



Rotary

Club of San Miguel de Allende-  
Midday

**Project Fair**  
**Club Rotario San Miguel de Allende-Midday**  
**D4140 SMA,Gto.**



# Rainwater harvesting cisterns



- We have worked with CEDESA to build around 1,500 cisterns that have the potential to hold over 18 million liters of potable water. These cisterns are largely built in tandem with the homes' matriarchs. They take great pride in their achievement, and rightly so. With proper maintenance, it could last for generations. This program has been great for our club in that it's helped us gain the trust of small communities who otherwise might not open up to us.
- The objective of this project is to provide assistance to rural communities in the Cuenca de la Independencia to improve quality of life through sustainability and promote understanding, goodwill, and community peace.
- Areas of focus: Water, Sanitation and Hygiene



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- **Why water?**

- In 2008, Rotary MIDDAY conducted a thorough community needs analysis. Discovering that there was a water crisis in the rural villages that was not being address by either the government or other local NGOs.

- **The problem:**

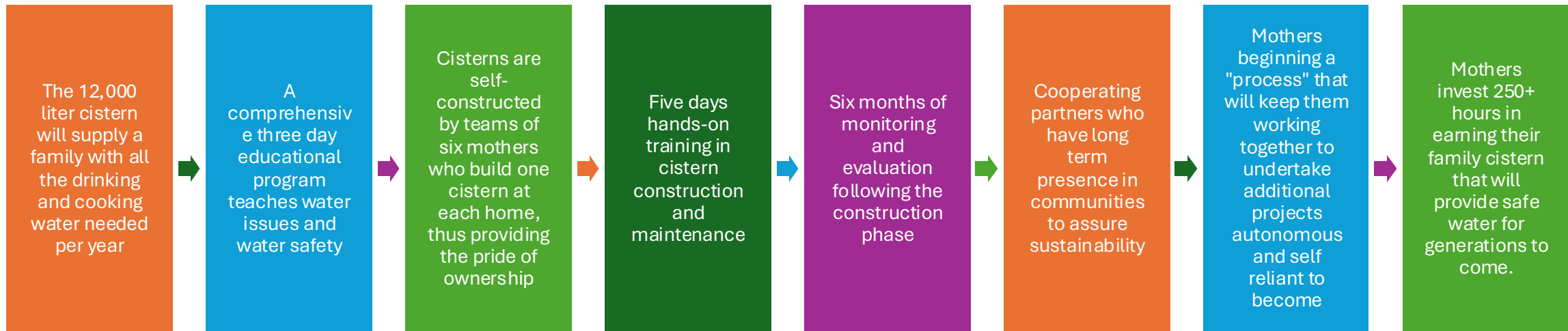
- Consuming this water leads to dental and skeletal fluorosis, kidney failure, cancers and up to a 50%?? reduction in IQ among children.
- There is no reliable and affordable way to filter or remove these minerals.

- **The Solution:**

- 12,000 liter ferro-cement cisterns capture enough rainwater from existing roofs to provide a family with all the drinking and cooking water needed for one year.
- Every US\$500 invested provides a family with a safe and permanent water source. Mothers complete an 3 day education program. They are trained in the self-construction and maintenance of rainwater harvesting systems, and they receive building materials for one family owned cistern.
- These women work in teams of six families to self-construct a family owned cistern in each others home.



# • Why is this successful?

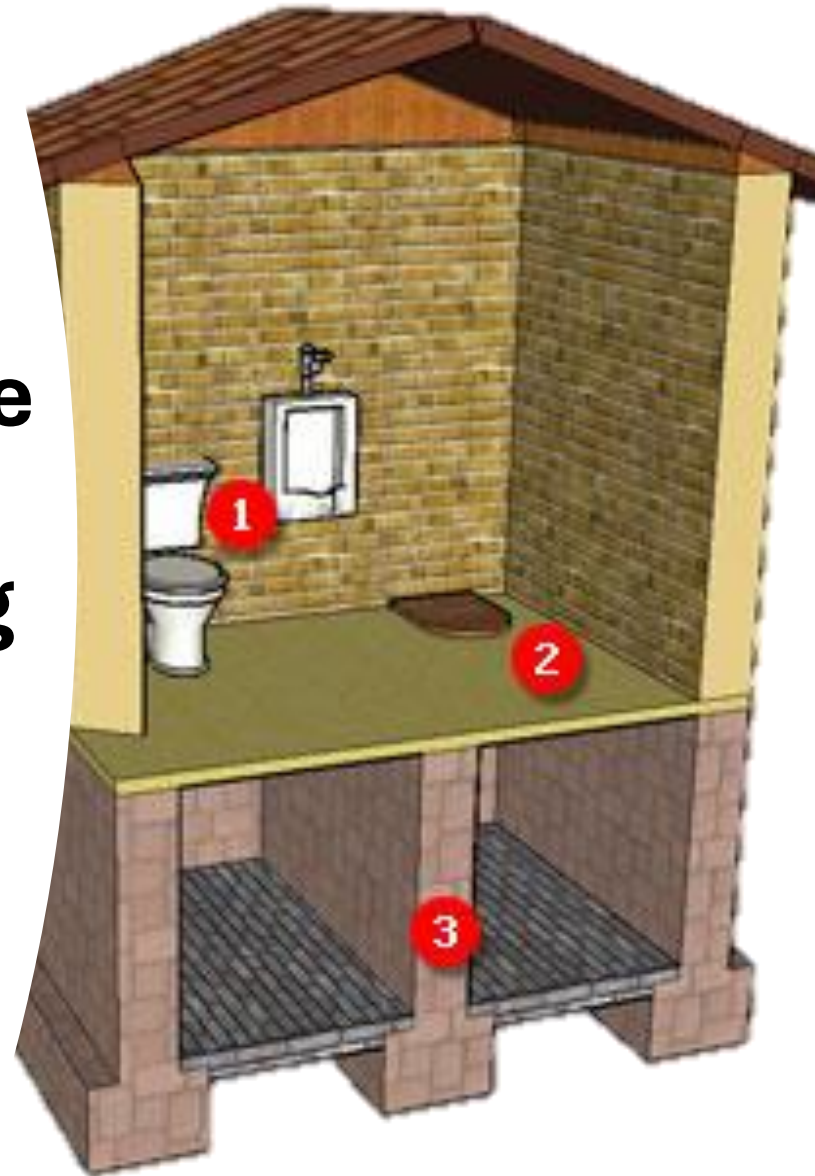




| CONCEPT                            | FULL COST   | UNIT                          |                         | PER TOILET average  | Details              |
|------------------------------------|-------------|-------------------------------|-------------------------|---------------------|----------------------|
| CEDESA actividades                 | 11500       | av. x proy x comunidad 15 ses |                         | \$2.300,00          | \$2.300,00           |
| CEDESA transporte                  | \$700,00    | 1                             |                         | \$700,00            | \$700,00             |
| Project management, and accounting | \$400,00    |                               |                         |                     | \$300,00             |
| Hierro Comercial                   | \$13.000,00 | 1                             | 1                       | \$13.000,00         |                      |
| Triplay                            | \$1.200,00  | 1                             | 1                       | \$1.200,00          |                      |
| Arena                              | \$2.500,00  | 1 viaje                       |                         | 0,5                 | \$1.250,00 1/2 viaje |
| Grava                              | \$2.600,00  | 1 viaje                       |                         | 1 viaje 6 cisternas | \$450,00 1/4 viaje   |
| Puerta                             | \$950,00    | 1                             | 1                       | \$950,00            |                      |
|                                    |             |                               |                         |                     | \$20.150,00          |
|                                    |             |                               | <b>TOTAL 1 cisterna</b> |                     | <b>\$20.150,00</b>   |

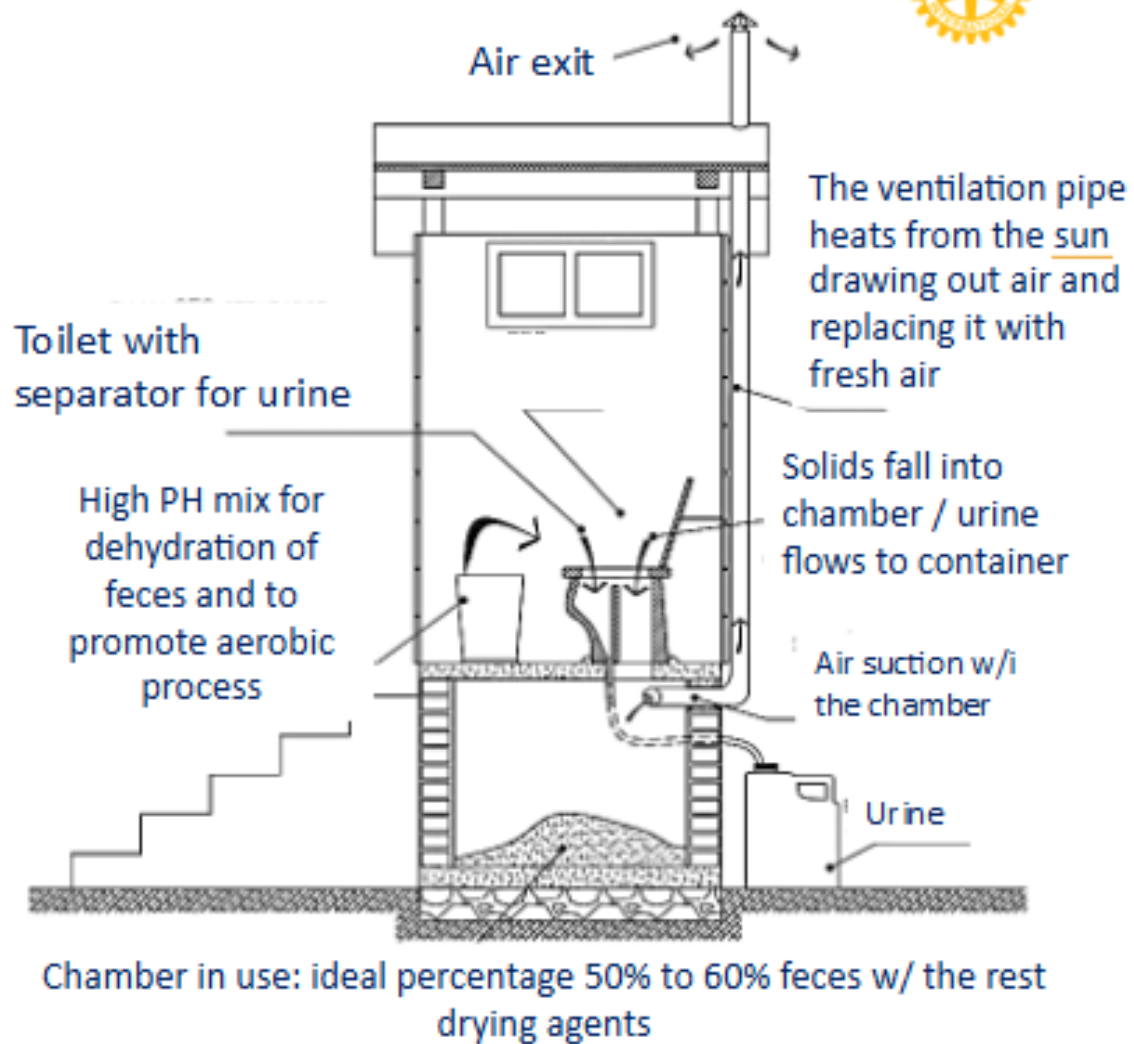
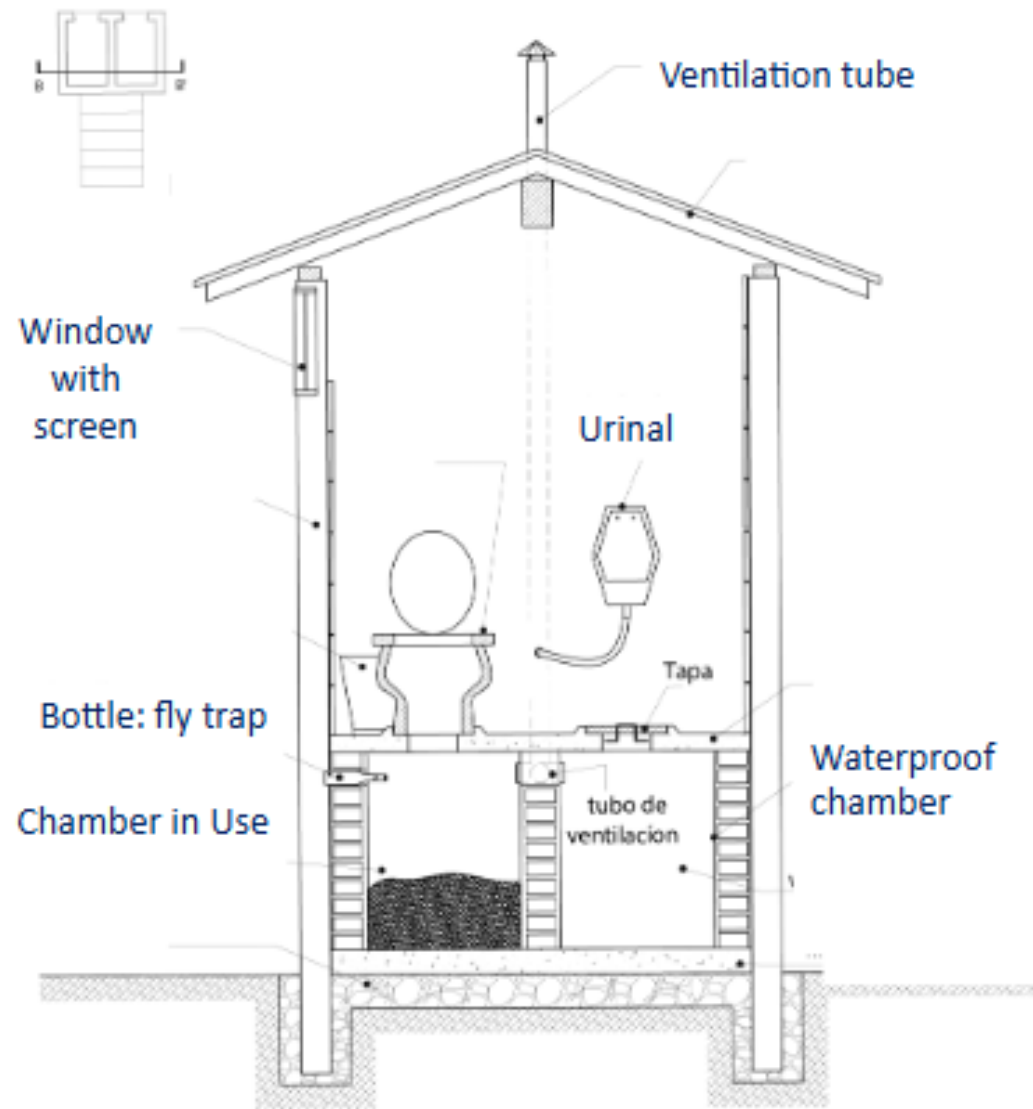


# Why choose dry composting toilets?



- No Water Consumption.
- No Cross Contamination of Water Supply.
- Produces Fertilizer and Organic Compost.
- Agricultural Output and Food Scarcity.
- Close the Ecological Cycle – return nutrients.
- Product is inoffensive.
- Easily constructed by the beneficiary using local materials.
- Minimum cost in year to year maintenance.
- The dry toilet is clean with no odors.
- Reduce flies, mosquitos and other vector carriers.
- Directly correlates with positive health, social and economic outcomes.

## These are the essential parts of the SES





# How does the composting take place?

These conditions benefit the “good” microorganisms and allows them to attack the microorganisms that cause illnesses

## **Warm temperature > 68°F**

- It needs to be warm inside the chamber for as much time as possible

## **Medium Humidity: between 45% y 70%**

- Medium humidity is ideal. There will not be disagreeable odors. The organic material should not be either gummy or over-dehydrated

## **Alkalinity: pH level greater than 9**

- By adding a mixture with carbon rich materials, we avoid acidity and enrich the organic matter. Mixtures made with lime and ash lower acidity but do not provide nutrients.

## **Evaporation**

- The exit of vapors and gas inside the chamber is essential.

## **Sufficient Time: 6 months minimum**

- The above conditions must be maintained over the decomposition period

## **Constant Air Flow**

- There must be air circulation throughout the composting material.



| CONCEPT                               | FULL COST  | UNIT                             |    | PER TOILET average                 | Detail                   |
|---------------------------------------|------------|----------------------------------|----|------------------------------------|--------------------------|
| CEDESA actividades                    | 38000      | av. x proy x comunidad<br>15 ses |    | \$2.533,33                         | \$2.533,33               |
| CEDESA transporte                     | \$6.400,00 |                                  | 12 | \$533,33                           | \$533,33                 |
| Project management,<br>and accounting |            |                                  |    |                                    | \$400,00                 |
| Hierro Comercial                      | \$9.800,00 |                                  | 1  | 1                                  | \$9.800,00               |
| Arena                                 | \$2.600,00 | 1 viaje                          |    | 0,5                                | \$1.300,00 1/2 viaje     |
| Grava                                 | \$2.700,00 | 1 viaje                          |    | 0,25                               | \$675,00 1/4 viaje       |
| Tabique                               | \$7,00     | 1 pieza                          |    | 1150                               | \$8.050,00 1150 tabiques |
| Mingitorio                            | \$600,00   |                                  | 1  | 1                                  |                          |
| Taza                                  | \$300,00   |                                  | 1  | 1                                  |                          |
| Mano de obra<br>Mingitorio y taza     | \$350,00   |                                  | 1  | 1                                  | \$1.250,00               |
| Puerta                                | \$4.150,00 |                                  | 1  | 1                                  |                          |
| Ventana                               | \$2.600,00 |                                  | 1  | 1                                  |                          |
| Abarandal                             | \$2.800,00 |                                  | 1  | 1                                  | \$11.078,00              |
| Lavamanos                             | \$500,00   |                                  | 1  | 1                                  | \$580,00                 |
| Tinaco                                | \$2.100,00 |                                  | 1  | 1                                  | \$2.100,00               |
| Albañiles                             | \$7.000,00 |                                  | 1  | 1                                  | \$7.000,00               |
|                                       |            |                                  |    |                                    | \$45.299,67              |
|                                       |            |                                  |    | <b>TOTAL 1 DRY TOILET<br/>2026</b> | <b>\$45.299,67</b>       |

# Project Goal:



- **60 family rainwater harvesting cisterns** for water storage.
- **20 dry ecological toilets** to ensure a dignified and safe space.
- **Beneficiaries:**  
**480 people (average 6 per family).**
- **Total Project Cost:**
- **USD:** \$111,388.89
- **MXN:** \$2,005,000.00



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<https://www.rotarysmamidday.org/water-harvesting.html>



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Midday

CEDESA



Centro de Desarrollo  
Agropecuario A.C.