



Systems of Control for Agroecological Food Production and Commercialisation in Quito, Ecuador

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Agriculture is a key element of Quito's history. Food production for self-provisioning was practised throughout the consolidation of the city by different groups historically inhabiting the territory. The Quito people were the first inhabitants of the territory (500 CE), then with the conquest of the Caras (980 CE) the Quito–Cara culture began. They developed important engineering works such as agricultural terraces on mountain slopes and irrigation channels on desiccated lagoon beds. The development of these agricultural systems sustained the population growth of that era.

The Quito-Cara culture, together with its knowledge and traditions, lost ground after the arrival of the Incas (1487 CE). The Incas possessed key agricultural expertise, which allowed them to increase the productivity of the land. They were able to bring into production land that was until then considered ill-suited for agricultural use, as well as to overcome the inclement climate. The Incas developed innovative tools, fertilising and soil conservation techniques and water optimisation systems. In addition, they were able to domesticate a broad range of plant species and develop a harvest calendar. It is estimated that the Incas cultivated up to 70 plant species. Food was at the centre of rituals and spiritual life. For example: "Inti Raymi" is the festival of the sun and the harvest of the solstice of June. This symbolises the gratitude of the Andean peoples, who offer thanks to Paccha Mama (Mother Earth), for allowing a good production

and harvest of traditional products. This gratitude is celebrated with music and dance.

Ancestral knowledge and alternative technologies are the basis under which the 'chacra,' a small-cultivated plot, is managed. This approach – currently validated technically and scientifically – is part of the Andean worldview and considered to have a strong agroecological base.

Through Spanish colonisation, new crops such as fruit trees, vegetables, cereals and farm animals were introduced. Additionally, practices of food production in household yards and religious communities became generalised.

Across time, expressions of urban agriculture in Quito have been based on traditional and ancestral practices inherited from the pre-Columbian era. This mostly refers to potato, corn, field bean, black-seed squash, pumpkin, broad beans, quinoa, mashua and oca. However, these practices have not fully escaped the influence of the green revolution – which triggered indiscriminate agrochemical use, biodiversity loss, unreasonable resource use as well as the loss of cultural values like community work and connection with nature.

The most common element across urban agriculture definitions is localisation – mostly discussed in terms of proximity to cities (e.g., intra or peri-urban agriculture). However, urban agriculture is not solely distinguished from its rural counterpart based on geographical location but by its integration and interaction to, and with, the urban ecosystem. Therefore, urban agriculture must be based on agroecological principles to achieve sustainable production and support human health. Achieving a diverse and stable agricultural production in urban areas hinges on the

development of production systems that are well-adapted to the urban ecosystem, respond to the effects of climate change and mitigate it.

Meeting future demand for food under sustainable production schemes and through reasonable processes has become of vital importance for the future of humanity. The municipality of the metropolitan district of Quito has – since 2002 – addressed this challenge through the implementation of the Agricultura Urbana Participativa project (AGRUPAR, Participative Urban Agriculture). Through this project self-production of food on previously unproductive or underutilised spaces is encouraged. This strategy aims to reduce food insecurity by improving the availability, access and quality of food, as well as to generate a source of income and savings for the producers engaged in the scheme. Moreover, the strategy is framed as a vehicle for urban sustainability and resilience since its implementation can contribute to improving microclimates, nutrient cycling, water management and biodiversity preservation.

AGRUPAR as an intervention is based on *agroecological and organic practices*; it supports the direct marketing of surplus production, the economic and social inclusion of vulnerable sectors, and the promotion of responsible consumption – with an emphasis on local, fresh, diversified and nutritious diets.

Many urban families in vulnerable situations are actively involved in self-production of food and related activities. Eighty-four per cent of project participants are female heads of households. This practice not only improves access to safe food, but it also generates savings and even increases household income, becoming a means of livelihood. The average monthly income recorded is USD \$175. Through the AGRUPAR project, the municipality currently supports 1300 productive units on more than 30 hectares in Quito, carrying out horticulture, farm animal husbandry and food processing. The municipality provides training and technical support on topics such as cultivation, handling of small

animals and food processing. The project has 17 farmers' markets (locally known as bioferias), which allow the direct sale of surplus production. More than 105 types of food can be found at these markets.

In 2007, an internal control system (SIC, sistema interno de control) was developed as part of the AGRUPAR project to ensure transparency and traceability of activities. This control system has since supported food producers in the documentation of all relevant productive activities (i.e., soil preparation, fertiliser use, sowing, plant transplants, phytosanitary control, crop rotation plan, inputs, acquisitions and sales, production records and annual improvement plans amongst others). A key component of this system is the *analysis of pesticide residues* in soil, plants and unharvested products, which equips farmers with an additional point of control.

As part of the internal control system (SIC) several resources and processes have been put in place to ensure its effectiveness. These include: a quality control manual, a point person for quality issues, an approval committee as well as internal inspectors (project technicians). The latter carry out annual audits on the productive units, based on the Ecuadorian organic-ecological-biological production standard. Further, an external agency – nationally accredited and whose work is overseen by the national authority for sustainable food production (AGROCALIDAD) – audits and certifies productive units wishing to obtain a nationally-recognised organic certification. This can enable food producers to access differentiated food markets. Finally, at farmers markets, producers conduct additional inspections and interact with consumers as a form of community oversight.

The SIC provides an effective mechanism through which AGRUPAR can guarantee that the production from the units, *whether officially certified or not*, complies with national regulations. Production practices in AGRUPAR units *go beyond* organic production principles as these only



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substitute inputs, fail to increase diversity and consider food as a commodity to be traded at the highest possible price as opposed to being a basic human need.

Organic production based on agroecology principles, leads to greater autonomy by reducing dependence on energy, knowledge, inputs and intermediaries. Additionally, it stimulates the use of local inputs, the recovery of ancestral practices, the recognition of flexibility and resilience of family labour as well as the reduction of dependence on a single product or market through the generation of highly-productive and diversified systems. Within the agroecological approach there is greater recognition of agricultural ecosystems, the health of both farmer and consumer, the sustainability of livelihoods, as well as the nutritional, therapeutic and safety values of food.

In Quito, other initiatives related to healthy food have been developed by civil society organisations. For example, agroecological market fairs. These fairs allow local farmers and those from nearby provinces to sell their products. Products found on these markets are guaranteed through the Participative Guaranty Systems (SPG, *Sistemas Participativos de Garantía*). SPG systems operate based on the participation of several actors that endorse the product and the agroecosystem through which it was produced. SPG systems will soon be regulated by the national framework for agroecological production.

In 2016, the Municipality of Quito opened the first organic and agroecological market – La Floresta – with the aim to improve access to healthy and local food. Both organic and agroecological food producers participate in the market. They share the space and complement each other's food offerings. However, the lack of a framework in which selection criteria for vendors as well as the equivalence of diverse control and certification schemes are clarified, emerged as the main operational challenge for the market. Control systems range from the AGRUPAR endorsement, to formal

organic certification, to certification validated through a participative guaranty system. Given the diversity of processes, degrees of traceability as well as the documentation validating each of these schemes, there is a need for additional controls. Such controls would entail verification visits to producers, harmonisation of supervision formats as well as of technical expertise across teams, the creation of an assessment committee and the possibility of carrying out pesticide analysis on residues.

While there are differences between the agroecology-based organic production in the urban setting and its more purely rural equivalent, it is their commonalities, which have brought both sets of producers to work together. Actors recognise both systems as sustainable and with food as their unifying theme they jointly lead the movement towards food sovereignty in Quito. Their efforts focus on developing regulation for the use of municipal markets; in fact, both branches of the movement were invited to collaborate in the development of a regulation for the law of seeds, biodiversity and promotion of sustainable agriculture in Ecuador – a law that was recently approved by the National Assembly.

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English translation by G. Villarreal Herrera.

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