



# El Porvenir

20 years of Clean Water for Nicaragua

## FINAL REPORT TO THE ANN CAMPANA JUDGE FOUNDATION:

*Project: Phase 1 of the electric pumping water system and latrines for Payacuca*



Figure 1: New distribution tank (lower) and several Community Members in Payacuca

### Project Description

The village of Payacuca, in the Department of Terrabona, Nicaragua, has 145 families with 1,160 inhabitants living in 141 homes. Of the 1,160 inhabitants, 819 are adults and 341 are children. Water is hard to get in Payacuca. Women and children spend from half an hour to two hours each day carrying water uphill, five gallon buckets on their heads, often over difficult terrain. Payacuca has three wells and one water hole, but they go dry seasonally. None of the water is fit to drink. The open wells are fouled by passing animals. One well is private and not available to 90% of the people. Its water is contaminated, too. The village does have electricity but is considered difficult to access for motor vehicles during the rainy season.

Representatives of Payacuca contacted El Porvenir (EP) to request assistance with the construction of a water system and 143 latrines. Working with the community, EP (*with funding*

*from the Ann Campana Judge Foundation*) was able to partner with other donors to meet this need.

The only viable water source (a spring) is located at a lower elevation than the majority of the homes. Luckily this community has access to electricity and an electric pumping water system was proposed.

### **Obstacles encountered**

Unfortunately, 2009 was a difficult year to encounter the full funding for this project. We did manage to secure approximately \$35,000 of the \$80,000 needed. So we decided to proceed with phase 1 of the project, which included the spring capture box, two storage tanks, and 35 latrines. We are confident of securing the remaining funding in 2010 for at least the water system; we have identified several potential sources, and this is a high priority for us.

Another potential obstacle is that the engineer who installed the electric pump thinks that the village's transformer needs to be upgraded. Our new EP engineer (who started in December 2009) thinks this may not be necessary and our previous volunteer engineer also thought this was unnecessary, but we will continue to investigate this in early 2010. The transformer can be upgraded, but this is a fairly bureaucratic process that can take 6-9 months. It is the government's and/or electric company's responsibility, but this can be slow. However, we have had positive (albeit slow) experiences with this in other communities.

### **Project Accomplishments**

All of the re-adjusted project goals for phase 1 were completed within the proposed budget by the end of 2009.

- 35 latrines were built by the people of Payacuca with the assistance of El Porvenir in the area closest to the water source. That success translates into human dignity and long-term health benefits.
- The spring was fully enclosed including 4 different small sources of water and connected to two distribution tanks; this work was completed by the people of Payacuca with the assistance of El Porvenir and Agua Para la Vida (APLV). This community water system will provide the only potable water in the village and also represents long-term health benefits once it is 100% complete. It will greatly reduce the burden of carrying water long distances.
- Ongoing health education provided by El Porvenir staff ensures the optimal use of the new facilities and maximizes health benefits

The long-term objective of the project—improving the health of the residents—can only be verified over time. El Porvenir collects health data in the regions and districts where we work, measuring project impact by a reduction in the number of villagers visiting the health center for diarrhea and related illnesses. Although the Terrabona office was opened fairly recently and the data is not conclusive, we clearly see a downward trend in diarrhea in our other regions. One year after the completion of the project we expect to see fewer visits to the nearest health post for treatment of diarrheal disease.



**Figure 2: New distribution tank (lower) in Payacuca**



**Figure 3: Proud community members with new distribution tank (upper) in Payacuca**

El Porvenir provides long-term follow up after the completion of water or sanitation projects, through the visits of staff reforesters and community health educators. El Porvenir health

educators will visit the community regularly to teach about cleaning and maintenance of the well and latrines as well as proper hygiene (handwashing, chlorination of water supply) to support the local committee in meeting its responsibility for the projects and to collect health data.

El Porvenir is currently reforming our monitoring and evaluation system to help us organize the health data we currently collect and better measure the impact that our projects are having on the health and quality of life of the people of Nicaragua. This should be in place in early 2010.



**Figure 4: Family members with their new latrine in Payacuca**

The community of Payacuca will be able to participate in the reforestation program by the end of 2010, having completed a water project in their community. Long-term reforestation of the watershed in order to protect the water source is a major concern, and villagers will learn how to build a seedling nursery, tend the germinating plants, and transplant them into protected areas.

### **Lessons Learned**

The most common type of latrine in Nicaragua is the VIP single pit latrine. However, once the single pit is full, many users abandon the latrine. In Payacuca, there were some existing latrines that were full and abandoned. We managed to save costs by reusing the superstructure from twenty existing latrines. To avoid the problem of abandoned latrines, we have been exploring other sanitation technologies including double pit latrines, composting latrines, and pour flush latrines. We have piloted the double pit latrine and continue to investigate what is the best, long-term, cost-effective solution.

Through the education program, we also recommend to beneficiaries that, when their latrine fills, to dig a temporary pit of 0.5 to 1 meters deep and move the superstructure to that pit for a year. After 12-14 months, depending on the terrain, it is then safe to dig out the old latrine and reuse that pit.

Also in recent years, we have implemented our train the trainer program, training at least two community educators in each community to increase our impact and hygiene education. Although the program is new, early signs are that it is effective. Through this program, we are able to reach more communities with hygiene education and have a more constant presence in the community to reinforce the message. The local community educators also participate in our new radio program (where a local radio station exists – in this case, Terrabona communities can hear our radio program in Darío and do participate in that). The local community educators are trained in 4 modules: Community Self-Diagnostics, Environmental and Water Laws, Hygiene and Health, and Maintenance for Sustainability. We plan to expand the environmental education component of the program within this year or next.

Again, we'd like to thank the Ann Campana Judge Foundation for their support of our work in Nicaragua.

**Financial Report:** Payacuca, phase 1  
Electric pumping water system and 35 latrines

Table 1: Financial report for ACFJ grant received in 2008

	<u>Overall Budget</u>	<u>ACJF Budget</u>	<u>Actuals</u>	<u>ACJF actuals</u>	<u>Other Funders</u>
<b>Construction Materials:</b>					
Electric pumping Water System, Payacuca	\$25,000.00	\$10,000.00	\$17,413.37	\$10,000.00	\$7,413.37
35 Latrines, Payacuca (was 143)	\$40,755.00	\$0.00	\$10,607.42	\$0.00	\$10,607.42
<b>Total Direct Materials Cost:</b>	<b>\$65,755.00</b>	<b>\$10,000.00</b>	<b>\$28,020.79</b>	<b>\$10,000.00</b>	<b>\$18,020.79</b>
<b>Personnel and Transportation:</b>					
Developer Staff Time	\$1,200.00	\$300.00	\$600.00	\$300.00	\$300.00
Per diem	\$200.00	\$50.00	\$100.00	\$50.00	\$50.00
Regional office expenses	\$300.00	\$75.00	\$150.00	\$75.00	\$75.00
Motorcycle expenses	\$1,000.00	\$200.00	\$500.00	\$200.00	\$300.00
<b>Total Personnel:</b>	<b>\$2,700.00</b>	<b>\$625.00</b>	<b>\$1,350.00</b>	<b>\$625.00</b>	<b>\$725.00</b>
<b>Health Education and Reforestation:</b>					
Health Educator Staff Time	\$150.00	\$0.00	\$150.00	\$0.00	\$150.00
Per diem	\$40.00	\$0.00	\$40.00	\$0.00	\$40.00
Health and Hygiene Education Workshops	\$120.00	\$0.00	\$120.00	\$0.00	\$120.00
Reforester Staff Time	\$750.00	\$187.50	\$0.00	\$0.00	\$0.00
Per diem	\$150.00	\$37.50	\$0.00	\$0.00	\$0.00
Refor. materials for 1 village nurseries	\$200.00	\$50.00	\$0.00	\$0.00	\$0.00
<b>Total Health Education and Reforestation:</b>	<b>\$1,410.00</b>	<b>\$275.00</b>	<b>\$310.00</b>	<b>\$0.00</b>	<b>\$310.00</b>
<b>Community Labor:</b>					
Value of Labor, Water system	\$8,000.00	in kind	\$5,572.28	\$0.00	
Value of Labor, Latrines	\$2,700.00	in kind	\$702.74	\$0.00	
<b>Total Value of Community Labor:</b>	<b>\$10,700.00</b>	<b>\$0.00</b>	<b>\$6,275.02</b>	<b>\$0.00</b>	
<b>Total Project Cost</b>	<b>\$80,565.00</b>	<b>\$10,900.00</b>	<b>\$35,955.81</b>	<b>\$10,625.00</b>	<b>\$19,055.79</b>
Grant admin and accounting, 10%	\$8,056.50	\$1,090.00	\$3,595.58	\$1,062.50	\$1,905.58
<b>TOTAL EI Payacuca Water system</b>	<b>\$88,621.50</b>	<b>\$11,990.00</b>	<b>\$39,551.39</b>	<b>\$11,687.50</b>	<b>\$20,961.37</b>

The ACJF portion of this project has a pending balance of \$302.50, which is planned to contribute towards the reforestation of the recharge area of the water source, once phase 2 is complete, likely at the end of 2010.

The water system is not complete, so while it appears to be underbudget, it is because the distribution network has not been installed.