USE OF RAINWATER HARVESTING TANK FOR WATER SUSTAINABILITY: A CASE STUDY IN POTTUVIL AND THIRUKKOVIL DS DIVISIONS OF AMPARA DISTRICT, SRI LANKA

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Abstract

Water sustainability is a global imperative, given the rising demand for freshwater, which constitutes merely 1% of the earth's water and is essential for human use. Sri Lanka's dry zones contend with severe droughts, floods, and saline water intrusion in coastal areas. The aftermath of the 2004 tsunami triggered a water crisis in the Ampara district, prompting collaborative efforts between the government and NGOs to establish a domestic rainwater harvesting system. Although the project was successfully finished, there has been a problem with sustainability in some areas due to a lack of monitoring of the harvesting tanks' use. Therefore, this study was aimed to assess the status of the implemented rainwater harvesting system at the Pottuvil and Thirukkovil DS Divisions in Ampara, employing simple random sampling in Inspector Eatham, Kundumadu, Thandiyadi, and Sangamangramam villages. The data was collected using questionnaires, interviews, and literature studies. The collected data was analyzed using descriptive statistics. Results revealed that only 30% of the 150 respondents utilized rainwater tanks, with a mere 3% using harvested water for drinking and 27% for various domestic purposes. Reduced dependence on rainwater collection was associated with the introduction of a water supply scheme in those areas. In areas with restricted centralized supplies, rainwater collection serves as an alternative, particularly in larger households. A minimal percentage (2%) of respondents had higher education, emphasizing the role of education in effectively implementing rainwater-harvesting systems. Challenges such as tank damage, financial constraints among low-income farmers and inadequate maintenance skills also contributed to the reduced usage of rainwater harvesting tank. The study suggests funding for tank repairs in addition to community awareness campaigns that emphasize the advantages of rainwater harvesting and encourage more involvement. This holistic approach aims to address the multifaceted challenges hindering sustainable water practices in the region.

Keywords: Dry zone, Rain water harvesting, Water crisis, Water supply scheme

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