

Building Resilience for Sustaining Development

# Seminar on Enhancing Resilience in Safe Water access through Roof Water Harvesting

*Madurai Symposium 2017*

Thamukkam Ground, Madurai  
September 21, 2017

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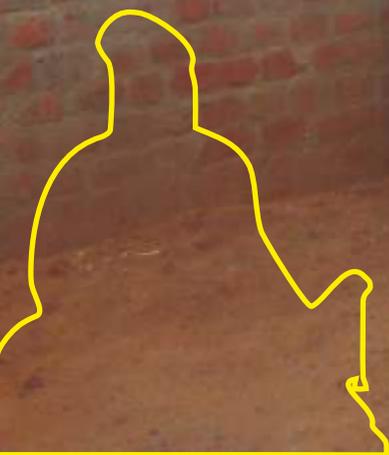
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## Current Scenario – Safe Drinking Water

India is one of the most water – challenged countries in the world from its deepest aquifers to its largest rivers. Groundwater levels are falling as India's farmers, city residents and industries drain wells and aquifers. Water available is often severely polluted due to various reasons of increasing industrialization and urbanization, more than 40% of India's available surface water is being used every year. In the northwestern region, breadbasket of India, about 80% of the surface water is being used. With 54 per cent of India's total area facing high to extremely high stress, almost 600 million people are at higher risk of surface-water supply disruptions. About 85% of rural population in India is solely depended on groundwater, which is depleting at a fast rate. In the urban areas though about 60% of the population is depended on surface water sources, the availability and quality are questionable. By 2025, it is expected that 3.4 billion people will be living in countries defined as water-scarce, pollution wise in developing countries, more than 90 per cent of sewage and 70 per cent of industrial waste water is dumped untreated into surface water which makes the water resources non potable. Groundwater levels are declining across India because of erratic rainfall. Rainfall is the important element of Indian economy. Although the monsoons affect most part of India, the amount of rainfall varies from heavy to scanty on different parts. There is a great regional and temporal variation in the distribution of rainfall. Over 80% of the annual rainfall is received in the four rainy months of June to September of the South West Monsoon. The average annual rainfall is about 125cm but has its spatial variations. This leads to the scarcity of safe drinking water for the humans.

Water is a fundamental human need. Safe and readily available water is important for public health, whether it is used for drinking, domestic use, food production or recreational purposes. Improved water supply and sanitation, and better management of water resources, can boost countries' economic growth and can



contribute greatly to poverty reduction. Water is vital for life and livelihood and it is precious but becoming a rare commodity because water cannot be manufactured unlike other commodities. So available water resources need to be improved and developed in a sustainable way with proper management of the resources to derive optimal benefits which should be conserved and preserved as a valuable and scarce one in the present world for preventing the water depletion. Although roughly 66% of the earth's surface is covered in water only 2.5% of the Earth's water is fresh water and out of 2.5% only a small fraction is available for human use.

## Drinking water quality in India: Issues and Approaches

The health burden of poor water quality is enormous. India has more people in rural areas, 63.4 million living without access to safe water than any other country according to Wild Water, State of the World's Water, 2017, a new report by Water Aid, a global advocacy group of water and sanitation. Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio. Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks. Climate change, increasing water scarcity, population growth,

demographic changes and urbanization already pose challenges for water supply systems. By 2025, half of the world's population will be living in water-stressed areas. It is estimated that around 37.7 million Indians are affected by water borne diseases annually, 1.5 million children are estimated to die of diarrhea alone and 73 million working days are lost due to waterborne disease each year. Of 1.7 million rural habitations provided drinking water under the National Rural Drinking Water Programme, 1.3 million (77%) habitations are fully covered-defined as having at least 40 liters per capita per day (LPCD) that is nearly two standard bucket of safe water; 330,086 (19.3%) habitations are partially covered (safe water is available but below 40 LPCD) and 64,094 (3.73%) are “water-quality affected habitations” meaning those with contaminated water in the rural areas as on March 15, 2017. There is lack of awareness about the importance of safe drinking water, depletion of ground water table and also the need for the roof water harvesting during the monsoon which can be used effectively at the time of acute water crisis for the period.

### Roof Water Harvesting

Roof water harvesting is the accumulation and deposition of rainwater for reuse on-site rather than allowing it to run off. Rain water harvesting can also be defined as direct collection and storage of rain water as well as other activities aimed at harvesting and



conserving surface and groundwater, prevention of loss through evaporation and seepage and other hydrological studies and engineering interventions aiming at most efficient utilization of Rain Water towards the best use of humanity. Effects of Groundwater hydrology is through the scarce rainfall, gambling of monsoon, more dependent on groundwater use, over exploitation of groundwater, increase in run-off, decline in well yields and fall in water levels, reduction in open soil surface area and reduction in infiltration and deterioration in water quality. The harvested water can be used as drinking water, longer-term storage and for other purposes such as ground water recharge and also for the drinking purposes. The main emphasis is to harvest rain water because of the depletion of ground water table which is at high risk with erratic rainfall and delayed onset of monsoons. So there is a need to harvest rain water through the roof water harvesting structures which is cost effective technique for tiled and concrete roofs. Through which rain water can be diverted to surface or sub surface tank through a delivery system installing a filtering unit in between to filter the microorganisms, debris and chemical substances which attributes to the contamination of water. The stored water can be used for drinking and cooking purposes which is free from the contaminants which lead to a health life.

### The Seminar

The seminar on “**Enhancing Resilience in Safe Water access through Roof Water Harvesting**” intends to discuss more on the importance and need of the Roof Water Harvesting structures to be incorporated in each house to conserve and save rain water during the monsoon, focusing on the different cost effective structures available across the country, its advantages and disadvantages in addressing the issues related to this scarce commodity as safe drinking water, awareness about its importance and the ways and means to use the harvested rain water in an efficient manner for the best of the humanity. The seminar will have the presentations from the organizations who are

working for the theme and also by the water expertise who are able to address the water crisis. There will be a panel involving 2 – 3 eminent personalities in the field of WASH to derive the action points with strategies and mechanisms for the implementation of different types of cost effective Roof Water Harvesting structures for achieving the objectives of the programme. There will be a lead paper presentation which will navigate the processes in seminar to fulfill the objectives of the event.

### Objectives

- Understanding the present drinking water scenario across the country
- Showcasing the experiences of different organisations on different cost effective models of Roof Water Harvesting structures
- Working out the strategies and mechanisms for mainstreaming RWH in addressing the water scarcity

### Participants

The seminar will be conducted involving the officials from the government system, expertise working for water, Architects, organizations working for safe drinking water through the construction of Roof Water Harvesting structures, representations from Non Government Organizations, Consultants, professionals working in women and farmers federations, Community leaders and Civil Engineers of WASH programme. The seminar panel consists of eminent personalities from the sector, donor organisations, and experts in the field.

### Date

21<sup>st</sup> September 2017, Thursday from 10.00am to 04.00pm

### Venue

Thamukkam Ground, Madurai

*For further information, please contact*

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