



Semilla Nueva

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Transformative Solutions Final Report

Project Name: National Promotion of Quality Protein Maize (QPM) through Social Marketing

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Project Summary

Guatemala is the fifth-most malnourished country in the world, where 49.8% of children suffer from chronic malnutrition. Nutritional deprivation during childhood has been shown to cause permanent intellectual and physical stunting, ultimately leading to increased mortality rates and susceptibility to disease, poorer school performance, lower incomes, and an inability to overcome cyclical poverty. A recent UNICEF study found that chronic malnutrition costs Guatemala \$8.4 million each day.

High rates of malnutrition can be partially attributed to diets that are centered on a single staple crop such as corn, which is cheap and high-producing but lacks the nutrients needed to ensure healthy child growth. Corn forms the basis of rural Guatemalan diets—in the most malnourished regions, corn supplies more than half of daily caloric intake, contributing to alarming malnutrition rates.

Semilla Nueva is a US and Guatemalan registered non-profit working to develop and promote high nutrient, or biofortified, corn as a sustainable and culturally-sensitive solution to improve the livelihood and nutrition of rural Guatemalans. Effectiveness trials have demonstrated that substituting this corn for normal corn can reduce malnutrition by up to 20% in malnourished populations, making this a realistic strategy to reduce chronic malnutrition without disrupting local culture or requiring people to spend more money on nutritious food. We focus on the development of this corn through research, promotion through social marketing and scaling through effective engagement with Guatemalan government institutions and other partners.

The grant provided to Semilla Nueva by Transformative Solutions supported our efforts to scale the use of Quality Protein Maize (QPM), a type of biofortified crop that provides consumers up to 2.5 times the protein quality of normal corn, to combat chronic malnutrition. The project utilized social marketing strategies and partner collaborations to inspire corn farmers in different regions of the country to plant, store and replant their seed, improving the nutrition of their own families and the nutrition of others who consume the corn they sell. We go into more depth about each of these components in the body of the report.

During the first portion of the grant, as written in the midterm report, we built the capacity of 3 partner organizations – Alcaldia Maya, Ripple Effect and REDSEGUA -- to further their own testing, production and promotion of QPM seeds and also launched a radio-based marketing campaign to encourage farmers who harvested biofortified corn in October 2016 to store their grain properly for consumption. During the final months of the grant, we continued to 1) build the capacity of our three partner organizations collaborators to enable them eventually to grow, market and sell their corn independently of Semilla Nueva and 2) expanded Semilla Nueva's own marketing and sale of QPM on the southern coast.

Goal 1: Assist one collaborative partner to implement a social marketing campaign that promotes the planting of QPM

As detailed in previous reports, Semilla Nueva collaborates with 3 partner organizations: Alcaldía Maya, REDSEGUA and Ripple Effect. Each organization is located in a different region of Guatemala and has a different level of experience growing, marketing and selling agricultural products. Due to this range of experience, our capacity-building efforts over the course of the grant have catered towards the needs, culture and prior knowledge of each organization.

Ripple Effect: Semilla Nueva's work to design a social marketing strategy for another region in the country has brought more challenges than anticipated with the intended project partner, The Ripple Effect, but has been much more successful with other partners in the western highlands and dry corridor. The Ripple Effect is located in Chel, in the municipality of Nebaj. It is an Ixil Mayan region, which was impacted greatly by the armed conflict and is known to historically have very conservative farming practices. During the first 6 months of the grant, the project partner did complete the first stage of harvesting a number of testing parcels but they decided to postpone the design and launch of a social marketing campaign until a second year of data could be collected. While not desirable for our project, the decision could be justified given the lack of improved seeds normally used in the region and the strongly culturally conservative perspective from local farmers. Caught in a situation in which we could either respect a more cautious attitude than was initially offered or push hard to get farmers and our local partner to launch the seeds regardless, we erred toward the side of caution and allowed more time. In the last 6 months, The Ripple Effect attempted to plant a second round of test parcels but faced difficulty once again due to irregular rainfall. Since they were unable to successfully harvest a series of experimental parcels, they, understandably, were very hesitant to promote the seed to communities in their area. Out of respect for the local culture and poor climate conditions, we continued to be cautious and did not push Ripple Effect to launch a formal marketing campaign for QPM

While it is disappointing that we were not able to achieve this goal during the current grant period, we are still hopeful to see results in the Nebaj region in the coming months. Ripple Effect is currently producing around 250 lbs of seeds and is planning to distribute it to around 50 local families for planting in December 2017. We look forward to this progress as it will provide insights into how well the product adapts to the local environment/culture with hopes that more QPM can be distributed there in the future.

Alcaldía Maya: Our second partner, Alcaldía Maya, also located in the Guatemalan highlands in Canillá, Quiché, continued to show large gains in their capacity to plant, grow and harvest QPM in the second portion of the grant. The process of harvesting and selling corn was completely new to this organization, so our team worked diligently with them to ensure success. Trinidad Recinos and Cirilo Garcia, our technical representatives from our collaborations team, went on four separate visits to ensure low levels of pollen contamination, effective pest and water management and appropriate seed drying. In addition, we invited Alcaldía Maya to participate in promotional and sales events held by REDSEGUA (our third partner organization) and Semilla Nueva to expose them to promotional tactics that they may want to employ during future production cycles.

Despite our best efforts, however, Alcaldía Maya was unable to overcome one unexpected hurdle. The region's high elevation prolonged the crop cycle and made it impossible for Alcaldía Maya to harvest and distribute its seed before farmers in the region started planting. In response, Semilla Nueva agreed to lend Alcaldía Maya seed from our own production on the Southern Coast, thus, covering farmer demand and preserving Alcaldía Maya's early reputation as a seed provider. Ultimately, Alcaldía Maya was able to successfully distribute 6,000 lbs of corn to 1,057 farmers in their region. After they distributed the seed that was lent to them from Semilla Nueva, they successfully produced the quantity of seed that they had anticipated. As a whole, Alcaldía Maya's first experience with QPM production was a success and full of lessons learned.

In the coming year, Alcaldía Maya is looking to produce 4,500 lbs of seed, but will plan sufficiently for the length of the harvest and will manage the entire packaging and preparation of the seeds themselves. In addition, they plan to host more promotional events to more effectively market and create demand for QPM in their local community, setting the foundation for a sales program that could become a sustainable source of revenue for the organization.

REDSEGUA: Our third and most successful collaborative partner is REDSEGUA, a network comprised of three farming associations, located in the country's dry corridor. Semilla Nueva was particularly excited about a partnership with these organizations not only because of their knowledge of producing seeds, but also because they each are connected with an expansive group of farmers. With REDSEGUA selling biofortified corn seed, it means that the potential number of diets we can change exponentially grows.



Above: Semilla Nueva's Karen Lopez (far left) and Trinidad Recinos (far right) with REDSEGUA partners at a promotional day in July 2017.

Due to each of these organizations'

extensive experience in agriculture, Semilla Nueva focused our efforts in the early months of this grant toward building their capacity to utilize social marketing practices. Our goal was to give each farming association new promotional tools and content to use so that they could increase farmer demand and sales for biofortified corn in their region.

Specifically, Semilla Nueva's marketing department, alongside our marketing partner, Appleseed and REDSEGUA representatives, conducted a week's worth of interviews within each of the organization's communities to better identify how to effectively message to farmers. Semilla Nueva then guided



Above: One of the 300 promotional posters that our REDSEGUA partners purchased to promote the high-nutrient seed on display at a promotional event in July 2017.

REDSEGUA through the creation of a marketing strategy, including a slogan, posters and seed bags for them to use. In May 2017, our REDSEGUA partners purchased 300 posters and 3,000 seed bags with Semilla Nueva designs to use for sales in 2017. At present, the farming associations are using the promotional materials that Semilla Nueva created at their field promotional days, three of which have already occurred in July of this year.

The results of Semilla Nueva's collaboration were extremely encouraging. REDSEGUA has found, both at the beginning of the year and currently, that the QPM seed is exceeding sales goals. Originally Semilla Nueva, along with REDSEGUA, anticipated selling around 370 bags of seed throughout the entire calendar year. However, just within the first half of the year REDSEGUA exceeded this goal by over 25%. We can estimate now, that over 14,500 diets will be receiving the protein and zinc that they are currently lacking. Aided now by strategic marketing materials, we anticipate total sales of REDSEGUA's QPM to continue surpassing expectations, thus transforming the diets and futures of thousands more individuals than anticipated!

Goal 2: Refining Marketing Strategies and Scaling QPM on Southern Coast

Pest Contamination Radio Campaign: In addition to assisting our partners with the production of QPM, the current grant has supported Semilla Nueva to use social marketing to scale consumption and sale of QPM on the southern coast. One of the biggest barriers to regular consumption of QPM is post-harvest pest management: the longer that farmers leave their corn in the field, the more they lose to pests. During the first 6 months of the grant, Semilla Nueva executed a major campaign that encouraged farmers to quickly harvest their corn in order to avoid pest contamination. The largest campaign was a national radio advertisement that was heard an estimated 80,803,000 times by farmers across the country. The advertisement was designed based on extensive research across the Southern Coast on the

myriad motivators and barriers that determine when farmers harvest their corn. Each character and exchange in the advertisement – which takes the form of a twenty second conversation between a weevil and the son of a farmer – addresses the specific motivators and barriers we uncovered, creating a powerful emotional and culturally-anchored appeal to farmers to harvest their corn as soon as possible. The station also reaches 94% of the country, and as a result, the ad was heard an estimated 80,803,000 times. Further, a random sampling of 342 people in our region showed that 9.94% had heard the ad, and of them, 89.74% could describe the general idea.

Seed-Saving Campaign: In addition to the radio campaign, our field team worked diligently to educate local municipalities farmers about the economic benefits of seed saving – or the process of selecting the best seed from the center of a parcel to replant the following year. This education took place in a series of mini-conferences held across 25 communities on the Southern Coast and hundreds of home visits by our part-time extensionists. To evaluate these efforts, we visited the families that received QPM in 25 communities -- a total of 1,602 -- and determined that 438 families saved seed. We then took a random sample of the 438 and determined that 55% of those who saved seed in 2016 replanted in 2017. In total, that gave us a percentage of 15% of total recipients in 2016 saved and replanted QPM. If we extrapolate that percentage to the total number of families that received seed (2,947), we can estimate that 443 families saved and replanted seed across Guatemala. However, there are a few limitations to this calculation: 1) the 25 communities that we surveyed were those least likely to save seed, since that practice has essentially disappeared on the Southern Coast. As a result, it's likely that the overall percentage of families saving and replanting across the country is much higher than 15%. 2) 2,947 refers only to the total number of families reached directly by Semilla Nueva. However, through our partnerships with REDSEGUA and the Guatemalan government, we reached approximately 1,800 more families, or approximately 4,800, total. If we apply the 15% saving rate to those families, as well, we can estimate that approximately 720 families (or approximately 4,100 individuals impacted) saved seed and replanted -- a number that much better reflects the goal originally established in the grant application.

Repositioning of Semilla Nueva's QPM brand, Fortaleza: Apart from our seed storing and seed saving campaigns, Semilla Nueva has also made great strides in rebranding our own QPM brand, Fortaleza, to be more culturally sensitive and appealing to our customers.

In order to monitor the success of our new brand, Semilla Nueva conducted a comprehensive brand evaluation in 2017. The results showed that after only one year of exposure, most of our



Above: Semilla Nueva's Fortaleza poster and t-shirt on display at a promotional day in July 2017.

consumers recognized our brand, 70% were planning to plant a Fortaleza seed the following year and the majority would highly recommend Semilla Nueva's QPM to a friend.

We also took advantage of the evaluation to step back and evaluate how to bolster commercial sales and how to expand to new regions. In 2016, we distributed a variety of QPM that was focused exclusively on planting for home consumption. Given the seeds comparatively low yield, we were careful to encourage farmers not to use it to replace traditional commercial seeds. However, starting in 2017, we will be promoting more nutritious, higher-yielding corn seeds, called Fortaleza 3, which will be able to compete effectively in commercial markets.

Promotion of Fortaleza 3:

Over the final months of the grant period we began promoting this higher-yielding seed, Fortaleza 3, through the creation of demonstration parcels and multiple promotional events.

Within the month of July alone, we held our first five formal promotional events of Fortaleza 3, reaching over 150 farmers in communities across the Southern Coast.



Above: Semilla Nueva's field technician, Cirilo Garcia, showing off our new Fortaleza seed bags and staff shirts at a promotional day in July 2017.



Semilla Nueva's sales representative, Juan Manuel de León on a demonstration parcel for our newest QPM product, Fortaleza 3, at a promotional event in August 2017.

These promotional events typically consist of a brief presentation on our brand, a walk-through of a nearby parcel so farmers can see the material with their own eyes, a question and answer session and a small snack for attendees. Over the next few months, we intend to hold 10+ more promotional events, reaching over 1,000 farmers.

The promotional events are being held at the 12 demonstration parcels that we planted on the Southern coast. "Demonstration parcels" are 1.5-acre plots of land that are created to generate farmer interest in the seed. Parcels are cared for by our sales technicians and local

farmers who express interest in experimenting with new seeds and sharing results from their experiments with friends and neighbors.

Over the next six months, based on initial expressions of interest from farmers and distributors at these promotional events, we expect produce and sell 10,000 lbs, or around 230 bags, with our new branding. Eventually in 2018 we plan to produce and sell 54,000 lbs of seed, with the potential to change over 79,000 diets over these two years.

Conclusion

In the first 6 months of the project, we helped other organizations evaluate our seed, grow it, and promote it using social marketing strategies. While our partnership with Ripple Effect did not result in QPM being distributed to constituents, our collaboration with REDSEGUA and Alcaldía Maya were extremely successful. In both cases, Semilla Nueva was able to build these organizations' capacity to produce, market, and distribute QPM on their own. Our hope is that our work with these organizations will create sustained consumption of more nutritious corn beyond Semilla Nueva.

In addition to building the capacity of other organizations, Semilla Nueva greatly improved upon our own production and marketing of QPM. During the first 6 months of the grant we encouraged our consumers to save their seed for future harvests to cut costs and to harvest their corn quickly so that they could avoid pest damage. In the final months of the grant we shifted our energy to strengthen Semilla Nueva's own commercial brand, Fortaleza. We have already seen positive results during the promotional events that were held in July 2017 and we look forward to getting more results back from our first sales cycle.

During the last year Semilla Nueva has made substantial gains in our fight against the chronic malnutrition that impacts so many Guatemalans. Without the help of Transformative Solutions, none of this progress would have been possible. Through the support of Transformative Solutions, Texas A&M and USAID, Semilla Nueva was able to effectively scale the consumption of QPM and was able to build capacity of local organizations like Alcaldía Maya and REDSEGUA so that they can do the same. The lessons of this past year have been invaluable and are undoubtedly bringing Semilla Nueva towards a Guatemala with less malnutrition.