

USING RAINFALL TO SUPPLY CLEAN WATER

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Basically there are three water resources used in water supply systems: surface, underground and rainfall water. Vietnam has a humid tropical monsoon climate with two separate seasons: one dry and one rainy. The average rainfall is high fluctuating from 1700mm - 2000mm per year.

In remote areas like mountains and islands and in coastal areas rainfall is the major water resource for households.

The construction and volume of rainfall storage depends on the amount of water required per person and the number of people. In the dry season the norm is from 15 liters/person per day to 20 liters/person.per.day.

Rainwater storage requires the following information: local hydrological and climatic conditions (average rainfall per year, per month, per week), water consumption norm (litres/person/day) in dry and rainy season , and number of consumer. Common storage volumes are 6 cum for 4 persons, 9cum for 6 persons, 12 cum for 8 persons etc.

Construction of rainfall storage depends on local technical and economic conditions. Usually, the storage tank is constructed with brick and cement having the following design details: pipe (or facility) to divert the first storm rainfall, settling tank and filter. It has 3 separate sections: a settling tank with a volume 0.8 m³, a sand filter (height h=0.6-0.8m and size of sand 0.5-1 mm) and a storage tank.

The use of rainfall in supplying clean water plays an important role not only in remote areas but also in areas with poor quality surface and groundwater sources.