

TAMILNADU WATER WEEK 2014

Water Management for Sustainable Development

December 8-12, 2014

Bulletin

Day 4: December 11, 2014

Sustainable Development and Multiple Uses of Water



The fourth day of Tamil Nadu Water Week had a “Policy Seminar on Sustainable Development of water Resources and Multiple Uses of Water”, organised by Centre for Water Resources (CWR), Anna University, Chennai at DHAN Foundation, Madurai.

Water issues are not only matter of concern for farming; everyone is connected to it in different ways, which needs involvement of all the stakeholders, said Dr. S. Mohan, Professor, Environmental and Water Resources Engineering Department, Indian Institute of Technology, Chennai. Professor C.R. Shanmugham, Former Dean, AEC& RI, (TNAU) highlighted the multiple uses of water and need for sustainable development for water resources. Agriculture consumes only 70-75 percent of water and remaining 30 percent is used for domestic, sanitation, Industrial and others, he said.

Dr. R. Sakthivadivel, Emeritus Professor, Centre for Water Resources, Anna University, Chennai, made a presentation on Groundwater Management in the State of Tamil Nadu. In his presentation, he said, 65 percent of areas in Tamil Nadu are drought prone, which is spread over 10 districts and 74 taluks.

Groundwater is the backbone of India’s agriculture and drinking water security. It is a common pool resource used by millions of farmers across the country. It remains the only drinking water source in most of India’s rural households and many industrial units depend upon groundwater only. With an estimated 30 million groundwater structures, India is fast approaching towards a serious crisis of groundwater overuse and groundwater quality deterioration. A recent assessment by NASA showed that during 2002 to 2008, India lost 109 km³ of groundwater leading to a decline in water table to the extent of 0.33m per annum. Nearly 60 percent of all districts in India have problems related to either groundwater quantity or quality or both.

Dr. S.Chandran, Associate Professor, Thiagarajar college of Engineering, Madurai presented on Sustainable Water Resources Management through urban wastewater reuse. He said that pollution load in India is caused by 12 percent of Industrial, 3 percent of agricultural runoff and 85 percent from Municipal discharges. He stressed on the 5R approaches such as Respect, Reduce, Recover, Reuse and Recycle. There are over 200 waste irrigation schemes currently in operation in India, covering an area of approximately 73000 ha. The First Royal Commission on Sewage Disposal in England gave its official approval to the practice of wastewater irrigation. In its report of 1865, the Commission stated, “The right way to dispose off town sewage is to apply it continuously to the land and it is by such application that the pollution of rivers can be avoided”. Government should give high importance for wastewater collection, treatment and disposal. He concluded that if people have no other options, they will use wastewater whether their governments approve or not, because, reuse of wastewater is not matter of choice, it’s the fact of life.

Neerkattis in Water Management



The People Seminar on “Water Management Practices through Neerkattis (Water Managers)” was organised at DHAN People Academy. Farmers, practitioners, water experts and Neerkattis from Neerkattis from Theni, Virudhunagar, Thoothukudi, Thiruvallur, Kancheepuram, Dindigul, and Sivagangai Districts of Tamil Nadu attended the event.

Dr. Karmegam, former Director, Centre for Water Resources, Anna University, in his inaugural address stressed the need for revival of Kudimaramathu system to save the tanks and its structures. He released a short film made on Neerkattis.

Mr. Thirumalai, Journalist, shared about the Neerkatti system existed in Kanyakumari District and Neerkattis called as “Pidagai”. Yearly twice the Pidagai used to assemble in Suseendram and discuss about their work. The Neerkatti system has slowly disappeared once the control went to Government.

Dr. Vedachalam, Archeologist shared the historical background of Neerkattis and archaeological references for Neerkattis. In the stone inscriptions, the Neerkattis were mentioned as ‘Madaiyan, Madaiyar, Neeranithan, Kambukatti, Neeravi, Neeradi, Pidagai, Neerpaytchi, and Neerkattis”. He also shared the Jeevitham concept that the lands offered to Neerkatti by the King to take care of their living. He also shared the Thenkarai Kanmoi story, written on the inscription that details how a Neerkatti sacrificed his life for saving the tank from breaching.

Mr. Rajesekaran has made a presentation on the status of tanks in Tamil Nadu. He insisted on supply management rather than demand management. Wherever the village level farmers’ organisations are

Dr. Carolin Arul, from Centre for Water Resources, Anna University, presented on Protection of water bodies- A legal Perspective. She explained the case study made on Pallavaram tank, on the changes in land use pattern and the temporal degradation of waterbodies. The analysis reveals that the between 1973 and 2001, mixed residential area is increased by 31 percent, hill area is reduced by 0.3 percent, vegetation cover is reduced by 28 percent, waterbody is reduced by three percent, Pallavaram tank area reduced by 0.5 percent due to encroachments and urbanization. She concluded that the participatory approach and creation of awareness are the need of the hour.

Mr. Vignesh Rajkumar from Centre for Water Resources (CWR), Anna University presented on Impact of Climate Change induced Droughts Vulnerability in River Basins. He shared the methodology of preparing vulnerability index and measures of adaptation to the climate change caused on water resources. Mr. Joe Vivek David, from CWR presented on Sustainable Planning of Degraded Land in Semi-arid Basin for Climate Change Mitigation: an IWRM approach. The students and researchers displayed posters on the subjects of their thesis at the workshop.

Recommendations

- State/Central Government must put all efforts to identify and carry out aquifer mapping as per the government of India guidelines as early as possible.
- Community based ground water management committees shall be organised for regulated and planned use and recharge.
- A state level authority shall be created exclusively for ground water development and management.
- Prevent the ground water pollution by domestic and industrial effluents as well as to recharge the treated water effectively for sustain the ground water resource.
- Groundwater shall be delinked from land ownership and property rights to replace ownership with trusteeship to have a sustainable groundwater management
- Public campaigning shall be taken up to sensitize the people towards preservation of waterbodies.
- Evolve policies of regulation of wastewater use and wastewater treatment.

strong, there is a system of Neerkattis, who regulates water distribution.

The Neerkattis are mostly hailing from socially disadvantaged section of the society and they are performing their work risking their lives under water. He also suggested that fitting scales in sluice, field channel, and supply channel to measure the water and proper use. Maintenance fund needs to be created for annual maintenance of tanks.



Mr. Shanthanan, a Neerkatti from Sowdarpatty shared his experience in working with Sowdarpatty Karisalkulam tank. He shared how they perform annual maintenance with the fund they have created, *Ellai Pongal* and managing the water in drought condition. Neerkattis have shared their experience and issues. After deliberations they have come out with declarations.

Declarations

- Tank association should be promoted in all the tanks and the existing tank associations have to be strengthened by the Public works department and rural development department with the help of NGOs and other people organisations.
- Tank irrigation shall be done only with the “water managers” in all these tanks with proper institutional arrangements.
- Endowment fund shall be created for all the tanks to take up regular tank maintenance activities and to provide wages for the “Water managers” during the years of crop failures.
- Minimum wage shall be paid to the “Water managers” during the years of crop failures either from the corpus fund of the village committees or from the tank associations.
- “Water managers” who are doing their job, shall be absorbed by the Public works Department or Gram Panchayats as regular employees, and they could be assigned the responsibility of monitoring the tank bunds, shutters, ensuring the field channels and preventing encroachment in the tank complexes.
- The villagers shall not insist other works at burial ground and scavenging, and they shall be given exclusive tank irrigation management works
- The traditional practices and wisdoms related to tank water management shall be documented with the help of senior water managers and made available for future use.
- The water managers shall be made aware of improved irrigation practices through appropriate training and exposure visits.
- Social security measures such as insurance for life, health and accident shall be ensured for the water managers either by the tank association or Panchayats/departments
- Periodical interaction between water technology centre, KVKs and the water managers shall be facilitated for training on new practices, generating research agenda and learn best practices from each other.
- The gram Panchayat or PWD or tank association shall allocate minimum funds for maintenance of the regulating structures like screw gear shutter in sluices, plug and rods, and weir gates.
- Institutions of Water managers at the cascade level, sub basin level and basin level shall be created for sharing experiences cross learning and policy related suggestions.
- A portion of the income from the usufructs rights from fishing and trees shall be shared between Panchayat and tank associations. This will help the tank association to pay the water managers and to take up regular maintenance works.
- MNREGA can be integrated into tank work by providing maintenance works during off season period, which can ensure income for water managers.

Vaigai River Restoration

As part of the Tamil Nadu water week and the International Conference on Solutions to Ecological Challenges: Multidimensional Perspectives organised by Fatima College, Madurai, and a Panel Discussion on “Vaigai River Restoration –Role of academia and Researchers” was held.

Dr. Mohan, Professor, Environmental and Water Resources Engineering Department, Indian Institute of Technology, Chennai in his address praised the historic value of River Vaigai and its

abuse in the recent years. Restoration needs involvement of all the citizens connected to it. It is ultimately the value system of people that would decide the success; we should revive some of the traditional value practices imbibed in conservation and judicious use of resources for sustainability.

Prof. David Blake Willis, Fielding Graduate University, California, USA, in his address mentioned the Gandhian principles and values that hold value in the present day’s context of Social and Ecological justice. A lot of solutions are there within, we need to introspect, learn from the past and re-apply them. The youth should engage in constructive work and make it a movement. Going back to the roots/routes of and addressing the issue through transformative leadership would yield fruitful result, he reiterated.



Er. R. Venkatasamy expressed concern over mismanagement of River Vaigai. He said “Only natural flow would enhance the biodiversity of river and landscape. Currently, the flow of water is in the hand of government. The dry river could not entertain the community to look after it. Only a community driven solution will help in restoring the River Vaigai”.

Dr. S. Chandran, Associate Professor, Thiagarajar College of Engineering, explained about the origin of the Vaigai River and the pollution being made to it on its course. Domestic pollution is the major pollution in Vaigai. He also explained the potential of using

the “used water” after treatment for agricultural use. Only a sustainable way of managing solid and liquid waste will restore the Vaigai River, he concluded.

Mr. A. Gurunathan, Chief Executive, DHAN Vayalagam Foundation explained the Vaigai River Restoration Pageant Project planned involving multiple stakeholders, and highlighted the role of academia and researchers. He suggested the academia to take up research and action, involving students.

Mr. A. Madhan Kumar, Programme Leader, DHAN Foundation highlighted the pressure on river Vaigai. He suggested an experiment of Social Capital Credit for the Vaigai River restoration. Dr. V. Vedachalam, Retired Senior Epigraphist, elaborated the archaeological significance of River Vaigai.

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