

El Sauce Surveys 2013: Evaluation Overview and Recommendations

The following recommendations and observations are derived from information gathered through surveys conducted with 636 households and 18 public institutions, in 36 communities of the municipality of El Sauce. The surveys were conducted between July, 11th 2013 and August, 9th 2013. I would like to thank all of the El Porvenir staff for their support and help in realizing this study and in particular would like to thank Wilbert of the Managua office and Oneida, Erick, and Sonia of the El Sauce office for their extensive participation and invaluable advice, without which this evaluation would not have been possible. I would also like to thank our dedicated and hard working student volunteers who went house to house conducting surveys with us as well as the entire Managua staff for their help and guidance throughout my time in Nicaragua and with El Porvenir.

The stated goal of the surveys was to determine overall improved water and sanitation coverage within the region. To this end I believe that the surveys largely succeeded. However, since we visited communities and evaluated projects of other NGOs as well as government projects, determining El Porvenir's specific impact became difficult and findings may not be statistically significant due to a relatively small numbers of EP projects visited overall.

Improved Wells and Water Systems

*Important note: The household survey lacked a question that would indicate who constructed the well or water system. Through cross-referencing with lists of projects completed in El Sauce I have done my best to extrapolate information about which wells and water systems are El Porvenir's. I feel that the information given here is a true and accurate portrayal of the situation in El Sauce and El Porvenir's projects despite this omission on my part.

All Improved Water Sources

Pluses

- 1) Overall Coverage in the municipality of El Sauce: 72% of the households surveyed have access to an improved water source.
- 2) 69% of those with access to improved water sources reported that there were no current problems with their well or water system and that things were working fine on the day the survey was conducted.
- 3) 80% of respondents with access to improved water sources stated that they were either satisfied or very satisfied with their improved water source.
- 4) On a whole, those with access to improved water sources reported traveling shorter distances to obtain their drinking water and thus it can be inferred that less time is spent each day fetching water. It is clear that those communities with water systems saved the

most time obtaining water, as they had access to an improved water source in their homes.

5) 64% of those surveyed reported that they did not experience seasonal water shortages of those that did report seasonal shortages many stated that they still had water in the dry months but would limit their use of the improved source to drinking water only.

6) Information provided by respondents that does not appear in the data obtained through the surveys showed that those with access to improved water systems were extremely grateful for the improvements, stating that they had improved health and no longer had to worry about drinking contaminated water from rivers or unprotected wells, with many reporting that they used to find dead animals in their unprotected and unimproved wells.

All Improved Water Sources Problems

1) The most frequently cited problem or current problem with wells and water systems was that they lacked water at times or were dry or drying up. I am unsure how this can be improved and whether it is primarily due to seasonal shortages, well placement or water table levels.

2) The second most frequently cited problem was that the wells were dirty and the community was having trouble cleaning the well. This included those who stated that the water was coming out with a bad smell or dirty. This is probably primarily due to misuse or lack of maintenance.

3) Broken parts was the next most commonly cited problem, again this is primarily due to misuse, regular wear and tear and lack of maintenance. These observations pertain to data collected about all improved wells be they El Porvenir, government, or other NGO financed and constructed projects.

4) Structural problems, primarily broken or damaged cement was the 4th most commonly cited problem and was found in wells that were constructed between 7 and 30 years ago.

El Porvenir Improved Wells and Water Systems Pluses

1) 74% of those that reported that their improved water source had been provided by El Porvenir reported no problems this is better than the overall total but with a relatively small sample of 126 respondents may not be statistically relevant.

2) 85% of El Porvenir respondents stated that they were satisfied or very satisfied with their improved water source also better than the overall percentage.

3) All but 5 of the 33 reported problems on El Porvenir water projects were reported on wells 8 years old or more, not counting those that reported seasonal shortages.

4) 77% of El Porvenir respondents did not report any seasonal water shortages.

El Porvenir Water Projects

Problems

1) The most commonly reported problem with EP wells was a lack of water or seasonal shortages which mirrored the findings for the municipality as a whole. Seasonal shortages or a lack of water were reported by 30 of the 126 respondents.

2) The second most commonly reported problem with El Porvenir water projects was problems with the pump; the rope was the most often cited broken part. This was only reported by 12% of those with an El Porvenir water source.

3) This was followed by 10 complaints of structural problems, broken or damaged cement etc. out of the estimated 126 EP beneficiaries surveyed.

4) Finally there were 6 complaints of wells being dirty and not being able to clean them or not having the sufficient community initiative or resources to clean the wells.

5) The lack of active CAPs, especially among those using an improved well may be part of the problem with broken parts and wells not being cleaned properly or regularly. More consistent contact between staff and CAPs members could help to insure involvement and regular maintenance of the wells.

Observations/ Recommendations

1) In determining the time that it took to obtain water for the day it appears that some surveyors asked the question of how long it took to walk to and from the water source and then multiplied that by how many trips were made per day, others simply asked how long it took for one trip but not how many trips were made. Thus the results are somewhat unreliable.

2) Lack of community organization is probably the largest obstacle to consistent and proper maintenance and cleaning of the wells. This seems to hold true for overall coverage and for El Porvenir projects.

Education

Pluses

1) The majority of respondents correctly identified the most important times to wash their hands with 75% responding that it was important to wash hands after going to the bathroom, 83% responding that it was important to wash hands before eating, 62% responded that it was important after eating, 60% that it was important before cooking.

2) Close to 97% of respondents have a special container in the house where they keep their drinking water and 95% of them keep the container covered.

3) 84 out of 94 respondents who had El Porvenir latrines stated that they washed them with detergent or chlorine every day or every week.

Problems

1) The vast majority responded that there was no member of the community who trained others about health or hygiene.

2) Very few people stated that they should wash their hands after work or after touching animals.

3) 82% of respondents stated that they throw the water used for washing in the yard.

4) When asking people how many times a day they washed their hands it was hard to get a numerical response, the most common response was “all the time” when pushed to give a number people responded with numbers ranging between 1 and 30 times. Some responded with more than 30 times but the survey had a built in limit of a maximum of 30 times a day. Thus I am not confident that these numbers are accurate or useful.

4) 81% of those surveyed use a glass or bowl to scoop their drinking water out of the container in which they keep their drinking water, which could lead to contamination of the drinking water.

5) Only 22% of respondents knew what a watershed was. Many stated to me that they did not have one of those where they lived.

Observations

1) On the questions pertaining to hand washing, after what activities do you wash your hands? And how many times do you wash your hands? I felt that at times I was being told what people thought I wanted to hear rather than what their actual habits are. These questions may have to be rephrased, I found that by asking people when they teach their children to wash their hands, I obtained much more straightforward answers compared to when I asked adults when they washed their own hands, the latter usually resulted in an answer of “all the time” or “after anything”. However the problem remains between what people respond and what they actually do. Providing a small hand washing station along with a new latrine may help to encourage people to change habits. This was a very hard indicator to measure and I do not feel that the data we collected is reliable primarily due to the difference between saying and doing. I rarely saw a hand washing station close to latrines this was not recorded in the surveys and will be included as an observation question for future surveys.

2) Many people that I spoke with stated that there was somebody in the community who gave talks about health but that either they themselves were not invited or did not attend those meetings. It may be beneficial if the community educators work on getting the word out about community events or trainings.

Reforestation Projects

Observations

- 1) Due to the relatively few respondents who stated that they had planted trees as part of the reforestation effort of El Porvenir it was hard to pick up on any trends or patterns.
- 2) It was difficult to determine the benefit that the reforestation projects were having for individuals as far as income or other benefits received as most stated that their trees were recently planted and had not yet borne fruit or grown big enough to use for wood collection. 30% who had planted trees responded that they have received some benefit from planting the trees provided by El Porvenir. This question was poorly phrased and will be rephrased and clarified for future surveys.
- 3) Those that had received trees from El Porvenir and planted them as part of the reforestation project were, regardless of whether or not they had benefited from the trees, extremely proud of them and wanted to show them off and talk about them.
- 4) After visiting one large reforestation project in a very remote and hard to access community, Piedra de Agua, there were clear signs of erosion where trees had not been planted and other clear signs of how the reforestation and watershed management project appeared to be working well. At the time of the visit there was an elderly man planting El Porvenir trees in his field on a very steep hill again he expressed great enthusiasm about the project.
- 5) I had several people comment to me that they had received trees from El Porvenir but had not yet planted them because there had been a lack of rain in recent weeks. As such the trees were still just sitting in their plastic bags these trees had been received very recently.

Recommendations/ Observations

- 1) I would recommend checking back on families that have been given trees in several years to determine what benefits that families have gained from them once they have grown sufficiently large enough to have produced fruit or to be harvested for wood. I think that this would primarily be up to the forester in charge to keep track of trees planted, their growth rates and if they are providing benefits to recipients.
- 2) On several occasions I had people tell me that they had heard of El Porvenir's tree planting program but stated that only people with land were given trees and that they themselves were given nothing even though they would like to have trees around their home. I was never quite clear on EP policies for selecting recipients of trees. This may need to be clarified for community members as well.

Improved Stoves

- 1) Out of all of the households surveyed, only 35 had improved stoves, of those, 24 of them had been provided by El Porvenir. 10 respondents stated that their stove was functioning poorly and was either partially broken or completely broken. The rest

responded that their stoves were working well with only a few minor problems or that their stove was working perfectly with no problems.

2) Our numbers showed that those without an improved stove burned 84 sticks per week on average while those with an improved stove burned an average of 72 sticks per week.

3) We did not interview enough households with fuel-efficient stoves to determine a direct correlation to health. 49% of the households interviewed without a fuel-efficient stove reported that a member of the family had suffered from respiratory problems in the past few months. 51% of the household who did have a fuel-efficient stove also reported having respiratory problems. There was no significant difference between sexes reporting respiratory problems.

Observations

1) It is proved difficult for respondents to give an exact number of wood burned per day or per week. It is hard to account for outside variables such as the size of sticks or logs people are burning, and how many people are in each household. Respondents both with and without improved stoves provided answers ranging between 35 sticks a week to 700 sticks a week. A better question may be to ask those with improved stoves if they are burning less than before and then see if they can then quantify that amount. The survey question is not a good indicator of how efficient the stoves are or are not. Independent testing of the stove may prove to be a more effective way of evaluating the stoves performance.

2) I personally observed several instances in which a recipient of an improved stove was using it but with one or both burner plates open allowing smoke to escape through them rather than through the chimney, defeating one of the purposes of the stove. I am not sure how widespread this practice is but it may be something to stress in classes or trainings when people receive new stoves.

3) I was told by several recipients of the improved stoves that they had trouble cleaning the chimney and that it was getting clogged up, this is probably due to lack of upkeep, but should be noted and possibly emphasized in training when giving out new stoves. This problem may also be remedied by the new design being implemented by EP for the Improved Stoves.

4) Many respondents stated that everyone in the family had suffered a cold recently because it was wintertime. In fact some respondents told me that everyone in the area had recently had a cold or cough. To use this question as an indicator of the health benefits of the stoves we must develop a stricter or more well defined criteria of what constitutes a respiratory problem. I would guess that only a very small fraction of those that reported lung problems had a chronic problem, the grand majority were most likely reporting common colds or the flu. This does not however indicate that colds and flus are not exacerbated by indoor pollution from traditional stoves. In addition, long-term respiratory problems caused by indoor pollution may persist long after an improved stove has been installed, making this a difficult indicator to measure through surveys. Follow up with

those families that have received stoves may be necessary to track changes in respiratory health over the years.

Latrines/ Sanitation

Pluses

1) Overall sanitation coverage in El Sauce, according to the surveys, is 61% of the population has access to an improved sanitation facility. This number reflects those that reported that they did not have their own latrine, but shared one with another family member or neighbor. Only 4% reported sharing a latrine.

2) The most commonly cited problems with El Porvenir latrines, besides problems with the latrine filling up with water in the rainy season, were structural problems. However, structural problems were only cited in latrines constructed more than 5 years ago. One respondent stated that they had structural problems and that their latrine was 3 years old. 13 out of 88 respondents who had El Porvenir latrines reported structural problems. New designs did not exhibit structural problems.

3) The next most commonly cited problem with El Porvenir latrines was that the latrines were filling up. This problem was cited once in a latrine that was 5 years old, the remaining complaints of full latrines were found in latrines that were 10 years old or more. I believe this problem will be helped by the introduction of the double pit latrines. I did not have the opportunity to observe a double pit latrine. This problem was cited in 12 of the 88 El Porvenir latrines surveyed.

Problems

1) 28 out of 93 respondents with El Porvenir latrines cited rainwater filling up their latrines as a problem in the rainy season.

2) 31% of those with EP latrines did not add material to aid in composting. This may need to be emphasized in trainings when latrines are completed This will be especially important as more double pit latrines are constructed to ensure that the composting procedure works properly.

CAPs

Problems

1) Only 11 of 20 communities with EP water projects were reported by at least one respondent to have a CAPs that managed the water system or well. This does not necessarily indicate that no CAPs exists in the community. This does however tell us that many people in the communities may not know what a CAPs is, or what it does. This may indicate that the CAP's is not active or visible enough for other community members to be aware of its existence.

2) The data and questions that followed varied tremendously between respondents who believed there was an existing CAPs and those that thought that the CAPs was inactive. The majority reported not knowing if the CAP was registered with the government or the

INAA. Few respondents knew how many people were in the CAPs or how many of them were women.

Observations

- 1) It is important to keep in mind that the communities, households and individuals surveyed were selected randomly and therefore had varying levels of knowledge about the existence of a CAP's as well as varying levels of knowledge about the activity and organization of the CAPs.
- 2) It is also true that since households and communities were selected randomly many of those interviewed may not have been part of an EP project and therefore would not have known about the existence or activity level of an EP CAP. Again this problem was exacerbated by my omission of the critical question of if the improved water source was an EP well or water system or not. However, again through cross-referencing, the data regarding CAPs and their activity levels was not positive.
- 2) More effort should have been placed in seeking out and finding actual CAP members to determine their level of activity and organization and to obtain accurate information on the current state of the CAPs. This will be important to emphasize in future surveys.
- 3) CAPs should be more active so that community members are aware of their existence and what they can do to help when problems arise.

Public Institutions Overall

- 1) In the 36 communities surveyed 11 schools were visited. 8 out of the 11 schools reported having access to an improved water source.
- 2) 1 out of the 11 schools reported having a hand washing station and only 2 out of the 11 had soap available at the school for hand washing.
- 3) 9 out of 11 schools had improved sanitation facilities.

Washing Stations/ Lavaderos y Baños

- 1) A surprisingly low percentage of people who lived in communities where a lavadero had been installed reported using the wash station. Part of this was that we conducted many surveys in El Guacucal where a lavadero existed prior to a water system being installed in the community. With water in their homes, people reported that they do not use the lavadero. However, discounting El Guacucal, a large number of respondents in other communities also reported not using the lavadero because it was too far. Occasionally they reported that they were not permitted to use the lavadero.

Observations

- 1) Because of the low number of communities visited and taking into account the situation in El Guacucal, these findings may not be representative of the situation everywhere however I think that it warrants further consideration and investigation. Only

11 out of 35 respondents who stated that they had an EP lavandero in their community reported using the lavandero.

2) Due to this I think that the location of the lavaderos must be carefully chosen to make sure that they will be used. To accomplish this the lavandero must be considerably closer than any traditional washing location such as a river, ojo de agua, or well. For many it was simply easier to continue washing in the river or right next to the well, protected or unprotected, than using the lavandero.

3) Given the lack of hand washing stations observed in the schools, focusing on constructing those and changing hygienic habits of the young children with the help of teachers may be a better use of funds, when and where possible, than constructing community lavaderos that may only be used by a small fraction of community members.

Conclusions

1) The EP projects visited, both water and sanitation, had high levels of beneficiary satisfaction and few reported problems. The percentage of problems was lower with EP projects than those of other NGOs or government sponsored projects.

2) The beneficiaries of the reforestation projects were enthusiastic about planting trees and participating in the project to help not only themselves but also the community as a whole.

3) When to wash hands is well known but measuring actual habits is difficult. More emphasis needs to be placed on proper latrine composting practices, 31% of respondents never add any kind of material to aid in composting. Proper disposal of grey waters must also be emphasized in trainings and charlas.

4) The areas that need the most work are in maintaining active CAPs and making sure that community educators are visible and known to community members. This will help with both the structural and mechanical problems cited in wells as well as cleaning and general maintenance.

5) Latrine placement must be looked at as well as possible design changes to help avoid the problem of latrines filling up with water during the rainy season.

6) The construction of community lavaderos and baños must be very carefully decided to ensure that they will be used given the large number of respondents that did not use the lavaderos. If beneficiaries perceive that washing is easier at home or in the river or well then they will continue to do so regardless of the potential harm caused to their water source or themselves.

7) Due to the lack of hand washing stations and soap available in the schools that were visited additional focus may be needed to address this and to help change children's hygienic practices while they are young.

