

# Demi-lune technology: Rainwater harvesting method

Catch the Rain, Grow with the Grain!

The Demi-lune (Half-moon) technology is a simple rainwater harvesting method for dry regions. Farmers dig semi-circular pits (2–3 meters wide, 15–30 cm deep) to trap rainwater and enrich the soil with compost. This boosts crop growth, restores degraded land, reduces erosion, and improves soil fertility, making drylands productive again.



**ICRISAT**  
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## Commodities

Sorghum/Millet, Maize, Cowpea,  
Common bean

## Sustainable Development Goals



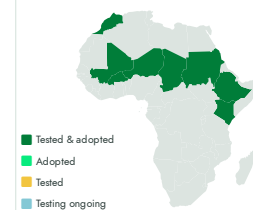
## Categories

Production, Practices, Water management,  
Soil fertility

## Best used with

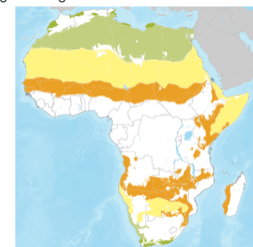
- [Water Harvesting and Soil Improvement >](#)
- [Contour Bunds for Water Harvesting >](#)

## Tested/adopted in



## Where it can be used

This technology can be used in the colored agro-ecological zones.



✓ This technology is **TAAT1 validated**.

9-9



Scaling readiness: idea maturity  
9/9; level of use 9/9

Gender assessment



Climate impact



## Problem

- Scarce and erratic rainfall limits crop growth and productivity.
- Severe soil degradation and erosion reduce land fertility.
- Low crop yields threaten food security and economic stability.
- Lack of irrigation infrastructure leaves farmers reliant on unpredictable rainfall.
- Nutrient-poor soils hinder healthy plant development.

## Solution

- Captures rainwater to boost water availability during dry spells.
- Prevents soil erosion and restores soil fertility.
- Increases crop yields and farming resilience.
- Low-cost, accessible alternative to irrigation.
- Enhances soil nutrients with organic matter.
- Restores vegetation and supports biodiversity.
- Strengthens food security and farmer livelihoods.
- Promotes sustainable, eco-friendly farming.

## Key points to design your project

The **Half-Moon Implementation Framework** offers a structured approach to scale the use of half-moon pits for land restoration and climate-resilient agriculture. It focuses on integrating financial, technical, and capacity-building strategies to ensure sustainable, community-driven interventions in dryland areas.

### Key Steps:

1. **Define Objectives:** Align with national priorities such as land restoration and climate adaptation.
2. **Develop Financial Plan:** Mobilize resources and promote farmer-driven scaling.
3. **Assess Capacity:** Provide necessary training for efficient implementation.
4. **Conduct Needs Assessment:** Tailor solutions to local conditions.
5. **Implement Monitoring:** Track progress on yields, soil health, and water retention.
6. **Evaluate and Refine:** Regularly assess impacts and adjust based on feedback.

This framework helps promote sustainable, scalable solutions to improve soil fertility, food security, and climate resilience in vulnerable regions.



Unknown



## Demi-lune technology

<https://e-catalogs.taatafrica.org/gov/technologies/demi-lune-technology-rainwater-harvesting-method>

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