What are the Capacity development needs of the irrigation and drainage professionals?

1. The results of several past and present schemes such as GAP, MGNREGA, AIBP, IWMP, CAD and Prime Minister's Krishi Sinchai Yojana should become lessons for all future programmes not to repeat mistakes.

2. Programmes such as the rural jobs scheme should be implemented with a view to creating lasting assets in micro-irrigation.

3. For a second Green Revolution in India, precision agriculture is the key which relies on interactive mobile-based applications and timely feedback.

4. Technology to anticipate extreme weather events.

5. Planning for the next flood.

6. Government of India should consider enacting a strong climate change law that harmonises policies nationally, beginning with energy, buildings, transport, water, agriculture and urban development.

7. The lessons learnt during the flood disasters should result in a hard look at the existing policies on urban planning, and a short-term revamp of the inadequacies in the civic infrastructure of urban areas.

8. Implementation of urban zoning and construction laws.

9. The use of plastic and the excessive cementing around buildings should be discouraged.

10. Effluent treatment plants need to be upgraded and new ones set up.

11. Clean up dirty rivers.

12. Integrate urban growth with water management issues.

13. Learn to produce more with less water under a changing climate.

14. One needs more than a knee-jerk response to monsoon vagaries, with fluctuations in both the quantum of rain and its distribution becoming the norm. This calls for creating seed banks for short-duration varieties of coarse grains and pulses and moving away from water guzzlers such as paddy and sugarcane.

15. When the monsoon is in retreat, this calls for a contingency plan to conserve fodder and water in coordination with States.

16. Flood disaster management.

17. Display a sense of real urgency.

18. Forum to use crowd-sourcing to help people in flood distress.
19. Post-disaster flood management planning.

20. Promoting crop diversity.

21. Local harvesting of monsoon run-off as a drought-mitigating mechanism to provide supplemental irrigation to crops at crucial periods of plant growth.

22. Evolving water management as a concept that entails societal awareness, study and research based on optimal use of the available resource.

23. Sustainable water use.

24. The Government's proposal to set up tail-end solar plants marks an improvement over solar pumps.

25. Prudent management of groundwater.


27. Build irrigation canals by implementing Mahatma Gandhi National Rural Employment Guarantee Scheme.

28. Speeding up flood relief efforts.

29. Giving cities the smart edge by not violating building regulations with severe impact on flood management.

What are the capacity gaps in WUAs to meet their objectives?

1. Rural realities: Agriculture remains at subsistence levels, with low mechanization, limited irrigation facilities and little access to credit.

2. Agriculture needs a switch towards cropping patterns that are in tune with soil and climatic conditions, with the requisite infrastructure and extension services in place.

3. A procurement-irrigation system that favours wheat, rice and sugarcane has done a disservice to pulses, which have been relegated to the dryland regions. A liberalised trade environment along with distribution and processing reforms that maximize gains to the producer and the consumer can make a difference.

4. Free power is the bane of farming in India. No crop diversification efforts will work so long as free electricity offsets the costs of pumping groundwater.

5. Battle against hunger is far from over. Farmers should become part of food value chains, which will lift their food output and income.

6. Crop insurance is too returns-oriented. Farmers' incomes are too inadequate for actuarial premium rates to work for them. End of days without the right kind of intervention in agriculture.
7. Not able to manage agricultural risks.

8. Management of river basins cannot be left to tribunals and bureaucracies. WUAs need forums for dialogue between stakeholders in upper riparian and lower riparian States, involving sensible politicians and civil society members.

9. WUAs viewing land as the only factor of productivity.

10. WUAs not able to manage food prices which calls for better market intelligence.

11. WUAs not able to realize that bio-technology is the answer to edible oil shortage.


**Is there a need for a Forum at the state level to address these issues?**

1. Forum to bring out a Farm Policy that changes with the times.

2. Forum to bring both Punjab and Haryana to the negotiating table to resolve the water politics crisis over SYL Canal.

3. Forum to bring out crop insurance boost. Crop insurance will make farming a safer vocation. We haven't tried enough to make crop insurance viable, and make farming a safer vocation.

4. Forum to come up with cogent post-disaster management plans to deal with the after-math of future floods.

5. Forum prepared to face flood disaster before the next emergency kicks in.

6. Forum to bring back to life rivers, lakes and storm water drains on a priority that is normally accorded to infrastructure projects.

7. The Government must look for sound hydrological solutions to address the shortcomings in every city's water storage and drainage system, and revisit present urban planning, housing and real estate policy and water management.