

# Sizing Criteria for Domestic Rainwater Cisterns in The Grenadines

*E.J. Peters*

## **Abstract**

Rainwater-harvesting systems is one of the oldest in and dates back to some 4,000 years. In the Grenadines, the population depends almost exclusively on rainwater-harvesting for its domestic use. Rainwater storage in barrels during the 1920s to 1940s has been replaced with concrete cisterns which have become standard features of new homes. This paper presents monograph that could be used by engineers and contractors in sizing cisterns for The Grenadines under conditions that average per capita consumption is 50 litres per day and allowing the cistern to run empty once in 25 years. If rainwater continues to be the main source of domestic water supply in The Grenadines, the costs of higher water consumption patterns would result in cost-prohibitive cistern construction costs. Nonetheless, there is room for strategic improvement in the availability of domestic water (a) designing the roof to obtain maximum contributing area, and (b) optimising the household water use by targeting the areas of high water use in the home namely the bathroom and kitchen facilities by using low volume fixtures.

**Keywords:** the Grenadines, Cistern, Rainwater-harvesting, Storage