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DAVAO CITY ORDINANCE NO. 0298-09

The Davao City Rainwater Ordinance of 2009

A Primer

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Watershed Issues in Brief Bantay Kinaiyahan is a regular publication of the Interface Development Interventions, Inc. to provide the public with relevant and concise information on pressing watershed issues



In 2009, the 15th City Council passed the **City Ordinance for the Proper Harvesting, Storage and Utilization of Rainwater (Ordinance No. 0298-09)** or the **Davao City Rainwater Ordinance**. Authored by City Councilor Leo Avila III, the Ordinance sought to mainstream the use of rainwater harvesting systems across the city. This local legislation followed an earlier national law – Republic Act No. 6716 of 1989– which similarly mandated the use and promotion of rainwater harvesting across the country.

What does the Ordinance stand for?

The Ordinance seeks to contribute towards the City's policy of sustainable development through the context of a balanced ecology. This entails the proper use of natural resources to protect and conserve the environment. The use of potable water for industrial and non-drinking purposes is considered wasteful in the light of the city's current climate adaptation and mitigation initiatives. Hence, alternative sources must be promoted and mainstreamed so that our aquifers are conserved for current and future populations' drinking requirements.

Did you know that...

Toilet flushing is the single largest user of potable household water, 30-40%, up to 90% for offices; Each person flushes the toilet about six times a day, older people flush the toilet more than 6 times a day. ...And we use precious drinking water!

Source: http://oasis-rainharvesting.co.uk/rain_harvesting_facts



Sharmin Choudhury, Save Water

The Rainwater Ordinance seeks to promote:

The collection, storage and utilization of rainwater for non-potable use.

The City seeks to encourage the use of rainwater for general cleaning, flushing of toilets, laundry, urban agriculture, landscape irrigation and as a supplemental water source for industrial, commercial and agricultural usage.

The storage and utilization of rainwater as a flood mitigation tool.

By properly harvesting and storing rainwater, the City seeks to reduce the effects of storm peak flow and surface runoff and siltation.

The adoption and development of appropriate rainwater utilization technology by industrial and commercial establishments.

The pressure on our city aquifers will be lessened if medium to large scale establishments, industries and subdivisions – which consume a large volume of potable water for non-drinking purposes – shift to rainwater use for non-potable concerns.

The enactment and enforcement of related policies towards proper harvesting, storage and utilization of rainwater.

These policies include Republic Act 6716 of 1989 also known as the "Rainwater Collector and Springs Development Law" and DILG Memorandum Circular No. 2012-02, promoting the construction of rainwater collectors in all barangays in the Philippines to mitigate the adverse impacts of climate change.

1. How does the Ordinance define a Rainwater Catchment System (RCS)?

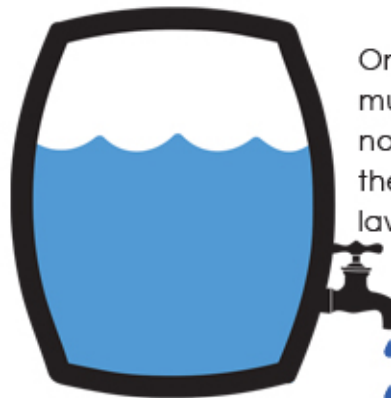
The Ordinance defines the RCS as having five components. These are:

- ◆ **Collection System**
– or what is known as the catchment surface
- ◆ **Conveyance System**
– gutters and downspout
- ◆ **Storage System**
– storage tanks
- ◆ **Treatment and Disinfection System**
– leaf screen, first flush diverters, roof washers
- ◆ **Drainage/ Sewerage System**
– Rainwater and storm water drains

Rainwater catching systems will be classified based on the size and nature of the systems. These fall under:

- ◆ Small size RCS of individual residential and other types of building with catchment surface of 50 sq m;
- ◆ Medium to large size RCS of residential, commercial, institutional, industrial and agricultural establishment with catchment surface greater than 50 sq m;
- ◆ RCS for apartments, duplex or multi-storey buildings in urbanized areas;
- ◆ RCS with pervious or impervious catchment surfaces or roads and open air parking spaces.

2. What happens to the rainwater collected from the RCS?



According to the Ordinance, the rainwater must be utilized for non-potable use. Among the uses identified in the law are:

- ◆ Construction
- ◆ Landscape irrigation
- ◆ Toilet flushing
- ◆ Urban and rural agriculture
- ◆ General cleaning
- ◆ Backyard and commercial animal raising
- ◆ Gardening
- ◆ Crop production
- ◆ Laundry
- ◆ Car washing
- ◆ Fire fighting

Rainwater can also be used for drinking but the ordinance carries a mandatory provision that the water must first be :

- ◆ Adequately treated, filtered or boiled
- ◆ Tested with the City Health Office, the Department of Health, or its accredited laboratories.

3. What establishments are required to set up an RCS in Davao City?

The ordinance requires all new building applications to include a RCS in the design before being issued a building permit. These include:

- Construction of new commercial and industrial buildings
- Major renovation expansion of existing public and private buildings (e.g. public schools markets and government buildings)
- New residential building units in subdivisions (must install a communal or cluster type RCS)
- Newly-established agricultural plantations (RCS or small water impounding system)
- Other priority farms as identified by the City Agriculturist's Office

4. What are the other mandatory provisions of the Ordinance?

- No building permit will be issued unless a RCS is installed;
- The design, construction and maintenance of drainage systems should integrate the design principles of a RCS to allow the proper harvesting, storage and utilization of rainwater;
- Pervious and impervious surfaces in roads, open air parking areas, recreational and sport facilities and other large open establishments shall be designed to catch rainwater to reduce storm water peak flow and surface runoff.



Source: http://1.bp.blogspot.com/-xChEL36a2hw/16pXEtTyJI/AAAAAAAAAII/pqPSWbFWxyY/s1600/rain_pic.jpg

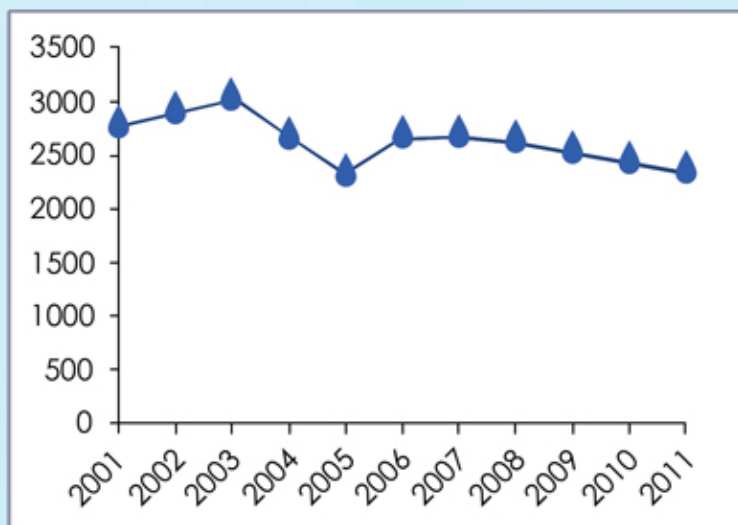
Did you know that...

An inch or 25.4 mm of rainfall on a 50 square meter roof catchment area can collect not less than 1,000 liters of water.

With Davao City having an average rainfall of 2,628 mm, a 50 square meter roof can harvest more than 100T liters of water annually.

Even during a typical dry season, Davao City has a minimum average of 2,000 mm of rainfall, ensuring an annual rainwater harvest of at least 100T liters for a typical 50 square meter roof catchment.

Source: Resource and Socio-Economic Assessment of Talomo-Lipadas and Panigan-Tamugan Watersheds, Jason Ybanez, Allan Villanueva, et. al



Data from 10 years of rainfall in Davao City

5. What is in it for me?

The City Treasurer's Office, together with the City Engineer's Office and the City Agriculturist's Office, are currently looking into the possibility of granting incentives or recognition to existing establishments who will comply with the ordinance. Guidelines will be drafted and submitted to the Sangguniang Panlungsod for approval.

6. Will I be imprisoned if I don't comply?

Yes. Violation of any provision in this ordinance by any business/infrastructure owner, business entity or corporation will be penalized with a fine of P1,000.00 but not exceeding P5,000.00 AND/OR imprisonment of 6 months but not exceeding 1 year, depending on the decision of the court.

Because rainwater does not contain calcium and magnesium deposits, it is best for

Washing machines ,
dishwashers and water heaters
because it will allow them to
function more efficiently due to
the absence of calcification;

Bathing because it allows soap
and shampoo to lather better;

Toilets because there will be
no limescale build up.

Source: http://oasis-rainharvesting.co.uk/rain_harvesting_facts

7. Who will implement this Ordinance?

The Watershed Management Council (WMC) is the primary implementing body of this Ordinance. Secretariat support will be provided by City Engineer's Office (CEO).

As the implementor, the WMC will offer technical assistance by formulating a simplified Technical Manual on planning and developing a RCS. It will collaborate with the academe and other professional organizations in developing appropriate RCS technology for Davao City. It will also implement an information and education campaign, in coordination with the Davao City Information Office, on rainwater harvesting.

It will also establish a RCS database for Davao City, update it regularly and prepare an evaluation report on the impact of rainwater harvesting on the city's watershed management initiatives.

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