THE SCHOOL OF ALAMAR ORGANIPONIC GARDEN AND IMPACT OF URBAN GARDENS IN CUBA

Vivero Alamar is a great success example of urban garden that generated national strategy about sustainable agriculture in Cuba, capable of producing *more with less* in urban contexts

Created in 1997 by Miguel Salcines López (President of the Cooperative) on abandoned wasteland, in the framework of Unidad Básica de Producción а Cooperativa (UBCP), Alamar Garden began its work with four farmers in an area of 800 square meters. Today it covers 10.7 hectares; it produces about 300 tonnes of organic vegetables a year and provides employment to nearly 170 people.

Associates are collective owners of the land. The distribution of income reflects the results of each member and the accumulated time in the cooperative. Thanks to the high levels of productivity and marketing, all enjoy a salary that exceeds the national average.

The 100% of the garden production is sold to the population of the district and its surroundings on the periphery of Havana (Cojimar River Valley). The products are also sold to the public services of the territory as schools, hospitals, social services, among others. The Alamar Garden also works with local schools receiving children so they can experience the basic principles of natural farming.

The Gardeno has achieved high diversification producing leafy vegetables in general, fruit and ornamental, medicinal, forest plants. The fertilizer here produced and used is fully organic. High performance is obtained without damaging soil because of the herbicides, pesticides and no chemical fertilizers used. Pest repellent flowers are used too.

As the <u>FAO website highlights</u> ..."Organopónic is a Cuban invention. The term was coined to distinguish this system that uses an organic substrate, obtained from crop residues, household wastes and animal manure, from other intensive, high-yielding horticulture production systems. With the onset of the *período especial*, organoponic gardens proved ideal for growing crops on poor soils in small urban spaces. The soil quality is gradually improved through the incorporation of organic matter; as organic content increases, so do the levels of soil nutrients and moisture.





Organopónic technology can be applied on building sites, vacant lots and roadsides, and arranged in terraces on sloping land. Soil can be tailored, using specific mixtures, to specific crops. If the soil is affected by nematodes or fungi, the entire substrate can be replaced. If necessary, the gardens can be disassembled and relocated. With drip irrigation, regular addition of compost and good horticultural practices, such as the use of well-adapted varieties, mixed cropping, crop rotation and integrated pest management, the raised beds can produce vegetables all year round, and achieve yields of up to 20 Kg per sq m...".

The organoponic Alamar Garden is not an isolated experience in Cuba. In addition to the members of the cooperative, it has the support of 22 academic professionals and more than 40 mid-level technicians. The Cuban Association of Agricultural and Forestry Technicians (ACTAF) works structurally with the Alamar Garden with training and providing technical assistance on production, economics and management, among others.

The <u>National Urban Agriculture Group</u> supports the experience with different initiatives and disseminates materials and guides for organic production on its website.

In 2013, Havana counted 97 high-yielding organoponics gardens, which produce vegetables such as lettuce, chard, radish, beets, beans, cucumber, tomatoes, spinach and peppers. These gardens produce more than 100 tons of fresh vegetables and herbs a year, generating about 23 thousand jobs.

The Direction of urban agriculture of the <u>Institute of</u> <u>Research in Tropical Agriculture (INIFAT)</u> also supports the national dissemination of urban gardens.

As a result of all these efforts, organoponics urban gardens in Cuba currently represent a network of more than 10,000 hectares of land and outlets that deliver one million tons of vegetables and spices annually. Currently, about 80 percent of leafy vegetables in the diet of Cubans are received by the urban gardens, now totalling 56 species grown naturally without the use of chemical fertilizers.

In addition to providing fresh food and expand the culinary culture, this movement has generated more than 1,000 small canning industries and has become a broad and secure source of work which employs more than 380,000 people on the island, of which more than 10,000 are professionals.

The Alamar Garden has the function of school of this new agro ecological approach and get specialized visits from different countries like USA, France, Mexico, Ecuador, Colombia, Canada, Belgium, El Salvador, Egypt, Venezuela. 10 research institutes are collaborating with the Alamar Garden. In 2013 it has been visited by 22 U.S. universities (including Harvard and the New York Botanical Garden) and 4 Canadian universities.



In March 2014 FAO officially recognized Cuba as one of the eight countries in Latin America and the Caribbean who managed to eradicate hunger. Surely these advanced and innovative food security and sustainable development experiences contributed to achieve this success.

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