

Women Taking Risks: Coffee Leaf Rust Crisis in Nicaragua

When crisis came in the form of devastating coffee leaf rust, it was time to take a chance. And the women stepped up to the front lines.

By Heather Putnam

Since 2012, the Community Agroecology Network (CAN) has engaged directly with a small first-level cooperative, the Denis Gutierrez Cooperative, in San Ramon municipality, Matagalpa State, Nicaragua to promote agroecological** coffee production among its members through its AgroEco® Coffee Program. The fund invests 10 cents per pound of green coffee beans purchased into a Sustainable Agriculture Fund, which is meant to be invested by the cooperative in improving its agroecological production practices.

The cooperative is made up of 14 men and 1 woman, all of whom farm less than 1.4 hectare (3.5 acres) of coffee each, in addition to small plots of corn, beans, and vegetables.

CAN initially started purchasing coffee from the cooperative in 2011, with the understanding that its members did still apply agrochemicals to their coffee but would make an effort to reduce and eventually eliminate the application of chemicals.

In meetings with cooperative members in 2012, it became increasingly clear that the farmers were not only averse to reducing chemical fertilizer and fungicide applications, but were also not implementing any additional practices to conserve soil in the coffee fields or improve soil fertility.

All 15 farmers stated that they utilized chemical inputs despite being aware of their negative effects, citing ease of use and, especially, a lack of confidence in the effectiveness of “organic” fertilizers and pesticides.

According to our farmer survey in 2011, only 2 of the 15 farmers were implementing ecological practices to increase soil fertility, including composting or applying fermented coffee pulp left over from coffee wet milling processes to their coffee plants. Essentially, the cooperative was risk averse; even the higher price we were offering for their coffee (on average 30% higher than market rates) was not incentive enough for them to change their production methods.

In 2012, Nicaraguan coffee areas were devastated by the coffee leaf rust disease (*Hemileia vastatrix*).

The rust is present in all coffee growing regions of the world, and is the most economically significant coffee pathogen. A major infestation in Central America began in 2011 and worked its way north. In San Ramon municipality, farmers reported losing on average 40-100 percent of their coffee plants to the disease. In the Denis Gutierrez Cooperative, farmers experienced an 80 percent reduction in yields in 2012 due to the rust and an accompanying anthracnose pathogen, which kills coffee plants already weakened by rust infection.

At the same time, CAN had begun working with a group of seven women.



The majority of them were wives and daughters of the male members of the Denis Gutierrez Cooperative. They wanted to develop and implement a small collective rural business with seed money from a new fund for the unpaid work of women that had been attached to AgroEco® Coffee as of 2013. The women organized within the context of the cooperative being almost fully controlled by their spouses, where they were accustomed to not having a strong voice in community decision making.

After months of discussion between the women's group, their second level cooperative, and CAN, they decided to take a perceived "risk": experimenting with different combinations of effective microorganism applications (mycorrhizal fungi), compost, and mineral foliar fertilizers made from crushed stones.

They also negotiated with their spouses to set aside land for them to experiment with the applications. They applied these materials to plants in their seedling nursery and recuperating established plants on about 5 hectares of land. They expected the increased availability of nutrients in the soil plus increased root capacity, would result in more robust plants with increased resistance to fungal diseases like leaf rust and anthracnose. They also hoped for increased yields once the plants were fully recuperated or had reached maturity for fruiting. The soil amendment preparations were applied for about 1.5 years while the coffee leaf rust attack subsided and surviving plants regained foliage.



By late 2014, the results were physical as well as social.

Physically, the women's coffee plants had benefited from their investment in the unfamiliar technologies. The farmers observed that coffee plants in the experimental plots were bigger, visibly healthier, and more resilient to the leaf rust. It was still present at normal levels, but not affecting the foliage. The plants were more resistant to other fungi, than other plants renovated at the same time or recuperating from the fungus attack in other fields.

Experimental plot trees were also more resistant to attack by borer insects. It was also noted at the onset of the 2014-15 harvest that the plants treated with the preparations had heavier fruit loads than those in plots that did not receive the treatments.

The success of the experience of the women's group was observed by the men in the cooperative.

As of 2015 there are a total of 8 men who are participating, along with 7 women in the collective manufacture of the preparations and applying them to their coffee seedlings and established plants.

The most positive impact, according to the women, is that yields are approaching their pre-2012 levels. They expect to surpass those yields in the next few years as the seedlings nurtured on the preparations since sprouting, reach maturity and begin producing.

As a direct result of this experiment, farmers in a neighboring cooperative observed the results and asked to be trained in the manufacture and application of the agroecological preparations, and are now actively doing so. The original 7 women, motivated by a crisis and supported by a small fund that effectively reduced their risk, have achieved a much larger impact of changing people's minds about agroecological coffee production, convincing them that the perceived economic risks are worth overcoming. ♦

Heather Putnam has over 13 years' experience working with rural farming communities and cooperatives in Mexico, Central America, South America, and East Africa. She holds a Ph.D. in Geography from the University of Kansas, where she specialized in coffee livelihoods, alternative trade models, environment and development, East Africa, and Latin America. Her research currently focuses on community food security and sovereignty, participatory development processes, agroecology and climate change resiliency, and gendered rural economies.

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