

**Partners of the Americas – Nicaragua
Farmer to Farmer**

Strengthening of the Agricultural Programs for the Fabretto Children’s Foundation

**Thomas Cadwallader
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GENERAL ASSIGNMENT BACKGROUND:

Fabretto is a non-governmental organization (NGO) whose mission is *“to enable impoverished Nicaraguan children and their families in underserved communities to break the cycle of poverty and reach their full potential through programs promoting education, nutrition, health, and community development”* (<http://www.fabretto.org>). Since Catholic Salesian missionary Father Rafael Maria Fabretto first began working with Nicaraguan orphans in 1948, the organization has evolved to a school program run in concert with the public school system, supplementing the children’s educational and nutritional needs by offering tutoring and meal programs to approximately 10,000 students from 50 underserved rural and urban communities in Managua and North Central Nicaragua. More recently Fabretto has continued its evolution by developing a robust secondary education tutoring program that has also incorporated an experiential learning program developed in Columbia called SAT, Sistema de Aprendizaje Tutorial (Tutorial Learning System) . Fabretto is committed not only to education but also to offering its students the hope and opportunity to improve their economic wellbeing.

As their programs have grown Fabretto has explored different strategies to make the meal programs more efficient in terms of cost per meal while also improving their nutritional and caloric content. One of the strategies has been producing their own food on a combination of large farm plots and small school gardens, which has allowed including food production in the primary and secondary school curriculum. Fabretto estimates that they get about 15% of their food needs from their own farms and gardens.

In the Term of Reference (TOR) that Fabretto developed for this assignment, their goal for the project was to make their school meal program economically sound, operationally viable and nutritionally adequate in order to meet the ever increasing enrollment in their programs.

EXECUTIVE SUMMARY:

The goals in the project TOR were focused on the school lunch program but it became obvious that the long term success of Fabretto’s food program should include the educational and community development elements of their mission. With that in mind the work that was conducted during this project was framed around the question: How can Fabretto fulfill its mission *“to enable impoverished Nicaraguan children and their families in underserved communities to break the cycle of poverty and reach their full potential through programs promoting education, nutrition, health, and community development”* while at the same time *making their school meal program economically sound, operationally viable and nutritionally adequate in order to meet the ever increasing enrollment in their programs?* Several school and farm/garden sites were visited and there was a scan of the various programs offered, from primary school on into secondary and the experiential learning efforts. The three major recommendations use community involvement processes that help to both improve their food programs and also strengthen Fabretto’s human and community development work.

ACTIVITIES:

Fabretto is a very complex organization that has approximately 220 staff, with over half being educators. It's programs are stretched from Managua to communities in the north central part of the country along the Pan American Highway to Somoto and then on further north along mountain roads to near the Honduran border. It deals with both urban and rural centers, each posing unique challenges in meeting both educational and food needs. This project was done in two phases; the first week was spent touring the various facilities and meeting the staff. The second week was spent in Managua debriefing and exploring ways of both meeting the food needs of the organization and further developing its educational and community development programs related to agriculture.

Site Visits

Each site discussed below contains a brief description of a unique feature followed by pictures. The buildings pictured are not all owned by Fabretto; some are government owned. They have six of their own centers and work with over 50 schools. They have developed a variety of management and leasing arrangements depending on what has worked best in the different communities.

- **Fabretto Offices in Managua**

The Fabretto main offices are located in the City of Managua and they serve as both the administrative center and also as a warehouse for food commodities that are either purchased or donated from a variety of organizations. They also accept donations of used classroom furniture, teaching materials and school supplies that are then distributed to the various learning centers. The staff in the offices handle everything from logistics to curriculum development to program development and administration.



- **San Isidro de Bolas – School, Farm and SAT program**

The San Isidro de Bolas site is on the southern edge of Managua. While it is close to the city it is considered a rural school. It has classrooms, a small garden spot adjacent to the school buildings and a farm just down the road. The farm produces a variety of crops and has even experimented with livestock projects. Water is a bit of an issue at the farm at the moment but there are plans to remedy the situation. It was at this site that I was first introduced to the secondary school programs and the SAT curriculum.



- **La Chureca and the Acahulinca Community – The City Dump community and youth enterprise development.**

Many years ago Managua’s huge open air dump became home to hundreds of families who earned their living scavenging through the trash that was brought to the dump each day. I visited two schools that were developed to help the youth in the area have a safe place to learn and hopefully provide them with the tools they need to move beyond the poverty they were born into. One of the two school centers serving what has become known as the Acahulinca community includes the primary and secondary programs and a project for older youth that takes recycled materials and turns it into jewelry, providing income for the students and the school as well as providing business experience. At the moment the Spanish government is funding a huge project to cap the dump, and in the meantime many families have moved into the school buildings until new home sites are developed. The other school is called the Wisconsin School because of the help received in establishing it from a Wisconsin-Nicaragua partnership program.





- **San Isidro, Matagalpa – The Rice Farm next to INTA (Nicaragua Institute of Agricultural Technology)**

A few years ago Fabretto made the investment in a piece of land near the community of San Isidro, a couple of hours north of Managua. The area is a fairly good farming region and because of its natural water resources rice is one of its main commodities. One of the problems with the area is too much water at times during the rainy season; flooding can be a problem. While it may be good for rice production the site has been a struggle for producing other crops due to flooding issues. Another disadvantage to the site is it is a long distance from the various schools; however, it is in between the schools stretching north, thus along supply routes, and it is located right across the road from an agricultural research facility, INTA. INTA has helped them out with equipment and also provides a good source of information for farm production questions. The Rice Farm is an asset on the balance sheet but up to this point has not been much of a contributor to improving the bottom line of the operation.





- **Esteli – School and garden center**

The Esteli area is known for tobacco growing and cigar production. Many of the families either work in the tobacco fields or make cigars. It is about half way between the northern schools and Managua. There is a small garden project but there is limited capacity to expand food production at the site.



- **Somoto – School, current school garden and potential school and community garden**

Somoto is the last Fabretto school project heading north before getting off of the Pan American Highway. It is a fairly well established program with a garden project blended in the landscape around the school buildings. Fabretto does have about 3 acres near the school that is open, lies fairly level and offers an opportunity to grow food for the schools, expand the SAT program and perhaps develop a community garden effort to include local families. Water is currently an issue for expanding the garden project at the site but they are reasonably sure that water is available and are planning on drilling a well that can serve the new garden site and the school.



- **Cusmapa – School garden and SAT program cooperator farms**

Cusmapa is a well developed Fabretto program in the mountains of north central Nicaragua. It serves a large area with small family communities spread throughout the mountainous region. It covers the complete range of school programs from primary through the SAT program. Being the most isolated region to deal with, improving the supply of local foods to the school would be a real asset. Fabretto has also done some work in developing a coffee cooperative that may provide a foundation for developing other cooperative efforts through the SAT program; perhaps marketing fruits and vegetables. They also have a pine forest plot in the area and a woodworking shop at the school where they make items that have been marketed domestically and in the US through cooperating NGO's.



- **Quebrada Honda – School garden and SAT program cooperator farm**

Quebrada Honda is a short distance from Cusmapa and is a good example of how the public schools and Fabretto have worked together. Since many of the area schools cannot afford their own materials, Fabretto has developed a mobile science class that can go from school to school. In the class I had observed the teacher was covering soil chemistry and how it related to plant production.





- **La Cruz, Esteli – New school and garden development**

La Cruz is a new community on the northern edge of Esteli. It is another city dump community that has sprung up and is slowly growing. Fabretto has invested in setting up a community well and temporary school building while it is in the process of building a new school. They are starting with a very rugged but good size piece of ground, approximately 1 manzana (1.7 acres) where they leveled off a small site for the new school. There is a considerable amount of landscaping that needs to be done for developing a garden spot. A new drilled well to serve the community, school and garden was scheduled.



- **SAT Farm Cooperators**

Throughout the trip we visited with farmers who were providing space for SAT students to set up garden spots. All of the farmers we visited were fairly progressive, which is not uncommon for people who choose to cooperate as on-farm research or educational sites. It was very impressive to see how they were able to adapt technologies, including a variety of irrigation systems and solar panels, to fit their local resources.





- **Brainstorming Sessions with Staff**

The pictures below show examples of idea exploration sessions we engaged in during the project. The classroom session was at Cusmapa and dealt with the challenges of having an agricultural program that is serving two functions; one being to supply food for the school's meal program and the other being as an educational program to show the practical applications of knowledge and hopefully give students a chance to see farming as a career opportunity. We had similar "white board" discussions with the staff in Managua as well as in-depth discussions out in the fields.



GENERAL OBSERVATIONS:

By the end of the first day it was fairly obvious that this was not going to be a simple process of finding the most efficient and cost effective way of feeding school children. Fabretto has embraced a holistic approach to their entire program, tying together feeding the minds and bodies of school children with

creating a community environment that allows them to grow and prosper once they graduate. Their programs have taken years to develop but it is obvious that their mission statement is not something they hope to achieve but something they do every day. It is in their organization's DNA.

With that in mind, I will attempt to breakdown the opportunities and challenges in – 1) Improving the food quality, nutritional value and cost effectiveness of the meal programs in the schools; 2) Integrating improved agricultural production and business management practices into the curriculum of secondary school students and maintaining gardening programs for the primary school students; and 3) Creating an environment in the agricultural community that will improve the likelihood of the success of its graduates.

1. Improving the food quality, nutritional value and cost effectiveness of the meal programs in the schools.
 - Because Fabretto is a NGO that works with children that are in poverty and are considered deficient in caloric and protein intake, that have been the recipient of quite a bit of in-kind food support in several commodities; such as rice, black beans, corn and sugar. While this has helped cut down on food costs it does virtually nothing to bolster the local economy, especially considering Nicaraguan farmers already produce rice, beans and corn and there is no shortage of sugar in the Caribbean Basin.
 - When I met with farmers one of their challenges has been access to markets, so bringing in commodities from outside the community that decrease market demand is counterproductive when one of the goals of the organization is to create economic opportunity. While food commodities can help meet the nutritional needs of students, a contribution of an equal dollar amount could have an economic impact multiplier in the community of somewhere between 2 to 4 times that amount, depending the community and the amount of local processing for a particular commodity.
 - Whether I was on the outskirts of Managua or in the mountain village of Cusmapa, I saw the potential to increase the production of high quality food. More times than not the factor limiting farmers abilities to increase production was not their willingness to work in their fields and produce a crop it was a combination of access to soil test information for determining crop nutrient needs, a limited array of readily available natural and synthetic crop protection materials and the knowledge on how to use and safely apply them, water and transporting their product to market.
 - I did not get a sense that access to knowledge was an insurmountable problem. Each one of the school centers I visited had wi-fi and no shortage of computers that were either purchased by Fabretto to support their operation or donated for classroom work. I found the staff at INTA to be very accommodating and even though they have a research mission they are open to sharing their knowledge and expertise. Fabretto has also cultivated a tremendous volunteer program that attracts college students and young professionals from around the world, but largely from Spain and the US, who are more than willing to share their knowledge and energy.
 - The teachers at Fabretto are passionate about working with children; something that was very obvious as I visited the various centers. They have educators that work with the school gardens so they view things from an educator's perspective, not a farmer's, which means the focus is on learning not necessarily profitability.
 - There is clearly increased food production potential in terms of quantity in the communities they work in, either from the students and cooperating farmer in the SAT program or the general farm population.

- The last link in the food chain are the kitchens at the various centers. Fabretto has a very well run operation. Whenever we stopped into a center, whether they were expecting us or not, everything was always clean and well organized. Warehouses where bulk commodities were stored were very clean. Meals were planned by nutritionists to meet the needs of the children using whatever they had available; but, it was obvious that neither the cooks nor the students were interested in foods they weren't familiar with. Corn from the United States just doesn't cut it, and it shouldn't have to. There is plenty of food production potential in the country.
 - From an overall management perspective, Fabretto needs to very carefully cultivate its relationships with major donors, which means working with the resources the donors have to offer, such as foodstuffs, and their administrative requirements. This always has to be taken into consideration when planning programs.
 - The farm Fabretto purchased near San Isidro presents an interesting dilemma. Purchasing land in a good agricultural area is seldom a bad investment, but, operating a profitable farm is something else. They have put quite a bit of money into the farm so far and it has been a struggle. From my experience in trying to operate a profitable farm operation within organizations that have as their primary goal research and/or education, it is difficult to do. The rate of return on assets is generally pretty poor compared to other investments made more directly to education and research priorities. It is also more difficult to manage flexibly when there are outside investors, donor organizations and governments involved. With Fabretto's demonstrated ability to create mutually satisfactory partnerships with a variety of individuals and organizations, the potential does exist to turn what is currently a consumptive asset into a productive one, from a human and community development standpoint.
2. Integrating improved agricultural production and business management practices into the curriculum of secondary school students and maintaining gardening programs for the primary school students.
- I'll start with the easy one first, the primary school program. The primary school program, that includes tutoring, the meal program and the school gardens, is the oldest and clearly has developed into something that they've been able to replicate in different communities. The public school system has not only accepted the program but has tightened their relationship, sharing both facilities and personnel. The success of this program has opened up opportunities to explore new programs, such as the secondary school programs and SAT.
 - I had a chance to meet with several of the educators working with the secondary school program and SAT students. They voiced the same struggles that all youth educators face around the world, including high school agriculture teachers and 4-H leaders in the US, keeping youth engaged in the program. Things move slowly in agriculture and the rewards students may experience for their investments in time and money are often slow in coming and many times are mixed with some losses. The good news is their problem is not unique to youth in Nicaragua so the possibility to link these educators up with their counterparts in other areas of the country, region and world is pretty good. We have many retired, highly successful ag teachers in the United States that may be willing to share their experiences.
 - The SAT program that they have been using was developed in Columbia and is based on years of experience around the world in blending a practical set of curriculum materials with real life experience. Fabretto instituted the program 4 years ago and next year they will have their first graduates. This group of graduates, and the local farmers who

have been involved in the program, offer the possibility of developing some food purchasing arrangements to supply the food programs.

- In looking at the previous points, one of the challenges facing programs such as SAT is allowing students to experience real market situations. There is nothing more exciting as taking a product to market and getting rewarded for your efforts. On the other hand, there is nothing more memorable and dispiriting as seeing that same effort lose you money. Unfortunately, losing and winning are both a part of the game and protecting aspiring farmers from losses isn't a good idea.
 - With the food purchase possibilities of the Fabretto meal program the potential clearly exists to develop a valuable farm business experience for youth involved in the SAT program. But, any food purchase program that is developed needs to reward youth for producing a quality product that is delivered on time and in the condition required to meet the quality and nutritional requirements for the program and penalize those who don't.
3. Creating an environment in the agricultural community that will improve the likelihood of success for its graduates.
- Developing a healthy agricultural community is no different than growing a healthy crop; it takes more than one thing to make it grow. For crops you need good genetic material, a balanced supply of available nutrients, and water. If any one of those things is missing or out of proportion the crop will be less than optimal. For healthy communities you need people who have the potential to grow and develop, access to physical and financial resources, and knowledge of both time-tested and innovative approaches to production and management.
 - In my conversations with a variety of people, there were a couple of concerns when it came to the people. One was either a fear or lack of initiative in trying something new. I assured them that this wasn't unique to farmers in Nicaragua, I've often faced the same problem in Wisconsin and everywhere else I've worked in the world. It is easy to blame the people but many times they are a product of their environment and at other times it is culturally unacceptable to challenge the status quo, for whatever reason. The other thing they mentioned was the ability to critically think through problems and come up with a variety of potential solutions. Here again, they aren't alone in this problem. This is a common problem in the digital world we live in where people are being deluged with bits of marginally useful information that is rarely critically analyzed and integrated into anything with long term benefits.
 - Wherever I've travelled, including the mountains of Nicaragua, I continue to run across people who aren't afraid to try new things and have adapted a variety of technologies into their lives. Near Cusmapa we visited a community that was using a variety of irrigation techniques, solar panels to provide electricity for their houses, raised bed container type gardening principles and greenhouses, while at the same time building adobe houses. Very resourceful people.
 - A real asset for Nicaragua is the respect and honor it gives to the family. While this can cause some of the problems covered earlier, in terms of impeding the adoption of innovative approaches for fear of upsetting the apple cart, it does provide a foundation for having a discussion on adopting new agricultural marketing and production practices. The challenge is to do it in a culturally sensitive way.
 - Another tremendous asset that Fabretto has going for it is years of experience and a network of graduates that can possibly act as mentors to help aspiring farmers and entrepreneurs get started. Experience from the US and other places around the globe

can be helpful, but mentors who have an intimate understanding of the challenges facing the mentee are extremely important. Successful business owners often cite having someone as a mentor as being very important for their success. While there is no shortage of stories of people who have fought all odds on their own to build a business, it is very rare (and probably not entirely true). Mentors and mentoring communities are very important.

RECOMMENDATIONS:

The recommendations listed are done within the following framework:

How can Fabretto fulfill its mission “to enable impoverished Nicaraguan children and their families in underserved communities to break the cycle of poverty and reach their full potential through programs promoting education, nutrition, health, and community development” while at the same time making their school meal program economically sound, operationally viable and nutritionally adequate in order to meet the ever increasing enrollment in their programs?

1. Food Supply Chain Gap Analysis in the Cusmapa Region:

- Cusmapa lends itself very well for doing a community gap analysis studying the complete market chain from seed to fork. While the schools around Cusmapa have the ability to receive food supplies from Fabretto’s central stores in Managua, because of distance and transportation issues the region would be easier than other sites to analyze on a microscale.
- The gap analysis I’m suggesting would be a comprehensive look at the supply chain using a set of facilitated discussions involving everyone along the chain, including farmers, farm advisors, SAT students, cooks, older youth that have been eating the meals for a number of years and program administrators that need to handle ordering and paying for the various farm products.
- Involving everyone in the facilitated process is not only effective for planning purposes but it is an extremely effective educational tool. The various people involved in a supply chain seldom get an opportunity to hear firsthand the challenges faced by others along the chain. Often barriers are put in places that make a great deal of sense for those involved in a particular link of the chain but no sense for others along the way.
- As the name implies, the purpose of the analysis is to identify gaps, or barriers, along the chain that impede the efficient flow of the product. Yes, it is possible to hire a consultant to do a supply analysis but that is more appropriate for doing macro-economic projects. It does little to help the community critically think through the process. Helping a community to find solutions to their own problems will be much more effective, and accepted, than having them handed down from an expert.
- There is some information that will need to be collected prior to the gap analysis.
 - A good estimate of annual food needs, by month, at each one of the school centers; similar to a monthly cash flow.
 - An estimate of current farm production in the region in yield per manzana in farm fields and per garden at the school sites. Having this information ahead of time will provide the participants a chance to visually see the ups and downs in supply and demand.

- A fairly accurate estimate of the percentage of locally produced farm products that are used in the schools' meal programs. If they are going to increase the percentage of food supplied by local sources we need an accurate amount to start with and then set reasonable goals, such as going from 15% to 25%.
 - Cusmapa has another beautiful asset, a retreat center that Fabretto owns. To do a good job at conducting a gap analysis it is very helpful to get those involved away from their daily activities so they can focus on the issue and get to know each other. It would likely be a two day affair with the first spent on doing the analysis and the second brainstorming possible solutions for dealing with gaps and barriers.
2. La Cruz School near Esteli
- The new school near Esteli presents an interesting challenge and some excellent opportunities. I'm not too concerned about Fabretto's ability to set up and run a primary school center. They have done it successfully for years.
 - The major challenge comes in developing garden plots around the school. It is very rugged terrain with volcanic rocks strewn all over the site. Also, the parents of the children may not be entirely supportive of the effort because they've lived a scavenging lifestyle at the city dump. Gardening may not be high on their list of preferred activities to be engaged in.
 - Here is the opportunity; the Fabretto community has a wealth of experience fitting school garden projects in all sorts of tight spots. They've done it in mountain regions, flat regions and in the city. This would be an excellent opportunity to bring together some of the best students and educators from all of Fabretto's centers to solve the garden problem.
 - Fabretto staff could frame the problem to be solved and the people invited in would explore various options for effectively and sustainably dealing with it. I have used this approach on a number of occasions in Wisconsin for both farmers and as professional development opportunities for agricultural specialists who work with farmers. The participants in the workshops are given a generalized goal and then broken up into teams and asked to come up with a preferred solution to the problem. Each team then reports back to the bigger group what they came up with and then the ideas can be blended together. The approach is very well received because it allows for the blending of knowledge from different geographic regions and areas of expertise.
3. The Rice Farm near San Isidro, Matagalpa.
- I was asked my opinion on the best use of the farm land resources that Fabretto owns near San Isidro, Matagalpa. The land definitely has some positive and negative attributes. It lays level and has water available; however, it is also prone to flooding and did so last year.
 - As I mentioned earlier in this report, my experience in both the private sector and at the University of Wisconsin has always made me suspect of the economic benefits of a educational/research oriented organization operating a for-profit farm operation. It's one of those "looks good on paper" types of things. Even if they are profitable the rate of return of assets is marginal at best when looking at similar investments in core programs.
 - Unless Fabretto needs the money, it doesn't make sense to sell the farm because it is an asset and it may have uses down the road. The better approach may be to either lease it directly to a neighboring farmer or perhaps enter into a sharefarming arrangement

with a farmer or farm cooperative that is trying to get started. Fabretto would contribute the land and in return could get either a percentage of the income from whatever crop the operator sells or a percentage of the crop itself if it fits into the meal programs.

- Sharefarming arrangements are used a little in Wisconsin but they are used extensively in New Zealand as a pathway for getting new farmers started. I'm not sure how acceptable such an arrangement would be in Nicaragua.

POSSIBLE FUTURE VOLUNTEER OPPORTUNITIES

What I have listed below are only a few things that I noticed. I'm sure other opportunities may exist.

1. Fabretto could use some assistance in facilitating both the Gap Analysis in Cusmapa and the school garden project in La Cruz, near Esteli. They have the resources to identify and bring together the various people that would need to be involved but having a community/agricultural development educator to provide some guidance may be very helpful. This is definitely something that could be done in the normal 2-3 three week project time for Farmer-to-Farmer volunteers.
2. Educators who work with school garden projects always benefit by working with others who are doing the same kind of work. The Partners program has developed a great set of resources for doing square yard gardening and similar gardening techniques that Fabretto could benefit from. Bringing in some volunteers to further develop their small space gardening techniques I'm sure would be appreciated.
3. Fabretto is dealing with a wide variety of soil types and it was mentioned many times that they are limited in their knowledge of the soil ecosystem. They have been doing some composting and have had some assistance over the years with vermiculture. There were lots of questions related to soils, simple soil testing procedures and integrating composting into their systems. They do have teachers who are working in the sciences so they are at a good starting point.
4. They are also interested in organic, biologic and permaculture farming principles. They have a good base of knowledge but like all of us, would welcome people who have some expertise.
5. Several times throughout the project I had questions about grading standards that can be used for pricing products. A volunteer who can help Fabretto develop some grading standards that they can use as a basis for paying farmers who supply their food programs may be helpful. I'm sure there are some standards already in place in the country and region so some research would have to be done first to make sure anything taught would coincide with existing standards.