Global Water Partnership Caribbean

GWP-C Tackles Water Scarcity by Promoting Improved Rainwater Harvesting Practices

In the Caribbean as in other parts of the world, there are several communities that are forced to live without a pipe-borne water supply to satisfy their very basic needs. In many cases, their only source of water is from nearby rivers, standpipes, rainwater or paying for water to be delivered to their homes by trucks.

Taking this into account, the Global Water Partnership-Caribbean (GWP-C) saw the potential for the application of modern rainwater harvesting (RWH) practices to improve water availability in rural communities.

Rainwater harvesting which involves the capturing and storing of rainwater for re-use is not new to the region. Several communities in countries such as Antigua and Barbuda; Barbados; The Bahamas; Dominica; Dominican Republic; Jamaica; Martinique; St. Lucia; St. Kitts and Nevis; St. Vincent and the Grenadines; among others depend on it.

However, GWP-C saw the need to find an innovative way to demonstrate modern rainwater harvesting practices that could be adopted by water-scarce communities.

To do this, GWP-C contracted the Caribbean Environmental Health Institute (CEHI) to develop a model rainwater harvesting system for the Caribbean and an associated capacity-building ToolBox to contribute to the promotion of rainwater harvesting in the Caribbean.

With the assistance of the Caribbean Council for Science and Technology (CCST), GWP-C received a grant from the Perez-Guerrero Trust Fund (PGTF) to finance the RWH project.

In 2010 the GWP-C Rainwater Harvesting Model and ToolBox was completed and has since been used as an educational resource to enhance awareness of rainwater harvesting in the region.

The GWP-C RWH ToolBox is made up of material such as a Caribbean handbook on rainwater harvesting; technical reference sheets; posters and technical brochures on rainwater harvesting; videos on rainwater harvesting in the Caribbean; information on rainwater harvesting programmes; and examples of mapping applications for rainwater harvesting.

The GWP-C Rainwater Harvesting Model.

There are various types of rainwater water harvesting systems; some more sophisticated than others but a common domestic system used in the Caribbean involves using rooftops to capture rainwater as in the case of GWP-C's RWH model.

The model which is fully functional, demonstrates best practices in rainwater harvesting. It shows how rainwater which is collected on the roof is then channeled from the roof via a conveyance system which will generally comprise of guttering, downpipes and a first-flush diverter to be stored in tanks/barrels or another storage device.

The water that is first captured on the rooftop can be tainted with exposure to air pollution, animal droppings, contaminants from poorly maintained roofs among other debris. The first-flush system which would form the bottom part of the downpipe is used to divert the initial water with pollutants from the roof, ensuring that it does not enter the storage device being used.

Cross-section of the GWP-C Rainwater Harvesting Model showing the downpipe and first-flush system.

A rainwater harvesting system that is properly maintained can provide many benefits to rural communities. It is an effective water conservation method which involves low costs and low maintenance. It is also a key water source in times of natural disasters, drought and other times of emergency; and construction of a typical domestic rainwater harvesting system is easy to build.

Despite these advantages, rainwater harvesting is not fully integrated into the planning and development policies of various Caribbean countries.

In some instances Caribbean governments opt to invest in other alternative sources of water such as desalination plants, ground water extraction, among others which require greater investment and are more expensive to maintain.

Primary school students are seen here learning about the process that takes place with the first-flush device on the GWP-C Rainwater Harvesting (RWH) model.

Through the use of its RWH model and ToolBox, GWP-C works to increase awareness on rainwater harvesting and its benefits in the Caribbean.

Additionally, the model is being used as a guide to support rural communities that wish to develop real RWH systems.

Visit our website **www.gwp-caribbean.org** for more information on our RWH Model and ToolBox.