

URBANA

A Smart City's ➡ Smart Magazine



Smart Water Management

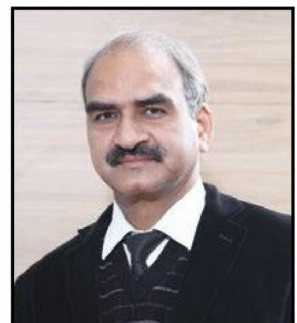
According to the study of the World Health Organization, almost 97mn Indian population does not have access to safe and potable water. The population is increasing at an alarming rate and consumption of water increases manifolds. India is the second most populated country in the world with limited resources to cater the needs of its citizens. We need to look at the factors which are involved behind the water crisis and what we can do to overcome such situations.



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We need to look at the causes of water crisis. First of all is the insufficient amount of water per person due to the fast growing population. Inefficient ways for agricultural practices by farmers led to the maximum water loss. Traditional practices used for irrigation cause water loss in many ways like drainage, water conveyance and ground water excess usage. Untreated wastewater and sewage drains into traditional water sources like rivers. Chemical wastes and other toxic wastes from the factories are being released directly into river. The over consumption of ground water which led to the lowering the ground water table in most parts. Sewage and wastewater is continuously being drained into the traditional water bodies. Inefficient water management and distribution system results in water shortage. Cities are also responsible for the ground water loss due to increased concretization.

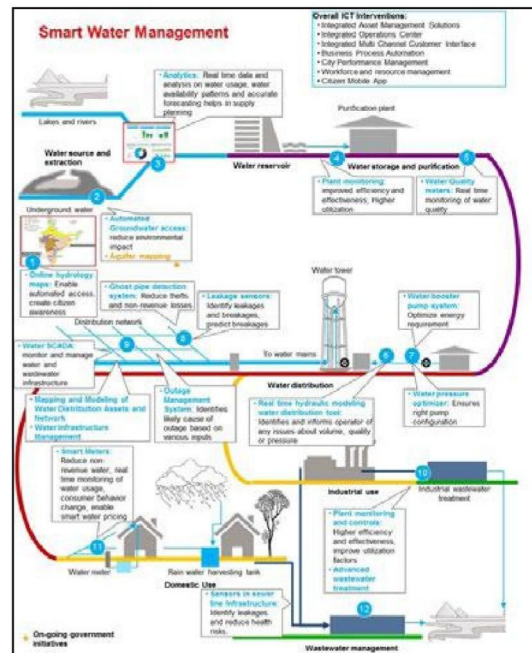
We are living in the 21st century and it is one of the major problems we are facing. It is need of the hour to use this limited and precious natural resource in a wise and smart manner to keep the future generation in mind. Major steps needed to be taken by the government to eradicate the problem from the root.



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There are many ways to prevent from water crisis. Education is the key factor to raise an awareness about water importance and scarcity among who the public who are not dealing with water crisis. It becomes as important for the government of state and centre both to educate the local group about the real time information of the groundwater. It would help in managing the extraction in an organized and cooperative way. And People should be given knowledge about the recycling of water. Recycle water is one of the best practices to make proper use of water. In today's world, there are number of technologies to recycle rainwater. Not only does it save money on one hand, it also helps in dealing with water scarcity.

There are number of advance technologies available for water conservation. For example, water sense labeled irrigation controllers, soil moisture sensors, Rainfall shut off devices, Rain sensors, Sprinkler heads and micro irrigation. Watershed development needs to be promoted and it is one of the best ways to make proper use of the available limited resources. Watershed development model has already worked very well in states like Gujarat. Government should also make strict laws and also implementation is also necessary to reduce the water pollution



(Source: <http://www.slideshare.net/gauravhntandom1/smart-environment-facilities>)

- These are the ways to save the water resources and make the optimum utilization of this resource. But, now is the time to opt for smart ways to save water. Smart water management refers to the regular availability of this valuable resource and how to distribute it in an effective manner. Smart water management is a system about the pressure, flow and distribution of water in the city. There are many ways for smart water management which are given below.

Analytics:

Data analytics is an inexpensive way of smart water management strategies. This would help in predicting that when and how much water is being used in particular location. It also helps in predicting water availability and forecasting to make sure the sufficient supply.

Water Infrastructure management:

WIM i.e. Geospatial based water infrastructure management helps in providing the details of distribution system of municipal and wastewater. It helps in engineering analysis of managing, mapping and maintaining the records.

Ghost pipe detection system:

This helps in detecting the ghost pipes to keep water save from water theft with the help of the advanced technology and sensors.

Leakage sensors:

These sensors helping detecting the leakages. Not only does it detect the leakage, it also helps in raising the alarm to switch off the excess water flow.

Water Pressure Optimiser: It makes sure that

right pump configuration runs right at a time and at right efficiency.

Real time Hydraulic water distribution tools:

It informs about the issues regarding quality, volume or pressure so that action can be taken by the operator at right time.

Online Hydrology maps:

This would help in determining the level of the underground water and also in determining the water capacity in mineral deposits and the inter-relation between terrain and underground water. And also helps in locating the right location for underground water.

Smart Meters:

It helps in providing the real-time information and let the customers monitor their water consumption and then assists in water management. It provides the detailed information about how much, when and where water is being used.

Water quality meters:

It would help in accessing the quality of water and helps in taking the corrective decision at right time when there is degradation in water quality



- Though the government has taken many steps to regularize and ensure the optimum utilization of the water sources. It is suggested that every citizen should take steps by themselves to use this limited resource wisely.