

WATER SCARCITY STRATEGIES FOR INDIAN MUNICIPALITIES TO ADOPT

Posted on August 7, 2019 by Edmond



Category: Opinions

Water scarcity and drought is becoming a real world problem for many Indian cities and is going to shape the future pushing experts to revisit environmental and development policies. Drought is a climatic feature which causes serious concerns for ordinary citizens and makes daily living complicated. It is a temporary problem due to natural variability and requires disaster management experts to address this crisis that continues to build up and push civilians to the brink.

While deficient rainfall remains the chief cause of water scarcity, the crux of the problem is also attributed to increased water consumption due to over-population, industrialization and casual attitude towards planning future ready cities.

Many cities like Mangaluru in Karnataka have dams which were built decades ago to address a reasonably small population which lived back then. In 2017, as urbanization has changed the outlook of the city, the city requires newer dams, rain water harvesting units in every ward, and a sustainable consciousness that needs to be developed on an urgent priority. Bureaucrats need to prioritize sustainable solutions, not just provide compensation to people who lose their livelihood because of



a disaster like drought. Water rationing cannot be a long term demand-management solution which most cities perform on ad-hoc basis. Reactionary governance must immediately seize to continue as a trend.

Some of the things city corporations and urban municipalities should do to address drought and also create sustainable solutions for the future are outlined below. Visionary leadership is also necessary to channel the energies rightly, leaving aside egos for the greater glory of humanity.

- 1) Every municipality should set up a 10 member domain experts group to come out with a road-map for addressing water scarcity for the respective city. This should not be based on political affiliation, but merited upon the work done. Members must be from civil society organisations, academic experts, field engineers and agriculture professionals, public health experts including bureaucrats and journalists.
- 2) Maintain standardized supply during water rationing wherein water is provided for one and half hour in the morning between 6.00 am to 7.30 am and then for one and half hour in the evening between 7.30 pm to 9 pm daily. Skewed supply of alternate days and once in two days is inappropriate and absurd as stored water in households which go unused will again be discarded to accommodate new supply, leading to severe water wasting.
- 3) Ground water conservation in selected catchment areas must be identified wherever applicable and sub-catchment areas need to be built as well water scare regions.
- 4) Pass legislation where Municipalities can offer to dig under-ground wells for independent residences at a subsidized cost, monitored by the local corporators.
- 5) Adopt ground water re-charge practice and manage evaporation losses.
- 6) Water availability can be sourced by improving waste water treatment so that water re-cycled can be used for gardening, washing vehicles and for sewage requirement as well.
- 7) Optimize irrigation operations with sustainable techniques.
- 8) Leakage reduction in all public and private sector institutions.
- 9) Facilitate behaviour change in water consumption methods.
- 10) Use sea-water in coastal areas for flushing toilets through a dual reticulated municipal supply strategy.
- 11) Reduce water use in fish and sea-food processing units.
- 12) Emphasize on drought management policy formulation in local governing bodies.
- 13) Promote proactive disaster management through risk reduction programmes.
- 14) Safeguard public health by ensuring optimum clean drinking water and hygienic sanitation measures in place at every municipality territories.
- 15) Water recycling policy must be implemented in the food sector, power sector and steel production units wherever applicable.



- 16) Create new water through saline aquifer.
- 17) Promote climate appropriate plant selection; where other plant species would be suitable.
- 18) Advocate the need to install smart meters which will provides real-time feedback to users, alerting them of a sudden jump in water use that may signify a leak.
- 19) Introduce water audits.
- 20) Develop public private partnerships to address regional water scarcity.
- 21) Introduce water efficiency programmes and water wasting meters for mining and petrochemical industry.
- 22) Development of vulnerability assessment methodologies under different environmental conditions must be encouraged.
- 23) Commission different research for technological and socio-behavioural change to improve the ability to understand changing drought dynamics.

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