

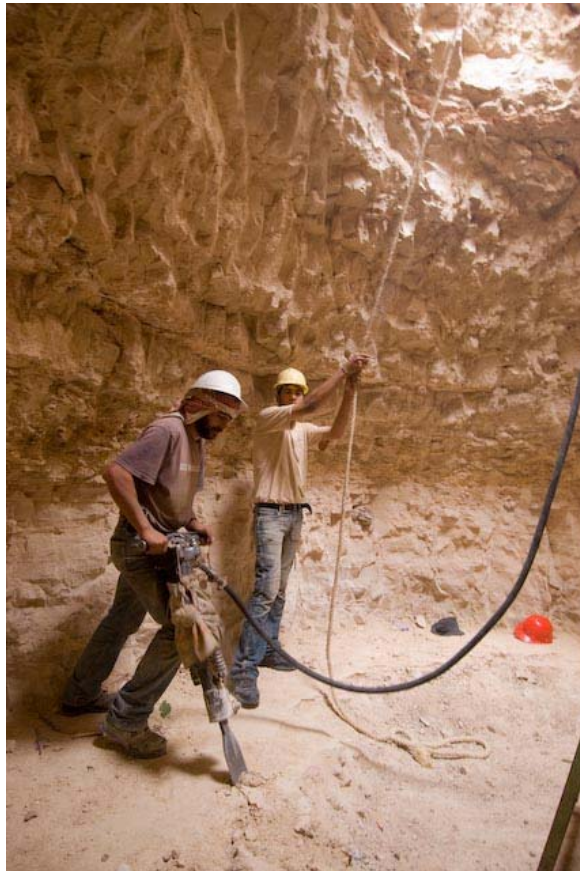
Fact sheet - Cisterns

General information

Program:	Emergency Water and Sanitation Program (EWAS)
Total budget:	\$16.8 million
Duration:	3 years (Sept 2005- Aug 2008)
Start date:	1 August 2006
Number of projects:	74 projects have been completed and another 34 projects are being implemented in the West Bank and Gaza

Main objectives:

- To respond to emergency situations in the field of water and sanitation and address humanitarian needs not addressed by other donors in the West Bank and Gaza.
- To create temporary employment opportunities for poor and outlying Palestinian communities in the West Bank and Gaza.



Workers excavating a rain water collection cistern in Aqraba.



Accomplishments to date

Over **863,000 beneficiaries** have received assistance through the USAID-funded Emergency Water and Sanitation Program since the start of the EWAS in August 2006. All funds provided by USAID have helped Palestinian communities to significantly increase their access to water and sanitation services.

Another aspect of the EWAS program is the inclusion of local communities through the creation of job opportunities. So far, ANERA has created close to **26,500 days of employment** in areas where jobs are most scarce, such as rural and remote communities.

Since the start of the program, projects have yielded the following major achievements:

18,500 households (around 112,000 people) are currently enjoying a clean and regular water supply in their houses at reasonable prices. This has been achieved through laying around 90,000 linear meters of pipes and the rehabilitation of six major reservoirs within communities. It is anticipated that the newly installed water networks will deliver, on average, additional annual amount of 2,830,000 m³ of water to these households.

5,500 households (333,000 around people) have been connected to proper sewage networks, thus relieving them from pollution that has been affecting the health of these families, especially children. This has been achieved through laying around 10,330 linear meters of sewage pipes within the communities. It is estimated that more than 1,220,000 m³ of raw sewage will be safely drained into sewage collection and treatment systems on an annual basis.

Two clinics now have proper water and sanitation facilities in place. EWAS interventions have improved the sanitation units and installed sinks in the emergency rooms in support of the USAID-funded Mother and Child Health and Nutrition (MCHN) program, known as the HANAN program. Moreover, the water supply to the clinics has been improved by the renovation of cisterns, installation of water tanks and water filters. The completed interventions allow for a more hygienically safe environment for providing medical care within the clinics.

More than 9,100 m³ of additional storage capacity (140 cisterns in total) for fresh water has so far been created within Palestinian communities by installing rainwater collection cisterns for poor families. The cisterns will provide these families with free water for their daily use for cooking, drinking and sanitation. In summer, cisterns can hold water brought through water tankers. The targeted communities are typically poor, without water networks or access to any other water sources.

Four large communities now have proper rainwater drainage systems in place. This intervention relieves city/town/village centers from annual flooding, which resulted in blocked streets, economic losses, reduced safety and interrupted access to either schools or vital services such as medical care.

General information EWAS cisterns projects

The scarcity of water is affecting all aspects of Palestinian life. Still many communities are not connected to water networks. And in lots of cases, this is unlikely to happen, because there is no reliable, clean or nearby water source. Traditionally this problem has been solved by constructing rainwater collection cisterns. Already since Roman times this water harvesting method is used in the area and even the bible mentions the use of cisterns. Some of those cisterns are still in use and have large capacities of up to 500 m³.

Under the current economic hardship, many people cannot afford to build a cistern or reservoir when constructing their house. In their endeavors to secure water for domestic use, residents tend to use unhygienic means to store and collect small quantities of water. Also, the old practice revives of carrying water in small containers on animals from brackish and unclean springs far-away.

In order to alleviate the water problems in the West Bank, the EWAS Program assists in constructing rainwater harvesting cisterns for the poorest families. Together with the municipalities, ANERA selects the families according to these criteria:

- Household size – priority is given to larger households.
- Family income – priority is given to low income and the neediest families.
- Presence of a suitable location – far away from cesspits or sewage system.
- Availability of an area for harvesting rainwater – roof, back, or front yard.

The selected projects are carried out in rural communities in the northern and middle areas of the West Bank. The amount of yearly rainfall is relatively high in these areas, thus enabling families to collect enough rainwater to sustain them through most of the summer. Also, the rock formations enable traditional pear-shaped cisterns to be excavated, resulting in relatively low-cost cisterns.

Currently, a hand-operated pneumatic hammer is used to dig the pear-shaped cistern (costing \$2,500 in USAID funds per cistern). All excavated material is pulled up manually and used around the house. After the excavation, cement and crushed stones are used for plastering to prevent leakage. This labor-intensive process is executed by local contractors and a representative of the household (as part of their local contribution).

When completed, the cistern will collect rainwater in winter from the roof of the house. The collected water is then pumped to roof tanks, to use gravity for supplying water to the different utilities within the house. For the water to become drinkable, chlorine tablets need to be added to the cistern water. All the beneficiaries are instructed by ANERA about the use of these tablets.

By constructing these cisterns, beneficiaries can substantially reduce their water bill. On average, the cistern can provide free rainwater to a family of seven persons over a period of eight months, resulting in an average supply of 42 liters per capita per day. Consequently, these beneficiaries will be less vulnerable to water cut-offs during the hottest days of the year.



Project information

Project location: Aqraba
Project title: Installation of 40 rainwater collection cisterns
Number of Beneficiaries: 520 people
US Aid contribution: \$88,000
Local contribution: \$24,000
Project status: Completed
Employment generation: 2,400 person days

Project location: Majdal Bani Fadil
Project title: Installation of 30 rainwater collection cisterns
Number of Beneficiaries: 250 people
US Aid contribution: \$75,000
Local contribution: \$30,860
Project status: Completed
Employment generation: 1,800 person days

Jerusalem, August 31, 2007