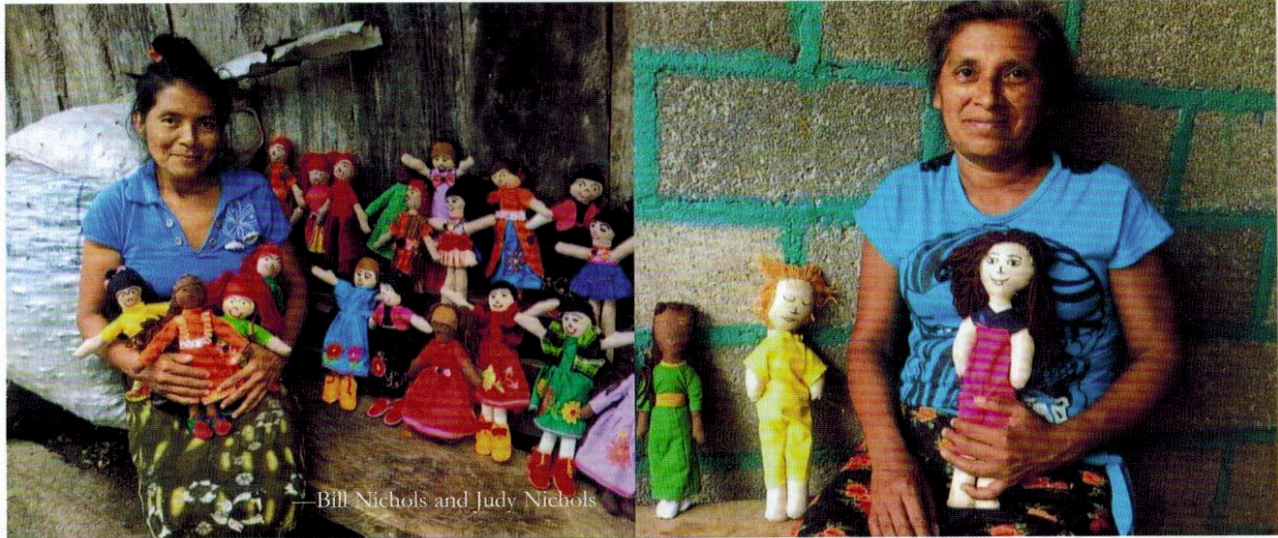




Family Gardens in Nicaragua:



In April 2018, biointensive gardeners in Corozo, Nicaragua started making dolls to sell to fund small enterprises. With proceeds from sales, three women have been able to buy sewing machines and three others have started small in-home businesses.

Photos by author

Living in the Northeast, we've been remembering our vegetable gardens in Ohio, which remind us now of gardens in a small indigenous community in Nicaragua. By U.N. measures, Nicaragua is the second poorest country in the western hemisphere. Recently it has experienced political instability. And the land itself is often unstable because of years of slash and burn agriculture, agribusiness, and deforestation, all contributing to environmental destruction, food shortages, and human migration. But in Corozo, a small community north of Managua, "biointensive" family gardens have recently begun to diversify diet, and strengthen the local community and its economy. Some of the problems people try to solve with those gardens in Corozo are the same ones driving families in Guatemala, Honduras, and El Salvador, away from places their ancestors have inhabited for generations.

Corozo is a 1000-family reservation of Matagalpan Indians, accustomed to growing their own corn, beans, and squash. In addition to the problems of droughts and flooding linked to environmental destruction, families struggle to grow enough food because of deforestation, which has been precipitous in Corozo in the past twenty years. It's partly a result of the need to gather enough wood for cooking on open fires, a pattern

common in other rural regions of Central America. The deforestation damages slopes and pastures, eroding soil, decreasing productivity, and fouling rivers.

Wealthier countries in the northern hemisphere also face mounting problems with food insecurity, some of them also linked to environmental destruction. A Columbus Dispatch editorial in Ohio recently mentioned the state's troubling food security ranking—twelfth from the bottom when compared with other states—in spite of "the incredible abundance" of its farm fields. We know many problems resulting from environmental destruction are global. And those of us in the United States know too that our own federal government stands almost alone in refusing to acknowledge and address the environmental crises.

Corozo's recent efforts both to prevent and adapt to damage to natural systems while also diversifying their diet are connected with a small nonprofit. This organization, Artists for Soup (AfS), founded by Judy in 2014 as a response to growing hunger and malnutrition in Nicaragua, has been working to foster biological diversity while promoting care of the land. In Corozo indigenous AfS staff members team up with local women, Nicaraguan and U.S. college interns, other nonprofits, public school teachers, community groups, and government officials.

Crucial to the AfS focus on gardens that combine traditional agricultural methods with scientific innovations has been the recent support of New England BioLabs, a cooperative laboratory in Ipswich on Cape Cod. The New England BioLabs Foundation has provided money for fencing, seed boxes, organic fertilizer, rain barrels, watering cans, wheelbarrows, and other gardening tools that make these gardens possible. The drought and pest-resistant “biointensive” gardens grown in Corozo depend on deep garden bed excavation, large amounts of compost, companion planting, and strategic use of pollinators. This method is difficult at the outset because of the initial, one-time deep excavation in rocky soil. But the result is increased yields, resistance to pests, and diminished release of carbon.

Most of the women in Corozo who cultivate biointensive gardens are still cooking on open fires although AfS has begun to provide some high-efficiency cookstoves. The women spend much of their day gathering wood and preparing food. In interviews they say the gardens have already improved their family’s diet. A few have begun to grow enough produce to be able to sell small amounts.

A 55-year-old woman who participates in the family garden project says, “We have had our tortillas and beans to eat every day, but it’s difficult because we need more variety. Now, with our garden, when we don’t have money, we can improvise with eggs and vegetables from our garden. . . . We make soup and stew with peppers, squash, tomato, cabbage, onion, and garlic.”

One theme that comes up frequently in interviews is the role of Elioana Arauz, a young woman raised in Corozo who has become their teacher of biointensive gardening. Asked what convinced them to try the growing method, most women mention Arauz.

When we ask Elioana how she became so committed to growing gardens, she says, “I was seven or eight years old when I started helping my dad plant beans, rice, corn, and yucca. This was on our farm in Corozo. Sometimes I did not want to go to school because I only wanted to

plant. I had my own garden.”

Elioana’s sister Alyeriz adds, “In the community, they called Elioana Huertita, or Little Gardener, because she was always out in the field and because she did not like to cook. I got left with all the cooking.”

With the help of scholarships and money earned from selling beans she grew, Elioana began to study agriculture, and she apprenticed with an organization, Campesino A Campesino, which promoted sustainable agriculture. Then she was invited to a workshop organized by John Wyss, Michael Richardson, and Javier Silva from another organization, BioNica, and there she began to learn about biointensive gardening.

When we ask who has taught her the most about the biointensive method, Elioana mentions Javier Silver, who “knows so much about agro-ecology,” she says, “and he stays out of my way when we work.” She adds

that her other important teacher continues to be her own garden, a claim she has repeated occasionally since 2015, when she started her first three biointensive garden beds in Corozo. This garden has grown to 44 beds and is now the AfS demonstration garden.

Elioana also sees a link between her Christian faith and her work with people and gardens. She mentions a biblical passage from Deuteronomy: “For the poor shall never cease out of the land:

therefore I command thee, saying, Thou shalt open thine hand wide unto thy brother, to thy poor, and to thy needy, in thy land.” This text and her position as Program Director with AfS, she says, “make sharing biointensive gardening my destiny.”

Gardening in Corozo has become a catalyst for change beyond the reservation. Community members have begun to share strategies to increase food security in schools, churches, and community centers and in workshops held at AfS’s large demonstration garden. Visitors from other parts of Nicaragua come to the demonstration garden in buses and walk through the rows, talking with local family gardeners. There are plans now for a large teaching space near the demonstration



Fruits of harvest from demonstration garden where Artists for Soup holds workshops—plantain, hot pepper, kale, collards, mango, green onion, sweet potato, celery, mango, and cucumbers.

garden, where arts and agriculture workshops can be held, rain or shine. And there are now biointensive gardens in schools and churches and a community center too.

Art and improvisation, as well as science, are important to Corozo's gardeners. More than one visitor has commented on the beauty of the densely planted garden beds, which foster surprising biodiversity in relatively small spaces. In addition, trying to balance the hot and demanding work of gardening in rocky volcanic soil, Artists for Soup supports women's arts collectives and small rural bakeries, all organized by the gardening groups. The arts collectives, which have focused so far on painting and decorating wooden breakfast trays and designing and sewing dolls, have the potential to

strengthen the community and the local economy, as the bakeries are doing already.

The people of Corozo have begun to restore the land surrounding their vegetable gardens by planting trees. Family gardeners have turned their land into small orchards with trees that provide nutrition, including mango, avocado, indigenous lime, orange, and papaya. And youth groups have planted native trees in disrupted areas. They use a "seed ball method," forming balls of compost and clay around the seeds of more than 30 tree species native to the land around Corozo.

The story of Corozo brings to mind the power in an old environmentalist slogan, "Think globally, act locally." It suggests too the power in collaboration involving people from many places and many organizations, including colleges and universities, small nonprofits, foundations, churches, and governments. In a politically tumultuous time, it's a story of hope that shows how the earth, when cared for, can heal and connect communities.

Judy Nichols, a poet and painter, lives in Millbrook, New York, and is Executive Director of Artists for Soup, which grew out of research she did in Costa Rica and her book of poems, Blood Moon, Bright Stars.

Bill Nichols, Judy's father, lives in West Lebanon, New Hampshire. He is a retired teacher who writes about environmental politics.

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