



# Rainwater Harvesting

## FROM THE SKY TO SUPPLY



### Catch The Rain and Harvest It!

The practice known as rainwater harvesting or roof-water harvesting is as old as time and as modern as today — as a new following of people from around the world are choosing to harvest rain to provide for their everyday needs and to help the planet by conserving water.

Harvested rainwater can be used to water your garden, wash your car and flush your toilet, thereby conserving the pipe-borne treated water supply from your water utility.

Falling rain can provide some of the cleanest naturally occurring water that is available anywhere — and is at risk only from airborne particles and man-made pollution. Additionally, rainwater that is captured, filtered and stored correctly can be a safe and economical answer to the plight of all who experience water woes and is also a great way to help the environment.

Whatever the reason for doing it, rainwater harvesting is something that everyone can do.

*“Rainwater is the purest water you can find. “It does not contain the minerals or the chlorine found in pipe-borne water, making it ideal for watering the lawn, washing the car, doing the laundry, taking a shower or even drinking if it is properly filtered.”*

*– Dr. Hari J. Krishna, President, American Rainwater Catchment Systems Association.*



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If you think you could benefit from harvesting the rain, here are a few simple questions and answers to get you started.

## What is rainwater harvesting?

It simply means catching and storing rainwater where it falls — most often by saving the rainwater which flows from your roof and down the drainpipes, diverting it through a filter into a storage tank for later use. Rainwater collection systems can be as simple as collecting rain in a barrel or as elaborate as harvesting rainwater into large plastic tanks or concrete cisterns to supply your entire household demand.

Whatever system you use – the collected water must be covered properly with mesh or netting to prevent mosquitoes from breeding and spreading diseases like dengue and chikungunya. If the rainwater is to be used for drinking it should also be further treated by filtration, ultraviolet (UV) disinfection or chlorination.

The Global Water Partnership-Caribbean (GWP-C), a regional organisation concerned with helping people throughout the Caribbean have access to adequate supplies of safe water, has been promoting a ‘first-flush diverter’ method of rainwater harvesting that is simple



to set up, easy to use and can help ensure a clean supply of water.

The GWP-C has a free online Rainwater Harvesting Toolbox which provides guidelines on how to set-up your own rainwater harvesting system using the first-flush method at [www.gwp-caribbean.org](http://www.gwp-caribbean.org).

The image shows the interface of the 'Rainwater Harvesting Toolbox' website. At the top, it says 'Toolbox' in large black letters, followed by 'Rainwater harvesting in the Caribbean' in blue. Below this, it states 'Global Water Partnership Caribbean'. The main content area is a grid of colorful buttons representing different resources: BACKGROUND, TECHNICAL PRODUCTS, EDUCATIONAL PRODUCTS, POLICY AND ADVOCACY, ONLINE RESOURCES, ABOUT RWH, RESEARCH PUBLICATIONS, RADIO AND PUBLIC SERVICE ANNOUNCEMENTS, REGIONAL PROGRAMME FOR RWH, CARIBBEAN WATER AGENCIES, RWH IN THE CARIBBEAN, MAPPING PRODUCTS, PROMOTIONAL FILM, NATIONAL PROGRAMME FOR RWH, INTERNATIONAL WATER AGENCIES, GLOSSARY, RWH AND AQUIFER RECHARGE, POSTERS AND TECHNICAL BROCHURES, MEETINGS, DEMONSTRATIONS, RWH HANDBOOK, and FACT SHEETS. At the bottom, there are two buttons: 'About the Toolbox' and 'About the GWP-C'. A small text block at the very bottom explains that the toolbox was developed with grant funding from the Perez Guerrero Trust Fund for Economic and Technical Cooperation (PGTF) to the Caribbean Council for Science and Technology (CCST) on behalf of the Global Water Partnership-Caribbean.

## How does rainwater harvesting work?

The rainwater is collected in guttering placed around the eaves of the building, along the edge of the roof. The guttering drains to a down-pipe, which discharges into a storage tank.

GWP-C advises that the down-pipe should be designed so that the collection of the first run-off of rainwater (the first-flush), can be discarded, preventing accumulated bird droppings, leaves, twigs and other contaminants from entering the storage tank. The water should also be treated, for example by chlorination before being used to drink.

There are different types of storage tanks available. The most popular are the large plastic ones, but some people use underground concrete storage tanks called cisterns.

Barrels can also be used instead of storage tanks. This method is the most common and one that many people are familiar with. It involves installing a barrel at a gutter downspout to collect rainwater. A mesh or netting, stretched across the open barrel top, is needed to filter debris, bird droppings and other contaminants. This mesh or netting is also very important to prevent mosquitoes from breeding in the stored water. The filters or net must fit tightly across the barrel but must not touch the water.

## How much will it cost?

It varies, depending on the size of your roof, but rainwater harvesting does not require major construction work, so the expenses suit most of our pockets.

## Who will build it and how long will it take?

With the help of a skilled mason or plumber and using the instructions in the GWP-C Rainwater Harvesting Toolbox, you can do the job within 10 days.

## Is rainwater harvesting suitable for work as well as at home?

Yes, in schools, hospitals, offices, commercial premises, rainwater can typically be used for toilets, vehicle washing, yard washdowns and watering plant pots and gardens. In fact, several schools in rural parts of Trinidad such as Moruga, Toco and Barrackpore are already harvesting water.



## Can I drink rainwater?

If properly stored and disinfected, rainwater can be drunk. Treatment options include chlorination, ultraviolet (UV) disinfection and commercially available household water filters.

## Does it require a lot of maintenance?

Some maintenance is needed but at very little cost. Maintenance includes cleaning out the gutters, tanks and filters. It is also important to make sure that your filters and netting are in place to prevent the entry and breeding of mosquitoes.

### Case History: Fondes Amandes Community Reforestation Project (FACRP)

The Fondes Amandes Community Reforestation Project (FACRP), located in the hilly St. Ann's area of north-west Trinidad, is a community-based agro-forestry programme, started in 1982 by a group of farmers living in the Fondes Amandes watershed, who wanted to halt the hillside degradation caused by slash and burn farming, forest fires and other human malpractice. They undertook a programme of re-planting forest trees, fire tracing, other agro-forestry activities and public education.



In 2012, in partnership with the GWP-C, the Water Resources Agency and the Royal Bank of Canada (RBC) Blue Water Project, the FACRP sought to improve its access to water through the installation of a rainwater harvesting system, including the first-flush diverter method. Members of the Fondes Amandes community were included in the installation process and were exposed to all the necessary training needed to build the system including how to determine a suitable location for installation; as well as how to install the tank and water level indicator.

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## Benefits of Rainwater Collection

- Rainwater is a relatively clean and absolutely free source of water.
- You have total control over your water supply (ideal for places with limited water supply).
- It is socially acceptable and environmentally responsible.
- It promotes self-sufficiency and helps conserve water.
- Rainwater is better for landscape plants and gardens because it is not chlorinated.
- It reduces water runoff from homes and businesses.
- It can solve the drainage problems on your property while providing you with free water.
- It uses simple technologies that are inexpensive and easy to maintain.
- It can be used as a main source of water or as a back-up source.
- The system can be easily retrofitted to an existing structure or built during new home construction.
- It can provide an excellent back-up source of water for emergencies.

**Remember:** Rainwater Harvesting means that you have to get involved. It is about building our relationship with water, with the environment and making water all our business.

## Where do I get more information?

The Global Water Partnership-Caribbean (GWP-C) is one of the main organisations working to promote the use of best practices in rainwater harvesting in the Caribbean, to make sure that people always have access to a supply of water for their health, sanitation and day-to-day activities. The GWP-C Rainwater Harvesting Toolbox has guidelines and information to help you safely collect rainwater for various uses. The Toolbox will provide you with additional information to:

1. Help you design and set up your system.
2. Demonstrate how to protect your water from contaminants.
3. Give you specific instructions on how to treat the water if you want to drink it.

## Contact GWP-C for more information at:

Global Water Partnership-Caribbean (GWP-C)  
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