

# Rainwater Harvesting Demonstration and Education for El Paso County Colonias

U.S. – Mexico  
Border Program

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[www.epa.gov/usmexicoborder](http://www.epa.gov/usmexicoborder)

Along the US-Mexico Border, approximately 2,300 colonias exist in the state of Texas. Colonias, or unincorporated communities, are substandard housing developments that lack basic services such as drinking water, sewage treatment, and paved roads, which can lead to several public health issues for residents. Residents often must purchase and haul water to their residence for both indoor and outdoor uses. In 2015, the University of Texas at El Paso (UTEP) - Center for Environmental Resource Management (CERM) began working with colonias in West Texas - Presidio County to help residents of the colonia, Las Pampas, to bring a low-cost alternative to help residents support irrigation of their landscape. Dr. William Hargrove of CERM, worked with UTEP students to develop and pilot a rainwater harvesting system. The success of this system showcased how this low-cost, sustainable option could help residents of colonias cut down on their purchased water costs during those times that rainwater could be used to meet this need.

UTEP's CERM received a Border 2020 Program grant to design a rainwater harvesting system for colonias in El Paso County to help provide a means of reducing the amount of water residents need to haul for landscaping, outdoor gardening and/or their animals. Over a period of 1.5 years, UTEP students helped to install

one system in the Montana Vista Colonia and two systems in the Cochran Colonia. Throughout the process, the project team filmed and documented their work to develop a training video on how to build and install a rainwater harvest system that is available for the public to use. In addition to the video, a how-to guide in both English and Spanish is available as well. All of these products are available at:

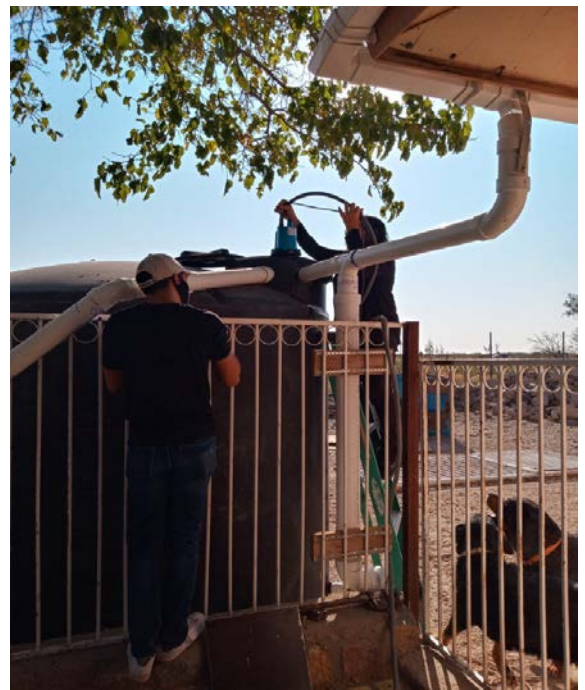
<https://rainwaterharvestingdemo.weebly.com/>.

In total, depending on the need of the resident, the total cost of the installation with materials for a colonia resident is approximately \$1000 - 1,000 USD (Figure 1).



Figure 1. Rainwater harvest system at mobile home in Cochran Colonia, El Paso County, Texas.

As the rainwater systems were installed (Figure 2), colonia neighbors of those who had these systems installed, are now wanting similar systems for their own home. In addition, several agencies and non-governmental entities within the region and state are now interested in replicating this project having seen its success and satisfaction with colonias residents. This project has not just provided a benefit to border colonia residents but valuable knowledge and hands-on field work for both undergraduate and graduate students at UTEP.



*Figure 2. UTEP students installing rainwater harvest system at home in Cochran Colonia, El Paso County, Texas*



“Our work on rainwater harvesting in colonias has been some of the most gratifying work of my career of over 40 years. Rainwater harvesting is not the sole solution but provides a means to reduce the reliance on hauled water for many colonias residents. It is an affordable and manageable technology. It also has provided our students wonderful opportunities to get hands-on experience in installing this technology in a team setting, and experience in community research and outreach.” - Dr. William Hargrove