

**Field Moisture Capacity Improving Applications with Semi-Circular Micro-Catchment Water Harvesting
Technique in Olive Cultivation**

Research Area	Soil Water Resources and Environment
Research Program	Agriculture-Climate Change Interaction
Executive Institute	International Agricultural Research and Training Center
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Project Summary: Storing of every drop of rain water is very important to supply water demand of plants in arid periods. One of the basic principles of water harvesting is storage of harvested water. In the region with high rainfall amount, because of the rocky and low water-holding capacity of soil, water can't be sufficiently store in soil. Because of this, 5 experimental subjects were applied to increase the water retention in soil. Experimental treatments are; 1. Control treatment (conventional planting), 2. Soil without stone (planting trees in 1x1 meter pits using stoneless soil), 3. Soil+Organic Material (O.M) (adding 50 kg O.M to 2nd treatment), 4. Soil+O.M+250 g polymer (adding 250 g polymer to 3rd treatment), 5. Soil+O.M+500 g polymer (adding 500 g polymer to 3rd treatment).

Semi-circular embankments type micro-catchment water harvesting methods was built to all trial treatments. The purpose of this research is to determine the effect of semi-circular embankments type micro-catchment water harvesting method on growing of olive trees; the impact on growing of the olive trees and on some plant growth parameters of different applications made to increase the water holding capacity of the soil profile in conjunction with semi-circular micro-catchment water harvesting technique; and to evaluate economic efficiency of applications.

Key words: Water harvesting, olive, micro catchment, soil moisture, Organic material