

Rainwater Harvesting Potential and Its Quality: A Case Study of Nayabazar Town Planning Area, Kathmandu Municipality

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ABSTRACT:

Rain Water Harvesting (RWH) is an old technology gaining popularity in a new way. The first known-use of a modern RWH system in Nepal was at a mission hospital in Pokhara in the 1960s. A high population growth rate and an unprecedented rural-urban migration characterize population explosion in Kathmandu Valley. The water demand in the Valley is much greater than the water supply. In such situation, the appropriately designed houses could get the benefits of Rain Water Harvesting (RWH) from their roofs. Though, town planners, housing development companies develop the residential houses in a safe environment, in many places there are acute shortage of water. Nayabazar town planning area (NTPA) of Kathmandu is one of such residential areas. There are altogether 1,600 houses at NTPA; and water demand is approximately 123,876 liters/family/year. The average roof size in the NTPA is 115 m², the annual rainfall being 1,350 mm. Thus, the Rainwater Harvesting potential in the NTPA is around 156,000 liters/year. Cleanliness of roof, its type and storage tank is critical in maintaining good quality of rainwater. The quality of rainwater collected at NTPA falls within the limit of WHO Drinking Water Standards. Few coliforms were found in rainwater which could be removed by chlorination or other disinfection process.

Key words: RWH, Water Demand, IDW, MLD, NTPA