ADAPTATION TO CLIMATE CHANGE IN THE AGRICULTURE SECTOR

CASE STUDIES

Rainwater Harvesting in Tammun Area, West Bank, Palestine

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Harvesting Rainfall a Key Climate Adaptation Opportunity for Palestine
Case Study TAMMUN WATER HARVESTING, West Bank

TAMMUN WATER HARVESTING PROJECT, WEST BANK, PALESTINE

THE GOAL: Improving living conditions of farmers / herders by making better use of rain and overland flow

PLANNING: One site of an ICARDA project funded by “Middle East Water and Livelihood Initiative (WLI)”, a USAID programme

IMPLEMENTATION: By the Agric. Research Institute Jerusalem (ARIJ)

CLIMATE: The average annual temperatures: 18-19°C
The long-term average precipitation: 290-370 mm/a

LAND USE: Arable farming and olive cultivation in the valleys, herding on the slopes of the mountains.

SOILS: Predominantly silty clays of Terra Rossa type
The mountains are to a large extent eroded.

Site 3 was selected for this case study.
**The Farm**

**Name of village:** Eraq El Souq (north of Atuf);

**Name of farmers:** Noor Mohammad and Tawfik Mohammad with families;

**Farm size:** 50 dunum (5 hectares)

**Rainfall:** 300 – 350 mm/year

**Natural setting:** Sparsely vegetated hills around a valley. Drainage lines incised up to 1 m.

**Inclination:** (a) Catchment: 10 – 45 %, (b) Fields: 4 – 10 %,

**Soil depth:** Fields: 60 – 90 cm; **Soil type:** Silty clay
(63 % Clay – 30 % Silt – 6% Sand)

**Farming system:** Cereal and lentil cropping in the valley and animal husbandry

**Coordinates:** 32° 16.198' N; 35° 25.262' E
The two brothers have got 140 sheep and goats.

Overgrased hill

Cistern built by Min. of Agriculture

The farmers are interested in
(1) more water in the dry season (more cisterns),
(2) more feed for their animals,
(3) more tree and bush crops, particularly olives.
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Planning Tool: Google Earth

Google Earth images are used for measuring distances, inclinations and elevations.

Tammun Site 3

Elevation profile

Major drainage line

Farmstead

Borders of the Farm & Drainage Lines

Major Road

MoA - Cistern

Borders of the farm
As further planning tool, ICARDA's Remote Sensing Dept. had prepared a number of digital maps, showing 5 m contour lines, land use, soil types etc.
Further planning tools:
(1) detail-photos,
(2) soil depth measurements
(3) soil analyses

When using all these tools, a first plan is established, showing the location of:
• drainage lines
• reservoirs,
• cisterns,
• WH techniques etc.

Further detail plans are based on this general plan.
Sequence of various Water Harvesting techniques at a slope in Tammun area, complemented by water storage in a cistern and behind a wadi dam.

Trees in Soil Pockets

Contour Bench Terraces

Eyebrow Terraces

Semi-circular Bunds

Cistern

Interrow WH

Wadi Dam

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Semi-circular Bunds
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THANK YOU!

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