

**Water scarcity: issues, concerns and option**  
**(A Case Study of Kolkata and sub- urban areas)**

Sabita Madhvi Singh <sup>1</sup>, Shyamal Kumar Rai <sup>2</sup>, Tamal Taru Chakarborty <sup>3</sup>

<sup>1</sup>*Lecturer in Civil Engg. Dept. Haldia Institute of Technology, W.B., INDIA.*

*sabitamadhvi@yahoo.co.in*

<sup>2</sup>*Third year student of Civil Engg. Dept. Haldia Institute of Technology, W.B., INDIA.*

*shyamal\_06@yahoo.co.in*

<sup>3</sup>*Third year student of Civil Engg. Dept. Haldia Institute of Technology, W.B., INDIA.*

*tml\_chkrbrty@yahoo.com*

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The spatially uneven and temporally skewed rain water in almost every **Indian state** is an extremely difficult challenge that often leads to the expansion of the twin calamities of flood and drought with time, despite ever-increasing investment in water management. The same holds true for the state of **West Bengal** too, in spite of being the land of plentiful rainfall (1200 to 2500 mm. annual rainfall) and rich alluvial aquifers holding 31 billion cubic meters (BCM) of ground water, which is accessible at 5 to 10 meters below the ground level in 95 percent of villages. **West Bengal**, located within **Ganga–Meghna-Brahmaputra basin**, covers 2.7 percent of the national territory and renders home to 8 percent of the **Indian population**. Significantly, it also shares 7.5 percent of the water resources of the country. But, this is not just enough to cater all the primary needs of the state during lean months, on account of uncontrolled population growth, expansion of irrigation networks and development issues. Elementarily, the dam-canal networks yield 30-40 percent efficiency only due to evaporation and transit losses. The problem also accounts for the fact that only 40 percent of the surface water is utilizable,

out of 13.29 Mham. Surface water available to the state from 22 river basins and 4 large drains covering 7.62 Mham. of catchment area. This forces no option but to opt for the harvesting of the plentiful rainwater received by the state with better management. Rainwater harvesting is the process to capture and store rainwater for its efficient utilization and conservation to control its runoff, evaporation and seepage, basically to replenish ground water. Since long, efforts have been made by various organizations to harvest rainwater through various ponds and percolation tanks in drought prone areas of West Bengal (Dist. of Purulia, Bankura and West Midnapore). The paper intends to highlight the different processes of Rainwater harvesting at small micro-levels in Kolkata and suburban areas with effective net result achieved in water management. The focus of the case study revolves around the study of the Rainwater- harvesting set-up at **SHANTIMOY NAGAR PRATHOMIK VIDYALAYA** at Anandapalli, Rajarhat (nearby Kolkata) and also around the methods and outcome of the rainwater harvesting for industrial use in **HINDALCO INDUSTRIES LIMITED.**, at Belur ( a suburban area of Kolkata) etc. The study also encircles the potential areas for rainwater harvesting where the process should be adopted. The methods elaborated, if adopted and properly implemented, can bring about a difference though a marginal one.