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Dairy Value Chain Project
Farmer to Farmer: Nicaragua
Sept. 05, 2010 – Sept. 19, 2010

Executive Summary

The purpose of this assignment was to support a campaign focused on increasing the consumption of milk and dairy products in young children in Nicaragua. The target audience of the campaign is young children ages 3 through age 8). Group size varied from a group totaling 15 children (smallest), to a group totaling around 400 students (largest). Ages of students receiving direct education on dairy consumption ranged from 5 -15 years old across all schools taught.

For the most part, children were well informed on the nutritional benefits of milk and dairy products for human beings. They were knowledgeable on the nutrient content found in dairy products, what these nutrients contribute to the body and why that is important for young children. Children in the larger city of Managua seemed to use more detailed language related to the benefits of dairy consumption for human beings (specifically young children), however in all schools visited, the overwhelming majority of students responding to lessons and presentations seemed to be well and correctly informed on the benefits of including dairy products into their diets.

Introduction

According to the United States Department of State, significant growth has taken place in the area of livestock and dairy production in Nicaragua over the past ten years, and as stated in the information provided by Partners of the Americas, Nicaragua is home to the largest number of livestock, and produces and exports the largest quantity of dairy in Central America. However, national consumption of dairy does not reflect these statistics, as Nicaragua continues to consume the lowest amount of dairy in the region. These figures are particularly troubling in light of the significant increase in the consumption of sweetened beverages such as fruit drinks, juices and sodas.

The *Sí a La Leche* campaign, implemented throughout Central America, was hosted in Nicaragua through a collaborative effort between Canislac and CONAGAN. Arrangements for presentations were made by the Canislac Coordinator, Heylyng Espinoza, prior to the volunteer's arrival, with 8 schools located mainly in the departments of Managua and Matagalpa. My role as Farmer to Farmer volunteer for this assignment was to serve as the "official nutritionist" of the *Sí a La Leche* campaign in Nicaragua, communicating messages to children in participating schools about the importance of dairy consumption. Direct education took the form of interactive presentations, as well as the distribution of printed materials, in order to reinforce teaching concepts with caregivers and families of children participating in the campaign. The main messages communicated related to the nutritional benefits of consuming milk and other dairy products, as well as recommended amounts, with the anticipated outcomes of increasing knowledge of the variety of dairy available for consumption as well as levels of consumption.

In addition to direct teaching contacts, news and radio interviews took place during the two week period. Throughout the second week of the assignment, wherever possible and when necessary, the volunteer was expected to support the work of two other volunteers who were working on a related assignment in the area of marketing and promotion for Farmer to Farmer.

Week I

September 6, 2010

**Monday morning - Villa el Progreso, Managua
(Learners Reached: Direct Education = 400 Children)**

Two large presentations (auditorium)

First – 200 students ages 5 – 11

Second – 200 students ages 8 – 14

Both presentations took place in a large room in the school that was used mainly for larger events. The room was set up with 20 rows of 5 chairs on both sides of the room – so the group would total about 200 for each presentation. This group of students ranged in age from 5 through age 14. Our field officer had not been informed as to how many children to expect, and was not certain how many groups I would be presenting to until we arrived at the school. The coordinator of CANISLAC had made all arrangements prior to our arrival, and I'm unsure of how much detail was provided to Farmer to Farmer staff about what to expect (in terms of teaching context and anticipated numbers of students) with each school.

While the large room provided for the presentation worked well to accommodate the 200 students, it was not conducive to engaging students in educational games that required freedom of movement around the room or minimizing noise level. Since this group was a mixed age group, I decided to include a small, group work activity which would break up the presentation of factual information, and allow more hands-on work from the children. After introductions and an interactive period where I was able to gather what the group knew about the nutrient content of dairy and the current recommendations for children and young people, I asked the three teachers in the room with me to help me organize the room into small groups of five students each in order to do a group activity. The purpose was to encourage children to be active in their own learning by brainstorming as a group, various ways they can include dairy into their diets. Although younger children (below 9-10) are not as productive in small discussion groups (they tend to be more productive working groups that are more project-based and less conversation-based), I thought that there were enough older children in the room who would be able to provide that guidance within the mixed age groups to accomplish the task.

Main challenges:

The children were full of energy and excited for this presentation – so the room was consistently at a high volume. My methods of quieting a room of children were different to what the children were accustomed to with their teachers (I would raise my hand for silence and have them follow, and their teachers would begin to sing a song about being quiet which would counter my efforts to quiet the room. Neither is a better way of achieving the objective, however, without having an agreement on which method to use beforehand, neither seemed to accomplish silence when needed because children were not provided with a common understanding of expectations and consistency of messages at the start.

My expectation for the objective of the group work (having children work together to develop a list of as many dairy products as they were able to in the given time) was different to the actual outcome. I envisioned that groups would include in their list, the most nutrient dense dairy products such as milk, cheese, cream and yogurt (which were also the main foci of the sponsors), and various ways they could be prepared or consumed. The responses provided by the children included different varieties of cheese and anything that could be made with milk, but most of which would not include a significant enough amount to count towards the current recommendations.

While the younger of the children in both groups (those below age 12) were eager to participate and contribute to the discussion, the older children were (as expected) more hesitant to offer information and share in the larger group. Knowing that this would be expected when working with the oldest of

the group, I had anticipated using small group work as a way of engaging these older children during the presentation.

Monday afternoon

Escuela Comunitaria Fé y Esperanza, Managua

(Learners Reached: Direct Education = Approx 60 Children)

The second presentation scheduled on this day was at a small school in a community in Managua. The ages of this group ranged from 4 to 6 years old, and roughly 60 children participated in the presentation. The space for teaching was small, and there was no indoor or safe outdoor space available to do an activity with the children (because the school was located right on a narrow dirt road).

I started the presentation by introducing myself and asking the children questions about milk and dairy. As a reminder of the campaign, I had brought with me 6 souvenirs from Wisconsin which made the sound of a cow when turned upside down. Throughout the week, I used these souvenirs in the early part of the presentation to engage the young learners and set the context for teaching, and then presented them to the Directors of the school as a “thank you” for participating and a reminder of the partnership between Nicaragua and Wisconsin.

As was the case in the presentations in the morning, the children in this school were also able to identify the main nutrients found in milk and dairy which are beneficial for human consumption. The children were able to state that the nutrients provided by milk and dairy are important for strengthening bones and teeth, and many were also able to correctly identify the current recommendations for children between the ages of 2 and 8 years old. At the end of the talk, campaign brochures and curly straws were distributed to the children as reinforcements of the concepts taught that afternoon.

Main Challenge: Insufficient (safe) space to conduct educational games with children.

This presentation was followed by distribution of milk samples to the children by the Centrolac dairy company.

September 7, 2010

Tuesday All Day

UCC – Students from several surrounding elementary and high schools in Managua

(Learners Reached: Direct Education = 500 Children and Adults)

Today three teaching events were scheduled for groups of students who were coming in to the UCC from grade schools in surrounding communities in the city of Managua. Since I was able to see the location the previous afternoon, I had an idea of what the space looked like, and could do some preparation for the event (in terms of deciding the most effective way to structure the presentation). Since it was anticipated to be a large audience, of mixed ages (children through adult), and taking place in an auditorium, I modified a powerpoint presentation that I had created for use with a previous flex project assignment with Farmer to Farmer. Also included were question/answer portions throughout to make the information as interesting and as engaging as possible.

My presentation on the benefits of consuming milk and dairy products was part of a larger presentation (assembly) for the students. Included in the presentation were some traditional elements such as the national anthem of Nicaragua, traditional folkloric dances, and raffles of prizes provided from 5 of the major dairy product companies in Nicaragua. Among those presenting were Wilmer Fernandez, the President of Canislac (Dairy Sector), representatives of the sponsoring companies (Yogur YES, Pharmalat, Eskimo, Nestle NIDO y CentroLac), and myself. I was invited to speak

about the nutritional benefit of consuming milk and other dairy products, as well as the recommendations for the quantities that children and adults should be consuming as a part of a healthy diet. Although I was scheduled to present to three groups, I ended up only presenting to two groups of students that day. I

The first presentation consisted of about 350 students in total, and approximately 25 adults. Both young men and women were present in equal representation. The presentation took just about 10 minutes, consisted of seven powerpoint slides outlining the important basic information on why dairy is important and what the recommendations are, and utilized some question and answer for (albeit limited) learner participation. The ages of this group ranged from about 7 years through about 15 years, and were not very responsive when asked about current milk consumption habits, but were more willing to respond (by raising hands) to the types of milk products they prefer (whether milk, cheese, yogurt or ice cream).

The second presentation took place in the same auditorium, and the group consisted of about 125 individuals. About 110 of those were children between the ages of 5 years and 16 years – although the majority of this group was younger children (below the age of 8). Since the second group was mainly younger children who were more excited to engage actively by answering questions and sharing what they knew related to dairy consumption, I asked a few more questions and ventured into the group to have some of the children answer questions straight into the microphone which they enjoyed.

I was very surprised at the amount of detail that the children knew about the nutrients found in milk and dairy products. When asked about why milk and milk products are important to consume, they answered by saying that dairy contains vitamins, calcium, and protein which are important for the strengthening of bones and teeth. The group shared mixed responses regarding what they believed to be the recommended amounts for daily consumption, but when guessing the amounts for both children (ages 2-8) and older children and adults (age 9+), their guesses were not far from the actual recommendations.

During the same presentation, several local radio channels were present doing interviews of the directors and representatives of the dairy cooperatives and companies who had agreed to be a part of the campaign. I was interviewed by two of these channels who asked me to share why I was in Nicaragua, how I was connected with the *Si a la Leche* campaign, and the nature of the messages the campaign was hoping to communicate to the children in Nicaragua.

September 8, 2010

Wednesday Morning

School: John F. Cordisco Preschool, Managua

(Learners reached: Direct Education = 250 children)

A presentation was scheduled for a preschool in the Managua area called John F. Cordisco. In addition to the nutrition presentation, special guests (including the President of CONAGAN, René Blandón) made themselves available for the morning session. A cow and her calf were brought to the school as an additional visual for the children, and *Pharmalat* was the company scheduled to distribute different types of flavored milk as a reinforcement of the campaign messages to increase milk consumption.

This group consisted of about sixty-five 3-4 year olds. I started the presentation with the cow prop I brought with me from Madison, which they enjoyed, and which set the stage for the content and encouraged engagement early in the lesson. They were very eager to share what they knew about milk, where it comes from and why it is important for children to consume dairy. Although very young, they were able to state that milk contains vitamins and calcium, and that it contributes to the strengthening of bones in the body when children are growing. Some children were able to state the recommended amounts for 2-8 year olds, however I'm unsure of whether they were guessing or

whether it was information they were recalling from other sources (teachers, parents, television, etc.). All of the children attending the presentation were then invited outside to see a cow feeding her calf, and were each offered a campaign brochure as well as a pouch of a flavored (strawberry or chocolate) milk to reinforce the campaign concepts.

Post presentation: Television interview with Directivos del Gremio de Conagan.

September 8, 2010

Wednesday Afternoon

José De La Cruz Mena Elementary School, Managua

(Learners Reached: Direct Education = 250 Children)

The afternoon consisted of presentations to three different classes of approximately sixty children each (combined grade levels). The presentations took place in typical school rooms, so once all 60 children were seated, it was extremely hot and there was very little room for any activity. Although the rooms were quite full, I was still able to interact with the children through question/answer, as I had in previous presentations. Again, children were able to state the correct information as to the nutrients found in milk and dairy and the benefits provided to growing children. They were able to state that consuming dairy is important for growth and the strengthening of bones and teeth. Most were also able to correctly state the recommended amounts for both young children (ages 2-8) as well as the recommended amounts for children older than age 9 and adults.

Yogurt YES, one of the companies sponsoring the campaign, was available to present a container of yogurt to the children to reinforce the concepts of the campaign.

September 9, 2010

Thursday

Escuela Ruben Dario and Escuela Solingalpa, Matagalpa

(Learners Reached: Direct Education = Two schools totaling approximately 900 Children)

Thursday was spent in Matagalpa, a department located about two hours north of Managua. I was scheduled to present to two schools, but was uncertain as to the structure of both events (whether I would be presenting to smaller classrooms, or making presentation to a larger group). There was quite a bit going on at the first of the two schools, as Nicaragua's Independence Day was the following Tuesday, and school groups were planning and practicing for performances and parades to celebrate the holiday.

For the first presentation, I visited five consecutive classrooms to talk with the students about dairy consumption. The ages were mixed (8-14), and approximately 100 students were present for each discussion. The classrooms were crowded, so there wasn't opportunity to do activities with the children related to the topic. I structured the time with each classroom in the same manner I had previously, starting with an introduction, question/answer to gather information about current knowledge, and then discussing the recommendations.

The second presentation was a group of roughly 400 students, and was conducted in the courtyard space located between classrooms. The students stood for the presentation, so I wanted to keep it brief, but still as informative and engaging as possible. The microphone provided to me stopped working close to the beginning of the presentation, so I finished the presentation without it.

An audio interview related to dairy consumption was also provided to a local radio station in between presentations in Matagalpa.

Nestle NIDO dairy company presented samples of flavored milk for both presentations.

Main challenges:

The structure of the second presentation was particularly difficult for several reasons. The time of the day made it challenging for focus and attention, the size of the group and the lack of a microphone made it difficult for the students to hear the questions I was asking as well as the information provided.

September 10, 2010

Friday morning

Prescolar Caritas Alegres

(Learners Reached: Direct Education = 26 Children)

The school we visited in the morning, Caritas Alegres (Happy Faces), is a private school for children ages 3-4 years. There were 26 children present, and the news channels with which I had been scheduled to meet in the morning – were there waiting for interviews when we arrived.

Prior to starting the presentation, I gave two interviews – one with Channel 12 News Managua, and the other with a channel from Camoapa (North of Managua) with whom I would be interviewing during the second week of the assignment. The interview questions consisted of the same questions previous journalists had asked, such as: The purpose of the assignment in Nicaragua, which organization I was volunteering with, what the campaign is trying to promote and why, and what the recommendations are for children and adults related to dairy consumption.

For the presentation to the children, I spoke with them about who I am and where I am from, and then continued with the same presentation I had been giving to most of the classes (with minor changes here and there to fit the ages/developmental stages of the different groups). I had one more of the cow gifts that I had purchased on the way to Nicaragua, so I included that at the start of the presentation to set the stage for content and begin to engage the children. The children were very excited and engaged, and were ready to tell me what they knew about dairy and milk. I asked almost all of the same questions that I had asked previous groups – regardless of age – and they contributed with mostly correct answers. They were able to state correct answers as to the nutrient content in milk (specifically calcium and vitamins), and the basic functions that those nutrients provide the human body. We also covered the current recommended amounts that children, youth and adults should be consuming from the milk group.

A dairy company representative was present to provide flavored milk samples to the children.

Friday afternoon

Colegio Pablo Antonio Cuadra

(Learners Reached: Direct Education = 200 Children)

Friday afternoon was the visit to the final school in the Managua area. I was scheduled to speak to two different classrooms (a mixed age group between 6 and 13 years old), and another larger group of the remainder of the students in the school (between the ages of 7 and 14 years). All three groups totaled approximately 250 students. The presentation was the same as it had been throughout the week – keeping it focused on basic information and questions so that all (including those below age 9) could have the opportunity to respond and contribute to group learning. I was again surprised at just how much information the already knew – regardless of age – and what they stated about the importance of drinking milk. As was the case with each of the previous groups, the younger students were the most vocal when it came to answering questions that I posed about dairy and the recommendations for daily consumption.

In the first two classrooms visited, because each classroom had approximately 25 students each, without too much variation in age, I was able to do a group activity with them once the initial introductions and sharing of information had taken place. Children were able to work in small groups of 5 each, and worked individually to come up with answers to three questions I posed. They then shared their answers to the questions with their small group, and voted on the best answer to then share with the larger group. They really enjoyed working in the small groups, and had fun sharing answers as a large group and celebrating correct answers shared by other groups. I would have preferred to implement this structure in most, if not all of the presentations, thereby following a structure that would allow children to apply the information learned during teaching. Due to size and restrictions on space or time, it was not possible most of the time to do more group work or activities with the children participating in the presentations.

The final group in this school was gathered in the courtyard space that most of the larger schools have located in between classrooms (similar to a courtyard for recess). It was a group of approximately 150 students, ranging in age from 6 years to 15 years, and they stood in lines (according to age) while receiving the presentation. With this structure, it made more sense to keep this one brief, with some question/answers to encourage some learner engagement.

Once the presentations were over, the groups lined up to receive small cups of flavored milk from the dairy company, *Centrolac*.

September 11, 2010

Saturday

PIO XII Community School

(Learners Reached: Direct Education = 15 Children, 10 Adults)

I had one teaching event scheduled for Saturday, in the community of PIO XII – a community which I had visited back in February to learn more about their youth-led gardening initiative. On this visit, I had a discussion with a small group of children from the community about the importance of milk consumption. The group consisted of about 15 children, between the ages of 2 and 13. We were welcomed by the Dean of Students from the community school, and then one of the same young men who had presented the school garden to us on a previous FtF assignment, shared with us the progress of the garden since then. They had put together a basket of vegetables which had grown in their garden from the seeds that we brought with us to distribute. They had a few large basil plants, and several of the vegetables such as carrots, squash, and peppers seemed to have done very well. They said that nothing is growing currently because of the heavy rains, but they were able to harvest quite a bit and consume what they harvested.

After a tour of the garden, where the other volunteers video recorded the planting of some of the small plants in a new square foot garden that they had recently constructed (some of which will be used for one of the promotional videos they are putting together as part of their assignment), I had the discussion with about 15 children about the importance of drinking milk and consuming dairy products. One of the differences I noticed between this group of students, who live in a community in the outskirts of the city, and the students I had presented to in the capital city, was the amount of information that they seemed to know (or what they shared) about dairy and its importance for the body. The children in this group were able to state that milk comes from a cow, that it contains vitamins, and that it is important for the strengthening of bones. However, they appeared less certain of other details such as other important nutrients that milk contains (such as calcium), and the functions that Vitamin D and calcium serve with respect to the strengthening of teeth. Although they seemed less certain about the amount of milk that different ages should be drinking, they made guesses between two and three glasses for children between 2 and 8 years, and between two and five glasses for children ages 9+, and adults. After the discussion there was a donation of milk, and I

passed out the campaign literature to each of the children, as well as a couple of teenagers and adults who had been listening to the discussion.

II. Week Two

Nicaragua's Independence Day fell during the second week of my assignment, and as a result, the CANISLAC coordinator was unable to schedule presentations in schools during the second week. As noted in the schedule I received prior to arrival, my responsibilities for the second week were to assist the other two volunteers with their assignment related to marketing, and to complete the final television and radio interviews that were scheduled prior to my arrival.

All radio and television interviews conducted during my assignment were as described in the body of this report, with the exception of two interviews. There was one live, primetime broadcast with Vos TV in Managua, which I did in conjunction with the campaign's Coordinator at the end of the first week, and on Wednesday of the second week, I gave an interview for a special segment for a news channel in Camoapa. As a special segment, the interview in Camoapa was recorded on one of the farms we had visited earlier in the week, and lasted a little over 30 minutes. The journalist interviewed me and the owner of the farm, who is also a medical doctor with a specialization in diabetes research and treatment. During this interview, questions were not limited to the nutritional content of dairy, and the current recommendations for consumption. Questions were asked on the following topics: food security at the national level as well as the responsibility for individuals and families in achieving and maintaining food security; fruit, vegetable and dairy consumption, which fruits and vegetables available in Nicaragua contain the most significant nutrients with respect to a typical Nicaraguan diet; the importance of dairy consumption and the recommended amounts for children and adults.

Recommendations for CONAGAN

1. Recommendation #1: Continued reinforcement of concepts learned through current campaign.

Reinforcement of concepts through repeated exposure is beneficial for learning new information and reinforcing existing knowledge. It is recommended that the messages of this campaign are repeated with this segment of the target audience (young children), and in the same locations (Managua, Matagalpa, Camoapa y PIO XII) through direct education with schools which have already participated in the campaign. Further reinforcement of concepts could also occur in the form of additional brochures or pamphlets distributed to children who have participated, in conjunction with discussion/educational opportunities within school – during the school day – on a regular basis. The most important element of the campaign for this age group (ages 2-8 years), was the ability to sample milk and dairy products made available to them to increase their familiarity with dairy and comfort with trying new foods from this food group.

2. Recommendation #2: Create promotional campaign to target older children and youth.

Documentation provided to the volunteer prior to arrival stated that soda consumption has increased significantly in Nicaragua, while consumption of milk and dairy has decreased markedly during the same period of time. While very young children have less control over what they eat (what is offered to them), older children have much more control over their own food purchases, and peers have a significant impact on choices made in the area of food and beverage consumption. Focus on direct education with older children and teenagers (who also often are in caregiving roles with younger children in Nicaragua), will allow for the dissemination of campaign messages about the importance of milk and dairy consumption, and in a manner consistent with developmental stages and other relevant factors of this age group.

3. *Recommendation #3: Direct Education is needed with all families, and specifically with those families whose children have also participated in the campaign.*

Parents, older family members, and caregivers all have the responsibility for providing food and beverages for young children. As noted in recommendation #1, exposure to new or unfamiliar foods is important for young children, as they can decide whether they will eat the food offered to them. However, in terms of making food and beverages choices for the home, adults are making these choices for their children. It is imperative that while education is occurring with the youngest of children, it should also be taking place with adults who provide them food and beverages. Adults have the capacity to really understand (not just memorize) the benefits that milk and dairy consumption can have on the total health of the body. It is important that the individuals who have the purchasing power in the family, understand both the economic and the nutritional value and health benefits related to consuming milk and dairy products.

Summary and Recommendations for Farmer to Farmer

Efforts to continue nutrition education should be an increasing focus for the Farmer to Farmer Program. Focus should remain on providing nutrition education related to the dairy sector, while any efforts to expand the Kitchen Gardens Project, and nutrition education to support this project, should also be granted increasing time and effort. Additional human resources (Office Associate, Field Officers, etc) to support the Farmer to Farmer program should definitely be considered, specifically if the gardening project gains momentum and increasing volunteer support.

Nutrition education not only discusses the health benefits of consuming foods and beverages, it can and should also focus on food choices and the relationship to individual and family food security. Volunteers should continue to work with individuals and communities in Matagalpa, Managua, Camoapa and PIO XII, to increase understanding of how kitchen gardens can contribute to food security by adding to family income, saving money on food purchases, and with increased consumption could lower expenses related to acute and chronic illnesses and diseases.

During my time working on this assignment, it became quite clear that in addition to education with young children on the importance of dairy consumption, education must be conducted with those who have the responsibility of making food available for young children. Assigning future volunteers to participate in education with parents and caregivers is critical, so that they can begin to understand the importance and consequences of food choices (where choice is available), including the importance of purchasing or providing dairy as options for their children and families in lieu of less nutrient dense alternatives.

Where possible, the volunteer should be connected directly to hosts, to work with them prior to arrival on any and all printed literature to support teaching. This will ensure that content is current, accurate, and relevant to the specific demographics of the audience and objectives for teaching.

This assignment was a great learning experience for me in a variety of ways. It was a pleasure to have the opportunity to share information and laughs with the children I worked with during the first week. As always, it was a pleasure to work side by side with Farmer to Farmer staff in Nicaragua and to meet and work with the Canislac Coordinator and staff. Daniel, field officer for Farmer to Farmer in Nicaragua, is an incredible asset to the program. His knowledge of the sector, understanding of communities, and his wonderful way with everyone he meets and works with, adds tremendously to the Farmer to Farmer Program. My sincere thanks to Ronald, Yajaira and Daniel for making me feel at home.