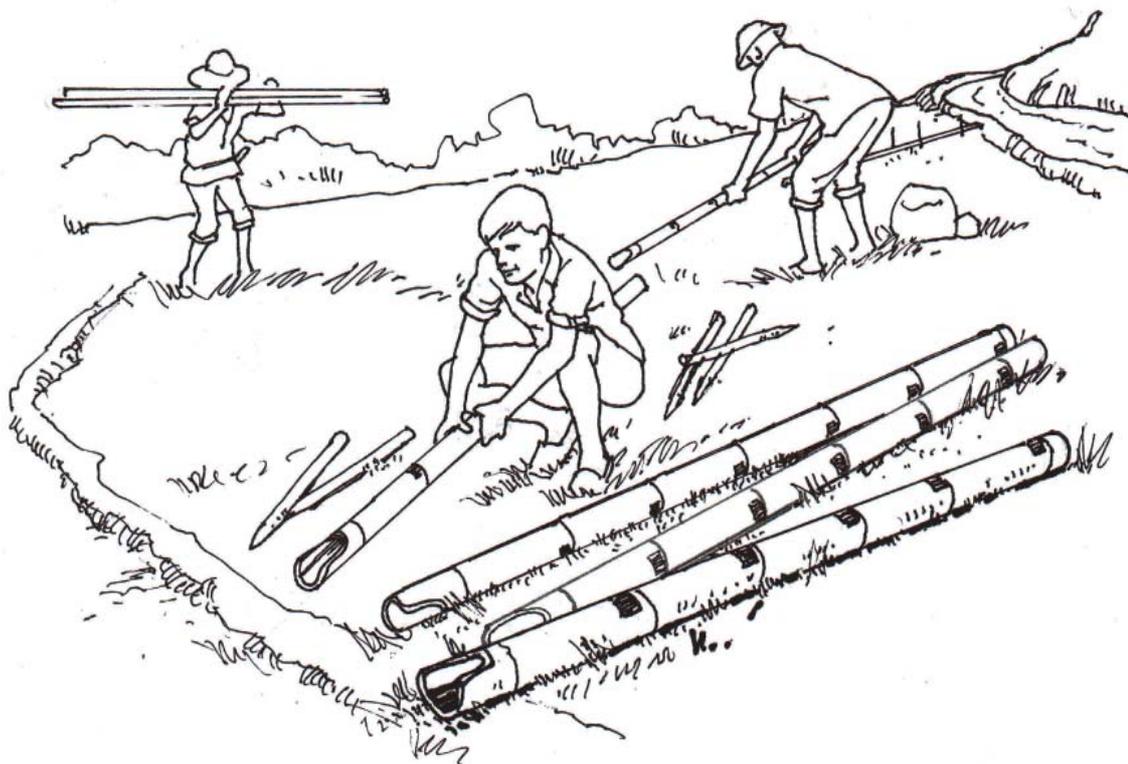


# Collective Action for Sustainable Water Harvesting Irrigation



**C**ollective action for water harvesting irrigation (WHI) refers to the joint or collective effort of farmers in getting and using water for crop, animal, household, or other purposes.

Organized water user groups also handle external representation with government programs and external demands (either competing or complementary) for water and other resources. In water-scarce areas, the goal is for farmers to produce high crop yields with less water, which can be achieved when farmers collectively manage the water resources available to them.

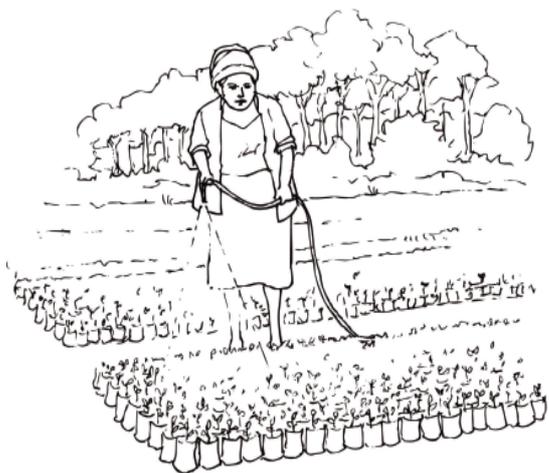
## SOURCE:

Scott, C.A. and P. Silva-Ochoa. 2001. *Collective Action for Water Harvesting Irrigation in the Lerma-Chapala Basin, Mexico*. CAPRI Working Paper No. 20. International Food Policy Research Institute, Washington, D.C.

## Why Collective Action?

- It makes participatory management of water resources possible — community members then have a stake in making decisions.
- It promotes equity and efficiency in water distribution — no member can monopolize the use of water resources, and distribution scheduling is normally based on optimizing conveyance efficiency.

- It reduces cost— members equally share/divide the cost of labor and materials that are needed in maintaining water harvesting irrigation systems.
- It builds internal community unity and camaraderie — fighting among members is lessened.
- It can strengthen efforts to defend their resources in the case of competition from outside the community.

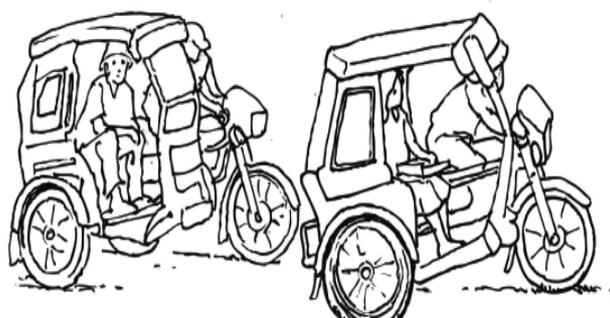


**Collective action can lead to more equitable water allocation and lower cost for farmers, because the cost of maintaining WHI systems is shared by the community.**

## What Hinders Collective Action?

Given the increasing demand for water from the uplands for use by lowland communities, collective action is the best option to achieve the objectives of sustainable water harvesting irrigation. Factors hindering collective action include the following:

- conversion of community-owned farm lands to privately/individually owned farm lands;
- availability of off-farm job opportunities and diversified forms of livelihood;
- increased migration of male members of communities, leaving women as the primary source of labor; and
- reduced community cohesion.



**Many off-farm job opportunities can hinder collective action.**

## Conclusion

Changing property rights over land and water, a growing number of available work opportunities outside farm areas, increasing water scarcity, increasing number of users, increasing migration of male farm workers to other economically lucrative areas, and feminization of the farm labor force are among the many challenges that confront small-scale water harvesting irrigation systems.



**Despite water scarcity and crop failures, farmers can still respond collectively to address these problems.**

The two case studies illustrate how communities respond to these challenges in the context of collective action. In Trojes de Paul, the community collectively built the water harvesting reservoir. They shared labor and materials and sought external support for the reservoir from the Agriculture and Water Resources Ministry. Their social cohesion and relations, both internally and externally, resulted in improved crop yields for community members.

## Case Studies on Water Harvesting Irrigation

### ***The Case of Trojes de Paul***

Trojes de Paul is a community in Mexico which practices a more conventional WHI system. The water user group is more formally organized, and members discuss water management issues separately from their regular *ejido* meetings. They clear the canals at the start of irrigation and decide together on the schedule of water distribution. They also work together in managing the use of water.

In 1968, they collectively acted on constructing a water harvesting reservoir. They shared labor and materials and sought external support for the reservoir from the Agriculture and Water Resources Ministry. Their social cohesion and relations, both internally and externally, resulted in higher crop yields.

### ***The Case of Nápoles***

Nápoles is another Mexican community, smaller than Trojes de Paul, and water is more scarce. The terrain is more accessible, and members have more contacts with other communities. With more contacts outside, members often engage in diverse livelihoods and in more off-farm work.

Water users of Nápoles are less organized. There is a small number of the water users groups, with few members, and a high degree of absentia from the community in general (due to migration and urban employment). Decisions related to irrigation tend to be made informally.

### ***Lessons from the Case Studies***

Collective action for the conventional WHI system in Trojes de Paul contributed to high crop and water productivity. The cohesiveness of the water users group also allowed farmers to take on additional (collective) watershed management tasks, including actions to deal with erosion and sedimentation issues.

Location contributed to the cohesion of water users groups in Trojes de Paul. Geographically, it is not as accessible as Nápoles is to other communities, and its members have less contact with outsiders, and fewer opportunities to engage in off-farm livelihood activities.

In the second, more water-scarce system of Napoles, WHI was subsumed under a broader set of community goals, where sharing water among all members of a group was an important means to ensure solidarity. In this system, WHI supplements rain-fed agriculture, and water management structures are only one part of wider household economic strategies.

So far, both WHI systems studied have continued to receive low but sustainable levels of household labor and financial resources. Despite increased urban and non-agricultural activity, keeping a foot in agriculture is an important form of income diversification, to hedge against the risks involved in other economic activities, and water harvesting plays an important role.

On the other hand, in Nápoles, where water was scarce and there were more crop failures, community members still responded collectively to outsiders claiming water, but also relied more heavily on off-farm income sources.

WHI will remain a subsistence activity. As a result, ensuring productive and equitable benefits to users is critical for their continued viability.

## **Suggested Readings**

Dayton Johnson, J. 1999. *Irrigation Organisation in Mexican Unidades de Riesgo: Results of a Field Study*. Irrigation and Drainage Systems. 13(1): 55-74.

Ostrom, E. 1992. *Crafting Institutions for Self Governing Irrigation Systems*. San Francisco, CA: Institute for Contemporary Studies.

Von Koppen, B. 1998. *More Jobs per Drop: Targeting Irrigation to Poor Women and Men*. Amsterdam: Royal Tropical Institute.

Sourcebook on **Resources, Rights, and Cooperation**, produced by the CGIAR Program on Collective Action and Property Rights (CAPRI)