

RAINWATER HARVESTING STRATEGIES IN URBAN BUILDINGS: A CASE OF SRI LANKA

Gunasekara J.D.E.M, Gayani Karunasena

Scarcity of water for human needs is prevalent throughout the world today. Thus, many methods are being suggested to increase water supply; one alternative being rainwater harvesting. Rainwater harvesting is an ancient technique more popular worldwide because of its effectiveness. Sri Lanka has a long history associated with rainwater harvesting. The recorded history of hydraulic civilization dates back to 5th century BC. Large number of reservoirs, tanks, dilapidated irrigation structures and inscriptions stand testimony to a dynamic hydraulic civilization. To date, traditional techniques are implemented island wide, especially in rural areas with the new name of rainwater harvesting. However, to date there is very few rainwater harvesting systems implemented in urban buildings. There is a need to develop rainwater harvesting systems for urban buildings as a solution for water scarcity and high utility bills in urban buildings. Thus, this study aims to explore and identify rainwater harvesting systems in urban areas and identify factors that affect an effective rainwater harvesting system. Comprehensive literature review was conducted for data collection and professionals from both private and public sector involved with rainwater harvesting were interviewed for views on urban rainwater harvesting. The study revealed technical, economical, environmental and

operational factors that influence design and implementation of an effective rainwater harvesting system. It enabled to explore the current status of urban rainwater harvesting, highlighting strengths and weakness of identified factors for successful implementation of an urban rainwater harvesting system in Sri Lanka.

Keywords:

Rainwater harvesting, Factors, Urban buildings, Sri Lanka