# Urban Agriculture – Dream, Reality or Fashion?

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***Urban Agriculture*** (UAG) it is an activity practiced in the interior or in the periphery of the Urban areas, where a great diversity of food products is cultivated, produced, created, processed and distributed, using human resources, materials and, products and services available around the urban area.

In the early days, UAG began to be designed in small areas, mainly for production for own consumption, which were often accompanied by small sales of surplus, to neighbors and local markets. This practice started to be perpetrated in backyards, terraces, courtyards, or in urban gardens – community spaces or public and (or) non-urbanized private spaces, many of which are still responsible for meeting the demand of Urban Centers, especially in relation to horticultural products.

What are the main factors that are driving UAG growth? In some regions, such as Asia and Europe, the main factor has been competition, which has been restricting the availability of agricultural areas, between the Rural and Urban areas.

How to explain that countries like Brazil, where there is no agriculture area restriction, this type of activity has been growing? Other aspects, such as sustainability; socioeconomic, cultural and ideological factors, fashion, health, practicality, leisure, among others, seem to be the engines of this movement. From a theoretical point of view it is possible to discuss each factor in detail, however, in practice one must be fully aware of the existence of interaction between the factors and, therefore, difficult to segment.

Regardless of its dimensions and purposes, UAG has already become a reality in most Asian countries, probably due to the restriction of cultivated areas and the need for “Food Security”, and they have been growed rapidly in large cities. Studies show that around 800 million urban households produce vegetables, fruits or flowers, in backyards, roofs or even balcony pots across the planet.

In the Asian continent, the perspective is that this model of agriculture will be a trend in large centers in the 21st century, where people have been looking for new values for their lifestyle, emphasizing issues related to health, leisure and the environment and, in many cases, building more sustainable communities.

The urban model of production has assumed different names and forms, depending on different factors and location. In New York (USA) hanging gardens are the big trends and today they reach around 600 buildings. In Montreal (Canada) there are about 9,000 “Urban Gardens”, while in the United Kingdom it reaches 300,000.

In Germany, the movement known as “Little Garden”, planted the seed of UAG and now a days there are about 1 (um) millions of investments spread across the country, creating new business opportunities for conventional agricultural industries. In the USA, agricultural tools, with an elegant and practical design, were created to reinvent agriculture as a form of leisure; consequently, a new type of market appears, with specific demands for agricultural inputs, mainly in relation to seeds / seedlings, organic fertilizers, and natural products for pest and disease control.

In Brazil, several initiatives have been successful, such as the project established by the Non-Governmental Organization (ONG) “Cidades Sem Fome” (2004), coordinated by the German businessman Hans D. Temp (https:www.//pt.wikipedia.org/wiki/Organiza%C3%A7%C3% A3o_Cidades_sem_Fome), in Suzano (SP), which consists of solving unoccupied land problems, where garbage and debris were deposited. In these places, community gardens were created, where the most diverse types of vegetables and organic vegetables are growing. Other successful examples can be consulted through the website (https://pt.wikipedia.org /wiki/Agricultura_urbana).

The simple model, which uses the areas available inside or around Urban centers, is already a reality and has provided, in addition to the better use of available areas, usually in the form of local productive arrangements, enabling the generation of employment, income and, adding values to products for local markets..

Agricultural production in homes and apartments is another model that has been growing quickly. Pleasure, practicality and health have apparently been guiding this activity. The expectation is that in the near future the production of food in this type of space will take the place of flowers and foliage in houses and apartments.

What are the limits of the UAG? The restriction on expanding the food production capacity, to meet the demand resulting from population growth, as a result of the reduction of the agricultural area due to competition with the urban environment, could be encouraging countries with a high geographical density to bet on this new model as an instrument to guarantee the “Food Security”, as well as expanding the sustainability of the agricultural process.

Although questionable in relation to several aspects, the development of a sustainable model of production, which can meet the needs of the area for food production, arises through a futuristic concept of converting skyscrapers into virtualized “Productive Units”, which could be considered to have an impact on reducing global warming, improving the urban environment and, at the same time, producing food. It seems to be a dream, but that in some countries, like South Korea, it should become a reality in the medium term time.

In this context, several concepts of sustainability are designed in order to make the system as close what defined as “Zero Energy”, that is, the maximum use of natural resources to feed the system. This futuristic concept has been built and analyzed on all aspects related, in addition to productive issues, with the system’s sustainability.

What are the paths being taken? The use of “circular design” allows maximizing the efficiency of using natural light to maintain the ambient lighting, while the rotating solar panels can provide energy for the heating and cooling of the environment and to keep the electrical-dependent system running.

_The use of glass panels on the external structures of the building facilitates the entry of light and can function as a rainwater collecting system. The varnishing of the glass, externally, with lithium oxide allows the capture of polluting agents, contributing to reduce the environmental impact. In addition, the system allows the collection

and subsequent storage of rainwater that slides through the structure, which will be used for consumption and (or) irrigation. The filtration and sterilization of sewage system water allows the use of liquid waste for irrigation of the production system, while solid waste, added to the other organic waste generated in the system, can be used in the biodigestion process for the production of biofuels and organic fertilizers.

***Looks it like a dream?*** No. It is need to imagine the future ways of the agriculture, where environmental, cultural, eating habits, sustainability, area restrictions, etc., will be decisive for determining the paths to be followed.



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