



Urban Agriculture: Concept and definition

Key features of current definitions of ‘urban agriculture’ generally have downplayed a critical trait that makes urban agriculture to be urban. Urban agriculture is different from, and complementary to, rural agriculture in local food systems: urban agriculture is integrated into the urban economic and ecological system. Unless this dimension is enhanced and made operational, the concept will remain little useful on the scientific, technology and policy fronts.

On the ground, urban agriculture is growing out of its ability to assist with, resolving or coping with diverse development challenges. It is spurred by a complex web of factors still little understood, not the least of which are urban poverty and food insecurity. A common agreed concept is necessary, because policy and technology interventions need first and foremost to identify meaningful differences and gradations, if they are to better assess and intervene with appropriate means for promotion and/or management of urban agriculture.

CONCEPT DEVELOPMENT

Concepts are mental tools that we forge – and eventually rework – to better understand, interact with and modify our real-world experience. They are historically and culturally bound, relevant in

some places and less so in others, fitting today but perhaps less so tomorrow. The urban agriculture concept needs to evolve out of our need to codify and refine our perceptual experience with a rather new world phenomenon, so as to ensure that it remains or becomes more useful to us where we will need it. Its identity depends on this external functionality as much as on its internal coherence.

The expression Urban Agriculture, or “Intra- and Peri-Urban Agriculture”, originally used only by scholars and occasionally in the media, has now been adopted widely (Smit et al. 1996b, FAO, 1996; COAG/FAO 1999). This makes the need to further define and specify the concept important. Only with greater internal coherence and external

functionality will it turn into a distinctive and useful tool for us to understand and intervene.

By *internal coherence*, we should ask, whether urban agriculture really is what we call, or want to call, what we perceive to be out there. The overarching definition should lead us into a full conceptual system or edifice, a structure of interconnecting compartments anchored into real-world experience.

With *external functionality* the position of urban agriculture in relation to other concepts, for instance rural agriculture, sustainable urban development or urban food supply systems is needed. The concept should be clear enough, that users can easily perceive its potential for complementarity and synergy with related concepts.

CURRENT DEFINITIONS

The more common definitions of urban agriculture are based on the following determinants (see figure 1):

- ❖ types of *economic activities*;
- ❖ food/non-food categories of *products* and subcategories;
- ❖ intra-urban and peri-urban character of *location*;



Figure 1: Urban Agriculture: Common Dimensions

- ❖ types of *areas* where it is practised;
- ❖ types of production *systems*;
- ❖ product *destination* and production scale.

Economic Activities

Most definitions refer to the production phase of agriculture, while recent definitions add processing and trade to production and emphasise the interactions between these. In urban agriculture, production and marketing (and also processing) tend to be more interrelated in time and space, thanks to greater geographic proximity and quicker resource flow. Economies of agglomeration seem to prevail over those of scale.

Categories of Products

The definitions here may highlight food production for consumption by either people or livestock. Further, a difference between type of crop (grain, root, vegetable, aromatic and medicinal herbs, ornamental plants, tree and fruit crops) and types of animals (poultry, rabbits, goats,

sheep, cattle, pigs, guinea pigs, fish, etcetera) is made. Within the food category, definitions clearly stress the more perishable and relatively high-valued vegetables and animal products and by-products. To exclude the non-food category from the general urban agriculture concept would truncate the understanding of city farming at large.

Exchanges are taking place across production systems and within particular production units. Many ways exist in which urban agriculture interacts with other urban functions to use and provide resources, outputs and services to the city.

Location

By far the most common element of the reviewed definitions is location, and probably the biggest source of contention. Few field studies actually differentiate between intra- and peri-urban locations, or if they do criteria used vary widely. Those who do differentiate have used as criteria for *intra-urban agriculture*: population sizes, density thresholds, official city limits (Gumbo & Ndiripo 1996), municipal boundaries of the city (Maxwell & Armar-Klimesu 1998), agricultural use of land zoned for other use (Mbiba 1994) or agriculture within the legal and regulatory purview of urban authorities (Aldington 1997).

For *peri-urban agriculture*, the location definition is more problematic. Peri-urban locations are in closer contact with rural areas and tend to undergo, over a given period of time, more dramatic agricultural changes than do locations in more central and built-up parts of the city. Authors have been trying to delineate the outer boundary of the peri-urban area, using for instance urban, sub-urban and peri-urban zones based on varying ratios of buildings and roads and increasing ratios of open space per km² (Losada et al. 1998). Others use the maximum distance away from city centre within which farms can supply perishables to the city on a daily basis (Moustier, 1998), or the area within which people living within the city's administrative boundaries can travel to engage in agricultural activities (Lourenço-Lindell, 1995).

Types of Areas

Criteria according to which such areas are typified vary from author to author: location respective to residence (on-plot

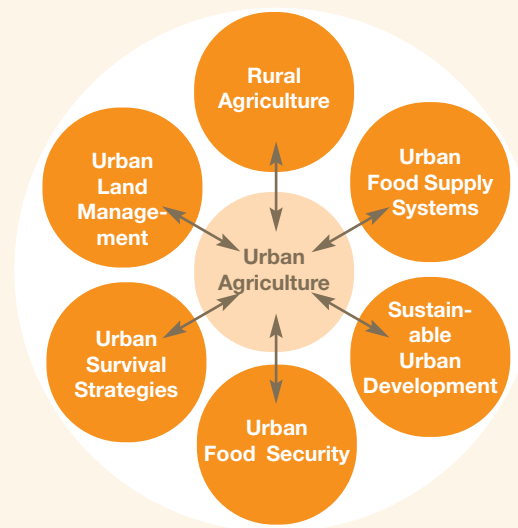


Figure 2: Urban Agriculture and other "Kids on the Block"

or off-plot), development status of site (built-up vs open-space), modality of tenure/usufruct of site (cession, lease, sharing, authorised through personal agreement or unauthorised, customary law or commercial transaction) and the official land-use category of the sector where urban agriculture is practised (residential, industrial, institutional, etc.).

Product Destination

Most definitions embrace agricultural production for both self-consumption and some trade. Both destinations usually

The most common element is location

are targeted to varying degrees by the producers or households studied. Economic research recently has been aimed at specific (export) market-oriented production and has helped us to better understand the economic performance of urban agriculture and its comparative advantages over other supply sources, both at the producer and consumer level.

Production System and Scale of production

Few definitions clearly include or exclude specific types of production systems *a priori*. Surveys collect data on the different types of systems found in the area under study (see other section for details). Generally, the research effort has focused on individual/family micro, small and medium sized enterprises, as opposed to large scale, national or transnational undertakings.

The urban ecosystem connection

While referring to these dimensions of

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urban agriculture, most authors define it only in general terms. Studies rarely use their findings to refine the urban agriculture concept of the day (Mbiba 1998) or to analyse how this concept is related to other development concepts (see Figure 2).

One striking feature of the reviewed definitions is that few of them contrast urban and rural agriculture, even less so the implications of one for the other. Indeed, all building blocks, perhaps except location, can apply to rural agriculture as well; they do not suffice to trademark urban agriculture and justify the need for specific knowledge, know-how and policy.

The lead feature of urban agriculture, which distinguishes it from rural agriculture, is its integration into the urban economic and ecological system (hereafter referred to as “ecosystem”).

It is not its urban location, which distinguishes urban from rural agriculture, but the fact that it is embedded in and interacting with the urban ecosystem. This integration into the urban ecosystem is not captured in most definitions of the concept, and less so developed in operational terms. Though the nature of cities and of urban food supply systems has changed, the need for urban agriculture to interact well with the rest of city, on one hand, and with rural production and imports, on the other, remains as true today as it was thousands of years ago.

The principle of agriculture’s integration into the urban ecosystem enables to recognise three types of situations, or relationships, with regard to the degree to which agriculture found in the city is actually integrated into the city organism (figure 3).

A first relationship is that, in any given city, at any given time, agriculture will be found that is rural, peri-urban, and intra-urban in nature, the three interacting and complementing each other to varying extents.

Several studies exemplify the principle of integration through comparisons between intra-urban, peri-urban and rural activities. Urban agriculture is found to complement rural agriculture in terms of self-provisioning, marketing flows and market-supply flows, as shown for instance by CIRAD studies on vegeta-

ble and livestock production in West and Central Africa (Moustier et al., 1999).

A second relation is that across cities of different size or complexity, at any given time, more of the agriculture found in the city will be of an urban nature in larger as opposed to smaller centres. Systematic evidence for this relationship however, remains more limited than for the first. A six-city Kenyan study further shows that intensity and productivity increases with city size; similarly, the use of organic

inputs and of networks of exchange or trade increases with city size (Lee-Smith 1998).

The third relation is that in any given city and over a period of time, during urbanisation, agriculture of an urban nature will grow as a percentage of all the agriculture found in that city. Some evidence is available on multiple-year trends for specific systems and areas of Dar es Salaam, Dakar, Hong Kong and Cagayan de Oro, where land-based farming systems have intensified or specialised, and marginal agricultural activities have been substituted by more profitable ones, increasingly combined with non-agricultural land uses, when not relocated. Shanghai exemplifies several of these processes at work, with land-extensive systems (vegetables and livestock) moving to the outskirts, while production within city limits is becoming more efficient to deliver higher yields and labour productivity and value-adding (Yi-Zhang Cai, 1999).

In all three relationships, agriculture will become more urban, or will integrate itself more into the urban ecosystem, through a series of processes, which accumulate over time and are more numerous in the larger urban centres.



Figure 3: Three types of relationships

CONCLUSIONS

The urban ecosystem link of urban agriculture throughout its entire conceptual framework remains to be fully developed. Its conceptualisation currently offers a generic definition and some indications of its distinctive traits. A de-codification of this definition is needed to help to identify its distinctiveness, in both theoretical and operational terms. Efforts in that direction have already begun and are forcing to distinguish between intra-urban and peri-urban agriculture, and to examine the place of urban agriculture within larger conceptual frameworks. Because urban agriculture is reported to interact with so many facets of urban development, city farming also holds the potential to help to diversify and strengthen urban management strategies. This is not a small opportunity, as city-based electorates struggling for access to food, income and sanitation are increasingly calling the shots in local and national policy arenas.

The above, is the background for the following revision of the concept: Urban agriculture is located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, and grows or raises, processes and distributes a diversity of food and non-food products, (re-)uses largely human and material resources, products and services found in and around that urban area, and in turn supplies human and material resources, products and services largely to that urban area.