

PAPER: ECOLOGIC URBAN AGRICULTURE IN COLOMBIA AND ITS CONTRIBUTION TO SUSTAINABLE DEVELOPMENT AND FOOD SOVEREIGNTY

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OBJECTIVES:

- To show the institutions, the academics and the general community, the impact and benefits of generating processes of urban agriculture and the growing interest for such projects in different parts of Colombia.
- To socialize several urban farming techniques implemented in different cities and municipalities in Colombia: green terraces, productive gardens, eco-neighborhoods, community orchards and green roofs.
- To disseminate experiences in Colombia, representative for their socioeconomic, environmental impact and the mass participation of the benefited community.
- To submit to the international community, the urban agriculture as a **PRACTICAL ALTERNATIVE** of sustainable socioeconomic development for its contribution to solid waste management, safe food production, microenterprise creation, agroindustry, carbon fixation, biodiversity conservation and the strengthening of social network.
- To encourage the development of processes of urban agriculture in areas where it has not been implemented yet.

JUSTIFICATION:

The growing displacement of the population to the cities, for socioeconomic reasons and armed conflict, is generating desolation and youth decrease in the rural areas, and conglomeration of population in the cities. This produces a constant decrease of the labor available for food production using traditional agriculture systems, and therefore a rise in food prices and a shortage of products in some markets. Simultaneously, the dynamics of the progressive increase of the population inhabiting the cities is generating a great demand of food and other natural resources, which is largely unsatisfied because of the low supply responsible for the shortages and the high food prices, thus hindering the access to sufficient, balanced and good quality nutrition.

On the other hand, most of the food that comes to the cities presents a high level of contamination by substances harmful to the health, because they are produced under production models such as green revolution, which seeks maximum profit with the least production costs, and for this purpose, it carries out an agricultural production based on the excessive use of synthetic chemical pesticides, sewage irrigation waters and transgenic seeds. It is proved that nowadays many illnesses are caused by inadequate nutrition, mainly unbalanced and with high levels of contamination. Besides, the production systems based

on models such as green revolution have a great impact on the degradation of natural resources, due to an intensive soil management that leads to deterioration by compaction, erosion, contamination, salinity and loss of fertility. Adjacent fragile ecosystems are also deteriorated by leaching of fertilizers, generating eutrophication, and pesticide and heavy metals contamination.

The ecologic urban agriculture, or use of different spaces in the cities to produce food, has become an excellent alternative to face the economic, social and environmental crisis. The spaces used for the food production in urban agriculture, are normally underutilized spaces like terraces, balconies, backyards, gardens, roofs and walls, turning them into productive spaces. Diverse kinds of organic and inorganic solid waste, like containers and compost materials, are used for the implementation of planting schemes. The food produced is pesticide and heavy metals free unlike the food found in the market, and as it is produced at home the costs of the family shopping basket. Trade surplus can be sold and/or exchanged recovering barter dynamics, it can also be transformed in order to get value added products from which microenterprises and socioeconomic development can be created. On the other hand, cultivated plants, in addition to be used directly for consumption, they fix carbon dioxide, because of its ability to make photosynthesis, and therefore they are air cleaners, helping in this way to mitigate the progress of the greenhouse effect and the global warming.

In order to avoid the use of pollutant chemical pesticides during planting practices, ecologic organic production systems are used; those are based on the principle of maintaining the highest possible diversity of plant species, thus reducing the imbalances that cause diseases and pests in crops which then require using toxic substances. Associated with this environment, diverse in plant species and free of synthesis pollutants, increases the number of species of other life forms, such as mammals, birds, insects and microorganisms that find in plants, a habitat, food and natural regulation of population levels.

URBAN AGRICULTURE LEGISLATION

The National Development Plan (NDP) 2010-2014 is the formal, legal instrument by which the objectives are drawn from the Government allowing the subsequent evaluation of their management. According to the Colombian Constitution of 1991, on the general part there are identified long-term national purposes and goals, targets and priorities for government action in the medium term, and strategies and general guidelines for the economic, social and environmental policies to be adopted by the government (NDP, 2011). Among the goals of the national government, it is regulated to create the Committee of Agriculture and Forestry Development Special Projects in order to receive, review and approve special projects of agriculture (Ministry of Finance and Public Credit, 2011). Under the NDP, in 2008, it was formulated the National Policy on Food and Nutrition Safety (PSAN) by Social Conpes 113, which aims to ensure that all Colombians dispose, access and eat foods permanently and timely, and in sufficient quantity, variety, quality and safety. The policy is reinforced by the commitments made in the "World Food Summit: five years later (June 2002)," which reaffirms the commitments of the World Food Summit of 1996 for meeting the Millennium Development Goals (MDGs) (National Council for Economic and Social et al., 2008). The Presidential Agency for Social Action and International Cooperation, with

its Food Safety Network - Online ReSA ® in Urban Resa aims to improve food access and consumption of urban families with food production for home consumption that encourages savings by ways of not spending, the use of local food and promoting healthy eating projects supporting the management and implementation of urban gardens, workshops, food processing, cooking native, agri-food fairs and other contributing to achieve this goal (Social Action, 2010).

On a more specific level, district and municipal development plans, outstands that Development Plans as Positive Bogota and Bogota Without Indifference, clearly raises Positive strategies for fighting poverty, to strengthen food safety through the promotion of urban agriculture (Bogota Mayoralty, 2008), work done by the institution Jose Celestino Mutis Botanical Garden. On the other hand, the Land Management Plans (LMP) seek the establishment of mechanisms to enable municipalities in exercising their autonomy, promote the management of its territory, the rational and equitable use of soil, types of use according to the vocation of the land, the preservation and protection of ecological and cultural heritage located in its territory and disaster prevention in high-risk settlements, as well as the implementation of efficient urban actions, but in the LMPs made in Colombia, urban agriculture is not covered as a possible land use. Nowadays, in order to face the challenges generated by the little institutional support to the agricultural processes, it is being formulated the Public Policy of Urban Agriculture District which seeks to promote social and environmental development through consolidation of urban agriculture as a strategy of inclusion and strengthening the social network, environmental management and sectoral integration of the territory from a rights perspective (Mayoralty of Bogotá, 2009). This document will no doubt be a great support for the processes that many communities are making now in a self-managed way.

URBAN AGRICULTURE RESEARCH

Urban agriculture has been recognized as an intersectoral topic that requires a multisectoral and multi-actor approach as well as the active participation of the actors directly and indirectly involved in the planning and implementation of policies and action programs. This requires adaptation of the methods used in research and development in rural agriculture to the specific conditions of urban agriculture (De Zeeuw et al., 2002) Bogotá Botanical Garden José Celestino Mutis (JBB) by the 319 Research Project and Training for the Use of the potential uses of Andean and Exotic Plants in Cold Weather Through Urban Crops, currently has different lines of research: Organic fertilization, home composting, seed banks, solar dehydrators. Tests are made with traditional methodology of experimental designs, which is then replicated in the field in the UICAU (Integrated Units in Urban Agriculture) that are located in different parts of the city.

REPRESENTATIVE PROCESSES IN COLOMBIA

FAO MANA: Food Safety Project with Good Agricultural Practices and Family Gardens for Antioquia.

This project is carried out with funding of the Governance of Antioquia and executed by United Nations Food and Agriculture Organization. It seeks to contribute to the food safety

of Antioquia through the implementation of Good Agricultural Practices (GAP) in the rural zones and Productive Gardens, as means of income generation and nutrition improvement for vulnerable families in the department.

The project began in 2005, initially covering 21 municipalities of the department (FAO, 2008) and in the actual phase of the project 2009 – 2010, it has accomplished presence in 105 municipalities, achieving the implementation of 13.150 family gardens for home consumption and 515 apprenticeship gardens or display centers in rural, urban and peri-urban areas, aimed at population with economic vulnerability. To accomplish this, there has been community capacitation, permanent technical consulting for the implemented gardens and periodic delivery of agricultural supplies kits. All this adds a total of 10.103 kits and 9.420 laying hens to 3.000 families (Governance of Antioquia, 2011). Within the main achievements of the project, it is the fruit and vegetable consumption in the population part of the project, which passed from 115.9 g/ capita/ day to 385.1 g/ capita/ day (FAO, 2011), in addition to the improvement on the quality of the consumed food due to the innocuous food obtaining in family gardens. In the process, the production and conservation of seeds was promoted to guarantee the sustainability of the processes, the rational use of hydric resources through storage and recollection, organic manure production, planning of staggered planting of vegetables, legumes and fruits, bird breeding; all this for the consumption of the families, achieving an average decrease of the costs of the family shopping basket of US\$ 42 (FAO, 2009).

CUPBOARD PROJECT “Popayan is nurtured with gardens for all”

This project is carried out by convention between the Mayoralty of Popayan and the UN-FAO, and it seeks the implementation of gardens for home consumption for more than 500 families from the 4 most vulnerable communes of Popayan city (Mayoralty of Popayan, 2011).

URBAN AGRICULTURE IN BOGOTA (Jose Celestino Mutis Botanical Garden Project)

The Botanical Garden Jose Celestino Mutis (JBB), is the public institution that is committed to encouraging and promoting urban agriculture in Bogota, by implementing the 319 Project Research and Training for use of the potential of Andean and exotic plant species of cold weather through urban farming (JBB, 2004), linking this initiative to the government program such as Bogota without Hunger, Bogota Well Fed in the different local mayors and built upon the aim of promoting and leading the actions of food and nutritional safety of the population with emphasis on the poorest and most vulnerable (Walls, 2006, cited by Sanchez, 2008).

This project has contemplated the technical strengthening of the benefited population through training that contemplates the whole process from planting to postharvest, the implementation of UICAU (Urban Agriculture Integrated Units) which are spaces that show the progress made on urban agriculture through research with community, technical assistance to the population that has implemented gardens in their homes; all this with the aim of consolidating a District Urban Farmers Network to cluster actors who practice,

encourage and promote this activity seeking to form and strengthen work groups. Until 2010 around 3400 urban farmers belong to this network (JBB et al., 2010) that continually meet at local work-tables, regional and district meetings of urban farmers, which constitute a space of exchange and marketing of knowledge and products that also, show to the general public the scope when developing this type of initiatives.

Urban Farmers Association of the Trade Pass in Santiago de Cali

The accelerated population growth coupled with the increasingly frequent waves of migration of people from different parts of the country generated growth and incorporation of rural lands to the city and an increasing urbanization of the same. But many lands suffered excessive valorization due to increased infrastructure works that caused a phenomenon of difficult access and resulted in a large area of informal settlements on not legalized lands, dominated with constructions that do not meet basic legal standards. In this context it became necessary, for people living in these settlements, to generate alternative ways to improve their life quality and ensure their food safety. The rural origin of these populations generated as main alternative activity the agriculture in these areas. This activity was consolidated, until in 1988 the Association of Urban Farmers of the Trade Pass was found. It exists today and among other achievements, it has got land titling by collective action (Castro, 2006).

The Manizales Case

Two neighborhoods in this city, Santa Maria and San Sebastian Alto, found in Urban Agriculture, a strategy to solve hunger problems, solid waste management, appropriate and exploit physical spaces such as terraces, gardens and backyards, and rescue community knowledge about the issue of food production. This project was developed between 2004 and 2007 taking advantage of the participatory budget allocated, in the process, home gardens were implemented to produce organically vegetables and medicinal plants in an ecological way, and produced food processing, this in turn articulates with the Community Restaurant for the elderly, to whom much of the production was directed. Among the main achievements, there are to highlight the accomplishment of community ownership of a batch within the figure of loan, the strengthening of leadership to various community actors, the resource self-management processes for project development, and the strengthening the social network within families linked. (However, problems in the development of the project were faced).

From this context, achieving the compilation of the various processes developed around food sovereignty from Urban Agriculture in Colombia, constitutes a tool to accomplish the generation of public policies that guarantee the permanent encourage and support process development of organic food production in cities, besides being a tool of argument to seek and manage institutional support, showing the growing interest of all kinds of people and the achievements that have been obtained by implementing such projects.

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