GROWING GREENER CITIES IN LATIN AMERICA AND THE CARIBBEAN

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FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS
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On a visit to Tegucigalpa, I went to one of the city’s poorest informal settlements to see an FAO project that was training women to grow food crops in their backyards. As we climbed slopes lush with cassava, maize and cabbages, they told me how the gardens had changed their lives – by providing their families with fresh, nutritious food and helping them to earn extra income selling surpluses. I met urban farmers like them on the outskirts of San Salvador, where FAO has helped the Government set up a centre to teach women ecological farming techniques adapted to small spaces. In Managua, I saw prolific gardens of tomatoes, sweet peppers and spinach irrigated by an ingenious system of recycled plastic bottles. In Havana, I visited a farm just outside the city that produces 300 tonnes of vegetables a year, with no chemical inputs.

In all of those cities, common people are leading a quiet revolution known as “urban and peri-urban agriculture”, or Upa. In recent years, FAO has strongly supported the development of Upa in Latin America and the Caribbean, in cities from Port-au-Prince to El Alto on the Bolivian altiplano, through initiatives that involved national governments, city administrations, civil society and non-governmental organizations. That groundwork has been rewarded with widespread recognition – highlighted in this report – of the important role of urban and peri-urban agriculture in sustainable urban development.

The report presents urban and peri-urban agriculture in 23 countries and 10 cities. It shows that Upa is crucial to the food and nutrition security of poor households in many cities of the region, supplies urban dwellers with fresh, high-value “local food”, generates employment, creates greenbelts that improve the quality of urban life, and stimulates local economic development.

What’s more, when facilitated by government, integrated into city and regional planning, and supported by action to promote sustainable production, improve food delivery, and ensure food quality and safety, Upa is a key component of robust and resilient urban food systems. For example, a growing number of cities in the region are linking family farmers in peri-urban and adjoining rural areas to their food banks, school meals and other food and nutrition security programmes, contributing to the livelihoods and well-being of both the rural and urban poor.

The food producers of Tegucigalpa, San Salvador, Managua and Havana, and other common citizens of Latin America and the Caribbean, are helping to build the greener, more resilient and sustainable cities of the future.

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Growing Greener Cities in Latin America and the Caribbean

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Overview

In October 2009, representatives of governments, research institutes, NGOs and international organizations from 12 countries in Latin America and the Caribbean met in Medellín, Colombia, to develop strategies to end high rates of urban poverty and food insecurity across the region.

They met as many countries were emerging slowly from the effects of global fuel and food price inflation, which had pushed the cost of living beyond the resources of many of the region’s 160 million urban poor. The hardest hit were urban families in Caribbean countries with a high dependency on food imports, and those in countries with high levels of extreme urban poverty, where food purchases account for most of low-income households’ spending.

The Medellín meeting proposed an urban transition toward social inclusion, equity and sustainability. Its Medellín Declaration urged national, state and local governments to incorporate urban and peri-urban agriculture, or Upa, into their programmes for eradicating hunger and poverty, ensuring food and nutrition security, promoting local development and improving the urban environment.

At the time, Upa was providing a safety net for many low-income families. A recent FAO analysis of national household surveys collected between 2003 and 2008 shows that 1.4 million urban dwellers in Nicaragua and Guatemala were also food producers. Savings made on food purchases, along with sales of produce, accounted for more than one-fifth of their household income.

Five years later, this report looks at progress toward realizing Medellín’s vision of “greener cities” in Latin America and the Caribbean – ones in which Upa is recognized by public policy, included in urban development strategies and land-use planning, supported by agricultural research and extension, and linked to sources of technological innovation, investment and credit, and to urban markets and consumers.

Since 2009, the urban population of Latin America and the Caribbean has increased by some 50 million, to almost half a billion. The region is now the most urbanized in the world, with 80 percent of its people living in towns and cities. Almost 70 million are concentrated in four megacities: Buenos Aires, Mexico City, and Rio de Janeiro and São Paulo in Brazil.

While the proportion of slum dwellers in the urban population has fallen, their total number grew to more than 110 million in 2010. Urban poverty rates remain unacceptably high – 30 percent of urban residents in Colombia, 35 percent in Guatemala and 24 percent in Paraguay were living below the national poverty line in 2011.

And the spectre of urban hunger has not been beaten. A recent World Bank study found that higher food prices are “here to stay” in Latin
GROWING GREENER CITIES IN LATIN AMERICA AND THE CARIBBEAN

OVERVIEW

To assess the state of urban and peri-urban agriculture in Latin America and the Caribbean, FAO conducted a survey in 2013 in 27 countries; completed surveys were received from 23 of them (listed on page iv). FAO also commissioned case studies on agriculture in and around 13 of the region’s major cities*.

Data was provided on agriculture in 110 cities, municipalities and towns, ranging from major urban agglomerations, such as Mexico City, to the community of San José del Golfo (population: 5,889) in Guatemala; from the prosperous regional capital of Belo Horizonte, in Brazil, to overcrowded camps of displaced people on the outskirts of Port-au-Prince.

FAO’s inquiry has confirmed that Upa is widespread in the region. It is practised, for example, by 40 percent of households in Cuba, and 20 percent in Guatemala and Saint Lucia. In the main cities and municipalities of the Plurinational State of Bolivia, 50,000 families are also food producers. In Bogotá, 8,500 households produce food for home consumption. In Haiti, 260 ha of land in and around Port-au-Prince and other towns are cultivated by 25,500 families.

Among capital cities, the “greenest” is Havana, where 90,000 residents are engaged in some form of agriculture, whether backyard gardening or working in the city’s commercial gardens and on livestock farms. Quito also stood out: at last count, the city had 140 community gardens, 800 family gardens and 128 school gardens.

Urban agriculture in the region encompasses a wide range of activities suited to small spaces, from backyard vegetable gardening to intensive production of flowers and the raising of small

* FAO will publish a detailed analysis of the survey data and a compendium of the case studies in 2014.
surpluses for sale, the main constraints were the high cost of inputs, the lack of quality seed, and the unavailability of credit needed for buying tools and processing equipment. But higher yields were no guarantee of higher earnings – most producers had very limited access to markets.

In city region food systems, agriculture in peri-urban areas and rural areas is critical to the supply of food to urban centres, and contributes to employment, livelihoods, nutrition and environmental resilience. The city region scale is seen as a sustainable, manageable spatial unit for integrating food production with other ecosystem services and providing social protection for the rural and urban poor.

In Latin America and the Caribbean, peri-urban agriculture includes large farming areas that produce cereals, vegetables and root crops, grazing land for goats and sheep, dairy farms, and intensive livestock production units. Some 22,800 ha of farmland within the bounds of Mexico City produce annually around 15,000 tonnes of vegetables. On the outskirts of Lima, short-cycle vegetables are grown on some 5,000 ha of irrigated land for sale in the city’s markets. Small-scale farming is a source of income for settlers from rural areas and many of Lima’s urban poor.

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Despite its role in creating employment and feeding cities, peri-urban agriculture is under increasing pressure from urbanization itself. In Argentina, the production of soybean for export has displaced peri-urban production of milk, fruit and vegetables.

In Mexico City, informal settlements are spreading on land reserved for agriculture, and the overexploitation of aquifers by domestic and industrial users has caused a serious decline in...
the supply and quality of water. Small farmers have limited access to the city’s markets; they lack processing technologies needed to add value to their produce, and are exposed to health risks from the overuse of agrochemicals.

In Lima, intense competition for water forces most farmers to irrigate with highly polluted wastewater. Urban sprawl has taken out of production some of the Province of Lima’s best farmland, and is pushing agriculture into more distant and less fertile areas, which will lead to longer distribution channels, higher food prices and shortages of some produce.

**Growing greener cities with agriculture** needs the support of government, from national to local levels. Governments set urban development policies and priorities. As major landowners and managers of solid wastes and water supplies, they can provide — or deny — the resources needed for UPA. We examine here the extent of political and institutional commitment in the region, and what that support means for urban and peri-urban agriculture “on the ground”.

Twelve of the 23 countries surveyed have national policies that explicitly promote UPA. Eight of them are in the Caribbean. Cuba’s policy dates back to 1997, when the government decided to promote urban agriculture nationwide. Its UPA programme has established in Havana a network of agricultural supply stores, municipal seed farms, composting units and veterinary clinics. Urban farmers are entitled to agricultural insurance and production loans.

In Brazil, support to UPA is part of the national Zero Hunger policy. Implemented with local authorities, it includes the building of farmers’ markets, training for school gardeners, the allocation of vacant urban spaces for agriculture, and reduced taxes on land used for the purpose.

Then there are countries with no policy on UPA, including some — Colombia, Ecuador and Peru — which have large urban populations and active urban agriculture programmes in their capitals, Bogotá, Quito and Lima.

Even in the absence of a national policy, however, UPA has been mainstreamed at a fairly high level within national institutions. While Bolivia has yet to adopt its draft National Food and Nutrition Policy — which is expected to endorse urban and peri-urban agriculture — the country’s Ministry of Productive Development and Plural Economy will launch, with FAO’s assistance, a national UPA programme in 2014.

Out of 26 countries for which information is available, 17 have at least one government ministry charged with regulating, facilitating and supporting UPA. In the Caribbean, a national ministry, usually the Ministry of Agriculture, is responsible for the sector in 11 of the 12 countries surveyed. In Antigua and Barbuda, support to backyard gardening includes the services of eight extensionists and six community facilitators, and the supply of seeds, seedlings, fruit trees and inputs, free of charge or at minimal cost. In Guatemala, the Ministry of Agriculture, Livestock and Food has created a Department of Urban Agriculture, which provides producers with training, tools and inputs.

In some countries, UPA is promoted by national research institutions. Argentina’s Pro-Huerta gardening programme has been operational for more than 20 years under the National Institute of Agriculture and Livestock Technology, and has helped to establish 8,000 community gardens and half a million family gardens.

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But the real test of political and institutional commitment must be at the city level. In Caribbean countries, it is national government institutions that regulate and support agriculture in urban areas, which is to be expected, given the small size of most Caribbean island states.

In Cuba, Guatemala and Nicaragua, the task is shared between national, provincial and local authorities. In Rosario, Argentina, the city government allocates 25 agronomists and US$380 000 a year to its agriculture programme, while Pro-Huerta provides training, seeds and tools and Santa Fe Province funds the installation of infrastructure.

Belo Horizonte’s Urban Agriculture Support Policy recognizes Upa as contributing to “the full development of the social functions of the city”. The local government invests $240 000 a year to promote food production, with support from the state agricultural extension service. Upa development is guided by a Council for Food Security, which includes representatives of municipal, state and federal governments.

Local government, at different territorial and administrative scales – from parish and municipality to district and province – is responsible for Upa in Bolivia, Colombia, Ecuador, El Salvador, Haiti, Honduras, Paraguay and Peru. Many cities have mandated specialized agencies to manage and support Upa activities in their jurisdictions. In Quito, it is the municipal agency for economic development, which provides subsidized inputs and helps to develop urban gardeners’ management skills.

Several municipalities on the outskirts of Guatemala City have their own home gardening programmes. Municipalities, often working with NGOs, are also the main promoters of Upa in El Salvador and Honduras. El Alto’s municipal government has adopted as a public policy the promotion of agricultural and livestock production in its urban and peri-urban areas.

Provincial and district governments have responsibility for Upa in Peru. The Metropolitan Lima Municipal Council adopted in September 2012 an ordinance which establishes an urban agriculture programme. However, many local administrations have no policy or programmes for agriculture.

Why do some cities embrace Upa and some not? Among factors favouring Upa development is the involvement of international organizations, such as FAO and UN-HABITAT, and international NGOs, such as the Resource Centres on Urban Agriculture and Food Security (RUAF Foundation) and the Institute for the Promotion of Sustainable Development (IPES).

Between 2004 and 2011, a multidisciplinary Urban and Peri-urban Agriculture Group, based in FAO’s Regional Office for Latin America and the Caribbean, promoted Upa development across the region. It organized high-level meetings of policymakers and launched projects in Argentina, Bolivia, Brazil, Colombia, Ecuador, Guatemala, Honduras, Nicaragua, Uruguay and Venezuela which generated knowledge and tools that are used today in the design of Upa strategies and programmes, and in training and technology transfer. The regional Upa initiative also produced a series of radio programmes and educational videos, an on-line capacity-building course, and practical manuals on subjects including gardening, simplified hydroponics, seed production and biological pest control.

Local NGOs can stimulate local Upa. Rosario’s programme grew out of an NGO initiative that introduced gardening in slums. The political will of individuals can also be decisive: programmes
for urban agriculture in Belo Horizonte and Bogotá were initiated by mayors elected on platforms of food security and inclusive socio-economic development.

Sometimes, the positive results of city initiatives can influence national policy. The success of FAO-supported backyard gardening projects in Managua and Tegucigalpa helped persuade the Governments of Nicaragua and Honduras to “up-scale” urban agriculture to national level.

**Following the 2007–2008 food crisis,** a United Nations high-level task force called for a paradigm shift in urban planning, to one that encourages urban and peri-urban food production. Zoning land for agriculture is one recommended measure – it protects land from competing uses, and can help establish urban farming as an economic activity and urban farmers as a professional category.

FAO’s survey found that UPA is often excluded from – or not explicitly included in – city land use planning and management in Latin America and the Caribbean. That was the case in Antigua and Barbuda, Chile, Colombia, Dominica, Ecuador, Dominican Republic, El Salvador, Guyana, Honduras, Jamaica, Panama and Paraguay. In another five, no information was available.

Only Cuba, Guatemala and Peru confirmed that UPA is included in the land use plans of at least some cities or municipalities. In Guatemala, the municipality of Palencia has recognized backyard gardening in its development plan. In Peru, local governments in three of Lima’s districts have incorporated agriculture in their planning, sometimes for civic beautification.

Crop and animal production is recognized as a legitimate land use in Havana’s strategic plan, which allows agriculture in areas where construction is not foreseen. The city’s Urban Planning Office conducts an impact evaluation of all proposals for UPA-related activities, requiring, for example, that large vegetable gardens harmonize with their locations.

In Argentina, Rosario’s land use plan makes specific provision for the agricultural use of public land, and the municipality is building a “green circuit” of farmland passing through and around the city. Food production is also recognized as a legitimate non-residential land use, on a par with commerce, services and industry, in Belo Horizonte.

But urban planners are far still behind UPA in many cities, even some with long-standing UPA programmes. While Quito’s new development plan envisages an equitable, sustainable and participatory city with full employment and a diversified economy, it makes no mention of urban agriculture.

Peri-urban agriculture also needs protection from unplanned urban growth. To safeguard its supply of drinking water – and oxygen – Mexico City has classified more than half of its total land area as a protected suelo de conservación, which includes 300 sq km of farmland. However, efforts to promote sustainable agriculture in suburban and peri-urban areas are stymied, not only by illegal settlements, but also by small-scale farmers’ lack of secure land tenure.

**A strong trend** in many UPA programmes in Latin America and the Caribbean is toward agricultural technologies and practices that produce more, and better quality, food while optimizing the use of natural resources and reducing reliance on agrochemicals.

In Havana, the use of synthetic fertilizer
and pesticide is prohibited by law. To keep soil healthy, the UPA programme provides green manure and vermicompost, and links gardeners to sources of manure, household wastes and agro-industrial residues for making compost. Havana’s gardens are so productive and cost-efficient that the national Ministry of Agriculture promotes agro-ecological production in rural areas as well.

Vegetables are 100 percent organic in Rosario, where gardeners cultivate high-yielding beds of compost substrate. In Managua, they enrich the soil with fertilizer made by anaerobically fermenting household wastes, and combat whiteflies with sticky traps.

In Tegucigalpa, the FAO-supported project promoted low-cost gardening technologies that were easy to implement using local inputs. Because soil quality is more easily enhanced in small spaces, various containers were tested to optimize production. The preferred containers were old tyres, which gardeners found higher yielding and easier to irrigate. In El Alto, a project installed, in small, locally made greenhouses, hydroponic gardens that produce 40 kg of tomatoes per square metre a year.

FAO has promoted various technologies that conserve water. In Managua, the answer to dry season water shortages was a rooftop rainwater harvesting system, which channels run-off during the wet season to a 5 000 litre storage tank. In El Alto, the use of surface mulch and drip irrigation reduced water needs by 80 percent. In Tegucigalpa, many women use old tyres filled with gravel to purify kitchen greywater, and re-use it on their gardens.

When appropriately treated, wastewater from domestic sources is safe to use on crops and contains nutrients that increase yields. Lima’s abundant supply of wastewater could soon be put to good use in its peri-urban farming areas. Thanks to two new sewage treatment plants, 100 percent of the Lima’s effluent will be treated by the end of 2014. That opens the way for the re-use of the city’s liquid and solid wastes on some 10 800 ha of farmland, which would increase production and create jobs.

Animal production can also be made safer and more productive. A district office for urban agriculture in Lima trained pig farmers in good production practices, such as vaccinating their animals, improving their diet, safely disposing of wastes and building concrete sties. The farmers have recently begun converting pig manure into biogas and selling it to urban residents.

Although Mexico City prohibits the use of agrochemicals on its peri-urban farmland, enforcement is weak because responsibility for compliance is placed on the farmers, not the suppliers. A transition to sustainable agriculture also requires more efficient management of urban organic wastes for composting, and increased capacity for the treatment of wastewater for irrigation.

To realize UPA’s full potential for generating income, stimulating economic development and delivering food that is safe and of good quality, producers need access to markets and technologies that add value to their produce.

FAO’s survey and city case studies indicate that many people practising UPA for home consumption also sell surpluses. The proportion of “commercial producers” was 26 percent in Antigua and Barbuda, 40 percent in Cuba, 54 percent in Bolivia and 68 percent in Dominican Republic.

Cities with successful UPA programmes usually have well-organized marketing systems. Havana has fruit and vegetables sales points located
prepare vegetable trays and baskets, and make pie fillings, soups, jams and sweets. In El Alto, 70 families, trained in post-harvest handling and packaging, now sell their vegetables under the brand name, “Verdurita”, in the capital, La Paz.

Many urban and peri-urban farmers have been tapped as suppliers of institutional feeding programmes. In Havana, Upa provided in 2013 some 6 700 tonnes of food to almost 300 000 people in schools, public health centres, hospitals and other institutions in the city. Urban, peri-urban and rural agriculture contribute to Belo Horizonte’s multiple programmes for food and nutrition security. A third of the food in the 46 million meals prepared annually for its school feeding programme is procured from family farmers in the metropolitan region’s rural areas.

The international community is developing a global development agenda beyond 2015, with sustainable development at its core. As part of that process, all stakeholders have been invited to participate in setting Sustainable Development Goals (SDGs), to be agreed by the United Nations General Assembly.

There is a general consensus that the SDGs should include: eradicating hunger and poverty, increasing agricultural production sustainably and improving food systems, and building sustainable cities that provide food security, economic opportunity and a healthy environment, and have strong links to peri-urban and rural areas. The city region food system offers a point of convergence for achieving all of those goals.
GROWING GREENER CITIES
Profiles of agriculture as it is practised in and around 10 cities of the region