Hydroponics in Latin America

In household hydroponics, the key is not to increase the yield per hectare, but to produce small amounts of food in many houses, in spaces unsuitable for conventional agriculture. The project started in Colombia, but reached more than 20 countries. In this development, the support of regional institutions, mayor’s offices, non-governmental organizations, professionals, technicians and independent persons was essential. The initial goal of the project was to teach how to grow, prepare and consume legumes in the small housing spaces of poor residents in order to improve the household diet. Afterwards we saw that the high yield obtained generated surpluses that could be sold as a source of additional income.

However, as the project developed we saw that it has more benefits in almost all the places where the project has been implemented. The main value of the project is that it generated a new attitude among the poor on socio-productive activities that can be developed at home or the neighbourhood, with the involvement of the members of the family group, in an economical, fast and effective way.

More recently, the implementation of the project in the coffee-growing region of Colombia has given rise to many requests for technical assistance from other departments of the country affected by violence, and from other countries around the world (Curacao, Egypt, Mexico and Panama).

The yields obtained using simple hydroponics proved to be higher than those obtained on the traditional soil system. In some cases, yields double, triple and even quadruple when full recommendations are followed and environmental and health conditions are adequately managed. The period between planting and harvesting is cut down (mainly with transplanted species) and planting can be done during every month of the year, because it does not depend on ideal weather conditions. As a result, one can obtain between 7 and 11 harvests per year with the species that have turned out to be more profitable. These are the leafy vegetables (broad-leaf basil, celery, watercress, lettuce, endive, spinach), but also a greater number of harvests can be obtained per year with species that grow slower and have longer productive cycles and that are part of the basic food basket, for example pepper (green chilli), hot pepper, onion, sweet peas, and tomatoes.

In addition the socio-economic benefits are worth noting, as farmers need not take money from their precarious household budget to buy legumes that are essential for adequate human nutrition, especially for children and the elderly. Better nourished mothers and children mean improved performance in learning at all levels, which contributes in a significant way to the development of the population in general.

A hydroponic garden can produce an average of 4.3kg of over 15 species of legumes per m². If a household cultivates 10 m² in one year (some producers already have production areas that exceed 60 m²), it could produce 431 kg of fresh and clean legumes. If the goal of training 0.2 % of the population of a country (with 6 million inhabitants, for example) is reached, 12,000 households could produce 11,400,000 lb. of legumes that could be eaten by producers and neighbours who eat small amounts of this type of food. The production, sold at an average price of US$ 0.50 per 0.45kg, would represent a production value of US$ 5,700,000. This is an excellent contribution to improve the socio-economic situation of any country.

This technique is contributing to the achievement of the national goals and those of individuals willing to improve the supply of healthy and fresh food, or to start micro businesses that strengthen the economy of the household and the community.