Mechanical “Cow” Brings Needed Nutrition to Guatemalan Schoolchildren
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By Narayan Murarka, Suzanne Gibson, and John Meier, Barrington Breakfast Rotary Club. This is second of four articles related to the Guatemala Global Grant #25333.

The idea of a "mechanical cow" may seem like the stuff of science fiction stories, but for some impoverished Guatemalan schoolchildren, it’s a real-life dream come true. Seven northwest suburban Rotary Clubs – members of Rotary International District 6440 – together with membership of the Sterling Rotary Club, Sterling, Illinois, part of District 6420, are delivering on the promise made possible by a Rotary Foundation Global Grant valued at approximately $60,000. The Illinois contingent is partnering with Guatemala Sur Rotary Club for in-country expertise to make a lasting difference in the lives of rural Guatemalan children.

Proximos Pasos, an elementary school for girls located in Santa Maria de Jesus, is one of the primary beneficiaries of the grant. The region is challenged by a lack of adequate, quality food sources for area residents. Of particular concern is meeting the protein needs of growing, developing children. The Rotary Foundation Grant is paying for a new, high-tech "mechanical cow" that can convert soy beans into a reliable food supply. Following research they conducted, the participating Rotarians decided to purchase, install and train Mayan women to operate the Soy Cow.

The Soy Cow as it’s also referred to, will be operated at the Proximos Pasos girl’s school. The machine turns beans into nutritious and surprisingly good-tasting soy milk. The magic of the machine’s efficiency and versatility is that beyond simply providing high-protein milk for the kids, it also delivers a solid byproduct, called “Okara.” This is a protein-rich pulp ideal for making baked goods like breads, cookies and more, which can be enjoyed by and benefit other area residents beyond the children. Soy milk and baked goods using Okara will be readily sold at markets to others in the communities, thus making it a self-sustaining project.

Mission Impact, a local non-governmental organization (NGO), operates the school. Proximos Pasos is less than ten years old, and has grown steadily to its current enrollment of 125 girls. The girls who attend Proximos Pasos missed entry to the regular Guatemalan school system because they had to work to help support their families. Many of the first graders at the school are already eight- to 10-years old. But, make no mistake; the girls want most to be students. They want to learn and grow, for the benefit of their families and community. Unfortunately, that desire is often at odds with traditional life in Mayan culture.

By third grade most Mayan girls in Guatemala go directly from school to the market where they sell vegetables into the evening hours with their mothers. Once they have acquired basic math and reading skills, the pressure on these children to become productive builds quickly, and the school drop-out rate increases significantly. Hunger is a constant companion for most students. Getting the right nutrition is critical for learning, but another barrier exists that many Americans take for granted. The indigenous Mayans are lactose
intolerant, and milk has never been part of their diet. Finding a suitable, low-cost substitute for milk and dairy was critical. The stainless steel mechanical cow brings with it a promise of better lactose free nutrition, better health, and better learning for the girls at Proximos Pasos School. That also means the outlook for their future prosperity just got brighter, too.

There was concern about whether the children would like the taste of the soy milk. If they didn’t like it, they probably wouldn’t want to drink it. However, the first taste test by the kids resulted in a resounding “Muy Roco!” (“Delicious!”)

In February 2011 another taste test was conducted where the Mayan moms were invited to prepare and taste baked goods using Okara. The results were another terrific success. Mayan women cooked bread using Okara-enhanced flour. They also took Okara home to experiment with the product.

The Soy Cow can pay for itself, too. Each 5.5-pound batch of soybeans takes about one hour to process yields 10 gallons of soy milk. By processing four batches of soybeans per day, it can produce 40 gallons of soy milk and six pounds of protein-dense Okara. The 125 girls at Proximos Pasos School need just 10 gallons, leaving 30 gallons for sale at the market. This will pay for the labor, raw materials and utilities.

The Soy Cow has another important benefit. It gives parents at Proximos Pasos an opportunity to develop their own micro-enterprise. Two parents have paid positions. Every parent rotates through the soybean processing cycle. All have opportunities to market soy products to the local community, helping to develop accounting and basic business skills.

A representative from the National Soy Research Lab (NSRL) at the University of Illinois will be helping to install and train the Mayan women. This effort is supported in part financially by the World Initiative for Soy in Human Health (WISHH). By including the World Soy Foundation as partners in the project also, the community will be provided free soybeans for about the first year.

The following clubs have provided financial support for this project: Barrington Breakfast Rotary Club, which has taken the lead on the project, Crystal Lake Dawnbreakers, Dundee Township, Evanston Lighthouse, Lake in the Hills, Palatine and the Schaumburg-Hoffman Estates Rotary Club, along with the Sterling Rotary Club located in Sterling, Illinois, and the Guatemala Sur Rotary Club. Additional support has been provided by Rotary Districts 6440, 6420 and 4250.

Throughout the Soy Cow project, Rotary followed three guiding principles. First, it seeks to help people who are trying to help themselves. The "sweat equity" that Proximos Pasos invests in the Cow will be significant.

Second, the emphasis is on empowerment, not dependency. When the Cow is installed and operational, Rotarians will leave Guatemala with fond memories, but the Proximos Pasos School will continue on with a viable business and better nutrition for its students. Finally, the focus is on opportunity, not charity. Proximos Pasos will raise and sustain its community’s nutrition levels by itself for the long term, not just receive a short term supply of food.
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