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Micro-Hydro Energy for Post War Rehabilitation



Local workers carrying construction materials for the micro-hydroelectric plant.

Exiled leaders of the Chel community came across many micro-hydropower facilities operating throughout rural Guatemala as they fled the armed resistance, and concluded that small hydropower could present a solution to Chel's energy needs. The leaders set out to bring the technology back to Chel upon their return and resettlement, and in doing so contacted Fundación Solar, a Guatemalan non-profit organization supported by USAID. A partnership was established between the Chel community and Fundación Solar to bring energy services to the community. Feasibility studies began in 1998, and the construction of a micro-hydropower plant began in 2000.

The project presented both technical (due to its geographic isolation) and social challenges, (due to deep ethnic, cultural and political divisions within the community and a lack of trust of outside organizations, a consequence of the war). Through Fundación Solar's transparency and open dialogue, trust and cooperation were achieved. The community, which at first couldn't imagine the quality of life improvements the project offered, began to articulate their needs and development priorities.

Fundación Solar provided critical technical support and social development in Chel. The community contributed enormous effort to the construction of the hydropower plant. The men spent hours carrying tubes and wires on their backs along the road they themselves had built for this purpose.

Because the nearest telephone was a 10-hour journey by foot and bus, Chel decided to purchase a solar-powered satellite telephone. Without sufficient capital to buy the phone outright, they made arrangements to buy the phone on credit, a first for the community.

Location:	Chel, in Quiché, Guatemala
Problem:	Lack of energy services in isolated war-torn rural community.
People:	Rural poor community, with 440 households participating in the project.
Solution:	Construction of a micro-hydro plant, and installation of a PV-powered satellite phone for communication and income generation.
Timeframe:	1998-present
Results:	Income generation from solar-powered satellite phone, fax and computer; progress toward construction of the 110kW microhydro plant; anticipation of improved quality of life for the 440 participating households.

Guatemala's 36-year civil war had severe repercussions in the northern part of the country, leaving rural communities isolated and desperately lacking water, energy and transportation services. The community of Chel, located in the northern region of Quiché, was one of the most affected areas. In April 1982, over 95 people in the Chel community were massacred. The community lived in fear, and immediate survival took priority over planning for the future.

Once installed, the telephone became a source of income, used by Chel and other nearby communities. Building on the success of this technology, Chel bought a fax machine, and leveraged the donation of a computer. The community also purchased a truck on credit for transporting construction materials into Chel.

Energy provided through installed solar electricity and anticipated through the upcoming

hydroelectric generation has given the Chel community a vision of its future as a developed and income-generating region.

For the first time in 40 years, the community has been able to put aside their fears and work together for a common goal: bringing energy services to the community, starting new business and planning for their children and grandchildren.

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