



# Towards a Transformative Urban Agroecology

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**From its initial emphasis on ecology for the design of sustainable agriculture, agroecology now emphasises the study of the ecology of food systems, including all the elements (environment, people, inputs, processes, infrastructures, institutions) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes. Agroecology's focus on whole food systems thus invites urban producers to think beyond their garden plots and consider broader issues such as citizens' access to food within urban municipalities and the governance of food systems.**

Urban agroecology is increasingly informed by a vision of food sovereignty which aims to regenerate a diversity of autonomous food systems in both rural and urban areas. Food sovereignty seeks to guarantee and protect people's space, ability and right to define their own models of production, food distribution and consumption. Three dimensions of urban agroecological transformation are highlighted here: *ecological* (re-organising the material basis of food production in the image of nature); *political* (expanding citizen participation and democracy in the co-production of knowledge, policies and urban spaces); and *economic* (inventing forms of economic organisation that re-territorialise food and wealth production whilst creating

free time for citizens to shape and re-govern urban spaces).

## Urban agroecology practices for food sovereignty

A transformative urban agroecology for food sovereignty seeks to reduce dependence on corporate suppliers of external inputs and distant global commodity markets. Agroecological approaches in urban areas thus tend to be based on:

- *Re-embedding gardening and agriculture in nature, relying on functional biodiversity and internal resources for production of food, fibre and other benefits.* Resilient agroecological systems mimic the structure and function of natural ecosystems: biodiversity-rich fruit orchards and agroforestry systems, intercropping, genetic mixtures, mixed farming, agro-sylvo-fish production systems;
- *Reducing dependence on commodity markets for inputs* (hybrid seeds, fertilisers, pesticides etc.) enhancing urban farmers' autonomy and control over the means of production;
- *Diversifying outputs and market outlets, often with the help of citizens.* A greater reliance on alternative food networks that reduce the distance between producers and consumers whilst ensuring that more wealth and jobs are created and retained within local economies: Community Supported Agriculture, short food chains and local food webs, local procurement schemes that link peri-urban organic producers with city schools and hospitals;
- *Rediscovering forgotten resources:* organic manure and the soil's capacity to improve the yields and nutritional quality of foods; renewable energies (solar, wind, biogas) and their decentralised and distributed micro-generation in towns and cities;

- *Trade rules protecting local economies and ecologies*: the spread of agroecological practices in urban areas depends on: (a) replacing proprietary technologies and patents on biodiversity with locally adapted legal frameworks that recognise farmers' rights and guarantee equitable access to urban seeds and livestock breeds; (b) replacing global, uniform standards for food and safety by a diversity of locally developed food standards that satisfy food and safety requirements; (c) introducing local food, energy, and water procurement schemes.

### From linear to circular food systems

Urban agroecology in the context of food sovereignty goes much further than a focus on *agricultural production* alone: it questions the structure of the entire food system. Indeed, much of conventional *urban agriculture* is dependent on external inputs (e.g. hybrid seeds, pesticides) and mirrors aspects of industrial food systems which are fundamentally unsustainable, along with their supporting energy, water and waste management systems. Their linear, and increasingly globalised, structure assumes that the Earth has an endless supply of natural resources at one end, and a limitless capacity to absorb waste and pollution at the other. An alternative is to shift from linear systems to circular ones that mimic natural cycles. This can be done by adopting a circular metabolism that reflects the natural world. There are two ecological design principles here which are shared by agroecology and related approaches such as bio-mimicry, eco-design, and permaculture. The first is that nature is based on nested and interacting cycles – for example, carbon, nitrogen, phosphorus, and water. The second is that 'waste' is converted into a useful form by natural processes and cycles, ensuring that waste from one species becomes food for other species in the ecosystem.

In circular urban and peri-urban production systems, specialised and centralised supply chains are replaced with resilient and decentralised webs of food and energy systems that are integrated with sustainable water and waste management systems. Circular systems that mimic natural ecosystems can be developed at different scales, from individual garden plots to entire cities, by using functional biodiversity, ecological clustering of industries, recycling, and re-localised production and consumption within a territorial based approach to sustainable living. These circular systems are often characterised by: agroecological design; a focus on 'doing more with less'; widespread recycling and reuse; the re-localisation of production and consumption; and a new agrarian-industrial mutualism between towns and countryside. Circular systems that combine food and energy production with water and waste management aim to reduce carbon and ecological footprints whilst maintaining a good quality of life through a controlled process of de-growth in consumption and production based on the '8 Rs': Re-evaluate, Re-conceptualise, Restructure, Redistribute, Re-localise, Reduce, Reuse and Recycle.

Village Homes in the suburbs of Davis in California (USA) pioneered this circular economy approach in the late 1970s ([www.villagehomesdavis.org](http://www.villagehomesdavis.org)). A 70-acre subdivision was designed to promote sustainable living, integrating within

the landscape solar-powered homes and low energy buildings, pest management, ecological land use, runoff management and consumption of locally grown food. Today, local residents obtain a significant share of fresh, seasonal food from the Village's 23 acres of greenbelts, orchards, vineyards and vegetable gardens based on urban agroecological principles.

On a larger scale in Spain, urban farmers and other citizens involved in the *Catalan Integral Cooperative (CIC)* in the city of Barcelona and nearby municipalities are weaving together a decentralised and distributed network of circular systems under democratic control and popular self-management. For example, CIC has successfully developed a functional logistics network for the transport and delivery of organic food of small producers in peri-urban and rural areas of Catalonia. CIC's *Network of Science, Technique and Technology* has developed technologies and machines adapted to the particular needs of small producers and urban gardeners. Peri-urban agroecological farms that feed local schools work with cooperatives for the digital manufacturing of farm tools and they are also part of a territorial network of peer-to-peer production, small scale industrial ecologies, as well as local exchange networks and social currencies. These socio-technical innovations not only foster a new agrarian-industrial mutualism between town and countryside; they also help restore a sense of selfhood, competency and active citizenship (<https://cooperativa.cat/en/>).

### Deepening democracy

One of the clearest demands of the agroecology and food sovereignty movement is for citizens to exercise their fundamental human right to decide their own food and farming policies. Democratising the governance of municipal food systems means enabling urban farmers, gardeners and other citizens, - both men and women -, to directly participate in the choice and design of policies and institutions, decide on strategic research priorities and investments, and assess the risks of new technologies. This can be best done through an expansion of direct democracy in decision making to complement, or replace, models of representative democracy. Institutional innovations such as popular assemblies and methods for inclusive deliberative processes such as citizens' juries help create safe spaces for decision making *by and for* citizens.

Deepening democracy assumes that every citizen is competent and reasonable enough to participate in democratic politics. However, this requires the development of a different kind of character from that of passive taxpayers and voters. Second, active citizenship and participation in decision-making are rights that are claimed through the agency and actions of people themselves – they are not granted by the state or the market. Third, empowering urban farmers and other citizens in food system governance requires social innovations that i) create inclusive and safe spaces for deliberation and action; ii) build local organisations and their federations to enhance peoples' capacity for voice and agency; iii) strengthen civil society and gender equity; iv) expand information democracy and citizen controlled media



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(community radio and video film making, among others); v) promote self-management structures at the workplace and democracy in households; vi) learn from the history of direct democracy; and, vii) nurture active citizenship. Fourth, only with some material security and time can urban farmers and other citizens be 'empowered' to think about what type of policies and institutions they would like to see and how they can develop them. This requires radical reforms in economic relations similar to those listed in Box 1.

Last, new political structures are needed to combine localism with interdependence for coordinated action across towns, cities, peri-urban landscapes and larger areas. One option is 'democratic confederalism', which involves a network of citizen-based (as opposed to government) bodies or councils with members or delegates elected from popular face-to-face democratic assemblies. These confederal bodies or councils enable the interlinking of a region-wide web of city neighbourhoods, villages, and municipalities into a confederation through which citizens can govern themselves.

### A transformative urban agroecology calls for alternative economic practices

- *The re-localisation of plural economies that combine both market oriented activities with non-monetary forms of economic exchange based on barter, reciprocity, gift relations, and solidarity;*
- *A guaranteed and unconditional minimum income for all;*
- *A significant drop in time spent in wage-work and a fairer sharing of jobs and free time between men and women;*
- *A tax on financial speculations, to fund the regeneration of local economies and ecologies;*
- *Cooperative, communal, and collective tenure over land, water, seeds, knowledge and other means of livelihood;*
- *Economic indicators that reflect and reinforce new definitions of well-being such as conviviality and frugal abundance.*

### Conclusion: toward a new modernity?

A growing number of youth in social movements claim that agroecology and food sovereignty can help invent a new modernity by regenerating autonomous food systems in rural and urban spaces. This vision of modernity looks to other definitions of 'the good life' - including Buen Vivir or Sumak Kausai in Latin America, De-growth in Europe, and Ecological Swaraj in India. By encouraging a shift from linear to circular systems, agroecological pathways to urban gardening and farming not only help reduce the carbon and ecological footprints of cities and produce nutritious food. A transformative urban agroecology for food sovereignty can also contribute to a wider emancipatory process in which citizens affirm their collective right to democratically control the production and use of urban space and urban processes. This 'right to the city' involves claiming '*some kind of shaping power over the processes of urbanisation. Over the ways in which our cities are made and remade, and to do so in a fundamental and radical way.*'

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