

## May 2010 Los Toros Water Report

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### System Components & Changes

The May 2010 YAME trip allowed an opportunity to visit the aqueduct that serves Los Toros, evaluate what work the Los Toros Water Committee has accomplished, and determine what more can be accomplished in the future to improve Los Toros' water.

My brother, Mark, and I went with Kinco, Los Toros' plumber, and a small group of residents to see if any major changes to the aqueduct had occurred in the two and a half years that had passed since I last visited the aqueduct. During our trek to the aqueduct it appeared that no new equipment had been installed anywhere in the system. The following is a list of changes I observed beginning with the initial water collection point:

- The riverbed near the collection tank seemed much drier than my last visit. This may have been due to seasonal variations in rainfall. My last visit was in January 2008.
- One of the three compartments in the collection tank is missing a lid that keeps out debris and wildlife; one of the lids seems in questionable condition. The questionable lid covers the compartment where water is collected.
- The large water tank that serves Tabara Arriba and Sajanoa appears to be much the same. I did not closely inspect it though. It appears that the chlorination system is still defunct.
- The valve that controls the water going to Los Toros near this large tank is no longer leaking.
- There did not appear to be any leaks in the aqueduct's pipes, however, no close inspection was made.
- The small water tank that serves Los Toros appears to be in good condition. The lid on this tank seemed to be corroding, but at least had a lock on it.
- I do not remember observing any major leaks in Los Toros' pipes however, I did not walk all streets.
- Kinco and the Water Committee report that the majority of *llaves* are functioning.
- 170 ceramic filters have been distributed in the community. Twenty more arrived during our visit. An undetermined number have broken and need to be replaced.

### Aqueduct Reliability

The aqueduct's deficiencies have always been two-fold since I began investigating the water situation in Los Toros four years ago: 1) it's inability to provide clean water, and 2) the inconsistent delivery of enough water to meet Los Toros' demand regardless of the amount of rainfall in the region. While in Los Toros between May 27<sup>th</sup> and June 4<sup>th</sup>, 2010 it appeared that water was almost always available in La Laguna, where I stayed. I cannot verify whether water was as plentiful in other sections of the village, but past observations would lead me to guess that the parts of Los Toros furthest from the aqueduct's entry point into the village are still less likely to have sufficient water than the parts of Los Toros

closest to the entry point. When water is available at the collection point, the aqueduct can deliver it.

Potable water is never available from the aqueduct. There are defunct components of the aqueduct that are meant to purify the water, but they haven't been used for many years. Kinco says that he periodically shock chlorinates the water in the small tank that serves Los Toros, however INAPA does not always provide him with chlorine to do so.

I'm not an engineer and cannot begin to guess how long the aqueduct will continue to be usable. On past trips I have noted how severe storms have caused damage in the aqueduct's pipes. It is not beyond the realm of possibility for another severe storm or hurricane to destroy critical components of the aqueduct, or at the very least speed up its deterioration. As I noted above, there are small parts (like lids) missing in many locations along the aqueduct. These are meant to protect valves and water storage tanks. Without them, harm could more easily come to the system or its users.

Is the aqueduct in danger of failing tomorrow? Probably not.

Are there fewer noticeable leaks? Yes.

Have parts of it deteriorated over the past four years? Without a doubt.

### Water Committee Short-Term Goals

- Get filters to every family in Los Toros that needs one—eliminate infant and child deaths due to poorly treated water.
- Determine how many ceramic filters are broken
- Hold annual meeting to collect filter cooperative membership fees.
- Solve problem with *llaves* on ceramic filter buckets.
- Find out how much replacement filters cost.
- Determine if new membership price and annual fee should increase for filter cooperative. This may create a greater sense of ownership and responsibility for members.
- Seek out poor families without ceramic filters and encourage them to join filter cooperative.
- Continue hygiene, water treatment, and sanitation education.

### Water Committee Long-Term Goals

- Help Sajanoa start a ceramic water filter project.
- Improve human waste disposal and sanitation in Los Toros.
- Keep rivers clean from trash and man-made debris.
- Find large-scale water treatment solution.
- Improve aqueduct infrastructure.