

## A conversation with Dr. Suresh Kulkarni, Secretary, Maharashtra Water Resources Regulatory Authority on Water Governance issues in Maharashtra



Dr. Suresh Kulkarni,  
Secretary, MWRRA

As WOTR embarks on its 25th year, we are celebrating and disseminating information on all the thematic areas we are working on. In the month of February, we were disseminating information on Water Stewardship. Our team members, Eshwer Kale and Mandar Sathe, recently interviewed Dr. Suresh Kulkarni, Secretary, Maharashtra Water Resources Regulatory Authority (MWRRA). Dr. Kulkarni shared his thoughts on diverse issues in the water sector and his insights to improve the level of water governance in the state, specifically focusing on challenges and opportunities in the Maharashtra Groundwater (Development and Management) Act 2009. MWRRA has given an important mandate of 'State Groundwater Authority' in the 2009 Groundwater Act.

### **Question: Could you tell us about the major contribution of MWRRA in the water sector in Maharashtra?**

**Dr. Kulkarni:** First of all, I would like to congratulate WOTR for its dedicated work, especially in the water sector for the last 25 years in the state of Maharashtra and other states.

MWRRA is the first functioning regulatory authority of the water sector in India. It is a reflection of the reforms that have taken place in Maharashtra. Its mandate is to regulate the equitable allocation, management and sustainable utilization of the state's water resources through a participatory approach. It is noteworthy to highlight that there are only a few developing countries with a regulatory authority for the water sector.

Now, irrigating farmers, water user associations, industrial and domestic water users have a platform in the form of MWRRA for addressing their grievances pertaining to equitable distribution of water, irrigation and non-irrigation entitlements, water tariff, water quality concerns, groundwater extraction, etc. Earlier, in the absence of such an institution, these issues were attempted to be addressed through political mechanism, using pressure tactics to find temporary solutions. So, I think, a major contribution of MWRRA is that the public can approach us directly. The procedure for submission of the grievances has also been streamlined.

Take a recent example of the case of Upper Godavari sub-basin. The sub-basin has been experiencing water scarcity frequently, leading to conflicts over water sharing between upstream and downstream stakeholders. In the MWRRA Act, there is a provision for the equitable distribution of water at the sub-basin level. However, in the absence of rules and clear guidelines as how to really figure out how much water, when and for what purposes to be shared between the upstream and downstream users, it was a challenge. We didn't have any precedence as how to address such an issue. In such a challenging situation, MWRRA played a crucial role in

addressing and resolving the issue in the best possible manner by framing guidelines towards sharing the available water between upstream and downstream reservoirs of the Upper Godavari sub-basin. None-the-less, MWRRRA's order was challenged in the Bombay High Court. I am very pleased to say that, after a series of hearings, the Hon. High Court had upheld the Authority's order and stated that regulatory authority is a body of experts and competent to decide such technical matters. Based on the MWRRRA's judgment, water is being released from upstream dams to Jayakwadi reservoir during the scarcity years. Thus, now people of Marathwada are receiving some water even though there is no amicable solution to the problem as of now. Hence, there is a need to develop a scientific and largely acceptable solution for equitable distribution of water.

Secondly, the authority has done significant work in developing a criteria and procedure for determining bulk water tariffs for all three sectors: namely, agriculture, industry and domestic. This is based upon a stakeholder consultation process. We also seek inputs from non governmental organisations (NGOs) and experts who voluntarily contribute to the cause. As a result of the last one decade's experience, MWRRRA has developed a framework and a rationale for deciding bulk water tariffs for agriculture, industrial and domestic water uses.

In addition, the Water Resources Department has already taken a major decision to shift from traditional area-based charging for irrigation to actual volume of water used by farmers. I hope that this will promote water saving practices among farmers. MWRRRA is also encouraging farmers to adopt micro irrigation, especially for Sugarcane. This is really an ambitious policy initiative of the government and we support it. However, its implementation is a big challenge.

**Question: Now with Maharashtra Groundwater (Development and Management) Act, 2009 in force, groundwater has also come under your purview (with surface water). So, we would like to know about your take on opportunities and challenges in operationalizing this Act, as well as the steps MWRRRA has taken until now in this regard?**

**Dr. Kulkarni:** In June 2014, MWRRRA has been entrusted to act as the state groundwater authority. We have GSDA (Groundwater Survey and Development Agency) in Maharashtra, which has a vast database and know-how in groundwater; however, it is mostly related to drinking water and relatively less pertaining to groundwater use for agriculture and even for industries. The amended MWRRRA Act has a provision for a new Member to look after groundwater regulation. Looking at the vastness and the complexity in implementation of the Groundwater Act, we need more experts in the field and the Authority has approached the Government for the same.

Moreover, for any Act, unless there are operational rules and regulations, many of its provisions cannot be implemented effectively. The rules for the Groundwater Act are being framed at the government level and need to be finalized soon. Once these rules are in place, some activities like registration of wells and rig owners and notification of overexploited watersheds will be taken up immediately. We have already initiated the process of notification of mini-watersheds of Pune district. We hope to accelerate the process this year. We would also like to seek the active support of NGOs like WOTR in this process.

As a matter of fact, the implementation of Groundwater Act is quite demanding. Reportedly, there are over 21 lakh of irrigation wells, 3 lakh domestic purpose wells and about 700 industrial purpose wells spread across the state. During the last decade, there has been rampant rise in drilling of bore wells. Maharashtra's geo-hydrology however is not suitable for such bore wells as the state's 82 percent area is occupied by hard basaltic rocks. The government has already appointed 178 District Authorities at sub divisional level for each district. These District Authorities in coordination with the Senior Groundwater Hydrologist at district level (of GSDA) will play an important role in groundwater regulation and people have already been approaching them for resolving their grievances and the Authority has heard a few petitions. As I mentioned earlier, it is very urgent to initiate the process of registration of drilling rig owners and impose a ban on drilling of deep bore wells (more than 60 meter) even in non-notified areas.

**Question: WOTR has been piloting few major principles of the Groundwater Act 2009 in 100 villages in Maharashtra under Water Stewardship Initiative. The key components of this initiative are promoting water budgeting (planning different water uses based on stock), bringing villagers together who share the common aquifer towards its sustainable management, and motivating villagers to make village level rules and norms regarding water and crop management. In this regard, the Act has made important provisions of the sixty-meter limit to sink new wells and the permission for sinking new wells in the notified area. Considering uneven typology (even high variation in elevation within village) and present rule of capture (landowners have right over water below), at what level are these provisions applicable?**

**Dr. Kulkarni:** I applaud the initiative of WOTR. In order to avoid further overexploitation of groundwater aquifers, the Act has provided banning the construction of a well beyond 60 meters. This limit has been decided based on the geo-hydrological characteristics of aquifers in the state. Similarly, no new wells are allowed to be dug within a 500-meter radius of the public drinking water source. People are questioning this limit and ask why not 300 meters or 200 meters as this is a concern of livelihoods of most farmers. I think there is a need to carry out studies to arrive at location specific area of influence instead of imposing a blanket limit of depth of wells. With respect to this, professional NGOs like WOTR, based on their vast field experience, can help the state groundwater authority to arrive at some procedure to decide the locale or region specific limit on depth of sinking new wells. However, at the end such decisions should be based on the participatory and local wisdom of the stakeholders.

I have heard some senior professionals saying about impracticability in implementation of the Groundwater Act. But to them, my question is what the alternative solution to address the present issue is? We, all stakeholders in water sector need to come together to find a practical and workable solution. The groundwater act is an important step in this regard.

**Question: The approach we adopted in Water Stewardship Initiative is that rather than enforcing external rules, villagers prepare their own rules at local level considering the local specific hydro-geology. Here the assumption is that if the villager 'own' these rules, there are high chances of its application. We have encouraging experiences in many villages in this regard. What are your reflections on this process of rulemaking regarding crop and water management?**

**Dr. Kulkarni:** True, the Act itself states that the decision-making approach should be participatory. There should be flexibility in such matters, but care has to be taken that the process should not be misused by dominant villagers. There must be safeguards while taking such decisions. As you know, the Act has given powers to Watershed Water Resources Committees and the Village level committees to take appropriate decision. There is a pyramid like institutional structure from village level through district and watershed level up to state authority for implementation of the Act. We are aware that this is very challenging but it can be done with determination and in a phased manner.

**Question: Considering your experience in the water sector over several years, and now that you are part of the authority, apart from water pricing and its management at aquifer level, what do you see as the bigger challenges in Maharashtra's water sector?**

**Dr. Kulkarni:** Maharashtra is still a pioneer in irrigation sector reforms and is recognized as one of the forward state in the water sector initiatives. Having said this, with rapidly increasing water demands due to population growth, increasing pace of urbanization and industrialization, the state needs to take practical actions in implementing all these initiatives at ground level. Although, the state has 126 billion cubic meters of surface water resources at its disposal, more than half of this resource is available in the west flowing river basin which has 25 percent of population and only 10 percent of cultivable land. Thus, less than half of the water resources are required to be shared by other four major river basins comprising 75 percent population and 90 percent of the cultivable land. Presently, almost 80 percent of the state's utilizable groundwater resources are being extracted annually. Thus, unless we manage our available surface and groundwater resources prudently using modern science and technologies, with public participation in a transparent manner and without political interference, there could be adverse impact on socio-economic development of the state.

The foremost challenge is to ensure equitable availability of surface water. Presently, water availability is skewed in different regions of the state. Although, location of water resources is decided by nature, but the state should endeavor that every citizen has access to adequate and safe water for drinking and other domestic purposes. Huge investment in infrastructure will be required in transferring water from surplus basins to deficit regions.

Second challenge is meeting the competing demand from different sectors. Most major and medium irrigation projects in the state are 'multiple use systems' meaning, water is catered for domestic and industrial uses besides irrigation as per sectoral allocation regulation of the government. Most urban bodies are getting their water supply from nearby irrigation dam. As the urban water demand is escalating year after year, conflicts among all the three sectors are rising. This is visible for cities like Pune, Pimpri-Chinchwad, Nagpur, Nashik and Solapur. Since, agriculture is a major user of water; most countries are modernizing their irrigation systems so as to make it efficient enabling diversion of the saved water to urban and industrial users. We need to ensure that such diversion will not reduce the irrigated area or at the cost of reduction of farm productivity. Modern and innovative irrigation technologies are enabling us to achieve 'more crop per drop'.

The third challenge is preserving the quality of our rivers and water bodies. Maharashtra being a highly industrialized state, there is a danger that untreated industrial effluents which are highly toxic are being released in the rivers. With rising urbanization, more water is diverted to cities and consequently more sewage is generated. Today, more than 70 percent of untreated sewage is getting released in water bodies which is one of the major sources of water pollution. In peri-urban areas even vegetables are grown on such a raw sewage which is getting consumed by urban population. Thus, there is an urgent need for up-scaling sewage treatment plans. MWRRA recently has taken some regulatory steps in this direction. We are asking the municipal corporations to provide their plans for treatment of entire sewage generated by them. Corporations are encouraged to treat the wastewater and sell it to industrial or agricultural users, thereby generating some revenue.

Finally, implementation of the decision regarding volumetric supply and measurement of water to all users by Water Resource Department and further by MIDCs, and Urban bodies on its pricing basis will be a great step forward. If we ignore this aspect, sustainable management of our water resources will remain a dream.

**Question: In the context of this discussion, what role do you see NGOs like WOTR can play in addressing these challenges?**

**Dr. Kulkarni:** Earlier, I have worked in Delhi and am aware of state-of-affairs of the water sector in most states. With that background, I can say that Maharashtra is very lucky to have a galaxy of water professionals and reputed NGOs like WOTR and others. Their contribution to water sector should be recognized. As far as MWRRA is concerned, the Authority is keen and very positive towards closer collaboration with NGOs. In the past, this Authority have held several stakeholder consultations involving NGOs and our experience is encouraging. Personally, I feel that groundwater regulation is more complex than surface water as it is an invisible resource, spatially highly scattered and involves millions of farmers and urban and industrial stakeholders. So, we look forward for active partnership of NGOs in implementation of the groundwater Act.