



USAID
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Improved Productivity and Quality of Life for Farmers



Photovoltaic powered drip irrigated organic vegetable farm.

To address severe water scarcity in Bahia, USAID joined forces with the Bahia State Small Rural Producers Association (APAEB), a nonprofit organization based in Valente, in one of Bahia's most drought-stricken areas.

With USAID funding, Winrock International, provided technical assistance to design and construct a water collection system and an underground reservoir that is less expensive, larger, and more efficient than traditional above ground reservoirs. The new reservoir reduces water loss through evaporation and can store 24 times as much water. A 100-watt solar-powered pump carries water from the underground reservoir to an elevated cistern, from which the water flows to the micro irrigation system via gravity. Local people were trained to install, operate, and maintain the systems and take part in the community planning needed for long-term success.

The APAEB supports installation of 50 to 70-watt solar home systems and maintains a revolving loan fund to enable families to purchase equipment. More than 500 home systems have been installed in the region, almost half of which have been financed by the revolving fund. This financing mechanism allows families to pay for the equipment with cash or products of a comparable market value over eight years. With USAID support, Winrock provided support for management software for the fund, as well as software training. Maintenance, included in the purchase price, is guaranteed for three years after installation.

Location:	Bahia, Northeastern Brazil
Problem:	Long dry periods in this semi-arid region limit agricultural production and create difficult living conditions, resulting in high rural migration to urban centers and other rural areas.
People:	Thirteen families in Cabonchard, a poor community in the Municipality of Valente, are directly involved in the project.
Solution:	Increase agricultural productivity and improve living conditions through the design and construction of reservoirs and use of solar-powered drip irrigation systems and water pumps. Electrify homes and schools with photovoltaic (PV) systems.
Timeframe:	2000-2003, revolving fund continuing to present
Results:	Reservoirs and renewable energy systems now supply sufficient water for household use and the irrigation necessary for commercial organic vegetable production that benefits 13 families. Some 200 families have taken advantage of a loan program to finance solar home energy systems. The project also provided computer and Internet access benefiting 8 adults and 96 students.

In addition to solar home systems and water projects, renewable energy is serving other community needs. The Família Agrícola School's 2,000-watt PV system powers newly donated computers connected to the Internet through a solar powered wireless system, as well as a TV and video player, a refrigerator and a freezer. A website was developed for APAEB, members were trained to use the Internet, and the association's electronic newsletter Folha do Sisal is published regularly online.

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"The activities carried out in this project fill with hope the hearts of youth that believe, as Winrock International and APAEB, in the role of community members towards integrated sustainable development."

Misael Lopes da Cunha
Bahia State Small Rural Producers Association (APAEB)
President



Cabocharde community constructing the reservoir.

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