



Motuce Water Project Report

2023

Motuce Solar Powered Water Project Report

June, 2023

The Dream

The community of Motuce is located in the municipality of Somoto, Madriz, Nicaragua. This community was founded by displaced families from the 1980-1989 Contra War and now has a population of almost 600 people. The families of Motuce, like in most rural communities of Nicaragua, subsist by farming and working in the coffee harvest with an annual cash income of less than \$1000. In 2017, Motuce was identified by our Nicaraguan partner, The Nicaragua Community Movement-Somoto (MCN-Somoto), as a community with both significant needs and capabilities and was introduced to CoCoDA as a possible partner community for a future development project.

In 2021, when CoCoDA announced its biannual Sun and Water conference, The MCN-Somoto met with Motuce communities leaders to talk about the possibility of participating in the Sun and Water Conference and they all agreed as potable water was the main priority of the community.

As CoCoDA, we trust our Central America's partners and when the MCN-Somoto told us about Motuce and the need of the water, we agreed to give them the opportunity to present their dream to possible donors and so they did. In September 2021, CoCoDA held its second Sun and Water Conference virtually due to the complications caused by the Covid-19 pandemic.



📍 5055 W 15th Street Indianapolis, Indiana, 46224
☎️ (317) 503-5852
✉️ info@cocoda.org



For the Sun and Water conference, two solar power water system were highlighted, one in El Salvador, ACRASAME and the other in Nicaragua, Motuce. In September 2021, Motuce community leaders – Oscar Orlando Ponce, Diana de los Milagros Díaz and Santos Marcelo Aguilera attended the CoCoDA water conference where they presented their project to prospective donors. This proposal included a commitment to find the land for the solar array and well and to provide in kind labor.

With an initial budget of about \$81,500, the raising of funds began. By the summer of 2022, 80% of the funding had been obtained and construction began on the project.

The Implementation

In August 2022, and after the election of a community water board, and the supervision from our local partner, MCN-Somoto, the first phase of the project was completed, which was the digging of a well. The community's excitement grew as they saw the machines for digging the well arrive in the community, and even more when they saw the water gushing up from the 250 feet deep well. It was evidence that their dream was coming true. The digging of a well was done by a local company hired by MCN-Somoto as a cost of \$11,431. CoCoDA's local partner, the Nicaragua Community Movement (MCN) played a vital role in the project. At each stage, they were responsible for the accounting, supervise, communication with local authorities, consultation with the community and the monitoring of the project.



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In November 2022, the second phase of the project started, the community dug the lines from the well to the distribution tanks, the distribution lines from the distribution tank to each home. The work of the community was essential in carrying out this phase of the project. At this moment it is also important to mention that the community contribution to the project was the land for the well and solar panels and in-kind labor for a total of about \$20,000. The in-kind labor involved nearly 8 kilometers of trenching, all dug by hand.



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The third phase of the project was done in February and March 2023. This involved the installation of the solar components and was carried out by Alex Martinez, the local solar engineer. At the well, fourteen solar panels of 400 Watts and a solar water pump of 5.5 hp were installed to send water to two different locations: 1) at the center of the community to two 5,000 liters tanks that distribute the water to most of the community. 2) at one sector of the community to a 2,500 liters tank that distributes the water by gravity for about 10 houses.



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In addition, a superficial water pump with 8 solar panels of 400 watts was installed with a hydropneumatics tank with a capacity of 120 gallons to keep the pressure in the system due to the flat geography of the community. The community will have running water for about 10 hours a day, every day from 7: 00 am until 5:00 pm and the system will also have the option of using the grid system if necessary.

Finally, the faucets and water meters for 134 families were installed, the system was tested, and water began running through the faucets in the community.





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The Supporters

While this project would not have been possible without the leadership, patience, commitment and hard work of the community and of our partner MCN-Somoto, the following people and organizations raised significant funding for the project:

Hydrate Life

Jonathan Huser

Community Church of New York City

Brave Heart Foundation

Rotary Club of Danville, Indiana

Whole Sun Designs

Rotary Club Of Indianapolis

Kent Rotary Foundation

H.C. Gemmer Foundation

Detroit Rotary Foundation

Old Bethel United Methodist Church

Wooster Rotary Foundation

Jim Mulholland and Jennifer Custer

Lane and Marian Ayres

Mark Draus

The Jason and Sheri Burk Family

Rotary Club of Windsor St. Clair

Steve and Cathy Trimble

Kurt Patterson and Veronica Smidt

Teena and Zach Mulholland

Becky Phelps

Cecil Pollard

Ken and Peg Williams

Nicola and Dave Rossi

Brittany McCoy

Nick Reachmack and Valarie Lynch

Many small donations through the Network for Good



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The Finances

In the end, the Motuce water project came in near its initial budget thanks the work of the Nicaragua Community Moment – Somoto and, local engineer, Alex Martinez. Despite the increasing costs of materials after the Covid-19 pandemic, they kept the costs of the project in line by both finding additional funding and adjustments to the project. We deeply appreciate this diligence.

#	Description	Costs
1	Well*	\$ 11,431
2	Solar Water Pumps	\$ 9,574.79
3	hydropneumatics tank	\$ 1,512.36
4	Solar Panels	\$ 5,716.40
5	Electric Accesories	\$ 1,116.09
6	Controllers	\$ 4,787.40
7	Distribution Lines, Home connections	\$ 14,914.04
8	Distribution Tanks	\$ 4,016.10
9	Velts and Connectors	\$ 10,934.73
10	Purification System	\$ 306.72
11	Labor**	\$ 6,731.24
12	Tax	\$ 8,941.48
13	Project administration	\$ 1,500
	TOTAL	\$ 81,482.35

*Tax included

**The community also provided \$20,000 in kind labor.



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