



Rainwater Harvesting  
Implementation Network

## Impact of RAIN projects: *before and after*

### Surface run-off harvesting in Ethiopia

The Dirre district of the Oromia Regional State in Ethiopia is facing acute water shortage during the dry period that lasts five months. The Ethiopian NGO Action for Development (AFD) constructed three 50,000 liters surface run-off reservoirs in 2005 to address the water needs of three communities in this area.

#### BEFORE:

The existing water sources are open surface ponds and open wells:

- The **open surface ponds** are found close to the communities, but the water is usually available **only for a single month** after the end of the rain season. The **quality of the water is very poor** as the ponds are exposed to contamination by animals and run-off, which also results in high turbidity.
- The **open wells** are located more than **10 km from the communities** (to and fro about 5 hours walking distance). Water is available throughout the year, but the yield varies with the depths of the wells. At the end of the dry season, the nearest wells are often empty and the population is forced to walk even further. The **quality of the well water is poor** as it is also exposed to contamination, but better than the water from open ponds.



#### AFTER:

A total number of **650 people benefit** from the rainwater harvesting (RWH) reservoirs:

- The collected rainwater is exclusively used for drinking water purposes and managed by a local water committee. This committee constitutes of 5 members (2 men and 3 women).
- The use of water is **strictly rationed at 4 liters per person** per day. This means that the water from the reservoirs can last for two months.
- After 2 months, the reservoirs can be **refilled with water from water tankers**. The money to pay for this is collected through **payment schemes**: all families pay 1 Birr (€ 0.09) per week. From November 2005 until March 2006, **1,500 Birr (€ 135) has already been collected**. The cost to completely fill the three reservoirs using the water tankers is only 750 Birr (€68), which is collected in two months. This mechanism **ensures access to safe water** during the whole dry season. The collected money can also be used for eventual maintenance and repair costs.
- The **quality of the harvested rainwater is sufficient**, especially compared with the water quality from surface ponds and open wells. The reservoir protects stored water from evaporation and contamination.



## Rooftop rainwater harvesting in Nepal

In Nepal's mountainous areas, water is scarce because it flows to the lowest part of the valley, forcing the people on the mountain flanks to walk for hours to fetch water. In the lowland area the people depend on groundwater, which is often contaminated with arsenic. Therefore, in both the mountainous and lowland areas, rainwater harvesting is a very effective and affordable solution to these drinking water problems.

The Nepalese NGO Biogas Sector Partnership (BSP) (RAIN's Capacity Centre for Nepal) has constructed five RWH systems in 2004: two 25,000 liters reservoirs (traditional technique) and three 60,000 liters reservoirs (reinforced concrete technique). A local committee is in charge of the management and maintenance of the tanks.



At Kalika English Boarding School in Jhajharmare, Kaski, a 25,000 liters tank has been constructed as well as two toilets. The system was originally meant to serve 80 people, but due to the extreme water shortage this year, approximately 70 households from a few kilometers away also use the RWH facility.

### BEFORE

Prior to the project the women and children were **spending two to three hours each day** collecting water.

### AFTER

In the present situation, **rainwater is the primary water source** during the dry months. Women only have to fetch additional water a few times a week, which converted takes them **only one hour** each day.



At Shree Manijyoti Lower Secondary School, in Sarangkot, Kaski, a 60,000 liters tank has been constructed. The **community participation during construction was large**; a total number of 480 people, of whom 288 women, participated voluntarily in the implementation process.

### BEFORE

Before the project the community depended on close by surface water in the wet season and on tap water in the dry season, located at a **distance of 12 km (2.5 hours walking distance)**.

### AFTER

With the RWH system in place, the community **depends for 65% on rainwater**. The project has resulted in **positive social and economic impacts**. The number of **pupils attending school** increased 23% (boys as well as girls) and about 35% of the rainwater is used for **economic activities**. For instance, two tea shops are running on harvested rainwater.

