



Emerging practices from Agricultural Water Management in Africa and the Near East



Thematic Workshop



Country experiences

The experience of MARSADDEV rural development project in Egypt: wadi reclamation, water harvesting and supplementary irrigation under arid conditions

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MARSADEV Project

Matrouh Rural Sustainable Development Project

IMPLEMENTING AGENCIES

Egypt: Ministry of Agriculture, Desert Research Center (DRC) of Marsa Matrouh
– Egypt

Executing agency:

CIHEAM Mediterranean Agronomic Institute of Bari, Italy

Funding: Debt conversion

Beneficiaries: Local associations and communities of Marsa Matrouh area.

Budget: 1.5 million EUR

Duration: Feb. 2014 - Feb. 2017

OBJECTIVES

- Land and water management (wadi reclamation, water harvesting, Supplementary irrigation systems, building cisterns)
- Improved agronomic aspects of olive, figs and horticultural crops (IPM, Organic farming, orchard management, composting)
- Post harvest management (reduce waste, improve olive oil mill technology, modernize marketing)
- Improve gender conditions
- Research and knowledge transfer (i.e. introduction of Quinoa)
- Promotion and dissemination



Figs processing



Quinoa



Figs harvesting



Gender



AREA LOCATION



- In 2015 local **Bedouin communities** were estimated by 22,000 households with population of 500,000.
- **Hot summers and mild winters**
- **Mean annual temp. maximum 25 °C** and mean annual minimum 15 °C
- The **average annual rainfall** varies from 102 to 140 mm/ year
- The period **October 2015 March 2016** was exceptionally wet with about 250 mm of rainfall
- Land fit for **agriculture is less than 7%**



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Gully erosion and abandonment

Wadi Kharrouba in 2012



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Something must be done

First step: talk to local Bedouin people to have their backing and support



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Second step: innovate based on local traditional knowledge

Building cisterns to collect water



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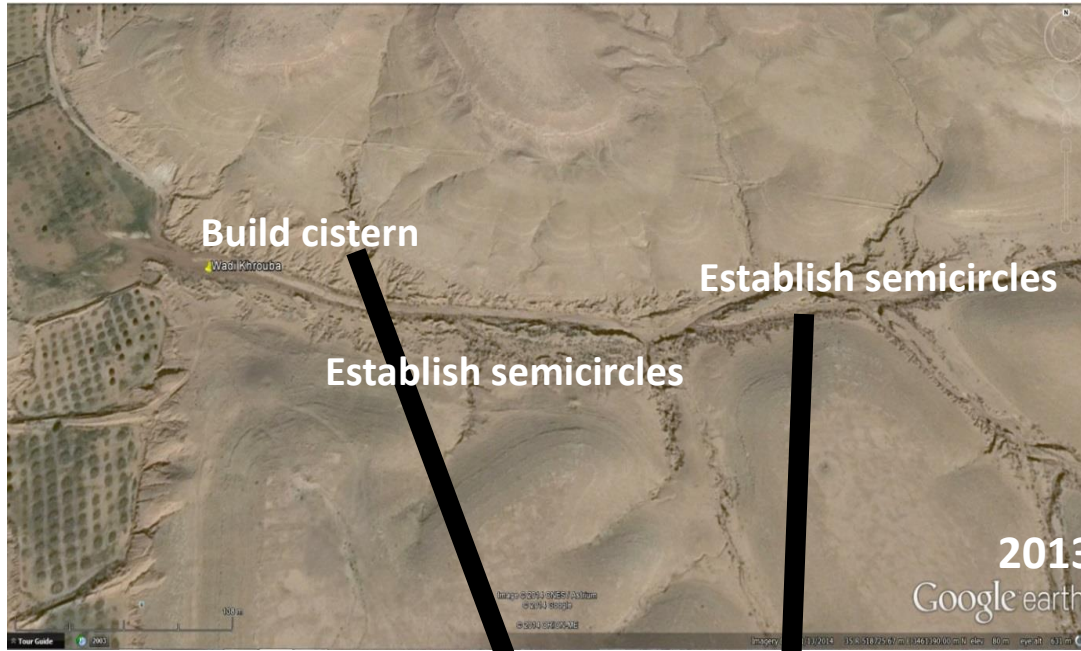
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In 2014 the reclamation at wadi Kharrouba work started

Leveling land and building

dikes to control erosion and harvest water





- 2 crucial issues:
1. **Soil Erosion** control on the slopes
 2. **Harvest water** inside the wadi and collect surplus water for supplementary irrigation

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Opuntia ficus-indica



Medicago arborea



Atriplex litoralis spp



Moringa oleifera



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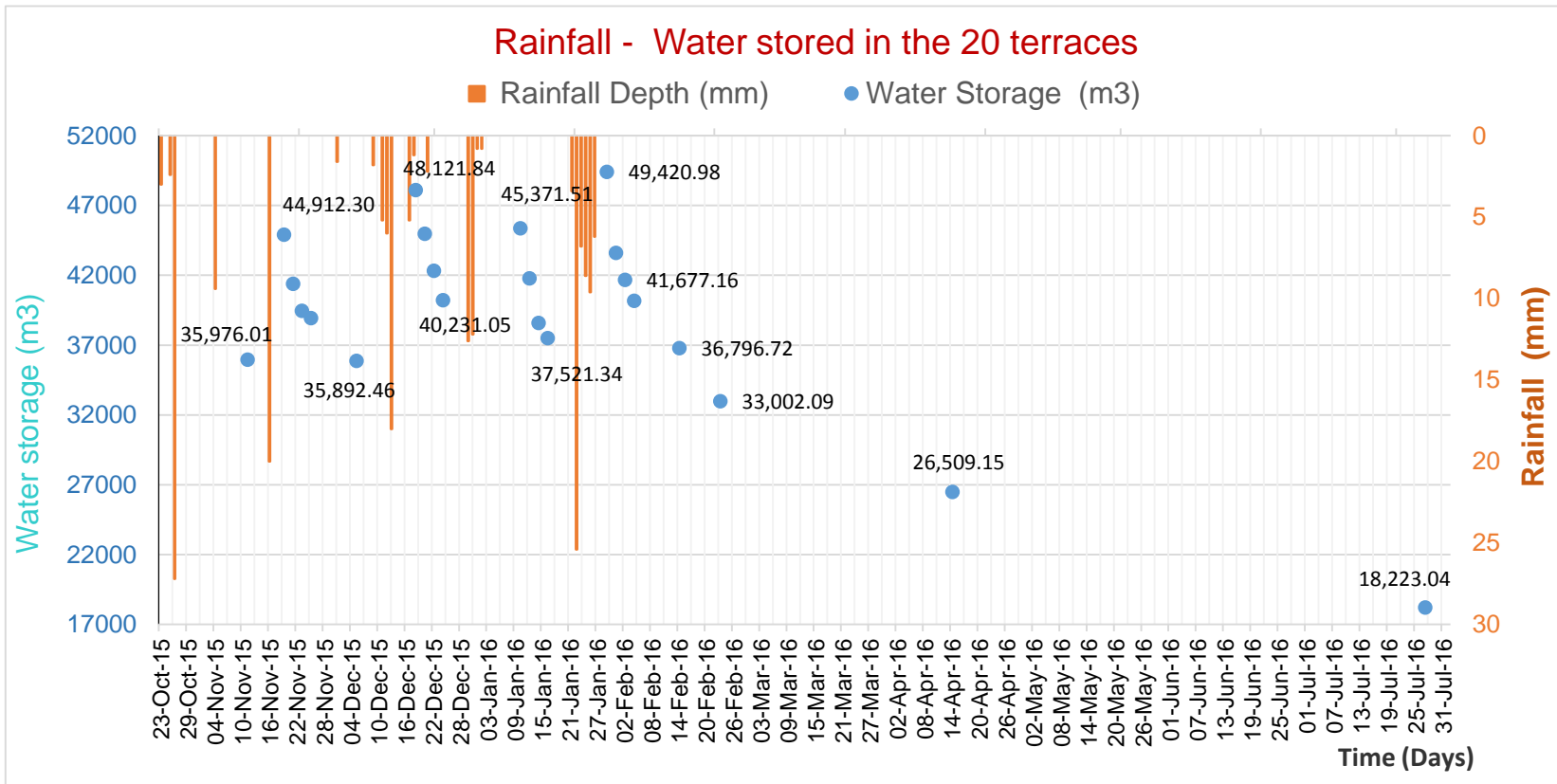
RESULTS IN FIGURES/FACTS

January 2016: water harvesting inside the wadi



RESULTS IN FIGURES/FACTS

In 2016 wadi Kharrouba harvested almost 50,000 m³ of water of which about 18,000 m³ were still stored in the soil until the end of July



If not for land reclamation this amount of water would have been lost!

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RESULTS IN FIGURES/FACTS

Last step: ensure sustainability

Land and water management

Crop management

Agro-food value chain

Marketing of local products

Empowering women

Respect for local traditions



RESULTS IN FIGURES/FACTS

Planting olives, figs, and *Vicia Faba* as intercrop



A new variety of *Vicia Faba* is being tested



Planting olives



Integrated management of slopes and wadi area



**Supplementary irrigation:
Installing drip irrigation system by gravity**

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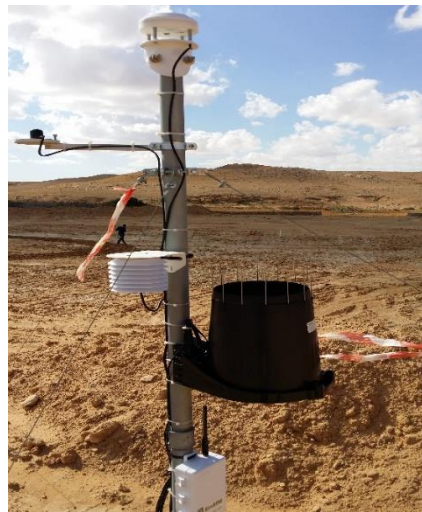
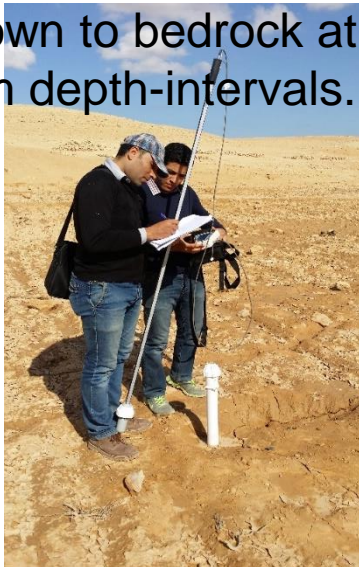
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RESULTS IN FIGURES/FACTS

Wadi Kharouba is equipped with instruments for detailed monitoring of the eco-hydrological behavior



Diviner device for soil moisture measurement down to bedrock at 10 cm depth-intervals.



Meteorological station



Discharge measuring systems

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RESULTS IN FIGURES/FACTS

22 March 2016

Wadi Kharrouba is handed over to local Bedouin people



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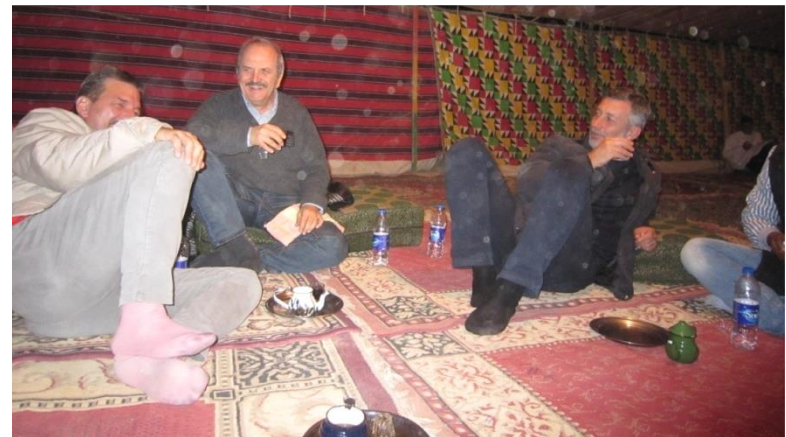
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RESULTS IN FIGURES/FACTS

What makes a rural development project successful?



Responding to local people's needs



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THANK YOU

