests & wildlife as the Nilgiris forest and Gulf of Mannar have been brought under the UNESCO Man & Biosphere network.

1st October, 2003, Indian Express

MTC for Bharat II compliant Buses

Hon'ble Transport Minister Thiru. R. Viswanathan said during the world environment day function that all new vehicles purchased by MTC will be Bharath-II compliant. He also said MTC is also conducting frequent emission tests for its current fleet and carbon monoxide monitors have been installed in all regional transport offices.

11th June, 2003, Indian Express

CMDA Lines up Eco- Friendly project:

Chennai Metropolitan Development Authority (CMDA) Vice-Chairperson Tmt. Jayanthi, I.A.S., said that CMDA has proposed a Rs 5 crore-biomethanation project at Koyambedu market which would become operational in six months. It will use 30 tonnes of vegetable waste daily and produce 17.5 lakh units of power annually.

8th August, 2003, Indian Express

Economics of Green Agenda:

The Madras School of Economics(MSE) has presented to the Union Ministry of Environment and Forest an interim proposal for 'Double dividend Environmental reforms'. As per the proposal, the liability for environmental pollution will shift to the polluters and the penalty for non-compliance will be hiked on par with the extent of pollution. The task force headed by Dr. Raja Chellaiah, Chairman of MSE also suggested an increase in incentives for industries going in for lesser polluting options.

2nd October, 2003, Indian Express

Vision statement of Environmental Health:

The MoEF has come out with a comprehensive 'Vision. Statement' on Environmental health which takes into account the adverse effects of growing hazardous and bio-medical wastes, radiation and climate change on human health. The purpose of this vision statement is to evolve a strategy for reduction of health risks. It also offers a comprehensive approach to the environmental health management plans

12th June, 2003, The Hindu

Ship Breaking : Supreme Court ruling on Dumping of Hazardous Waste:

The Supreme Court has ruled that ship-breaking operations could not be permitted to be continued without strictly adhering to all precautionary principles and taking requisite safeguards to the aspects of the working condition of the workers. The court ruling has clearly pointed out that disposal of waste material must be made utilising technologies that meet the criteria of an effective destruction efficiency of 99.9%. The work atmosphere and measures for protection of workers from environmental hazards must be drastically improved and recommends that environmental organisations and trade unions must be made part of the proceedings

29th October, 2003, The Hindu

FAO to Save Marine Ecology:

To check the rapid degradation of marine and coastal ecology of Bay of Bengal(BOB), the United Nation's Food and Agricultural Organization has set a Strategic Action Plan (SAP) for sustainable management of marine ecosystem, in partnership with eight countries surrounding the Bay. The objective of the programme is to enhance national and regional efforts to protect the health of the ecosystem and to manage the living resources along the Bay of Bengal in a sustainable manner and to improve the food and livelihood security of the Coastal population in this region.

30th October, 2003, Indian Express

Oil-yielding plant for costal belts:

SALICORNIA, is a succulent, bushy plant found in the salty-terrains near the coast holds a lot of promise as an ideal edible-oil yielding crop, which can be raised using seawater. An improved variety of Salicornia is being grown extensively in several parts of the world, including India.. The variety, SOS-10, grows well in desert sands irrigated with seawater and it can be grown along the sea shore as well, "explains Felix Ryan, the Chennai based advisor for Development and refugee rehabilitation of the United Nations, and chief monitor, Survival by seawater Global movement. Salicornia has vast potential as forage, vegetable, oilseeds and raw material for a host of rural energy development, and employment generation.

5th September, 2003, The Hindu

Jatropha for dry lands : A hardy, drought resistant shrub Jatropha Curcas known as kattu aamanakku is all set to revolutionise the future of the fuel industry by offering an eco-friendly, cost effective and proven substitute to highly polluting fossil fuels. The fact that it is highly suited to wasteland cultivation and need very little investment make it and irresistible proposition. It is also an employment generator and yields valuable by products like glycerol and biomanure. It is cultivable on drylands and drier climate has been found to increase the oil yield.

7th December, 2003, Indian Express

Good Bird Season at Vedanthangal:

The 74 acre expanse of the Sanctuary the oldest in the state plays host to migratory birds between October and March. Mr. K. Sridhar, Forester told that this season 50 species of birds like White Ibis, Glossy Ibis, Little Cormorant, Darter, Spoon Bill, Grey Pelican, Painted stork, Little Egret, Cattle Egret, Open Billed Stork and Night Heron have started arriving from Pakistan, China, Japan, Myanmar, Europe and the USA. Around 40,000 birds are expected till the end of the season.

17th May, 2003, Indian Express

Waste Water Back for Reuse:

A City based senior Citizen has developed a device to collect wastewater from bathroom, kitchens and hotels for reuse. The device called Viswam Water Recharge can channelise grey water from homes and hotels to a separate chamber. The mechanical equipment is fixed to the floor watertrap outlet and has channels separating water going to the drain and the recycling chamber. A handle is to be turned manually or a switch to be put on by the user. After treatment by simple filtration, the grey water can be reused for the toilet flushing, landscape development washing cars and pavements and gardening.

7th November, 2003, Indian Express

NEW SCHEMES

Palar River Conservation at Ambur :

A project on "Providing under ground Sewerage to Ambur Town" is under the consideration of the Gol. This project is also intended to minimize pollution of the river palar by bringing down the high TDS of the treated industrial effluent by diluting it with treated domestic waste water. The cost of the project is Rs. 25 crores. Similar proposal for Ranipet and Wallajah Municipalities has also been prepared for Rs.25 crores and sent to Gol for consideration and approval.

Interception and Diversion of Sewage to pollution of Kolavai Lake in Chengalpattu Town:

The Kolavai lake is situated in the Eastern side of the Chengalpattu town, abutting the Chennai-Tiruchi railway line. The drinking water supply to this town is presently from infiltration wells of river Palar.

It is proposed to develop the Kolavai lake as a drinking water source for Chennai City by improving the water quality. To achieve this, the sewage entering the lake is proposed to be intercepted, diverted and conveyed to the proposed treatment plant. The detailed project report for a value of Rs.4.92 crores is under consideration of Gol with 30% contribution of GoTN

WATER LINKS :

S.No.	Organisations / NGO's	Websites
1.	National River conservation Directorate	www.envfor.nic.in./nrcd/nrcd.html
2.	Central Pollution Control Board	www.cpcb.nic.in
3.	Ministry of Water Resources	www.wrmin.nic.in
4.	Chennai Metropolitan Water Supply and Sewerage Board	www.chennaietrowater.com
5.	Tamil Nadu Water Supply and Drainage Board	www.twadboard.com
6.	Everything about Water	www.everythingaboutwater.com
7.	Centre for Science and Environment	www.cseindia.org
8.	UNESCO	www.unesco.org/water
9.	Saciwaters	www.saciwaters.org
10.	National Environmental Engineering Research Institute	www.neeri.nic.in

Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a pre-requisite to the realization of all other human rights.

The United Nations Committee on Economic, Cultural and Social Rights, Environment News Service

Up Coming Events:

- **Ocean Life Food & Medicine Expo 2004 (27-29, February, 2004) Chennai-28.**
Website : oceanlifeexpo.org
- **Regional Workshops on State of Environment Report (SOER) Preparation (February, 2004)**

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Our precious heritage of natural and unspoiled beauty and unpolluted streams, once exhausted and destroyed, can never be replaced. . . . We have a golden opportunity to save the few remaining scenic and wild rivers as part of our nation's heritage for this and coming generations.

ALVIN O'KONSKI,