

SI SE PUEDE! (YES WE CAN)

VISIONARY FARMERS FUEL CUBA'S AGRO-ECOLOGICAL MOVEMENT

by Ron Berezan

Fernando's 1982 Lada sputters, shakes and coughs in protest before reluctantly conceding to one more road trip. "That's my baby," Fernando laughs, as he launches into a litany of all that is wrong with his ailing car, and a lament for the high cost of gasoline that now demands more than a month's wage to fill the tank. I shake my head in wonder, knowing that this same scarcity of fuel has been the driving force behind much of Cuba's now legendary transformation towards organic and low-input agriculture, a movement that Fernando Funes himself has been at the forefront of.

How do you survive? I muse out loud. If it were not the economic challenges brought on by the blockade, then the regular pummeling by hurricanes would surely be enough to bring most people to their knees. "*Se inventa,*" Fernando replies, "we figure it out, we adapt, we make do." If necessity is the mother of invention, then the challenges facing Cuba over the past few decades have indeed birthed an abundance of wisdom and inspiration for aspiring organic farmers the world over, as my recent tour through the agro-ecological sector with Fernando would demonstrate.

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Hector Correa is one of the many new ecological farmers who had taken advantage of the crisis facing Cuba following the collapse of the Eastern bloc in the late 1980s. Through extensive land reform



A Cuban urban farmer checks the beehive between two raised beds.

policies designed to break up large state farms and put more farmers on the land, Hector obtained fifteen acres of marginal land near the town of Jovellanos. Along with his family of four, he undertook a gradual and careful process of nursing the barren land back to health using a series of legumes and other soil-building crops, the extensive addition of diverse animal manures from cows to pigs to worms, and a rotational grazing system.

Nearly fifteen years later, their farm is an oasis of life, with an astonishing degree of biodiversity and productivity. Farmed largely for subsistence, their land provides most of the grains, vegetables, fruits and meat that the family consumes. Animal wastes are first processed through a micro bio-digester providing gas for household use. Extensive vermiculture (worm composting) provides high



One of the many highly productive farms (organoponicos) located in cities throughout Cuba.

quality fertilizer and foliar sprays to ensure plant health. Multi-storied tree crops, often leguminous or fruiting, are fodder for animals while also yielding wood used to fuel the kilns for the family pottery business. “Art is nature created by humans,” Hector reflects, “and the greatest richness we can have is to root ourselves deeply in the nature that surrounds us.”

A couple of hours to the south of the Correa farm, in the heart of the southern city of Sancti Espiritus, another visionary farmer is transforming a former wasteland into a highly productive urban farm. Izmará Lopez is one of a legion of more than 200,000 Cubans who now participate in urban agriculture. When serious food shortages followed the energy crisis of the early 1990s, the Cuban ministry of agriculture enacted a law that enabled city dwellers to petition for the right to grow food on underutilized lands within cities. Massive

campaigns trained thousands of former civil servants, engineers, students and retirees alike in the art of intensive organic vegetable growing techniques in urban farms known as “organoponicos.”

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A single mother of two, Izmará now makes more than three times the average state wage by growing vegetables, fruits, medicinal plants and animal protein on a one-acre site that used to be a vacant lot. Like all urban farmers, Izmará has been very creative in sourcing waste materials to build and maintain her soil fertility. She collects rice hulls from a local mill, horse manure from carriage operators, and household scraps through a program started by a local NGO that pays a nominal fee for every bucket of kitchen waste.

For such a small site, her nutrient cycling system is very complex, including vermicomposting, small livestock (chickens, rabbits and geese), aquaculture (tilapia), and a well functioning composting toilet. Given the high rate of decomposition of organic matter in the tropics, Izmará’s soils are rich and fertile, and her polyculture plantings of lettuce, onions, beans and oregano exude an impressive energy and resilience.

Leaving the city of Sancti Espiritus, we head towards the Sierra de Guamuhaya, Cuba’s second highest mountain range. The hills are brown as far as the eye can see until Fernando points out a swatch of green in the distance. We are heading towards the home of Jose Casimiro, a former traffic cop who left his life in the city after feeling a deep call to return to the family farm. He has transformed it from a monoculture production of tobacco and sugar into a more diverse, sustainable, and productive agro-ecological system. What began as an impulse transformed into reality as Casimiro immersed himself in training in organic agriculture and permaculture through Fernando’s organization (the Cuban Association of Agricultural Technicians and Foresters – ACTAF) and an NGO called the Antonio Nunez Jimenez Foundation for Nature and Man.

Casimiro realized that a major limiting factor of the farm had been the scarcity of water during the dry season. Working with the existing hilly topography, he created a series of swales (shallow ditches constructed on contours) and large ponds that could harvest the excessive water that falls



Flowers are interplanted with food crops on many Cuban small farms.

during the rainy season, while minimizing the erosion that has depleted so much of the region's soils and biomass.

Retaining water year round on the property has dramatically modified the ecology of the area, providing habitat for bird species that had not been seen in the region for decades, as well as creating grazing opportunities for the diverse livestock on the farm. Using animal traction (oxen) for cultivation, windmills for power, and green manure crops and animal wastes for fertility, Casimiro has developed a farm ecology that is largely independent of outside inputs. A great increase in the diversity of production including tubers, vegetable crops, legumes, plantain, citrus, cacao, rice, animal protein and honey has created a healthier and more economically prosperous life for the family.

Back in the hustle and bustle of Havana (2,241,000 inhabitants living at a density of 3100 people per km², compared to Edmonton's 900 people per km²), we arrive in

the suburban neighbourhood of Alamar, where an amazing 25 acres of land have been turned into the Organopónico Vivero Alamar, Havana's largest, and arguably most successful, urban farm. What makes this site particularly unique is that it is a cooperative, owned and managed by the 173 members who live and work in the neighbourhood.

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Our host, Miguel Salcines, a former economist/auditor and one of 21 co-op members holding a professional degree, makes it very clear that the greatest asset of this operation is the people; "We are all owners, not employees, and every person, regardless of their age, background or training, has something important to offer." As an economist, Salcines is also quick to point out

that, like all farmers in Cuba, the members of the co-op must make a good living if the enterprise is to survive. There is no sustainability without economic sustainability. Indeed Vivero Alamar has been very successful as all members receive, in addition to their regular wage, dividends paid out every fifteen days. All members work seven-hour days and get an extra day off for appointments every two weeks in addition to their four-week holidays.

The co-op produces and sells vegetables, fruits, potted plants, medicinals, preserved foods and biological controls to the neighbourhood and throughout Havana. They have also secured a major contract for the production of *Herba Buena* (mint) that keeps the hotels producing mojitos, Cuba's national drink, for tourists.

While half of the co-op's profits are returned to the members in dividends, the other half are reinvested in the co-op. The site includes several greenhouses, shade houses (essential for growing heat-sensitive crops), propagation sheds, an administrative building with eight computers, a cafeteria for members, a mechanic shop and a small food processing facility. The co-op is always testing new technologies such as starting seedlings under pyramids and running waterlines through magnets to reduce salination. Their biggest challenge relates to sourcing sufficient organic matter, much of which is now imported. They are planning to address this shortfall by acquiring an additional four acres of adjoining land that will be devoted exclusively to growing

compost crops such as Sudan grass (*Sorghum bicolor*), cowpea (*Vigna unguiculata*), Jack bean (*Canavalia spp.*) and crotolaria (*Crotolaria juncea*).

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As Miguel reflects on the journey and growth of the co-op over the fifteen years of existence, he concedes that what was at first a crisis for the country, has become a gift: "Cuba has been living through the reality that the rest of the world will face sooner or later. We have been forced to develop a widespread sustainable and low-input organic agriculture. It has been the imagination and the vision of our farmers that has fuelled this revolution. I wouldn't have wanted it any other way."

Fernando's Lada bounces along Havana's cobblestone streets as we come to the end of our journey. He is both proud of what his country has achieved and a bit uneasy for the future. The isolation of Cuba has created fertile ground for one of the world's greatest experiments in rapid transition towards organic agriculture. But as times change, some Cuban scientists within the Ministry of Agriculture are pushing hard for limited experimentation with genetically engineered crops, and petrochemicals have started to flow more freely once again from

Venezuela. The Obama revolution in Washington is blowing across the Gulf of Florida, signalling the possibility of even greater political and economic changes on the horizon. Has the ecological transformation of Cuban agriculture set deep enough roots to withstand the winds of change? *Vamos a ver* – we shall see.

Ron Berezan operates The Urban Farmer, an organic gardening, edible landscaping and permaculture design service in Edmonton. He has made several research trips to Cuba and now organizes an annual group trip for Canadian farmers and organic advocates. For more information, see www.theurbanfarmer.ca.

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