Beyond The Schoolyard
Impact of Hygiene & Nutrition Projects on Households in Indigenous Guatemala

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Executive Summary

Since 2005 Pueblo a Pueblo has implemented school-based programming in Santiago Atitlan, Guatemala. In spring 2014 an evaluation was conducted to measure the impact of school-based projects on rural, indigenous households. This evaluation specifically focused on the following projects: school lunches, organic school gardens, child sponsorships, and nutrition and hygiene education. Two communities were selected for evaluation, Chacayá and Panabaj, based on the duration of the organization’s interventions at these sites.

The principal data collection tool was an interview, conducted with household members. This interview assessed knowledge transfer and behavior change at the household level. This tool also assessed parental involvement in each community, and allowed the research team to make important distinctions between the two communities. This data was supplemented by surveys with beneficiaries and focus groups with teachers.

Through interviews with household members, the research team noted several key findings related to knowledge transfer and behavior change:

- Knowledge is transferred to the household, primarily due to student participation in projects.
- The majority of households surveyed report changing at least one behavior as a result of student participation in projects.
- The main areas of behavior change reported include better diets and practicing better hygiene habits.
- Among households interviewed, there is greater parental engagement, knowledge transfer and behavior change in Chacayá.

After analyzing these results, the evaluation team recommends the following to increase the impact of school-based programming at the household level:

- Engage with parents at all phases of the project process; parents are eager to participate if given the opportunity and parent engagement could promote increased and sustainable household behavior changes.
- Work with existing student leaders to engage students in processes. Schools are invested in programs to varying degrees and student leadership activities could help solidify deeper engagement of school leadership in Pueblo a Pueblo programs.
- Implement community workshops with existing curriculum at local schools. Adapting existing curriculum for communities can reinforce and amplify the initial results found.
- Adapt tools developed by researchers to regularly collect impact level data for further study.
Beyond the Schoolyard: A Community Level Impact Evaluation

Introduction

Country Context: Guatemala

Guatemala is a lower-middle income country in Central America, with approximately 54% of its population living at or below the national poverty line (The World Bank, 2014). Guatemala has the largest indigenous population in all of Central America, with 45.5% of citizens identifying as indigenous, and 59.4% of Guatemalans identifying as ladino, meaning they are of mixed indigenous and European heritage (Central American Bank for Economic Integration). In 1996, the peace accords were signed, ending a 36-year civil war, which disproportionately affected indigenous Guatemalans. By the end of the Guatemalan Civil War, 200,000 people had died, and over a million people had been displaced (Tran, 2011).

Today while inequality between the ladino population and indigenous Guatemalans is improving; the latter continue to have poor access to public services. On average indigenous Guatemalans have lower levels of education, less knowledge of contraception and lower Spanish literacy rates than ladino Guatemalans (The World Bank, 2004). Throughout the country, the average educational achievement is only four years. Many children drop out due to financial hardship, but poor quality of instruction, and issues related to language are also contributing factors (USAID, 2014). USAID aptly explains current education levels in Guatemala:

“Almost every child is enrolled in primary school (96 %), a change that is largely due to increased access to education in rural areas. Still, Guatemala has the lowest primary school completion rate in Central America, and education indicators continue to lag far behind nearly every other country in the hemisphere. For every 10 children who enter the school system, only four graduate from primary school, and only one completes lower secondary school, and only 8.5 percent of youth pursue a university education.” (USAID, 2014)

Santiago Atitlan, Sololá, is a medium sized village on the banks of Lake Atitlan, and is the home of the Tz’utujil speaking Mayans. Compared to the nationwide literacy rate of 81.5%, only 56% of atitlano can read and write. This difference is likely due to a number of factors, but can be partially attributed to the relatively low school enrollment levels in Santiago. While Guatemala has nearly achieved universal primary school enrollment, only 74% of children of a similar age are enrolled in school. Within the state of Sololá 72.3% of children face chronic malnutrition, compared to the nationwide average of 49.8% (UNDP Guatemala, 2011).
Pueblo a Pueblo

Pueblo a Pueblo, meaning “people to people” or “village to village,” is a small NGO serving indigenous communities in the coffee growing highlands around Lake Atitlan, Guatemala. Established in 2001, Pueblo a Pueblo initially worked to reopen the community hospital that had ceased operations during the 36 year civil war. Shortly after the hospital reopened in 2005, mudslides resulting from Hurricane Stan killed 400 people in the local community of Panabaj and destroyed the Panabaj elementary school. The post-hurricane response would prove to be a turning point in the organization’s history. Following the mudslides, Pueblo a Pueblo worked to re-open the Panabaj elementary school and to provide emergency food assistance to the community. These efforts helped to launch current Pueblo a Pueblo projects including school lunches, nutrition education and sponsorships (Pueblo a Pueblo, 2012).

Pueblo a Pueblo’s intervention model works in two phases. The first phase, maternal and child healthcare (MCH), focuses on the mother’s pregnancy and the first five years of the child’s life – specifically in the areas of nutrition and medical care. At five years, the child is old enough to begin preschool, transitioning from the MCH program to participate in school-based projects. Pueblo a Pueblo partners with local elementary schools to provide interventions in five areas: nutrition education, water sanitation and hygiene (WaSH) activities, organic school gardens, child sponsorships and school lunches.

Through nutrition education, school gardens, and school lunches Pueblo a Pueblo seeks to promote food security of indigenous children. From WaSH education and sanitation facilities installed in local schools, Pueblo a Pueblo seeks to improve children’s health and teach them critical hygiene habits. Child sponsorships, which are only available in select communities, support families by providing school supplies, physical education uniforms and free access to medical care (Pueblo a Pueblo, 2012).

Purpose of the Evaluation

To date, Pueblo a Pueblo’s monitoring and evaluation (M&E) activities have taken place at the project level. In 2013, Pueblo a Pueblo made an institutional effort to reconstruct M&E systems across projects to shift towards a result-based focus. Results frameworks were developed for all projects, as well as M&E plans that rely on specific objectives, indicators and data collection methods to measure progress towards results.

What Pueblo a Pueblo currently lacks is program level evaluation methods and tools to assess combined household impact. Anticipated results vary from project to project, as does the nature and reliability of information generated regarding progress towards these results. Therefore, it is important for the long-term growth and sustainability of Pueblo a Pueblo to develop and implement dynamic evaluation tools at the program level that take into account program differences and data collection challenges.

In a continued effort to develop Pueblo a Pueblo’s M&E frameworks and understand outcomes, this household-level impact evaluation was commissioned. The specific purpose of the evaluation was to
gauge how Pueblo a Pueblo projects affect student beneficiaries and the household, and by extension, their communities.

**Methodology**

**Scope of Evaluation**

The scope of the study was a household-level impact evaluation of four Pueblo a Pueblo school-based projects:

1) Organic School Gardens
2) School Lunches
3) Water Sanitation and Hygiene (WaSH)
4) Scholarships

The study focused primarily on assessing Pueblo a Pueblo’s influence on households in the communities where it works. Evaluation participants included students, their parents and their teachers in two communities: Chacayá and Panabaj. Panimaquip\(^1\) was chosen as the comparison community. Chacayá and Panabaj were selected for the study as they are the two communities with the longest Pueblo a Pueblo presence. Panimaquip was identified as the comparison group because Pueblo a Pueblo had not yet begun work there; however the organization is currently initiating its entry into this community.

This evaluation strictly addresses the impacts of the school-based projects on households. The study does not involve review of the selected projects’ outputs, nor of Pueblo a Pueblo’s M&E mechanism.

**Research Questions**

In order to explore the impact of school-based projects on households; the evaluation focused on three primary questions; the first two dealing directly with impact on students and households, and the third addressing future impact improvement. The framework of questions for the evaluation is as follows:

**Overarching question:** What is the aggregate impact of school-based Pueblo a Pueblo projects in the communities receiving interventions?

1. **What is the impact of Pueblo a Pueblo’s school-based programs at the household level?**
   a. Has knowledge introduced through school-based interventions made it to the household level? To what extent has a knowledge transfer taken place?
   b. By what means has knowledge made it to the household level?

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\(^1\) Panimaquip proved to be an inadequate comparison group; this issue is addressed in more detail in the “Limitations” section of the document. However, the data could be useful as baseline data for Panimaquip.
c. Is transferred knowledge being applied at the household level? How?
d. What is the extent of involvement of household members in Pueblo a Pueblo’s school-based projects? What is the motivation for or barriers to involvement?
e. Is there a significant difference in knowledge transfer and behavior change between Chacayá and Panabaj? What are the critical differences between the communities?

2. What has been the impact of Pueblo a Pueblo’s school-based programs on the lives of student beneficiaries?
   a. According to households: How do Pueblo a Pueblo’s interventions affect their children?
   b. What motivates parents to keep their students in school?
   c. What are students’ attitudes toward Pueblo a Pueblo’s programs? What have they learned? Do they apply their learning outside the school environment?

3. How can Pueblo a Pueblo make a larger impact on the communities it serves?
   a. How can Pueblo a Pueblo make a greater impact on the communities it serves through school-based initiatives?
   b. What indicators and low-resource tools can Pueblo a Pueblo introduce to better monitor impact at the household/community level in the future?

Description of Methods

To address the above questions, the research team developed data-collection tools that were administered primarily with parents, and also with students and teachers in the identified communities. The team conducted interviews with mothers of impacted students in all three communities as well as surveys with students in 4th, 5th and 6th grades in Chacayá, Panabaj and Panimaquip. Identical interviews and surveys were administered with mothers and students in Chacayá and Panabaj while modified versions were administered in Panimaquip. As projects are not yet being implemented in Panimaquip – the comparison community – the interviews and surveys collected information on current practices prior to interventions. Focus groups were also conducted with teachers in Chacayá and Panabaj to gain the perspective of teachers on parental involvement and children’s attitudes toward school-based projects.

The interview was designed to be primarily open ended, with questions progressing from general to more specific. The intention was to determine if parent interviewees would independently describe Pueblo a Pueblo learning outcomes without prompting. Interviewees were asked, for example, what their children were learning about hygiene in school and what they were learning from the school garden projects to determine if they could independently describe or list areas of knowledge specifically related to Pueblo a Pueblo projects. Based on the number of things they could describe or activities they could explain, researchers were able to gauge the extent of knowledge transfer and impact. Also important to note is that we asked interviewees specifically about hygiene curriculum rather than WaSH in order to simplify terminology.
Selection of Participants

The research team interviewed 13 family members each in Chacayá and Panabaj. In Panimaquip, where the comparison school was located, 21 family members were interviewed. Forty-five of these 47 interviewees were mothers; the other two were older sisters of students. Interview participants were selected and invited by the directors at each school. While this introduces significant potential for selection bias (discussed in more detail in the Limitations section) it would have been difficult to ensure sufficient participation otherwise as the primary means of communication with families is by schools sending notes or messages home with students.

School directors in each school noted that parents were invited by asking students from 4th, 5th or 6th grade classes to tell their parents to come to school for an interview. In Chacayá and Panimaquip, all interviewees were mothers who responded to the invitation from the school. In Panabaj, only 4 mothers responded to the invitation. The remaining interviewees were family members who came to school to pick up supplies or talk to teachers, and were approached by the research team or by interpreters. No fathers were interviewed because fathers almost all work throughout the day – usually in coffee fields – and were unable to come to the school for an interview. Given those circumstances, mothers seem more likely to be able to answer questions regarding household activities and impacts of schooling on their children and on their families.

Findings

The interviews included questions regarding demographics of the households. Parents and their out-of-school children in Panimaquip had the highest levels of education followed by parents and out-of-school children in Chacayá. Parents and their out-of-school children in Panabaj tended to have the lowest levels of education. These characteristics of the communities are presented in Table 1 below. Since the communities had differing levels of education and therefore different starting points prior to Pueblo a Pueblo’s interventions, it is difficult to directly compare the impact of the interventions in these communities.

The following findings only refer to Panabaj and Chacayá interviews and surveys, since data collected in Panimaquip proved ineffective for the purposes of comparison. This is explained in greater detail in the Limitations section.

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2 Based on discussions with Pueblo a Pueblo staff, a sufficient sample size for statistical significance (estimated to be more than 30 interviews in each school) was not feasible given the time limitations of family members and of interpreters.
What is the impact of Pueblo a Pueblo school-based projects at the community level?

1a: Has knowledge introduced through our school-based interventions, made it to the household level? To what extent has a knowledge transfer taken place?

To understand whether knowledge introduced by Pueblo a Pueblo projects gets transferred to the household, we first determined how many households interviewed knew that Pueblo a Pueblo projects existed. Every interviewee in Panabaj and Chacayá knew that there is a school garden. This may be because the garden at both schools is located directly within the community rather than on school property. Because these projects have existed in these communities for a number of years as well, if one didn’t know the association of the garden to the school, it is likely that they would have learned from neighbors or other family members if not directly from meetings or communications with their children’s school.

Regarding the WaSH activities, the large majority (88.5%) of interviewees were aware that hygiene curriculum existed at their children’s school. Only one didn’t know about the hygiene curriculum and two were unsure. This was similar between Panabaj and Chacayá, with 84.6% of interviewees in Panabaj and 92.3% in Chacayá aware of the hygiene curriculum. There was no statistically significant difference between the two communities, meaning that households in Panabaj and Chacayá are equally likely to know about this curriculum.

Once confirming that most interviewees know of the projects at the schools, the next step was to see what knowledge from those programs actually is transmitted. Figure 1 shows that sowing was the most common knowledge related to the school gardens that has been brought home. Anecdotally, many interviewees described how their children were given seeds from the school garden to bring home, and that they were learning how to plant the seed. Another common area of knowledge identified was irrigation or watering. Comparing between Chacayá and Panabaj, there was no statistical difference between the communities. However, we can note that three interviewees in Panabaj were not able to

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### Table 1 - Demographics by Community

<table>
<thead>
<tr>
<th></th>
<th>Chacayá</th>
<th>Panabaj</th>
<th>Panimaquip</th>
<th>Differences Statistically Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median years of education of mother</td>
<td>0.5 years</td>
<td>0.0</td>
<td>2.0</td>
<td>Yes (p&lt;.01)</td>
</tr>
<tr>
<td>Median years of education of father</td>
<td>2.0 years</td>
<td>0.0</td>
<td>6.0</td>
<td>Yes (p&lt;.01)</td>
</tr>
<tr>
<td>Average # of children residing at home</td>
<td>3.8 children</td>
<td>4.5</td>
<td>3.8</td>
<td>No</td>
</tr>
<tr>
<td>Average # children out of school</td>
<td>2.5 children</td>
<td>2.2</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Median education of children out of school</td>
<td>4.6 years</td>
<td>2.6</td>
<td>6.2</td>
<td>No</td>
</tr>
</tbody>
</table>
identify anything their child learns, while everyone in Chacayá was able to identify at least one component. The “other” category was quite common because some responses were not easily coded into a specific result. For example, only one respondent cited compost as an area of learning, and only one mentioned organic methods. These were both coded into “other.” Additional responses coded as “other” were generic responses of limited value such as “they learn what the garden is like,” or “they learn diversity of plants.”

Figure 1 - Knowledge transferred to household - School Gardens.

Figure 2 shows how many learning outcomes each interviewee identified. As previously mentioned, three interviewees in Panabaj could not identify any. Ten respondents in Chacayá were able to name two or more learning outcomes, compared to seven who would name two or more in Panabaj. In Panabaj, the extent of knowledge was more evenly spread between zero, one, two, and three learning outcomes identified, whereas in Chacayá most interviewees could identify two or more items. This may suggest that the extent of knowledge related to school gardens is somewhat greater in Chacayá than in Panabaj, though it should be noted that our small sample size prevented statistically significant results and the differences in starting levels of education may influence these results.
Regarding nutrition knowledge, the most frequent responses (57.7%) were about the importance of healthy eating and balanced meals. Many respondents specifically mentioned fruits and vegetables as important. Half of interviewees mentioned general knowledge about eating well or things that were or were not good for you, such as junk food or less fat, which was coded as “Basics of nutrition.” More than a quarter identified the importance of vitamins, while 3 respondents (11.5%) mentioned specific foods that provided necessary vitamins. Only two interviewees, in Panabaj, could not name anything their child learned. These learning outcomes are shown graphically in Figure 3.

Respondents in Chacayá most frequently could mention two learning outcomes, while in Panabaj respondents most frequently mentioned only one learning outcome. Figure 4 shows the extent of nutrition knowledge in the household. Though more interviewees in Chacayá were able to mention
multiple nutrition learning outcomes, the comparison with Panabaj was not statistically significant. We cannot say with certainty if there was a greater extent of knowledge transfer in Chacayá.

Bathing, hand washing, and brushing teeth were the most common responses when interviewees were asked about what their children learn about hygiene. This is shown in Figure 5. Though there were some differences between communities, these three areas were the most common in both communities.

Table 2 also shows other responses that interviewees identified that were not part of Pueblo a Pueblo’s indicators. This suggests that there may be other existing knowledge about hygiene in the home. Figure 6 shows that in Chacayá, the majority of respondents identified two or three hygiene behaviors, while in Panabaj most respondents identified three or five behaviors. Importantly, the degree of hygiene knowledge was summed using both pre-identified learning outcomes as well as the additional behaviors mentioned by interviewees.

Overall, it is evident there is some degree of knowledge transfer related to Pueblo a Pueblo’s programs. The findings presented here, however, should not be overstated. While valuable and encouraging, complexity of concepts and depth of understanding is not captured. Further, application of this knowledge is also absent from these initial findings. Behavior change is discussed below.
Table 2 - Knowledge transferred to Households - Other Hygiene

<table>
<thead>
<tr>
<th></th>
<th>Clean Clothes</th>
<th>Clean House</th>
<th>Cleanliness</th>
<th>Separate Trash</th>
<th>Wash fruits</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chacayá</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Panabaj</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 6 - Extent of knowledge transfer - Hygiene
1b: How has this knowledge made it to the household level? Is it through parent involvement at school or in project or through students talking with their families and sharing knowledge?

The evaluation team identified three likely channels for knowledge transfer from schools to households:

1. parental involvement in school projects or activities,
2. parent communication with teachers, or
3. students talking to their families about what they learned in school.

Interviewees identified several ways of being involved including Pueblo a Pueblo’s organic school gardens and school lunches. Interviewees also identified ‘involvement’ as attending meetings at school, snack preparation, and cleaning. All respondents in Chacayá and Panimaquip were involved in at least one of these school activities while 4 respondents in Panabaj stated that they were not involved. In Chacayá, 11 parents helped with the school gardens while in Panabaj 8 parents participated in the gardens. These differences between communities in levels of school participation overall and in the gardens in particular were statistically significant, meaning that the parents in Chacayá were more likely to be involved in school activities.

When asked how often they spoke with teachers, 6 parents in Panabaj said more than once a month, 5 said once a month or less, and 2 did not speak with teachers regularly. In Chacayá, 4 parents said more than once a month and 9 said Chacayá once a month or less. However, the differences between communities in frequency of teacher communication were not statistically significant.

Parents overwhelmingly discussed two topics with teachers: students' behavior and academic performance. Greater than 70% of respondents in both communities discussed at least one of these topics. No respondents mentioned discussing Pueblo a Pueblo projects specifically or hygiene, nutrition or school gardens in general. Accordingly, communication with teachers does not appear to be a common channel for knowledge to transfer to the household.

When asked about children sharing what they learned with their families, 25 of 26 respondents stated that children talked to them about the gardens, 23 said they talked about hygiene, and 23 identified specific aspects of nutrition that students learned in school. Additionally, 9 interviewees mentioned that children taught hygiene or nutrition to other family members and 3 mentioned that children taught hygiene or nutrition to their neighbors. These results lead us to conclude that the primary way knowledge passes from schools into households is by students talking to their families.
Parents’ involvement at school has some impact as discussed further in the following sections, but communication with teachers had little to no impact on knowledge transfer to households.

1c: Is knowledge transferred being applied at the household level? How?

The interview addressed the application of knowledge transferred in three specific areas: hygiene and sanitation, household production of fruits or vegetables, and nutrition. Interviewees were asked if they had changed any behaviors as a result of their participation in projects, and if any member of their household had changed their behavior as a result of their child’s participation in the project.

Overall, the households interviewed in Chacayá apply knowledge with greater frequency than the households in Panabaj. Over half of the interviewees in Panabaj stated that they had not changed anything at home as a result of their own participation in projects. This may be because of the more limited involvement of parents in the school, as discussed above. However, in Chacayá, 12 of the 13 interviewees reported doing something differently at home as a result of their participation in the projects.

When asked if there was a household behavior change as a result of their children’s participation in Pueblo a Pueblo projects, most interviewees responded positively. The largest percentage of behavior change is in the area of hygiene and sanitation, with 81% of households reporting a change in the home resulting from their child’s participation, followed closely by nutrition, with 70% of households reporting a change. Table 3 demonstrates the depth of behavior change at the household level.

Table 3 - Degree of behavior change in household - Hygiene

<table>
<thead>
<tr>
<th></th>
<th>No Change</th>
<th>Changed 1 Behavior</th>
<th>Changed 2 Behaviors</th>
<th>Changed 3 or More Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chacayá</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Panabaj</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

As shown in Figure 7, the principal household behavior changes in hygiene and sanitation in Chacayá are in the areas of personal hygiene, specifically bathing. Several respondents noted changes that were not identified by more than one respondent, and thus fell into an ‘other’ category. In Panabaj, the principal changes in household WaSH behavior are displayed in Figure 7. The most frequent changes noted include hand-washing and maintaining a clean home (including taking out trash, and cleaning the bathroom).
In the case of nutrition, all 13 families in Chacayá reported changing their eating habits, while 5 of the 13 families in Panabaj reported no changes. As described in Figure 8, in both communities the most common behavior change was eating more healthy foods. In Chacayá, four different households noted that they had made a behavior change categorized as ‘other,’ meaning it did not align well with any of the indicators developed from Pueblo a Pueblo’s existing M&E indicators.

Figure 9 displays changes related to gardening. In both Chacayá and Panabaj, 10 of the 13 families interviewed in each community reported having a garden or growing fruits and vegetables.
of those 20 families who grow fruits and vegetables said that they started to do so as a result of the Pueblo a Pueblo school garden project. In the case of Chacayá, all 10 families who grow fruits and vegetables cited Pueblo a Pueblo as the impetus. Other changes identified in the household production of fruits and vegetables include the use of compost (3 families) and selling their produce (3 families).

<table>
<thead>
<tr>
<th>Number of households reporting garden related changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started Home Garden</td>
</tr>
<tr>
<td>Bring Home Seeds</td>
</tr>
<tr>
<td>Sell in Market</td>
</tr>
<tr>
<td>Compost</td>
</tr>
<tr>
<td>Practice at Home</td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

![Figure 9 – Garden-related behaviors changed](image)

1d: What is the extent of involvement of household members in Pueblo a Pueblo school-based programming? What is the motivation for involvement or barriers to involvement?

As noted in research question 1b, there was a marked difference in parental involvement between the two communities of Chacayá and Panabaj. In Chacayá, every parent interviewed (13 mothers in total) was involved in the school. Six mothers, or nearly half of the women interviewed in Chacayá, indicated that they were involved in the school garden, school lunches, and snack preparation and 8 out of 13 mothers help with snack preparation at the Chacayá school. Eleven out of 13 mothers indicated that they participate in the school garden activities, and 12 out of 13 are involved in the school lunches.

In contrast to the high levels of participation in Chacayá, 4 parents of the 13 interviewed in Panabaj indicated that they were not involved with the school in any way. Out of the 9 mothers that are involved, however, 8 are involved in school gardens, and 5 are involved with the school lunches. While the total number of mothers that participate in school activities at Panabaj is significantly less than at Chacayá overall, of the women that are involved, the majority participate in more than one activity at the school. Five of 13, however, said that they were not involved in either of the two activities. One reason for the lower level of school lunch participation at Panabaj could be because the school has a cook, which may decrease the need for assistance in that particular activity.
When mothers in Panabaj were asked how they are involved in their child’s school, one replied that when the school field was flooded, her husband helped in the construction of the concrete field, adjacent wall and roof. Some of the parents helped clean and build after the mudslides by constructing provisional classrooms. Yet another mother replied that she helped in the very construction of the school. Thus, parents’ participation transcends the school-based projects.

Looking closer at both communities’ involvement, specifically in school gardens and school lunches, 10 of 13 mothers in Chacayá indicated that they were involved in both school gardens and school lunches, with the remaining 3 being involved in only one of the two activities in Panabaj, 8 parents indicated being involved in the school gardens, and 5 said they were involved in the school gardens and school lunch together.

Only 7 of the 13 interviewees in Panabaj responded to the question regarding parental motivation for involvement. Of those 7, the general feeling was that while they are not always able to help, “they know that the kids learn there so they want to support [the school].” They also indicated that not only was it a benefit to the children, but that their involvement was also a benefit to the school. Other motivations were so that their children “don’t end up like [their mother], without education.” One mother stated that the school programs were both a financial and emotional help to her children, while another stated that supporting the garden allowed them to harvest and eat.

All of the mothers in Chacayá that were interviewed provided an answer. The majority of answers clearly indicated that the mothers wanted to support their children in their learning, and that they felt a sense of moral obligation and responsibility to participate. Some mothers mentioned that they hoped to get some assistance in return for participating while others noted that they wanted to gain some experience and knowledge through participation.

Both in Panabaj and Chacayá, all of the women that were interviewed indicated that they would like to participate in school activities, be it for general support, or to learn about what their children are learning. One woman in Chacayá noted that she would like to participate more in order to learn what the objectives of the projects are “because it hasn't been communicated well.” The primary constraint to greater participation in both communities, however, was responsibilities at home and lack of time. Some women noted that they weren’t involved in the school with greater frequency simply because there were not many activities.

1e: Is there a significant difference in knowledge transfer and behavior change between Chacayá and Panabaj? What are the critical differences between the communities?

Differences between Panabaj and Chacayá have been discussed throughout the sections above. Overall, while few differences were statistically significant, there was a clear trend that Chacayá had more parental involvement, knowledge transfer, and behavior change than Panabaj. These asymmetric
results may stem from underlying differences in the communities. As described above, Chacayá parents have higher education levels which may facilitate involvement, knowledge transfer and behavior change. Panabaj has its own unique history, most notably the 2005 mudslides after Hurricane Stan which forced much of the community to relocate. Consequently, the families and the schools are not directly comparable.

What has been the impact of Pueblo a Pueblo school-based projects on the lives of student beneficiaries?

2a: According to households: How do Pueblo a Pueblo interventions affect their children?

Interviewees were asked whether they noticed any changes in their children as a result of Pueblo a Pueblo projects. As detailed in Table 4 below, the most common changes resulting from students’ participation in the school garden are healthier eating habits and practicing gardening skills at home. All but 3 respondents (1 in Chacayá, 2 in Panabaj) believe that participating in the garden has had an effect on their children. Responses to the questions regarding behavior changes due to WaSH or nutrition education in school did not distinguish between children in school and children out of school, making it difficult to separate the effects specifically on students. Nonetheless, 7 respondents in Chacayá and 5 in Panabaj stated that children were able to teach family members or neighbors what they learned in school about hygiene hinting that students appreciate the knowledge and feel empowered to share it with others.

Table 4- How has the school garden affected your children?

<table>
<thead>
<tr>
<th></th>
<th>Chacayá</th>
<th>Panabaj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat Healthier/Less Junk Food</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Practice Gardening at Home/Bring Seeds</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No change mentioned</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2b. What motivates parents to keep their students in school? Are they only motivated when provided with financial resources? Are projects an incentive for sending children to school?

Interviewees were asked how they felt about their children learning about nutrition and about hygiene in school. Overwhelmingly, the response was positive. Only one respondent was unsure about their feelings towards nutrition being taught in school, and two were unsure about hygiene being taught. Common responses regarding nutrition education were that it allows students to be healthy and more health conscious, to reduce frequency of illness, and to teach them to consume fewer fats. One explained that it was important because it taught how to use different garden products; another said it made their children stronger. One mother offered that the children listen to their teachers more than their parents, so teaching nutrition in school reinforced the parents’ teaching at home.

Regarding feelings about the importance of teaching hygiene, responses were similar. Many said that teaching hygiene helped reduce illness and helped families stay healthy. One mother admitted she
doesn’t talk about hygiene much at home, so it is important that her children learn in school. Others noted that teaching hygiene in school reinforces learning and practice at home so children will actually do what they are taught. Finally, one comment stressed that learning good habits from a young age helps ensure that one will have good habits when they are older.

Every family member interviewed recognized the importance of completing primary school. In order of frequency, reasons given for importance of completing primary school were to have a better future, to get a better job, to learn Spanish (in order to have more job opportunities), to learn how to read and write, and for socialization. Numerous interviewees related these reasons to their own experience and limited formal education. The parents’ generation in Chacayá and in Panabaj overwhelmingly had not completed primary school, so the opportunity that their children will complete primary school is significant.

However, the fact remains that in these communities many children do drop out of primary school before completion. Every single interviewee said lack of resources was a significant constraint to their child’s ability to finish primary school. Five interviewees also said that sometimes children leave school because they are disinterested. It is noteworthy that disinterest is enough of a motive to drop out as there are few mechanisms in place to actually keep children in school if they don’t want to go. Other motivations for dropping out were poor performance, poor health, or that the family had only one parent (presumably meaning the child had to help at home or work to support the family).

Every interviewee except one said scholarships would be a big help in maintaining children’s enrollment in school. The one interviewee who wasn’t sure said she did not know enough about the quality of scholarships or what they provided to make a judgment. All but one respondent also thought that the Pueblo a Pueblo projects helped keep students in school, though they most often referred to lunches as being the most important project as students are able to get an additional meal if they attend school that they might not get if they were at home. The few who said that the school garden project was most important said that this was because it was an incentive for the children to want to go to class because it was an activity that was more fun than the classroom.

Three interviewees said that if lunches and/or garden projects were not provided at the school, they would not likely keep their children in school. Two said that some of the children may be able to stay, but that the older ones would have to drop out to help support the younger ones. The third said...
that the lunches were the primary reason her children were able to stay in school. A fourth interviewee said she wasn’t sure whether or not the children in her family would stay in school without the Pueblo a Pueblo projects.

Of 11 interviewees who had children with a scholarship, only one said she would not send her child to school if they were not sponsored, and one was unsure. As with the other projects, these mothers shared that they would only be able to send some of their children to school (typically the younger ones) while other children would not have the same opportunity to finish school as their siblings.

Overall, motivations for keeping children in school stem from parents’ lack of education. Despite this (or because of it) parents recognize that completing primary school will help provide future opportunities for their children, especially job opportunities if they know Spanish. Financial resources are certainly recognized as an important method for enabling families to keep their children in school, but the school lunches helped lessen the burden of the families having to provide an additional meal, and gardens motivated children to be more excited about attending school. Interviewees mostly would try to keep their children in school even if these programs did not exist, but may only be able to allow some of their children to continue in school.

2c. What are student’s attitudes toward Pueblo a Pueblo programs? What have they learned? Do they apply their learning outside the school environment?

In Chacayá there were 34 total children surveyed and in Panabaj there were 77. Students were asked about their general feelings about the school-based projects; and all of the children surveyed indicated that they liked the school hygiene and garden projects.

In the surveys, the students were asked if their teachers had spoken to them about bathing, hand-washing, drinking clean water, brushing teeth, and keeping bathrooms clean. Table 5 shows the results of the WaSH questions on the survey, indicating what percentage of children said they had learned about all of the above behaviors, and how many had learned specifically about bathing, hand-washing, drinking clean water and keeping bathrooms clean.

| Table 5 - Percentage of students surveyed who indicated learning WaSH behaviors |
|-----------------------------------------------|---|---|
| **Chacayá** | **Panabaj** |
| **All WaSH behaviors listed on survey** | 67% | 65% |
| **Bathing** | 97% | 93% |
| **Hand-washing** | 91% | 86% |
| **Drinking Clean Water** | 73% | 79% |
| **Bathroom Cleaning** | 97% | 90% |

*The sample size in Panabaj was more than two times the sample size in Chacayá.

With regard to the organic school garden and school lunch projects, intended to teach children about nutrition, gardening and healthy lifestyles, the students were asked if their teachers had spoken to them about the basics of nutrition and the importance of healthy eating and balanced meals. The survey also tried to capture whether the students had learned about other nutrition-related issues such
as the importance of vitamins and minerals, products from the garden that provide important vitamins, the garden cycle and organic vs. conventional methods. In Panabaj, 35 of 77 (45%) students indicated that their teachers had spoken to them about all of those topics, whereas in Chacayá, only 8 of 34 (23%) indicated learning about those things, and 9 of 34 (26%) stated they had learned about all but organic vs. conventional gardening methods.

How can Pueblo a Pueblo make a larger impact on the communities it serves?

3a: How can we make a bigger impact on the communities we serve, through our school-based initiatives?

This question is addressed in more depth in the recommendations section. However, teachers and parents were asked for their suggestions. This section discusses their feedback.

Teacher Focus Groups

The focus groups with teachers at Panabaj and Chacayá were used primarily for two purposes: (a) to provide some context and background on their role in the projects, and (b) to identify any room for improvement from their unique perspectives. Overall, the teachers were happy with Pueblo a Pueblo’s projects and were grateful to be involved. They also agreed with parents’ responses that school gardens and lunches were strong motivators for children to attend school. When the discussion turned to ideas for improvement, teachers in Panabaj mentioned that it was difficult to maintain supplies for bathrooms, and that lice were a significant problem in their classrooms. The school director in Panabaj only scheduled 20 minutes for the focus group and so the research team was unable to delve deeper into recommendations for improvement. In Chacayá, teachers mentioned that families often do not have soap or other necessary supplies to maintain hygiene behaviors at home. They also discussed their fears about the sustainability of the projects once Pueblo a Pueblo phases out. The group did not believe school lunches could continue without additional funding. One idea they provided was to start a chicken coop alongside the school garden. If they believe this is feasible, Pueblo a Pueblo could encourage the school to pursue such a project on their own.

Parent Interviews

Parents were asked for their ideas on how projects could be improved and the responses are listed in Table 6. The most common suggestion was to have more meetings for parents to discuss the projects or to learn more about them. Throughout our interviews, other parents also showed interest in learning more especially about the school gardens.

Parents were also asked how often they would be willing to come to school meetings. Ten parents said they would attend any time they were invited, and 2 parents stated that they would be able to attend meetings once a month.
### Table 6 - Parent feedback

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Number of Parents who said this</th>
</tr>
</thead>
<tbody>
<tr>
<td>More meetings or workshops for parents to discuss projects</td>
<td>7</td>
</tr>
<tr>
<td>More funding, supplies or scholarships</td>
<td>4</td>
</tr>
<tr>
<td>Expand garden or add more plants</td>
<td>3</td>
</tr>
<tr>
<td>“Donors” should have more patience and see that parents are interested in being involved</td>
<td>3</td>
</tr>
<tr>
<td>More food for lunch</td>
<td>2</td>
</tr>
<tr>
<td>Computer lab and computer classes</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 3b: How can Pueblo a Pueblo better identify and monitor impact at the community level? What low-resource tools and strategies can we introduce to monitor impact at the household/community level?

Based on the research team’s field work, the interviews were a successful tool for measuring impacts on households. The interviews were largely based on perceptions and opinions and not concurrently validated by any kind of direct testing of concepts, however the interview tool allows for qualitative and quantitative data collection that enables a more nuanced understanding of impact. The interview as developed for this evaluation can take between 30 minutes and an hour. However, it can be easily tailored in the future for specific needs. Similarly, it can be broken apart into sections according to distinct projects. If short interviews were conducted at least once a year with a small group of parents, Pueblo a Pueblo could measure impacts on households annually and collect a body of valuable longitudinal data to evaluate impact over the lifetime of their projects.

The survey developed for the students proved an ineffective tool. In the future, deeper research into methods appropriate for children and youth can be explored. After the experience of the researchers during this project, it was suggested that the survey tool be modified to be fill-in-the-blank rather than multiple choice. However, this could require translation into local languages. If students are surveyed in the future, we recommend working with teachers to design the surveys and piloting them with one class or a few students before undertaking a larger scale survey. Additionally, open ended written responses or more creative formats for surveys – while more time-consuming – would provide more reliable findings.

### Conclusion of Findings

It appears based on the above discussion of findings that Pueblo a Pueblo school-based projects are having an impact on the households of the student participants. The majority of interviewees reported at least some knowledge transfer in each project: gardens, nutrition curriculum and WaSH. Regarding knowledge transferred through the school gardens project, planting/sowing and watering or irrigation were the most common items identified. Regarding nutrition curriculum, the most common areas of knowledge transfer were healthy eating, including eating fruits and vegetables, and some basic nutrition concepts. The most common hygiene knowledge identified was bathing, hand-washing and brushing teeth. The extent of knowledge was more varied in Panabaj for all project areas, whereas those
interviewed in Chacayá usually could name more items than those interviewed in Panabaj. Knowledge was transmitted primarily by students exhibiting behaviors at home or talking to their families about what they learn in school.

Overall, the households interviewed in Chacayá apply knowledge with greater frequency than the households in Panabaj. Ten interviewees in each Chacayá and Panabaj reported just two hygiene behaviors changed. All 13 interviewed in Chacayá and 8 out of 13 in Panabaj reported changing something in relation to their nutrition habits. Regarding behavior change resulting from the garden project, 10 interviewees in each Chacayá and Panabaj report having some kind of garden at home (including growing from pots). All 10 of those in Chacayá and 6 in Panabaj report that Pueblo a Pueblo was the reason for starting their garden.

Results show more knowledge transfer and behavior change in Chacayá, but this may be due to the fact that each community started at different baselines. Chacayá also exhibits greater parental participation, but this appears to be because of an organized rotation of mothers helping with snack distribution in Chacayá. Additionally, Panabaj does not rely on parent volunteers for food distribution because they have a hired cook.

These findings make a compelling case regarding Pueblo a Pueblo’s impact in the communities where it has worked the longest. However, there is opportunity to continue to improve these projects and amplify their impacts on students and their households. The remainder of this paper discusses limitations and caveats to the findings as well as recommendations.

**Limitations**

*Panimaquip*

Ideally, the comparison school would have all the same characteristics as the evaluation school with the only difference being the presence of Pueblo a Pueblo interventions. Panimaquip was selected because Pueblo a Pueblo had just begun discussions with the school but had not implemented any projects. However, during our evaluation we learned that Panimaquip would not serve as a valid comparison group because of several underlying differences from Chacayá and Panabaj. The levels of education of parents and out-of-school children were significantly higher in the intended comparison group as outlined in the Demographics section above. Based on our discussions with teachers, parents and the school director, Panimaquip is a very tightknit and well organized community as demonstrated by their ability to obtain municipal funding to install potable running water in every home – another key difference with the other communities. Additionally, the school had incorporated its own hygiene and nutrition education into the curriculum. As a result of the characteristics taken together, it is clear that Panimaquip is not starting from a similar situation as Panabaj or Chacayá and thus does not serve the purpose of a comparison group. Our findings from Panimaquip instead may serve as a baseline for future evaluations. A short interview repeated either every year or at least after three years of interventions could be compared to the baseline measures to evaluate impact.
Student Surveys

Because surveys with children present unique challenges, it is common to pilot them extensively before administering them. However, our limited time in the field precluded pilots and since the cost of administering the surveys was minimal we proceeded with them. Unfortunately, we discovered that the students in these communities were not familiar with using checkboxes and had difficulties with questions asking them to “check all that apply”. As checkboxes made up the majority of our two page survey, most of the findings from these surveys are unreliable. The responses may not accurately reflect students’ understanding. For example, some students checked a few options for a question but also selected “None of the above.”

Nonetheless, with these limitations in mind, some of the findings can be informative:

- Corroborating our findings from parents, 85% of students in Chacayá said their parents helped in the school garden, compared to 69% in Panabaj.
- Although many students selected all the choices, the choices that were least selected may point to topics that are less well understood by the students:
  - Gardens: In Chacayá, only 35% said they learned about different “organic versus conventional gardening methods” while in Panabaj, only 60% or fewer learned different “organic versus conventional gardening methods”
  - Nutrition: In Panabaj, less than half checked that they talked with their parents about the importance of healthy eating or balanced diet.
  - WaSH: In Panabaj, 59% said they drink tap water at home sometimes or always while in Chacayá it was 80%. If taken at face value, this might suggest that students (especially in Chacayá) are not learning about the need to drink clean or filtered water.

Limitations of findings

There are a number of limitations that affect the validity of our findings.

- Interpretation: Since about 90% of the interviews were interpreted into Tz’utujil, the research team could not be sure that all the content and meaning of the responses was being conveyed in full.
- Selection bias: The interview participants may be those who are most likely to be involved or motivated to learn about school projects and change their behavior at home.
- Sample Size: In each of the treatment communities there were only 13 interviews. The small sample makes it difficult to reach statistically valid conclusions.
- Gender Bias: Since all interviewees were female with the majority being mothers, we did not obtain a male perspective on household impact. The interviewees’ children in the schools were a mix of girls and boys, and because households had many children who either were currently or had been in the school, it was impractical to tease out whether the mothers interviewed represented female or male students.
- Social Desirability: Parents might have said what they think the researchers want to hear.
• Depth of knowledge difficult to assess: Though parents could list some areas of knowledge tracked by Pueblo a Pueblo, these were often high level. For example, saying their children and family learn how to plant seeds does not necessarily get at complexities of the planting cycle.

• Gardens are loosely defined in the home: Home gardens may not mean producing nutritious foods or producing in large quantity. Gardens may only refer to plants in small pots, for example.

• Degree of Behavior Change: Although parents identified changes at home, the interviews could not assess the degree to which these behaviors were practiced. For example, it is not clear how often households washed their hands.

• Extent of Participation: Though many parents had participated in Pueblo a Pueblo programs, this was often very limited. One-time activities such as helping rebuild the school wall or one-off days helping clean the school garden were captured under participation. It was not clear that program participation by parents was consistent or frequent.

• Focus Groups: At both Chacayá and Panabaj, the school directors attended the focus groups. Their presence may have prevented the teachers from providing honest and complete answers.

Recommendations

Four key recommendations emerged from this study: engage parents in projects, including in planning, maintenance, and sustainability; engage student leaders; provide more community workshops through the schools or gardens; and adapt the tools used for this study to conduct future impact evaluations.

Engage parents

As discussed in the findings relating to the third research question, it was clear that parents overwhelmingly were interested in participating more with Pueblo a Pueblo programs. Motivations related either to supporting their children’s learning, or to increasing the parents’ own learning. To this end, the research team recommends that Pueblo a Pueblo explore ways in which it can involve parents more directly and consistently in projects. Important to the success of parent involvement will be a clear invitation to participate. Many parents indicated that one of the reasons they did not participate more was that they were not invited. Because Pueblo a Pueblo’s ultimate goal is to affect health, nutrition, and food security in the communities where it works, it will become increasingly important to engage the households to have truly sustainable impacts.

Because projects are implemented through schools, one way to increase parent engagement would be to start or expand parent councils that would have a voice in project decisions and maintenance. Some schools have teacher committees for each pueblo a pueblo project. Parent committees could also be utilized similarly. Pueblo a Pueblo is beginning to do this by bringing parents into discussions about sustainability, but this can be started earlier. Sustainability discussions start when projects are ready to be handed off to the schools to run and maintain independently. However, involving parents earlier in the lifespan of the project will help create buy-in in two ways. First, the community (via parents) will be more invested in the projects and their continued success. Second, if the
parents are invested, they can put pressure on the school to remain accountable and to support the continuation of projects independently.

Engage student leaders

At the Chacayá School, the researchers observed a student council election. Though the involvement and functionality of this student government in actuality is unknown, this could be an opportunity for Pueblo a Pueblo to leverage existing school activities to increase success of projects at the school as well as to further develop student leaders in their schools and in their communities.

Provide community workshops at school

Effecting community-wide impact while maintaining a school-based model for interventions, presents a challenge and an opportunity for Pueblo a Pueblo. One way that the organization can directly impact the community would be to adapt some of their workshops for parents of children in the school. Already community workshops are provided in the gardens, but these are infrequent. Often parents mentioned only being involved in cleaning the garden once or twice a year. Integrating curriculum into these established activities would encourage further knowledge transfer and behavior change. Given the limited amount of formal education of parents, providing some level of training in hygiene and nutrition would be beneficial to households and the community as a whole.

Adapt Research Tools

Increasing overall impact of the organization’s programs is closely linked with the robust monitoring of program outcomes. Pueblo a Pueblo can achieve this with the periodic use of the data-collection tools that were created for this impact evaluation. As previously mentioned the interviews used in this study were effective and could be adapted to suit the objectives of data collection for program monitoring. Although the student surveys were not effective, they are very low-resource and with the modifications described above could be easily included as a regular M&E practice. These tools would allow Pueblo a Pueblo to effectively and efficiently gauge what is working well and what is not, and to course-correct by making necessary adjustments to programming during the project life-cycle. Furthermore, for this methodology to be useful in comparing work in different communities with differing starting levels of education, the interviews and surveys could be administered first to gather baseline information, then should be done at least annually as part of Pueblo a Pueblo’s normal M&E plan. Finally, these tools could be adapted and used for future impact evaluations.
Bibliography


Appendix A – Interview questions for Chacayá & Panabaj

Informed Consent: We are a group of university students conducting an evaluation about some projects at your child’s school. We want to learn about what is working well and what can be improved. Your feedback will be very helpful in preparing our final report given to a local NGO. Your responses will be kept confidential and anonymous, and will not affect your child’s participation in projects. Thank you for your participation. / Somos estudiantes universitarios de los EEUU. Estamos en Guatemala para hacer una evaluación de algunos proyectos en la escuela de su hijo. Queremos aprender cuales proyectos tienen éxito, y cuales se pueden mejorar. Sus respuestas nos permitirán preparar un informe final para una organización local. Su participación será confidencial, y sus respuestas serán anónimos, y no afectarán a la participación de su hijo en sus proyectos educativos. Agradecemos su participación.

Interviewer(s) (circle): Hartley  James  Lorman  Verkhovsky

Date: ____________

Start Time: ____________ Stop Time: ____________

Interpreter: ____________________

Demographic Questions / Preguntas Demográficas

1) Community / Comunidad:
   □ 1. Chacayá
   □ 2. Panabaj
   □ 3. Panimaquip

2) Name of interviewee/Nombre y apellido del entrevistado: _____________________________

3) Total number of children/¿Cuántos hijos tiene Ud.?: ______
   a) Total number of children currently residing in the household / De ellos, ¿Cuántos todavía viven en casa con Ud.?: ______
   b) Of those that live in the household, what are their ages, and names? Which of your children are enrolled in school? What grade(s) are they in? / De ellos que viven en casa ¿Cuántos años tienen? ¿Cómo se llaman? ¿(insert name here) asiste a la escuela? ¿Cuál es su grado escolar? (Repeat as necessary) note any children of primary school age out of school.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>In/Out</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4) Relation to Student/ Relación al alumno:
   - 1. mother / madre
   - 2. father / padre
   - 3. legal guardian / tutor o guardián legal
   - 4. grandparent / abuelo
   - 5. aunt/uncle / tío
   - 6. Other / otro: __________________________________________

5) What is the highest grade in school you completed? / ¿Hasta cuál año asistió en la escuela?
   - Madre:________
   - Padre:________

Parent Participation in School

6) How are you involved in your child’s school? / ¿Cómo se involucra Ud. en la escuela? (Por ejemplo: trabajo voluntario, ayuda en el aula)

7) Have you been involved with the school gardens, school lunches, or hygiene project? / ¿Ha participado Ud. en los huertos escolares, los almuerzos o el proyecto de higiene?
   - A. Yes / Sí - Which of the three? ¿Cuáles de los tres proyectos y cómo?
     - Organic School Gardens / Huertos escolares
     - School Feedings / Comidas escolares
   - b. No

8) Do you know there is a school garden at your child’s school? / ¿Sabe Ud. que hay un huerto en la escuela de su hijo?
   - 1. Yes / Sí
   - 2. No
   - 3. Unsure / No sé

9) Do you know about the hygiene curriculum at your child’s school? / ¿Sabe Ud. que se enseña la higiene y saneamiento en la escuela de su hijo?
   - 1. Yes / Sí
   - 2. No
   - 3. Unsure / No sé

10) From your participation in the ________ projects, have you changed anything in your home? / A través de su participación en el (los) ________proyecto(s), ¿ha cambiado algo en su hogar?

11) Why are you involved in your child’s school? / ¿Por qué participa Ud. en los proyectos escolares?
12) Would you like to participate more in your child’s school? Is there anything that makes it hard for you to volunteer (be involved) at school more often? / ¿Le gustaría participar más en la escuela de su hijo? ¿Hay algo que le impide participar con más frecuencia?

13) Do you ever communicate with teachers at your child’s school? / ¿Ud. comunica con los maestros de su hijo algunas veces?
   □ 1. Yes / Sí
   □ 2. No (skip to question 16)

14) How often do you communicate with your children(s) teachers? / ¿Con qué frecuencia comunica Ud. con los maestros?
   □ 1. 1x per school year / una vez al año escolar
   □ 2. 1x or less/month / una vez (o menos) por mes
   □ 3. More than 1x/month / más de una vez por mes
   □ 4. Every week / cada semana

15) What topics do you talk to the teacher(s) about? / ¿De qué temas habla con los maestros?
   □ 1. behavior/discipline / comportamiento y disciplina
   □ 2. what students are learning / lo que aprenden los alumnos
   □ 3. your students’ performance / su rendimiento académico
   □ 4. other_________________

**Organic School Gardens**

16) Has your child talked about the school garden project at home? / ¿Su hijo le habla del huerto escolar?
   □ 1. Yes / Sí
   □ 2. No
   □ 3. Unsure / No sé

17) What does your child learn from the school garden project? / ¿Qué aprende su hijo del huerto escolar?
   a) Garden cycle (4 steps) / Ciclo de huerto
   b) Organic v. conventional methods / métodos orgánicos y métodos convencionales
   c) Different planting methods / métodos diferentes de huerto
   d) Basic garden maintenance / mantenimiento del huerto (básico)
   e) Compost / Compostaje o Abono
   f) General environmental awareness / consciencia del medio ambiente
18) Has the school garden affected your children? How? Has it changed anything they do at home? / ¿El huerto escolar ha influido a su hijo de alguna forma? ¿Cómo? ¿Por su participación en el huerto escolar, su hijo hace algo diferente en el hogar? (por ejemplo si no saben cómo contestar: come diferente y más sana, ayuda con la preparación de la comida)
   □ 1. Yes / Sí, ¿Cómo?
   □ 2. No

19) Do you have a garden in your home or do you produce food? / ¿Tiene Ud. un huerto en casa o produce frutas o vegetales (maceta)?
   □ 1. Yes / Sí
   □ 2. No (skip to question 23)

20) When did you start your garden? / ¿Cuándo empezó su huerto?

21) Did you start your garden as a result of your child’s involvement in the school garden project? / ¿Ud. empezó su huerto como resultado del huerto escolar?
   □ 1. Yes / Sí
   □ 2. No

22) Did you change anything in your garden as a result of your child’s involvement in the school garden project? / Como resultado de la participación de su hijo en el huerto escolar ¿ha cambiado algo en su huerto? (Follow-Up: ¿Qué cambió?)

23) Have you or others in the house changed what you eat as a result of your child’s involvement in the school garden project? / A través de la participación de su hijo en el huerto escolar, ¿Ha cambiado Ud. u otro miembro de su familia su dieta, o sus hábitos de alimentación?

24) What do you think about your child learning about nutrition at school? / ¿Que opina Ud. de la enseñanza de la nutrición en la escuela? (probe further as applicable for example ¿Por qué es bueno?)

25) What does your child learn about nutrition in school? / ¿Qué aprende su hijo sobre nutrición en la escuela?
   a) Basics of nutrition/ información básica de la nutrición
   b) Importance of healthy eating and balanced meals/ la importancia de la comida sana y la dieta diversificada
   c) Important vitamins and minerals to consume / la importancia de las vitaminas y minerales
   d) Products from a garden that provide important vitamins/ productos del huerto que dan vitaminas importantes
   e) Other / Otra : ____________________
WASH

26) Has your child talked about these hygiene classes at home? / ¿Su hijo le habla de las clases de higiene y saneamiento?
☐ 1. Yes / Sí
☐ 2. No
☐ 3. Unsure/No sé

27) What does your child learn from the hygiene classes? / ¿Qué aprende su hijo de las clases de higiene y saneamiento?
   a) Bathing / Bañarse
   b) Hand-washing/ Lavar las manos (Follow up: ¿Cuándo?)
   c) Drinking clean water / tomar agua pura
   d) Brushing teeth / lavar los dientes
   e) Keeping bathroom clean / mantener los baños limpios
   f) Keeping fingernails trimmed / cortar las uñas

28) Has anyone in the household changed their hygiene habits as a result of the hygiene classes in the school? / A través de la enseñanza de higiene ¿Alguien en casa ha cambiado sus hábitos de higiene y saneamiento o rutina diaria de higiene y saneamiento?

29) What do you think about your child learning about hygiene at school? / ¿Qué piensa Ud. de la enseñanza de higiene y saneamiento en la escuela? (probe further as applicable for example ¿Por qué es bueno?)

Perception/Motivation Questions

30) Is it important for you that your child finish primary school? Why? / Para Ud. ¿Es importante que su hijo gradúe de la primaria? ¿Por qué?

31) What are some reasons why parents sometimes take their kids out of school? / Sabemos que algunos padres sacan a sus hijos de la escuela antes de que se gradúen. ¿Por cuales motivos se haría eso?

32) Do you think sponsorships help keep kids in school? / ¿Cree Ud. que las becas ayudan a que los niños permanezcan inscritos en la escuela?
33) Do other projects (lunch/gardens/hygiene) make it easier to keep kids in school? / ¿Cree que los proyectos de higiene, los huertos y los almuerzos facilitan la asistencia escolar? ¿y qué permanezcan inscritos en la escuela?

34) Do you think you would still send your child to school if (lunches), gardens and hygiene projects were not available? / Si los proyectos de higiene, el huerto y las comidas no existieran en esta escuela, seguiría mandando a su hijo a la escuela?

**Impact Questions**

35) How do you think these projects could be improved? / ¿Cómo se podrían mejorar los proyectos?

36) If there were meetings at school to talk about these projects and how to make them better, would you like to go? When/how often? / ¿Si hubieran reuniones en la escuela para hablar de los proyectos y como mejorarlos, le gustaría asistirlas?

**Scholarship-Specific Question**

37) Would you send your child to school if they did not receive a scholarship? / ¿Si su hijo no fuera becado, seguiría mandándole a la escuela?

38) How does the scholarship help your child and your family? / ¿Cómo ayuda la beca a su hijo y a su familia?
Appendix B – Student Survey for Chacayá and Panabaj

1. Nombre y Apellidos: _______________________________

2. Grado Escolar:
   □ Cuarto
   □ Quinto
   □ Sexto

3. Edad: __________________

4. Escuela:
   □ Chacayá I
   □ Panabaj
   □ Panimaquip

5. ¿Tus maestros te han hablado de algunos de los siguientes? Marquen todos los que aplican
   □ Bañarte
   □ Lavar las manos
   □ Beber agua pura
   □ Lavar los dientes
   □ Mantener los baños limpios

6. ¿Hablas con tus padres de las prácticas de higiene y saneamiento que aprendes en la escuela?
   □ Sí
   □ No

7. ¿Cuáles de esas prácticas muestras a tus padres en casa? Marquen todos los que aplican
   □ Bañarte
   □ Lavar las manos
   □ Beber agua pura
   □ Lavar los dientes
   □ Mantener los baños limpios

8. ¿Con qué frecuencia haces los siguiente en casa?
   □ Yo me baño ______ veces por semana
   □ Yo me lavo las manos ______ veces por día
   □ Yo me lavo los dientes ______ veces por día
   □ Yo bebo agua pura
      □ Siempre
      □ De vez en cuando
      □ Nunca
   □ Yo bebo agua del chorro
      □ Siempre
      □ De vez en cuando
      □ Nunca

9. ¿Cuáles de esas prácticas has visto que tus padres hacen? Marquen todos los que aplican
   □ Bañarse
   □ Lavar las manos
   □ Beber agua pura
   □ Lavar los dientes
   □ Mantener los baños limpios

10. ¿Ayudas a tus padres a limpiar los baños en casa?
    □ Sí
    □ No
11. ¿Tus maestros te han hablado de algunos de los siguientes? Marquen todos los que aplican

☐ Información básica de la nutrición
☐ La importancia de la comida sana y una dieta diversificada
☐ La importancia de vitaminas y minerales
☐ Productos del huerto que dan vitaminas importantes
☐ Ciclo de huerto
☐ Métodos diferentes de la cultivación
☐ Mantenimiento del huerto (básico)
☐ Compostaje o Abono
☐ Consciencia del medio ambiente

12. ¿Hablas con tus padres de la nutrición?
☐ Sí
☐ No

13. ¿Hablas con tus padres de las prácticas orgánicas de la cultivación?
☐ Sí
☐ No

14. ¿De lo que aprendes en el huerto escolar, qué les muestras a tus padres en casa? Marquen todos los que aplican

☐ Ciclo de huerto
☐ Métodos diferentes de la cultivación
☐ Mantenimiento del huerto (básico)
☐ Compostaje o Abono
☐ Consciencia del medio ambiente

15. ¿De lo que aprendes en la escuela de la nutrición, qué les muestras a tus padres en casa? Marquen todos los que aplican

☐ Información básica de la nutrición
☐ La importancia de la comida sana y una dieta diversificada
☐ La importancia de vitaminas y minerales
☐ Productos del huerto que dan vitaminas importantes

16. ¿Tienes una dieta diversificada y sana?
☐ Siempre
☐ De vez en cuando
☐ Nunca

17. ¿Tus padres preparan comida sana y diversificada?
☐ Siempre
☐ De vez en cuando
☐ Nunca

18. ¿Tus padres ayudan en el huerto escolar?
☐ Sí
☐ No

19. ¿Te gusta el huerto escolar y las actividades de higiene y saneamiento?
☐ Sí
☐ No
Appendix C – Panimaquip Findings

Although Panimaquip did not serve its intended purpose as a comparison school for the evaluation, 21 mothers were interviewed and the findings may be useful as part of a community assessment for planning projects at the school, and as a baseline for future evaluations. Select findings are presented in the tables below.

Table 1: How are you involved in your child’s school?

<table>
<thead>
<tr>
<th></th>
<th>Snacks</th>
<th>Meetings</th>
<th>None</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Panimaquip</td>
<td>20</td>
<td>9</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2: How often do you communicate with teachers?

<table>
<thead>
<tr>
<th></th>
<th>Once a year</th>
<th>Once a month</th>
<th>Twice a month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panimaquip</td>
<td>1</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 3: If lunch were provided in school every day would it make it easier to keep kids in school?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panimaquip</td>
<td>19</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4: Would it be easier to keep kids in school if they were taught how to garden, and how to eat well?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panimaquip</td>
<td>19</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5: If there were meetings at school to discuss school projects how often would you like to come?

<table>
<thead>
<tr>
<th></th>
<th>Anytime</th>
<th>Once a month</th>
<th>Twice a month</th>
<th>Weekly</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panimaquip</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>