

Project Concern International
Food for Education II



Mid Term Evaluation
Final Report
Guatemala, December 2015

Midterm Evaluation for FY 2013 McGovern-Dole Food for Education Phase II Project in Guatemala

Program: McGovern-Dole International Food for Education and Child Nutrition

Agreement Number: FFE-520-2013/034-00

Funding Year: Fiscal Year 2013

Project Duration: 2013-2016

Implemented by: TechnoServe

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December 2015

The opinions of the authors which are expressed in this document do not necessarily reflect the point of view of Project Concern International.

This publication was produced by Khanti, S. A., for review by Project Concern International based on contract PCI-1360-C-1101-00.

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LIST OF ACRONYMS

CMS	Municipal Sustainability Commissions
COMUSAN	Municipal Commission for Food and Nutritional Security
CPF	Parents' Council
FFE	Food for Education (Alimentos por Educación)
LB	Baseline
MOA	Ministry of Agriculture
MOD	Ministry of Development
MOE	Ministry of Education
MOH	Ministry of Health
MTE	Mid-term evaluation
PCI	Project Concern International
USDA	United States Department of Agriculture

INTRODUCTION

The Food For Education (FFE) program is being implemented by Project Concern International (PCI) with funding from the Department of Agriculture of the United States (USDA), and with participation by the municipalities of Cuilco, San Pedro Necta, San Gaspar Ixchil, Soloma, Barillas and Santa Eulalia, in the Department of Huehuetenango, Guatemala.

Currently 37,745 pre-school and primary school students are covered with the participation of 1,463 teachers and 1,205 mother collaborators in 294 schools throughout the six municipalities mentioned above.

The field work carried out during the Mid-Term Evaluation – MTE – collected information from 28 schools in the intervention area, 14 of which were in the Mam area and 14, in the Q'anjob'al area of the department of Huehuetenango. Eleven quantitative instruments were used. Of the total number of schools visited, 18 schools began the program in 2011, seven schools in 2014, and three in 2015. The work was conducted by means of focus groups and in depth interviews with all the key players for project implementation. The evaluation team collected information during the months of August and September 2015.

METHODOLOGY

Given that this was a mid-term evaluation, the methodology, instruments and sample design used should be as similar as possible to the baseline carried out in April 2014. The mid-term evaluation implemented two methodologies for data collection, one qualitative and the other, quantitative.

During the program's baseline, a total of 279 schools in six municipalities were participating. For the mid-term evaluation, a total of 294 schools were served by the Food For Education II program. This difference caused a slight modification in the sample of schools to visit, however, unlike the baseline, the evaluation did not divide the schools by phase. This means that the 294 schools of the sample were considered as a single universe.

As was done in the baseline survey, a stratified design was used taking into account the linguistic regions (Mam or Q'anjob'al) and in each strata, the schools were selected using a probability sample proportional to the number of students enrolled in the schools. Each school in each community was considered as a cluster.

The indicators analyzed in this report were measured using the following samples.

Table 1: Number of interviews analyzed, according to the type of document

Population	Sample for baseline	Sample for mid-term evaluation
Directors and teachers	73	87
Students (4th to 6th grade of primary)	358	416
Parents from School Council	55	60

Population	Sample for baseline	Sample for mid-term evaluation
Academic records	26	28
Observations in schools	25	28
Observation of kitchens	22	28
Parents or adults in the home	476	573
Boys and girls between 5 and 12 years of age	441	1,133
Youth between 13 and 15 years of age	177	345
Mother Collaborators	-	96
Reading tests	125	247

Source: Interviews collected in the field in 2014 and 2015

To measure students' reading ability, two types of measurement were used. In the first, children in sixth grade were randomly selected from those present at school on the day of the visit. Students who had already completed sixth grade were sought at their homes or at the middle school. The reading test that was applied is the same as was used in the baseline, and is based on the expected reading level of children in sixth grade. They were asked to read aloud. The reading evaluation took into account three aspects: speed, accuracy and comprehension based on the indicators established by the Ministry of Education for children who complete sixth grade of primary education.

SAMPLE OF HOUSEHOLDS

A total of 572 households were visited during the mid-term evaluation, compared to 476 visited during the baseline. The number of households is related to the number of schools visited. All the households that were visited during the MTE had, at the time of the visit, a child in the school supported by the Food For Education program.

Program staff had very little participation in identification of the households visited and nine of every ten houses were selected randomly by the interviewers on the day of the visit. It is important to note, nevertheless, that in some communities, the number of households in the sample was so small that all households were visited.

In the household visits, information was collected about all the children in the home between five and 15 years of age, and a parent or caregiver was interviewed.

Greater details about the sample design can be found in Annex B of this report.

SAMPLE OF SCHOOLS

A total of 32 schools were selected for visits, including four replacement schools. Of these, 31 were visited to collect information. Information was obtained in 28 of them from 29 communities. For confidentiality reasons, this report does not indicate the names of the schools that were part of the quantitative component.

At each of the schools, teachers, students and collaborating mothers were chosen at random. It was a little more difficult to select parents from the Parents' Councils (CPF) to interview, because of their obligations outside the school, they were not always available.

DESIGN OF THE QUALITATIVE EVALUATION

To complement and enrich the data from the survey, six schools were selected for interviews with various members of the educational community. With help from the program, two schools, which were considered to have good implementation, two with regular or average implementation and two more schools whose implementation was below the mean, were selected. The indicators used to determine good implementation were:

- a) Active, permanent community organization and participation
- b) Community and school with access to piped water
- c) Parents' Council legalized, active and integrated into the programs of their school
- d) Minimum of school infrastructure (kitchen, latrines, warehouse)
- e) Teachers trained and motivated
- f) School garden implemented and producing
- g) Parents aware of the importance of education and of health and nutrition topics
- h) Schools with transparency and efficiency in management of resources
- i) Active support from parents (local collaboration) to complement their school's support programs

QUALITATIVE DATA COLLECTION TECHNIQUES AND STUDY SUBJECTS

Three techniques were used for data collection, all of which are standard in qualitative studies: semi-structured interviews, group interviews (or focus groups) and direct observation. Two case studies were also conducted with various members of the educational community of each community. These included students, teachers and directors from the schools, Mother Collaborators, Parents' Councils, the technical administrative staff from the Ministry of Education, the Municipal Sustainability Committees and local authorities involved in the program (auxiliary mayors and representatives of the Municipal Council).

By means of semi-structured, individual interviews, different members of the educational community were interviewed (see Table 2), as well as the program's technical and operational staff. In each school, and with the help of the teachers, two group discussion sessions were carried out, one with members of the Parents' Council and another with approximately 10 mothers. Additionally, a group discussion was held in each municipality with members of the Municipal Sustainability Commissions and two group discussions with program operations staff. Fifth or sixth grade students were visited in the schools in order to carry out a short dynamic (20 minutes) to investigate their perception about school meals and their attendance at school. In each school, the physical infrastructure was observed with regard to food preparation, water and sanitation, as well as food delivery and consumption. Observations were carried out using a semi-structured guide with spaces for noting the events that were observed. The following table provides a summary.

Table 2: Number of qualitative activities carried out

Technique	Subjects	Total per school	Total evaluation
Semi-structured interviews	Municipal officials	1	6
	CTA	1	6
	Mothers	3	18
	Directors of schools	1	6
	Teachers	1	6
	Local authorities	1	6
	Success story: gardens	-	1
	PCI staff	-	4
	Huehuetenango MOE staff	-	1
	Total interviews		60
Focus groups	Parents' Council	1	6
	Mothers	1	6
	Sustainability Committee	1	6
	Dynamic with students	1	6
	Success story: WE Group	-	1
	Program staff	-	2
	Total focus groups		27
Observation		1	6

RESULTS

EDUCATION

For this MTE, all information from the children between five and 15 years of age in the households visited was included for analysis. The appropriate age (seven to 12 years) was used as a reference for the level of primary education. Using only the data collected during the MTE, an increase in enrollment rates¹ was found in the sample communities. This difference is not statistically significant. However, when analyzing the increase only for boys between 2013 and 2015, the difference is statistically significant ($t = 2.175$, $p = .0.299$).

According to the MOE, a timely start improves the probability that a child will finish primary school. In Guatemala, children are expected to enter primary school at seven years of age (MOE, 2013). When analyzing the enrollment of seven-year old children in the households that were visited, a reduction in the percentage was found compared to the BL. In that survey, the value was 100.0% and in the MTE it is 95.5%. The MTE data showed that a higher percentage of girls are enrolled (97.1%) than boys (94.3%).

¹ Proportion of students seven years or older who are enrolled in primary school, among the total population of children from seven to 12 years of age.

The annual average enrollment data for the 16 schools for which information was obtained and which began the program in 2011, indicates that there was an increase in annual enrollment. This increase was maintained in 2014 and 2015.

Education at the pre-school level is offered by the MOE in Guatemala for children starting at age four. Of the communities in the sample, in 89.7% of the cases ($n = 26$) there was a pre-school available and enrollment was also analyzed, even though these data were not collected during the BL so no comparison could be made.

Considering all the children between five and six years of age, and taking into account only the MOE schools with pre-school level, 39.3% of the children in the households visited were enrolled in school at the time of data collection. The enrollment rate for girls in this case was 42.3%, compared to 36.6% for boys.

Children's school attendance is an important aspect of the project. Because of this, a sample of 901 children was selected for analysis of their attendance in terms of the total number of class days (from January 15 to July 31). With the information that was obtained previously, it was possible to infer that girls were absent 5.3% of class days and boys were absent 5.5%. Additionally, 94.3% of girls and 94.6% of boys attended more than 80% of class days; 20.1% of girls and 19.5% of boys attended 100% of class days.

Absences due to illness have decreased given that when children in fourth through sixth grade were asked if they had missed school during the four weeks prior to the visit, 38.3% in the BL responded 'yes' compared to 23.6% in the MTE. The difference is statistically significant ($t = 4.433$, $p = .0000$).

Using data provided by the adults in the home, the rates for students passing to the next grade have decreased in the sample schools: for girls, from 87.2% to 83.7%, and for boys, from 86.3% to 80.9%.

Almost all the adults interviewed responded that children who go to school learn or 'gain something for their life' (91.9% during the MTE vs. 99.6% in the BL). Of the parents interviewed in the MTE, 13.1% recognized at least three benefits that their children 'gained' or learned in school, compared to 56.6% in the BL. This difference is statistically significant ($t=14.372$, $p=.0000$).

The rate of dropouts was calculated for those cases where a student stops attending the school where they were enrolled for the rest of the school year. The dropout rate reported by the MOE for the six municipalities of the sample for 2013 was 4.1% and for 2014, 5.3%. The dropout rate reported by the adults in the interview households during the MTE was 3.4% for girls and 3.7% for boys, which are lower than the averages for the municipalities as reported by the MOE.

For Guatemala, the rate of repeating a grade is 15.6% (17.0% for boys and 14.1% for girls); for the department of Huehuetenango it is 19.3% (20.3% for boys and 18.2% for girls). This rate is higher in San Pedro Soloma (24.4%) and lower in San Pedro Necta (14.6%). The repeat rate for San Pedro Necta is lower than the national average.

When the sample of schools that began the program in 2011 is considered, it can be noted that the rate of repeating grades has decreased for all and in all cases these rates are lower than the national means (13.5% for girls and 12.5% for boys).

The retention rate, on average, has increased from 94.1% to 94.7% for the 17 schools that began the program in 2011 and from 93.4% to 96.0% for the seven that began the program in 2014. These differences are not statistically significant.

The attention level of the children which was observed in class in the sample, showed that one of every five children (17.5%) loses focus at some point during the educational activity that is taking place. This could be due to the time of year when the information was collected (almost the end of the school year when teachers spend time reviewing), the teacher's skills, or the topic being covered. Independently, some teachers commented that it is good to find children being active in the classroom even if not engaged in the learning activity, instead of them sleeping in class due to the lack of food. This is what used to happen before the FFE program supported them.

It was also noted that more support from parents is needed so that they motivate, support and accompany their children in the learning process and that support material in the local languages, which would help teachers and parents to improve learning is insufficient.

While the FFE program is not providing follow up for students who have finished primary school², it was observed that a notable percentage of the youth are not continuing with middle school. This may be due to the lack of availability in the community, but it may also be due to lack of interest on the part of the youth. The present study did not collect sufficient information to be able to understand this phenomenon and proposes that in future data collection efforts more information be sought to help understand it and if possible to provide support so that more children from the community continue their education in middle school.

It was found that the teachers of the community do not have complete knowledge about their school. They were not aware of important aspects such as the MOE's performance indicators for the school. It was also found that communication between teachers and parents needs improvement to be able to provide greater follow up to the student's needs and especially to decrease dropout rates, an aspect that is not worrisome in the communities supported by FFE because the dropout rates are low.

Parents stated that now the schools are more accessible and they don't have problems in enrolling their children. Nevertheless, their commitment to the schools needs improvement given that only six out of ten parents attend school activities.

It is also important to emphasize with parents the importance and benefits of education given that only one of every 10 parents mentioned three or more benefits that their children receive when they go to school. The most important reason that was mentioned was that they learn to read and write.

SCHOOL MEALS

It seems that fourth to sixth grade children in primary school are eating less at home in comparison with the data they themselves reported last year. Of the total, 85.8% stated that they had had breakfast on the day of the interview, in comparison with 95.3% who responded affirmatively in the BL. This decrease is statistically significant $t=4.431$, $p=.0000$. When asked whether they had had breakfast every school day in the previous week, 82.2% said they had, in comparison with 88.8% in the BL. This decrease is also

² This is not part of the program's objectives.

statistically significant $t=2.582$, $p=.0100$. Additionally, when asked if they had eaten three times a day in the week prior to the interview, 76.9% of the children said yes, compared to 91.1% who responded in a similar manner in the BL. This difference is statistically significant $t=5.303$, $p=.0000$.

A total of 19.7% of the children interviewed during the MTE expressed having some degree of hunger at the time of the interview. This percentage is higher than that reported during the BL (12.0%). This might, again, be attributed to the season of the year. At the time of the BL visit, the MOE had provided funds for school meals and at the time of the MTE, the schools were waiting on payment from the MOE and thus had not been able to buy supplies to complement the food in the school meals program.

After eating food, 46.1% of the children indicated that they were ready to attend class, pay attention or learn compared to 38.9% who gave a similar answer during the BL. The individual differences (for each category) were not statistically significant.

The food that the school children receive is rated as appealing by a little more than eight of every ten children, however, two of every ten claim to still be hungry after eating it. This study did not go into depth about the reason why these children claimed to have a degree of hunger and recommends that this question be further studied in future data collection.

According to the Directors and/or teachers, when asked whether the school snack compensated the nutritional needs of the school children who do not eat breakfast at home, 80.5% of the Directors and/or teachers stated that they agree with this statement compared to 54.8% in the BL. This difference of opinion is statistically significant $t=3.494$, $p=.0006$. This may suggest that from the perspective of the Directors and/or teachers, the nutritional quality of the food served to the children has improved in the last year.

In talking with the teachers about their perception of the quality and benefits of the school meals program, the 12 who were interviewed and the six CTA stated that they thought the quality and quantities of the foods were adequate. All of them commented that the children ate the food enthusiastically and often asked for seconds. They indicated that they didn't think there were any of the foods that the children rejected but that when the "condiments" were scarce (the foods obtained with MOE funds and those that parents contributed), variety in the diet decreased as well as the children's consumption and enthusiasm.

There was an increase in the opinion of the adults interviewed regarding whether the food given at school helped more parents to enroll their children (83.6% during the MTE vs. 76.9% during the BL). Additionally, during the MTE 89.5% of the adults stated that providing food at schools was a positive influence for children to attend class more.

Nine of ten Directors and/or teachers continue agreeing that the parents of the community should contribute to improving the food that is currently given to the school children (93.1% during the MTE vs. 93.2% during the BL).

A little more than eight of every ten parents consider that they should contribute 'something' for the school breakfast. At the time of the survey, one of every two parents was contributing money or supplies for the meals program, including firewood for fuel.

There is still a duplication and separation of efforts with the school breakfast and the school snack. There is a sense that they are two separate activities and the two should not be mixed. Nevertheless, PCI should make an extra effort so that the two programs are seen as one program so that by using the resources from both, a more complete and integrated meal can be provided to the students. This vision is not a limiting factor that comes from PCI or its staff but rather the teachers and the members of the Parents' Council have the perception that they cannot mix the resources from the two sources.

Taking into account all the adults of the sample (trained or not), it was found that 76.8% identified at least three basic habits needed for food and water hygiene in food preparation during the MTE compared to 65.1% who mentioned at least three during the BL. This difference is statistically significant $t=5.508$, $p=.0000$. Nearly nine of every ten Mother Collaborators know at least three Golden Rules created by PCI to teach correct food management and handling. The most well-known rules for the Mother Collaborators are hand washing (87%) and using an apron and hairnet (60%).

There was little awareness of the fact that water should have a monthly microbiological analysis, given that only a little more than one of every ten Mother Collaborators knew that it should be done. In spite of the fact that seven of every ten teachers stated that they knew that this was being carried out, no evidence was sought during this data collection to ensure that it was being done.

The Mother Collaborators did not recognize the aspects of nutrition and diet that were expected by the program with regard to food handling. Moreover, these aspects are complicated, especially taking into consideration that the mothers of the community, on average, only have 1.8 years of education. It is important that PCI reconsider the trainings given for this area so that they can be reoriented to focus on variety in the diet and the diversity of foods that are locally available as well as ways to prepare them.

In five of the six schools visited by the qualitative survey team, the mothers are organized by turns. The exception was the school in San Pedro Soloma, where a cook was recently hired. It seems that there were some problems with the quality of the food cooked by the mothers (several complaints of burned food) and some friction among the mothers. Thus, they decided to contribute financially to be able to hire someone with experience. The mothers who were not in agreement continue helping with food preparation under the direction of the cook. It should be noted that in this school the meals program has functioned extremely well in spite of the disagreements among some of the Mother Collaborators. The evaluation did not contemplate this type of implementation and thus cannot make any comparison to determine whether the use of a hired cook improves food preparation as compared to when mothers are in charge of food preparation. This might be an area of interest for future evaluations.

In the six schools visited by the qualitative survey team, it was observed that the most successful meals programs are those that have achieved greatest collaboration of parents (through the Parents' Council) as well as the teams for food preparation and material contributions (firewood and vegetables and management of the school garden).

The adults in the households were also asked about the hygiene that should be taken into account when preparing food at the school. It is important to note that this question is complex because the list of expected answers has 16 options and considering that it is a question that collects responses based on what the person remembers ('top of mind'), it is quite difficult for the person being interviewed.

Taking into account all the adults in the sample (trained or not), it was found that in the MTE, 76.8% identified at least three basic considerations for food and water hygiene during food preparation compared to 65.1% in the BL. This difference is statistically significant $t=5.508$, $p=.0000$. Additionally, 40.8% of the adults interviewed identified hand washing as one of the main practices, 66.9% noted that they should use hairnets, 62.4% stated that they should use aprons, 86.9%, that they should have a clean work area, 52.3%, that they should avoid leaving food or trash on the floor, and 32.8%, that animals should not be loose in the kitchen.

During 2015, PCI carried out training on the Golden Rules. This training was given especially to the Mother Collaborators. Of all the Mother Collaborators interviewed ($n = 90$), 87.8% could identify at least three of the Rules. On average, they could name 4.5. The most remembered rules were to wash hands (86.7%), boil or chlorinate water (67.8%), and to use hairnets and aprons (60.0%).

The Mother Collaborators were also asked about the basic considerations for hygienic food preparation and safety when preparing food at school. On average, the Mother Collaborators could mention 5.4 of these basic considerations; 94.4% of the people could mention at least three.

Of the adults interviewed, 57.6% identified at least one place where they could learn about or get information on good eating, diet and nutrition practices or habits compared to 58.6% in the BL. The difference is not statistically significant. The most commonly recognized places for obtaining this information were educational institutions (64.2%).

TRAININGS

When adults in the households were asked if they had been trained at any point by PCI or by school staff, nearly two of every three respondents answered affirmatively. It was noted that mothers had higher rates (69.2%) of training than fathers (46.2%) and/or other adults (55.3%) who were interviewed in the households.

Taking into account only those adults who stated that they had been trained, 76.8% stated that they knew the hygiene habits or practices, compared to 86.8% who said the same during the BL. Again, the difference is statistically significant ($t=3.803$, $p=.0002$). The total average of responses about hygiene habits or practices mentioned by the adults interviewed is 2.0, which is less than the average number of responses found during the baseline (2.6).

The PCI trainings have improved based on the experience acquired over the life of the project. This means that they conduct more appropriate trainings for the target audience. The audience expressed satisfaction with the trainings they have received; however, they commented that the knowledge needs to be repeated constantly in order to be better understood and internalized.

It is perhaps for this reason that the level of knowledge, especially with regard to basic hygiene practices, decreased by a certain percentage with regard to the baseline. The trainings on the Golden Rules and the Food Pot (Olla Alimentaria) are remembered more especially by those who are directly involved with preparation of school meals.

PCI has become the most important player in the training processes for those involved in the FFE program. It is well recognized that these trainings are better than those given by the MOE, the Ministry

of Health (MOH) and any other institution supporting the community. PCI should improve the way in which the knowledge taught to small groups can be replicated in the school to ensure greater success than what is currently seen.

The knowledge of the members of the CPF with regard to the activities and responsibilities implicit in the FFE program is limited. However, it is a lack of knowledge but not of participation. The warehouse, for example, is being managed adequately by the CPF and the teachers at the schools.

HYGIENE AND NUTRITION

Of the teachers interviewed, 92.5% indicated that they had received training on topics of hygiene, preventive health, meals and/or nutrition during 2015, compared with 49.3% in the BL.

According to the teachers, 93.1% of the students received training in hygiene, 83.9% in preventive health, 85.1%, in food, and 82.8%, in nutrition. They also said that 4.6% of the students did not receive any type of training on these topics in 2015.

When the students were asked where they could learn or obtain information about personal health and hygiene, 43.7% of the students interviewed during the MTE stated that they knew where to get this information, a lower rate than was found during the BL (55.6%). The difference is statistically significant $t=3.302$, $p=.0010$.

In the six schools of the qualitative study, food preparation and consumption were observed including hand washing. In all the schools, the children lined up in an orderly manner to wash their hands with soap. In several schools, there was no towel available to dry their hands so the children dried them on their clothes and some let them air dry. The teachers guided them by grades to wash up. In the schools in the southern part of the department, the children seemed to have internalized the routine of washing their hands and did not receive much instruction from their teachers.

Of the parents who were interviewed, 54.2% stated that they knew where to learn or obtain information about practices or habits for personal health and hygiene, in comparison with 66.0% during the BL. This difference is statistically significant ($t=3.877$, $p=.0001$). The school (60.9%) is the most recognized place for obtaining this kind of information.

The Mother Collaborators' knowledge of the hygiene habits or practices that everyone should have was evaluated. On average, the Mother Collaborators were able to state 2.7 practices or habits and 55.4% could share at least three of them. The most recognized practices were: hand washing (92.2%), daily bath (56.7%), comb hair (43.3%) and change clothes (40.0%).

INFRASTRUCTURE

WAREHOUSE

The quality and control of the warehouses is adequate, although their maintenance should be a priority for the CPF. In general, the walls did not show signs of moisture although some roofs needed maintenance, especially at the end of winter.

The number of warehouses available for managing the food program reached 100.0% in the MTE, compared to 72.0%, during the BL. During the MTE 100.0% of the warehouses had platforms for storing or stacking the commodities, and 92.9% have a scale for weighing the food.

The quality of the walls was rated as good, impermeable or moisture resistant based on observation. This decreased to 57.1% in the MTE compared to the BL (94.4%). Again, there were various factors that may have affected the observations such as the BL was carried out before the beginning of the rainy season while the MTE took place in the middle of the rainy season. This combined with the decrease that was observed in complete roofs or roofs without any leaks where the percentage of 'good' roofs decreased in the MTE to 53.6% from 77.8% during the BL.

The existence of an area of the warehouse exclusively for storage of commodities from the FFE program has also increased during the MTE (78.6% vs. 61.1% in the BL). In the MTE 92.9% of the warehouses were found to be clean and orderly compared to 77.8% in the BL. The separation of the products from the walls by 20 cm. or more and with a meter of separation between these commodities and those from other donors was observed in 85.7% of the cases during the MTE compared to 94.4% in the BL.

No rodent droppings were observed in 100.0% of the warehouses in the MTE compared to 50.0% during the BL.

Additionally, greater order was observed in food distribution processes given that in 60.7% of the warehouses visited during the MTE, the necessary documents were in a folder, compared to only 29.4% during the BL. In three of every ten warehouses (32.1%), the MTE found that all the sheets were loose compared to 29.4% during the BL. In almost one of every ten warehouses, the sheets were either not available (7.1%) or not updated compared to 41.2% during the BL.

In 78.6% of the cases, the MTE found stack cards recording the stock of the products stored in the warehouse, compared to 41.2% in the BL.

Supervision of the warehouses by Parents' Councils was observed in 89.3% of the cases during the MTE compared to 66.7% during the BL.

WATER SYSTEM

During the MTE, 85.7% of the schools visited had piped water compared to 84.0% in the BL. When considering only the schools that have water, the MTE found that in 45.8% of the cases the water system was constructed by the PCI/USDA program, compared to 14.3% in the BL.

At the time of the MTE visit, water was available in 85.7% of the cases compared to 60.0% in the BL.

LATRINES AND TOILETS

The number of flushing toilets has increased since the BL. During the MTE, flush toilets were found in 85.7% of the schools, compared to 68.0% in the BL. This difference is not statistically significant. The number of latrines decreased (32.1% during the MTE vs. 44.0% during the BL). The percentage of schools that have both types was 17.9% during the MTE compared to 12.0% in the BL.

On average, in the MTE it was observed that schools have 0.9 latrines and 4.0 toilets, compared to 1.7 latrines and 3.0 toilets during the BL.

The number of schools with a place for hand washing within five meters of the latrines or toilets was similar in both surveys, 71.4% during the MTE vs. 68.0% during the BL. In those places with hand washing stations, 25.0% did not have water or soap available during the observation. This percentage decreased from 82.4% of schools without either of these two supplies during the BL. This difference is statistically significant ($t=3.481$, $p=.0014$). Additionally, it was found that 25.0% of the schools visited had water and soap available at the time of observation; the remaining 50.0% had only water available at the time of the visit. This percentage increased from 17.6% during the BL. This difference is not statistically significant.

A decrease was observed in the level of cleanliness of bathrooms, however, it should be noted that the time when the observation was carried out could influence the results. When taking into account the two observations carried out during the course of the day, it was noted that at some point in the day, 39.2% of the bathrooms were clean during the MTE compared to 48.0% in the BL. This difference is not statistically significant.

THE KITCHEN

During the MTE it was found that all the schools (100%) had a place designated for food preparation (kitchen), compared to 96.0% during the BL.

Nevertheless, in one school observed during the MTE, this place is not used but rather the kitchen has been set up in a corridor of the school given that the designated kitchen is too small and has poor ventilation.

During the MTE, an average of 3.6 people was found to be working in the kitchen compared to 3.4 during the BL. On average, 3.2 are mothers and 0.4 are hired cooks. One man was found working in a kitchen at the time of the visit during the MTE.

In 7.1% of the kitchens observed during the MTE loose animals were found in the kitchen (cats, dogs, chickens, etc.), compared to 8.0% during the BL.

Safety conditions were similar in both surveys with approximately one of every ten kitchens presenting poor safety conditions. The problems that were observed tended to result from Mother Collaborators who bring their young children with them, which means that small children are in the kitchen area and they also allow some children to serve themselves directly from the pots. Additionally, the least secure kitchens do not have walls around them to prevent the entrance of animals and/or extraneous people.

A little more than one of every three kitchens (35.7%) have piped water available inside. This is less than in the BL (48.0%). The difference is not statistically significant.

There were more trash cans in the kitchens (32.1% during the MTE vs. 24.0% during the BL), however, three of every four (77.8%) were not covered at the time of observation during the MTE.

A greater number of utensils for food preparation were observed during the MTE (92.9%) (pots, skillets, bowls, pitchers, griddles and knives) than during the BL (66.7%). Half of the kitchen utensils comply with at least three of the expected cleanliness and order aspects.

In the kitchens it was also observed during the MTE, that the food was generally covered (71.4%) compared to 72.7% during the BL. An increase was observed in the processing of foods on separate

tables or counters (57.1% during the MTE vs. 50.0% during the BL). This is done to avoid cross contamination of foods. In 78.6% of the cases observed during the MTE, the floor and tables were free of foods compared to 61.1% in the BL.

SCHOOL GARDEN

The qualitative component found that the school gardens began as a strategy for food diversity but soon took on other functions. The students practice their knowledge about gardening, which is a common topic for all given that the majority come from farming households. Besides learning about growth, structure and functions of the plants, the gardens have also been used to apply concepts of mathematics and to calculate areas and perimeters of the beds, seed or seedlings needed per row and per bed, etc. The idea was to get the children out of the classroom routine and with support from the teachers and PCI staff, the gardens have been transformed into an extra-curricular didactic tool.

It has not been possible to establish gardens in every school, basically because not all schools have the needed resources (space, water). Of the six schools visited by the qualitative team, there were four gardens in production. In one school, the garden had been closed and in another no garden had been started. The success of the gardens seems to depend to a great degree on the enthusiasm and dedication of the teachers, as it definitely implies extra work and some are not willing to work extra hours and especially not on weekends. The four gardens that were visited were fenced. Parents were organized in “garden committees” and had taken charge of preparing the ground, fumigating and fertilizing the crops. The planting and weeding were generally covered by the students.

On the observation visits it was noted that at the time of the MTE, there were school gardens in 71.4% of the schools visited, compared to 32.0% during the BL. This increase is statistically significant ($t=2.868$, $p=.0060$). These gardens generally function on school land or loaned lots.

Seven of every ten directors and/or teachers interviewed during the MTE stated that the presence of the school garden is very useful for the school. This perception increased when compared to the BL (64.4%). The difference in perception is statistically significant.

On asking the adults interviewed about the advantage of having school gardens, it was noted in the MTE that approximately one of every three adults, are not aware of the advantage of having it compared to 5.9% in the BL. Ratings for almost all the advantages decrease between the BL and the MTE (except lack of awareness) and all the differences are statistically significant. This finding is not surprising given that none of the trainings given by PCI this year covered the topic of school gardens.

INFRASTRUCTURE IMPROVEMENTS

When adults in the households were asked about who has helped to improve kitchens, recognition of the contribution of PCI/USDA has increased (34.5% during MTE vs. 20.7% during the BL).

When parents were asked, they indicated that they were aware of infrastructure improvements (latrines /bathrooms and water systems) and then they were asked about what institution had been responsible for the improvements. Recognition of PCI/USDA increased (24.7% during the MTE vs. 11.7% during the BL) as well as recognition of the role of groups or members of the community (50.6% during the MTE vs.

41.4% during the BL). One in four adults did not know who had contributed to improvements in the school their children attend.

When parents on the Council were asked about improvements to the school installations, recognition of the presence of PCI/USDA increased between the MTE (40.0%) and the BL (14.9%) and attribution of efforts to the MOE, other NGOs and other governmental organizations decreased.

SAVINGS GROUPS

PCI has been forming women's associations so that, working together, they can contribute to their families' and communities' development. The objective of these groups is self-management of savings and loans to facilitate the development of productive projects that contribute to social and economic empowerment of the members. Each group determines the savings amounts and deposits are recorded individually. The common fund that is created can be used for loans and the interest rates and payment conditions are determined by each group. The groups began formation in mid-2014 and currently there are 114 WE (Women Empowered) groups supported by PCI. The groups are made up of about 15 women with great variability in membership size. So far they have not had any problems with late payments. Some of these groups have managed to organize themselves efficiently and some of the members who have requested loans have established or strengthened small enterprises. Several groups have established small productive projects such as production of soap, bleach, cream and others. Many groups participated in the school fairs with food sales which generated income. Besides savings and income generation, the members mentioned that they value their participation in the group, which they see as a mutual support group where they motivate each other and build friendships.

The formation of the groups has required a certain level of follow up by the PCI field staff, but once the groups are well established, the need for follow up decreases. PCI staff have a lot of faith in the potential of these groups and consider that it is an initiative that truly empowers its members.

SUSTAINABILITY

From the beginning, the design of the program has included various actions to achieve sustainability of the school meals program. Although implementation has progressed, the challenges for achieving sustainability of the school breakfast are great especially given that the contributions from the government are minimal. Program actions to support sustainability can be divided into two large areas: those at the municipal level and those at the level of each educational community.

At the municipal level, formation and continuation of the Municipal Sustainability Commissions (CMS) was achieved. These include various members of the educational community, as well as representatives from other institutions, especially municipal officials and those from governmental agencies in the health and agriculture sectors that work in the municipality. The program is also active in the COMUSAN (Municipal Food and Nutritional Security Commission). The Commissions have a board of directors and are organized in different working groups. Even though the initial idea was to meet on a monthly basis, in reality they only meet when considered necessary given that the members come from the entire municipality and for some it requires a two-hour trip to come to the municipal seat.

The function of the Commissions is to support PCI programs including food distribution, warehouse management and the gardens. One of their main activities, however, has been the organization of

school fairs, an activity that consolidated these groups and allowed them to take ownership of the process. Additionally, this year there have been fewer meetings organized by PCI and they miss them. Several commented that the interaction and free discussion among the members of other commissions enriched their own experience and strengthened them as a group. At the time of the interviews, the CMS had an annual activities plan but did not have a medium- or long-term sustainability plan.

In the qualitative interviews that were carried out with the members of the Board of Directors, most participants were teachers. The Commissions vary from one municipality to another in their degree of commitment and activity, but all value the effort involved in providing nutritious breakfasts and do not want it to disappear when the program ends. The majority are facing a series of difficulties.

The CMS have established coordination with the health centers which have provided support through some trainings. The Ministry of Agriculture has provided support through agriculture technicians who have collaborated in the development of gardens. Additionally, several of the members of these commissions know the members of the Municipal Councils and are willing to put social pressure on them to increase the support that the municipalities give to the schools.

The members of the CMS have promoted municipal policies for school meals and trust that the municipal governments will provide some contribution. They count on the production of the gardens, but thought that the “breakfasts would not be the same”, even if the parents were to continue with their contributions. They consider that all these local resources were sufficient to be able to continue school meals in the same way that the program currently manages it. The CTA and teachers are less optimistic and expressed a need to continue sensitizing families so that they will continue their contributions and so that the production of the gardens and the minimal contributions from the MOE could improve the food offerings. They do not think it is possible that anyone else would donate the volume of basic grains and oil that PCI/USDA currently donates, even with more support from the municipal government.

Discussion

Strengths of the program and good practices

1. The program's approach is very complete as it covers not only provision of basic foods but also infrastructure rehabilitation (kitchens, as well as water and sanitation systems) so that these foods can be prepared hygienically, and training on hygiene practices for the various players. Additionally, the foods that the program provides are tasty and abundant according to the different people who were consulted. The provision of black beans was an excellent choice as it is more widely accepted than other donated legumes. All these characteristics have resulted in the program being well accepted within the educational community.
2. The program has created an appropriate system for the school breakfasts, which is different from what the MOE offers. In a context of great poverty and paternalism, families have been motivated to contribute consistently to the meals program: firewood, labor, additional foods. These, together with the funds provided by the MOE, facilitate improvements to the flavor, variety and nutritional quality of the breakfasts. The local contribution also extends to the rehabilitation of school infrastructure, an integrated part of the program. Many of the people who were consulted were

very proud of the fact that the meals program functions, to some degree, because of their continuous efforts. This shows their ownership of the activities being carried out.

3. The program has strengthened the Parents' Councils (CPF), which in turn have motivated and established well-organized mothers' groups to provide the daily breakfast (cooking and serving), as well as providing periodic contributions such as firewood (weekly) and vegetables or sugar. The family contributions are provided systematically and thanks to these, it is possible to provide the breakfast every school day. It should be highlighted that given the context in which PCI works this is a significant accomplishment. On the one hand, the social fabric in many of the municipalities of Huehuetenango continues to be fragile because of the civil war and lack of trust among neighbors prevalent in many communities. On the other hand, parent participation in school activities throughout the country tends to be minimal. The donation of commodities that PCI provides has undoubtedly served as a powerful incentive for parent participation. Additionally, the constant trainings that the members of the CPF receive in a variety of topics, including some productive activities (making soap, bleach, organic vegetable gardening, etc.) keeps them motivated.
4. With the help of the teachers, the CPF have managed to organize themselves in order to transport and store the donated commodities with very few difficulties. It should be noted that the commodity donations are managed directly by the CPF of each school, under program supervision. In contrast with other programs, there is no intervention by the MOE officials nor the mayoral offices. At the same time, it is important to mention that some municipalities offer support for transporting the commodities, or skilled labor for infrastructure works in response to requests from, and coordination by, the program.
5. The program has managed to establish gardens in several schools, and these vary in extension, diversity of vegetables and care of the garden. In some schools, the gardens are very successful and some are beginning to plant using macro tunnels³, which allow for greater production volume. The gardens have three functions: i) they provide variety for the school meals with a number of vegetables (especially radishes, carrots, cauliflower, Swiss chard, cucumber, tomatoes, cilantro and broccoli) and in this way support project sustainability; ii) students have the opportunity for hands-on learning about growth, structure and care of the plants; iii) they are a teaching tool for mathematics as students practice multiplication and estimations of areas and perimeters of different geometric figures as well as learning aspects of natural sciences.
6. The program team has managed to motivate a good portion of the teachers, a decidedly difficult group. Many teachers have taken on additional functions and some have become very involved in the program, especially with the gardens and the activities of the school fairs (reading contests, didactic games, etc.). In several schools, in conjunction with the CPFs, the teachers carefully plan the menus, maximizing the use of resources and ensuring the greatest variety possible.
7. The program has been able to maintain collaborative relationships with local MOE authorities (Departmental Bureau, municipal CTAs). It has been possible to achieve coordination with the CTA and alliances and joint efforts have been achieved with the municipal and departmental offices of other ministries (Ministry of Agriculture, Ministry of Health, Ministry of Development), as well as with the COMUSAN of each municipality. Special work has been done with the mayoral offices and

³ Polyethylene films used to cover a structure to create a microenvironment with benefits similar to a greenhouse. The tunnel technique protects crops from low temperatures in the cold months and serves as a barrier to insects.

the Municipal Councils in three areas: support for transporting donated commodities from the municipal seat to the schools, salaries for masons for rehabilitation of the schools, and in discussions about municipal public policies that support school meals. The alliances with different institutions have functioned relatively well due to the credibility that the program has established. Everyone knows that PCI has delivered on the promise of providing school meals throughout the school year.

8. The credibility of the program has facilitated the participation of the educational community in new activities, especially in the school fairs. These fairs enjoy great acceptance among the students, teachers, and parents and CTAs have also participated in many of them. At the beginning, the fairs served as an opportunity for experience exchanges with regard to preparation of the donated commodities but now their activities have been diversified and they are a good incentive for perfecting students' reading skills as well as their creativity in story writing. An additional accomplishment in these fairs has been that their organization is in the hands of the Municipal Sustainability Commissions, especially the teachers who belong to these groups. Without a doubt, the fairs have been an important motivating factor for students as well as the CMS and the CPF.
9. The program's good practices have earned them full acceptance by students, teachers, MOE officials and families. The population is happy to accept the meals as well as the infrastructure improvements, the trainings they have received and the production from the gardens.

Main Implementation Challenges

The program faces two big challenges: the precarious Guatemalan educational system, and its sustainability.

State investment in education is low and almost 85% of the budget goes to pay salaries, leaving very little for investment and functioning. Additionally, the majority of teachers are not well qualified, much of the infrastructure is obsolete, and supplies of materials and food are insufficient and arrive after long delays.

The other big challenge is sustainability. All the stakeholders consulted want the breakfast provision to continue indefinitely. In order to achieve that, efforts are being made to strengthen the CPF, the school gardens, and possible commitments that the Municipal Sustainability Commission can obtain from the mayoral offices, especially in terms of municipal policies to support school meals. Nevertheless, all the stakeholders consider that the continuity of the breakfasts as they are currently managed will be difficult. What the project has achieved is to make it clear that with support from teachers and parents it is possible to improve the meager school meals contribution that the MOE provides. Within the context of the rural communities of Huehuetenango, where food is never guaranteed, the certainty of the school breakfasts has facilitated a series of processes including more active parent participation. Without the incentive of the breakfast, it is possible that only the schools with more resources (e.g., more productive gardens, more committed teachers) can offer some continuity and manage to sustainably improve the weak contributions from the MOE.

The program also faces specific challenges:

1. The schedule of training sessions that the program offers seems to be insufficient in terms of frequency as well as scope. Based on the opinions of CPF members and Mother Collaborators, the

trainings that PCI staff offer tend to be useful and pleasant and almost everyone consulted wanted to receive them more frequently. Several Mother Collaborators explained that they really liked to learn to make new recipes but they forget them and need to have them reinforced. While it is expected that all the people directly trained by PCI should adopt and model excellent hygiene practices as well as sharing what they have learned, it doesn't seem that there is a systematic process for this sharing. The members of the CPF are trained and encouraged to share what they have learned but the program doesn't record whether this sharing is in fact taking place. Additionally, the program trains teachers and asks them to include the topics they have covered in their classes with their students, but there is no means of knowing whether they are doing so.

2. Some of the expected results for the program do not depend directly on their efforts but by design require support from others. For example, the presence of clean latrines or toilets requires that others are willing to clean them (an area the program can influence by means of awareness creation and training), but the schools also need to have cleaning supplies available and this is beyond the control of the program. The same is true for the presence of soap and water in the schools. While the MOE provides some resources for these materials, the funds are generally insufficient and are used up before the end of the school year, or the funds don't arrive in a timely manner. The program has proposed some alternatives and in several schools they have learned to make their own soap and bleach but the schools still have to dedicate some of their scarce resources to obtaining the materials needed to make them.
3. Although the program has established good relationships with the six mayoral offices, joint efforts continue to be a challenge. For example, PCI established agreements with the six mayors' offices in the municipalities where they work; their contribution tends to focus on subsidies for transportation of donated commodities and often the salaries of masons for school rehabilitation works. The mayors' support, however, is not always reliable although not necessarily due to lack of cooperation. In one municipality, for example, the trucks were damaged and thus the municipality did not continue providing support for commodity transport. The program makes every effort to optimize the agreements with the mayors, especially during the electoral period, which coincided with this evaluation. Through the Municipal Sustainability Commissions, forums were held with the mayoral candidates in the various municipalities with the goal of ensuring the continuity of the agreements signed with the outgoing authorities. This is a process that could occur every time there is a change of government and PCI will not necessarily be present to support this process.
4. Coordination of activities with the teachers can be problematic although not necessarily due to lack of willingness on the part of the teachers. The program has sensitized, trained and given follow up to teachers who work in difficult conditions. Some have to cover more than one grade and often the school directors are also teachers and thus have to deal with MOE bureaucracy as well as teaching their students. Trainings for teachers outside of their class schedule are often not feasible either because they are not willing to work extra hours or because they have other jobs to attend in the afternoons. Some also have transportation issues to return to their home communities or they might experience pressure from their union. The situation gets even more complicated because they also have to attend trainings for the CPF and the mothers. Teachers, and especially the directors, continue being community leaders and enjoy the population's trust and credibility. Thus the trainings for teachers that are held during class time (the only feasible time) cause time away

from their students in an environment where teachers already miss classes for a variety of reasons including strikes.

5. The program enjoys great acceptance and the few complaints that were heard tended to focus on the lack of variety in the food and indirectly blamed PCI for this situation. Variety in the school breakfasts depends, ultimately, on the MOE's school meals contribution and the families' contributions, including the school garden. The MOE contribution is not only insufficient but also erratic. At the time of the evaluation, the contribution was several months behind schedule. In spite of the fact that PCI is not responsible for providing variety in the breakfasts (their contribution consists of five food items), the teachers themselves seem to forget that the MOE funds are the ones that provide variety for the breakfasts.

CONCLUSIONS

EDUCATION

- The educational indicators at the primary level show slight changes with gradual progress towards total coverage. Girls and boys stay in school and attend the majority of their classes.

Enrollment has increased since the program began in the communities. The coverage rate is 95.1%, slightly less for girls (94.6%) than for boys (95.5%). Additionally, 95.5% of all seven- year- old children have enrolled in first grade. The coverage rates are higher than those reported by the MOE for the sample municipalities in 2014 (86.3%).

Attendance rates exceed program expectations showing that 94.3% of girls and 94.6% of boys attend more than 80% of class days. It was noted that on about 20% of class days, teachers don't take attendance.

The rate of grade promotion for girls (83.7%) continues to be higher than for boys (83.3%) and higher than the average for the sample municipalities according to MOE data (79.8%) for 2014.

The rate of continuity⁴ had a slight decrease to 97.5%, but that is still very good and the drop-out rate was 3.5%, less than that reported by the MOE for 2014 (4.8%) for the sample municipalities.

- Nearly one of every two children doesn't pay attention in class.

Classroom distraction factors continue with nearly one of every two children becoming distracted in class. One in ten pay attention to something else, a few more than one in twenty do something to distract themselves, two out of 100 seem bored and 1.5 out of 10 distract others.

This does not totally depend on the teacher, given that there are many factors involved, including the presence of an observer in the classroom which might cause students to be curious

⁴ The rate of continuity is the number of students that continue to be enrolled in the school regardless if they were promoted to the next grade or not.

and do things they wouldn't normally do. Nevertheless, at times the teacher's inability to present the topic in a manner that would be interesting to students was noticeable. The worst case is when teachers don't have the skills needed to control the group.

- The reading ability of the children continues to be adequate and increases for students who go on to middle school.

Using the same test as was applied in the baseline, reading levels continued at the same level. Reading comprehension continues to be the principal problem observed in boys and girls. It should be noted, however, that girls' reading ability continues to be better than that of boys. Additionally, it was found that the children who continue studying at the middle school level improve even more in their reading ability when compared to those who did not continue in school after sixth grade.

The teachers commented that the children are at the reading level which is expected for their grade level according to school standards. Half of the teachers did state that they thought that reading comprehension should be improved.

- Young boys tend to have greater continuity in their post-primary schooling than young girls do. Even so, the indicators for the communities where PCI is present have better rates than the averages for the department of Huehuetenango.

The rate of continuity for boys and girls dropped noticeably to 66.3% for boys and 50.9% for girls even though these numbers are still higher than the overall rates reported by the MOE for 2014 (42.6% for boys and 35.9% for girls). The data is not sufficient to be able to determine the reasons for this decrease. Nevertheless, the main reason might be that when the youth who were interviewed finished primary school there was no middle school in their community which would allow them to continue their studies.

The promotion of girls (91.3%) to middle school is greater than for boys (89.8%) and much better than what is reported by the MOE for 2014 (74.3% for boys and 78.9% for girls).

- Youth do not continue with middle school because of lack of money and interest.

Interestingly, lack of money or resources is not the primary reason why boys and girls stop their studies. On average the main reason was that they don't like to study (41.0%) followed by lack of money (30.6%).

- It is evident that the teachers are not informed about the performance indicators for their school

The teachers are not aware of the promotion rates for students in their school. This may imply that the statistics about enrollment, promotion, dropouts, or grade repetition are not shared (performance indicators).

- Parents have fewer problems for enrolling their children in school

Whatever problems parents had in the past when trying to enroll their children in school, currently nearly all families were able to do so without problems. This suggests that when a child does not go to school it is not related to school factors but to family issues.

- Parents' commitment to the school still needs to improve.

Six of every ten parents attend school activities, but there are four of every ten who still need to come to the school to find out about their children's progress, what support they need and what support is needed for the school or the FFE program.

This is also important for communicating when the absences of the students are due to illness given that one of every five teachers is unaware of the reason why students miss class.

- One of every ten parents recognizes at least three benefits of education

Of the parents interviewed, 13.1% could mention three benefits that education offers to their children. Eight of every ten, stated that it is so they can learn to read and write. This was the most common response.

The fathers interviewed had an average of 3.8 years of education and the mothers, 2.5 years. This might explain why they are not able to state more accurately the benefits of education.

TRAINING

- PCI is an obvious presence in the trainings for all stakeholders.

During the 2015 evaluation 2015 it was found that PCI has a key role in trainings at the schools. This includes teacher trainings, as well as those for the Parents' Council and members of the community. PCI appears as the key player in education about hygiene, meals, nutrition, school administration and school meals programs and surpasses the Ministries of Health and Education in all aspects.

It is possible that the presence of the Ministry of Health has decreased due the closing of one of its rural extension programs (*Programa de Extensión de Cobertura*) during 2014.

HYGIENE AND NUTRITION

- Knowledge about basic hygiene practices has decreased for various players.

In children from fourth to sixth grade, 62.9% recognized the hygiene practices that PCI expected them to know. This number had decreased in relation to the baseline and that might be due to the type of training implemented by PCI that includes training eight teachers and 16 school children who should then replicate the training at the school. Hand washing (75.2%) and daily baths (68.8%) are the most commonly recognized practices among the children.

The qualitative study finds that in the observed schools the hand washing process is well established, however, it may be that they don't mention it because they don't recognize it as a hygiene practice but just a common activity.

From the Parents' Councils, 53.4% of the members were able to mention three basic hygiene practices with the most common being hand washing (84.4%), daily baths (55.6%) and change of clothes (46.7%).

Of the parents interviewed, 52.2% recognized at least three basic hygiene practices, again, hand washing (64.3%), daily baths (50.0%) and change of clothes (35.7%) were most frequently mentioned.

With the Mother Collaborators, 55.4% could mention at least three, with the most important being hand washing (92.2%) and daily baths (56.7%).

- Decreased number of places that stakeholders recognize for seeking information about basic hygiene practices.

Among the children (43.7%), members of the Parents' Council (63.3%) and adults in the households (54.2%), some knew at least one place to obtain information about basic hygiene practices. School was mentioned most frequently with decreased recognition of Health Posts and/or Centers, which may be due to changes which took place in the health system in 2014.

SCHOOL MEALS

- School breakfasts are an incentive for attendance.

It was found that improving or increasing the quantity of foods would not increase school attendance or enrollment. This was supported with the data about the high enrollment and attendance levels mentioned above.

- The food that the children consume at home has decreased and at the same time, what they take to eat at school has increased and improved.

Among the students, 14.2% had not had breakfast before going to school. This number has increased and this is probably because they depend more on the school meals. This is reinforced with an increase to 7.2% of the children who state that they did not eat breakfast every day during the week prior to the visit.

Additionally, 76.9% of the children stated that they had not eaten three meals a day in the week prior to the interview while 57.7% do not take food to school for snack. At the same time, 36.8% of the children said they did bring food from home although no research was done to know what kind of food they brought. It could be merely a complement like tortillas or bread. Fruit was part of the food taken to school by 13.7% of the students.

- The children like the food at school although some are still hungry even after eating at school.

The majority of the children, 83.3%, stated that they like the food that they are given at school, but 19.7% stated that they were hungry or very hungry at the time of the interview. The qualitative component confirmed that the quantity of food that is provided to the children is adequate and thus other factors may be at play for the children who say they are still hungry.

With regard to the time when the food is served, 80.8% of the children are fine with it (around 10 a.m.).

- Parents continue providing inputs for the school meals.

Of the adults interviewed, 85.9% stated that the parents contribute “something” for the school breakfasts. The most common contribution is money (53.3%), followed by food, ingredients and condiments (46.1%). Additionally, parents indicated that to improve the quality of school meals, parents should continue contributing money (50.1%) and food, ingredients and condiments (27.1%).

The members of the Parents’ Council state that parents contribute to the school meals program with ingredients (35.0%) and money (24.0%). They also indicated that they offer the meals program unskilled labor (60.0%).

- Knowledge of responsibilities of the CPF with regard to FFE program responsibilities should be improved.

The members of the Parents’ Council are not adequately aware of the activities they should carry out. Half know that they should help with food storage; four out of ten say they should help to unload commodities and three of ten know that they should support with local transport and help with food preparation. One in ten knows that the cleanliness of the warehouse is their responsibility as well as hiring and managing food preparation staff.

- Food preparation is carried out according to expected norms and expected care.

Three quarters of the people who manage food do it adequately during each stage of preparation. The food preparation process is adequate – meals are prepared in a hygienic place (74.1%), with adequate hygiene (88.9%), with hygienic utensils (100.0%), asking the children to wash their hands (70.4%), observing that they do so (65.4%), and supervising them when they eat (74.1%).

- The Mother Collaborators are well versed in the Golden Rules and have good management of kitchen hygiene.

Of the Mother Collaborators, 87.8% know at least three of the Rules of Gold. The most recognized were washing hands (86.7%), and using an apron and hairnet (60.0%). They recognize that they must boil or disinfect the water (67.8%) and wash utensils with soap and water (44.4%).

Nearly all (97.9%) of the mothers stated that they had washed their hands before beginning to cook; on average, the Mother Collaborators get 2.1 of the four hand washing steps correctly, and only 3.1% could do the four expected steps.

- Almost none of the stakeholders interviewed knows that it is necessary to carry out microbiological analysis of the water, even though the teachers state that this is being done.

Of the Mother Collaborators, 13.6% know that they have to carry out a microbiological analysis of the water. Nevertheless, 71.4% of the teachers state that this has been done. No evidence was requested to confirm this.

- The Mother Collaborators do not recognize the aspects of diet and nutrition required for school meals.

On average, the mothers know 1.8 (out of seven) aspects of diet and nutrition. The most common were good level of vitamins and minerals (54.4%), good supply of energy (44.4%) and having locally accepted flavor, safety and/or color (33.3%).

- The structure of the Parents' Council has changed, and they receive fewer trainings on topics of food and hygiene.

On average the CPF have 1.5 women compared to 1.8 women found in the previous visit. Additionally, they were found to have less training in management of the school meals program, their role in the FFE program and in topics of hygiene and cleanliness.

INFRASTRUCTURE

- The quality and control of the warehouses is adequate but requires maintenance by the Parents' Councils.

All the schools had a warehouse. In four of every ten cases, the space was adequate (but this depends on the amount of food received); 94.4% have waterproof walls, 53.6% have a waterproof roof, 39.3% have good ventilation, 78.6% are used exclusively for food storage and in all cases they were free of rodents.

The management and control of commodity deliveries and consumption had improved.

- Almost nine of every ten schools has water, in great part due to PCI support.

In 45.8% of the schools visited, the water system was built by PCI; in 69.0% of the cases the water is sufficient for the school's needs.

- The number of flush toilets has increased in the schools. There is not much evidence of soap and water in the cleaning stations.

A greater number of flush toilets were found; seven of every ten schools has one hand washing station less than five meters from the bathrooms. At the time of the visit, 25.0% of the stations did not have water and soap. Four of every ten bathrooms were clean in one of the two observations carried out.

Of the adults in households who were interviewed, 64.7% felt that the toilets and latrines at the school were improved.

One in five people stated that the improvements to the bathrooms is due to PCI, while one in five were not aware of who had supported these improvements.

- Almost half of the potable water systems had been improved.

Of the parents, 51.1% state that during this year the school's water system was improved. Again, one of every five people stated that the improvements in water systems were thanks to PCI, but at the same time one in five did not know who had supported this improvement.

- The schools have a kitchen area but the conditions could be improved.

All the schools in the sample have a kitchen area, although in one case, it is not being used for that purpose because it is not appropriate for food preparation. Half of the kitchens have

adequate lighting, and four in ten have adequate ventilation. Six of every ten schools have appropriate security, and almost four in ten have piped water in the kitchen. Three of every ten kitchens have a trash can, three of every four of these did not have a lid or were not covered and only one kitchen had a refrigerator for food storage.

With regard to the food, in seven of ten cases, the food was covered and in half of them, different boards or tables were used to avoid cross contamination. Additionally, more availability of cooking utensils was observed.

According to those interviewed, the kitchen improvements in 34.5% of the cases were thanks to support from PCI and in 41.6%, they were due to support from community groups.

- Electricity is available in eight of every ten schools.

Nine of every ten schools had electricity lines and electric meters; however, at the time of the visit only eight of ten had functioning electricity.

- There are more school gardens; the crops, teaching and participation by the different players have been improved.

Seven of every ten schools have a functioning school garden. Half of these are located on property that belongs to the school. In 35.0% of the cases, the land has been loaned to the school, which is important to highlight as it represents the community's commitment to this type of activity, to the school and to their children's learning. In 90.0% of the cases, the space is adequate. One aspect that is not adequate is that for 30.0%, of these there is no water available nearby and in three quarters of these plots, water is not available year round.

The council sees the gardens as sources of food (66.7%), with which they can improve the students' diet (65.0%) and that will provide learning opportunities about gardening (58.3%). The teachers agree with the parents' opinions but to a lesser degree: sources of food (43.8%), improve school meals (35.4%), and learning opportunities (20.2%). In several schools, vegetables are being grown in macro tunnels, which has increased yields. In some schools this type of production seems very promising not only for the volume of food that could be grown but also for the enthusiasm and ownership of the project by the educational community.

The children see the gardens as an area where they can learn more about gardening, what to plant and how it should be cared for (55.1%), how it is done, where it should be done and what is needed (48.6%) and the type of crops that can be grown (43.6%).

SUSTAINABILITY

- The project has laid the organizational groundwork to ensure continuity of school breakfasts.

Parents' Councils (CPF) have been strengthened and these have organized the mothers to cook and serve the breakfasts every school day. The CPF have also ensured that families contribute periodically with a series of inputs which enhance the school breakfasts. This is no small feat given the general level of poverty of rural families in Huehuetenango and the apathy seen in

families in other areas of the country. This has facilitated ownership of the school breakfast program.

With help from the teachers, the CPF have managed to organize themselves to transport and store the donated commodities with very few mishaps.

Gardens have been established in several schools, and these provide numerous vegetables to enhance the school breakfasts. One important barrier for establishing gardens has been the lack of physical space.

In each municipality a Municipal Sustainability Commission has been established, and these are composed of various members of the educational community and municipal officials and the governmental agencies of the health and agriculture sectors which work in the municipality. The function of the commissions is to support the PCI programs.

The program has established alliances with the local authorities of the MOE, with the municipal and departmental offices of other ministries (MOA, MOH, MOD) and with the COMUSAN of each municipality. The program has especially worked with the mayors' offices and Municipal Councils in three areas: support for transport of donated commodities from the municipal seat to the schools, salaries for masons for school rehabilitation projects, and in discussions about municipal public policies that support school meals. Additionally, they have lobbied for inclusion of school meals as a public policy at the municipal level.

The program has also organized savings and productivity groups for the mothers of students so that they can have some income to help keep their children in school. The degree of organization and the achievements vary but some groups have been very successful.

These organizational efforts can ensure the sustainability of the program if there are resources available to obtain the necessary foods.

Recommendations

- More household resources and support is needed to improve reading ability

Teachers indicate that new technologies and techniques, as well as specialized texts, are needed to improve children's reading ability. Additionally, they stated that greater emphasis should be given to teaching reading in the first years of primary education.

Furthermore, the teachers need more support in student's homes for them to practice reading and it is important to have appropriate reading material available in the households for different ages. Both aspects are difficult to ensure given the socio-economic status of the households and the parents' limited educational background.

Teachers also indicated that the lack of available bilingual material is another limitation along with the fact that tests are always given in Spanish, which is not the native language for the majority of students.

- It is important to promote children's enrollment in pre-school.

Of the six-year-old children, 64.5% are attending pre-school. This represents an increase of more than 12 percentage points in two years. The total is also greater than the overall total reported by the MOE for 2014 (41.3%).

- Promote strict attendance control by teachers

Absences have a negative impact on school performance. It is important that teachers keep strict control of attendance records to be able to talk concretely with parents and determine which important topics a student has missed. This is also an important indicator for PCI and thus, with better record keeping, it will be easier to understand what kind of support a student, teacher or school might need. This, of course, is an aspect that should be discussed individually with the teachers given that PCI does not have the authority to regulate this kind of practice.

- Teach the teachers ways of controlling students and keeping them engaged.

Lack of attention in class, especially when this is not related to being hungry, is usually associated with the teacher's lack of ability to keep students' attention on specific topics (difficult, complicated or of little interest to the student) or the teacher's inability to maintain order in the classroom. Design methods to support teachers and help them learn how to improve class engagement with innovative methodologies and to maintain order without shouting, punishing or intimidating. Some students (15.1%) were observed distracting others during classroom observations.

- Promote reading opportunities open to the community or in school.

Based on the reading test carried out, it was seen that lack of reading practice decreased children's reading ability. It would be advisable to promote opportunities for reading in which the children of the community could freely go to read or borrow books; where children and adults and especially those youths who have finished sixth grade could go even when they have not continued studying in order to maintain their reading abilities.

If possible, establish a dynamic directed by the facilitators so that when in the community, with a pre-established frequency, they would read or motivate reading perhaps with new books for the library or, in order to save on book purchases, books could be exchanged between schools.

- Establish more informational sessions for parents so that they understand the advantages of education, especially, pre-school education.

On the one hand, parents are not aware of the advantages that education will bring to their children and the ones they are aware of are very basic – learning to read and write. Parents should learn more about the advantages of education, for example, that it facilitates better health, better jobs, opportunities to continue studying, etc. Even though there is an increase in the percentage of children who are beginning pre-school, there is still a sizeable percentage who do not go, especially because parents say they are 'too little'. Opportunities should be created by means of community meetings that would help parents to understand the advantages of beginning education in pre-school, especially considering that 70% of the communities attended by the FFE II program have a pre-school in place.

- Promote middle school education for girls

Fewer girls than boys continue their education at the middle school level. The program should help parents understand the advantages of continuing their studies. Women who continue studying have a lower probability of getting married or pregnant at this age. Women tend to have better school performance in primary as well as secondary school. This should be promoted in communities where there is a '*Telesecundaria*⁵' or middle school.

It is difficult to promote middle school education when the problem is financial. In this case, perhaps in conjunction with other organizations or the MOE, scholarships can be promoted for those students with a grade point average above 85 points (for example). When the reason is lack of interest (as in 30.6% of the cases found by this study), efforts can be made to motivate the youth.

- Promote knowledge of educational indicators with the school teachers and parents.

Through the facilitators, promote teachers' knowledge of the results of all the tests and educational indicators at their school. These should also be shared with the community. Good results build trust in the school, as well as pride for the teachers and students. Bad or medium results can help the community become aware of the opportunities and challenges that need to be addressed jointly.

Make visual reports such as those managed by the MOE to ensure capturing the audience's attention.

- Promote parents' participation in the school

The results show that there are still four of every ten parents who do not go to the school. This means that there are parents who do not collaborate with the meals program, know about their children's progress and needs, or have communication with the teachers with regard to illnesses or absences. Parental attendance is important and should be promoted as part of the program's objectives, not so that they participate in the program, but so that they are aware of their children's progress.

- Continue the meals program, coordinate better with the efforts of the MOE

Food is an important element in the schools attended by the program and an incentive that has facilitated improvements in enrollment, attendance and academic performance. Continue the program, continue promoting knowledge about food preparation and, above all, continue providing black beans, one of the favorite foods for the children and community.

Even though the MOE meals program provides different supplies, try to the degree possible to complement them. For example, CSB and INCAPARINA provide a good level of calories per portion and thus it would be good to invest rotating funds in the purchase of other products that would complement the food instead of similar products. To achieve this, the Parents' Council needs to be supported by training them about the complementary foods that would be advisable.

- Coordinate the school meals so that it is more effective and integrated

⁵ Telesecundaria is a system of distance education programs for secondary students created by the government of Guatemala and available in rural areas of the country using TV sets and VHS players.

During food preparation in the schools, it was observed that the foods from the MOE and those provided by PCI were prepared separately. This means two sessions of food preparation (which implies use of more resources) and perhaps the preparation of a less complete meal. In some cases, one type of food is given at the beginning of the day's activities and another at mid-morning.

- Increase the frequency of trainings and of participants as well as replication methods.

At the time of the evaluation very few mothers stated that they had received any training. Additionally, the trainings are not given as frequently as needed. Some women's retention is limited, and many said they loved the trainings but they forgot what they had heard so they need more reinforcement.

Increase the audience for the training sessions as they are currently given to very few people. Mainly the members of the CPF have been included, but their replication of the training has not been systematized.

It is necessary to consider the manner in which the information will be replicated among the mothers. Some have learned recipes from other mothers who have been trained but the transmission of messages about hygiene practices (which is measured in the indicators) has been more difficult.

- Promote greater parental participation in the FFE program. Continue promoting the contribution of inputs for the kitchen, but seek diversity and simplicity; improve the system for firewood storage.

Many parents are participating and supporting the FFE program although in comparison with the baseline it seems as if participation has decreased. This may be due to the timing of data collection. Nevertheless, it would be important to have a poster at the school on which the donations could be monitored (something that PCI does in their school breakfast information corner). This would increase the sense of ownership, participation and community cohesion and would perhaps be another step towards project sustainability, in combination with other PCI projects such as garden management.

In 20 schools, updated situation posters were observed, however, in 14 of the schools these were located inside the warehouse, a place that is kept locked and with limited public access.

Families are already providing part of the foods utilized in breakfast preparation. According to the majority of mothers consulted, they send what the teachers ask for: firewood for fuel, sugar, tomatoes and onions. Besides native greens, it is recommended that other local foods with high nutritional content be added such as squash seeds, which are rich in protein and used in many sauces. The current use of these seeds tends to be limited but could be increased in volume and frequency. In the school fairs there could even be contests for the best sauces made using some of these seeds.

Peanuts are another product that should be promoted, as it is relatively inexpensive and easily available. The population does not tend to be aware of the nutritional content of this food and thus considers it as junk food. In some communities of the highlands (Quiché and Totonicapán) ground peanuts are used to enrich sauces. They are also used to prepare the sauce for *paches*,

to make *horchata*, to prepare a rice and milk drink, and to season stewed meat. It would be advisable to test the acceptability of these when ground into sauces with greens, which would be a highly nutritional combination. Peanuts have the added advantage of being easier to grind than squash seeds.

It is necessary to consider improvements for storage of the firewood that children bring. In several schools they complained about the lack of an appropriate place given that the firewood is exposed and becomes damp causing difficulties in its use.

- Promote improvements in warehouse maintenance and make everyone aware of the norms for warehouse management.

Warehouse management is adequate, however, there are some aspects that are not PCI's responsibility but which should be looked into and if possible improved by the CPF. For example, some roofs have leaks and with a little bit of training this could be easily corrected at the school. Additionally, some walls were damp. The walls could be inspected in conjunction with the CPF to determine the best way to fix them (dampness could be due to nearby drain gutters or a lack of ventilation).

There are rules that those in charge of the warehouses may, from lack of awareness, take to extremes. For example, they won't open a door or window to avoid theft or invasions of animals or insects but this increases the humidity inside the warehouses.

The "maintenance commission" that the CPF has should be reinforced. Minimal maintenance is given to the schools. In several schools the stoves were damaged and yet these commissions had not done anything to repair them. If the CPF doesn't maintain the kitchens now while PCI is supporting the schools, little can be expected once the program ends.

- Evaluate what is included in trainings

During this study aspects were evaluated that had not been included recently in trainings. Additionally, trainings were given that modify, improve or change what was evaluated during the baseline. This changed the results and made evaluation difficult. Before carrying out a new evaluation it would be important to have clarity about what should be evaluated, what has been taught, and how to ensure that the data collection instruments reflect this.

- Review the steps taught and evaluated for hand washing, and if possible, change them.

The steps for hand washing promoted by PCI are different than the steps taught in the Health Post and this can cause confusion in adults. The steps promoted by the Ministry of Health include the use of ashes as a substitute for soap, the way hands should be rubbed together is different and they recommend air drying.

- Ensure that the members of the CPF know about the importance of the microbiological analysis of the water and the results of each test.

Few people know that it is a requirement that water undergo microbiological analysis. This evaluation did not collect information about whether this verification is taking place, who does it, nor what the results are. Nevertheless, given that it is an important aspect, it is recommended that the results of each analysis be made public for all key players in the school.

- Ensure the transfer of knowledge when members of the CPF change in order to avoid losing the achievements obtained.

The program has strengthened the CPF significantly. Nevertheless, these councils have a limited life span. The transition of the incoming council could be difficult. Although the program has asked the outgoing council members to guide the new members, it seems this rarely happens. It is important to ensure that the transition is as tight as possible in order to avoid hindering the processes. The most successful CPFs tend to re-elect some of their members.

- Reinforce trainings on aspects of nutrition and diets required in the school for all stakeholders.

The Mother Collaborators do not know the expected aspects of nutrition and diet when they are preparing food at the school. The topics that have been selected are not easy to remember given the terminology that is used which include words such as vitamins and minerals, energy supply, protein with high energy value. They are not easy to say nor evaluate and it is recommended that they be changed or simplified to a level that people such as the mothers, with an average of 2.5 years of education, can easily understand.

- Reconsider the nutrition trainings

More important than learning which foods provide energy, or are protectors or builders is to learn about variety in the diet. Recent studies (e.g., those of Optifoods) have identified local foods that, if they were consumed with appropriate frequency, would provide noticeable improvements in the diet: chicken or beef liver, oranges, potatoes, vegetables and oats. The teachers should also be taught about nutrition. It might be good to consider the distance learning modules that INCAP has developed about healthy schools and nutrition and food security.

- Improve cleanliness of bathrooms

It is difficult to keep bathrooms clean when there is so much traffic. However, the team found bathrooms that were closed, that had damaged doors and where water was not available nearby which forced children to carry large buckets of water to clean them. In several places the girls did not have separate bathrooms from boys and they had to sit on toilets that were covered in urine which is unhygienic.

Given that PCI has had experience with soap making in the Women Empowered groups they could replicate this experience showing the mothers in charge of the kitchen and the members of the CPF how to do this in order to use the soap in the school bathrooms.

Additionally, they could carry out a campaign to encourage cleanliness of the bathrooms and emphasize the importance of keeping them clean aimed at the cleaning commission, the school government, teachers, students and members del CPF.

- The kitchen areas should be supervised and teachers, directors, cleaning commission and school government should be encouraged to comply with the rules, giving special emphasis to those that are most important for food preparation or for the children's safety.

Women were found working in the kitchen who were not in compliance with the established rules – lacking hairnets, or aprons although they did improvise with scarves on their heads.

There are aspects that were expected but not found – for example having different tables for food management which is not easy to ensure given the limited space available as well as the amount of food that is required. You only need to imagine one kitchen that prepares foods for 1,000 children and you will understand how difficult this regulation is. Covered trash cans are rarely found. A refrigerator is practically impossible.

Nevertheless, simpler aspects were observed that were not optimal such as having children in the kitchen, letting animals into the kitchen, leaving pots open and allowing children to be near them or allowing the children to serve themselves foods or beverages. These are aspects that should not be allowed and should be regulated with greater diligence.

- Promote agreements to ensure availability of land for the gardens, cultivation of nutritional plants that don't require seed purchases, promote new recipes using traditional crops.

The gardens that PCI is promoting have diversified the diet of students and in general the vegetables that have been introduced have been well received. Additionally, during this year, the number of gardens in the schools has increased. For all the stakeholders that were consulted, the school gardens are an attractive option and many consider that it is a fundamental part of ensuring the sustainability of the program. At the same time, a small number of gardens that were functioning in 2014 were closed during this school year. It is recommended that the program investigate the specific reasons why these gardens stopped producing, giving special attention to the cases where they did have access to land. If the problem was the lack of adequate land, negotiations might be possible with owners of nearby properties in order to reach a deal where the school could use it as an educational tool as well as having access to part of the production.

Frequently the sustainability of the gardens is limited when the farmers cannot buy seed. Some well-known greens such as *bledo*, *hierba mora*, *chipilín* and *hierba blanca*, have been characterized and promoted by several institutions including some that are PCI partners. Thus it is recommended that native greens be used more. Besides their high nutritional value, using them gives value to the traditional diet and helps to inspire appreciation for local resources. The program has successfully introduced new preparations of vegetables but has done little promotion of new recipes using traditional greens which constitutes a devaluing by omission.

In addition to promoting the cultivation and consumption of wild greens, it is important to present new and attractive recipes, especially ones that include combinations of greens, tomatoes and oil. It is important that PCI educators adapt the recipes they have introduced using Swiss chard to be used with *bledo*, *hierba mora*, and also to include these greens in the list of local contributions. This is one way to recognize the value of the traditional diet and promote the consumption of greens. Recipe collections using native greens already exist: INCAP has developed a broad variety of nutritious recipes, among which it is worth noting those that combine greens and beans. There is also a collection of recipes from Chimaltenango that propose diverse ways to consume wild greens (Ajquijay, 2000).

Promote more nutritious ways of preparing greens, such as reducing cooking times. The consumption of greens with tomatoes (stewed or in sauce) can be promoted to optimize the bioavailability of iron while discouraging the use of consommés. In many gardens cilantro is already being produced. Other alternatives could include easily cultivated aromatic herbs which can be dried (e.g., thyme, oregano, rosemary, basil, garlic).

- Strengthening the leadership role of the Municipal Sustainability Commissions

Some committees are becoming discouraged and possibly need follow up from the program. The boards of directors not only requested more training but also more discussion or sharing of experiences with the boards of directors of other municipalities. These exchanges, according to them, will help them become a more cohesive group and will facilitate team work.

Continue with promotion of the school fairs

In addition to the learning opportunities these provide for different members of the educational communities and the experience that their organization has given to the municipal committees, fairs transmit the clear message that another type of education - innovative, playful and friendly – is possible. This hope for better quality education can be transformational.

Annex A

COMPARISON OF INDICATORS

Result	Indicator	Value BL	Value MTE	Objective PCI	Description according to the baseline
School enrollment increased	Percentage of school enrollment of boys as a result of USDA assistance	N/A	94.3	100	Percentage of students who have been enrolled in school, in part, thanks to the support of the USDA FFE program
	Percentage of school enrollment of girls as a result of USDA assistance	N/A	97.1	100	
School attendance improved	Percentage of boys who attend at least 80% of school days	85.1	94.6	80	Percentage of students that attend class at least 80% of the school days. Source: Teacher attendance books
	Percentage of girls who attend at least 80% of school days	84.9	94.3	80	
Decrease in lack of attention in the classroom	Percentage of students who do not pay attention in class	60.4	48.1	15	Average of children who do not pay attention in class (using five categories for observation). Source: Classroom observation
Number of illness related absences decreased	Percentage of students who indicate that their absence from class was due to illness	19.5	4.3	10	Percentage of children who indicate they missed school in the last month due to illness. Source: students from fourth to sixth grade
Improved reading ability	Percentage of girls who, having completed 6 th grade, demonstrate reading comprehension abilities equivalent to the national standard.	58.0	62.3	80	Mean of the percentage of reading ability 2. Calculated Value: speed (10%), accuracy (20%), comprehension (70%)
	Percentage of boys who, having completed 6 th grade, demonstrate reading comprehension abilities equivalent to the national standard.	54.3	61.1	80	
Increased community understanding of the benefits of education	Percentage of parents who can mention at least three benefits of sending their children to school	58.7	13.1	60	Parents who value the education that their children receive in the school, mention at least three benefits or reasons Source: Household Interviews
	Percentage of mothers who can identify at least	N/A	87.8	75	Percentage of Mother Collaborators who help in food preparation who know the

Result	Indicator	Value BL	Value MTE	Objective PCI	Description according to the baseline
Improved knowledge of hygiene practices	three important health and hygiene practices				main health and hygiene habits or practices that everyone should have. Mentioned at least three of seven. Based on the Golden Rules (non-existent during the baseline).
	Percentage of students / parents who can identify at least one source of information for good health practices	66.5	54.2	70	Percentage of parents who state that they know where to obtain or learn information about health and hygiene habits or practices (mention at least one)
		57.1	43.7		Percentage of students who state that they know where to obtain or learn information about health and hygiene habits or practices (mention at least one)
Increased knowledge of food security practices	Percentage of people with knowledge of at least three food security practices	13.2	94.4	80	Percentage of parents who mention at least three recommendations or important aspects of diet and nutrition for food preparation in the school.
Increase in nutrition knowledge	Percentage of parents who can identify at least one local source of information about nutrition practices	58.1	57.6	70	Percentage of parents who can mention at least one source of information about food, diet and nutrition practices or habits
	Percentage of parents who can identify at least three important nutrition practices	13.2	76.8	80	Percentage of parents who mention at least three recommendations or important aspects about diet and nutrition for large groups of children
Reduction of short term hunger	Percentage of students who say they are hungry or very hungry	9.3	19.7	15	Percentage of students (boys and girls) who were hungry or very hungry at the time of the interview Source: Students from fourth to sixth grade
Increase in the use of health and diet practices	Percentage of schools with clean latrines (at least once a day)	54.0	39.3	50	Percentage of schools that have clean latrines and/or toilets
	Percentage of schools with soap and water in the hand washing stations	17.4	25.0	50	Percentage of schools that have hand washing stations near the latrines and/or toilets, with soap and water available
	Percentage of schools with clean equipment for cooking and meals the students (consistent with accepted standards)	60.7	50.0	80	Schools where order and cleanliness is observed with regard to kitchen utensils. Comply with at least three of the following conditions: 1. Dry, 2. Clean, 3. Are covered and, 4. Stored in the appropriate place

Result	Indicator	Value BL	Value MTE	Objective PCI	Description according to the baseline
					It should be noted that 75% of the kitchen: were in the process of preparing food at the time of the observation
Increase in the number of utensils and equipment for food preparation and storage	Percentage of schools with improved equipment for food storage	N/A	100.0	29	Schools with improved equipment for food storage (wood platforms and scales)

Project Concern International

Food for Education II

Annex B

Technical Report



Guatemala, January 2016

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List of Acronyms

CMS	Municipal Sustainability Commissions
COMUSAN	Municipal Food and Nutrition Security Commission
CPF	Parents' Councils
CTA	Technical Administrative Coordinators
MTE	Mid-term evaluation
FFE	Food for Education
BL	Baseline
MOE	Ministry of Education
MOH	Ministry of Health
PEC	Coverage Extension Program
PCI	Project Concern International
USDA	United States Department of Agriculture (United States Department of Agriculture)

INTRODUCTION

The Food For Education program (FFE), is being implemented by Project Concern International (PCI) in cooperation with the United States Department of Agriculture (USDA) and with participation by the municipalities of Cuilco, San Pedro Necta, San Gaspar Ixchil, Soloma, Barillas and Santa Eulalia, in the Department of Huehuetenango, Guatemala. The first phase of the program was carried out from 2010 to 2013. Currently the program is in its second phase, which began in 2014 and will end in 2016. For its implementation, the program coordinates mainly with the MOE, members of the Municipal Councils, parents, directors, and Technical Administrative Coordinators (CTA), among others.

The program's objectives are to improve food security, reduce rates of hunger and improve literacy and primary education, thus contributing to a more sustainable and more productive society.

Currently 37,745 students in pre-school and primary school are participating in the program as well as 1,463 teachers and 1,205 Mother Collaborators in 294 schools distributed in the six previously mentioned municipalities. The main activities are: a) Provision of commodities¹ for daily preparation of a school breakfast; b) Construction and/or rehabilitation of kitchens, c) Construction and/or rehabilitation of water systems and hand washing stations. d) Strengthening of local capacities at the local, regional and national levels, e) School fairs, f) Distribution of equipment for kitchens, g) Campaigns to promote school enrollment, h) Establishment of school gardens, i) Qualitative study to identify barriers to education, j) Training of teachers and parents in food management, k) Trainings for teachers and parents on the topic of food preparation and storage practices, l) Trainings for parents, teachers and school children on topics of health, hygiene and nutrition, and m) Trainings for Parents' Councils in management of the program at the school level.

As a part of the verification of achievement of the indicators for activities and results in the middle of this second phase of project implementation, a Mid-term evaluation (MTE) was planned to provide input and information to improve the program and/or redirect strategies to facilitate accomplishment of the objectives agreed upon with the USDA. The evaluation looked at the period from October 2013 to date.

This document reports on the mid-term evaluation carried out by Khanti, S. A. and compares the findings from the Mid-term evaluation with the data collected in the baseline of April 2014 and includes quantitative as well as qualitative work carried out in August and September 2015.

¹ Ration of 2.09 Kilos/month/student. Foods distributed: wheat flour, beans, rice, oil and CSB.

METHODOLOGY

For this mid-term evaluation, the methodology, instruments and sample design were as similar as possible to those of the baseline carried out in April 2014. For this purpose, the mid-term evaluation used two methodologies for data collection, one qualitative and the other quantitative.

At the time of the program's baseline, a total of 279 schools were participating in six municipalities. At the time of the mid-term evaluation, a total of 294 schools were served by the Food For Education Program II. This difference created a slight modification in the sample of schools to be visited, however, in contrast to the baseline, the schools were not divided by implementation phase. This means that the 294² schools were taken as a single universe given that the goal was to analyze program progress in general and not based on which schools had been in the program for the longest time.

As in the baseline survey, a stratified design was used taking into account the linguistic region (Mam or Q'anjob'al) and, in each strata, the schools were selected using a probability proportional to size (PPS). Each school in each community was then considered as a cluster.

The indicators analyzed in this report were measured using the following samples.

Table 1: Number of interviews analyzed according to survey

Population	Baseline Sample	Mid-term evaluation Sample
Directors and teachers	73	87
Students (4 th to 6 th grade)	358	416
Parents of School Council	55	60
Academic Records	26	28
Observations of schools	25	28
Observation of kitchens	22	28
Parents or adults in the home	476	573
Children between 5 and 12 years of age	441	1,133
Youth between 13 and 15 years of age	177	345
Mother Collaborators ³	-	96
Reading tests	125	247

Source: Field interviews conducted in 2014 and 2015

As had been done during the baseline survey, students were observed in class to determine their attention levels. For this strategy, three observations were carried out in randomly chosen classrooms. In schools where there were three or fewer classrooms, all were selected. This occurred even in schools where the teachers were absent at the time of the visit and their students were receiving classes from someone who was not their regular teacher. In each classroom, a class period was chosen at random

² It is important to note that of the total number of schools in the sample that were visited, 18 began the program in 2011, one in 2013, six in 2014 and three in 2015.

³ This instrument was not used in the baseline and for that reason no comparison is made with the baseline.

and in schools where there was only one classroom at the time of the visit or where tests were being given in the other classrooms, three class periods were chosen at random.

During a ten-minute period, the observer randomly chose one minute during which to observe the behavior of the students in relation to the class they were receiving. It is important to note that these observations were carried out while the teacher was giving a normal class in which teachers interacted frequently with students using posters, drawings or the blackboard. The observations were carried out in classes such as math, social studies, natural sciences or language arts.

In order to measure students' reading ability two types of measurement were conducted. For the first, a random selection was made of sixth grade students who were at school on the day of the visit, or for students who had completed sixth grade, they were sought at their homes or their middle school. The same reading test from the baseline was used for the mid-term evaluation and is based on the expected reading level for sixth grade students. Students were asked to read out loud. The reading evaluation looked at these aspects: speed, accuracy and comprehension, based on the indicators established by the Ministry of Education for children who have completed sixth grade.

SAMPLE OF SCHOOLS

In the second phase of the Program, 279 schools were expected to be participating and are distributed in six municipalities of the department of Huehuetenango. The quantitative study seeks to evaluate the status of the program's effect and impact indicators.

It was found that in this second phase, the program is actually attending 294 schools, including schools that began in the first phase and new schools that joined in the second phase. These include 21 schools that were incorporated in 2015 and six schools that had left the Program. For sample selection a single strata was used, that of language (Mam/Q'anjob'al).

Table 2: Number of schools and students per strata

Strata		Municipality	Number of schools	Total number of Students in the Strata	Number of schools in the sample
#	Region				
I	Mam	Cuilco	92	15,684	14
		San Gaspar Ixchil	12		
		San Pedro Necta	39		
		Total	143		
II	Q'anjob'al	San Pedro Soloma	34	22,336	14
		Santa Cruz Barillas	72		
		Santa Eulalia	45		
		Total	151		

Source: Data provided by PCI

The selection of schools was made by strata, taking into account the probability of selection according to the size of the schools, based on the total number of students (sampling with probability proportional to size – PPS).

A total of 32 schools were selected for visits, including four replacement schools. Of these, 31 were visited to collect information. Complete information was obtained in 28 of these and partial information in one additional school. The present report does not indicate the names of the schools to preserve confidentiality.

In each of the schools, teachers, students and Mother Collaborators were chosen at random. It was a little more difficult to select parents from the Council to interview given that because of their obligations outside the school, they were not always easily available.

SAMPLE OF HOUSEHOLDS

A total of 572 households were visited during the mid-term evaluation, compared to 476 visited during the baseline. The number of households is related to the number of schools visited. All the households visited during the MTE had, at the time of the visit, at least one child in the school supported by the Food For Education program.

Table 3: Number of households visited by municipality

Municipality		Data Collection	
		BL	MTE
Cuilco	Number	102	153
	%	21.4	26.7
San Gaspar Ixchil	Number	39	24
	%	8.2	4.2
San Pedro Necta	Number	81	118
	%	17.0	20.6
San Pedro Soloma	Number	97	94
	%	20.4	16.4
Santa Cruz Barillas	Number	119	79
	%	25.0	13.8
Santa Eulalia	Number	38	104
	%	8.0	18.2
Total	Number	476	572
	%	100.0	100.0

Source: Data collected in the field

Program staff had little intervention in the identification of the households to be visited and nine of every ten households were selected randomly by the interviewers on the day of the visit. It is important to note, however, that in some communities, the number of homes available did not allow for random selection (for example, in Haciendita de las Flores, only nine households had children in the community school).

In eight of every ten cases, for both surveys, the student's mother was the person interviewed in the home.

Table 4: Relationship of persons interviewed in the home

Person interviewed	BL		MTE	
	N	%	N	%
Mother	375	79.3	460	80.4
Father	72	15.2	65	11.4
Other member of the family	26	5.5	47	8.2
Total	473	100.0	572	100.0

Source: Household interviews

In the majority of cases, the 'other' person interviewed in the home was an older sibling (53.8% during the BL vs. 55.3% during the MTE), a grandparent (26.9% during the BL vs. 27.7% during the MTE) or an aunt or uncle (15.4% during the BL vs. 17.0% during the MTE).

In the home visits information was collected about all the children between five and 15 years of age in the household and a parent and/or caretaker was interviewed.

DESIGN OF THE QUALITATIVE EVALUATION

To complement and enrich the data from the surveys, six schools were selected for interviews with various members of the educational community. With the help of the Program, two schools which were considered to have good implementation were selected, two with average implementation and two with less than average implementation. The indicators used to determine good implementation were:

- Permanent, active community organization and participation
- Community and school with access to piped water
- Parents' Council legalized, active and integrated into the program at the school
- Minimum school infrastructure (kitchen, latrines, warehouse)
- Teachers trained and motivated
- School garden implemented and producing
- Parents aware of the importance of education and aware of health and nutrition topics
- Schools with transparency and efficiency in management of resources
- Active contribution of parents (local contributions) to complement the support programs in their school

Based on these criteria, the Program selected the following schools:

Table 5: Schools selected for qualitative sample

Level of implementation	Municipality	Community/School
Good	San Pedro Soloma	Ixnanconop
	San Pedro Necta	Río Ocho
Average	Santa Cruz Barillas	Caserío Buena Vista, Aldea Nucá
	Cuilco	El Astillero
Difficult	Santa Eulalia	Aldea Payconop

DATA COLLECTION TECHNIQUES AND STUDY SUBJECTS

Three data collection techniques were used, all of which are common in qualitative studies: semi-structured interviews, group interviews (or focus groups) and direct observation. The participants in the case studies included different members of the educational community in each community, including students, teachers and school directors, Mother Collaborators, Parents' Councils, the technical administrative staff of the Ministry of Education, the Municipal Sustainability Councils and local authorities who are involved in the Program (auxiliary mayors and representatives of the Municipal Council). In each school and municipality, the following people were interviewed:

Table 6: Qualitative technics used

Municipality	School	Parents' Council focus group
		Mother Collaborators
		Mothers' Focus group
		Students
		Mothers
		Director
		Teacher
		Observation of food preparation and consumption
	Auxiliary Mayor	
	Municipal Seat	CTA
Municipal Official		
Focus Group Municipal Sustainability Commission		

By means of individual semi-structured interviews different members of the educational community were interviewed (see Table 7), as well as technical and operational Program staff. In each school, and with the help of the teaching staff, two group discussion sessions were held, one with Parents' Council members and the other with approximately ten mothers. Additionally, a group discussion was held in each municipality with members of the Municipal Sustainability Commissions and two group discussions with the Program's operations staff. In each school, fifth and sixth grade students were visited for a brief (20 minute) dynamic. Fourth and fifth grade students were visited to obtain their perceptions about school feeding and school attendance. In each school the physical infrastructure was observed with regard to food preparation, water and sanitation as well as food delivery and consumption. The observations were recorded using a semi-structured guide with spaces for writing notes about the events observed. This is summarized in the table below.

Table 7: Number of qualitative activities carried out

Technique	Subjects	Total per school	Total evaluation
Semi-structured interviews	Municipal officials and	1	6
	CTA	1	6

Technique	Subjects	Total per school	Total evaluation
	Mothers	3	18
	School Directors and	1	6
	Teachers	1	6
	Local Authorities	1	6
	Success story: gardens	-	1
	PCI Staff	-	4
	MOE staff, Huehuetenango	-	1
	Total interviews		60
Group Interviews	Parents' Council	1	6
	Mothers	1	6
	Sustainability Committee	1	6
	Dynamic with students	1	6
	Success story: WE Group	-	1
	Program Staff	-	2
	Total focus groups		27
Observation		1	6

HUEHUETENANGO IN CONTEXT

BACKGROUND

Situated in the mountain chain of the Cuchumatanes, the department of Huehuetenango is located in the northeastern part of Guatemala, bordering on the Mexican state of Chiapas. Due to its topography, various ethnic groups with distinct languages exist; 65% of the population speak at least one of the following Mayan languages: Akateko, Chuj, Popti', Mam, Tektiteko, Awakateko, K'iche' or Q'anjob'al. Even before the Spanish conquest, the area was known for its itinerant population which practiced agriculture in a "vertical archipelago", working in the nearby mountainous zones and migrating to the lowlands or Pacific zone (see Tejada, 2002). Additionally, extensive commercial networks through the Sierra Madre in Chiapas and as far away as the Soconusco have been in place for centuries (see Navarrete, 1980).

In more recent times, the people of Huehuetenango have depended on migration for survival. Given their insufficient access to land which is apt for agriculture, for generations they have depended on seasonal migration to the coffee plantations in Guatemala and Chiapas, and to a lesser degree to other plantations along the Pacific coast. In the last 40 years, the population has quadrupled while the land area has stayed the same which has exacerbated the problem of land availability.

The majority of Huehuetecos have to struggle to satisfy their daily needs. In fact, 71% of them live below the poverty line and of these, 22% live in extreme poverty (INE/ENCOVI 2006). Within the indigenous population of Huehuetenango, the situation is even more complicated; 84% of the population is poor and 25% live in extreme poverty.

The civil war in Guatemala was especially brutal in Huehuetenango, exacerbating the poverty and creating thousands of refugees and internally displaced people. Many Huehuetecos fled to refugee camps near Chiapas and others to the United States and Canada (for a detailed account of the civil war in Huehuetenango, see Castañeda 1998, Kobrak 2003; for the municipality of Cuilco, see Camus 2008).

The civil war officially ended in 1996 with the signing of the peace accords but the wounds created by the conflict are far from healed. In the areas most wounded by the conflict, the residents are still very fearful of government officials, they don't trust their neighbors or any form of community organization for fear of suffering reprisals. There have been some improvements in the provision of basic services, but little progress in living standards. In addition to their poverty, the population has to confront growing ecological problems and the increased presence of drug cartels. Faced with this seemingly insurmountable adversity, and lacking local alternatives, many Huehuetecos (13% of the total population) see northern migration as an opportunity for advancement, especially to the United States.

Large numbers of the inhabitants of the municipalities of Jacaltenango and Soloma began to migrate to the United States in the early '80s. The Huehuetecos have established large migrant networks in Florida and in Los Angeles and have been able to send significant remittances even though they decreased during the economic downturn in the United States. This migration, according to the data collected by the IRMISAN study in 2008, helped the population of Huehuetenango to improve their nutritional status (based on children's height and weight measurements). However, in 2012 during the second visit carried out for that study, they found that the 2008 height gains of the children, which were greater than those in the national data for Huehuetenango, had stagnated or were lower in 2012 (see Maluccio and Carletto, 2014).

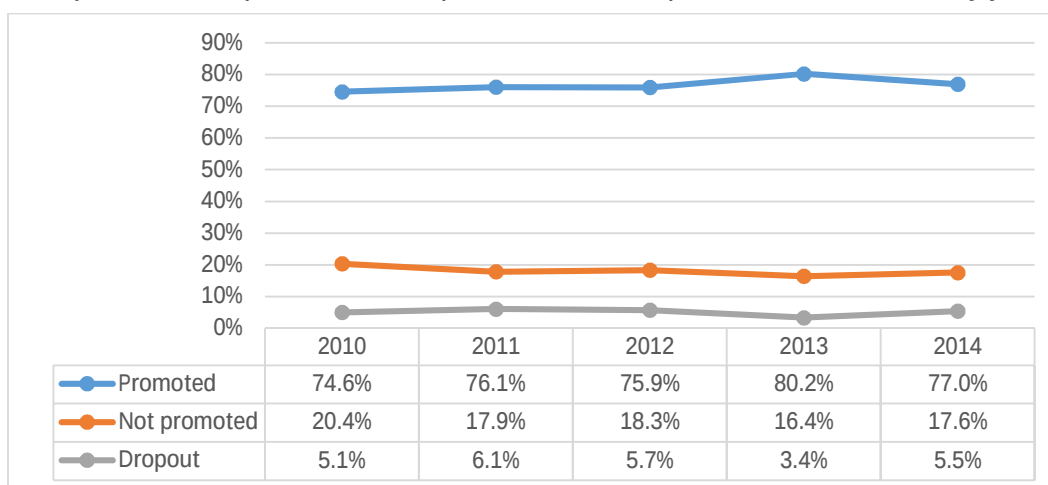
EDUCATION IN HUEHUETENANGO

In order to understand the environment in which the Food For Education program is working it is important to understand the broader context of education in Guatemala, as well as that of the department of Huehuetenango.

Based on the information found on the Ministry of Education (MOE) site for 2014 and considering only primary education, at the country level the total rate of students passing to the next grade was 87.5%. For the department of Huehuetenango it was 84.7% and, for the schools in the sample which entered the FFE program in 2011 (N = 18), 74.6%. These data show that the schools selected for the FFE program have a concentration of children with greater learning challenges as well as fewer eating opportunities given that, as will be seen later, three of every four children do not manage to eat three meals a day.

In spite of that the fact that the promotion rate in the schools that the Program supports are below the departmental mean, it is important to note that the promotion rate for all the schools that entered the program in 2011 is greater than what it was the year prior to beginning the program, as can be seen in the following graph:

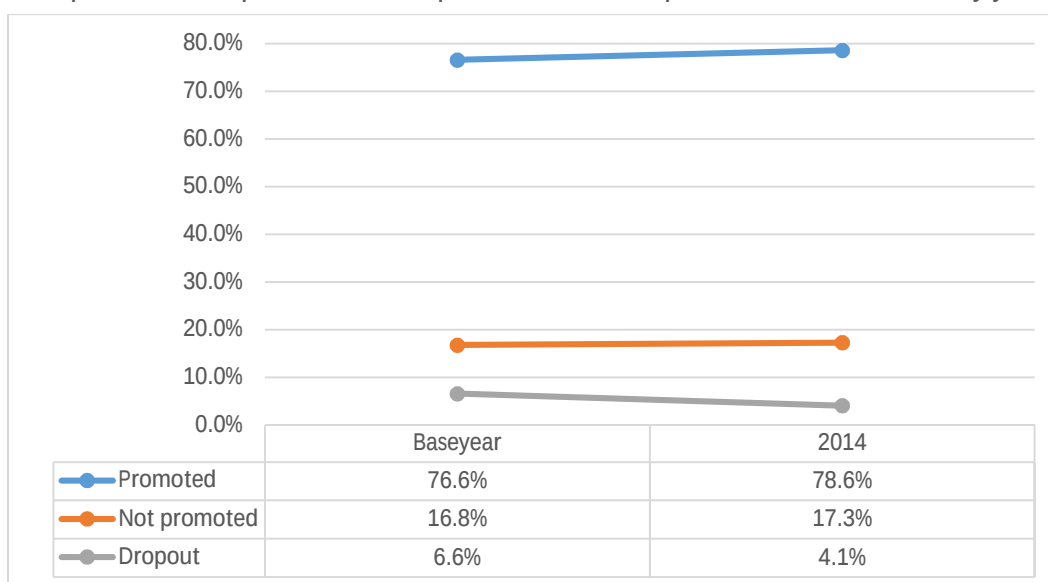
Graph 1: Rates of promotion, non-promotion and drop-outs for 2011schools, by year



Source: MOE, data published on the internet

For the seven schools in the sample that began the program in 2014⁴, the promotion rate is higher than in the base year (year prior to beginning participation in the FFE program) with a promotion rate of 78.6%, 17.3%, non-promotion and 4.1%, drop out, compared to promotion, 76.6%, non-promotion, 16.8% and 6.6%, drop-out rate) in the base year. Nevertheless, this is lower than the national average. This difference in proportions is not statistically significant.

Graph 2: Rates of promotion, non-promotion and drop-outs for 2014 schools, by year



Source: MOE, data published on the internet

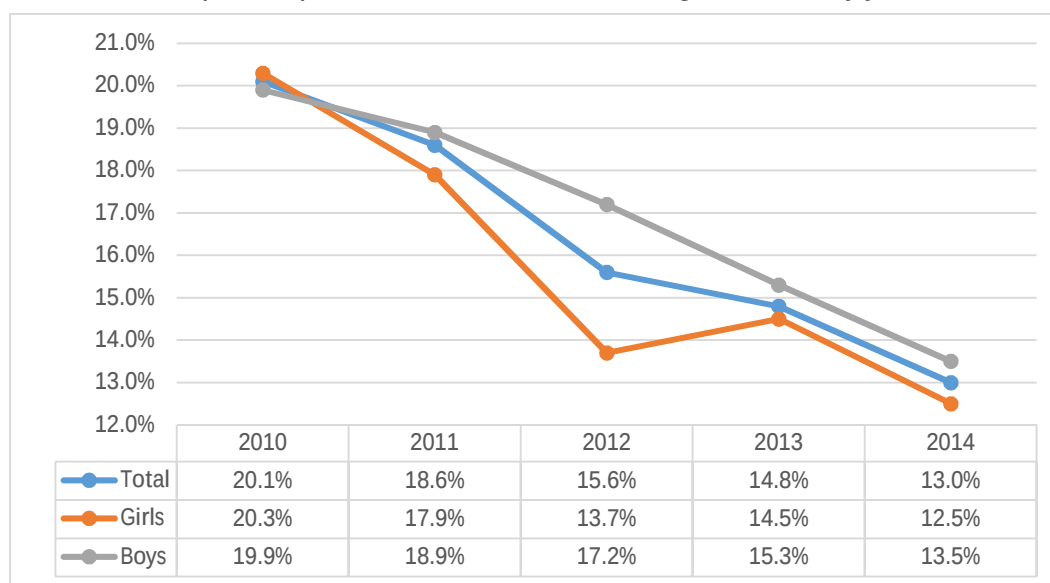
For Guatemala, the repetition rate is 15.6% (17.0% for boys and 14.1% for girls) and for the department of Huehuetenango it is 19.3% (20.3% for boys and 18.2% for girls). This rate is higher for San Pedro

⁴ Included in this data is a school that was visited but where data was not collected for the school but only for the community because the school was closed on the day of the visit.

Soloma (24.4%) and lower in San Pedro Necta (14.6%). The repetition rate for San Pedro Necta is lower than the national mean.

When considering the sample of schools that began the program in 2011, it can be seen that the repetition rate has decreased for all; this difference is statistically significant. It should be noted that the repetition rate for boys is slightly higher than that for girls for every year, taking as a baseline the year prior to entry into the program (2010).

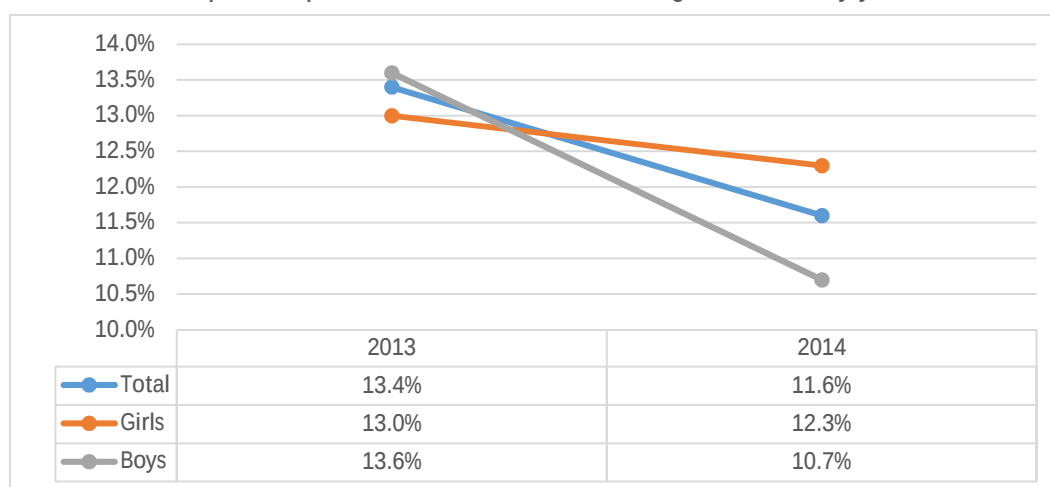
Graph 3: Repetition rate for schools that began in 2011, by year



Source: MOE, data published on the internet

When the same analysis is carried out for the schools that began the program in 2014 (N = 7) similar behavior is observed with regard to the repetition rate as seen in the following graph.

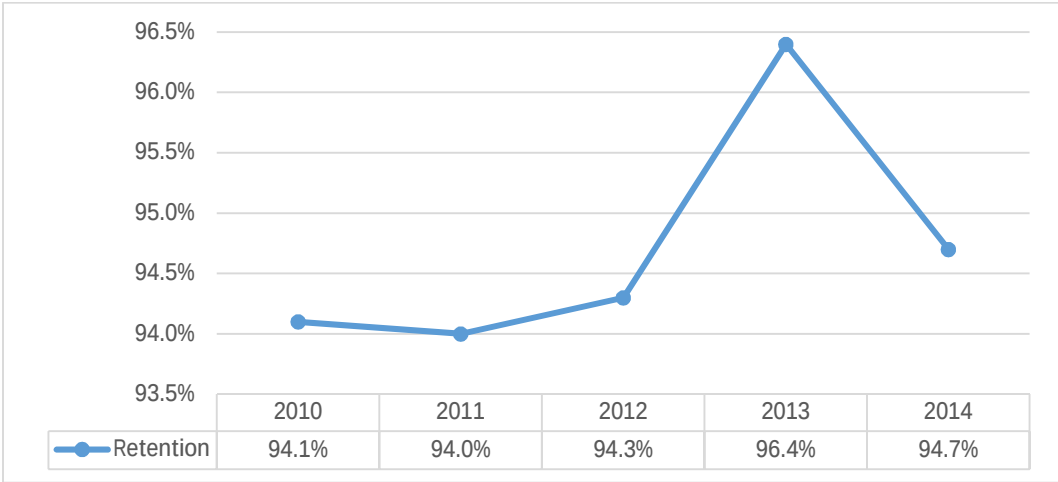
Graph 4: Repetition rate in schools that began in 2014, by year



Source: MOE, data published on the internet

Another important educational indicator is the retention rate. As can be seen in the following graph, on average it has increased for the 17 schools that began the program in 2011. It should be noted that the behavior in 2013 is slightly unusual; the difference between 2010 and 2014 is not statistically significant.

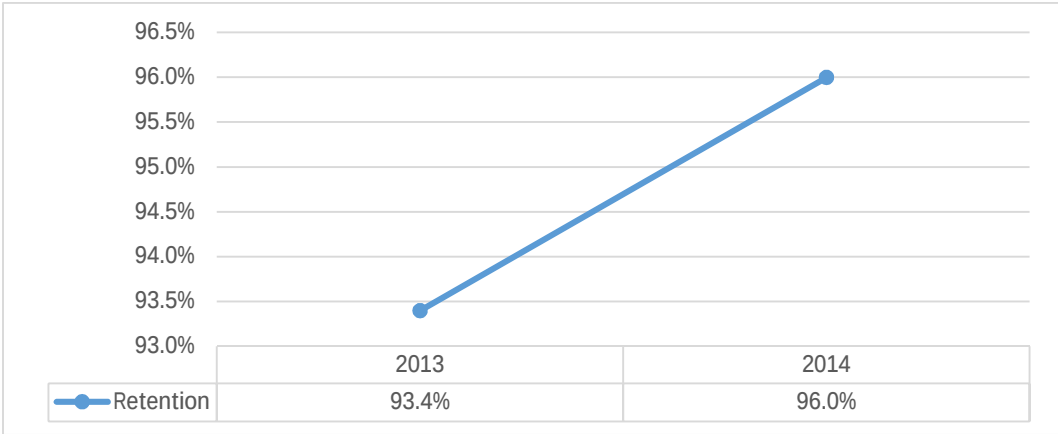
Graph 5: Retention rate, schools that began in 2011



Source: MOE, data published on the internet

Similar behavior was found in the seven schools that began the program in 2014.

Graph 6: Retention rate, schools that began in 2014



Source: MOE, data published on the internet

MALNUTRITION IN HUEHUETENANGO

In the area of health, on reviewing information published by the Ministry of Health (MOH), it can be noted that the municipalities of the sample were prioritized in the Zero Hunger Plan. Five of the six municipalities were classified as having “very high nutritional vulnerability” and one had “high nutritional vulnerability” as can be seen in the following table. The municipality of San Gaspar Ixchil has the highest vulnerability rate (74.7%) and the municipality of Cuilco, the lowest (52.4%).

Table 8: Prevalence of stunting, by municipality

Ranking in the country ⁵	Municipality	Total % of stunting	Category of nutritional vulnerability
12	San Gaspar Ixchil	74.7	Very high
16	Santa Eulalia	74.4	Very high
21	Santa Cruz Barillas	73.2	Very high
52	San Pedro Necta	66.5	Very high
82	San Pedro Soloma	60.2	Very high
117	Cuilco	52.4	High

Source: MOH, Zero Hunger Plan

Thanks to support provided by the Zero Hunger Plan, all the communities of these municipalities received, until 2014, support with micronutrients and vitamins such as iron, folic acid, zinc and vitamin A, provided through the Extension of Coverage Program (PEC) of the Ministry of Health. Now, of the 30⁶ communities selected for the 2015 sample, 13 have a Health Post, 10 do not (either it had been closed in the last 12 months or there never was one) and seven have a Community Center with sporadic visits from MOH staff⁷ who come to measure, vaccinate and deliver micronutrients to the population. This means that for 59.45% of the communities, the availability of micronutrients and medicines is still limited.

FINDINGS

EDUCATIONAL ASPECTS

INTRODUCTION

This section provides a detailed analysis of educational aspects of the schools visited. Some of the data is more closely analyzed given that is related to indicators of special interest for the project. The summary of these indicators can be seen below:

Table 9: Educational indicators for the Program

Result	Indicator	MTE Value	PCI Objective	Description according to the baseline
Increased school enrollment	Percentage of boys' school enrollment, as a result of USDA assistance	94.3	1	Percentage of students who have enrolled in school, in part, thanks to the support of the USDA FFE program
	Percentage of girls' school enrollment, as a result of USDA assistance	97.1	1	

⁵ Based on the list of 166 municipalities selected for coverage by the Zero Hunger Program.

⁶ This Information could not be verified in two communities of the sample.

⁷ Non health post based staff

Result	Indicator	MTE Value	PCI Objective	Description according to the baseline
Improved school attendance	Percentage of boys who attend at least 80% of class days	94.5	80	Percentage of students who attend at least 80% of class days. Source: Teacher attendance books
	Percentage of girls who attend at least 80% of class days	94.7	80	
Decrease in lack of attention in the classroom	Percentage of children who are not attentive in class	48.1	15	Average of children who are not attentive in class (using five categories of observation). Source: classroom observation
Decreased number of absences related to illness	Percentage of students who state that their absence from school was due to illness	4.3	10	Percentage of children who state that they missed school in the last month due to illness Source: students in 4 th to 6 th grade
Improved reading ability	Percentage of girls who, on having completed 6 th grade, demonstrate reading comprehension abilities equivalent to the national standard	62.3	80	Mean of the percentage of reading ability 2. Calculated value: speed (10%), accuracy (20%), comprehension (70%)
	Percentage of boys who, on having completed 6 th grade, demonstrate reading comprehension abilities equivalent to the national standard	61.1	80	
Increase in community understanding of the benefits of education	Percentage of parents who can mention at least three benefits of sending their children to school	13.1	60	Parents who value the education that their children receive at school, mention at least three benefits or reasons Source: Household interviews

Source: Mid-term evaluation data

ENROLLMENT

In order to be able to measure school enrollment in the households that participate in the program, a comparison was made using the data collected in the baseline (BL) and the Mid-term evaluation (MTE). For this analysis information supplied by the MOE was not used as it did not allow for analysis of parental attitudes toward enrollment.

PRIMARY SCHOOL ENROLLMENT

For the MTE, the information from all the children between five and 15 years of age in the households visited was included and for analysis the appropriate school age (seven to 12) was used as a reference for primary school. Using these data, a reduction in the enrollment rate was noted from 98.4% in the BL to 95.1% in the MTE. The decrease in enrollment was higher for girls (4.0%) than for boys (2.7%). The decrease in the rate for the two years is statistically significant ($t = 2.927$, $p = .0035$).

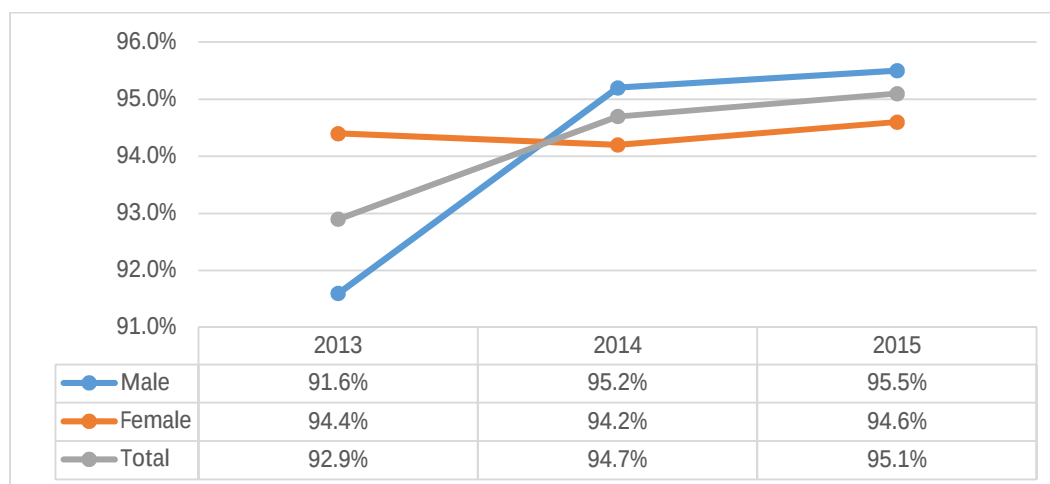
Table 10: Coverage by year

	Male		Female		Total	
	N	%	N	%	N	%
Girls and boys enrolled in the community school (Coverage 2015)	464	95.5 (93. – 97.4)	411	94.6 (92.5 – 96.8)	832	95.1 (93.7 – 96.5)
Girls and boys enrolled in the community school (Coverage 2014)	199	98.0 (96.0 – 100)	185	98.9 (97.4 – 100)	384	98.4 (97.2 – 99.7)

Source: Household visits

Using only the data collected during the MTE, the enrollment rate in the sample communities increased. This difference is not statistically significant; however, on analyzing the increase only for boys, between 2013 and 2015 there was a statistically significant difference ($t = 2.175$, $p = .0299$).

Graph 7: Enrollment Percentage, by year



Source: Household interviews

Of the total number of children between 7 and 12 years of age, in the BL there were six cases (1.6%) of children who should be attending school but aren't and 40 in the MTE (4.6%). For 2015, of the total number of children who were not attending school, 21 (4.1% of the total sample) were boys and 19 (5.1% of the total sample) were girls.

The reasons why the children did not attend school included that they don't like to study (1.8%) and lack of money (1.6%). Other reasons are presented in the following table:

Table 11: Reason for school absence, by percentage

Reason	N	%
They don't like to study	16	1.8

Reason	N	%
Lack of money	14	1.6
Other	3	.3
Illness	3	.3
They are not the right age for school (they are too little)	2	.2
Because the school / institute is too far away	1	.1
Their father doesn't give permission	1	.1
Total	40	4.6

Source: Household interviews

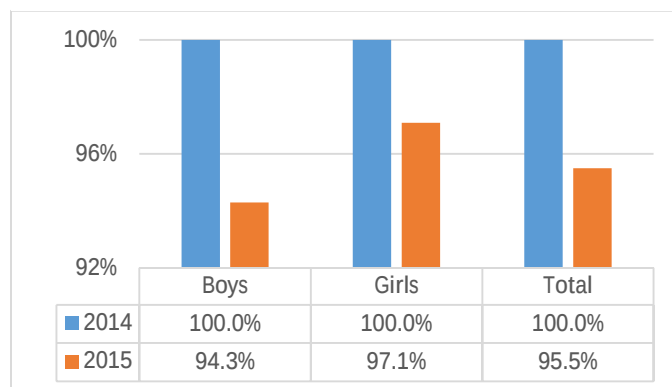
According to the MOE, *'timely initiation of school increases the probability that the child will finish primary school. In Guatemala, the expected age for starting primary school is seven years of age* (MINEDUC, 2013). When analyzing the

number of seven year old children who are enrolled⁸ in any grade, the percentage had decreased compared to the BL where the value was 100.0% in the MTE it was 95.5%. In the data collected in the MTE the percentage of female enrollment (97.1%) was higher than for boys (94.3%).

INDICATOR

94.3% OF BOYS AND 97.1% OF GIRLS OLDER THAN SEVEN IN THE COMMUNITY ARE ENROLLED IN SCHOOL.

Graph 8: Percentage of children enrolled, by sex

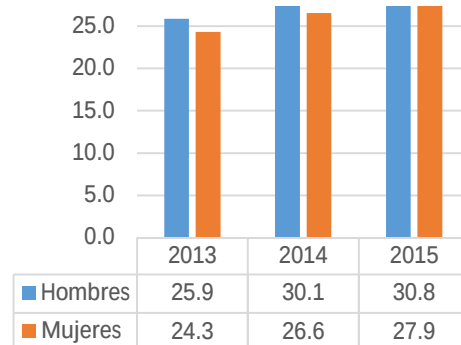


Source: Household interviews

⁸ To calculate this indicator, only enrollment data from the 2015 sample were used.

Another analysis was carried out for increases in enrollment in program schools. This indicator is calculated somewhat intuitively assuming, first of all, that the student population of the community is increasing annually and thus enrollment should have a similar pattern. To be able to obtain this indicator, information was collected from the officially recorded enrollment for each school in the sample in the initial enrollment sheets. It can be noted that for 16 schools that had information for 2013 to 2015, the total average enrollment for first grade had increased for boys as well as girls.

Graph 9: Enrollment percentage by year

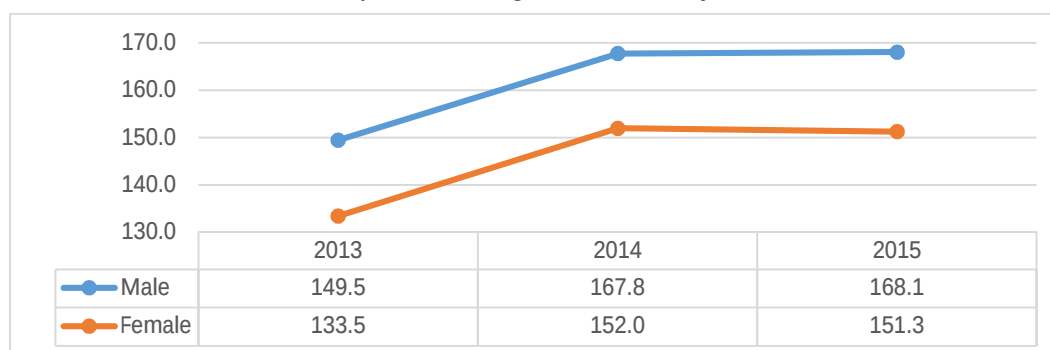


Source: Household interviews

The annual average enrollment data for the 16 schools for which information was collected and which had initiated the program in 2011, indicates that there was an increase in annual enrollment. This increase was maintained for 2014 and 2015.

The data presented in the following table include average enrollment in pre-school and primary school.

Graph 10: Average enrollment by sex

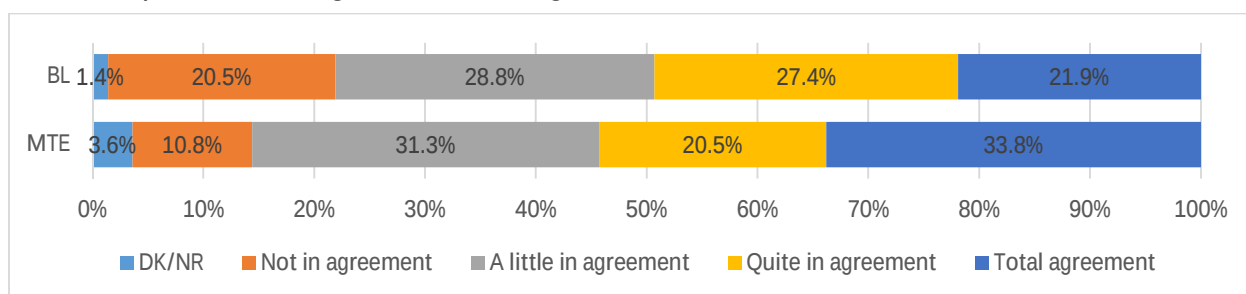


Source: Household interviews

In contrast, when the directors were consulted about their opinions regarding the increase in school enrollment in their community, 57.8⁹% of the teachers and directors were to some degree in agreement with this result while in the baseline, 50.7% thought so.

⁹ For the MTE only information from the teachers who had been working at the school for at least the last two years was used.

Graph 11: Percentage of teachers in agreement with data on increased school enrollment



Source: Interviews with Directors and teachers

In the BL this perception by the majority of the teachers was seen in nine of the 25 schools visited and in the MTE, in 15 of the 28 schools visited.

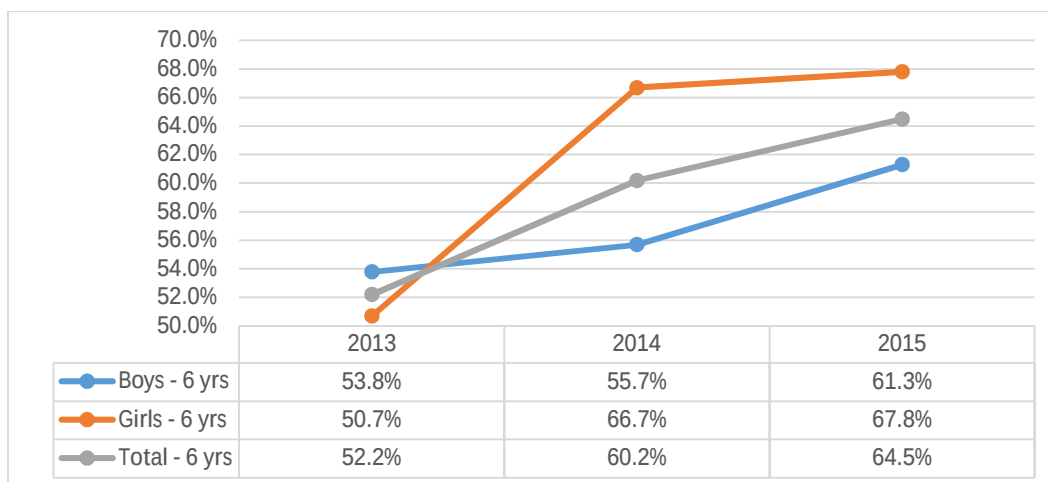
PRE-SCHOOL ENROLLMENT

Pre-school education is offered by the MOE in Guatemala for children beginning at four years of age. Of the communities in the sample, 89.7% (n = 26) had a preschool available and thus enrollment was analyzed. However, there are no data available for this in the BL so no comparisons are made.

Taking into account all children between five and six years of age and taking into account only the MOE preschools, 39.3% of the children in the households visited were enrolled in school at the time of data collection. The enrollment rate for girls was 42.3%, compared to 36.6% for boys.

When only six year olds were taken into account, the enrollment rate was 64.5%. Girls' enrollment was again higher (67.8%) than that for boys (61.3%). An increase in preschool enrollment can be observed for the three previous years. The difference between years is not statistically significant for the total enrollment rate nor when analyzed by sex.

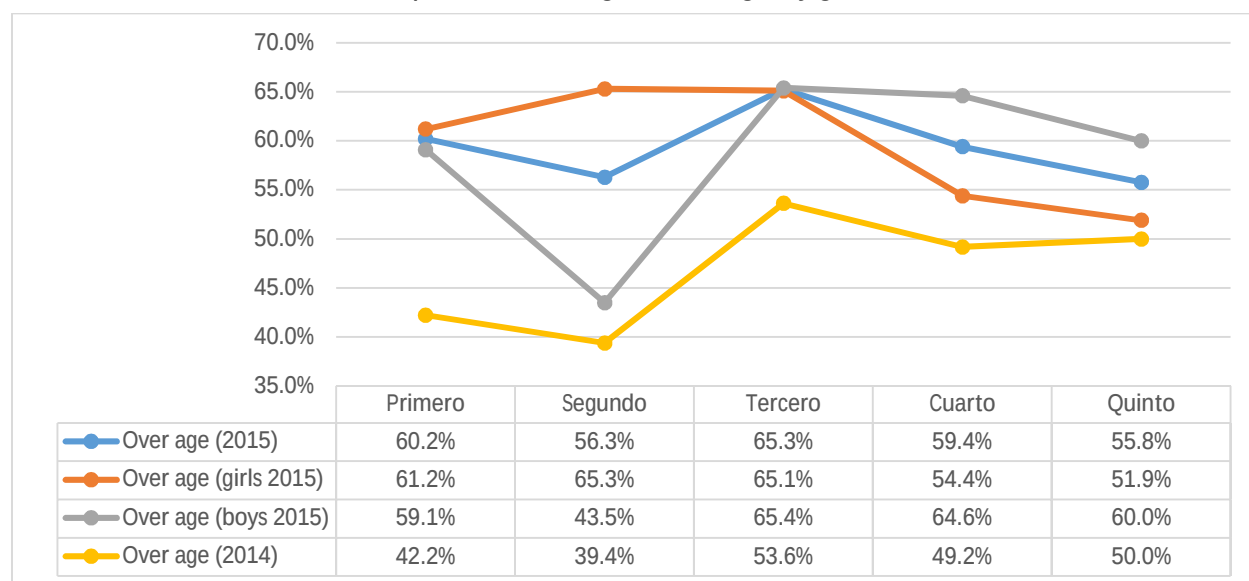
Graph 12: Enrollment percentage for six year old boys and girls by year



Source: Household interviews

On analyzing the data collected in the homes and with information provided by the mothers who were interviewed, a high rate of over age enrollment¹⁰ was found, and this was higher on average this year (56.8%), compared to the baseline (43.0%). Over age is higher for girls in first and second grades but decreases from third to fifth grades. For boys, over age is greater beginning in third grade.

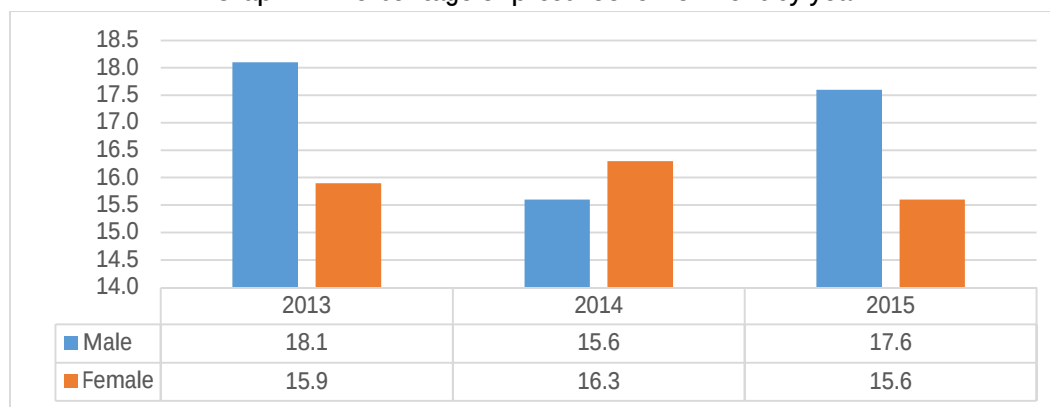
Graph 13: Percentage of over age, by gender



Source: Household interviews

If the enrollment data for preschool children is analyzed for the schools mentioned above, similar behavior is not seen given that there is a decrease in 2014 and an increase for 2015. The increase observed in 2015 is less than the averages observed for 2013.

Graph 14: Percentage of preschool enrollment by year



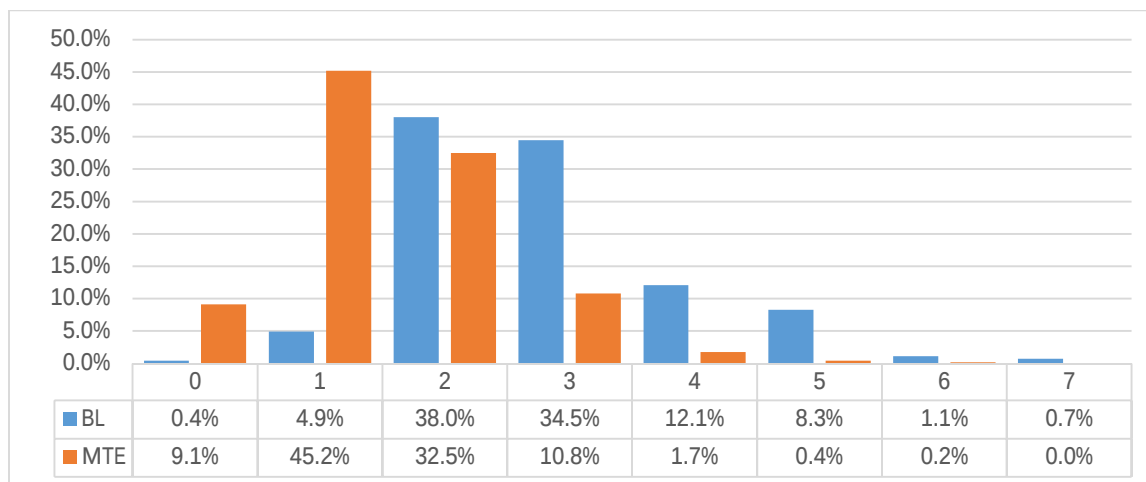
Source: Household interviews

¹⁰ The category of over age refers to those children who are older than what is expected for the grade they are in. For this case we did not use the MOH definition which considers those who are “two or more years older than the expected age for their grade”.

BENEFITS OF EDUCATION

Almost all the adults interviewed responded that the children who go to school learn or ‘gain something for their lives’ (91.9% during the MTE vs. 99.6% during the BL). Of the fathers and/or mothers interviewed in the MTE, 13.1% could recognize at least three benefits that their children ‘gain’ or learn in school, compared to 56.6% with similar answers in the BL. This difference is statistically significant ($t=14.372$, $p=.0000$). It is important to clarify that the difference in the responses could be due to the time of the trainings.

Graph 15: Percentage of the number of benefits of education indicated by the adults



Source: Household interviews

The parents¹¹ were asked about the benefits of what their children learn in school. The responses were similar in the BL and the MTE; however, the percentages varied between the different surveys. The parents interviewed see learning to read and write as a main benefit followed by learning to talk well.

The benefits indicated exclusively by the parents are presented in the following table:

Table 12: Benefits of education

Benefits of education	Baseline (n = 445)		MTE (n = 478)	
	N	%	N	%
To read and write	437	98.2 (96.8 – 99.3)	393	82.2 (78.7 – 85.5)
To talk well	316	71.0 (66.2 – 75.3)	119	24.9 (21.1 – 28.7)
To get a job	155	34.8 (30.5 – 39.4)	63	13.2 (10.0 – 16.2)
As a foundation to be able to study more	93	20.9 (17.3 – 24.5)	50	10.5 (7.6 – 13.3)
To respect others	84	18.9 (15.0 – 22.5)	48	10.0 (7.4 – 12.7)
To be good citizens	68	15.3 (12.3 – 18.5)	29	6.1 (4.1 – 8.3)
To do math and calculations	65	14.6 (11.4 – 18.3)	69	14.4 (11.4 – 17.4)

¹¹ Anyone who was not a parent of a school student was excluded from this analysis.

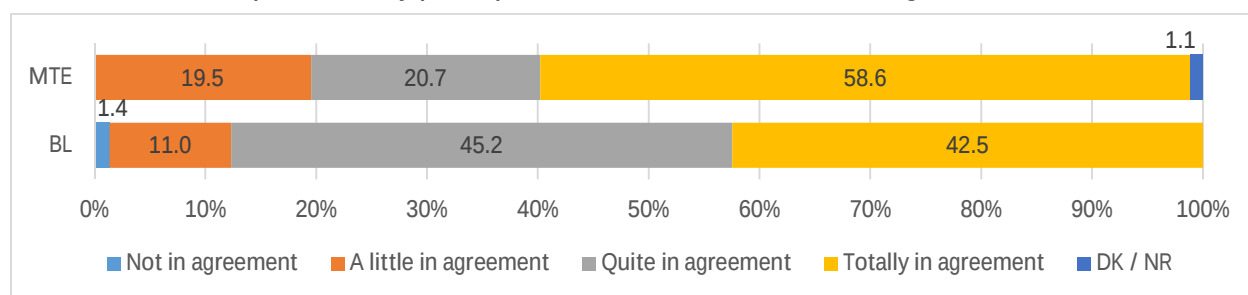
Benefits of education	Baseline (n = 445)		MTE (n = 478)	
	N	%	N	%
Hygiene practices	31	7.0 (4.9 – 9.4)	3	0.6 (0.0 – 1.5)
How to eat well	12	2.7 (1.3 – 4.5)	5	1.0 (0.2 – 2.2)
To understand and value their body	8	1.8 (0.7 – 3.1)	2	0.4 (0.0 – 1.1)
To be healthy/ prevent illness	6	1.3 (0.4 – 2.5)	5	1.0 (0.2 – 2.0)
How to have good nutrition/avoid malnutrition	1	0.2 (0.0 – 0.7)	3	0.6 (0.0 – 1.5)
Other (not part of the BL)	-	-	6	1.3 (0.2 – 2.3)
To speak Spanish (not part of the BL)	-	-	8	1.7 (0.6 – 3.0)

Source: Household interviews

It is very probable that the benefits of education are not evident for those who were interviewed, given that on average, the men interviewed had 3.8 years of education and the women, 2.5.

Of the directors and/or teachers interviewed during the MTE, 58.6% were totally in agreement with the statement that the majority of parents who have children in the school attend the activities that are organized in the educational institution. Nevertheless, an increase was observed in the directors and/or teachers who stated that they only agree a little bit (20.7% during the MTE vs. 11.0% during the BL). Even considering that six of every ten teachers state they are totally in agreement that parents participate in school activities, there are two of every ten parents who do not seem to participate in school activities. This could reinforce the previous finding about the perception of benefits of education.

Graph 16: Family participation in school activities according to teachers



Source: Interviews with Directors and/or teachers.

SCHOOL ATTENDANCE

ATTENDANCE RECORDS

Children's school attendance is a very important aspect of the project. For this reason, a sample of 901 children was selected for an analysis of class days (from 15 January to 31 July) and based on this their attendance rate was calculated. To obtain this, during the visit to the school all the available attendance notebooks were photographed. From these records, three boys and three girls were randomly selected

per grade and their attendance from January to July was tabulated. This method is different than what was used in the baseline but facilitated greater accuracy in determining children's attendance.

Information was collected from a total of 447 girls and 454 boys distributed in the six grades of primary school as shown in the following table:

Table 13: Number of children whose attendance is verified, by grade

Grade	Female		Male	
	N	%	N	%
1	83	18.6	76	16.7
2	75	16.8	81	17.8
3	75	16.8	71	15.6
4	77	17.2	82	18.1
5	71	15.9	73	16.1
6	66	14.8	71	15.6
Total	447	100.0	454	100.0

Source: Teachers' attendance records

From 15 January to 31 July, there should be 130 official class days and 12 holidays. In total, 127,905 days/child in class were reviewed to present the information below.

On average there were 1.2 unofficial holidays locally such as town Saints' Days. On 8.8 days no classes were given due to local activities at the school including strike days or days with union meetings and/or specific school activities. On average, teachers did not take attendance on 20.1 days. From the previously mentioned findings, the most relevant is the number of days that teachers did not take attendance which ended up being 15.5% of class days.

Table 14: Average number of days with no attendance record, by reason

Reason why there is no attendance record	N	Min.	Max.	Mean	Std. Dev.	Sum
Local or unofficial holidays	901	0	11	1.24	2.124	1120
School or teacher days (including strikes)	901	0	30	8.77	6.492	7906
Days when teachers did not take attendance	901	0	128	20.11	19.775	18115

Source: Teachers' attendance records

When the 19 cases of students who left school (seven boys and 12 girls) were eliminated from the analysis, and only those days with attendance information (96.1 days) were taken into account, on average the children attended school 90.9 days and were absent for 5.0 days.

A difference was noted in attendance days by sex, with girls, on average, attending more frequently (90.7 days vs. 91.1 days) and missing less class (4.93 days vs. 5.13 days).

Table 15: Average number of days of attendance and absences, by reason

Sex		N	Min	Max	Sum	Mean	Std. Dev.
M	Average number of days of class	435	11	129	41647	95.74 (93.7 – 97.6)	20.205
	Average number of days that boys attended	435	11	129	39440	90.67 (88.7 – 92.5)	21.494
	Average number of days that boys were absent	435	0	49	2144	4.93 (4.3 – 5.6)	7.094
	Average number of days of boys' excused absences	435	0	5	63	0.14 (0.9 – 0.20)	0.572
F	Average days of class	447	21	129	43074	96.36 (94.5 – 98.2)	19.496
	Average number of days that girls attended	447	18	129	40723	91.10 (89.0 – 92.9)	20.935
	Average number of days that girls are absent	447	0	50	2292	5.13 (4.5 – 5.9)	7.180
	Average number of days girls had excused absences	447	0	6	59	0.13 (0.09 – 0.19)	0.563

Source: Teachers attendance records

With the information obtained previously it can be inferred that girls are absent 5.4% of class days, and boys, 5.3%. For attendance on more than 80% of school days, 94.7% of girls did so and 94.5% of boys. For girls, 20.1% attended 100% of school days and 19.5% of boys did the same.

The analysis by grade showed that children in first, fifth and sixth grades receive the fewest days of class.

INDICATOR

94.7% OF GIRLS AND 94.5% OF BOYS ATTEND MORE THAN 80% OF CLASS DAYS

Table 16: Average number of class days received, by grade

Grade	N	Min.	Max.	Mean ¹²	Std. Dev.
1	156	24	127	94.60 (91.5 – 97.7)	21.162
2	155	11	129	96.61 (94.0 – 99.4)	16.984
3	144	53	123	98.58 (96.0 – 101.3)	16.440
4	154	21	128	98.83 (95.3 – 102.0)	20.819
5	141	44	122	92.56 (89.1 – 96.1)	21.190
6	132	31	124	95.13 (91.3 – 98.4)	21.401

Source: Teachers' attendance records

The children in fourth to sixth grade miss least classes.

¹² Taking only the the existing days of attendance.

Table 17: Average number of days absent, by grade

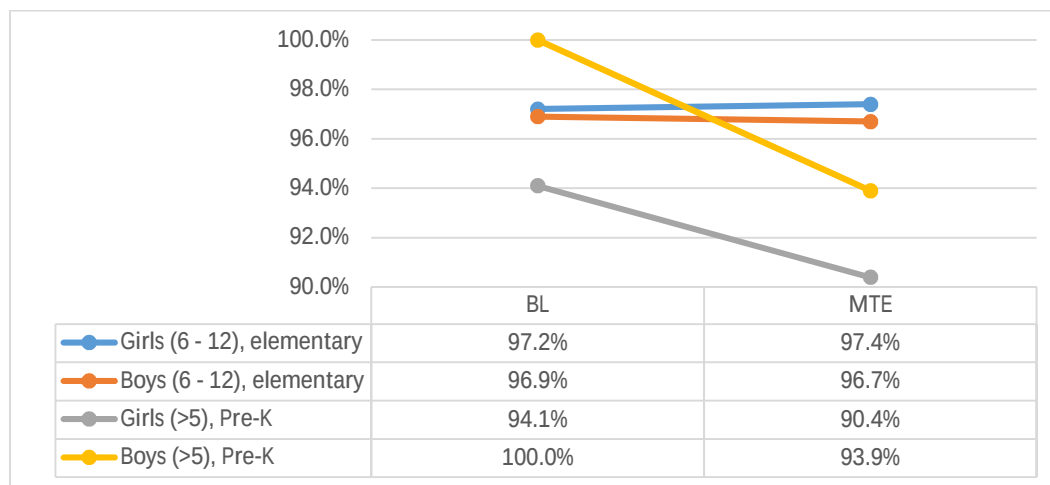
Grade	N	Min.	Max.	Mean	Std. Dev.
1	156	0	49	6.33 (5.0 – 7.7)	8.433
2	155	0	49	5.55 (4.3 – 6.9)	8.150
3	144	0	28	6.49 (5.4 – 7.7)	6.865
4	154	0	50	3.94 (3.0 – 5.0)	6.507
5	141	0	39	3.59 (2.7 – 4.7)	6.071
6	132	0	26	4.11 (3.2 – 5.1)	5.539

Source: Teachers' attendance cards

MOTHERS' PERCEPTIONS

Additionally mothers' perception regarding their children's school attendance was used. This calculation takes into account all the children that were enrolled in school based on the level at which they were enrolled and age ranges. A decrease can be observed between the baseline and the mid-term evaluation, nevertheless, none of these differences is statistically significant.

Graph 17: Mothers' perception of attendance, by academic level



Source: Household interviews

With regard to absences, 64.8% of the children have missed school at some point. According to the relatives interviewed, on average, the children have missed 2.1 days of class. Taking into account only the children who have missed, it was found that 81.7% of the cases were due to illness and on average, the children had missed 3.3 days, 5.3% of the cases were because the child didn't want to go, and on average the children had missed 4.6 days. Other reasons mentioned by those interviewed are presented in the following table:

Table 18: Average number of days absent, by reason

Reason	N (n = 601)	%	Average Days Absent
For illness	491	81.7	3.3

Reason	N (n = 601)	%	Average Days Absent
Child didn't feel like going	32	5.3	4.6
Was on a trip	18	3.0	2.8
Other reason	14	2.3	13.9
To work on the farm	13	2.2	3.3
Because accompanied a parent to do errands	12	2.0	2.8
To work at home	10	1.7	3.6
Because of death of a family member	7	1.2	5.4
Because father/Mother didn't give permission	6	1.0	3.0
Got hurt/ had an accident	6	1.0	3.7
Family illness	6	1.0	2.8
For religious activities	5	.8	2.6
For personal reasons	5	.8	2.8
Because of teacher's absence	3	.5	3.0
Mother didn't want to	2	.3	2.0
Lack of a teacher	2	.3	7.7

Source: Household interviews

In the MTE, 33 cases were found of children who had missed an average of 2.3 months of school. According to those interviewed, this was due to illness (0.9%), because of delays in class initiation (0.6%), because they didn't want to keep studying (0.6%). Other reasons are presented below:

Table 19: Percentage of children absent for prolonged periods, by reason

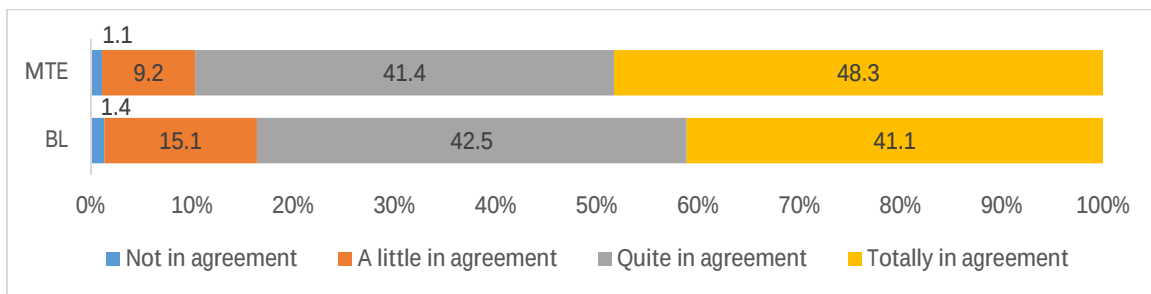
Reason	N (n = 928)	%
For Illness	8	0.9
Delayed initiation of classes	6	0.6
Didn't want to keep studying	6	0.6
They weren't given permission	3	0.3
Temporary migration	2	0.2
School repairs	2	0.2
Teachers on strike	2	0.2
Bullying	1	0.1
Too small	1	0.1
Too few children were registered	1	0.1
Problems in school	1	0.1

Source: Household interviews

TEACHER PERCEPTIONS

When directors and teachers were asked whether school attendance had increased, 89.7% stated they were to some degree in agreement during the MTE, compared to 83.6% in the baseline. One in ten directors and/or teachers thought this was not the case.

Graph 18: Perception of attendance, according to directors and/or teachers



Source: interviews with Directors and teachers

Nevertheless, in interviews with the teachers, directors and CTA, they stated that one of the principal benefits of the Feeding Program is better attendance. Additionally, the 12 teachers and directors consulted mentioned better attendance thanks to the Feeding Program. From their perspective, the few absences that still exist are due to illness. Three teachers said¹³:

Voices of the teachers

Well the issue is that many children don't have food at home, they don't eat in their house. Since they found out about the kind of food that is available, since they realized that, the children don't miss school. So when a child is absent for sure they are sick or there is some other reason. Before, they missed school for any reason but not now. They come, they eat and some come with a container and ask for more.

(Teacher, San Pedro Soloma)

Yes, it has helped. You know I've seen that what PCI offers is a motivating factor for students to be present at school. They know now, as I've told them, if they don't come for their studies, at least they come to eat what PCI offers, because they know that their food is here.

(Teacher, San Pedro Necta).

The students are focused on being able to eat and have access to the products that PCI donates. This then makes the students attend...so the students come to school because they give them their school snack.

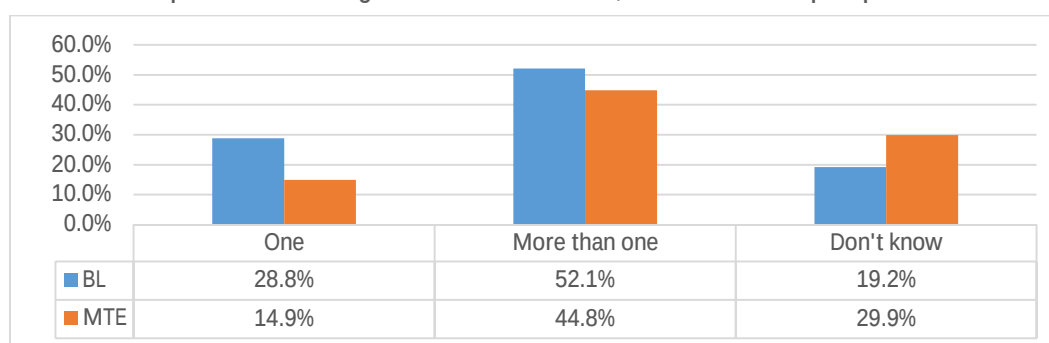
(Teacher, San Gaspar Ixchil).

An interesting finding was that when the directors¹⁴ and/or teachers were asked whether they knew if some of their students had missed class today, two of every ten teachers during the BL and three of ten during the MTE answered that they didn't know if any of their students had missed class the day of the visit.

¹³The quotes reflect as closely as possible the exact words of the people interviewed. A few modications were introduced to improve comprehension, especially in management of verb tenses and filler words.

¹⁴ This was only asked of directors who were in charge of a classroom.

Graph 19: Percentage of students absent, from teachers' perspective



Source: Interview with directors and teachers

According to the teachers interviewed, the main cause of children's absences on the day of the visit during the MTE, was for illness (50.0%), nevertheless, one in four teachers don't know or can't answer this question. The percentages vary in comparison with the baseline, but the two main reasons stayed the same.

Table 20: Reason for Children's' absences, according to directors and teachers

Reason for Absence	Baseline (n = 59)		MTE (n = 52)	
	N	%	N	%
Illness	24	40.7 (28.8 – 52.5)	26	50.0 (36.5 – 63.5)
Doesn't know / Doesn't answer	22	37.3 (23.7 – 49.2)	14	26.9 (15.4 – 38.5)
Other	6	10.2 (3.4 – 18.6)	7	13.5 (5.8 – 23.1)
Work at home	2	3.4 (0.0 – 8.5)	2	3.8 (0.0 – 9.6)
Farm work (planting/harvest)	2	3.4 (0.0 – 8.5)	1	1.9 (0.0 – 5.8)
Temporary Migration	3	5.1 (0.0 – 11.9)	1	1.9 (0.0 – 5.8)
Permanent Migration	-	-	1	1.9 (0.0 – 5.8)
Total	59	100.0	52	100.0

Source: Interview with directors and teachers

Additionally, from the data provided by teachers, it can be inferred that the rate of absences for any reason has increased from 2.34 days in 2014 to 2.67 in 2015.

Table 21: Average number of days absent, according to teachers' perception

Data collection	N	Min.	Max.	Mean	Std. Dev.
Baseline	59	1	8	2.34	1.571
MTE	52	1	13	2.67	1.958

Source: Interview with directors and teachers

On average, taking into account only the teachers who stated that they knew how many children missed class due to illness the day of the visit, it can be inferred that the number of absences due to illness has

decreased from 1.8 days in the baseline to 1.7 days in the mid-term evaluation. The difference is not statistically significant.

Table 22: Average number of days of absences due to illness, according to directors' and/or teachers' perception

Data collection	N	Min.	Max.	Mean	Std. Dev.
Baseline	28	1	4	1.79	.787
MTE	26	1	4	1.65	.892

Source: Interview with directors and teachers

Three of every ten teachers interviewed stated that they knew if any of their students had missed class during the week prior to the visit. This proportion is greater than what was found during the baseline and the difference is statistically significant ($t = 4.365$, $p = .0000$). Again, one of every four teachers stated that they did not know if their students had missed class due to illness in the week prior to the visit.

Table 23: Percentage of directors and/or teachers who do not know the reason for students' absences the week prior to the visit

Response	Baseline		MTE	
	N	%	N	%
No	15	34.1	23	27.6
Yes	29	65.9	63	72.4
Total	44	100.0	87	100.0

Source: Interview with directors and teachers

Of the teachers that stated that they knew that some of their students had missed class due to illness during the week prior to the visit, it can be noted that the number of absences for illness decreased from 2.1 days in the BL to 2.0 in the MTE.

Table 24: Average of absences for illness, week prior to the visit, according to directors' and/or teachers' perception

Data collection	N	Min.	Max.	Mean	Std. Dev.
Baseline	27	0	5	2.11	1.281
MTE	62	0	15	1.95	2.371

Source: Interview with directors and teachers

There was an increase in the perception of the teachers who considered that the school snack is an incentive for children to attend school, from 91.8% to 94.3%; the difference is not statistically significant.

Table 25: Percentage of directors and/or teachers who state that the school snack is an incentive for school attendance

Data Collection	No		Yes	
	N	%	N	%
Baseline	6	8.2 (2.7 – 15.1)	67	91.8 (88.5 – 98.9)
MTE	5	5.7	82	94.3

Data Collection	No		Yes	
	N	%	N	%
		(1.1 – 11.5)		(88.5 – 98.9)

Source: Interview with directors and teachers

Approximately nine of every ten teachers stated that the quantity and/or quality currently provided in the school feeding increases school attendance. Nevertheless, there was a decrease in the opinion of the teachers who considered that if the school feeding were of better quality or greater quantity, children's attendance would increase. The difference is not statistically significant.

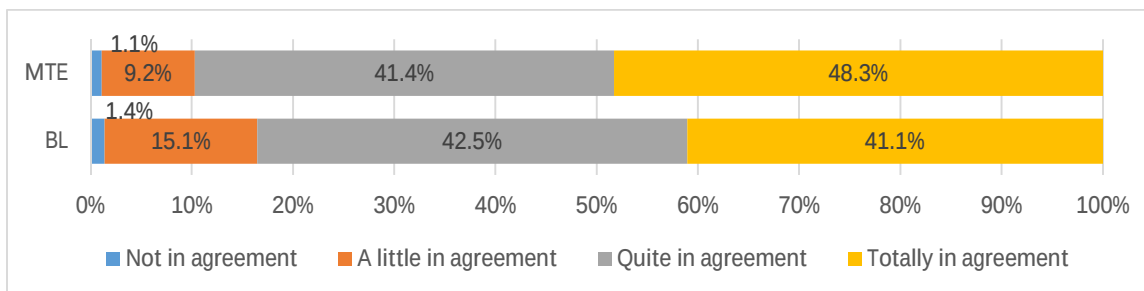
Table 26: Percentage of directors and/or teachers who state that the quantity and quality of food provided increases school attendance

Response	Baseline		MTE	
	N	%	N	%
No	5	6.8	11	12.6
Yes	67	91.8	76	87.4
Doesn't know	1	1.4		
Total	73	100.0	87	100.0

Source: Interview with directors and teachers

In general, when teachers were asked if children's attendance during the year of the interview had been 'very good', the proportion of teachers who to any degree agreed, has increased between the two surveys (83.6% in the BL vs. 89.7% in the MTE); the difference is not statistically significant.

Graph 20: Teacher perception about whether attendance is very good in the year of the interview



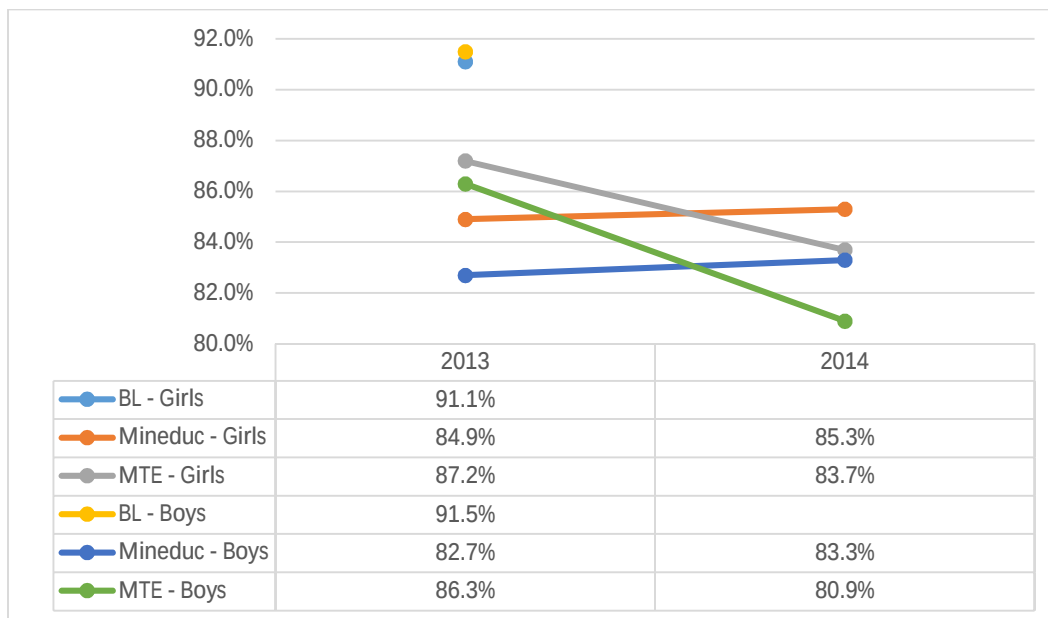
Source: Interview with directors and teachers

PROMOTION

On analyzing the data provided by the adult interviewed in the home, for the homes in the MTE sample, a decrease can be observed between the promotion of primary students reported for 2014 and for 2013. The decrease observed for boys is statistically significant ($t = 2.009$, $p = .0449$), but that for girls is not.

In the graph the promotion rate reported by the MOE for the municipalities of the department of Huehuetenango where the FFE program has worked in both years has been included for reference, as well as the proportion from the baseline.

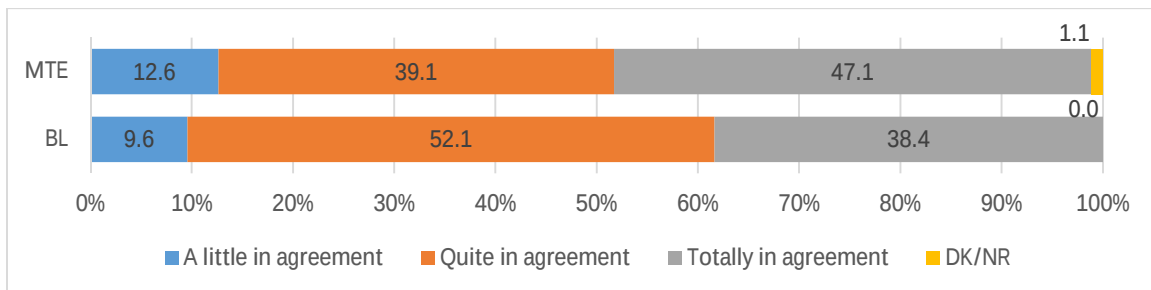
Table 27: Percentage of promotion of children



Source: Household interviews and MOE data

When teachers were asked whether, in their opinion, 75.0% or more of the primary school students had been promoted the previous year, 90.4% of those interviewed in the BL and 86.2% in the MTE said they agreed with that statement. The difference is not statistically significant. In comparison with the data from the MOE, it can be determined that for the cases in the sample, promotion is above 75%. This implies that one in ten teachers are not aware of the promotion rate in their school.

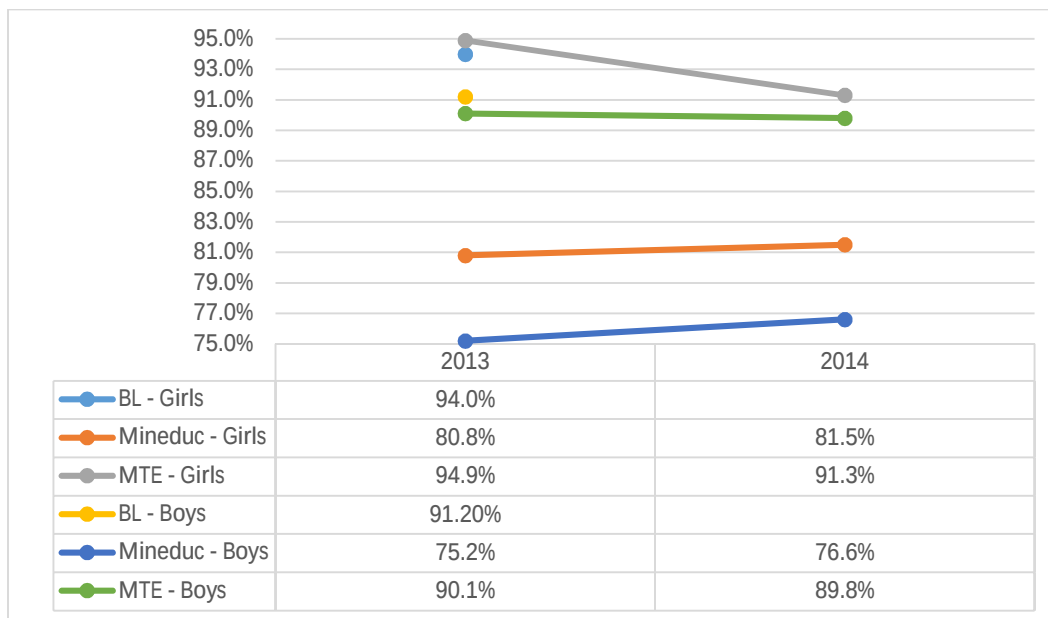
Graph 21: Teacher perception about children's promotion in school



Source: Interview with directors and teachers

When analyzing the data provided by the adult interviewed in the home, taking into account the adolescents that live there, a decrease was noted for the homes in the MTE sample compared to promotion reported for 2014 and 2013. The decrease observed is not statistically significant for either of the two groups. The promotion rates reported by the adults interviewed are better than those reported by the MOE for both years. In the following graph the MOE promotion rates for the municipalities of the department of Huehuetenango where FFE worked in both years were included for reference, as well as the data from the baseline.

Graph 22: Teacher perception about student promotion in their school



Source: Household interviews and data provided by the MOE

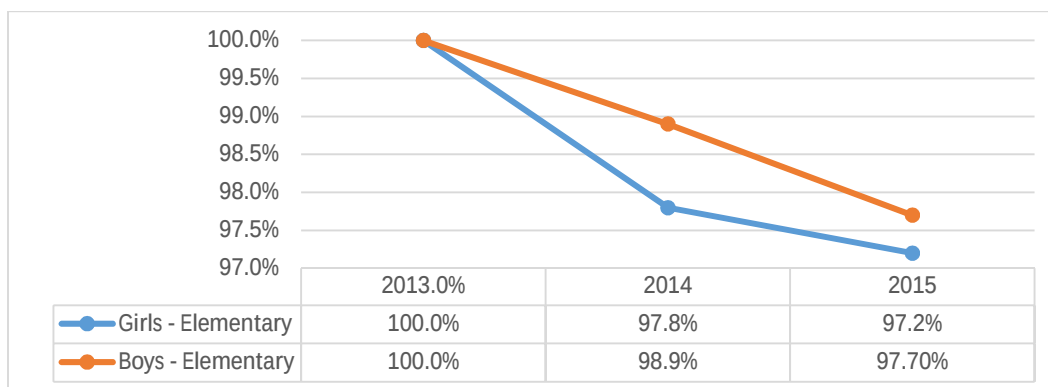
CONTINUITY

Continuity information was obtained from the interview carried out with adults in their homes and has been calculated based on the children who were enrolled in 2013 and who continued studying in the following years.

For this analysis, 672 cases of children and 307 of youth who were enrolled in 2013 were used analyzing their continuity for 2014 and 2015.

For primary school the decrease was not statistically significant for either sex.

Graph 23: Percentage of continuity by sex, according to the adults interviewed



Source: Household interviews

The number of parents who stated that they had problems with enrolling their children in school has decreased to 0.2% during the MTE from 19.0% in the BL. The problem that many people have is financial

(n = 12), as they state that they don't have money to register their children because teachers ask for money or they don't have the funds to buy some of the supplies.

DROP OUTS

The drop out rate is calculated for those cases in which a student stops attending the school they were enrolled in at the beginning of the year, for the remainder of the school year.

The drop out rate reported by the MOE for the six sample municipalities for 2013 was 4.1% and for 2014, 5.3%.

The drop out rate reported by the adults interviewed in the home, did not present any changes between the baseline and the mid-term evaluation, as can be seen in the following table:

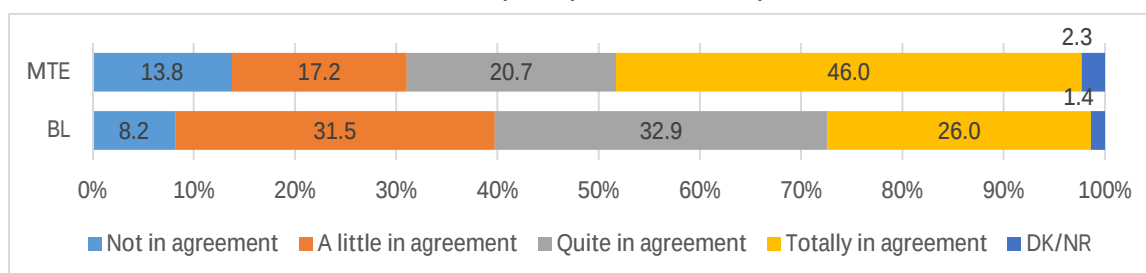
Table 28: Drop- out percentage, by sex

Sex	BL (n = 434)		MTE (n = 928)	
	N	%	N	%
Girls	204	3.3 (1.6 – 5.0)	422	3.4 (2.2 – 5.3)
Boys	217	2.7 (1.2 – 4.2)	473	3.7 (2.5 – 4.8)

Source: Household interviews – children of the community

The percentage of teachers who think that drop out rates are lower than 10%, showed that 58.9% of the teachers in the BL and 66.7% in the MTE agreed to some degree with this statement. It can be inferred that a little more than three in 10 teachers do not know the real drop out rate for their schools.

Table 29: Teacher perception about drop out rates



Source: Interview with directors and teachers

Nevertheless, in the interviews with teachers and directors, all of them mentioned that drop out rates had decreased significantly thanks to the attraction of school feeding. The teachers said:

Voices of the teachers

There was a time when lots of children dropped out. But in the past few years, thanks be to God, it is rare for children to drop out.. so we see that it is true that there has been greater retention and enthusiasm among children to come to school.

(Teacher, Santa Eulalia)

Yes it has helped [the school breakfast]. But unfortunately, we have had a lot of drops outs. But it isn't because of this but because they are going to the United States because supposedly mothers with children, even fathers with children can now pass more easily to the United States. For this reason, there has been desertion but it isn't because of the program.

(Teacher, Cuilco)

ATTENTION IN CLASS

Attention in class was measured by means of three separate instruments. The first was done by means of direct observation by a member of the survey team following the same methodology of the baseline: They enter the classroom and stay there without doing anything for 10 minutes. After this time, they randomly chose one minute out of the next 10 minutes to observe the classroom reviewing the activity of each student in the class and recording the information on an observation sheet. When the observer finishes recording their observations they leave the classroom. This measurement is carried out in three randomly selected classrooms and at different times of day. In schools with three or less classrooms, all the rooms are visited.

The second instrument is to record the perception of the teacher at the end of a class. The class that is observed and the one about which the teacher is interviewed are not necessarily the same.

The third instrument was a set of questions asked of the children of 4th through 6th grade. They were asked directly about their level of attention in the class they were receiving. All the interviews for girls and boys were carried out while in class and again, the selection of children in each classroom was random.

For selection of classrooms to observe as well as for teacher perceptions, lecture classes were chosen for topics such as math, natural sciences, social studies or language arts.

CLASSROOM OBSERVATION

Observations in classrooms looked at five behaviors related to lack of attention. One of these behaviors is that of distraction. This category notes whether the children are looking towards the doors, windows or ceiling, whispering, thinking or meditating, playing with something or eating, drinking and/or

chewing. This type of distracted behavior decreased between the BL and the MTE (17.6% vs. 17.5%). The change is not statistically significant.

Another behavior that was analyzed was paying attention to something else and includes looking at, reading or paying attention to something intensely, writing or drawing something without lifting their head or lying down on the desk/table. This behavior had an average decrease between the BL and the MTE (11.6% vs. 9.3%); this difference is not statistically significant.

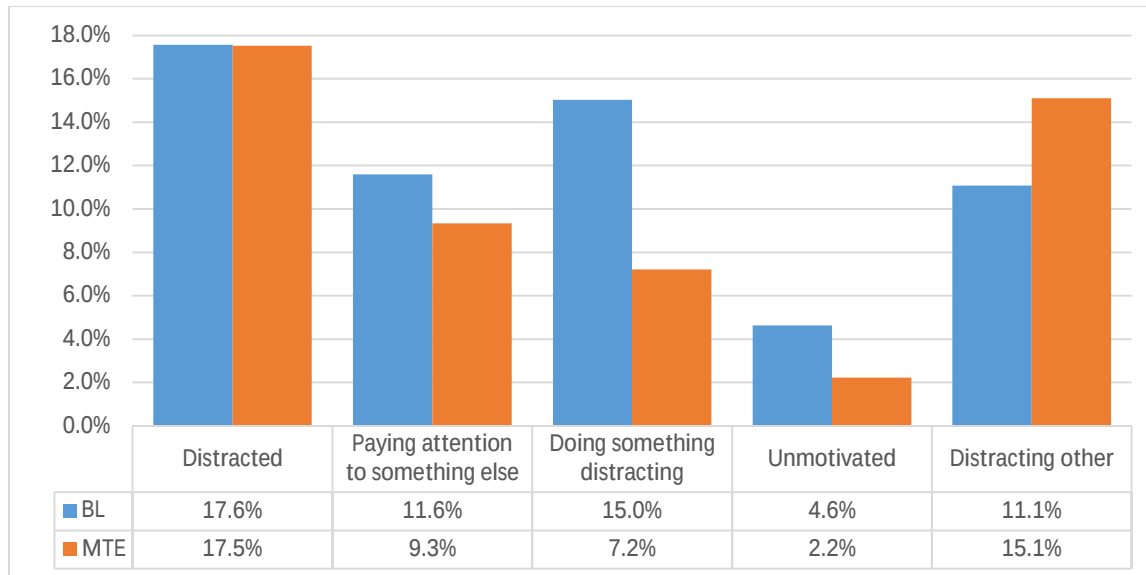
The next behavior which was observed was that of distracting behavior. This included hitting something or walking or running inside or outside the classroom. The average for this behavior also decreased between the two surveys (15.0% during the BL vs. 7.2% during the MTE). This difference is not statistically significant.

Lack of motivation was also observed. This included sleepiness, yawning or sleeping in class. This behavior dropped from 4.6% during the BL to 2.2% during the MTE; this difference is not statistically significant.

The last behavior for inattentiveness was that of children distracting others. This behavior included talking to classmates, touching them or throwing something at them or hitting. This attitude was the only one that increased compared to the BL (11.1% vs. 15.1%); this increase is also not statistically significant.

The previously mentioned behaviors can be seen in the following graph:

Graph 24: Inattentive behaviors in the classroom



Source: Observation in classrooms

In summary, 58.8% of the children observed showed some kind of inattentive behavior during the BL. This value decreased to 48.1% during the MTE; the difference is statistically significant $t = 5.518$, $p = .0000$.

INDICATOR

OF THE CHILDREN OBSERVED IN THE CLASSROOM, 48.1% SHOWED SOME KIND OF INATTENTIVE BEHAVIOR.

TEACHERS' PERCEPTIONS

The second instrument used was an interview with teachers. This instrument was used in both phases, however, the information from the baseline is not available so the data presented is only from the information shared by teachers during the MTE.

The scale used in this instrument is simplified given that it is difficult for a teacher to remember details about the students' attention level and thus the scale used was: slightly inattentive, inattentive, and very inattentive.

The teachers stated that 28.8% of their students were slightly inattentive during the class period they just finished, that 7.9% were inattentive and that 3.5% were very inattentive. In summary, one of every four students showed some degree of inattentiveness during class, according to their teachers.

Table 30: Teacher perception of children's attention in the classroom

Sex	MTE (n = 1860)	
	N	%
Slightly inattentive	536	28.8 (21.9 – 36.8)
Inattentive	148	7.9 (6.1 – 10.0)
Very inattentive	64	3.5 (2.2 – 5.3)

Source: Observation in classrooms

One of the benefits of the Feeding Program that was most frequently mentioned in the interviews with directors and teachers was that students pay more attention. This was a subjective response and the time period was not specified, although the implication is that this was in comparison to the situation prior to the Program. Practically all the teachers told how the children would come to school hungry and they were not satisfied by the school snack provided by the MOE. They told about children who fell asleep after recess and that some even asked to leave school around 11 a.m. because they needed to go home to eat. Here are some of the stories:

Voices of the teachers

This benefits the children because they aren't hungry now and are more attentive in class. This helps them retain what they are learning. For me the feeding program is very helpful ... and the children get full with the food. The benefit for us as teachers is that the children are calmer in class, not hungry, there isn't as much apathy, tiredness and weakness because they haven't eaten. Some of the families have a very tight economic situation but with the food that the children get here, they stay alive. For example, now they have finished eating and have gone to the bathroom to wash and then come into class with this energy, with their stomachs full. So yes, the feeding program favors retention.

(Teacher, Santa Eulalia).

It's that there are some children who don't eat breakfast because there are really people in the communities with hardly any resources. So sometimes a child just gets up, washes his face and comes to school. So just imagine – the child is starving. Imagine if PCI weren't here and they didn't give them breakfast at 10. The child is hungry and won't pay attention in class. It has helped us a lot because what is hard for the children is perhaps reading comprehension but in the other classes the children are very active. If you go by the classrooms the children look and are active because... Really the PCI Project has helped a lot with the breakfasts because the children are full and are calm and if they are full they don't ask to go home at 11, "Miss, I'm hungry, I want to go home." And the children are antsy and don't pay attention to what they are learning.

(Teacher, Santa Cruz Barillas)

Teachers' voices

I've noticed that since the PCI program has been here at our school, the children have improved both physically because they are bigger and healthier looking, and also their attention span has improved. The children's performance has improved, yes. Maybe I am being redundant but they pay attention more and are more active.

(Teacher, Cuilco)

Well, now the children participate more, they come to school more because there used to be a lot of absences, they didn't come. And others came but got sleepy in class.

(Teacher, San Pedro Necta)

Before the children came but had a problem with falling asleep in class, some of them. They would be in the classroom and all of a sudden they would fall asleep, maybe because of the malnutrition. But now, we see happy children with better academic performance, now they are studying... In their academic performance there has been a big difference because before the children failed a lot because of their poor nutrition at home.

(Teacher, San Pedro Soloma)

PERCEPTIONS OF THE CHILDREN

The third means of evaluating attention came from the interviews carried out with children from 4TH to 6th grade. When asked about their attention level, 86.1% of the children answered that their attention was good in the class period just before the interview during the MTE, compared to 83.8% during the BL. Additionally, during the MTE, 13.9% of the children stated that their attention was just ok in class, compared to 16.2% who gave a similar answer in the BL. Neither of the two differences were statistically significant. None of the children interviewed stated that their attention had been poor.

Table 31: Perception of the children with regard to their attention level in the classroom

Attention level	BL (n = 358)		MTE (n = 416)	
	N	%	N	%
Good	300	83.8	358	86.1
Just ok	58	16.2	58	13.9

Source: Interview with girls and boys from 4th to 6th grade

The children who stated that their attention had been just ok (n = 58) were asked why their attention wasn't good. All the categories showed a decrease but especially those who answered that they didn't understand or it is hard for them to understand what is being taught, which decreased to 5.2% in the MTE from 53.4% during the BL. This was statistically significant (t=5.703, p=.0000). The number of children who answered 'doesn't know why they don't pay attention in class' increased from 0.0% to 23.8% during the MTE and this difference is statistically significant (t=4.770, p=.0000). Other responses

that decreased: 20.7% during the MTE said the class topic didn't interest them, compared to 29.3% in the BL; the difference is not statistically significant. During the MTE, 10.3% answered that the class was boring, compared to 24.1% during the BL; the difference is not statistically significant.

Table 32: Reasons for lack of attention in class according to the children

Reason for not paying attention	BL (n = 58)		MTE (n = 58)	
	N	%	N	%
The class topic didn't interest them	17	29.3 (17.2 – 39.7)	12	20.7 (10.3 – 32.8)
The type of class was boring	14	24.1 (13.8 – 36.2)	10	17.2 (8.6 – 27.6)
There weren't any didactic materials	4	6.9 (1.7 – 13.8)	1	1.7 (0.0 – 5.2)
Didn't understand / it's hard to understand what is being taught	31	53.4 (39.7 – 67.2)	3	5.2 (0.0 – 12.1)
The classroom / seats are very uncomfortable	2	3.4 (0.0 – 8.6)	-	-
Was/ is sleepy	1	1.7 (0.0 – 5.2)	-	-
Is tired	2	3.4 (0.0 – 8.6)	1	1.7 (0.0 – 5.2)
Is sick	3	5.2 (0.0 – 12.1)	1	1.7 (0.0 – 5.2)
Is very restless / doesn't like to sit still	13	22.4 (12.1 – 32.8)	5	8.6 (1.7 – 17.2)
Has problems at home	1	1.7 (0.0 – 5.2)	-	-
It's hard to hear well	-	-	1	1.7 (0.0 – 5.2)
Doesn't know / doesn't answer	-	-	19	32.8 (20.7 – 44.8)

Source: Interview with girls and boys from 4th to 6th grade

The children were also asked about what they thought could be done to improve their attention or that of their classmates when in class. The answers varied considerably with regard to the BL and perhaps this was due to a change in the way the question was asked. During the MTE the children were allowed to answer freely. Given that it is unknown how the question was asked during the BL, no comparison is made with regard to the difference in responses and the answers from both surveys are included in the following table.

During the MTE one of every four children did not know how to respond to this question, one in five said they should pay attention more in class, one in ten said by not causing problems in class and almost one in ten said the way the class is given should be changed or improved.

Table 33: How to improve attention in class, according to the children

	BL		MTE	
	N	%	N	%
Doesn't know / Doesn't answer	45	12.6	110	26.4
Paying more attention to the teacher	7	2.0	82	19.7
Not causing problems in class	6	1.7	52	12.5
Other	7	2.0	48	11.5
Changing/ Improving how the class is given	229	64.0	37	8.9
Improving amount of / quality of teaching material	125	34.9	31	7.5
Respecting the teacher	1	0.3	24	5.8
Doing homework	-	-	19	4.6
Having breakfast before coming to school	22	6.1	9	2.2
Getting more food (breakfast or snack)	-	-	8	1.9
Respecting each other	-	-	7	1.7
Improving students' vision or hearing	35	9.8	4	1.0
Improving the physical conditions of the school	8	2.2	2	0.5
Being healthy	34	9.5	2	0.5
Coming rested	15	4.2	1	0.2
Improving conditions at home (having an area for	3	0.8	1	0.2
Having slept well at home	25	7.0	-	-

Source: interview with girls and boys from 4th to 6th grade

READING ABILITIES

Following up on the project's interest in improving students' literacy in the schools supported by the project and continuing with the methods used during the BL, reading ability was analyzed using the same methods and reading text.

In contrast to the baseline, this time the reading tests were done in two groups. The first group was students who had successfully finished sixth grade during 2014 and the second group was composed of students who were currently in sixth grade.

A total of 227 reading tests were carried out; 53.7% of these tests were given to boys and 46.3% to girls. Of these, 46.3% were carried out with sixth grade graduates and 56.4% with current sixth graders. Of the 2014 graduates, 17.2% of the boys and 19.0% of the girls did not continue their studies in 2015.

The calculations were based on the same equation for measuring reading ability that was used during the baseline. This equation takes into account the speed, accuracy and comprehension as follows:

$$\text{Reading ability} = \text{speed (0.1)} + \text{accuracy (0.2)} + \text{comprehension (0.7)}$$

Based on this it was found that the girls had better reading ability than boys regardless of whether they continued school or not. At the same time, it was noted that reading ability decreased for boys and girls when they had quit studying.

Table 34: Reading ability, according to school status

Sex	Currently Studying	N	Min.	Max.	Mean	Std. Dev.
Male	Yes	101	17.20	93.98	57.3238 (54.1 – 60.8)	18.40037
	No	21	19.21	78.98	50.9903 (43.1 – 58.6)	18.80351
Female	Yes	85	27.99	96.88	60.9240 (57.0 – 64.8)	18.21762
	No	20	26.12	77.49	54.0194 (47.6 – 59.8)	14.51124

Source: Reading tests

It is important to note that the youth who continued studying improved their reading ability, based on the results obtained for those who were in first year of middle school.

Table 35: Reading ability according to grade

Sex	Grade	N	Min.	Max.	Mean	Std. Dev.
Male	Sixth grade	68	17.20	93.98	55.4865 (51.2 – 59.9)	18.78827
	First middle school	33	25.51	91.27	61.1097 (55.4 – 66.9)	17.23357
Female	Sixth grade	60	27.99	92.32	60.3314 (56.0 – 64.4)	17.37657
	First middle school	25	31.47	96.88	62.3461 (55.0 – 71.2)	20.40391

Source: Reading tests

When comparing the results between the MTE and the BL, an increase in the means for boys' reading ability was observed and a decrease for girls (all graduated from primary school). These were not statistically significant.

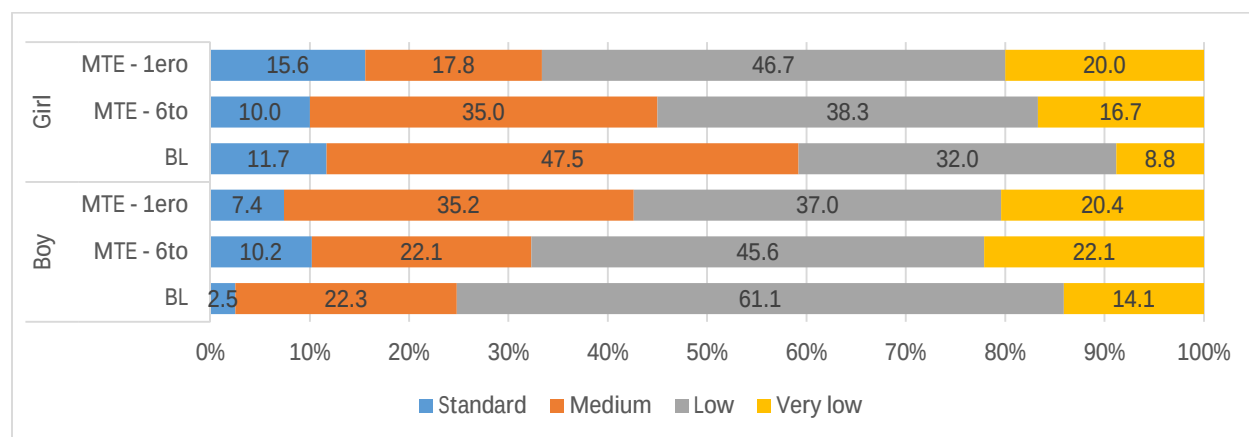
Table 36: Reading ability, graduated from sixth grade

Sex	Survey	N	Mean
Male	MTE	54	57.2 (52.2 – 62.3)
	BL	59	54.3 (51.1 – 57.4)
Female	MTE	45	57.6 (52.7 – 63.2)
	BL	45	58.0 (51.7 – 64.3)

Source: Reading tests

In the following graph the results can be observed with a point scale from 0 to 100. The classifications were as follows: standard (81 to 100 points), medium (61 to 80 points), low (41 to 60 points) and very low (from 0 to 40 points).

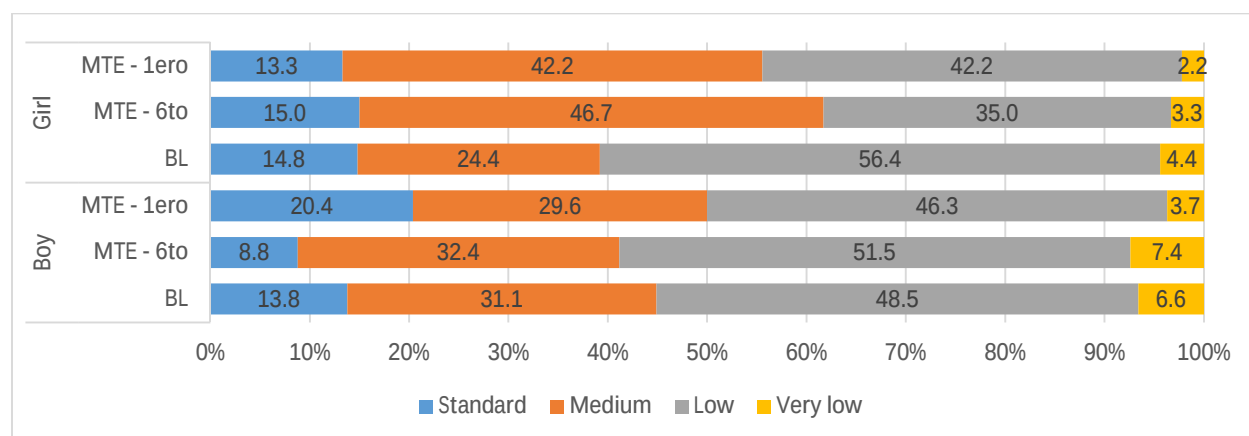
Graph 25: Reading ability, total score



Source: Reading tests

An increase in speed was observed for boys who graduated primary school compared to the BL, and there was also an increase for girls who moved to the medium category (from the low category), compared to the BL.

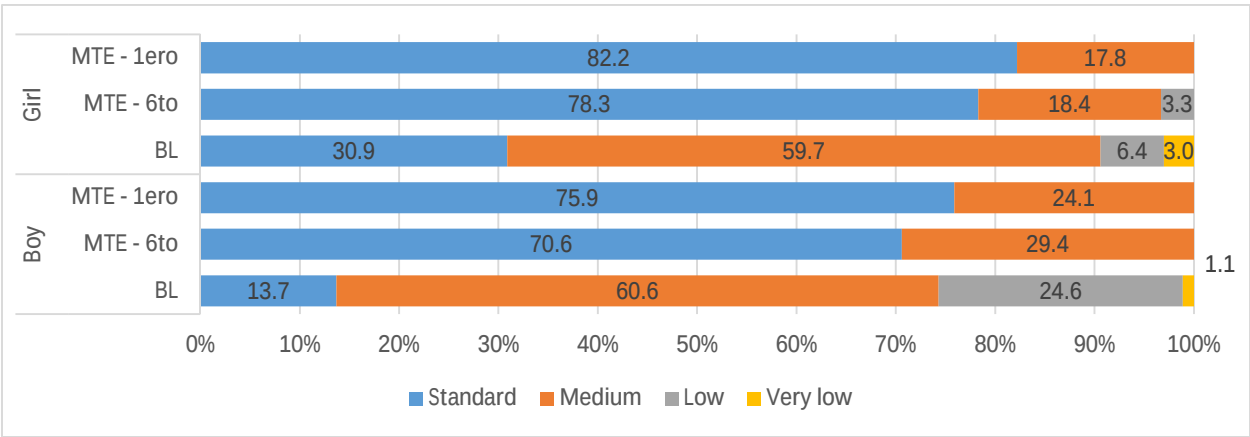
Graph 26: Reading speed, according to grade



Source: Reading tests

When accuracy was analyzed, improvement was observed for boys with fewer problems of substitutions, inversions, guesses, omissions, incorrect pronunciations and regressions.

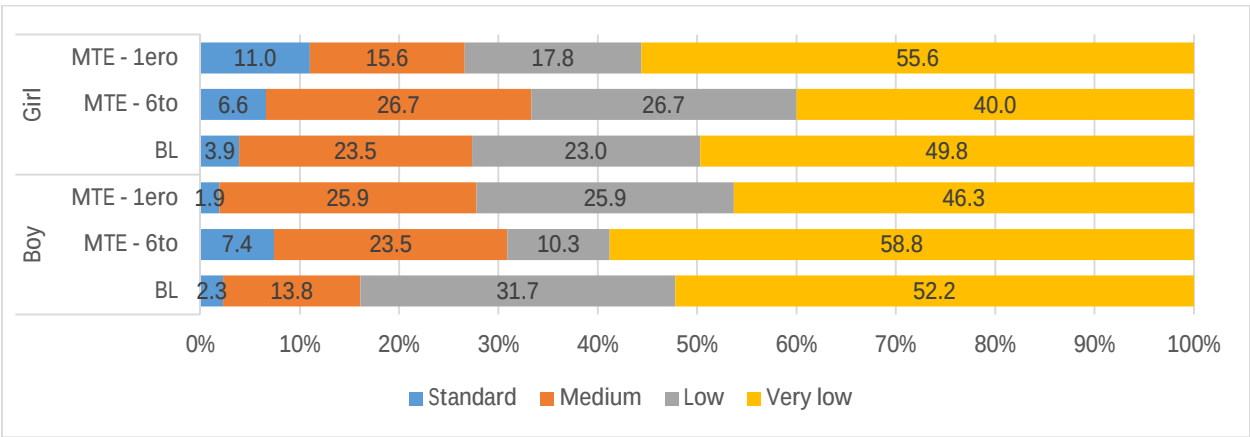
Graph 27: Reading accuracy, according to grade and sex



Source: Reading tests

Reading comprehension continues to be problematic for the children and since it contributes the highest percentage to the reading standard, it is the aspect that requires most practice on the part of teachers. When summarizing what has been analyzed previously, reading speed increased and they are reading with more accuracy, nevertheless comprehension has still not improved.

Graph 28: Reading comprehension, according to sex and grade

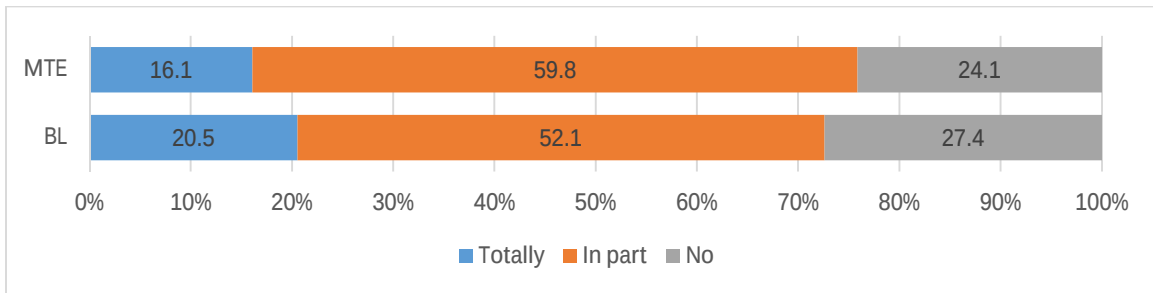


Source: Reading tests

Practically the children make all the errors that were analyzed; 97.8% make substitution errors, 53.3%, inversion errors, 98.7%, guessing, 94.3%, addition, 97.4%, omission, 100.0%, pronunciation and 98.7%, regression.

The directors and/or teachers who were interviewed were asked if in their opinion, the quality of children's reading in sixth grade who graduate from the school where they work, is in line with the expected standards. A few less than two in eight directors and/or teachers are totally in agreement with this statement, six of ten agree in part and a few more than two in ten do not agree with the statement. This can be observed in the following graph.

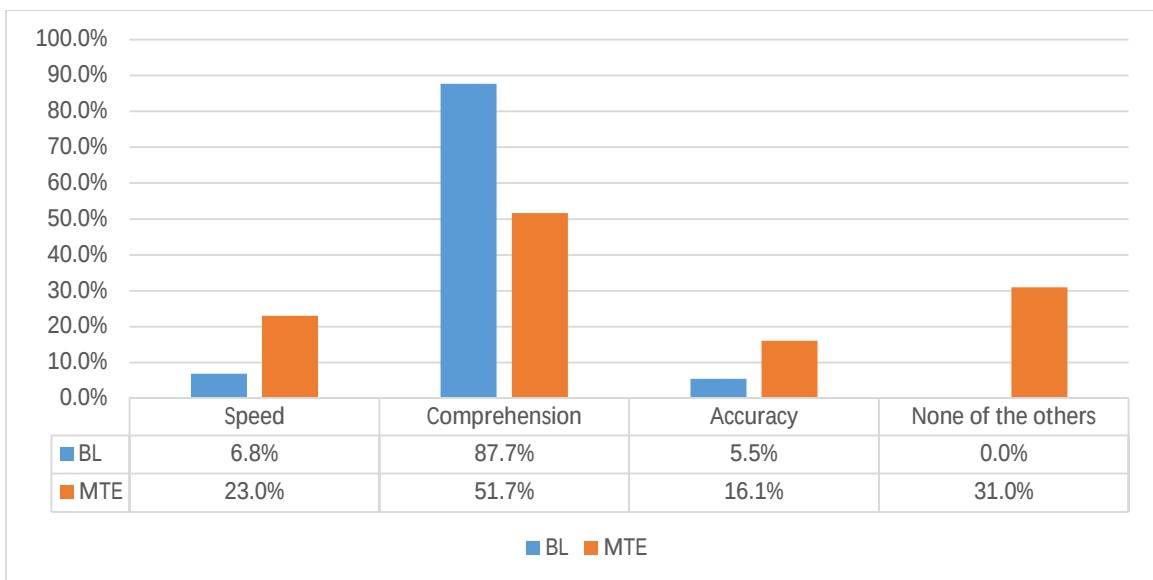
Graph 29: Reading quality of their students according to the expected standards



Source: Interviews with Directors and/or teachers

When the teachers were asked about the technical areas for reading that the children should improve, the directors and/or teachers` indicated during the MTE 51.7% that comprehension is needed. As can be seen in the previous analysis this was the area that needs greatest work by teachers as well as students. Accuracy and speed also require improvement but they are mentioned to a lesser degree. These opinions reflected to a certain degree the results observed during the reading test.

Graph 30: Teacher perception about the areas of reading that need to be improved



Source: Interview with Directors and/or teachers

The directors and/or teachers interviewed continue to agree that they need to incorporate new technology and have specialized texts to improve reading similar to what they expressed in the BL. There is increased interest in having training in special techniques (27.6% during the MTE vs. 6.8% during the BL), giving emphasis to reading beginning in the early grades (31.0% during the MTE vs. 27.4% during the BL) and incorporating parents into the family's education (18.4% during the MTE vs. 13.7% during the BL); in the 'others' category, 31.0% state that reading needs constant practice.

Graph 31: Techniques for improving reading from teachers' perspective

Techniques for improving reading	Baseline (n = 73)		MTE (n = 87)	
	N	%	N	%
Incorporate new technologies	38	52.1	39	44.8
Provide specialized texts for reading	52	71.2	52	59.8
Train teachers in special techniques	5	6.8	24	27.6
Implement monitoring and/or supervisory systems	7	9.6	-	-
Emphasize reading beginning in the early grades	20	27.4	27	31.0
Incorporate parents into their children's education	10	13.7	16	18.4
Examine children's sensory organs	3	4.1	1	1.1
Improve children's visual and auditory capacity	10	13.7	-	-
Other				
<i>MTE: Practicing reading (27), Conducting reading tests (2), Motivating the child (1), improving diet (1)</i>	5	6.8	32	36.8
Doesn't know / Doesn't answer	0		1	1.1

Source: Interview with Directors and/or teachers

In the interviews with teachers and directors it was mentioned that in all the schools they have received some type of training to improve reading. The institution that was mentioned most frequently was PCI, but they also mentioned the Padep/P program and Casa Colibrí (only in S C Barillas). All the teachers interviewed mentioned having learned new teaching techniques, especially the incorporation of learning games (many were learned in PCI trainings). In all the schools they also mentioned the motivating effect of the school fairs funded by PCI and organized by the Municipal Sustainability Commissions. In the fairs (around five per municipality, with the exception of San Gaspar Ixchil which is a smaller municipality), they invite the nearby schools and organize reading and story contests. The possibility of participating in these fairs has been an incentive for students according to the teachers.

The CTAs commented that while the MOE has put effort into creating libraries for each classroom and has established programs like the reading hour and reading at home, many teachers are not duly trained in dynamic means of teaching reading and writing.

Voices of the CTA

You know the Ministry of Education has given them supplies. They have texts, reading books. Last year they gave some colored plastic boxes filled with reading books, really nice ones, even some for preschool came in the box. They have trained them to make a reading corner where they should have books so children will want to read. There is the implementation in the CNB: a half hour of reading daily [...] Then I think that the deficiency is in the fact that the teacher is not trained constantly [...] and the teacher, in order to really carry out the teaching job 100%, needs to be trained. Then if the teacher is trained we can see [...]. Here in the municipality the second cohort of teacher professionalization is functioning. Unfortunately, we have very few professionalized teachers: we have some 800 and of these 800 there aren't even 300 that are professionalized. The experience has been that the schools where there are professionalized teachers from the first cohort, they look good, a great change ... But the teacher who is not professionalized, it shows ...

(CTA)

The reading program is a government program. There is the Let's Read Together or Let's Read in the Family, stories and everything. I think that there has been a very big weakness on the part of the parents, because they aren't very interested in seeing what their children do, much less in helping them to read. Because now there aren't many illiterate parents, the majority know how to read and write [...] but we don't have a culture of supporting or accompanying our children. And this has been a deficiency that holds children back. In the school the teacher has them read for a half hour, an hour, but the teacher doesn't have techniques, they have been oriented, they've been told, but the teacher just has them read – alone!

(CTA)

The child will maybe only read when they are in school [...] and they probably only read for the half hour of reading time a day and when they get home they have to do other chores, their homework, but there's no interest in providing continuity to their reading. The Ministry of Education has sent different texts, literature, poems, stories, jokes, so that the children will be motivated to read. [But] the role of the parents to invite their children to read at home has been somehow neglected.

(CTA)

The teachers complain that they don't have much support in the children's homes, that there aren't enough reading books and about the incomplete bilingualism of their students (the reading tests are in Spanish).

Hygiene and nutrition

An important part of the baseline studied health and nutrition habits or practices which are known by the different key players in the program. Thus, in this section we analyze the data collected from directors and teachers, students, parents from the Council and adults in home visits.

This chapter begins with a summary of the relevant project indicators that were found during the mid-term evaluation.

Table 37: Indicators of hygiene and nutrition for the Program

Result	Indicator	MTE Value	PCI Objective	Description according to the baseline
Improved knowledge of hygiene practices	Percentage of mothers who can identify at least three important health and hygiene practices	87.8	75	Percentage of Mother Collaborators who help in food preparation who know the main health and hygiene practices that everyone should have. Mention at least three of seven. Based on the Rules of Gold (did not exist during the baseline).
	Percentage of students / parents who can identify at least one source of information for good health practices.	54.2	70	Percentage of parents who say they know where to obtain or learn information about health and hygiene practices or habits (mention at least one)
		43.7		Percentage of students who say that they know where to obtain or learn information about health and hygiene practices and habits (mention at least one)
Increased knowledge of food security practices	Percentage of persons with knowledge of at least three food security practices	94.4	80	Percentage of parents that mention at least three recommendations or important aspects about diet and nutrition for food preparation in the school.
Increased nutrition knowledge	Percentage of parents who can identify at least one local source of information on nutrition practices	57.6	70	Percentage of parents who can mention at least one source of information about feeding, diet and nutrition practices or habits.
	Percentage of parents who can identify at least three important nutrition practices	76.8	80	Percentage of parents who mention at least three recommendations or important aspects about diet and nutrition for large groups of children
Increased number of utensils and equipment for food preparation and storage	Percentage of schools with improved equipment for food storage	100.0	29	Schools with improved equipment for food storage (wooden platforms and scales)

Unfortunately, as will be confirmed later, there are few written records that permit confirmation of the number of activities carried out and the number of people involved. For this reason it has been necessary to utilize secondary sources such as teachers, students and parents.

DIRECTORS AND TEACHERS

TRAININGS

The directors and teachers were asked about the trainings they received. As can be observed, all the categories showed an increase between 2013, when 49.3% stated they had received some type of training on the topics of Hygiene, Preventive health, Feeding and/or Nutrition, compared to the 92.8% of teachers who stated the same thing during the MTE for 2014 and 92.5% for 2015.

THERE HAS BEEN AN INCREASE IN TEACHER TRAININGS

THERE IS A PERCEPTION AMONG TEACHERS THAT THEIR TRAININGS HAVE DOUBLED.

When looking at the topics individually it can be seen in the table below that all the categories had an increase compared to the BL and that all these increases are statistically significant. Some percentages went down in 2015, compared to 2014, however, none of these decreases were statistically significant.

Table 38: Trainings received, according to teacher perception

Topic	BL				Statistical difference	MTE	
	2013-14 (n = 73)		2014 (n = 83)			2015 (n = 87)	
	N	%	N	%		N	%
Hygiene	30	41.1 (30.1 – 52.1)	71	85.5 (77.4 – 92.8)	t = 5.791, p=.0000	71	81.6 (72.4 – 89.7)
Preventive health	29	39.7 (28.8 – 52.1)	69	83.1 (74.1 – 90.7)	t = 5.596, p=.0000	66	75.9 (66.7 – 85.1)
Feeding	30	41.1 (31.5 – 52.1)	71	85.5 (77.4 – 92.6)	t = 5.791, p=.0000	72	82.8 (74.7 – 90.8)
Nutrition	30	41.1 (30.1 – 53.4)	67	80.7 (72.3 – 88.6)	t = 5.089, p=.0000	66	75.9 (66.7 – 83.9)
None of the above	37	50.7 (39.7 – 63.0)	6	7.2 (2.3 – 13.1)	t = 6.068, p=.0000	12	13.8 (8.0 – 21.8)

Source: Interview with directors and teachers

When comparing the number of teachers trained in the schools of the MTE sample it can be noted that the average number reported is slightly less for 2015 compared to 2014; all the sources of information were verbal and may include trainings received from PCI, as well as the MOH and/or other organizations.

Table 39: Average of trainings received by the teachers, by year

Year	N	Min.	Max.	Mean	Std. Dev.	Source of information
2015	26 ¹⁵	0	34	6.73 (4.46 – 9.50)	6.697	Verbal
2014	24 ¹⁶	0	34	7.04 (4.71 – 10.17)	7.000	

Source: Interview with directors and teachers

KNOWLEDGE ACQUIRED

The topics of hygiene, preventive health, feeding and nutrition are analyzed individually below taking into account all the key players in the project who stated they had been trained.

HYGIENE

According to the teachers, the trainings received during 2015 were varied and considering only those teachers who stated that they had received trainings during the present year, indicated that the topic of hygiene was the one more times received. The main emphasis of the trainings was on basic hygiene practices such as hand washing, use of the latrine, etc., topics that, according to those interviewed, were received by a little more than nine of every ten directors and/or teachers interviewed. The training topics on which they were trained are shown in the following table:

Table 40: Training teachers received, by hygiene topics

Training topic	2014-15 (n = 72)	
	N	%
Daily bath, hand washing, latrine use, change of clothes, teeth brushing	68	94.4 (88.9 – 98.6)
Floors and walls clean and without holes or cracks, separate rooms, clean clothes, beds made	11	15.3 (8.3 – 23.6)
Patios clean and orderly, presence of latrine and drains, animals enclosed, absence of feces	6	8.3 (2.8 – 15.3)
Doesn't answer	3	4.2 (0.0 – 9.7)

Source: Interview with directors and teachers

¹⁵ Information was excluded from two schools where the informant could not provide data and one school where the director was not present the day of the visit.

¹⁶ Information was excluded from four schools where the informant could not provide data and one school where the director was not present the day of the visit.

PREVENTIVE HEALTH

In the category of preventive health, the training that was most received in 2014-15, according to one in three directors and/or teachers was on environmental health. It is important to highlight that for 2014-15, almost one in five directors and/or teachers stated they did not remember the preventive health training topics received. All the responses are shown in the following table.

Table 41: Training received by teachers, by preventive health topics

Training topic	2014-15 (n = 70)	
	N	%
People's health: vaccination, care during pregnancy, care of newborns, healthy eating, physical activity and ways of protecting the body: digestive, respiratory and reproductive systems	17	24.3 (14.3 – 34.3)
Environmental Health: safe water, healthy eating, food hygiene, food safety, treatment of trash and waste disposal / prevention of accidents and occupational safety	25	35.7 (24.3 – 48.5)
Other topics of preventive health	22	31.4 (20.0 – 42.9)
Doesn't remember the topics	14	20.0 (11.4 – 30.0)
Doesn't answer	1	1.4 (0.0 – 4.3)

Source: Interview with directors and teachers

FEEDING

In the category for feeding, for 2014-15 the training most frequently mentioned by the directors and/or teachers was that of feeding and diet (53.4%) and aspects related to agriculture (32.9%). All the responses are shown in the following table.

Table 42: Teacher training received, by feeding topics

Training topic	2014-15 (n = 73)	
	N	%
Foods: Selection of seeds, planting, harvesting, storage and processing and preparation	24	32.9 (21.9 – 43.8)
Feeding and diet: Eating habits, food security principles, dietary diversity and quality and bio-availability of nutrients	39	53.4 (42.5 – 64.4)
Other feeding topics	19	26.0 (16.4 – 35.6)
Doesn't remember the topics	5	6.8 (1.4 – 13.7)

Source: Interview with directors and teachers

NUTRITION

For the category of nutrition, in 2014-15 training on nutrition were mentioned less. Food intake was mentioned by 21.1% of the directors and/or teachers interviewed, as well as sources and functions of macro and micro nutrients (16.0%). Approximately two of every ten directors and/or teachers did not remember the name of the trainings received in the area of nutrition.

Table 43: Teacher training received, by nutrition topics

Training topic	2014-15 (n = 71)	
	N	%
Food intake: digestion, absorption and metabolism (utilization)	15	21.1 (12.7 – 31.0)
Macro- and/or micro-nutrients: sources and functions	12	16.9 (9.9 – 26.8)
Requirements and recommendations: By sex and age	3	4.2 (0.0 – 9.9)
Complementary feeding: Initiation, duration and benefits	5	7.0 (1.4 – 14.1)
Supplementation with micro-nutrients: Vitamin “A”, Iron, Zinc	10	14.1 (7.0 – 22.5)
Other nutrition topics	29	40.8 (31.0 – 52.1)
Doesn’t remember	14	19.7 (11.3 – 29.5)
Doesn’t answer	4	5.6 (1.4 – 11.3)

Source: Interview with directors and teachers

PCI’s presence as a training agent was very notable for the directors and/or teachers interviewed given that 89.0% of those interviewed for the MTE mentioned them compared to 52.8% in the previous survey. At the same time, the decrease in MOH presence was also noticed, decreasing from 41.7% in the BL to 23.3% in the MTE. This may be a result of the difficulties the MOH is currently experiencing. In general, all the institutions mentioned in the BL are mentioned to a lesser degree in the MTE except for PCI.

Table 44: Training entity for teachers in the area of nutrition

Entity	Baseline (n = 36)		MTE (n = 73)	
	N	%	N	%
PCI	19	52.8% (36.1 – 69.4)	65	89.0% (80.8 – 95.9)
Ministry of health	15	41.7% (27.8 – 58.3)	17	23.3% (13.7 – 32.9)
Other entity	8	22.2%	13	17.8%
MOE	6	16.7% (5.6 – 30.6)	8	11.0% (4.1 – 17.8)
Other NGO	5	13.9% (2.8 – 27.7)	7	9.6% (2.7 – 16.4)
MOA	1	2.8% (0.0 – 8.3)	-	-

Source: Interview with directors and teachers

STUDENTS

TRAININGS

When directors and/or teachers were consulted about the training received by the children in their school they commented that all the categories increased between the baseline and now. There was also a decrease in the number of directors and/or teachers who stated that the children had not received any training (8.2% vs. 4.6%). Nevertheless, the high percentage, as will be seen later, contrasts with the low percentage of responses in terms of hygiene and nutrition practices or habits that the children interviewed know.

Table 45: Training topics given in the school, according to teacher perceptions

Topic	BL		MTE	
	2013-14		2014-15	
	(n = 73)		(n = 87)	
	N	%	N	%
Hygiene	65	89.0 (80.9 – 95.9)	81	93.1 (87.4 – 97.7)
Preventive health	59	80.8 (72.6 – 89.0)	73	83.9 (75.9 – 90.8)
Feeding	56	76.7 (65.8 – 86.3)	74	85.1 (77.0 – 92.0)
Nutrition	51	69.9 (58.9 – 79.5)	72	82.8 (74.7 – 90.8)
None of the above	6	8.2 (2.7 – 15.1)	4	4.6 (1.1 – 9.2)

Source: Interview with directors and teachers

It was noted that the those responsible for these trainings have mainly been people from outside the school (81.9% in the MTE vs. 64.2% in the BL) and as will be seen later, mainly from PCI. A decrease was also found in the proportion of teachers who participated in this activity (34.9% in the MTE vs. 56.7% in the BL). The directors continue to have little participation in this activity.

Table 46: Personnel responsible for training in the school, according to teacher perceptions

Entity	Baseline (n = 67)		MTE (n = 83)		Statistical difference
	N	%	N	%	
Director	4	6.0 (1.5 – 11.9)	3	3.6 (0.0 – 8.4)	-
Teachers	38	56.7 (44.8 – 68.7)	29	34.9 (24.1 – 45.8)	t =2.670, p=.0084
From outside school	43	64.2 (52.2 – 76.1)	68	81.9 (73.5 – 90.2)	t =2.457, p=.0152

Source: Interview with directors and teachers

PCI is the entity that is most recognized by the directors and/or teachers for providing the trainings and this increased between the BL (32.6%) and the MTE (86.8%). The second entity most identified was the MOH, although their participation has decreased between the BL (51.2%) and the MTE (32.4%). All the actors identified in the survey are shown on the following table:

Table 47: Persons from outside the school who give trainings, according to teacher perceptions

Entity	Baseline (n = 43)		MTE (n = 68)		Statistical difference
	N	%	N	%	
MOE	1	2.3 (0.0 – 9.2)	2	2.9 (0.0 – 7.4)	-
MOH	22	51.2 (34.9 – 65.1)	22	32.4 (20.6 – 44.1)	t = 1.972, p = .0511
MOA	1	2.3 (0.0 – 7.0)	-	-	-
PCI	14	32.6 (18.6 – 46.5)	59	86.8 (77.9 – 95.6)	t = 5.864, p = .0000
Other NGO	5	11.6 (2.3 – 20.9)	2	2.9 (0.0 – 7.4)	-
Other	7	16.3 (7.0 – 27.9)	8	11.8 (4.4 – 20.6)	-

Source: Interview with directors and teachers

The average number of students trained according to data provided by the directors and/or teachers interviewed decreased in 2015 (169.0 children) compared to 2014 (178.4 children).

Table 48: Average number of children trained in the school, according to teacher perceptions

Year	N	Min.	Max.	Mean	Std. Dev.	Source of Information
2015	26	0	1101	169.00 (98.9 – 259.5)	218.418	1 document, 25 verbal
2014	23	0	1055	178.43 (105.2 – 280.8)	221.933	2 document, 21 verbal

The children in fourth to sixth grades were asked about the training topics they had received. Except for training on hygiene, all had a statistically significant increase. The decrease in hygiene trainings is also statistically significant. The greatest increase was in the nutrition trainings where the proportion increased from 65.9% to 84.9%.

Graph 32: Trainings received in 2015, according to perception of the school children

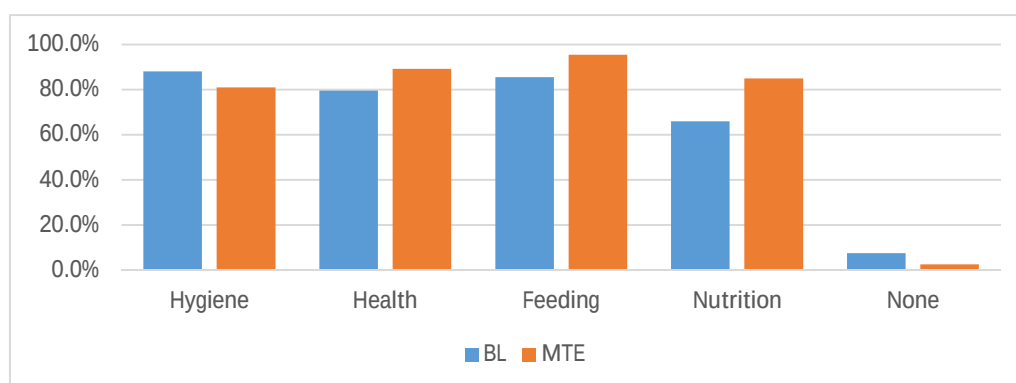


Table 49: Training topics received, according to perception of the school children

Topic	BL (n = 358)		MTE (n = 416)		Statistical Difference
	N	%	N	%	
Hygiene	315	88.0 (84.4 – 91.3)	337	81.0 (76.9 – 84.4)	t = 2.655, p = .0079
Health	285	79.6 (75.1 – 83.5)	371	89.2 (86.1 – 92.1)	t = 3.705, p = .0002
Feeding	306	85.5 (81.8 – 89.1)	397	95.4 (93.3 – 97.1)	t = 4.756, p = .0000
Nutrition	236	65.9 (60.9 – 70.7)	353	84.9 (81.5 – 88.2)	t = 6.181, p = .0000
None	27	7.5 (5.0 – 10.3)	11	2.6 (1.2 – 4.3)	t = 3.159, p = .0016

Source: Interviews with 4th to 6th grade students

The children interviewed did not frequently identify school staff (director/teacher) as those who provided trainings and they more often mentioned staff from outside the school. It is important to note that there was a significant increase in the percentage of girls and boys who don't know what instructor gave the trainings. This may indicate that those who give the trainings do not identify themselves adequately or that they assume they are known to the children. The differences among all the instructors except the director, are statistically significant.

As was the case for the directors and teachers, PCI was the outside entity most recognized by the children as a training entity. Their participation increased from 48.7% in the BL to 80.3% in the MTE. The MOH presence decreased from 42.7% in the BL to 4.7% in the MTE.

The Parents' Council was asked whether in their community's school the children were taught about the topics of hygiene, health and nutrition and those interviewed stated that this type of training was provided in a little more than nine of every ten schools (93.3% during the MTE vs. 96.4% during the BL); the percentage for each topic stayed the same for both years, as can be observed in the following table. Due to the different time frames, no analysis was made of statistical significance.

Table 50: Trainings given in the school, according to CPF perception

Topic	BL (n = 53)		MTE (n = 56)	
	N	%	N	%
Hygiene	52	98.1 (94.3 – 100.0)	56	100.0 (100.0 – 100.0)
Health	53	100.0 (100.0 – 100.0)	55	98.2 (94.6 – 100.0)
Feeding	51	96.2 (90.6 – 100.0)	56	96.4 (91.1 – 100.0)
Nutrition	44	83.0 (73.6 – 92.5)	54	96.4 (91.1 – 100.0)

Source: Interviews with Parents' Council

When the children were asked about where they could learn or obtain information about health and hygiene habits that everyone should have, 56.3% of the children interviewed during the MTE stated they didn't know where to go, a larger percentage than the 44.4% found during the BL. In general, all the places mentioned in the BL had a lower percentage of responses in the MTE than in the BL.

INDICATOR

43.7% OF THE CHILDREN INTERVIEWED IDENTIFIED AT LEAST ONE PLACE WHERE THEY CAN OBTAIN INFORMATION ABOUT HYGIENE PRACTICES OR HEALTH HABITS.

Table 51: Places to obtain information about hygiene practices, according to the children

Place	BL (n = 358)		MTE (n = 416)		Statistical difference
	N	%	N	%	
School	161	45.0 (40.0 – 50.3)	112	26.9 (22.6 – 31.5)	t = 5.255, p = .0000
Health Post	53	14.8 (11.2 – 18.7)	45	10.8 (7.9 – 13.7)	-
Health Center	30	8.4 (5.9 – 11.7)	20	5.0 (2.9 – 7.0)	-
Hospital	-	-	10	2.4 (1.0 – 3.8)	t = 2.950, p = .0033
Private clinic	2	0.6 (0.0 – 1.4)	7	1.7 (0.2 – 2.4)	-
Other	4	1.1 (0.3 – 2.2)	30 ¹⁷	7.2 (4.8 – 9.6)	t = 4.135, p = .0000
Doesn't know / Doesn't answer	159	44.4 (39.1 – 49.7)	234	56.3 (49.0 – 58.4)	t = 3.302, p = .0010

Source: Interviews with 4th to 6th grade students

OBSERVATION OF HYGIENE PRACTICES: HAND WASHING

In the six schools of the qualitative study, food preparation and consumption was observed including hand washing. In all the schools the children went in an orderly manner to wash their hands with soap. In several schools there was no towel for them to dry their hands on so they dried on their clothes or let their hands air dry. The teachers guided them by grade to go wash hands. In the schools in the southern part of the department, the children seemed to have assimilated the hand washing routine and didn't receive much instruction from the teachers.

PARENTS' COUNCIL- CPF

TRAININGS

When the directors and teachers were asked whether the Parents' Council was active in the school where they work, the data collected showed a decrease in the percentage of active groups, dropping from 96.9% to 94.0%. This is not statistically significant.

¹⁷ 63.3% (n = 19) of the people who gave an answer indicated that they learn or obtain this information at home.

The directors who stated that the Parents' Council was active were asked about whether the Council members had been trained in their school. The affirmative responses increased in the MTE (90.4%) compared to the BL (70.3%); the difference is statistically significant ($t=3.121$, $p=.0022$).

Table 52: Percentage of schools trained, according to teacher perceptions

Response	Baseline (n = 64)		MTE (n = 83)	
	N	%	N	%
No	14	21.9 (12.5 – 32.8)	1	1.2 (0.0 – 3.6)
Yes	45	70.3 (59.4 – 81.3)	75	90.4 (83.1 – 96.4)
Doesn't know / Doesn't answer	5	7.8 (1.6 – 15.6)	7	8.4 (3.6 – 15.7)

Source: Interview with directors and teachers

For those who indicated that the council was active and was trained, the directors and teachers were asked about the topics for which the Council members were trained even if the director or teacher had not participated. When comparing the data from the BL and MTE it was noted that all the categories had a percentage increase; this increase is statistically significant only for the nutrition category. The time of the year of both data collections should be taken into account as it might influence these results.

Table 53: Trainings for the Parents' Council, according to teacher perceptions

Topic	BL		MTE		Statistical difference
	2013-14 (n = 45)		2015 (n = 75)		
	N	%	N	%	
Hygiene	37	82.2 (71.1 – 91.1)	64	85.3 (77.3 – 93.3)	-
Preventive health	31	68.9 (55.6 – 82.2)	62	82.7 (74.7 – 90.7)	-
Feeding	38	84.4 (73.3 – 93.3)	68	90.7 (84.0 – 96.0)	-
Nutrition	31	68.9 (55.6 – 82.2)	65	86.7 (78.7 – 93.3)	t =2.361, p=.0199
None of the above	5	11.1 (2.2 – 20.0)	7	9.3 (2.7 – 17.3)	-

Source: Interview with directors and teachers

ADULTS OF THE HOUSEHOLD

TRAININGS

During the MTE the adults of the households interviewed were asked if they had been trained at any time by PCI or school staff. Almost two of every three answered affirmatively. It was noted that more mothers said they had been trained (69.2%) than fathers (46.2%) and/or other adults (55.3%) who were interviewed in the home.

Table 54: Percentage of people trained in the home

Person		Yes	No	Total
Mother (head of household)	N	319	142	461
	%	69.2	30.8	100.0
Father (head of household)	N	30	35	65
	%	46.2	53.8	100.0
Other	N	26	21	47
	%	55.3	44.7	100.0
Total	N	375	198	573
	%	65.4	34.6	100.0

Source: Household interviews, parents of the community

One in seven people had been trained at some time every three months or less, one in three stated they had been trained monthly, one in five, every two months and one out of ten every three months. One in ten did not remember the frequency of trainings or when they were trained. Other frequencies reported by the adults interviewed are shown in the following table:

Table 55: Frequency of trainings received by household members

Frequency	N	%
Weekly	13	1.2
Monthly	130	12.4
Every two months	78	7.4
Every three months	45	4.3
Every six months	20	1.9
Other, state:	5	.5
Every two weeks	19	1.8
Doesn't remember	47	4.5
Once a year	6	.6
Has only been trained once	12	1.1
Total	375	35.7

Source: Household interviews, parents of the community

The directors and/or teachers were also consulted about the number of parents trained in the schools visited during the past two years; for both years, there was an increase in the number of parents trained. There are no documents that support the information about trainings carried out and in almost all cases the information was collected from verbal sources.

Table 56: Average of parents trained in the home, according to teacher perceptions

Trained	Year	N	Min.	Max.	Mean	Std. Dev.	Source of Information
Mothers	2015	27 ¹⁸	1	400	59.63 (29.04 – 98.48)	92.054	1 document, 26 verbal
	2014	25 ¹⁹	0	300	52.12	62.490	25 verbal

¹⁸ One informant did not know how many mothers had been trained in 2015.¹⁹ Three informants did not know the number of mothers trained in 2014.

Trained	Year	N	Min.	Max.	Mean	Std. Dev.	Source of Information
					(30.84 – 78.44)		
Fathers	2015	26 ²⁰	0	400	39.12 (9.62 – 79.53)	94.015	26 verbal
	2014	24 ²¹	0	300	27.42 (10.33 – 53.66)	60.353	24 verbal

Source: Administrative information questionnaire

HYGIENE PRACTICES OR HABITS

The parents were also asked if they knew the main hygiene practices or habits that everyone should have. During the MTE, 71.4% responded affirmatively, compared to 86.8% during the BL. The decrease in this percentage is statistically significant ($t = 6.033$, $p = .0000$).

Taking into account only those adults who stated that they had been trained, 76.8% said they knew the hygiene practices or habits, compared to 86.8% during the BL; again, the difference is statistically significant ($t=3.803$, $p=.0002$).

Table 57: Knowledge of hygiene practices, household members

Have you been trained?		Yes		No	
		N	%	N	%
Baseline	N/A ²² (n = 476)	413	86.8	63	13.2
MTE (n = 573)	Yes (n = 375)	288	76.8	87	23.2
	No (n = 198)	112	56.6	86	43.4

Source: Household interviews, parents of the community

The analysis that is undertaken below takes into account all the adults whether they were trained or not; nevertheless, in the majority of the analyses the results for trained and untrained adults are noted separately.

The total number of responses about hygiene habits or practices mentioned by the adults interviewed is 2.0 for those who had been trained and 1.0 for those who said they had not been trained. In both cases the number is lower than the number of responses in the baseline (2.6).

Table 58: Averages for knowledge of hygiene practices, according to household members

Survey	N	Min.	Max.	Mean	Std. Dev.
Baseline	476	0	7	2.60 (2.48 – 2.7)	1.419
MTE – Trained	375	0	5	2.07 (1.94 – 2.22)	1.330
MTE – Not trained	198	0	5	1.03 (0.87 – 1.19)	1.157

Source: Household interviews, parents of the community

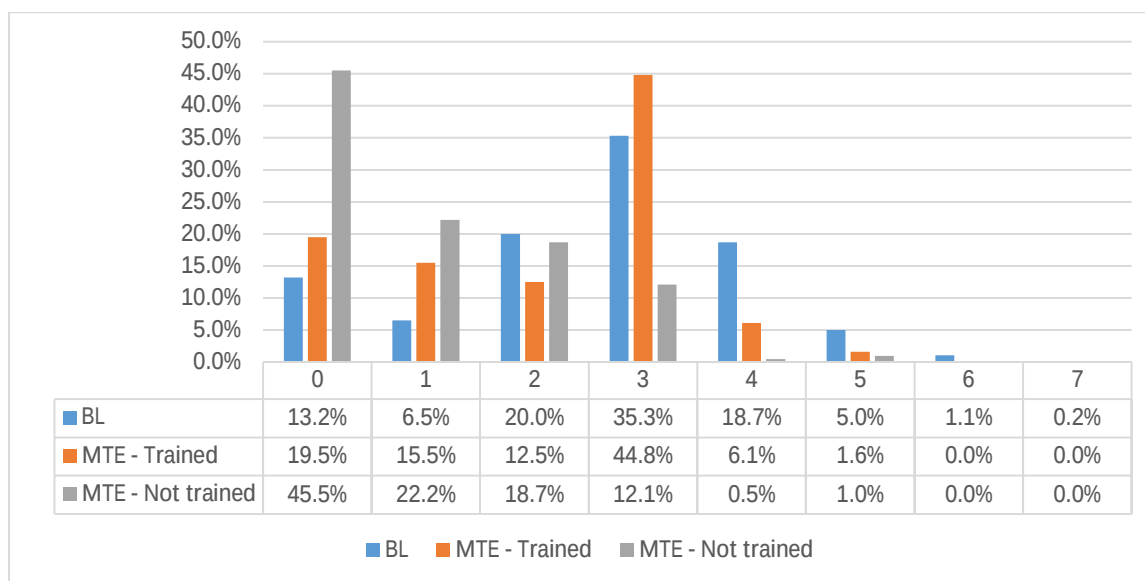
²⁰ Two informants did not know the number of fathers trained in 2015.

²¹ Four informants did not know the number of fathers trained in 2014.

²² The strategy for selecting people to be interviewed is unknown.

The following graph indicates the number of responses given by the adults interviewed in both surveys. It can be clearly observed that the adults who were not trained have a greater percentage in 0 responses and a lower percentage in the rest of the responses. It can also be observed that the adults in the BL responded with a greater percentage for three practices or habits while in the MTE it was fairly evenly distributed between zero and two responses. Of these adults, 60.3% gave at least three basic hygiene practices or habits during the BL, compared to 52.5% of those who had been trained during the MTE. The difference is statistically significant ($t=2.281$, $p=.0228$).

Graph 33: Percentage of responses indicated, according to household members



Source: Household interviews, parents of the community

Without distinguishing between those who had and hadn't been trained for the MTE, 54.2% of the parents interviewed responded that in their community there are places where you can learn or obtain information about personal health and hygiene practices or habits, compared to 66.0% during the BL. This difference is statistically significant ($t=3.877$, $p=.0001$).

INDICATOR

54.2% OF THE ADULTS INTERVIEWED KNOW AT LEAST ONE PLACE WHERE THEY CAN OBTAIN INFORMATION ABOUT HEALTH AND PERSONAL HYGIENE HABITS.

Of the total of adults in the home who responded that they knew of places where you could learn or obtain information about health and hygiene practices or habits, the health post/convergence center decreased most, and this is statistically significant. This is probably due to the reduction of health service locations offered by the MOH. The school has taken on a more important role and this increase was also statistically significant. The rest of the options more or less stayed the same. The reported responses are presented in the following table:

Table 59: Percentage of people in the home who recognize where to obtain hygiene information, by place

Place	BL (n = 311)		MTE (n = 266)		Statistical difference
	N	%	N	%	
Schools / Institutes / private schools	161	51.8 (46.0 – 57.6)	181	60.9 (55.2 – 66.3)	t=2.195, p=.0286
Health Post / Convergence Center	149	47.9 (42.1 – 53.1)	76	25.4 (20.2 – 30.0)	t=5.564, p=.0000
Health Center	58	18.6 (14.5 – 22.8)	36	12.1 (8.4 – 16.2)	t=2.145, p=.0324
Hospital	-	-	4	1.3 (0.3 – 2.7)	t=2.017, p=.0442
NGO Clinics / Private Clinics	6	1.9 (0.6 – 3.5)	10	3.4 (1.7 – 5.7)	-
Other	3	1.0 (0.0 – 2.3)	33 ²³	11.1 (8.1 – 14.8)	t=5.235, p=.0000
Church	8	2.6 (1.0 – 4.5)	9	3.0 (1.3 – 5.1)	-

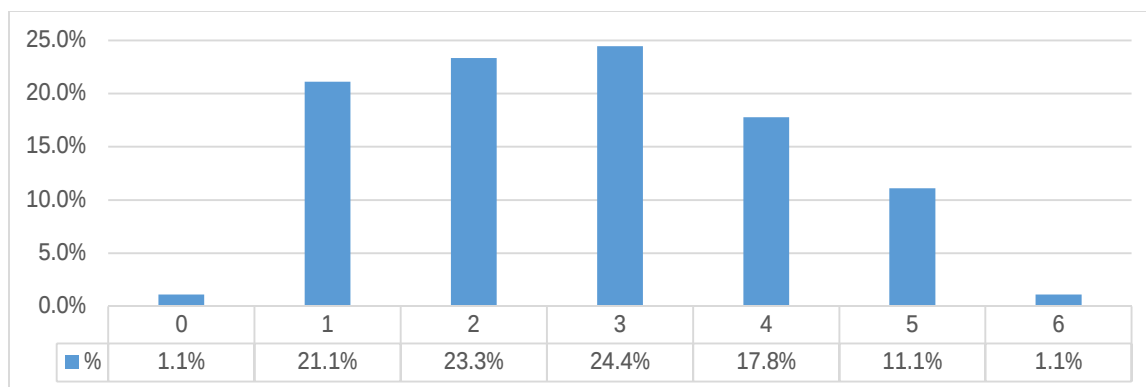
Source: Household interviews, parents of the community

MOTHER COLLABORATORS

KNOWLEDGE ABOUT HYGIENE PRACTICES OR HABITS

The Mother Collaborators were asked about knowledge of the hygiene practices or habits that everyone should have. On average the Mother Collaborators answered with 2.7 practices or habits and 55.4% could answer with at least three. The following graph shows the number of responses stated by the people who were interviewed.

Graph 34: Percentage of hygiene practices known by the Mother Collaborators



Source: Interview with Mother Collaborators

²³ 42.9% (15) of these cases recognized PCI as an entity where they can obtain information.

The norm that was most common for the Mother Collaborators was hand washing given that a few more than nine of every ten remembered it, followed by a daily bath that was mentioned by almost six of each ten interviewed. Other responses are presented in the following table.

Table 60: Practices of hygiene that were known by Mother Collaborators

Hygiene Practice or habit	N	%
Daily bath	51	56.7 (45.6 – 66.7)
Hand washing	83	92.2 (87.7 – 96.7)
Tooth brushing	17	18.9 (11.1 – 26.7)
Comb hair	39	43.3 (33.3 – 53.3)
Change of clothes	36	40 (30.0 – 50.0)
Use of shoes	13	14.4 (7.8 – 22.2)
Use of latrine or toilet	8	8.9 (3.3 – 15.6)

Source: Interview with Mother Collaborators

FEEDING PROGRAM

The feeding program implemented by PCI with support from the USDA is extremely important for the children in the schools. This section provides detailed information about the Feeding Program and analyzes knowledge about food storage and preparation. The sources of information were the directors and/or teachers, students, parents, Council members and Mother Collaborators.

This chapter begins with a summary of the main indicators collected during the mid-term evaluation.

Table 61: Indicators for the Feeding Program

Result	Indicator	MTE Value	PCI Objective	Description according to the baseline
Reduction of short term hunger	Percentage of students who indicate they are hungry or very hungry	19.7	15	Percentage of students (children) who are hungry or very hungry at the time of the interview Source: Students from 4th to 6th grade

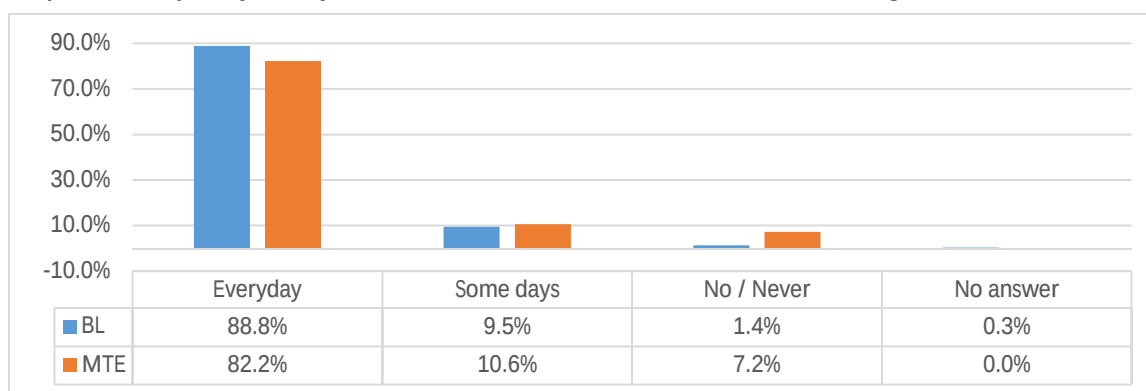
PERCEPTION OF THE STUDENTS

When the fourth to sixth grade children were consulted about whether they had eaten breakfast in their home the day of the interview, 85.8% responded affirmatively during the MTE compared to 95.3% during the BL. This decrease is statistically significant $t=4.431$, $p=.0000$.

The children were asked if they had eaten breakfast every school day the previous week and 82.2% said they had breakfast every day, compared to 88.8% in the BL; this decrease is also statistically significant $t=2.582$, $p=.0100$.

Thus, the number of children who say they did not eat breakfast at home every day during the previous week, increased from 1.4% during the BL to 7.2% during the MTE; this difference is statistically significant $t=3.874$, $p=.0001$. These responses can be seen in the following graph:

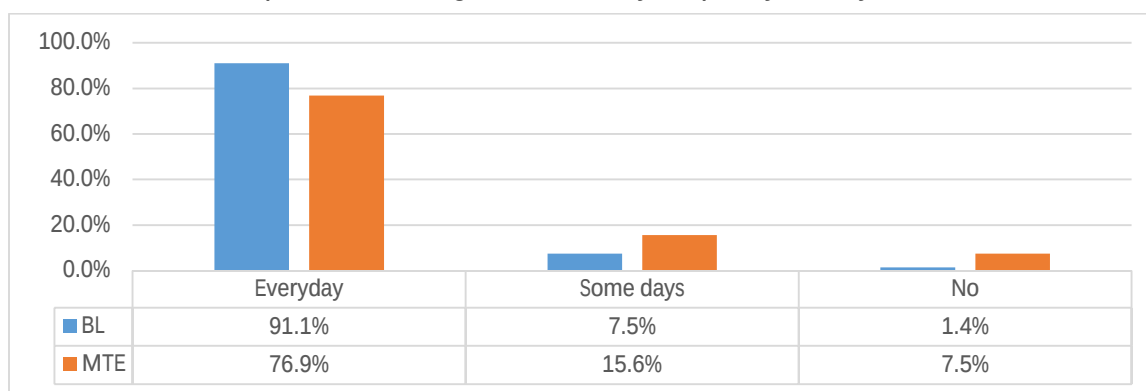
Graph 35: Frequency of days when breakfast was eaten at home, according to the school children



Source: Interview with 4th to 6th grade children

When the children were asked if they had eaten three meals a day during the week prior to the interview, 76.9% responded affirmatively, compared to 91.1% during the BL; this difference is statistically significant $t=5.303$, $p=.0000$.

Graph 36: Percentage of children by frequency of daily meals

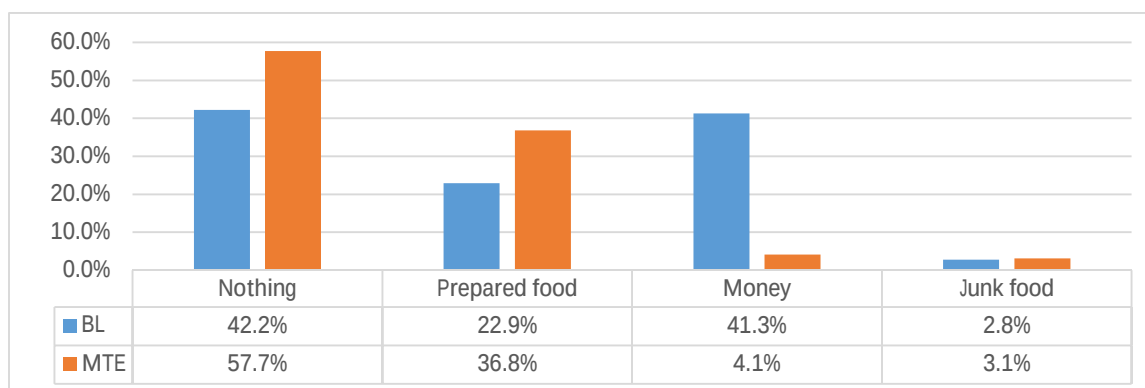


Source: Interview with 4th to 6th grade children

When the children were asked what they had brought to school for snack the day of the interview, 57.7% said they hadn't brought anything during the MTE compared to 42.2% in the BL; this difference is statistically significant $t=4.300$, $p=.0000$. An increase was observed in the number of children who bring prepared food (36.8% during the MTE vs. 22.9% during the BL), and this increase was statistically significant $t=4.193$, $p=.0000$. There was a decrease in the number of children who bring money to buy something at school (41.3% during the BL vs. 5.3% during the MTE); this decrease is also statistically significant $t=12.064$, $p=.0000$.

There was no statistically significant difference between the percentages of children who eat junk food (3.1% during the MTE vs. 2.8% during the BL).

Graph 37: Complementary foods that the children bring to school



Source: Interview with 4th to 6th grade children

A similar situation was observed when the children were asked about the food that they had brought to school the week prior to the interview; nevertheless, it was noted that they now mention as an additional option, that they bring fruit (13.7% during MTE). The table below presents a comparison of the food that they eat at school, both on the day of the visit as well as the previous week and only applies to the MTE:

Table 62: Type of snack brought to school, according to the children

Type of snack	Day of the interview (n = 416)		Previous week ²⁴ (n = 416)	
	N	%	N	%
Nothing	240	57.7 (52.6 – 62.5)	190	45.7 (40.9 – 50.7)
Prepared food	153	36.8 (32.2 – 41.1)	153	36.8 (32.5 – 41.3)
Money	22	5.3 (3.1 – 7.5)	21	5.0 (3.1 – 7.2)
Junk food	13	3.1 (1.7 – 5.0)	13	3.1 (1.7 – 5.0)
Fruit	-	-	57	13.7 (10.3 – 16.8)

Source: Interview with 4th to 6th grade children

On average, the fourth to sixth grade children were interviewed around 9:39 AM (for all the students of the morning program) during the MTE. At the time of the interview, 33.4% of the children indicated that they hadn't eaten anything. The average time of the interview was not available for the BL, nevertheless, at the time of the interview, 69.0% stated that they had not eaten anything.

²⁴ Considering a minimum of three days in the previous week.

Table 63: Food eaten at school prior to the interview, according to the children

Food	Baseline (n = 358)		MTE (n = 400)	
	N	%	N	%
Nothing/none	247	69.0 (64.0 – 73.7)	139	33.4 (28.6 – 38.0)
School snack	66	18.4 (14.5 – 22.6)	145	34.9 (30.3 – 39.2)
Snack brought from home	22	6.1 (3.6 – 8.7)	38	9.5 (6.5 – 12.3)
Snack bought at school	23	6.4 (3.9 – 8.9)	13	3.1 (1.4 – 4.8)
School breakfast	-	-	150	36.1% (31.5 – 40.6)

Source: Interview with 4th to 6th grade children

The children who said they bought something at school preferred candies and sweets to more substantial food, nevertheless, it is important to note that the number of children who bought something in both surveys was low. The responses about what they bought are presented in the following table.

Table 64: Food bought at school, according to the children

Snack purchased	Baseline (n = 23)		MTE (n = 13)	
	N	%	N	%
Packaged Sweets	16	69.6 (47.9 – 87.0)	3	23.1 (0.0 – 46.2)
Candies/ ice-cream/ choco-fruits	4	17.4 (4.3 – 34.8)	7	58.3 (23.1 – 76.9)
Whole fruit / fruit in a bag	4	17.4 (4.3 – 34.8)	3	23.1 (0.0 – 46.2)
<i>Chuchitos / enchiladas / tacos</i>	4	17.4 (4.3 – 34.8)	6	46.2 (23.1 – 69.2)
Bread / cookies	7	30.4 (13.0 – 52.2)	1	7.7 (0.0 – 23.1)
Other			1	8.3 (0.0 – 23.1)

Source: Interview with 4th to 6th grade children

During the BL, 17 (4.7%) girls and/or boys had not had breakfast at home the day of the interview and at the time of the interview, 11 of them had still not eaten (64.7%). During the MTE, of the 59 (14.2%) girls and/or boys who indicated that they had not had breakfast in their home the day of the visit, at the time of the interview five of them (8.5%) indicated that they had not eaten anything yet. It is not a high percentage and it should, again, be noted that the average time of the interview was 9:39 in the morning.

Table 65: Food received at school, according to breakfast consumption

What have you eaten today at school?	Did you eat breakfast at home today?							
	Baseline				MTE			
	No (n = 17)		Yes (n = 341)		No (n = 59)		Yes (n = 357)	
	N	%	N	%	N	%	N	%
Nothing	11	64.7 (41.2 – 88.2)	236	69.2 (64.2 – 74.2)	5	8.5 (1.7 – 16.9)	134	37.5 (32.5 – 42.9)
School snack	5	29.4 (11.8 – 52.9)	61	17.9 (13.8 – 22.0)	16	27.1 (16.9 – 39.0)	129	36.1 (31.1 – 41.4)
Snack brought from home	-	-	22	6.5 (3.8 – 9.4)	4	6.8 (1.7 – 13.6)	34	9.5 (6.7 – 12.6)
Snack bought at school	1	5.9 (0.0 – 17.6)	22	6.5 (4.1 – 9.1)	-	-	13	3.6 (1.7 – 5.6)
School breakfast	-	-	-	-	48	81.4 (71.2 – 89.8)	102	28.6 (23.8 – 33.3)

Source: Interview with 4th to 6th grade children

Among the children, 83.3% who had eaten something at the time of the interview (n = 150), during the MTE, responded that they liked it a lot, 15.3% responded that they liked it a little, and 1.3% that they didn't like it. With regard to the children who had eaten the school snack at the time of the interview (n = 129), during the MTE, 81.4% said they liked it a lot, 17.8% that they liked it a little, and 0.8% that they didn't like it. There was no relationship between those who didn't like the school breakfast and those who didn't like the school snack.

It is important to clarify that there is not a lot of clarity among the different key players, especially the children, between the snack and the school breakfast. Nevertheless, for those who were clear, the breakfast is facilitated by PCI/USDA and the school snack with support from the MOE.

In the six schools visited by the qualitative team it was observed that the children received generous portions (the volume was not estimated, but the entire team thought they were adult sized portions) and that all the food was eaten enthusiastically except for the drink (*atol*) made from the CSB (in the schools in Santa Cruz Barillas and Santa Eulalia). According to the Mothers and teachers, the children like this *atol* a lot when it is prepared with sugar, milk or fruit, ingredients obtained with the funds that the MOE and/or parents provide. It should be noted that at the time of the evaluation, the schools had not received these funds for many months and thus they did not have the supplies needed to improve the *atol* preparation.

The children said that they liked the breakfast and a large majority said their 'tummies were good and full' and if they weren't full they could ask for more food. This was corroborated by observation. The children's comments in relation to the breakfast were: the food is well cooked, the mothers prepare it

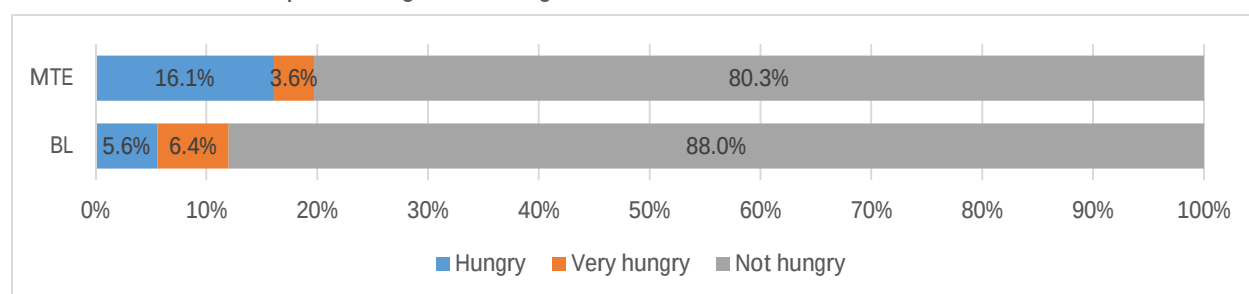
well; the food fills us up, they make a rice dish that is very delicious, as are the ground beans and the bread; the food is different than what we get at home; the food from PCI has vitamins.

During the MTE, 19.7% of the children interviewed stated they were hungry to some degree at the time of the interview, this percentage is greater than that reported during the BL (12.0%), and may be due to the time of year. At the time of the BL the MOE had provided funds for school feeding and during the MTE the school was still waiting on disbursements from the MOE, and thus had not been able to buy supplies to complement the preparation of the school breakfast. The difference is statistically significant ($t=2.903$, $p=.0038$).

INDICATOR

19.7% OF THE 4TH TO 6TH GRADE CHILDREN INTERVIEWED SAID THEY WERE HUNGRY OR VERY HUNGRY AT THE TIME OF THE INTERVIEW.

Graph 38: Degree of hunger of the children at the time of the visit



Separating out the children who had eaten something at the time of the visit, whether it was the school breakfast, school snack or other food brought to or bought at school, it was found that 4.3% of those who said they hadn't eaten were very hungry at the time of the interview and 14.4% stated they were hungry. This is important to highlight because a child who is hungry doesn't have the same academic level as a child whose food need has been satisfied.

It is also important to observe that of those who said they had eaten something at school, one in five said they experienced some degree of hunger.

Table 66: Degree of hunger, according to status of food consumed

Survey	At this moment you...	At this time have you eaten anything?			
		No		Yes	
		N	%	N	%
Baseline	Are hungry	15	6.1 (3.2 – 9.7)	5	4.5 (0.9 – 8.5)
	Are very hungry	13	5.3 (2.8 – 8.5)	10	9.0 (3.6 – 14.4)
	Are not hungry	219	88.7 (84.6 – 92.3)	96	86.5 (80.2 – 92.8)
	Total	247	100.0	111	100.0
MTE	Are hungry	20	14.4 (8.6 – 20.1)	47	17.0 (12.3 – 21.3)
	Are very hungry	6	4.3 (1.4 – 7.9)	9	3.2 (1.4 – 5.8)

Survey	At this moment you...	At this time have you eaten anything?			
		No		Yes	
		N	%	N	%
	Are not hungry	113	81.3 (74.8 – 87.8)	221	79.8 (75.1 – 84.5)
	Total	139	100.0	277	100.0

Source: Interview with 4th to 6th grade children

Analyzing in more detail only the children who said they were hungry or very hungry at the time of the interview and they had already eaten something, it was found that during the MTE 21.0% of the children had already had the school breakfast.

Table 67: Food consumed, according to degree of hunger reported

What did you eat at school today?	Survey	15. At this moment you...	
		Are hungry	Are very hungry
School breakfast	BL	4	5
	(n = 66)	6.1%	7.6%
	MTE	43	9
	(n = 247)	17.4%	3.6%
Snack brought from home	BL	0	3
	(n = 22)	0.0%	13.6%
	MTE	3	0
	(n = 38)	7.9%	0.0%
Snack bought at school	BL	1	2
	(n = 23)	4.3%	8.7%
	MTE	2	0
	(n = 13)	15.4%	0.0%

Source: Interview with 4th to 6th grade children

When the analysis was carried out by grade, it was found that in the MTE, 31.7% were from fourth grade, 41.5% from fifth grade and 26.8% from sixth grade. Of these, 70.7% were male and 29.3% female.

With regard to the time that they prefer to eat no difference was found between the two surveys. The preferred hour was around nine in the morning (80.8% during the MTE vs. 81.3% during the BL).

Table 68: Time of school feeding

Time of feeding	Baseline (n = 358)		MTE (n = 416)	
	N	%	N	%
At 7:30 in the morning	42	11.7 (8.4 – 15.1)	53	12.7 (9.6 – 16.1)
Around 10:00 in the morning	291	81.3 (77.4 – 85.2)	336	80.8 (76.9 – 84.4)
At 12:00 / mid-day ²⁵	25	7.0	27	6.5

²⁵ Includes one afternoon school.

Time of feeding	Baseline (n = 358)		MTE (n = 416)	
	N	%	N	%
		(4.5 – 9.5)		(4.1 – 8.9)

Source: Interview with 4th to 6th grade children

After consuming food, 46.1% of the children in the MTE indicated that they were motivated to receive classes, pay attention or learn, compared to 38.9% from the BL. The individual differences were not statistically significant.

Table 69: Status of child after eating food

At this time you feel ...	Baseline (n = 358)		MTE (n = 416)	
	N	%	N	%
Good / same as always	250	69.8 (65.4 – 74.9)	303	72.8 (68.8 – 77.4)
Happy, motivated, very happy	189	52.8 (48.0 – 57.5)	200	48.1 (43.0 – 53.1)
Like going to class	84	23.5 (19.0 – 27.9)	122	29.3 (25.0 – 33.7)
Like learning	34	9.5 (6.4 – 12.8)	45	10.8 (7.9 – 14.2)
Like paying attention	21	5.9 (3.6 – 8.4)	25	6.0 (3.8 – 8.4)

Source: Interview with 4th to 6th grade children

Of the children who said they felt some degree of hunger (n = 82) during the MTE, 4.9% stated they were motivated to receive classes, 1.2% were ready to pay attention and, none mentioned being motivated to learn. This may show in some way that, after eating, the children have more energy to receive, learn and pay attention in the classroom.

PERCEPTION OF THE DIRECTORS AND TEACHERS

During the BL, 55.1% of the directors and/or teachers interviewed did not know if there was a PCI/USDA School Feeding Program operating in their school; during el MTE 100.0% of the directors and/or teachers stated that they knew that there was a School Feeding Program supported by PCI/USDA in the school.

In both surveys 100.0% of the directors and teachers stated that there was another School Feeding Program functioning in their school. During the MTE 98.4% indicated that this program was supported by the MOE, compared to 92.8% who mentioned that institution during the BL.

There was no statistically significant difference between the time that the directors and/or teachers indicated that the food was served during the MTE compared to that of the BL.

Table 70: Time at which food is served, according to teacher perception

Time when food is served	Baseline (n = 73)		MTE (n = 87)	
	N	%	N	%
Before 10 AM	12	16.4 (8.2 – 24.7)	18	20.7 (12.6 – 28.7)
Between 10 and 11 AM	56	76.7 (65.8 – 86.3)	65	74.7 (65.5 – 83.9)
After 11 AM ²⁶	5	6.8 (1.4 – 12.3)	4	4.6 (1.1 – 9.2)

Source: Interview with Teachers and directors

At the time of the interview during the MTE, according to the directors and/or teachers interviewed, 66.7% of the children were hungry or very hungry, compared to 64.4% during the BL; this difference is not statistically significant. Nevertheless, this statement did not coincide with what the 4th to 6th grade children who were interviewed stated.

With regard to the degree of children considered by the directors and/or teachers to be hungry at the time of the interview, according to them, one out of six continued to be hungry. No statistical difference was found between the degree reported during the MTE (65.5%) and the BL (63.0%). Nevertheless, there was an important difference in the degree of children considered to be 'very hungry' as reported by the directors and/or teachers. This decreased from nearly five children who were 'very hungry' during the BL (46.6%) to three during the MTE (31.0%). This difference is statistically significant $t=2.024$, $p=.0447$.

Table 71: Children who were very hungry at the time of the interview, teacher perception

Response	Baseline (n = 73)		MTE (n = 87)	
	N	%	N	%
Yes	34	46.60%	27	31.0%
Doesn't know / Doesn't answer	2	2.70%	-	-

Source: Interview with teachers and directors

Taking into account the opinion of the directors and/or teachers who thought that the children had eaten some kind of food and their opinion about the children's degree of hunger at the time of the interview, it was found that during the MTE, 69.6% who had not eaten anything were hungry or very hungry, compared to 76.0% in the BL. At the same time, it was found during the MTE that 61.3% thought that although they had eaten some foods some children continued to have some degree of hunger at the time of the interview, compared to 39.1% in the BL. Neither of the differences is statistically significant.

²⁶ Includes one school with afternoon sessions.

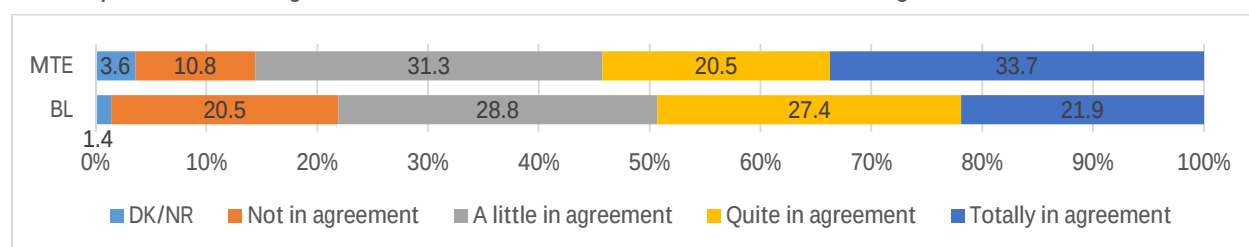
Table 72: Teacher perception of the degree of hunger (having eaten some food), according to teacher perception

Think /believe that the children have eaten some type of food?	Children with some degree of hunger			
	Baseline		MTE	
	N	%	N	%
No	38 (n = 50)	76.0 (64.0 – 88.0)	39 (n = 56)	69.6 (57.1 – 82.1)
Yes	9 (n = 23)	39.1 (17.4 – 60.9)	19 (n = 31)	61.3 (42.0 – 80.6)

Source: Interview with teachers and directors

From the perspective of the teachers, approximately five of every ten children come to school without having eaten breakfast given that using questions with an opinion scale the directors and/or teachers were asked if the majority of the children who attend school eat breakfast at home. The following graph shows that 50.6% of the directors and/or teachers disagree to some extent with that statement, compared to 56.2% during the BL; this difference is not statistically significant. Compared to what was indicated by the children (17.8% stated they had not eaten breakfast every day the week prior to the interview), it can be noted that the teachers' perception does not coincide with that of the children.

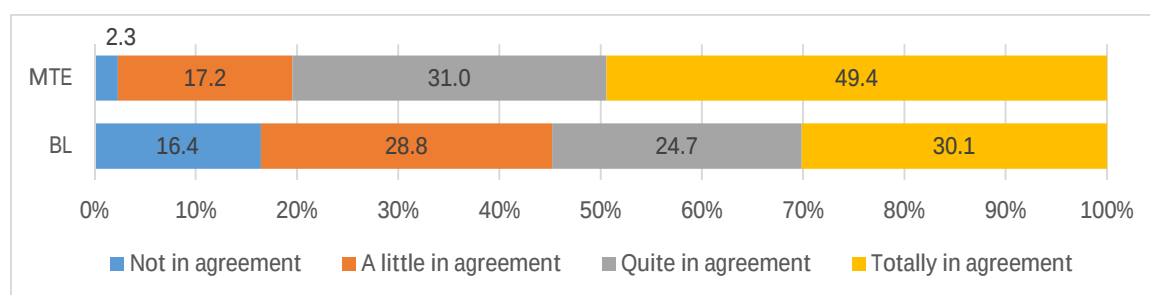
Graph 39: Percentage of children who eat breakfast at home, according to directors and teachers



Source: Interview with teachers and directors

The directors and/or teachers were also asked their opinion about whether the school snack met the nutritional needs of the school children who do not eat breakfast at home. During the MTE, 80.5% of the directors and/or teachers agreed to some degree with this statement, compared to 54.8% during the BL. This difference of opinion is statistically significant $t(158)=3.494$, $p=.0006$. This might suggest that, in the view of the directors and/or teachers, the nutritional quality of the food served to the children has improved in the last year.

Graph 40: Opinion about whether the school snack meets nutritional needs, according to the directors and/or teachers



Source: Interview with parents

Nine of ten directors and/or teachers continue to agree that the parents of the community should contribute or provide 'some contribution', to improve the food that is currently given to the children of the school (93.1% during the MTE vs. 93.2% during the BL).

Considering only the directors and/or teachers who stated that the parents should provide 'some contribution', the main contribution that they indicate during the MTE was that the parents should provide foods, ingredients or condiments (71.3%) followed by money (37.9%). The needs from one year to the next may have changed, as well as the season when the interview was carried out and for this reason comparing the two to seek statistically significant differences was not deemed relevant.

Table 73: Support that parents should provide for the School Feeding Program, according to teachers' perception

Support or contribution	Baseline (n = 68)		MTE (n = 81)	
	N	%	N	%
Food, ingredients or condiments	33	48.5 (36.8 – 60.3)	62	76.5 (66.7 – 85.2)
Money	30	44.1 (32.4 – 55.9)	33	40.7 (30.9 – 51.9)
Unskilled labor	25	36.8 (25.0 – 48.5)	16	19.8 (12.3 – 28.4)
Work in food preparation	22	32.4 (20.6 – 44.1)	14	17.3 (9.9 – 25.9)
Firewood or fuel	10	14.7 (7.4 – 23.5)	18	22.2 (13.6 – 32.1)
Other	5	7.4 (1.5 – 13.2)	7	8.6 (3.7 – 14.8)
Transport and/or unloading of commodities	3	4.4 (0.0 – 8.8)	9	11.1 (4.9 – 18.5)
Commodity storage	2	2.9 (0.0 – 7.4)	1	1.2 (0.0 – 3.7)
Infrastructure improvement	1	1.5 (0.0 – 4.4)	-	-

Source: Interview with teachers and directors

Teachers were asked about their perception of the quality and benefits of the school feeding. The 12 teachers interviewed and the six CTA considered that the food is of good quality and provided in adequate quantities. All of them commented that the children eat the food very enthusiastically and that they often ask for seconds. They felt that there wasn't any food that the children rejected, but that when the "condiments" (the foods acquired with MOE funds and from parent contributions) are scarce, the variety in the meals decreases with resulting decreases in children's consumption and enthusiasm.

In the schools, the school feeding has two funding sources: the National Feeding Program of the MOE and that of PCI. The former assigns an annual minimum quantity per student, but the disbursements tend to be erratic and late. The teachers explained:

Voices of the teachers

Here at school we also have the 'Rotating Fund' program that is a subsidy sent by the MOE to all schools. There are approximately Q22,000 that should have been sent to the school already but haven't been sent. Can you imagine? They should be sending us funds every quarter or every two months, but they don't send it. Now (end of September) they are going to send us what corresponds to July, August and September and it still hasn't arrived. If it weren't for PCI, the school wouldn't have anything to give the children to eat. Ever since the program started they are constantly providing the snack for the children. We can't say that we are lacking food, that the children end up without a snack, because we have it every day, it is there every day. If we depended on the MOE program contributions, forget it, the children wouldn't have their snack.

(Teacher, San Pedro Soloma)

The project [FFE] is excellent, because thanks to the project the children have their breakfast every day because if we only had the money the government gives us...just imagine! This year they have only given us two disbursements. Practically we sometimes get three, four disbursements and this year, only two. If it weren't for PCI the children wouldn't have breakfasts or snacks. In other schools the children now don't get a snack. Imagine that, here right up today there are the breakfasts for the children. There is the children's snack. The project is excellent, for me it is very good. Because if you notice, with our government, we're lost. Imagine this: now we don't have anything, almost nothing in the warehouse. Ay! If it weren't for PCI, the children wouldn't be eating. There aren't hardly any modifications that PCI needs to make as it is an excellent project, they do an excellent job and as teachers we've learned a lot from PCI.

(Teacher, Santa Cruz Barillas)

Using the commodities that PCI donates, the teachers plan the menus, trying to vary them as much as possible. The variations in the children's food depend, however, directly on the MOE contribution, the contributions from the parents and from vegetables that are harvested from the school garden (more on this below). In the six schools visited by the qualitative team, it was observed that the most

Voices of the teachers

The resources from the Ministry of Education sometimes run out but the parents have supported us sending some vegetables in order to add another flavor to the food. We had products from the Ministry of Education for about four or five months. We bought milk, then we made the strategy that the children would drink two times the CSB atol, and with the milk it tastes really good. Then the children would come to get two or three glasses and we made a double recipe: one at 10 and another before they would leave.

(Teacher, San Gaspar Ixchil).

successful feeding programs are those that have achieved maximum collaboration with parents (through the Parents' Councils) as well as the teachers themselves, not only for preparation of the breakfasts but also for the material contributions (firewood and vegetables) and working in the school garden (see Box 1). Another teacher explained:

Los teachers and CTA interviewed value the PCI feeding program highly and several commented that it has been a way to expand children's diets. Some products that were unknown to the majority of children have been introduced, especially some vegetables and all the preparations with CSB. It has also introduced new ways of preparing well known foods, such as rice with vegetables, beans with Incaparina or CSB, drinks (*atols*) with fruit, blended and refried beans. These new preparations have been possible thanks to the trainings given by the PCI educators to the Mothers who cook the foods. This will be explained in more detail below.

Voices of the teachers

Well, what we have seen is that they like the atol. Since the atol is CSB, for them it is a new product. You know that we are used to Incaparina, oatmeal or rice in milk [...] But for them they have liked this CSB atol a lot also because the Mothers make it in different ways. There's one with three cereals that the PCI educator came to teach. And they also use the CSB in patties, I don't know what they call that, but they make patties out of the CSB and they are delicious [...] and the children like them because these products aren't available for sale, you can't buy CSB in the store. So they really like this. And the beans as well, you know. The beans, thank God, are a good quality. Because there are some beans that never get cooked, but the ones they have brought are good quality and the soup ends up nice and thick. Even more so when they add Incaparina, then it is really good. [Sometimes they don't want to eat rice], it's not that they don't like it, but they eat it a lot at home and then to get it here again, that's not so great. We teachers also help the Food Commision, we leave them alone and we tell them the rice is well cooked, that it is good with vegetables. Because here, thank God, lots of vegetables grow – there are güisquilitos, carrots and all the other things we grow here [in the school garden], like cilantro or tomatillos.

(Teacher, San Pedro Necta)

PERCEPTION OF THE PARENTS

The level of knowledge of the adults interviewed about the fact that they provide food to the children is high; in the MTE 89.0% recognized that they receive a school snack, compared to 78.6% during the BL. The degree of knowledge about the fact that the children also receive a school breakfast almost doubled between the two surveys (77.3% during the MTE vs. 36.3% during the BL). During the MTE it was also found that 66.7% of the adults were aware that they received both meals, compared to 15.8% during the BL. All these increases are statistically significant.

The increased presence of PCI in support of school feeding is obvious between the BL (43.6%) and the MTE (73.7%) in the opinion of the adults interviewed. At the same time there was a decrease in perception about the MOE's participation in this activity (26.4% during the MTE vs. 59.5 during the BL). The differences for both changes are statistically significant.

Box 1

Successful example of collaboration San Pedro Soloma

"We try to have new recipes so we aren't always repeating the same things, and this makes the children like the food. Because if they always get the same thing, they get bored. With different ways of eating, changing the recipes, like I say today we will have fried rice. The teachers look for ways to innovate. Now that we have the garden we get vegetables from there and mix them in and we send out for chicken and we have support from the community. When we are going to have 'paches', on Mondays they bring in the wrapping leaves, or one grade or section will bring the leaves and each child from another section will bring a potato and another a bell pepper and then we take what we have here and at 11:30 or 12 depending on how cooking is going, we give them lunch and they go away full. On Tuesdays we make *pepián* or *Jocón*. We send for the ingredients that we would have when we had the funds from the MOH and we combine them. Then we make something with chicken. On Wednesday we ask for onions, tomatillos, pumpkin seed, sesame seed, in order to make *pepián*. On other occasions we make *chao min*. We ask for corn to make bean *tamalitos*. They really don't want to miss that day. The children love them and they disappear. I asked my colleagues to look for recipes. They are in that commission because they are really clever. They find recipes to be able to combine different foods and they've done it. They love the CSB. You know at the beginning they just cooked it and the children didn't like it much. So then I told them to look for a way to prepare it that they would like. Then one of the educators, Miss Doris came and she told them how to prepare the CSB like *horchata*. When they serve it like that we run out because they love it.

Table 74: Entity that supports school feeding, according to the perception of the adults of the household

Entity that supports	Baseline (n = 472)		MTE (n = 571)		Statistical difference
	N	%	N	%	
Staff from PCI / USDA	206	43.6 (39.6 – 48.1)	421	73.7 (70.1 – 77.1)	t=9.880, p=.0000
Other NGO	2	0.4 (0.0 – 1.1)	5	0.9 (0.2 – 1.8)	-
Groups / members of the community	4	0.8 (0.0 – 1.7)	44	7.7 (5.4 – 10.2)	t=5.307, p=.0000
Other	1	0.2 (0.0 – 0.6)	6	1.1 (0.4 – 1.9)	-
MOE	281	59.5 (54.9 – 64.1)	151	26.4 (22.9 – 30.1)	t=10.803, p=.0000
Doesn't know / Doesn't answer	88	18.6 (15.0 – 22.0)	82	14.4 (11.6 – 17.3)	-

Source: Interview with Parents

There was an increase in the adults interviewed who stated that the food given at school helps more parents to enroll their children in school (83.6% during the MTE vs. 76.9% during the BL). Also during the MTE 89.5% of the adults stated that the fact that there is food at school has a positive influence on children's attendance. This question was not asked in the BL.

Nearly nine off every ten adults interviewed in the community continue to have the perception that the Parents' Council directly supports the meals that the children receive at the school (88.1% during the MTE vs. 86.8% during the BL).

The number of adults interviewed in the community who thought that parents contributed 'something' for the breakfast or snack that the children receive at school continued at a similar rate given that during the MTE 85.9% stated this compared to 95.4% during the BL. It is important to note the season of the year when the interviews were conducted to explain the possible decrease.

For the analysis of the parents' contribution to the Feeding Program it is important to consider the time of the year since this plays an important role in the possible increase or decrease. The BL collected data in April and the MTE, in August/September; that is, one at the beginning of the school year and the other at the end. The perception of the adults interviewed showed a lower value in all the contributions and an increase in the contribution of food, ingredients or condiments. The difference in the majority of the contributions is statistically significant.

Table 75: Parents' contributions to the School Feeding Program

Support or contribution	Baseline (n = 454)		MTE (n = 475)		Statistical difference
	N	%	N	%	
Food, ingredients or condiments	123	27.1 (23.3 – 31.5)	219	46.1 (41.3 – 50.3)	t=6.002, p=.0000
Cash	345	76.0 (71.8 – 79.7)	253	53.3 (49.1 – 57.9)	t=7.223, p=.0000
Transport and/or unloading of commodities	26	5.7 (3.5 – 7.9)	63	13.3 (10.3 – 16.4)	t=3.933, p=.0001

Support or contribution	Baseline (n = 454)		MTE (n = 475)		Statistical difference
	N	%	N	%	
Storage of commodities	3	0.7 (0.0 – 1.5)	4	0.8 (0.2 – 1.7)	-
Firewood or fuel	259	57.0 (52.2 – 61.2)	72	15.2 (11.8 – 18.5)	t=13.298, p=.0000
Work to improve school infrastructure	6	1.3 (0.4 – 2.4)	1	0.2 (0.0 – 0.6)	-
Local materials for infrastructure improvement	2	0.4 (0.0 – 1.1)	-	-	-
Unskilled labor	136	30 (26.0 – 34.4)	35	7.4 (5.3 – 9.9)	t=8.878, p=.0000
Food preparation labor	127	28.0 (24.0 – 32.2)	42	8.8 (6.3 – 11.8)	t=7.584, p=.0000
Other <i>MTE: Time ensuring compliance of feeding (4), water (2), dishes and utensils (2), paperwork(1)</i>	4	0.9 (0.2 – 1.8)	9	1.9 (0.8 – 3.4)	-

Source: Interview with parents

Finally, the adults of the community were asked if in the school a School Feeding Program with more and better activities were organized, do they think that the parents would have to 'contribute something more' so that the program would function well; during the MTE 87.4% answered yes, compared with 91.8% during the BL.

Considering only those who said yes, they should provide something more, 50.0% of the adults stated that they should give more money and 27.1% said they should contribute more food or ingredients. As was observed previously, cash contributions have decreased in the schools during the most recent visit which could be an obstacle given the current situation of the country.

Table 76: Support that parents should provide to improve the School Feeding Program

Support or contribution	Baseline (n = 437)		MTE (n = 501)		Statistical difference
	N	%	N	%	
Food, ingredients or Condiments	129	29.5 (25.6 – 34.3)	136	27.1 (23.4 – 30.9)	t=6.002, p=.0000
Money	333	76.2 (72.1 – 80.1)	251	50.1 (45.9 – 54.7)	
Transport and/or unloading of commodities	43	9.8 (7.1 – 12.6)	36	7.2 (4.8 – 9.4)	
Storage of commodities	27	6.2 (4.1 – 8.7)	5	1.0 (0.2 – 2.0)	
Firewood or fuel	217	49.7 (45.1 – 54.5)	30	6.0 (4.0 – 8.2)	t=13.298, p=.0000
Work to improve school infrastructure	11	2.5 (1.1 – 4.1)	1	0.2 (0.0 – 0.6)	
Local materials to improve infrastructure	9	2.1 (0.9 – 3.4)	-	-	
Unskilled labor	178	40.7 (35.9 – 45.3)	45	9.0 (6.4 – 11.8)	

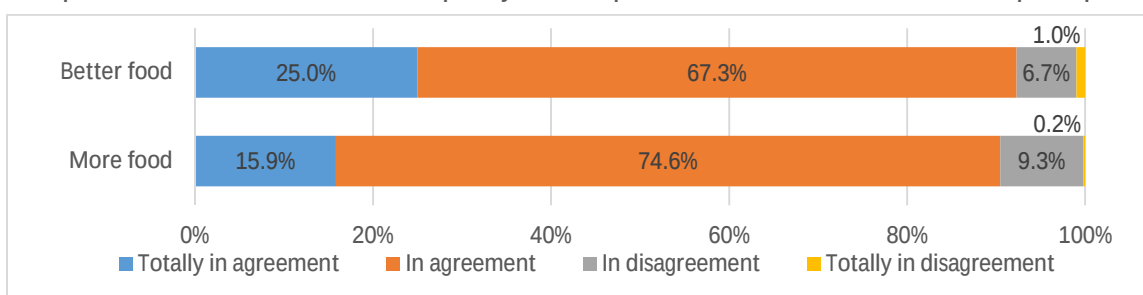
Support or contribution	Baseline (n = 437)		MTE (n = 501)		Statistical difference
	N	%	N	%	
Food preparation labor	123	28.1 (24.0 – 32.7)	54	10.8 (8.0 – 13.8)	
Other	1	0.2 (0.0 – 0.7)	138	27.5 (23.6 – 31.5)	

Source: Interview with Parents

It is important to analyze the “other” category in the above table, as during the MTE several relevant contributions were stated although not in the list. For example: 9.8% of the total of the sample stated that they would support with whatever they were asked for, 6.1% don’t know what they should provide, but they are willing to do so and 5.1% say that they are willing to give time for meetings, trainings, to work in the garden or to make sure the foods are prepared.

During the MTE the adults in the community were asked whether if more food or better quality food were given, more children would be enrolled in school; for both of these options a little more than nine in ten adults are to some degree in agreement as can be observed in the following graph.

Graph 41: Would more and better quality food improve school enrollment, teacher perception

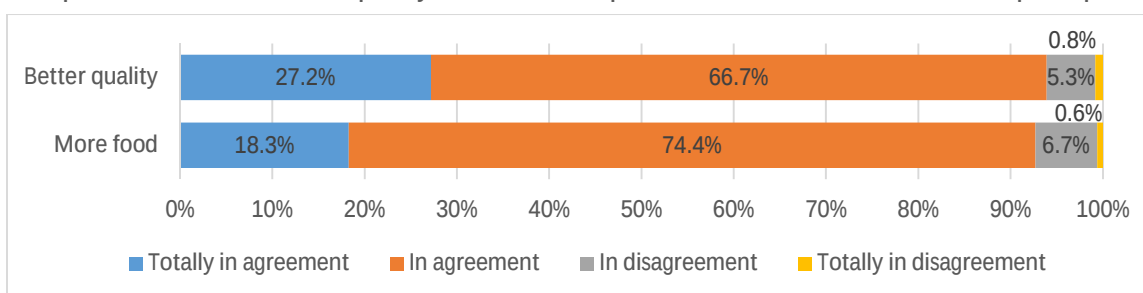


Source: Interview with teachers and directors

During the BL the question covered both aspects in one question: more food and better quality and 85.8% considered that to some degree it would increase school enrollment.

Additionally the adults were asked during the MTE if the school in the community were to give more food than is currently be given, or better quality food, would children attend class more frequently; again a few more than nine of every ten adults are to some degree in agreement with these statements.

Graph 42: More and better quality food would improve school attendance, teacher perception



Source: Interview with teachers and directors

The parents were also asked about the basic aspects of storage that should be considered for the food at the school. In general, the percentages stayed the same in the two surveys and due to the different times of year when the data was collected no analysis of the statistical significance of differences was carried out between the BL and the MTE. Nevertheless, among the parents who were trained and those who were not trained, it was observed that the knowledge acquired by those who had been trained was greater than for those who had not. The knowledge acquired by those who had been trained, compared to those who were not trained, as can be seen in the table, is greater and the difference is statistically significant.

INTERVIEWS AND DISCUSSIONS WITH MOTHERS

In each of the six schools visited, discussion groups were held with Mothers, as well as individual interviews, some with mothers who were in the process of helping with food preparation. All the mothers stated that the school feeding was very useful, because the breakfast or snacks they could provide in their homes were less substantial. The following statements summarize well the feelings of the mothers interviewed:

Mothers' Voices

What I can say is that the food that this program gives is providing good vitamins for our children, the children are smarter now.

(Mother, Santa Eulalia)

Yes, the children like it. They are happy when they eat because the food is theirs. Look at my two children. They tell me that it tastes good and they get very happy when they eat, that's what they tell me and I am grateful that our children are being taken into account. [...] The benefits are so that the children will study well and won't go out to buy [food in the nearby stores] and because when they eat, they are happy to study and if they don't eat our children are restless.

(Mother, Santa Cruz Barillas)

Given that the School Feeding Program requires mothers' active participation; they were asked about this. To summarize, the mothers participate in food preparation (the number of turns per year depends on the number of children who are enrolled, as well as the size of the student body. In the schools visited each mother had from four to eight turns a year), sending various supplies for food preparation (usually onions, tomatoes, salt, sugar and firewood), economic contributions of various kinds (for transfer of commodities and other needs) and in the schools where there is a garden, they send black soil or mulch. Additionally, they participate in the meetings called by the Parents' Council and almost half of them go to the trainings that the PCI educators offer about food preparation. The mothers seemed to have made the commitment, they were satisfied with their participation and they considered it to be an obligation.

Mothers' Voices

We had a meeting with the parents and agreed that we would take turns in a group to prepare the children's food. And so we are organized and all of us are in agreement. The turns are well organized and they send home a note with the children to tell us when it is our turn to come prepare the food. Before, we organized ourselves with the mothers on how to prepare the children's food. The number of mothers was divided by four every day to set up the turns and the teachers are the ones who are in charge of the kitchen. Three days before they send the note and there are no problems with the turns. I feel it is well organized, because in my group we all get along well. Since this program came, we have gotten to know our companions better. There is more friendship among us.

(focus group discussion with mothers, Santa Cruz Barillas)

We always come to help with the preparation of the food for the children and it is better that PCI should continue helping with the food for the children because we are just giving our labor and we are very grateful.

(Mother, San Pedro Soloma)

We collaborate by working, working to prepare the breakfasts for the children. We come at four in the morning and prepare the breakfast. Sometimes we bring the vegetables, cabbage, lettuce. We then make salads with the vegetables to give to the children and we like that about the program. We like it because, well, with my daughter, I realize that she is doing well in her studies and has gained weight. She looks very nice now. If you could see her you would see that she looks very good. Before she started school, this is her first year, she was very skinny and now she is not. She looks very formal, yes, my little one looks very good. But I realize that it is because of the food [in the school] and she really likes the rice, beans and atol. She always eats, I see a good difference.

(Mother from Cuilco)

In five of the six schools visited, the mothers are organized in rotations. The exception is in the school in San Pedro Soloma, where a cook was recently hired. Evidently they had problems with the quality of the meals being cooked (several complaints about the food being burnt) and some friction between the mothers. The decision was then made to provide monetary contributions to be able to hire someone

experienced. The mothers who weren't in agreement with this decision continue helping with food preparation under the guidance of the hired cook. It should be noted that in this school the Feeding Program has functioned very well in spite of the disagreements among the Mother Collaborators.

HYGIENE IN FOOD PREPARATION

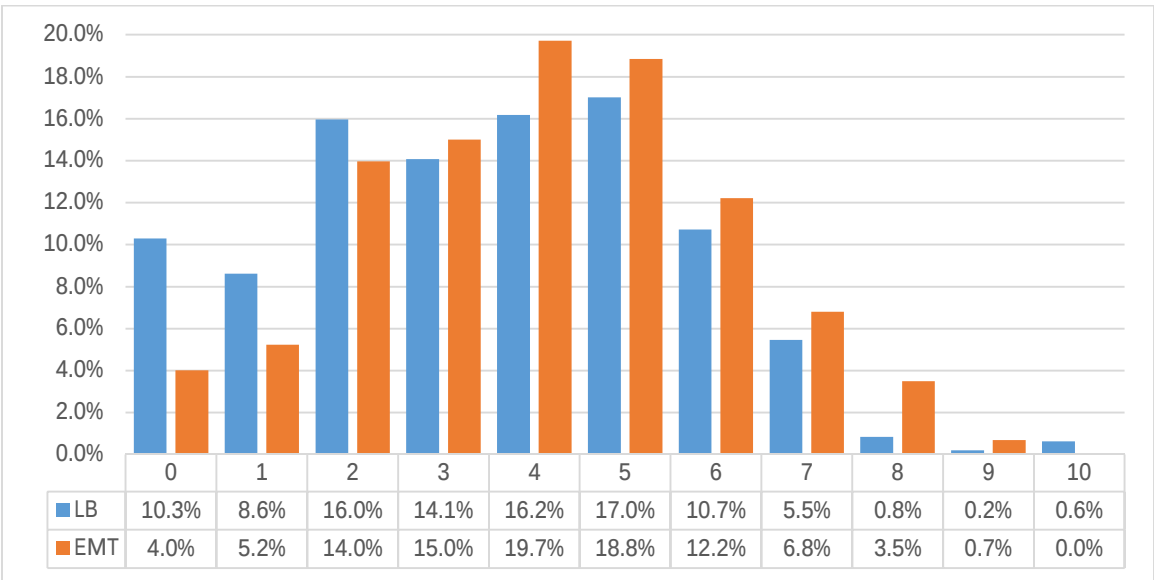
The adults in the households were also asked about the hygiene that should be taken into account when preparing the food in the school. It is important to note that this question is complex because the list of responses has 16 options and because it is a question that requires the respondents to answer what they remember without prompting ('top of mind'), it presents greater difficulties for the person being interviewed.

Considering all the adults of the sample (trained or not), it was found that 76.8% identify at least three basic practices for water and for food preparation and hygiene during the MTE compared to 65.1% during the BL; this difference is statistically significant $t=5.508$, $p=.0000$.

INDICATOR

76.8% OF THE ADULTS INTERVIEWED RECOGNIZED
AT LEAST THREE BASIC PRACTICES FOR FOOD
PREPARATION IN THE SCHOOL.

Graph 43: Percentage of responses about hygiene when preparing food, according to parents



Source: Household interviews, parents in the community

At the same time it should be noted that not all those who were interviewed had attended any training on this topic. Thus the analysis includes the responses of all the adults interviewed and for the MTE a separate analysis was carried out for those people who had attended any training. This is also not the best form of analysis given that the kind and number of trainings that the person interviewed has attended should be known in order to be sure that this topic was included. Nevertheless, since that information is not available, the analysis was prepared with the information collected.

The responses have been classified by categories. For basic care during preparation and hygiene security of food and water, it was found that the responses continued to have a low percentage for the first three expected responses. The greatest decrease was regarding the idea that once the food is prepared it should be covered (25.8% in the BL vs. 15.2% in the MTE). This decrease is statistically significant ($t = 3.716$, $p = .0000$).

Table 77: Percentage of knowledge about care of food and water in food preparation at the school, according to parents

Basic care (food and water)	BL (n = 476)	MTE – trained (n = 375)		MTE – Not trained (n = 198)	
		%	Statistical difference ²⁷	%	Statistical difference ²⁸
Processing on separate tables or boards: meat, vegetables or fruit	14.5 (11.3 – 17.9)	14.1 (10.7 – 17.6)	-	13.6 (9.1 – 19.2)	-
Once prepared, it should be covered	25.8 (22.3 – 29.8)	16.3 (12.5 – 20.0)	$t = 3.343$, $p = .0009$	15.2 (10.1 – 20.2)	-
Use of piped water	15.3 (12.4 – 18.7)	12.8 (9.3 – 16.8)	-	10.6 (6.6 – 15.2)	-
Responds differently	-	61.3 (55.7 – 65.9)	$t = 19.994$, $p = .0000$	47.0 (40.4 – 54.5)	$t = 3.282$, $p = .0011$
Doesn't know	52.5 (47.7 – 56.9)	14.1 (10.7 – 17.9)	$t = 11.617$, $p = .0000$	5.4 (1.8 – 10.7)	$t = 3.153$, $p = .0017$

Source: Household interviews, parents in the community

The table above shows that 61.3% of the adults interviewed answered differently. The answers were not wrong but they were not those expected for this category. It is important to note that due to the fact that some are repeated frequently, it seems they were understood by those being interviewed, and that they have been taught to them or are part of some information that has been shared.

Taking into account only the people who gave a different response, 23.3% said you have to boil the water, 16.6% indicated that you have to use boiled water, 10.0% indicate that you have to cook the foods well, 7.5% indicated that you have to wash the foods, and 3.0% said you have to put chlorine in the water. These responses are correct and have been covered in the trainings for the Rules of Gold, but were not analyzed in the baseline or in the mid-term evaluation, for the parents.

With regard to basic care in food preparation and hygiene safety of the people who prepare the food, it was found that some aspects decreased - hand washing before cooking (47.1% vs. 39.2%), washing hands well (52.7% vs. 40.8%) and that the people who are cooking should not be sick (3.2% vs. 0.8%). Increases were seen in aspects such as using hair nets (37.4% vs. 66.7%) and aprons (39.7% vs. 62.1%).

²⁷ With regard to the baseline.

²⁸ With regard to the group of trained adults who were interviewed during the mid-term evaluation.

Table 78: Percentage of knowledge about care the kitchen workers should have in food preparation, according to parents

Characteristics of the people who prepare the food	BL (n = 476)	MTE – trained (n = 375)		MTE – Not trained (n = 198)	
		%	Statistical difference ²⁹	%	Statistical difference ³⁰
Those who are cooking have to wash hands before cooking	47.1 (42.4 – 51.3)	39.5 (34.4 – 44.8)	t = 2.219, p=.0268	37.4 (30.8 – 44.4)	-
They should wash their hands well	52.7 (48.3 – 57.3)	40.8 (35.7 – 45.9)	t= 3.451, p=.0006	28.8 (22.7 – 35.4)	t = 2.835, p=.0047
Those who are cooking should use hair nets	37.4 (33.0 – 41.6)	66.9 (62.4 – 71.5)	t = 8.545, p=.0000	43.4 (36.4 – 50.5)	t= 5.386, p=.0000
Those who are cooking should use aprons	39.7 (35.5 – 44.1)	62.4 (57.6 – 67.2)	t = 6.575, p=.0000	35.4 (29.3 – 41.9)	t = 6.159 p=.0000
Those who are cooking should not use rings or nail polish	3.2 (1.7 – 4.8)	4.0 (2.1 – 6.1)	-	1.0 (0.0 – 2.5)	t = 2.014, p=.0445
Those who are cooking should not be sick	3.2 (1.7 – 4.8)	0.8 (0.0 – 1.6)	t = 2.401, p=.0166	2.5 (0.5 – 5.1)	-
Other ³¹	-	10.9 (7.7 – 13.9)	t = 7.383, p=.0000	11.1 (6.6 – 16.2)	-
Doesn't answer	17.4 (14.1 – 21.2)	8.3 (5.6 – 11.2)	t = 3.870, p=.0001	21.7 (16.2 – 27.8)	T = 4.546, p=.0000

Source: Household interviews, parents in the community

²⁹ With regard to the baseline.

³⁰ With regard to the trained adults interviewed during the mid-term evaluation.

³¹ 35.9% of the people who responded “other” stated that you should use clean clothes.

When the adults were asked about basic care for the place where food is prepared, the existence of a covered trash can decreased (18.3% in the BL vs. 6.1% in the MTE); the difference is statistically significant. Keeping the work area clean increased from 67.2% to 86.9% and having a refrigerator increased from 0.4% to 2.4%. The differences are statistically significant.

Table 79: Percentage of knowledge about care of the area where foods are prepared in the school, according to parents

About the place where foods are prepared	BL (n = 476)	MTE – Trained (n = 375)		MTE – Not trained (n = 198)	
		%	Statistical difference ³²	%	Statistical difference ³³
A clean work area	67.2 (63.0 – 71.4)	86.9 (83.5 – 90.7)	t = 6.669, p=.0000	80.3 (74.2 – 86.4)	T = 2.083, p=.0377
There should be a covered trash can	19.3 (15.8 – 22.9)	6.4 (4.0 – 9.1)	t= 5.448, p=.0000	2.5 (0.5 – 5.1)	t = 1.907, p=.0571
Other	-	15.7 (12.3 – 19.2)	t = 8.960, p=.0000	14.1 (9.6 – 19.2)	-
Doesn't know / doesn't answer	29.4 (25.2 – 33.4)	9.6 (6.7 – 12.8)	T = 7.081, p=.0000	15.2 (10.6 – 20.2)	t = 1.996, p=.0465

Source: Household interviews, parents in the community

When asked about basic care in preparation and hygiene safety in the kitchen, especially about the absence of garbage, food waste or animals.

Table 80: Percentage of knowledge about care in the kitchen for food preparation in the school, according to parents

About the place where foods are prepared	BL (n = 476)	MTE – Trained (n = 375)		MTE – Not trained (n = 198)	
		%	Statistical difference ³⁴	%	Statistical difference ³⁵
Food waste or garbage on the floor	13.4 (10.3 – 16.6)	52.3 (47.2 – 57.1)	t = 12.232, p=.0000	48.0 (40.9 – 55.1)	-
Animals loose in the kitchen	10.7 (8.0 – 13.4)	32.8 (28.3 – 37.6)	t= 7.937, p=.0000	24.2 (18.7 – 30.3)	t = 2.140, p=.0328
Other	-	17.9 (14.1 – 21.9)	t = 9.618, p=.0102	12.6 (7.6 – 17.7)	-
Doesn't know / Doesn't answer	80.7 (77.1 – 84.2)	19.5 (15.7 – 23.5)	t = 17.777, p=.0000	33.3 (26.8 – 39.9)	t = 3.664, p=.0003

Source: Household interviews, parents of the community

With regard to the importance of frequent analysis of the water it was found that, in their own words, almost seven of every ten adults interviewed during the MTE indicated that it was to ensure that the water

³² With regard to the baseline.

³³ With regard to the group of trained adults interviewed during the mid-term evaluation.

³⁴ With regard to the baseline.

³⁵ With regard to the group of trained adults interviewed during the mid-term evaluation.

didn't have microbes, a much higher percentage than in the the baseline. Even those who said they had not been trained this year had a higher percentage during the MTE.

Table 81: Percentage of knowledge about the importance of analyzing the water used for food preparation in the school, according to parents

Importance of analyzing the water	BL (n = 476)	MTE – Trained (n = 375)		MTE – Not trained (n = 198)	
	%	%	Statistical difference ³⁶	%	Statistical difference ³⁷
To ensure that it doesn't have microbes	1.3 (0.4 – 2.3)	77.9 (73.1 – 81.9)	t = 23.251, p=.0000	72.2 (65.7 – 78.3)	-
Other	2.9 (1.5 – 4.6)	1.3 (0.3 – 2.7)	-	0.5 (0.0 – 1.5)	-
Doesn't know	95.8 (93.9 – 97.5)	20.8 (17.1 – 25.3)		27.3 (21.2 – 34.3)	

Source: Household interviews, parents of the community

Complementing the information reported by the parents of the community, the directors and teachers interviewed during the MTE stated that in 71.4% of the cases, they have carried out microbiological analyses of the water.

NUTRITION AND DIET

The adults of the household were asked about the nutrition and diet aspects that should be taken into account when preparing food in the school. The questions in the section are complex and unless they have been part of a formal training, it would be difficult for someone to remember them. It may be for this reason that one in three people did not remember them.

When the adults interviewed in the community were asked where they can learn or obtain information about good food, diet and nutrition practices or habits, 57.6% responded positively in the MTE, compared to 58.6% during the BL. The difference is not statistically significant. The school / institute

/ private school continue to be the option most recognized by those interviewed; all the other places decreased in percentage of recognition by those interviewed. A statistically significant decrease was noted for Health Posts and Centers and could be attributed to the crisis that the health sector is currently experiencing. Again, the analysis did not differentiate between those who had been trained or not.

INDICATOR

57.6% OF THE ADULTS KNOW AT LEAST ONE PLACE WHERE THEY CAN OBTAIN INFORMATION ABOUT GOOD FOOD, DIET AND NUTRITION PRACTICES.

³⁶ With regard to the baseline.

³⁷ With regard to the group of trained adults interviewed during the mid-term evaluation.

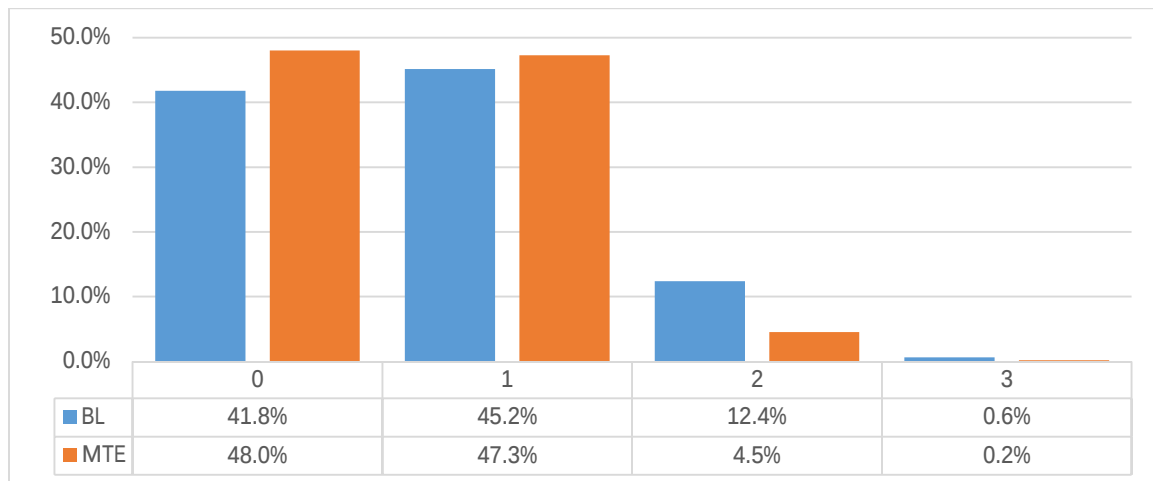
Table 82: Places where you can obtain information about food, diet and nutrition habits, according to parents

Place	BL (n = 279)		MTE (n = 330)		Statistical difference
	N	%	N	%	
Schools / Institutes / Private schools	162	58.1 (52.0 – 63.8)	212	64.2 (58.8 – 69.4)	-
Health Post	121	43.4 (37.3 – 49.1)	63	19.1 (14.5 – 23.6)	t = 6.506, p=.0000
Health Center	48	17.2 (12.9 – 21.5)	36	10.9 (7.6 – 14.2)	t = 2.247, p=.0250
Hospital	2	0.7 (0.0 – 1.8)	1	0.3 (0.3 – 0.9)	-
NGO clinics / Private clinics	3	1.1 (0.0 – 2.5)	11	3.3 (1.5 – 5.5)	-
Other	2	0.7 (0.0 – 1.8)	52 ³⁸	15.8 (11.8 – 20.0)	t = 6.526, p=.0000
Church	6	2.2 (0.7 – 3.9)	3	0.9 (0.0 – 2.1)	-
Libraries	-	-	-	-	-

Source: Household interviews, parents of the community

Of the adults interviewed, 52.2% said they knew of at least one place where they could obtain information about health and personal hygiene practices or habits during the MTE, compared to 65.3% during the BL; this difference is statistically significant t=4.282, p=.0000.

Graph 44: Number of places known for obtaining information about health and personal hygiene practices or habits



Source: Household interviews, parents of the community

³⁸ 59.6% (n = 31) of these cases recognize PCI as an entity where they can obtain information.

MOTHER COLLABORATORS / COOKS

RULES OF GOLD

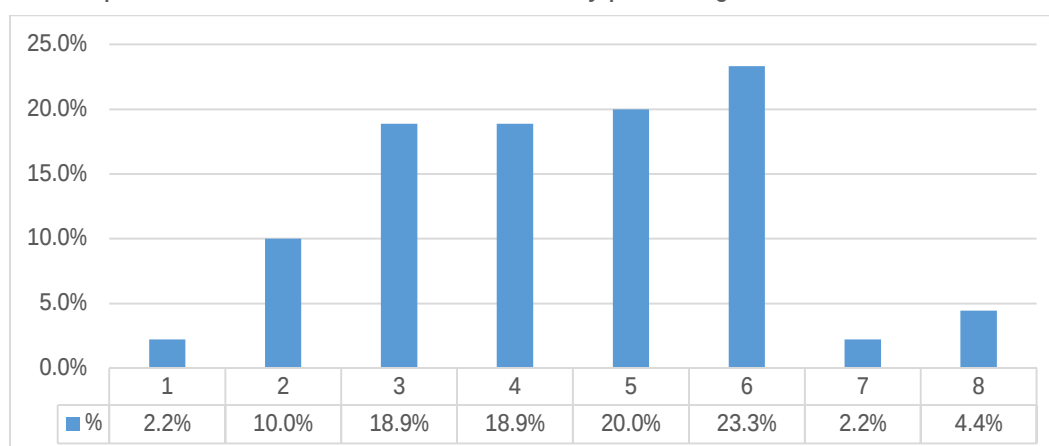
Given that the training on the Rules of Gold was not given during the year of the BL, it is not possible to compare results with regard to that year and given that the hygiene trainings were not given during 2015, the decrease in some knowledge should be seen as a reflection of the time that has passed since the trainings were given.

There are 15 Rules of Gold; on average, the people interviewed (n = 90) could name 4.5 of them; 87.8% of the Mother Collaborators could identify at least three.

INDICATOR

87.8% OF THE MOTHER COLLABORATORS KNOW AT LEAST THREE RULES OF GOLD FOR FOOD PREPARATION.

Graph 45: Number of Rules of Gold known by percentage, Mother Collaborators



Source: Household interviews, Mother Collaborators

The rules that were most known were about washing hands, (86.7%), boiling or chlorinating the water (67.8%) and using hair nets and aprons (60.0%). Some aspects are still very low in their percentages such as having short, clean fingernails, nevertheless, as will be seen below, in spite of not being mentioned this is not a problem because the Mother Collaborators observed them at the time of food preparation. Only 3.1% had polished nails and 1.0% had long nails. Using fresh foods, closing packages of leftover foods and serving and consuming the foods immediately after they are prepared were not mentioned by any of those interviewed. These aspects should be reinforced in future trainings.

Table 83: Rules of Gold recognized, according to Mother Collaborators

Rule	N	%
Wash hands	78	86.7 (78.9 – 93.3)
Short, clean nails	8	8.9 (3.3 – 15.6)
Clean apron	54	60.0 (50.0 – 70.0)
Clean Hair net	54	60.0 (50.0 – 70.0)

Rule	N	%
Avoid coughing	3	3.3 (0.0 – 7.8)
Use fresh foods	-	-
Close packaging of leftovers	-	-
Wash dishes and utensils with soap and water	40	44.4 (34.4 – 54.4)
Disinfect fruits and vegetables	31	34.4 (24.4 – 44.4)
Boil or disinfect water	61	67.8 (57.8 – 77.8)
Cook foods well	20	22.2 (14.4 – 31.1)
Avoid contact between cooked and uncooked foods	20	22.2 (14.4 – 31.1)
Serve and consume foods immediately after cooking	-	-
Cover foods	25	27.8 (18.9 – 36.7)
Keep away from flies, cockroaches, rats or other animals	7	7.8 (3.3 – 14.4)

Source: Interview with Mother Collaborators

HAND WASHING

During the MTE a practical exercise was carried out with Mother Collaborators and/or cooks who were working in the kitchen preparing foods at the time of the visit. Information was collected for a total of 96 people.

To begin with they were asked if they had washed their hands before preparing food; 97.9% of them answered affirmatively. Then, they were asked to wash their hands and the interviewers observed to see if they followed the steps suggested by PCI. It was noted that 84.4% used soap. Of those who worked in a kitchen with piped water, (n = 34), 52.9% washed with running water, the rest washed in a basin, or bucket.

Then 74.0% washed for at least 20 seconds, 15.6% dried with a towel (as expected); of those who dried with a towel, 93.1% used a clean towel.

Of the total, 47.9% used their apron to dry with. Of the women who used their apron, 13.0% did not have a clean apron.

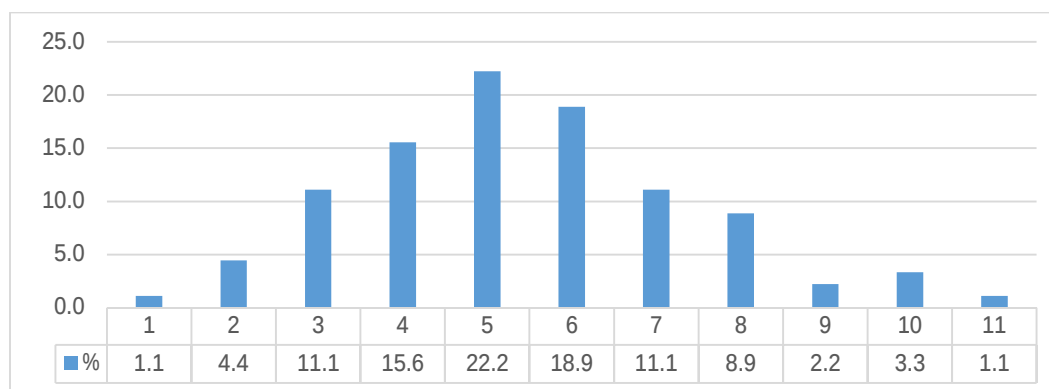
Another 18.8% air dried their hands and 17.7% continued working in the kitchen without drying their hands.

On average, the people working in the kitchen followed 2.1 of the expected steps and only 3.1% followed the four expected steps.

HYGIENE NORMS IN THE KITCHEN

The Mother Collaborators were asked about basic practices for preparation and hygiene safety of the kitchen workers when preparing food in the school. On average those interviewed could name 5.4 basic practices; 94.4% of the people could name at least three.

Graph 46: Number of practices in food preparation and hygiene safety named by Mother Collaborators



Source: Interview with Mother Collaborators

The responses were classified by categories. For basic practices for preparation and hygiene safety for food and water, the percentage of Mother Collaborators was low for those who know that they should use separate tables or boards for food processing. This should be reinforced as part of the Rules of Gold or basic practices for food preparation. One of three Mother Collaborators indicate that the food should be covered after it is prepared.

Table 84: Knowledge about basic practices, according to Mother Collaborators

Basic practices (food and water)	MTE (n = 90)	
	N	%
Processing on separate tables or boards: meat, vegetables or fruits	20	22.2 (14.4 – 31.1)
Cover after preparation	25	27.8 (18.9 – 37.8)
Use piped water	30	33.3 (23.4 – 43.3)
Other	1	1.1 (0.0 – 3.3)
Doesn't know	33	36.7 (26.7 – 46.7)

Source: Interview with Mother Collaborators

With regard to basic practices for preparation and hygiene safety of the people who prepare the food, it was found that hand washing (86.7) is one of the aspects that most know, followed by use of clean hair nets and/or aprons.

Table 85: Knowledge about basic practices for kitchen workers, according to Mother Collaborators

Characteristics of the people who prepare the food	MTE (n = 90)	
	N	%
Wash hands before cooking	78	86.7 (78.0 – 93.3)
Should wash hands well (with soap and water)	42	46.7 (36.7 – 56.7)
Those who are cooking should use hair nets	54	60.0 (50.0 – 71.1)
Those who are cooking should use aprons	54	60.0 (50.0 70.0)
Those who are cooking should not use rings or nail polish	4	4.4 (1.1 – 8.9)
Those who are cooking should not be sick	-	-
Other	1	1.1 (0.0 – 3.3)
Doesn't know / Doesn't answer	4	4.4 (1.1 – 8.9)

Source: Interview with Mother Collaborators

Almost all the Mother Collaborators know that they should have a clean work area for preparing food, nevertheless, few mentioned that there should be a covered trash can. No one mentioned having a refrigerator. This is of course because refrigerators are practically non-existent in the school kitchens.

Table 86: Knowledge about practices in the food preparation area, according to Mother Collaborators

For the place where foods are prepared	MTE (n = 90)	
	N	%
A clean work area	86	95.6 (90.0 – 98.9)
There should be a covered trash can	11	12.2 (5.6 – 20.0)
Should have a refrigerator	-	-
Other	3	3.3 (0.0 – 7.8)
Doesn't know / doesn't answer	3	3.3 (0.0 – 7.8)

Source: Interview with Mother Collaborators

For the question about basic practices for preparation and hygiene safety in the kitchen, especially with regard to the absence of garbage, food waste or animals, it was found that one of every two people interviewed mentioned that one should avoid food or garbage on the floor and one in three said animals should not be allowed in the kitchen. Nevertheless, few people recognized the need to conduct microbiological analysis of the water. This is perhaps due to the fact that they are not the ones responsible for this activity. This is the category that most were unaware of among the women interviewed.

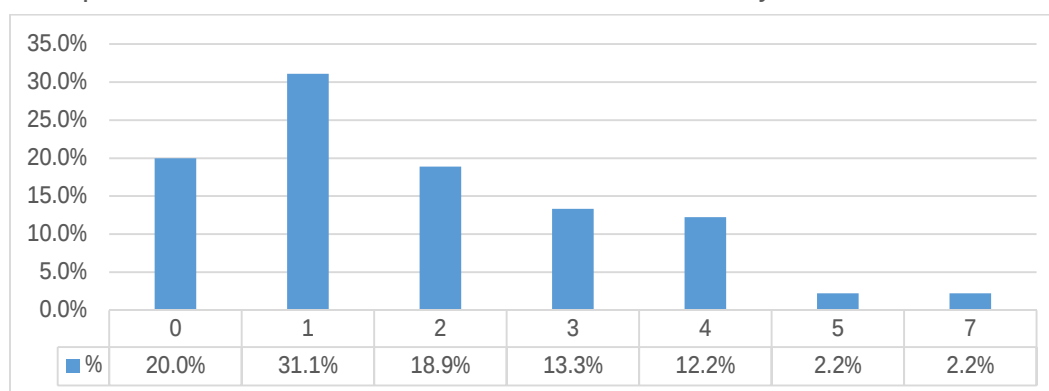
Table 87: Knowledge about cleanliness, according to Mother Collaborators

About the place where food is prepared	MTE (n = 90)	
	N	%
Food waste or garbage on the floor	41	46.6 (35.2 – 56.8)
Animals loose in the kitchen (dogs, cats, , chickens or others)	29	33.0 (22.7 – 43.2)
Conduct microbiological analysis of water	12	13.6 (6.8 – 21.6)
Other	6	6.8 (2.3 – 12.5)
Doesn't know / Doesn't answer	29	33.0 (22.7 – 43.2)

Source: Interview with Mother Collaborators

On average the Mother Collaborators could mention 1.8 aspects of nutrition and diet to be taken into account when preparing food for the school. Of those interviewed, 30.0% could mention at least three aspects. One in five Mothers could not mention any aspect.

Graph 47: Number of facts about nutrition and diet known by Mother Collaborators



Source: Interview with Mother Collaborators

One in five Mother Collaborators indicated that the food should supply a good amount of vitamins and minerals, four out of ten that it should be a good source of energy and almost three in ten that it should have high quality protein. The facts about nutrition and diet are not yet well known among the Mother Collaborators.

Table 88: Aspects of nutrition and diet recognized by Mother Collaborators

Nutrition and diet aspects	MTE (n = 90)	
	N	%
Good source of energy	40	44.4 (34.4 – 54.4)
Protein with high biological value	25	27.8 (18.9 – 38.9)
Good source of vitamins and minerals	49	54.4 (44.4 – 64.4)

Nutrition and diet aspects	MTE (n = 90)	
	N	%
Adequate for age and/or sex requirements	6	6.7 (2.2 – 12.2)
In accordance with local styles of preparation	4	4.4 (1.1 – 8.9)
Served hygienically and at appropriate temperature	12	13.3 (6.7 – 21.1)
Flavorful, safe and/or locally accepted colors	30	33.3 (24.4 – 43.3)
Other	3	3.3 (0.0 – 7.8)
Doesn't know / doesn't answer	18	20.0 (11.1 – 28.9)

Source: Interview with Mother Collaborators

PARTICIPATION IN THE PARENTS' COUNCIL

The parents are a fundamental component for the development of the feeding program. For this reason it is important to know their abilities and opinions regarding the program.

The perception of the parents from the council is that school feeding increases enrollment in school; 93.3% of those interviewed answered affirmatively during the MTE, compared to 78.2% during the BL. This difference in perception is statistically significant ($t=2.086$, $p=.0396$).

Of the parents on the council, 83.3% stated during the MTE that they had contributed 'something more' to the school feeding program, compared to 80.0% during the BL. Considering only those who said they had contributed 'something more', monetary contributions decreased from 81.8% during the BL to 24.0% in the MTE, as did firewood from 63.6% during the BL to 8.0% during the MTE. For the MTE it seems that as part of their contribution, they worked in the garden (10.0%). The contributions for which the difference was statistically significant are indicated in the following table.

Table 89: Contributions from the members of the CPF to the School Feeding Program, according to members of the Parents' Council

Contribution	Baseline (n = 44)		MTE (n = 50)		Statistical difference
	N	%	N	%	
Ingredients	8	18.2 (6.8 – 29.5)	21	35.0 (30.0 – 56.0)	-
Money	36	81.8 (70.5 – 93.2)	12	24.0 (12.0 – 36.0)	$t=5.594$, $p=.0000$
Condiments	5	11.4 (2.3 – 20.5)	6	12.0 (4.0 – 22.0)	-
Work in the gardens	-	-	5	10.0 (2.0 – 18.0)	$t=2.156$, $p=.0337$
Firewood	28	63.6 (50.0 – 77.3)	4	8.0 (2.0 – 16.0)	$t=5.677$, $p=.0000$

Contribution	Baseline (n = 44)		MTE (n = 50)		Statistical difference
	N	%	N	%	
Work to improve school infrastructure	3	6.8 (0.0 – 15.9)	2	4.0 (0.0 – 10.0)	-
Unskilled labor	17	38.6 (25.0 – 52.3)	30	60.0 (46.0 – 74.0)	t=2.071, p=.0412
Other	-	-	12	24.0 (12.0 – 36.0)	t=3.479, p=.0008

Source: Interview with Parents from the Council

A role that is key for the Parents' Council is that of helping with transport of the commodities as well as loading and unloading them. This role seems to be carried out, according to the evidence, permanently by almost all. When the role of Parents' Council participation was analyzed it was found that 97.5% of the directors and/or teachers interviewed during the MTE stated that they play a key role compared to 95.2% in the BL. Additionally, the directors and/or teachers interviewed stated that in 97.5% of the cases, the Parents' Council complied with their responsibility to be permanently in charge of the Feeding Program activities, compared to 98.4% in the BL.

When the Council members were asked if they knew what activities they should carry out to manage the School Feeding Program, during the MTE 86.7% indicated that they did, compared to 100.0% during the BL. The difference is statistically significant (t=2.804, p=.0059).

Of the parents on the council, 73.3% commented that they had complied with the activities of the Council this year, compared to 90.9% during the BL. Again, the timing of the survey did not facilitate comparison given that during the BL the interview was carried out in April and during the MTE in August and September.

The perception of the members of Parents' Council interviewed with regard to whether the quantity of foods in the school had increased, in the MTE 83.3% indicated that the children of the school are given a school snack and 80.0% said they are given a school breakfast, compared to 63.6% and 52.7%, respectively in the BL. Both differences are statistically significant (t=2.402, p=.0179 and t=3.109, p=.0024, respectively).

The Council members recognized PCI to a greater degree during the MTE (95.0%) than during the BL (60.0%) and, again, they commented less on the presence of the MOE. These two differences are statistically significant.

Table 90: Actors who help with school recognized, according to members del CPF

Institution	Baseline (n = 55)		MTE (n = 60)		Statistical difference
	N	%	N	%	
MOE	52	94.5 (87.3 – 100.0)	23	38.3 (26.7 – 50.0)	t(113)=6.319, p=.0000
PCI	33	60.0 (45.5 – 72.7)	57	95.0 (88.4 – 100.0)	t(113)=4.546, p=.0000
Contributions by groups / members of community	-	-	3	5.0 (0.0 – 11.7)	-
Parents	1	1.8 (0.0 – 5.5)	-	-	-

Institution	Baseline (n = 55)		MTE (n = 60)		Statistical difference
	N	%	N	%	
Doesn't know / Doesn't answer	1	1.8 (0.0 – 5.5)	1	1.7 (0.0 – 5.0)	-

Source: Interview with parents of the Council

FOOD PREPARATION AND DISTRIBUTION

During the MTE it was observed that when initiating food preparation activities in 96.3% of the cases (vs. 90.9% during the BL), the people who are cooking manage the ingredients with appropriate hygiene. As they continue the process, hygiene practices decrease to 77.8% (vs. 90.9% during the BL) and at the end the prepared food is placed hygienically 74.1% of the time (vs. 81.4% during the BL).

Also as part of the observation process, the hygiene conditions at the time when the food is distributed to the children were evaluated. The results which are presented below take into account only the schools in which the activity was observed by the interviewers.

It can be concluded that the hygiene conditions when the food is being distributed to the children improved in the MTE compared to the BL. There was an increase in the number of children who were encouraged to wash their hands and were supervised while doing so. Unfortunately soap is still scarce in one of every two schools (this could be due to the timing of the MTE), but it was still better than during the BL (in which water and soap were only observed in 17.6% of the cases). None of the differences are statistically significant.

Table 91: Hygiene conditions of the food, based on observation

Condition of the place	Baseline (n = 22)		MTE (n = 27)	
	N	%	N	%
Hygienic area	19	86.4 (72.7 – 100.0)	20	74.1 (61.5 – 92.3)
By people with appropriate hygiene	15	68.2 (50.0 – 86.4)	24	88.9 (76.9 – 100.0)
In clean or hygienic utensils	20	90.9 (77.3 – 100.0)	27	100.0 (100.0 – 100.0)
Children are asked to wash their hands	11	50.0 (27.3 – 72.7)	19	70.4 (53.8 – 88.5)
Children are observed as they wash their hands	11	50.0 (27.3 – 72.7)	17	65.4 (46.2 – 84.6)
The children are supervised while they eat	12	54.4 (31.8 – 72.7)	20	74.1 (53.8 – 88.5)

Source: Observation of the kitchen area

THE WAREHOUSE

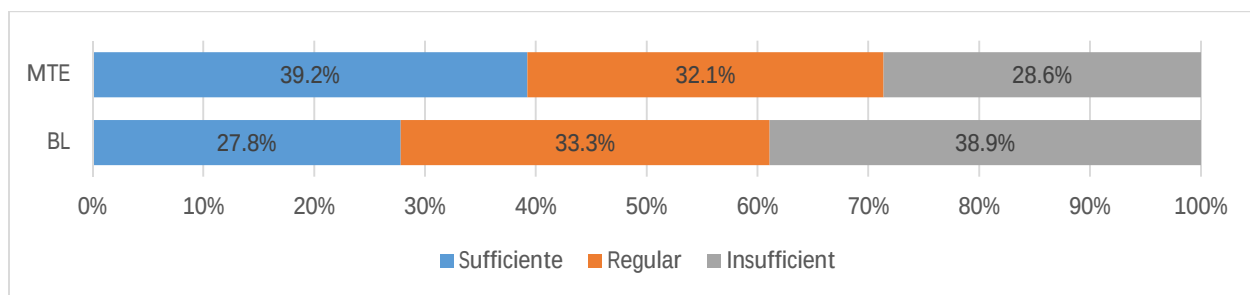
The number of warehouses available for Feeding Program management reached 100.0% during the MTE, compared to 72.0% in the BL. During the MTE, 100.0% of the warehouses had platforms for placing or stacking the commodities and 92.9% have a scale for weighing foods.

PARTIAL INDICATOR

100 % OF THE WAREHOUSES
HAVE IMPROVED EQUIPMENT

During the MTE the space observed in the warehouse was sufficient (39.3%) compared with 27.8% observed during the BL; nevertheless, it is important to note that during the BL the warehouses has more commodities than during the MTE due to the time of year of the visit. The space for storage was adequate (32.1%) during the MTE compared to 33.3% observed in the BL and insufficient (28.6%) during the MTE compared to 38.9% observed during the BL. This last observation is perhaps the most important in both studies given that at the end of the year there was not as much food stored as at the beginning of the year, and yet almost one in three had insufficient space for commodity management.

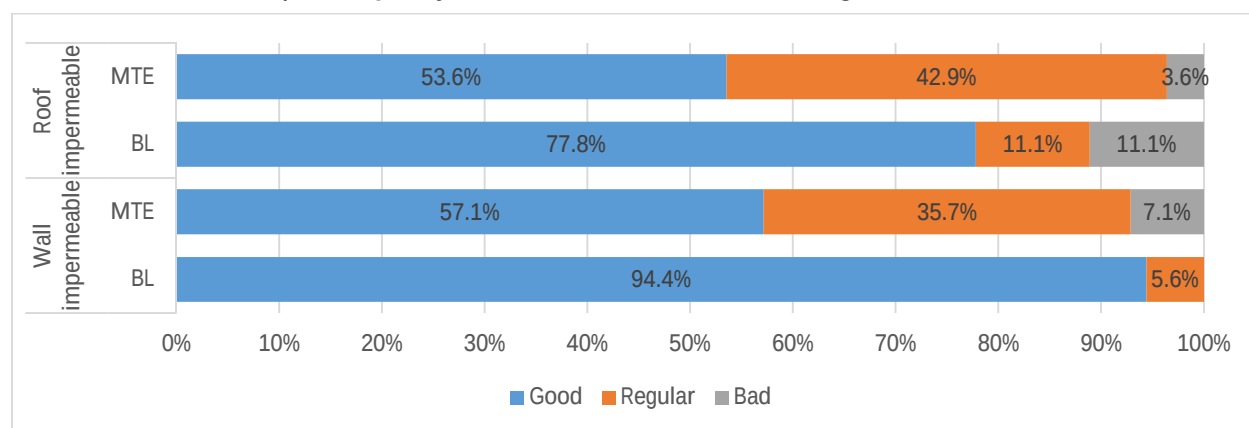
Graph 48: Perception of warehouse space, according to observation



Source: Observation of warehouse area

The quality of the walls in terms of being good, impermeable or resistant to moisture, according to observations, decreased to 57.1% during the MTE compared to 94.4% in the BL. Again there are different factors in play for the two observations. During the BL the rainy season had not begun while the MTE was conducted in the middle of the rainy season. This was combined with the decrease observed in terms of complete roofs or without leaks, where the percentage of warehouses catalogued as good dropped to 53.6% in the MTE from 77.8% during the BL.

Graph 49: Quality of the warehouse roof, according to observation



Source: Observation of the warehouse area

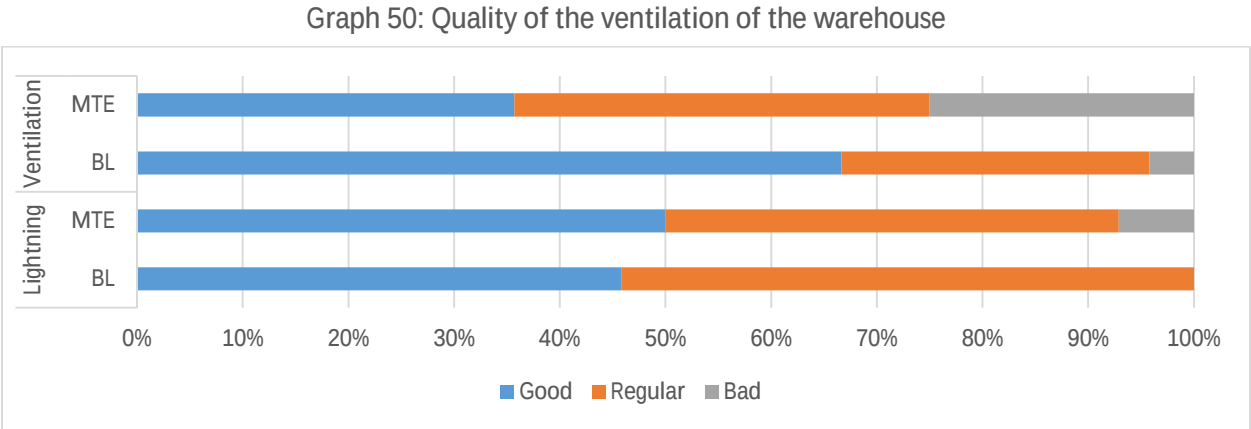
Using only the data from the MTE and combining roof quality and wall quality, there was one warehouse with walls in poor condition and the roof in adequate condition, as well as one school with both the roof and walls in poor conditions. The combinations are presented in the following table.

Table 92: Quality of warehouse roof

Quality of the roof	Quality of the wall					
	Good (n = 16)		Regular (n = 10)		Bad (n = 2)	
	N	%	N	%	N	%
Good	12	75%	2	20%	1	50%
Adequate	4	25%	7	70%	1	50%
Bad	-	-	1	10%	-	-

Source: Observation of the school

The quality of ventilation also decreased in the MTE and again this could be due to the time of the observation. One out of ten warehouses did not have adequate ventilation. Nevertheless, it is important to note that for the members of the CPF, the warehouse is their responsibility and they have to ensure that the commodities are not mismanaged and that no one unauthorized comes into the warehouse so there is no danger of losing any of the food, thus they prefer to keep it closed and locked at all times which can result in ventilation problems.



The use of the warehouse area exclusively for commodity storage also increased in the MTE (78.6% vs. 61.1% during the BL). During the MTE, 92.9% of the warehouses were found to be clean and orderly, compared to 77.8% in the BL. The separation of the products 20 centimeters or more from the wall and a meter from other donors' foods was observed in 85.7% of the cases during the MTE, compared to 94.4% in the BL

In 100.0% of the warehouses no rodents were observed during the MTE, compared to 50.0% during the BL.

There was also more order in the management of paperwork for food deliveries given that 60.7% of the warehouses during the MTE had a folder in use, compared to 29.4% of the cases during the BL. Three of every ten warehouses (32.1%) were still managed with loose sheets of paper during the MTE compared to 29.4% during the BL and almost one out of ten warehouses didn't have anything (7.1%) or it wasn't up to date, compared to 41.2% during the BL.

In 78.6% of the cases during the MTE, stack cards were found with records of product stock for the warehouse, compared to 41.2% during the BL.

Warehouse supervision by the Parents' Council was observed in 89.3% of the cases during the MTE compared to 66.7% during the BL.

SCHOOL INFRASTRUCTURE

The most important indicators for the Program in the area of infrastructure are presented in the following table, and will be analyzed in more detail in this section.

Table 93: Infrastructure indicators

Result	Indicator	MTE Value	PCI Objective	Description according to the baseline
Increase in the use of health and diet practices	Percentage of schools with clean latrines (at least once a day)	39.3	50	Percentage of schools that have clean latrines and/or toilets
	Percentage of schools with soap and water in the hand washing stations	25.0	50	Percentage of schools that have hand washing stations near the latrines and/or toilets, with presence of soap and water
	Percentage of schools with clean equipment for cooking and feeding the students (consistent with accepted standards)	50.0	80	Schools where order and cleanliness are observed with regard to kitchen utensils. Comply with at least three of the following conditions: 1. Dry, 2. Clean, 3. Are covered and, 4. Stored in an appropriate place. It should be noted that in 75% of the kitchens, food preparation was underway at the time of the observation
Increase in the number of utensils and equipment for food preparation and storage	Percentage of schools with improved equipment for food storage	100.0	29	Schools with improved equipment for food storage (wooden platforms and scales)

WATER SYSTEM

Piped water was found in 85.7% of the schools visited during the MTE compared to 84.0% during the BL. Considering only the schools with water, it was found that during the MTE, in 45.8% of the cases the water system was built by the PCI/USDA Program compared to 14.3% during the BL.

At the time of the MTE visit, water was available in 85.7% of the cases, compared to 60.0% of the cases found during the BL.

At the same time, 78.2% of the directors and/or teachers interviewed stated that the hygiene and basic sanitation conditions were in line with the requirements of the school population currently attended by the school, compared to 74.0% in the BL; the statistical difference is not significant.

LATRINES AND TOILETS

The number of flush toilets has increased since the BL; during the MTE there were flush toilets in 85.7% of the schools, compared to 68.0% during the BL. This difference is not statistically significant. At the same time the number of latrines decreased (32.1% during the MTE vs. 44.0% during the BL). The percentage of schools that have both was 17.9% during the MTE compared to 12.0% during the BL.

On average during the MTE, it was found that the schools had 0.9 latrines and 4.0 toilets, compared to 1.7 latrines and 3.0 toilets during the BL.

The number of schools with a place for hand washing less than five meters from the latrines or toilets stayed the same in both surveys (71.4% during the MTE vs. 68.0% during the BL). For the schools where there was a place for hand washing, in 25.0% there was no soap or water available at the time of observation. This percentage decreased from 82.4% during the BL. This difference is statistically significant ($t=3.481$, $p=.0014$).

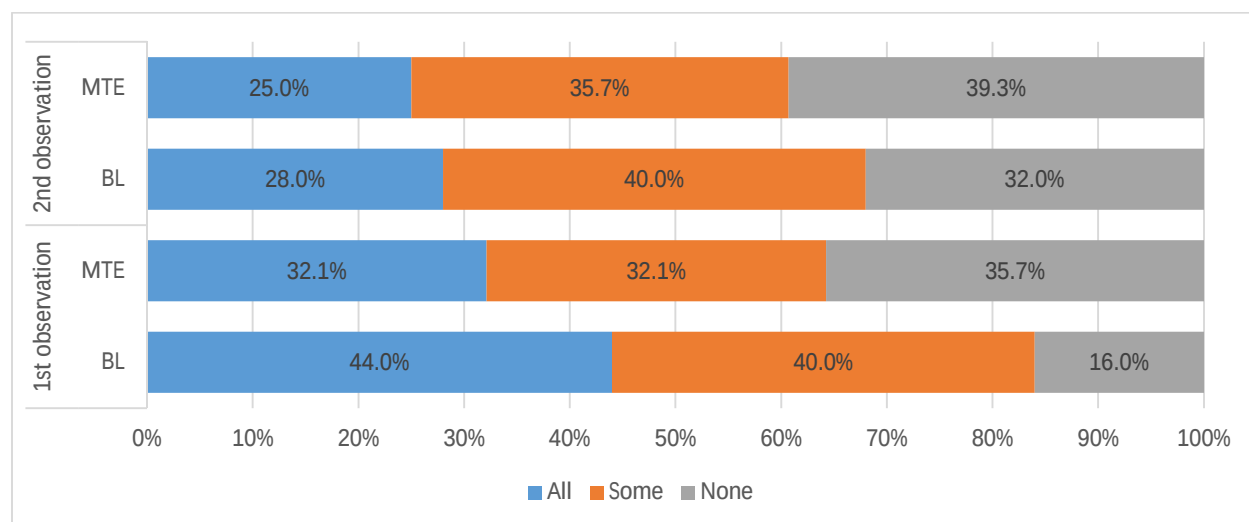
There was a decrease in the level of cleanliness of the bathrooms, nevertheless, it is important to take into account the time which the observation was made.

During the MTE, in the first observation 32.1% of all the latrines and/or toilets were clean and at the end of the second observation, 25.0% were found to be clean. A greater difference was noted between the two measurements in the BL (44.0% vs. 32.1%). The difference between the two measurements was not statistically significant in either survey.

INDICATOR

25.0% OF THE HAND WASHING STATIONS HAVE WATER AND SOAP AT THE TIME OF THE VISIT.

Graph 51: Percentage of clean bathrooms



Source: Observation of the school

Considering the two observations of the latrines and/or toilets it was found that at some point in the day 39.2% of the bathrooms were clean at the time of the observation during the MTE, compared to 48.0% during the BL. This difference is not statistically significant.

INDICATOR

39.3% OF THE LATRINES AND/OR TOILETS WERE FOUND TO BE CLEAN DURING EITHER OF THE TWO OBSERVATIONS.

During the MTE the type of dirtiness in the latrines and/or toilets was analyzed and it mainly consisted of urine on the edge.

Table 94: Type of dirtiness found in the bathrooms

Type of dirtiness	N	%
Dirty papers on the floor	5	17.9
Urine on the edge of the latrines or toilets	10	35.7
The trash bin is full	3	10.7
The trash bin is dirty	2	7.1
Lack of use of lime (latrine)	1	3.6
Other type of dirtiness	9	32.1

Source: Observation of the school

It was also noted that in 27.8% of the bathrooms, toilet paper was used, in 16.7% more toilet paper than newspaper was used, in 16.7% they used more newspaper, and in 38.9% of the cases it was not clear what was used.

IMPROVEMENTS TO THE LATRINES / POTABLE WATER SYSTEMS

PARENTS

When the adults interviewed were asked about whether the school's latrine or water system had been improved during the previous year, it was found that the improvements to latrines and toilets decreased between the two surveys (64.7% during the MTE vs. 75.0% during the BL) but there was an increase in the improvements to the water systems (51.1% during the MTE vs. 41.6% during the BL). This goes hand in hand with the previous findings. A few more than one of every ten schools, according to the adults interviewed, did not have any improvements in either water or latrines and there was an increase in the number of adults who didn't know if there were any improvements in the school infrastructure. Nevertheless, it is important to note that not all the schools that were visited had support for improving their infrastructure during the present school year or, they might have been helped in previous years but not this year.

Table 95: Perception of improved infrastructure, according to parents

Improved infrastructure	Baseline (n = 476)		MTE (n = 573)		Statistical difference
	N	%	N	%	
Latrines and/or toilets	357	75.0 (71.0 – 79.2)	371	64.7 (60.9 – 68.6)	t=3.293, p=.0010

Improved infrastructure	Baseline (n = 476)		MTE (n = 573)		Statistical difference
	N	%	N	%	
Water system	198	41.6 (37.4 – 46.2)	293	51.1 (47.3 – 55.5)	t=2.822, p=.0049
Neither	73	15.3 (12.2 – 18.7)	78	13.6 (11.0 – 16.4)	-
Doesn't know / Doesn't answer	36	7.6 (5.3 – 10.1)	78	13.6 (10.8 – 16.6)	t=2.811, p=.0050

Source: Interview with Parents

When parents who indicated that there were infrastructure improvements were asked about the institution that carried out the improvements, there was an increase in the recognition of PCI's role (24.7% during the MTE vs. 11.7% during the BL) and of that of community groups or members (50.6% during the MTE vs. 41.4% during the BL). The number of families who didn't know who contributed to the school improvements showed that one in four adults still didn't know who the protagonists were at their school. It is important to note that according to those interviewed, the participation of community groups or members in the improvements to school infrastructure was high in both surveys. Not having any information to verify this, it may be that they are referring to the contributions of the parents and/or members of the CPF who support these projects with labor.

Table 96: Contributors to infrastructure improvements, according to parents

Institutions that contribute to improvements	Baseline (n = 476)		MTE (n = 573)		Statistical difference
	N	%	N	%	
MOE	31	8.4 (5.6 – 11.4)	24	5.8 (3.5 – 8.0)	-
PCI	43	11.7 (8.2 – 15.1)	103	24.7 (20.8 – 29.0)	t=5.365, p=.0000
Other NGO	15	4.1 (2.2 – 6.2)	5	1.2 (0.2 – 2.4)	t=2.986, p=.0029
Groups / members of the community	152	41.4 (36.6 – 46.6)	211	50.6 (45.7 – 55.5)	t=2.975, p=.0030
Other <i>MTE: Municipality (19), teachers (4), the government(3), international organization (2), FONAPAZ (1), Parents (1), interns(1)</i>	40	10.9 (7.8 – 14.1)	31	7.4 (5.1 – 10.2)	t=1.973, p=.0487
Doesn't know / Doesn't answer	124	33.8 (29.1 – 38.8)	104	24.9 (20.7 – 29.5)	t=3.165, p=.0016

Source: Interview with Parents

According to the parents of the Council, from their perspective there was a decrease in terms of the activities for improvement of the latrines or potable water systems (75.0% during the MTE vs. 85.5% during the BL). This should not cause alarm because the improvement tasks that PCI carries out are not incremental or constant.

Table 97: Activities for improvement of latrines and/or potable water systems in the school, according to CPF

Baseline (n = 55)		MTE (n = 60)	
N	%	N	%
47	85.5 (85.5 – 100.0)	45	75.0 (75.00 – 100.0)

Source: Interview with parents of the Council

When the parents of the Council who stated that there had been improvements in the installations were asked who had carried them out, there was again an increase in the awareness of PCI's presence between the MTE (40.0%) and the BL (14.9%) and an important reduction in the participation of the MOE, other NGOs and other governmental organizations. It is important to note the increase of community participation in the infrastructure improvements according to those interviewed.

Table 98: Group that supports the infrastructure improvements, according to CPF

Institution	Baseline (n = 47)		MTE (n = 45)		Statistical difference
	N	%	N	%	
MOE	14	29.8 (17.0 – 42.6)	1	2.2 (0.0 – 8.8)	t=3.583, p=.0006
MOH	1	2.1 (0.0 – 6.4)	-	-	-
PCI	7	14.9 (6.4 – 25.5)	18	40.0 (26.7 – 53.3)	t=2.705, p=.0082
An NGO	7	14.9 (6.4 – 25.5)	1	2.2 (0.0 – 6.7)	t=2.162, p=.0333
Contributions of community groups / members	4	8.5 (2.1 – 17.0)	18	40.0 (26.7 – 53.3)	t=3.541, p=.0006
Other MTE: COPAZ (1), FONAPAZ (1), JICA (1), MUNICIPALITY (2)	21	44.7 (31.9 – 59.6)	6	13.3 (4.4 – 24.4)	t=3.306, p=.0014

Source: Interview with parents of the Council

THE KITCHEN

During the MTE it was found that in all the schools there is a place in the school designated for food preparation (kitchen), compared to 96.0% found during the BL.

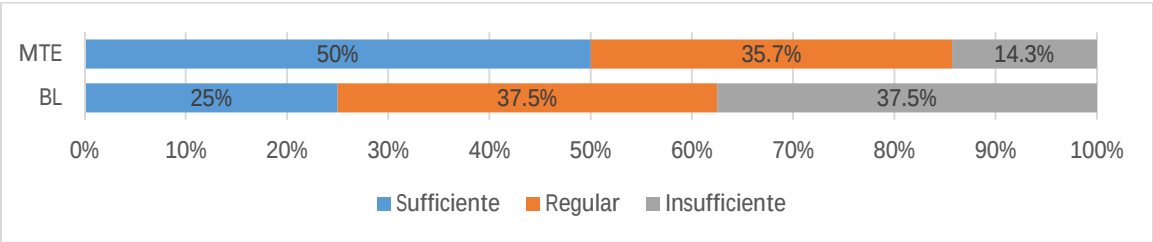
Nevertheless during the MTE one school was not using the kitchen area but instead they use a corridor given that the place assigned for the kitchen is very small and has poor ventilation. In total, during the MTE, information was collected for 28 kitchens and during the BL, for 22 kitchens.

On average during the MTE, 3.6 people were found to be working in the kitchen, compared to 3.4 during the BL. On average, 3.2 are mothers and 0.4 hired cooks. In total, during the MTE one man was found working in the kitchen at the time of the visit.

At the time of the observation during the MTE, 75.0% of the kitchens were being used for food preparation. In 21.4% they were waiting to serve the food and in 3.6% they were cleaning up after having served the food.

The space designated for the kitchen has improved given that during the MTE an adequate space was observed (in relation to the population they are covering) in 50.0% of the cases, compared with 25.0% in the observations carried out during the BL.

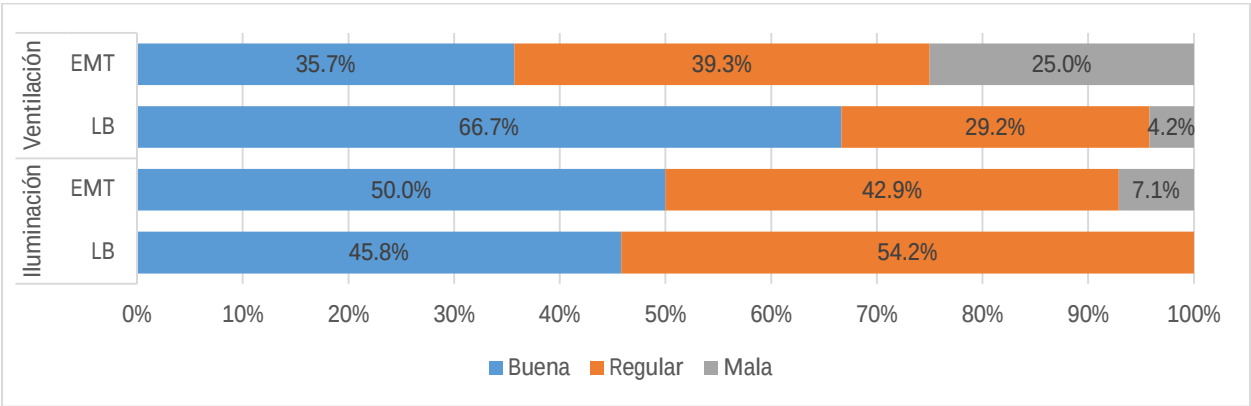
Table 99: Space designated for the kitchen according to observation



Source: Observation of the kitchen area

An increase in poor ventilation in the kitchens (25.0%) was observed in the MTE; and there was a slight improvement in the illumination of some kitchens (7.1%), but there were also some kitchens where this got worse. The time of the observation and the food being cooked at the time of the visit, as well as the climate can affect the different observations.

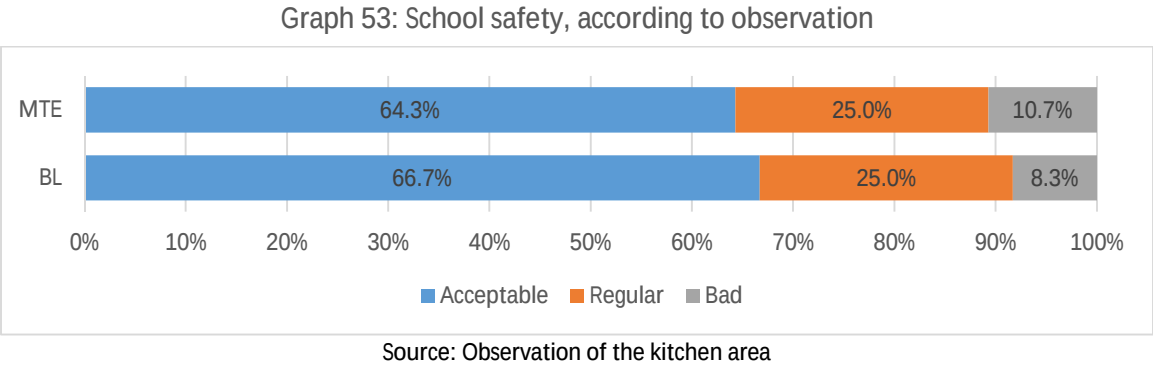
Graph 52: Ventilation and lighting of the kitchens, according to observation



Source: Observation of the kitchen area

In 7.1% of the kitchens observed during the MTE the presence of loose animals was noted in the kitchen (cats, dogs, chickens or similar), compared to 8.0% during the BL.

The safety conditions in the kitchen stayed the same in the two surveys. There continue to be approximately one out of ten kitchens where the safety conditions are poor. The problems observed are generally with regard to Mother Collaborators who bring their younger children when they are cooking, and allow the small children into the kitchen. They also allow some of the children to serve their food directly from the pots and the most unsafe kitchens do not have walls around them to avoid the entrance of animals or extraneous people.



A few more than one in three (35.7%) kitchens have piped water available inside. This is lower than in the BL (48.0%); this difference is not statistically significant.

Considering only the kitchens that do not have piped water, it was found that for the MTE, 50.0% (n = 9) have water stored in recipients that hands will not fit into and/or are covered, compared to 85.7% found during the BL. Nevertheless, the availability of sufficient amounts of water for food preparation, dish washing and cleaning foods was greater in the MTE (66.7%) than in the BL (28.6%).

The presence of trash bins in the kitchen increased (32.1% during the MTE vs. 24.0% during the BL) and of these, three of every four (77.8%) during the MTE, were not covered at the time of the observation.

In one of the 28 kitchens that were observed during the MTE and one of 24 observed during the BL there was a refrigerator. In both cases the refrigerator was found to be dirty and disorderly.

A greater number of utensils for food preparation were found (pots, skillets, casseroles, pitchers, griddles and knives) during the MTE (92.9%) than during the BL (66.7%).

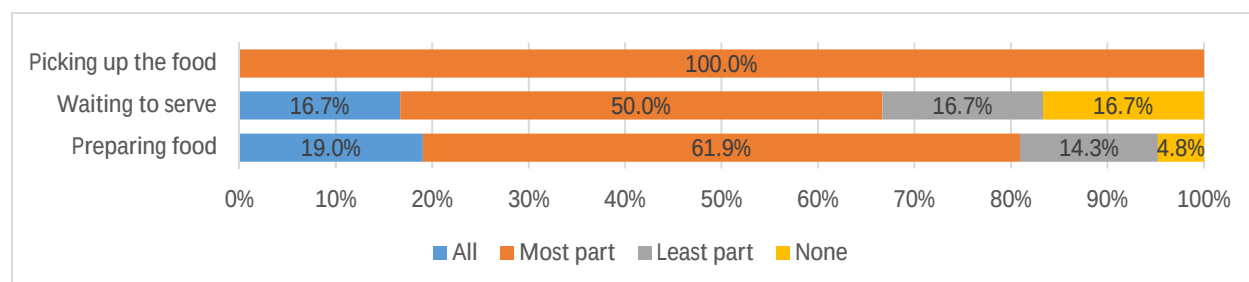
It is difficult to analyze the hygiene conditions of the kitchen utensils if you don't take into account the activity that is taking place at the time of the observation. During the MTE, cross information was used to better illustrate their status, based on the activity being carried out at the time.

INDICATOR

50.0% OF THE KITCHEN UTENSILS COMPLY WITH AT LEAST THREE ASPECTS OF EXPECTED ORDER AND CLEANLINESS. IN 75.0% OF THE KITCHENS FOOD WAS BEING PREPARED AT THE TIME OF THE OBSERVATION.

The cleanliness of the utensils during the MTE was evident during the different processes of food preparation; it is not possible to have all the utensils clean when preparing or serving food.

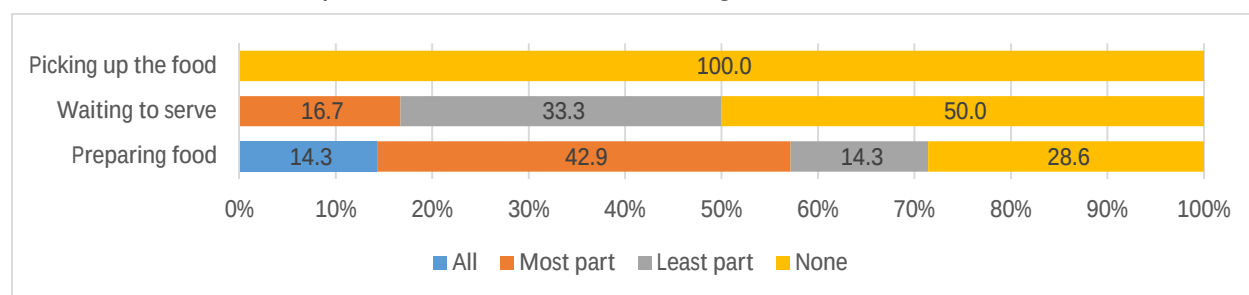
Graph 54: Cleanliness of utensils, according to activities observed



Source: Observation of the kitchen area

Few utensils are covered, something that is to be expected given the activities that were going on at the time of the interview; nevertheless, there are indications that this occurs.

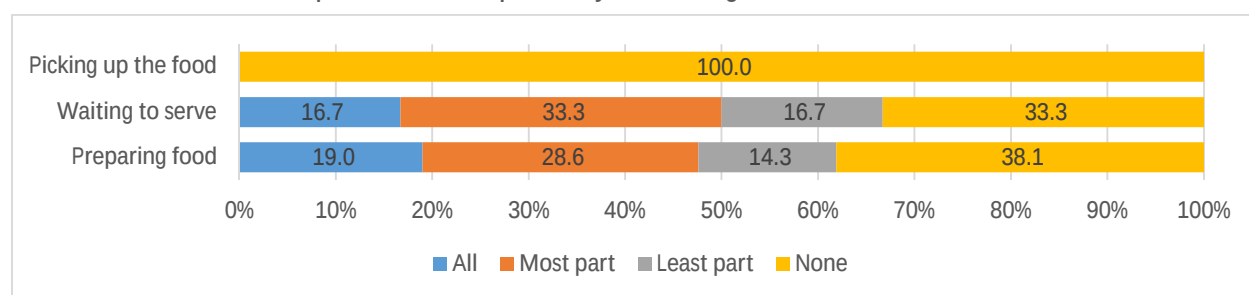
Graph 55: Utensils covered, according to activities observed



Source: Observation of the kitchen area

Many of the utensils were not stored in a special place because the activities do not lend themselves to that. Nevertheless, there are indications that when not in use, the utensils are kept in a special place.

Graph 56: Utensils put away, according to activities observed

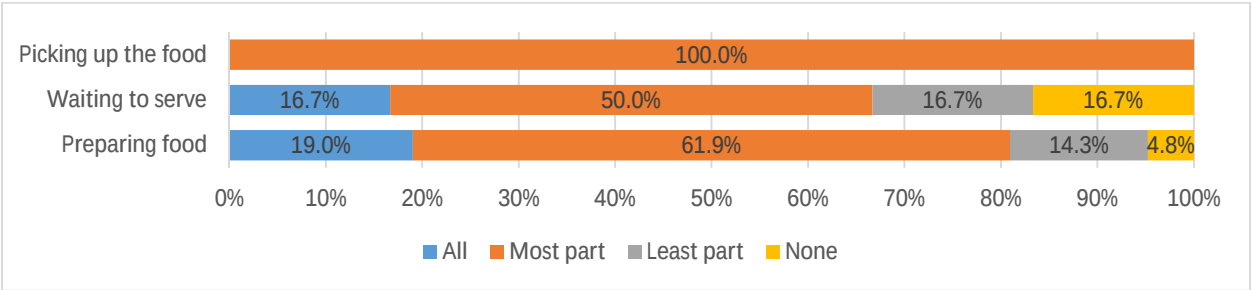


Source: Observation of the kitchen area

Verification of the cleanliness of the eating dishes or utensils is more complicated given that, as could be observed, many of the students are responsible for picking up their dishes, washing them and putting them away. This analysis was carried out taking into account the dishes observed in the kitchen at the time of the visit and again based on the activity taking place at that time.

There is evidence of clean dishes, but when food is being prepared, 19.0% don't have clean dishes and that perhaps they should be clean since at the moment when food is being prepared, they haven't been used.

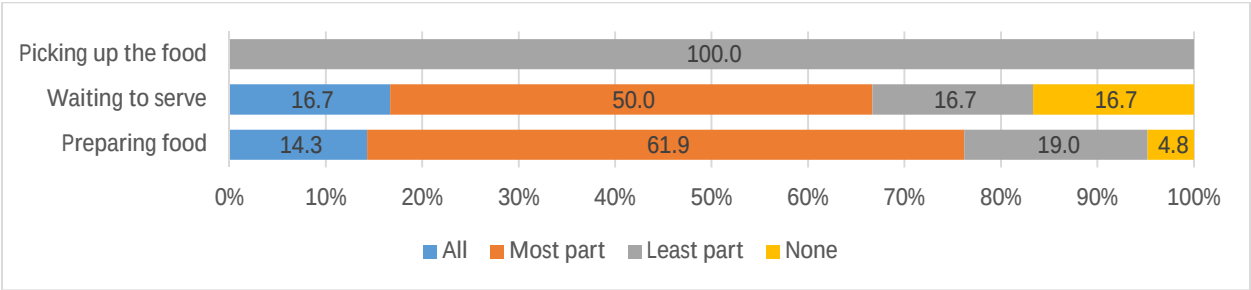
Graph 57: Clean dishes, according to activities observed



Source: Observation of the kitchen area

There is evidence of dry dishes in the kitchen. It was also found that in 4.8% of the cases, even when food is being prepared, the dishes are not dry. Given that in some schools they prepare two meals, it could be that the dishes are still drying from the first round of food.

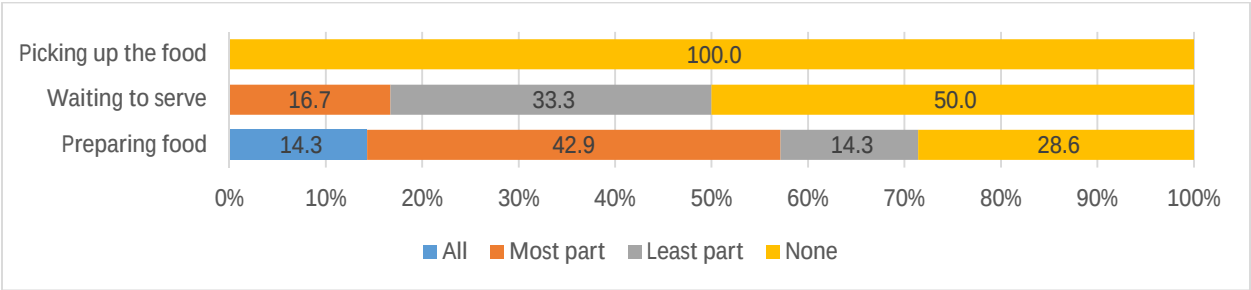
Graph 58: Dry dishes, according to activities observed



Source: Observation of the kitchen area

Evidence of covered dishes was less visible in the three activities observed. It was found that in 28.6% of the cases, the majority or all were covered during food preparation. It is important to note that many of the children were observed picking up their own dishes and these are washed and stored by them in their classrooms or they are taken to and from school each day.

Graph 59: Dishes covered, according to activities observed



Source: Observation of the kitchen area

In the kitchen it was also observed during the MTE, that the food is covered (71.4%) compared to 72.7% found during the BL. There was an increase in the processing of foods on separate tables or boards

(57.1% during the MTE vs. 50.0% during the BL). This is done to avoid cross contamination of foods. In 78.6% of the cases during the MTE the floor and table were free of foods, compared to 61.1% in the BL.

PARENTS

Few of the adults interviewed had not been in the kitchen of the school given that during the MTE 3.8% stated they had never been, compared to 5.5% in the BL. This difference is not statistically significant.

Considering only the opinion of the adults who said they had been in the school kitchen, it was found that the kitchens had been improved in all aspects during the MTE, compared to the BL; the differences in the majority of conditions are statistically significant. The findings are presented in the the following table.

Table 100: Conditions of the school, according to parent perceptions

Conditions of the kitchen	Baseline (n = 450)		MTE (n = 551)		Statistical difference
	N	%	N	%	
Sufficient space for those who work there	232	51.6 (46.7 – 56.2)	385	69.9 (66.4 – 73.5)	t=5.924, p=.0000
Full Walls and roof	367	81.6 (77.7 – 84.9)	474	86.0 (82.8 – 88.9)	-
Cement floor / can be swept	324	72.0 (67.7 – 76.1)	424	77.0 (73.0 – 80.5)	-
Sufficient utensils for food preparation	156	34.7 (30.2 – 39.1)	379	68.8 (64.9 – 72.9)	t=10.760, p=.0000
Stove in good condition	278	61.8 (57.4 – 66.4)	435	78.9 (75.6 – 82.3)	t=5.944, p=.0000
Sufficient lighting	324	72.0 (67.9 – 75.9)	469	85.1 (81.9 – 88.1)	t=5.081, p=.0000
Sufficient ventilation	267	59.3 (54.9 – 63.8)	396	71.9 (68.2 – 75.8)	t=4.193, p=.0000
Closed cabinets for storing dishes	104	23.1 (18.9 – 27.3)	274	49.7 (45.5 – 53.9)	t=8.636, p=.0000
Piped water or piped water nearby	278	61.8 (57.2 – 66.4)	412	74.8 (71.0 – 78.6)	t=4.422, p=.0000
Free of smoke	271	60.2 (55.9 – 65.1)	254	46.1 (42.2 – 50.1)	t=4.444, p=.0000

Source: Interview with parents

With regard to the institutions that the adults interviewed recognize for having helped improve the kitchen, PCI/USDA's presence or recognition increased (34.5% during MTE vs. 20.7% during BL), the community groups continued to be recognized at a similar level (41.6% during MTE vs. 40.4% during BL). Nevertheless, it is also important to note that three of every ten adults are still not able to recognize who has helped improve the kitchen of the school their children attend.

Table 101: Institution that supports the kitchen, according to parents

Institution that supported kitchen improvements	Baseline (n = 450)		MTE (n = 551)		Statistical Difference
	N	%	N	%	
MOE	44	9.8 (7.1 – 12.4)	28	5.1 (3.3 – 7.1)	t=2.859, p=.0043

Institution that supported kitchen improvements	Baseline (n = 450)		MTE (n = 551)		Statistical Difference
	N	%	N	%	
PCI/USDA	93	20.7 (16.9 – 24.9)	190	34.5 (30.5 – 38.1)	-
Other NGO	12	2.7 (1.3 – 4.2)	8	1.5 (0.5 – 2.5)	-
Groups or members of the community	182	40.4 (35.8 – 44.9)	229	41.6 (37.6 – 45.7)	-
Other <i>MTE: Municipality (9), Teachers (7), the government (5), no one (1)</i>	21	4.7 (2.9 – 6.7)	22	4.0 (2.4 – 5.6)	-
Doesn't know / Doesn't answer	148	32.9 (28.4 – 37.1)	163	29.6 (26.0 – 33.0)	-

Source: Interview with parents

In the interviews with mothers, they were asked their opinion about the kitchens where they prepare the food. In five of the six schools there were kitchens, but in one it wasn't utilized due to problems with the chimney (see below). Only in San Pedro Necta was there no formal kitchen and they cooked in a shed alongside the wall of the school. The mothers appreciate the improvements that were made in the school kitchens but they hope for more.

In Santa Eulalia, for example, the mothers said that before they cooked on open fires. With the help of PCI/USDA they managed to build a kitchen with three burners. The school has more than 300 students and the size of the kitchen is not sufficient. The mothers haven't forgotten the difficulties they had for cooking years ago and they say that now they cook well but what is difficult is the lack of water.

A frequent complaint although not linked directly to the kitchen, is the lack of an adequate place for storing firewood. Another complaint was the lack of water inside the kitchen. The majority of the mothers consulted considered that they still lack kitchen utensils either because they are insufficient or because they are damaged. They also would like kitchen cabinets to store food and tools and big tables for food preparation.

PARENTS' COUNCIL

The members of the Parents' Council who were interviewed recognized that the characteristics of the kitchens have improved in all aspects during the MTE, compared to the BL. Except for the improvement in the number of utensils for food preparation, the rest of the characteristics analyzed did not show statistically significant differences.

Table 102: Quality of the kitchen, according to the CPF

Characteristics of the kitchen	Baseline (n = 55)		MTE (n = 60)		Statistical difference
	N	%	N	%	
Sufficient space for those who are cooking	24	43.6 (29.1 – 56.4)	37	61.7 (48.3 – 75.0)	-
Full walls and roof	43	78.2 (67.3 – 89.1)	54	90.0 (81.7 – 96.7)	-
Cement floor/ floor that can be swept and mopped	43	78.2 (65.5 – 89.1)	45	75.0 (63.3 – 86.7)	-
Sufficient number of utensils for preparations	24	43.6 (30.9 – 56.4)	40	66.7 (55.0 – 78.3)	t=2.491, p=.0142
Stove in good condition	41	74.5 (61.8 – 85.5)	42	70.0 (58.3 – 80.0)	-
Sufficient lighting	39	70.9 (58.2 – 83.6)	45	75.0 (63.3 – 85.0)	-
Sufficient ventilation	40	72.7 (60.0 – 85.4)	37	61.7 (50.0 – 73.3)	-
Cabinets or closed spaces for storing dishes	16	29.1 (18.2 – 41.8)	28	46.7 (33.4 – 60.0)	-
Piped water installations / Piped water nearby	44	80.0 (69.1 – 89.1)	48	80.0 (70.0 – 90.0)	-
Free of smoke	40	72.7 (60.0 – 83.6)	38	63.3 (50.0 – 75.0)	-

Source: Interview with parents of the Council

In the conversations that were held with members of the Parents' Councils in the six schools, it was noted that they have taken ownership of the improvements to school infrastructure and they feel that these are Council achievements. In Santa Cruz Barillas, for example, when asked about the main accomplishments of the Parents' Council they said the following:

Parent voices

We now managed to build the kitchen here in the school. We also managed to build the three bathrooms that PCI gave us ... PCI gave us three bathrooms, a pila (washing area), two wood stoves and also the kitchen. We have seen a lot of progress because of PCI... yes, we feel happy when someone comes to help us here... We are very grateful to PCI for the help they are giving us as well as the parents who collaborate with us and help us make more progress in our work here in the school.

(focus group discussion with members of the Parents' Council, Santa Cruz Barillas)

ELECTRICITY

The percentage of schools with electricity has stayed the same between the two surveys (89.3% during the MTE vs. 88.0% during the BL). In the schools that have electricity, electricity was only available at the time of the visit in 92.0% during the MTE compared to 81.8% during the BL.

INFORMATION CORNERS

In 20 schools, updated information corners were observed, nevertheless, in 14 of the schools these were located inside the warehouse, a place that is typically closed and locked and with limited public access.

SCHOOL GARDEN

PRESENCE OF GARDENS

When carrying out observations at the school, it was found that during the MTE, there were school gardens in 71.4% of the schools visited, compared to 32.0% during the BL; this increase is statistically significant ($t=2.868$, $p=.0060$). These gardens function principally on privately owned land or land that is loaned to them.

Table 103: Location of school gardens

Location of the garden	Baseline (n = 8)		MTE (n = 20)	
	N	%	N	%
Own land	5	62.5	11	55.0
Rented land	-	-	1	5.0
Loaned land	3	37.5	7	35.0
In the school	-	-	1	5.0

Source: Observation of the school

The land used for the school garden is more adequate than during the BL given that it was observed that in 90.0% of the cases the land is adequate (flat, large and with raised beds), compared to what was found during the BL (62.5%). At the same time the gardens were more protected or fenced (90.0% during the MTE vs. 62.5% during the BL). A problem that was noted was the lack of water near the garden (one block or less away) given that in 70.0% of the cases it was available nearby compared to the BL when all the gardens had water nearby. Year round water availability was found in 78.6% of the cases during the MTE, compared to 87.5% during the BL; in the rest of the year water is available only in the rainy season.

The number of schools with gardens, according to what was shared by the directors and/or teachers, had increased in the MTE (83.3%) compared to the BL (50.9%). This increase is statistically significant ($t=3.715$, $p=.0003$).

Using only the information collected during the MTE where those interviewed said that there was a school garden (n = 24 schools), in 19 schools (79.2%) they indicated there had been a garden in 2014; of

these 19, three gardens were no longer active in 2015. Five schools that said they didn't have a garden in 2014, said that they did have a garden in 2015.

Using only the information collected during the BL where those interviewed said there was a school garden (n = 15 schools), in nine schools (60.0%) they stated that they had a garden in 2013; of these nine, three gardens, according to their report were not active in 2014. The five schools that said they did not have a garden in 2013, did have one in 2014.

The advantages that the CPF see in the school gardens are to have the food that is grown there (66.7%), to improve school feeding (65.0%) and that the children learn to garden (58.3%); aspects that were also recognized during the BL.

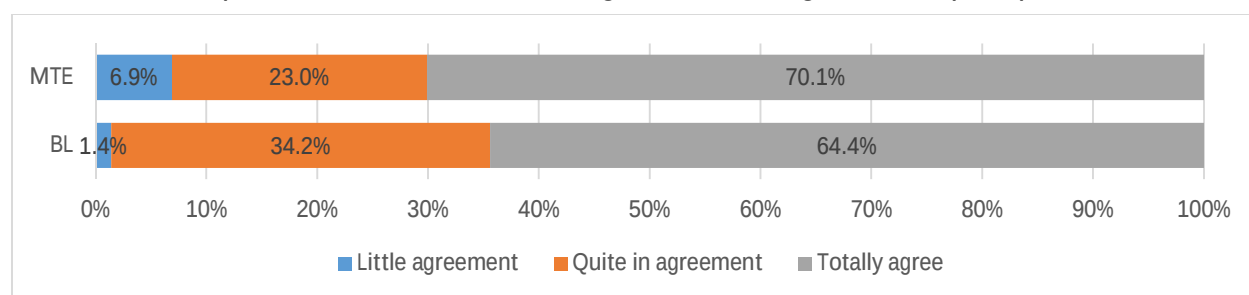
Table 104: Advantages of the school garden, according to CPF

Advantage	Baseline (n = 55)		MTE (n = 60)	
	N	%	N	%
The children learn to garden	41	74.5 (63.6 – 85.5)	35	58.3 (45 – 71.1)
They have the availability of the food that is produced	21	38.2 (25.5 – 50.9)	40	66.7 (55.0 – 78.3)
It improves the school feeding	45	81.1 (70.9 – 90.9)	39	65.0 (53.3 – 76.7)
They can sell the food that is produced	6	10.9 (3.6 – 20.0)	5	8.3 (1.7 – 16.7)
Doesn't know	-	-	4	6.7 (1.7 – 13.3)
Other	1	1.8 (0.0 – 5.5)	2	3.3 (0.0 – 8.3)
BL & MTE: Savings for parents				

Source: Interview with parents of the Council

Seven of each ten directors and/or teachers interviewed during the MTE stated that having a school garden is very useful for the school's needs; this perception increased when compared to the BL (64.4%). The difference in the opinion is statistically significant.

Graph 60: Usefulness of the school garden, according to teacher perceptions



Source: Interview with parents of the Council

The perceptions about the schools gardens have also changed for the adults interviewed given that 68.4% answered during the MTE that at some point there was a garden in the school, compared with 41.2% in the BL.

The existence and survival of school gardens was greater during the MTE than during the BL. Of the people who stated that at some time there had been a school garden in the school of the community, for the BL, of the total number of households (n = 162) in which they indicated that there was a garden in the school the year prior to the interview (2013) it was found that for 67.9% the garden continues functioning, 25.9% stated that it is no longer functioning and 6.2% do not know. Of the people who state that at any time there has been a school garden in the school of their community, for the MTE, of the total number of households (n = 314) in which they indicated that there had been a garden in the school the year prior to the interview (2014) it was found that for 87.3%, the garden continues functioning, 10.2% state that it is no longer functioning and 2.5% do not know.

It was also found that new gardens were started in the schools, given that during the BL, of the 30 schools that did not have a school garden in 2013, in 2014 there was one; nevertheless, during the MTE it was found that of the 65 schools where there was no school garden in 2014, 44 schools had a garden in 2015.

When the adults interviewed were asked about the benefits of having a school garden, approximately one in three adults during the MTE didn't know what the advantage of having a garden would be (compared to 5.9% who answered the same way in the BL). Almost all the advantages decreased between the BL and MTE (except not knowing) and all the differences are statistically significant. This finding is not alarming because when observing the trainings offered by PCI during the present year, none covered the topic of school gardens.

Table 105: Advantages of the garden, parents' perception

Advantage	Baseline (n = 476)		MTE (n = 573)		Statistical difference
	N	%	N	%	
The children learn to garden	312	65.5 (61.3 – 69.7)	116	20.2 (16.8 – 23.7)	t=14.865, p=.0000
There is food available from what is produced	118	24.8 (21.2 – 28.8)	251	43.8 (39.4 – 48.2)	t=6.416, p=.0000
It improves school feeding	226	47.5 (43.1 – 52.3)	203	35.4 (31.2 – 39.4)	t=3.969, p=.0001
The food produced can be sold	23	4.8 (3.2 – 6.9)	14	2.4 (1.2 – 3.7)	t=2.109, p=.0352
Doesn't know	28	5.9 (3.8 – 8.2)	132	32.0 (19.7 – 26.9)	t=10.491, p=.0000
Other	-	-	2	0.3 (0.0 – 0.9)	-
None	-	-	2	0.3 (0.0 – 0.9)	-

Source: Interview with parents of the community

When the responses of the 4th to 6th grade children were analyzed, the increase in school gardens at the time of the MTE was confirmed. Of the children interviewed during the MTE, 80.3%, confirmed the existence of a school garden in 2014, compared to 54.7% during the BL (for 2013). This increase is statistically significant (t=7.642, p=.0000). Considering only those children who stated that there was a garden in their school in 2014, 82.9% stated that they had worked in the garden that year. Again, considering only the schools with a garden in 2015, 81.5% of the children stated that they had participated in some kind of activity in the garden.

In the MTE, 46.9% of the schools that did not have a school garden in 2014, had one in 2015, and 14.1% of the schools that had a school garden in 2014, did not have one in 2015. The balance is, nevertheless, positive with the number of new school gardens operating.

Considering only the children who indicated they had worked in one of the two years in the school garden, it was found that some learning was retained less than when they were asked in the previous year, nevertheless, the number of children involved is much greater. No statistical difference was noted due to the seasonality of the events.

Table 106: Learning from the school garden, children's perception

Learning	Baseline (n = 267)		MTE (n = 321)	
	N	%	N	%
How to do it, what to do, what is needed	54	59.3 (49.5 – 69.2)	156	48.6 (43.0 – 53.6)
The kind of crops to plant	32	35.2 (25.3 – 45.1)	140	43.6 (37.7 – 48.9)
How the crops are planted and cared for	63	69.2 (54.9 – 79.1)	177	55.1 (49.5 – 60.7)
To work as a team	9	9.9 (4.4 – 16.5)	36	11.2 (8.1 – 15.0)
Nothing	-	-	7	1.9 (0.6 – 3.3)
Doesn't know / Doesn't answer	3	3.3 (0.0 – 7.7)	27	8.4 (5.3 – 11.5)
Other <i>MTE: to care for the plants (9), to speak in public (4), To dance (4), to prepare fertilizer (3)</i>	2	2.2 (0.0 – 5.5)	25	7.8 (5.0 – 10.9)

Source: Interview with children from 4th to 6th grade

Taking all the children into account, whether or not they participated in the school garden activities previously, they were asked if they would like to participate in the activities of the school garden, to which 95.7% responded affirmatively during the MTE compared to 93.6% during the BL.

Table 107: Learning expected from working in the school garden, children's perception

Learning	Baseline (n = 267)		MTE (n = 321)	
	N	%	N	%
How to do it, what to do, what is needed	175	52.2 (46.9 – 57.6)	177	44.5 (39.4 – 49.5)
The kind of crops to plant	116	34.6 (29.6 – 40.0)	139	34.9 (30.4 – 39.7)
How the crops are planted and cared for	180	53.7 (48.4 – 59.1)	200	50.3 (45.5 – 55.3)
To work as a team	67	20 (15.8 – 24.2)	84	21.1 (17.1 – 25.4)
Doesn't know / Doesn't answer	31	9.3 (6.3 – 12.2)	73	18.3 (14.6 – 22.4)
Other <i>MTE: Because I like the activity (14), You get extra points (13), likes to participate (13), Likes plants (7), it is fun (6),</i>	9	2.7 (1.2 – 4.8)	65	16.3 (12.8 – 20.4)

Learning	Baseline (n = 267)		MTE (n = 321)	
	N	%	N	%
<i>Likes it(3)</i>				

Source: Interview with children from 4th to 6th grade

CROPS IN THE GARDENS

Analyzing the teachers' opinion about the crops planted in the school garden it can be seen in the following table, that the crops found during the BL continue and the presence of the majority of the crops increased between the two surveys. The time of year when the visits were made should also be taken into account and for this reason, statistically significant differences could not be analyzed.

Table 108: Crops in the school garden, according to los teachers

Crop	Baseline (n = 28)		MTE (n = 63)	
	N	%	N	%
Radish	25	89.3 (75.0 – 100.0)	55	87.3 (79.4 – 95.2)
Cucumber	6	21.4 (7.1 – 35.7)	9	14.3 (6.3 – 23.8)
Beets	7	25.0 (10.7 – 42.9)	20	31.7 (20.6 – 42.9)
Carrots	8	28.6 (14.3 – 46.6)	27	42.9 (31.7 – 55.6)
Lettuce	12	42.9 (25.0 – 60.7)	32	50.8 (38.1 – 63.5)
Cilantro	15	53.6 (35.7 – 71.4)	46	73.0 (61.9 – 82.5)
Cabbage	17	60.7 (42.9 – 78.6)	45	71.4 (60.3 – 82.5)
Swiss Chard	3	10.7 (0.0 – 25.0)	20	31.7 (19.0 – 42.9)
Broccoli	9	32.1 (14.3 – 50.0)	34	54.0 (41.3 – 66.7)
<i>Guicoy</i> Squash	1	3.6 (0.0 – 10.7)	4	6.3 (1.6 – 12.7)
Fava beans	5	17.9 (7.1 – 35.7)	-	-
Onions	2	7.1 (0.0 – 17.9)	17	27.0 (17.5 – 38.1)
Cauliflower	6	21.4 (7.1 – 35.7)	24	38.1 (25.4 – 49.2)
Other	1	3.6 (0.0 – 10.7)	6	9.5 (3.2 – 17.5)
<i>Bledo</i>	1	3.6 (0.0 – 10.7)	13	20.6 (11.1 – 31.7)
Celery	1	3.6 (0.0 – 10.7)	2	3.2 (0.0 – 7.9)
Sweet Corn	1	3.6	4	6.3

Crop	Baseline (n = 28)		MTE (n = 63)	
	N	%	N	%
		(0.0 – 10.7)		(1.6 – 12.7)
Tomatoes	1	3.6 (0.0 – 10.7)	5	7.9 (1.6 – 15.9)
Potatoes	-	-	8	12.7 (4.8 – 22.2)
Green beans	-	-	4	6.3 (1.6 – 12.7)
Beans	-	-	3	4.8 (0.0 – 11.1)
Parsley	-	-	1	1.6 (0.0 – 4.8)

Source: Interview of Teachers and directors

It is important to highlight that with regard to the crops, apparently very little is used in the meals prepared at the school given that during the MTE it was found that, according to the directors and/or teachers, 3.2% is used for this purpose compared to 10.7% during the BL. Nevertheless, this study did not investigate what is actually done with the produce from the school gardens, an aspect that could be interesting to study more carefully in future evaluations.

A greater number of directors and/or teachers stated that the selection of the foods to be planted in the school garden was made based on their nutritional content (98.4% during the MTE vs. 71.4% during the BL).

USE OF THE GARDENS

The qualitative component found that the school gardens began as a strategy for food diversity but soon took on other functions. The children increased their knowledge about crops since most come from farming households. Besides teaching about the growth, structure and function of the plants, the gardens also have been used to apply math skills and to calculate the areas and perimeters of the beds, as well as the seeds or seedlings needed per row and bed, etc. The idea was to get the children out of the routine of classes and with help from the teachers and PCI staff, the gardens have been transformed into an extra-curricular teaching/learning tool.

It has not been possible to establish gardens in every school, basically because not all the schools have the resources (space, water) needed. Of the six schools visited, there were four gardens in production; in one school the garden had been closed and in another they never had one. The success of the gardens seems to depend a lot on the enthusiasm and dedication of the teachers, since it requires extra work and some are not willing to work extra hours and even fewer are willing to work weekends. The four gardens that were visited were fenced and the parents are organized in “garden commissions” and have taken charge of preparing the soil, fumigating and fertilizing the crops. Planting and weeding are generally taken care of by the children.

In two schools the gardens work especially well. These success stories are presented in boxes 3 and 4.

Box 3. Success story: school garden in Río Ocho, San Pedro Necta

The school garden (on a *cuerda* of land) has been functioning for two years. The director mentioned that he had been wanting to start one for a while but didn't know how to do it and what supplies were needed. His idea got off the ground when some agronomists from PCI came with the idea and the seeds. Teachers and the Parents' Council were trained to prepare organic pesticides and fertilizers.

The first crops were broccoli, cauliflower, lettuce, cucumber, radishes, carrots and beets. This year they also planted onions, cilantro and Swiss chard. The educational community has taken charge of the garden and they participate in different ways. The Parents' Council comes each week to see how the crops are going and what needs to be done. At the beginning of the year each family sent a bag of mulch. The students also have assigned jobs, especially those from fourth to sixth grade. They did the planting and do the weeding. All the teachers cooperate in taking care of the garden although one teacher is in charge of it. The mothers also collaborate although they don't physically work in the garden, they have collected and send the mulch.

The principal use of the garden is to provide vegetables for the school feeding program and to support a more diverse diet. It also provides a savings since this produce doesn't have to be bought. One of the women said:

You know this is a great help that they gave us. Because we don't have to buy vegetables all the time, because you know the market is far away from town. When we go into town to buy vegetables once we get them home the next they day are starting to spoil and rot. It is so much nicer to have them in the garden.

The garden is also used as a learning tool. The students not only learn to prepare the soil and about the crop cycle but also about the nutrients in the vegetables. When they had pests, they learned how the insects spawn and all of their metamorphosis. The students like to go out to the garden and learn by doing. The teacher in charge explained:

Depending on the topic that we are studying in our courses we come out here. We learn about the parts of plants, the roots, stems and leaves. The raised beds are made in different shapes and so we learn about geometric figures: circles, squares, rectangles and how to calculate their area and perimeter.

This teacher has attended two trainings in which he learned to make compost and to prepare organic pesticides. They had an infestation that was immune to the pesticide and they had to pick off the worms by hand. He would like to have more technical support from the PCI agronomists to be able to grow tomatoes and to buy sprinklers.

Box 4. Success story: School garden in Ixnanconop, San Pedro Soloma

The garden which is on a one *cuerda* piece of land was just started in February 2015 with the arrival of the new director. One week after starting the job, they called to offer the garden and he accepted. The school rents the land for Q500 yearly. To organize the garden, the families had to provide charcoal, black soil and mulch. The director y another teacher take turns to take care of it and give time to the garden on weekends, although during the week other teachers participate in caring for the garden. The garden is producing under two macro-tunnels provided by PCI. Given that they have an irrigation system, they can harvest all year long. PCI has given them training on how to make compost, pesticides, pruning, fungicides, planting measurements, the macro tunnels and a green house.

They have planted tomatoes and green peppers for consumption and possibly for sale – depending on production, as well as radishes, broccoli, cauliflower, cabbage, greens, mustard, turnips, cilantro, carrots and watercress for school consumption. They have also planted native greens such as *bledo* and *hierbamora*. What has been planted is not sufficient but there are plans to plant tomatoes and green peppers permanently.

Teacher Gabriel is very excited about the garden and to a great degree its success is due to his efforts. The garden is fenced and parent participation has been limited. They didn't seem to be convinced that it would work. The students on the other hand are very excited and they created a committee called "the guardians of the garden" which is in charge of watering during the dry season and weeding the rest of the time. Currently the teacher is preparing his own seedlings with plans to sell the excess and thus fund the garden's production and eventually the school breakfast.

On September 15 we celebrated independence day and we celebrated the inauguration of the garden and we presented it to the community. Then they got even more excited [the community]. Now they come to us to ask when we will be able to sell the products, they came to ask us to sell them products to plant on their land. Then they offered us help since they have seen its success and the enthusiasm of the teachers who haven't made excuses or been afraid to get dirty. We have come out of the garden really dirty. My wife says, 'what do you go to do, teach or plant?' I tell her we are planting and teaching. Then I told them [the families] that to do this work we had to get involved because if we wait for someone else to do it, it will never happen. Then we began to work and get dirty. For a long time I was anxious to do this garden but as I wasn't in charge of administration, I couldn't. Once I got into the directorship and there was an opportunity, I said, "Let's go."

As in San Pedro Necta and others places, this garden is also used for educational purposes, for natural sciences as well as for math.

THE PARENTS' COUNCIL

For several decades the MOE has organized parents' groups in Councils, boards or school committees (the name of these has varied with each government) to support the educational process. Currently, these Councils manage the expenses for maintenance, food, basic educational materials (school supplies for students and educational bags for the teachers). At the national level, many Councils have organized themselves to request funds (often from the municipal offices) to improve school infrastructure and even for construction of more classrooms. The Councils have the participation of a teacher who guides their work but usually they don't receive any training or systematic support. Parent participation in these groups tends to be low, often because of the inherent bureaucratic difficulties as well as the low schooling level of the majority of parents. Recent changes in the management of these groups (the board of directors have to present a declaration of assets and are subject to audits) have caused a series of resignations from these groups and less participation in management of school resources. The interpretation of the function of these Councils in the schools where FFE operates should be part of this context, since their parent organizations are a key component for the feeding program. Thus it is important to know about their abilities and opinions.

All the parents of the Parents' Council who were interviewed stated during the MTE that they know the reason why the council exists, compared to 98.2% in the BL. When asked what the main reason was, during the MTE there were a variety of valid responses. The percentage of those who thought it was to guarantee preparation of the school feeding decreased between the two surveys. Nevertheless, because the results are not comparable, the statistical significance of the differences were not analyzed. All the responses are presented in the following table.

Graph 61: Responsibilities for the CPF, according to Council members

	Baseline		MTE	
	N	%	N	%
Guarantee preparation of school feeding	49	90.7	17	28.3
Watch out for the school feeding funds	3	5.6	11	18.3
Look after school infrastructure	2	3.7	10	16.7
See that teachers work	-	-	7	11.7
Resolve school problems	-	-	7	11.7
Store commodities	-	-	5	8.3
Other	-	-	2	3.3
Unload commodities	-	-	1	1.7
Total	54	100.0	60	100.0

Source: Interview with parents from the Council

It seems that the number of female participants has decreased in the past year given that in the BL there were an average of 1.84 women, compared to 1.52 women during the MTE. The number of men increased slightly.

Table 109: Participants of the Parents' Council, according to sex

Number of...	Survey	N	Min.	Max.	Mean	Std. Dev.
Men	Baseline	55	0	6	3.60	1.842

Number of...	Survey	N	Min.	Max.	Mean	Std. Dev.
					(3.11 – 4.09)	
	MTE	60	0	9	3.73 (3.22 – 4.20)	1.947
	Baseline	55	0	5	1.84 (1.36 – 2.31)	1.864
Women	MTE	60	0	5	1.52 (1.13 – 1.92)	1.621

Source: Interview with parents from the Council

One of every four Council members interviewed during the MTE had been elected the year of the interview. This shows the rotation in the positions which is expected as the term of office is only one year and it is hoped that the rotation will motivate more parents to participate. There was no evidence of this during the BL.

Of the total of adults interviewed in the homes of the community it was found that 14.5% said they belong to their school's Parents' Council, an increase from the BL (9.9%).

The level of activity and participation of the parents in the Parents' Council was similar during both surveys given that according to the directors and/or teachers, during the MTE, 96.6% of the schools have a Parents' Council, compared to 89.0% that said the same in the BL. This difference is not statistically significant. Of the schools which, according to the directors and/or teachers, have a Parents' Council, 94.0% indicated that it was active compared to 96.9% in the BL.

TRAININGS RECEIVED

Taking into account only the parents of the Council who held some position during 2014 (n = 44) for the MTE and 2013 (n = 55) for the BL, they were asked if they had had any kind of training with regard to the Feeding Program. During the MTE 84.1% responded affirmatively compared to 81.8% during the BL.

According to those interviewed, some of the trainings had decreased, nevertheless, the time of the survey must be remembered and the reference time was quite long and this could create difficulty in having an exact recollection of trainings. For this reason no calculation was made of statistically significant differences.

Table 110: Training topics received, according to members of the Parents' Council

Training topic	Baseline (n = 55)		MTE (n = 44)	
	N	%	N	%
Management of the school feeding program	27	60.0 (46.7 – 73.3)	14	37.8 (21.6 – 54.1)
Role of the CPF in the FFE program	1	2.2 (0.0 – 6.7)	5	13.5 (2.8 – 27.0)
Management and order of commodities in the warehouse	24	53.3 (37.8 – 68.9)	16	43.2 (27.0 – 59.5)
Order and cleanliness in food preparation	27	60.0 (44.5 – 73.3)	13	35.1 (18.9 – 51.4)
Hand washing	9	20.0 (8.9 – 31.1)	5	13.5 (2.7 – 24.3)

Training topic	Baseline (n = 55)		MTE (n = 44)	
	N	%	N	%
Hygiene and adequate use of latrines	14	31.1 (17.8 – 44.4)	5	13.5 (2.7 – 27.0)
School feeding	22	48.9 (33.4 – 62.2)	12	32.4 (18.9 – 48.6)
Cleanliness and adequate waste management	10	22.2 (11.1 – 35.6)	3	8.1 (0.0 – 18.9)
Implementation of the SODIS method	1	2.2 (0.0 – 6.7)	-	-
School garden	-	-	9	20.5 (9.3 – 33.3)

Source: Interview with parents of the Council

With regard to the trainings received for the Feeding Program, in the opinion of the directors and/or teachers, these have increased since the BL which can be observed in the following table. Nevertheless, these opinions should be interpreted carefully as they contradict what the Parents' Council members said, according to the previous table.

Table 111: Trainings received by the CPF, according to the teachers

Training topic	Baseline (n = 73)		MTE (n = 87)	
	N	%	N	%
Transport of commodities	26	35.6 (23.3 – 46.6)	72	82.8 (74.7 – 89.7)
Commodity storage	37	50.7 (38.4 – 61.6)	75	86.2 (78.2 – 93.1)
Food preparation	39	53.4 (41.1 – 64.4)	73	83.9 (75.9 – 90.8)
Food Hygiene	35	47.9 (35.6 – 60.3)	75	86.2 (78.2 – 93.1)
None of the above	30	41.1 (30.1 – 53.4)	12	13.8 (6.9 – 21.8)

Source: Interview with Teachers and directors

Of the directors and/or teachers consulted during the MTE, 77.3% stated that they had participated in the above trainings.

When asked about who gave these trainings, the most frequent answer was someone from outside the school (95.2% during the BL vs. 97.2% during the MTE). None of the differences shown in the following table are statistically significant. As will be seen later, and as noted in the trainings described previously, the main external entity identified as providing training was PCI.

Table 112: Institution which trains the CPF, according to teachers

Trainer	Baseline (n = 43)		MTE (n = 72)	
	N	%	N	%
The director	2	4.7 (0.0 – 11.6)	3	4.2 (0.0 – 9.2)
The teachers	5	11.6	6	8.3

Trainer	Baseline (n = 43)		MTE (n = 72)	
	N	%	N	%
		(2.3 – 23.3)		(2.7 – 15.1)
Staff from outside school	42	95.5 (88.6 – 100.0)	73	97.3 (93.2 – 100.0)
Doesn't know / Doesn't answer	1	2.3 (0.0 – 7.0)	1	1.4 (0.0 – 4.4)

Source: Interview with Teachers and directors

The external staff most identified in both surveys was PCI (94.7% during the MTE vs. 61.9% during the BL). This increase is statistically significant ($t=4.480$, $p=.0000$). The MOE disappeared as a trainer during the MTE and the MOH continued.

Table 113: Trainers outside the CPF, according to teachers

Trainer	Baseline (n = 42)		MTE (n = 73)	
	N	%	N	%
PCI	26	61.9 (45.2 – 76.2)	71	94.7 (89.2 – 98.7)
MOE	8	19.0 (7.1 – 31.0)	-	-
Other NGO	4	9.5 (2.4 – 21.4)	-	-
DIGEPSA	2	4.8 (0.0 – 11.9)	-	-
MOA	1	2.4 (0.0 – 7.1)	-	-
MOH	1	2.4 (0.0 – 9.5)	2	2.7 (0.0 – 6.9)

Source: Interview with Teachers and directors

Of those interviewed during the MTE, 78.3% stated that they had received other trainings during the year of the interview³⁹ to be able to carry out their work as a committee, compared to 81.8% during the BL. The number of topics presented during the MTE is greater than during the BL which implies greater effort from PCI to give a larger number of topics to more schools. Due to the time of year and the difference in training topics for each year no statistical comparison was made.

Table 114: Training topics received for their work, members of the CPF

Training topic	Baseline (n = 45)		MTE (n = 47)	
	N	%	N	%
Leadership	20	44.4 (31.1 – 57.8)	20	42.6 (27.7 – 57.4)
Management of the school feeding program	39	86.7 (75.6 – 95.6)	38	80.9 (68.1 – 91.5)
Supervision	33	73.3 (60.0 – 84.4)	37	78.7 (66.0 – 89.4)

³⁹ 2015 for the Mid-term Evaluation and 2014 for the base line.

Training topic	Baseline (n = 45)		MTE (n = 47)	
	N	%	N	%
Importance of participation in the school and community	-	-	41	87.2 (76.6 – 95.7)
Coordination and leadership abilities	-	-	40	85.1 (74.5 – 93.6)
Inventory control and commodity management	-	-	42	89.4 (78.7 – 97.9)
Health and nutrition	-	-	42	89.4 (80.9 – 97.9)
Preparation of the breakfast	-	-	38	80.9 (68.1 – 91.5)
Water and sanitary installations	-	-	38	80.9 (68.1 – 91.5)
Personal Hygiene	-	-	42	89.4 (80.9 – 97.9)
Management of solid waste	-	-	36	76.6 (63.8 – 87.2)
Effective advocacy	-	-	25	53.2 (38.3 – 66.0)
School gardens	-	-	41	87.2 (76.6 – 95.7)
Reforestation	-	-	35	74.5 (61.7 – 85.1)
Environment	-	-	40	85.1 (74.5 – 93.6)
Other	-	-	5	10.6 (2.1 – 21.3)
None of the above	6	13.3 (4.4 – 24.4)	1	2.1 (0.0 – 6.4)

Source: Interview with parents from the Council

The average number of training topics increased from 2.0 during the BL to 11.8 during the MTE.

The main entity carrying out the trainings continues to be PCI, demonstrating an increase in recognition between the MTE and the BL (87.2% vs. 71.8%). The other trainers decreased in their percentage of recognition.

Table 115: Trainers for the CPF, according to Council members

Trainer	Baseline (n = 39)		MTE (n = 47)	
	N	%	N	%
Staff from PCI / USDA	28	71.8 (56.4 – 87.2)	41	87.2 (78.7 – 95.7)
The director of the school	2	5.1 (0.0 – 12.8)	1	2.1 (0.0 – 6.4)
The teachers	3	7.7 (0.0 – 17.9)	1	2.1 (0.0 – 6.4)
Staff from MOH	4	10.3 (2.6 – 20.5)	3	6.4 (0.0 – 14.9)
MOE	7	17.9 (7.7 – 30.8)	2	4.3 (0.0 – 10.6)

Trainer	Baseline (n = 39)		MTE (n = 47)	
	N	%	N	%
INAB	-	-	1	2.1 (0.0 – 6.4)
Doesn't remember	-	-	3	5.0 (0.0 – 12.8)

Source: Interview with parents from the Council

With regard to the warehouse where the FFE program commodities are stored, the Council members were asked about their level of supervision over this. In the MTE,⁴⁰ nine of every ten (93.3%) stated that they provide constant supervision. Considering only those who stated they supervise the warehouse, it was found that one in seven tend to do so at least once a week, while 14.3% stated that they do so on a daily basis, 16.1% do it more than once a week, but not daily, 41.1% do it once a week, 14.3% once every two weeks, 12.5% once a month and 1.8% sporadically.

On average, during the MTE the parents from the council could mention 3.1 basic criteria for care of the storage, compared to 3.0 during the BL.

Table 116: Criteria for warehouse management, according to members del CPF

Basic criteria	Baseline (n = 55)		MTE (n = 60)	
	N	%	N	%
The commodities should be on exclusive platforms	39	70.9 (58.2 – 83.6)	43	71.7 (60.0 – 81.7)
Meat, fruits and vegetables should be stored in the refrigerator	1	1.8 (0.0 – 5.5)	2	3.3 (0.0 – 8.3)
It should be large enough to be functional and orderly	4	7.3 (1.8 – 14.5)	12	20.0 (10.0 – 30.0)
Should be exclusively for commodity storage	15	27.3 (16.4 – 40.0)	27	45 (31.7 – 58.3)
Should be clean	39	70.9 (58.2 – 83.6)	44	73.3 (61.7 – 85.0)
Should be ventilated	11	20.0 (10.9 – 30.9)	16	26.7 (15.0 – 40.0)
With walls and roof that avoid water and or moisture	23	41.8 (29.1 – 54.5)	16	26.7 (16.7 – 39.8)
No sign of rodents	31	56.4 (43.6 – 69.1)	21	35.0 (23.3 – 46.7)
Doesn't know / Doesn't answer	1	1.8 (0.0 – 5.5)	5	8.3 (1.7 – 16.7)
Other				
MTE: Well lit (2), on Council members have access (2), Bags well tied (1), away from the wall (2), Verify expiration dates (1)	1	1.8 (0.0 – 5.5)	8	13.3 (5.0 – 23.3)

Source: Interview with parents of the Council

⁴⁰ There were no reference data for this variable during the base line.

FOCUS GROUPS WITH PARENTS' COUNCILS

The members of the six Parents' Councils which were consulted in the qualitative component are proud of what they have accomplished. They have taken responsibility for transporting and storing the donated commodities, with the help of the teachers they have arranged for Mothers to take turns cooking every day of the school year and they do it well without conflict. They have also organized the families' contributions, both cash and in kind, and in some schools they also participate in the care of the garden. They have coordinated, sometimes with the help of the Community Development Councils (Cocode) or the auxiliary mayors, the transfer of donated materials for school construction or rehabilitation as well as providing groups to do the work. They also took part in organizing the school fairs celebrated in August. In Soloma they said:

Parents' Voices

I participate in the Parents' Committee. The truth is, I don't have a husband, my husband disappeared and I take care of my family by myself. You see, I am responsible for my two children who study in this school. In the Committee we take care of receiving monetary collaborations when they go to get the atol, we take charge of getting a vehicle and we pay with the money that we collect. We advise them [the parent's assembly] when the money needs to be given and we inform them when there is going to be a gathering like for the 15th of September or Mother's Day or other activities. And we also meet to give information or to use the speakers on Saturdays or Sundays. We give our day to come and clean here at the school [...] we are happy because the school is like our house; if something gets broken we need to fix it, especially we need to take care of it because we can say that the school is ours for our children. One thing we did here in the school is that there were some leaks in the roof and there were no gutters so we asked for collaboration from the parents in order to change what needed to be fixed. And with the parents' cooperation we were able to make the macro tunnel [...] We are very grateful to our teachers and as the Parents' Council we are grateful to the parents and especially to PCI because PCI donated the paint to paint the school. Thanks be to God that we now see this change in the school.

(Focus group discussion, Parents' Council, San Pedro Soloma).

WOMEN EMPOWERED - WE

PCI has been forming women's associations so that by working together they can contribute to the development of their families and communities. The objective of these groups is self-managed savings and loans to facilitate the development of productive projects that support the social and economic empowerment of the members. Each group determines the saving amounts and a record of each individual's deposits is kept. The common fund that is created can be used for loans and the interest rates and payment conditions are determined by each group. The groups began to be formed in mid-2014 and currently there are 114 WE groups supported by PCI. The groups are made up of about 15 women with great variety in membership. So far there have been no loan payment problems. The

information that is presented comes from three sources: two interviews with members of two WE groups, interviews with parents in the community and opinions shared by program staff.

The formation of these groups has not been easy and has required significant accompaniment by PCI personnel. The PCI field technicians explain:

PCI Voices

It has been hard I think in the majority of municipalities because field work is difficult. The groups have formed and in reality the idea of Women Empowered started only in June of last year [...] It has been achieved by creating awareness in the assemblies that women are important, that their participation in these groups is very valuable. We tried to talk to the parents by means of assemblies and workshops, to instill the idea of gender equality. We had some bad experiences but we carried out the socialization and awareness creation workshops ... [The WE groups] have several functions, one is for strengthening so that the communities can begin to build trust. Number two, we taught them to plant or to produce. And number three, that they would know how to use their resources to feed their children and themselves. We are in this process and we have several challenges to keep things going and work with it.

(Focus Group with field technicians)

In spite of the difficulties, the PCI staff is very confident about the potential of these groups.

Voices of PCI staff

For me this is the most sustainable project that we have. First, because of the investment and the fact that it is so cost/effective: the cost is minimal, we don't give any money at all. [One of these groups has managed to accumulate Q.250,000. Today, for me it is a project that really empowers people...it is the most sustainable project and look at the empowerment that you can see in the women, the way they express themselves. We have worked a lot on social empowerment because the topics have been on health, education and we are even think it is a platform for any other intervention. The women are not expecting us to give them anything for transportation or lodging. This is a very sustainable initiative that really empowers [...] the women's empowerment initiative is our biggest strength.

(Interview with PCI staff)

To increase enthusiasm and confidence in the potential of the savings groups, the PCI technicians have proposed small productive projects that the women have undertaken. Some groups are producing oyster mushrooms, which they sell for Q25/lb, which has enabled them to increase their income. Others have begun to produce shampoo, soap, cream which are also for sale.

Two group interviews were held with members of these groups: one in Cuilco and the other in Santa Eulalia. These groups are in different stages of organization and demonstrate both the difficulties that they encounter and the potential of the groups.

In the school of Cuilco a group discussion was held with eight members of the local WE group. This group was only formed five months ago, which is an accomplishment in itself, given that in this municipality there is great mistrust around the idea of collective savings, because of the precipitous failure of a savings cooperative that operated for years in the municipality. They have carried out some income generation activities and for the last one, a fair, they earned a net income of around Q150, which increased their collective savings to nearly Q500. This small amount gives them great satisfaction, because although they had tried to save on their own, none of them were successful. The women have learned to produce shampoo, fabric softener and bleach. They have made some and although the prices are relatively low, (Q8 for shampoo and Q2 for a half liter of bleach) they haven't managed to sell any which is discouraging. Even though they like to meet and spend time learning new things, several of them find it difficult to get away from their homes. The group began with three women and now there are 11; attendance at the meetings is irregular and several feel like the group is "losing momentum".

Another interview was held with the WE group of the Parish School of Santa Eulalia. This group has been functioning for 18 months: it began with 10 members and at the time of the interview there were 12. The women meet every two weeks and make a deposit, whatever each one can. For the majority, these funds come from some productive project: weavings and embroidery or raising animals. Between the individual savings and their collective activities, they have accumulated Q6,400 in savings. To date they have given three loans: one was to support a member's spice business, one to support another member's restaurant, and the third was to cover the emergency of someone's sick child. The loans were repaid in full and without delay. Among the productive activities that the women have undertaken there is a small garden which supplied the school for a few months and they also do food sales. They have learned to prepare disinfectant for floors and would like to market it next year. They also plan to sell typical skirt material (*cortes*) at the town fair (February). Those interviewed say they have learned a lot as members of the group. Each time they meet they select a topic to discuss and one of them is in charge of investigating and presenting the information, with support from the PCI technician. They have discussed a variety of topics, from self-esteem to garbage collection and household meals. The women said they feel more secure and with greater authority to guide their children and that, thanks to the discussions and learning with the program's field technician, they have managed to improve the diet in their homes. Now they buy more nutritious foods and avoid junk food. What gives them most satisfaction is the renewed confidence they now have in themselves: they have managed to get to know each other and have helped each other not only in managing the group but also with day to day problems. The group has become a true support group, not just a savings and loan venue. Several of them told about how they used to be very shy and didn't dare express any opinions but now they 'have woken up' and can talk in front of a parent's assembly without any problem. They are optimistic about the future and feel that it will be possible to keep the group functioning even when PCI leaves.

The WE groups are not yet well-known in the communities, only 15% of the women interviewed in their homes (quantitative interview) knew about them. Of these, 34.7% (n = 26) said they belonged to a group.

The perceived benefits of belonging to a group are summarized in the table below. It should be noted that the sample is too small to be able to generalize these results. Of the total, 13 stated that one of the benefits is to be able to save, seven said they learn about health topics, four indicate that they can opt for a loan and four said they didn't know of any benefits.

Table 117: Benefits of belonging to a Women Empowered group

Benefits of belonging to the group	N (n = 26)	%
For the savings	13	50.0%
Because you can get a loan	4	15.4%
Because you can talk to other women about problems in the community	2	7.7%
Because you learn about health topics	7	26.9%
Because you learn about education topics	4	15.4%
Other	5	19.2%
None	4	15.4%

Source: Interview with parents of the community

According to those interviewed, the smallest group has three members and the largest, 50; on average the groups have 13 members. Twelve of those interviewed indicated that they meet every two weeks, 10, that they meet monthly and the rest (n = 4), said they meet every 20 days (n = 1), every two months (n = 1) and the other two said that there aren't fixed dates so they just go when they are called or depending on the urgency of the topic to be discussed.

The attendance of those interviewed was varied but the average was 3.5. When asked about their attendance for the last five meetings, 11 said they had gone to all the meetings, two went to four meetings, seven went to three meetings and six went to one meeting.

Of those interviewed, 17 stated that in the group they determined a minimum amount for savings. The amount varies but the average savings among those interviewed was Q420. The initial savings amount in the case of 12 of those interviewed, has increased. Six have received loans from the group, and 18 women stated that the group has a social fund.

GENDER NORMS

During the MTE some questions were included about gender norms and due to time restrictions only a few were possible. These questions were asked of 500 women of different ages.

Of the sample, 71.6% of the women indicated that household decisions are made in conjunction with their partner, 13.0% stated that they make decisions jointly with someone else (father, mother, sibling, etc.), 9.0% state that they make decisions on their own, 4.0%, that they don't participate in decision making, and 2.4%, that they give their opinion when decisions are being made.

When the women were asked whether at the time of the interview they felt that they participated less, the same, or more in community decision making than one year ago, 15.8% said they participate more, 61.6%, that they participate the same as before, and 22.6%, that they participate less. To a certain

degree this can be related to the fact that the number of women who are part of the CPF is lower than the previous year.

They were also asked whether, if they wanted to be part of the COCODE or the CPF, a group or an association, they could make that decision for themselves; 56.4% answered yes, 34.4%, no and 9.2% weren't sure if they could do it.

Finally, 68.6% of the women interviewed considered that they could propose community development projects, 21.4% said they could not and 10.0% were not sure if they could.

SUSTAINABILITY

The program was designed from the beginning to include various activities aimed at achieving sustainability for the School Feeding Program. Although progress has been made in its implementation, the challenges for achieving sustainability for the school breakfast continue to be formidable, in part because the contribution that the government provides is minimal. The program's actions aimed at supporting sustainability can be divided into two large areas: those at the municipal level and those carried out at the level of each educational community.

At the municipal level Municipal Sustainability Commissions (CMS), have been formed and continue operating. These include various members of the educational community, but also representatives from other institutions, especially officials from the municipality and from government agencies in the health and agriculture sectors that work in the municipality. The program is also active in the COMUSAN (Municipal Commission for Food and Nutritional Security). The CMS have a board of directors and are organized in different working groups. Although the initial idea was to meet monthly, in reality they only meet when it is considered necessary given that the members come from all over the municipality and for some it takes up to two hours to reach the municipal seat.

The function of the CMS is to support PCI programs, from the delivery of commodities, to management of the warehouses and gardens. One of their principal activities has also been the organization of the school fairs, an activity which consolidated these groups and enabled them to take ownership of the process. On the other hand, this year they have had fewer meetings organized by PCI and they miss them. Several commented that the interaction and open discussion with the members of other CMS enriched their own experience and strengthened them as a group. At the time of the interviews the CMS had an annual chronogram of activities, but they did not have a short or long term sustainability plan.

In the interviews held with the boards of directors, mainly teachers participated. The CMS vary from one municipality to the next in their level of commitment and activity, but all of them value the effort achieved for the provision of nutritional breakfasts and they don't want to see it disappear when the program ends. The majority experience a series of difficulties.

Voices of the CMS

The lack of support from the members of the sustainability group is the problem: when meetings are called they don't show up. There's also a lack of advising from PCI [...] and another difficulty is that the parents are not aware of the activities that we carry out, they don't support like they need to. The lack of resources is also an obstacle to being able to have an impact [...] [we need to have] greater organization and management, above all. Let's talk about resources: within PCI they can't provide everything, they provide the essentials. Then, as a commission, we have to seek resources from different entities [...] [I think that we need] a little more economic support, maybe in terms of the meetings [of the board of directors], funding, to have means for creating motivation. There is a lot of discouragement among the teachers. Those who aren't interested, those are the ones that need to be motivated. For the meetings, for decision making, and assemblies, a small snack might encourage people but we don't have those kinds of resources.

(Focus group with members of the CMS, San Pedro Soloma)

The CMS have established coordination with the health centers which have provided some trainings as well as with the MOA agriculture technicians, who have collaborated for the development of the gardens. Additionally some of the members of these commissions know, closely or at a distance, members of the Municipal Councils and are willing to bring social pressure to bear to increase municipal support for the schools.

At the local level the program has implemented several strategies:

- a) Strengthening of the CPF, who have efficiently taken charge of the transfer and storage of donated commodities, have organized the rotation of mothers for food preparation, as well as the collaborations that the families provide, cash and in kind, to improve the school breakfast. The activity has been functioning for years and functions well, including in the schools that have recently been incorporated into the program. It should be noted that one of the teachers is a member of the CPF, and without their dedicated participation the results would not be the same. This is a key activity for the sustainability of the school breakfasts.
- b) Several schools have established school gardens, some are very productive and have potential for sustainability, without any external help. Some have begun sales of vegetable seedlings and (according to PCI staff) the earnings are reinvested in the garden. The same PCI source indicated that having the vegetables from the gardens reduces the contribution needed from the families.
- c) Women's groups have been formed (Women Empowered) with an eye towards development of productive projects– some are already doing this and they have been very successful. Once the

groups are working, according to a PCI source, the idea is that the women can generate the resources needed to keep their children in the school.

Program sustainability was discussed with several stakeholders and although nearly all consider that the ideal situation would be to find some mechanism to ensure sustainability, almost all think it will be very difficult without support from the MOE or some other national governmental agency. The only ones who expressed optimism were the teachers in San Pedro Soloma. Their garden has been diversified and they have begun to sell seedling of various vegetables. They think that without PCI support, and only having the resources from the MOE, the family contributions and the garden produce, they could probably provide breakfasts, possibly less substantial and certainly not on a daily basis.

The members of the CMS, according to PCI sources, have promoted municipal school feeding policies and trust that the municipal governments would provide some contribution, and they count on the produce from the gardens, but they think that the “breakfasts will not be the same”, even if the parents continue providing their contributions. They think that all these local resources might be enough to continue the school breakfast the way the current program is managed. The CTA and teachers felt less optimistic and indicated a need to continue sensitizing the families so that they keep providing their contributions and that with the garden produce and the minimal MOE support they could improve the snacks. They do not see any possibility of someone else donating large volumes of basic grains and oil like PCI/USDA currently provides even if they were to have greater support from the municipal governments.

Some teachers in Barillas said:

Voices of the teachers

It has been said that the communities should learn to support themselves, but this is very difficult due to the economic crisis that exists in the rural communities. If it affects us who are more or less able to get by, what can the poor do? The other issue is space. Not all communities have space for the school gardens; the number that have it are limited. And this would be a solution, but the space just isn't there. A key thing would be for PCI not to leave.

The people in the communities barely earn Q35 a day, sometimes only Q30. This means that providing something else for the children in the school to have breakfast every day would be very difficult. Can you imagine? Q30 or Q35 to support a whole family is very difficult. Additionally, in our context, our people are spoiled in everything. If you do a project they want everything, if you don't give them everything they don't want anything and they don't want to contribute anything. Another thing is that the authorities unfortunately are not people who want to facilitate the development of the community. They don't have a vision for development, only personal interests.

(Teacher, Santa Cruz Barillas).

The Mothers did not think that sustainability would be possible. When they were presented with the idea that the program would end, the usual response was that, “the children are going to be very sad, they are used to receiving the food”. Some said that they would have to hope that the government

would send something and others thought that each family would have to provide some snack for their own children. Although some members of the CPF said that they should continue fighting to maintain the school breakfast, when asked how they would do it, the majority sighed and added with a sense of defeat that the breakfast would end as well as their participation in the CPF given that the biggest incentive for participation is the quality of the breakfast that is provided.

With the well-known resignation of the rural poor, some mentioned the temporary nature of the good things in life. Some even compared it to the rain: sometimes it rains and sometimes it doesn't, with the implication that the current food bonanza that their children receive is out of their control.