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## Don't Let Water Bodies Fall Prey to Whims and Fancies of Bureaucracy, Says T V Ramachandra

TWC India



Dr T V Ramachandra  
(Dr. H S Sudhira, Gubbi labs)

Dr T V Ramachandra, a senior scientist at the Centre for Ecological Sciences, Indian Institute of Science (IISc), Bengaluru, is one of the most renowned experts of water in India. Popularly referred to as TVR, he has published over 200 research papers, 40 book chapters and 14 books.

On the occasion of World Water Week 2019, Dr T V Ramachandra spoke to The Weather Channel India about the most pressing water issues in India.

**What is the most significant issue ailing water sector in India?**

Deforestation and mismanagement of river basins are plaguing the water sector in India.

As climate change alters the distribution and intensity of rainfall, increasing deforestation due to the unplanned developmental activities has aggravated the impacts. Deforestation destroys the water retention capability of the catchment and leads to the frequent occurrence of both drought and floods. This was one of the major factors behind calamities, such as the recent floods in Karnataka or Kerala.

Large scale deforestation in the ecologically fragile region like the Western Ghats has also led to more landslides affecting life and property. The tree roots bind the soil, and the removal of vegetation in an undulating terrain has induced instability in the region.

Both floods and droughts are triggered by the inability of the catchment to retain rainwater. The health of the catchment, therefore, plays a decisive role in maintaining water cycle through infiltration (percolation) during monsoon and gradual release of water to the streams during the non-rainy seasons.

### **What are the long-term solutions to tackling this issue?**

Identify ecologically fragile regions and conserve them on priority. Analysis show sustained water supply in the catchments dominated by native forest cover. Ecological research in the Western Ghats highlights that the streams are perennial in the catchment areas with dense forest cover and higher native plant species. This confirms the linkage between ecology and hydrology with the land-use dynamics in the catchment.

Management practices of the past century have contributed to the erosion of water retention capability in the catchment with severe water scarcity. It is evident in 279 districts across the country reeling under droughts during the last three consecutive years. In an era dominated by mismanagement of river catchment, research provides invaluable insight to the need for integrated approaches in the river basin management.

The premium should be on conservation of the remaining evergreen and semi-evergreen forests, which are vital for the water and food security.



Dr T V Ramachandra inspecting the polluted Bellandur lake in Bengaluru.  
(Dr. H S Sudhira, Gubbi labs)

### **How can we repair the fraught relationship between our cities and their water bodies?**

Here are my suggestions:

- Planned urbanisation maintaining the ecological, hydrological and environmental integrity of the region
- Conserve water bodies with its floodplains that are delineated based on hydrological principles and not on whims and fancies of bureaucracy
- Reestablish interconnectivity among lakes and desilt them to enhance storage and groundwater recharge. Evict all encroachers of lakes, flood plains, and stormwater drains.
- Maintain the physical and chemical integrity of stormwater drains and stop senseless narrowing and concretising stormwater drains
- Grow mini forests of native species in an area of 1-2 hectares in each ward to enhance groundwater recharge capability and micro-climate moderation
- Ensure zero discharge from industries to minimise heavy metal contamination of water and consequent health impacts

### **What are your recommendations for us?**

Our primary goal should be to ensure young ones are environmentally literate. People should avoid littering solid waste in the neighbourhood as well as in lakes, lake bed, and storm drains. Inform the concerned authorities and media of encroachment of common property resources like parks and lakes. Be a custodian of lakes in your locality and ensure no domestic sewage or industrial effluent flows into them.

We should adopt rainwater harvesting at every house. If not, at least rejuvenate lakes and retain the rainwater at the community level. Bengaluru, for instance, receives 700-850 mm rainfall every year which amounts to 15 thousand million cubic feet (TMC). The water demand in the

city is about 18 TMC, meaning 70% of the water requirement can be met by rainwater harvesting. Treatment of sewage at decentralised levels will provide another 16 TMC, and thus, Bangalore can have a water surplus situation if we act.

People should reject unscientific large scale projects such as diversion of rivers that neither benefits the society nor ecology and hydrology of the region. It just helps the nexus of contractors, engineers and decision-makers to siphon off a large chunk of public money.

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