

Rainwater Harvesting in Texas

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Rainwater Harvesting (RWH) is the practice of collecting rainfall for a beneficial purpose. It usually refers to the collection of rainfall runoff from roof surfaces in cisterns for domestic use; however, it may also include surface water collection in small tanks or impoundments for livestock watering and landscape irrigation. In the early part of the 20th century, RWH was practiced in Texas, but with the development of municipal water systems, the practice became obsolete. Now, with limited water resources on the one hand and increasing demands for water on the other, there is a growing awareness to collect rainfall and make more efficient use of the water.

Rainwater Harvesting is most applicable where other sources of water are either not available or are too expensive. Hays county in Central Texas is an excellent example for the growth of RWH. There are inadequate surface water resources in the area, the tap fees for homeowners to connect to water supply pipelines can be very high, and the groundwater quality is poor. Rainwater Harvesting is therefore becoming the obvious choice for homeowners in rural Hays county. Rainwater collected from roof surfaces is stored in cisterns and either pumped back into the house for indoor use, or can be used for landscape irrigation. Generally, in rural areas the stored water is filtered, treated and used for all indoor purposes. In towns where municipal water systems are available, harvested rainwater is used primarily for landscape irrigation, thus reducing the overall demand for municipal water. Either way, RWH provides conservation of water supplies.

Austin and San Antonio are providing rebates of up to \$450 to homeowners who install RWH. Hays county provides a rebate in the application fee for homes with RWH systems, and the RWH system itself is exempt from property taxes. Rainwater is free of any chemicals and/or dissolved salts. Unlike well water, rainwater is naturally soft, and can be used for household purposes without the need for a water softener. Rainwater is also ideal for those on low-sodium diets, since it contains no salt. Plants respond to rainwater much better than they do to municipal water (which has several chemicals added to it during the treatment and purification process).

For every inch of rain, about 600 gallons of water can be collected from 1,000 sq.ft. of roof area. A typical home with 2000 sq.ft. of roof area in Central Texas can yield up to 40,000 gallons a year, water that would otherwise run off and contribute to erosion. If properly managed, the RWH system can provide up to 100 gallons of water per day for a typical home. The cost of a RWH system depends on the size of the cistern used for storage. A RWH system for a home can cost anywhere from \$5,000-\$8,000, which includes the guttering for leading the water to the cistern, costs for the cistern, pump and treatment system. Senate Bill 2 has recently provided sales tax exemption for rainwater harvesting equipment and supplies, which will benefit those who propose to build RWH systems in the future.

RWH is a growing trend not only in Texas but in other parts of the U.S. and overseas as well. Germany is a leading example of RWH in Europe. Many countries in Asia and the Caribbean practice RWH as well. RWH is particularly suitable to Texas because of our bimodal rainfall pattern. Our peak rainfall occurs in April/May followed by a dry period from late June through August. The rainfall collected in May can be very useful during the summer months either for landscape irrigation or for indoor use. We usually receive some rainfall again in September/October which can be collected and used during the rest of the year.

The Texas Water Development Board has produced the "Texas Guide to Rainwater Harvesting", a publication that is in great demand not only within Texas, but nationally and internationally. The publication can be downloaded free of cost from either the TWDB website www.twdb.state.tx.us , or from the the American Rainwater Catchment Systems Association (ARCSA) website www.arcsa-usa.org