

# Climate Resilient Water Management Options for Meeting Future Water Demand In India

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## Abstract

Good quality potable water is a global issue, particularly in the developing country like India. With rapid growth in population and improving living standards, the pressure on available water resources is increasing and per capita availability of water resources is decreasing day by day. The per capita availability of water in India has dropped from 5300 m<sup>3</sup> in the year 1955 to 1820 m<sup>3</sup> in the 2001 and presently to about 1500 m<sup>3</sup> compared to 7420 m<sup>3</sup> for the world and 3250 m<sup>3</sup> for Asian countries as a whole. The overall national availability of water may not pose a serious problem in near future, but there would be a severe shortage of water in many regions of India. Climate change due to increase in temperature rise will demand higher amount of water for irrigation. Changing global climatic patterns coupled with declining per capita availability of surface and ground water resources have made sustainable agriculture a great challenge in India. Rain is the principal source of water, which augments soil moisture, groundwater and surface flows. Agriculture and several of other economic activities in arid areas depend on rain. In absence of adequate surface and groundwater resources, rainwater plays an important role in the survival and livelihood of arid zone dwellers. The rainfall is highly variable at different places and it is most erratic in the western half with frequent spells of drought. The rainwater, if harvested appropriately, can be a reliable source of water for domestic and other purposes.

**Key words:** Climate Resilient, Water Management, irrigation, drinking water, climate change