

Using Value Chain Analysis to Increase the Impact of Urban Farming

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This paper summarises work attempting to answer two apparently simple questions: Can urban agriculture reduce urban poverty? And, if it can, in what ways can poverty be reduced? It also explores the role of value chain analysis in understanding better the role of urban agriculture.

A team at the Overseas Development Institute¹ recently had a chance to investigate these questions in a scoping study undertaken for the International Development Research Centre². The aim of the study was to re-appraise the role of urban agriculture in poverty reduction in developing countries. The research was based on an extensive review of the literature, key informant discussions³ and field visits to Africa, Asia and Latin America.

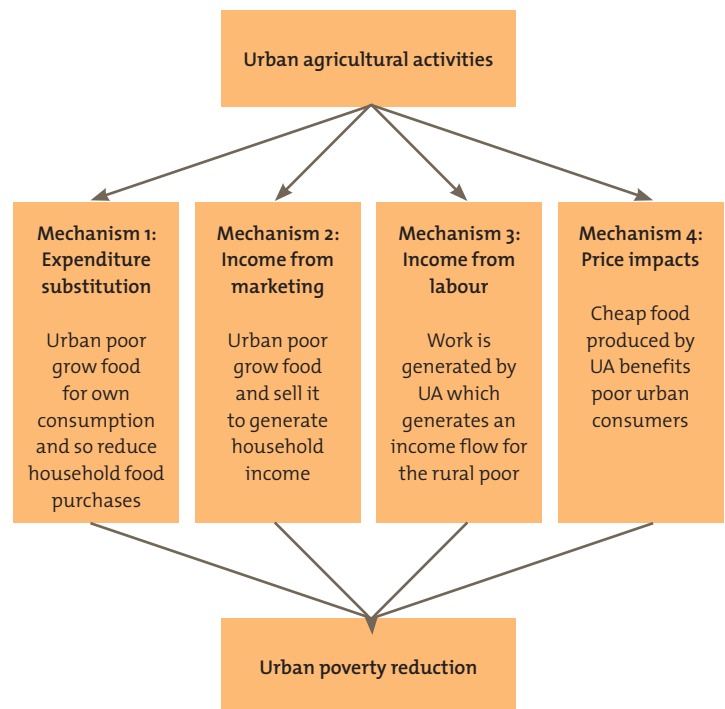
Conceptual framework

Poverty is about much more than a lack of money. The multi-dimensional nature of poverty should prompt us to examine environmental and social issues related to urban agriculture, as well as economic aspects. However, given that the environmental and social impacts of urban agriculture have been investigated much more vigorously than the economic, our analysis was restricted to a strict focus on income poverty.

There are several different channels through which urban agriculture can impact the poor. The urban poor can benefit directly from their own on- and off-plot agricultural activities in cities – by using their produce for household consumption, or selling it to provide household income. Beyond this direct economic benefit are less direct ways through which urban agriculture can contribute to reducing urban poverty.

First, periurban agriculture by large producers requires the allocation of labour along different parts of the value chain – on-farm labour, marketing and transportation. Secondly, urban agriculture is a helpful channel for the production and supply of cheap food in cities and towns that is affordable to the urban poor – who are primarily net buyers of food. These different contributions are shown in Figure 1.

Figure 1: Linking urban agriculture and urban poverty reduction



Our approach to understanding the agriculture sector in the productive city focuses on examining the following four mechanisms:

- **Mechanism 1. Expenditure substitution:** where home production for own consumption contributes to household food security. Growing their own food makes people less dependent on purchases and this could have an impact on poverty levels by freeing up household resources that could be used for other expenditures.
- **Mechanism 2. Income from marketing:** where produce is sold and this generates household income. This mechanism involves producing food and other agricultural products for the market. Farmers who grow for their family's own consumption may in fact sell part of their produce either because they cannot use it all or because they want to earn from it.
- **Mechanism 3. Income from labour:** where work related to urban agriculture generates income. The main opportunities are on larger commercial farms producing vegetables, poultry, fish and fruit that employ mainly unskilled labourers, but they are also related to inputs, processing and marketing or other agricultural services.

- **Mechanism 4. Price impacts:** where cheap food produced through urban agriculture benefits poor urban consumers. The urban poor benefit from the supply of cheap food in cities, irrespective of whether they are urban food producers or not.

These mechanisms are not mutually exclusive – household poverty reduction often results from more than one mechanism. For example, households growing vegetables may consume part of the crop and sell part of it and are therefore simultaneously engaged in mechanisms 1 and 2. If the household also buys food and other agricultural produce that is produced locally by others, then it is also engaged in mechanism 4. Similarly, production systems and value chains can incorporate combinations of different mechanisms. Real life is often complicated, which is why we use frameworks to simplify a messy reality.

However, this framework is useful because it reminds us to consider all the diverse ways in which urban agriculture can potentially reduce poverty.

Examine the empirical evidence about what we do (and don't) know

Producing a comprehensive picture of the overall economic impact of urban agriculture is tricky. Data is limited (especially on mechanisms 3 and 4) and, what is available, often focuses on specific commodities and is generated from different, and incompatible, methodologies. However a meta-analysis of household surveys by the RIGA⁴ program (FAO) offers a snapshot of the importance of urban food production across 15 countries. This analysis suggests the following:

- Many urban people participate in agriculture: some 20 to 80 per cent of the poorest fifth of the population.
- Urban agriculture generally represents a very limited proportion of urban people's income, except in sub-Saharan Africa, where agriculture contributes 15 to 50 per cent of total income in the African case studies below.
- Resource-poor households are the most active participants in urban agriculture and, for them it represents a larger share of their total income.

This suggests that urban agriculture is generally relevant to urban poverty - since it involves the urban poor. However, whether it should be part of urban poverty reduction strategies is another question. This depends on whether urban agriculture related incomes can grow or at least be sustained. Our conceptual framework is a useful tool with which to study each mechanism's potential to contribute to urban poverty reduction.

Mechanism 1 is most prevalent in situations where deteriorating food supplies and poverty have made own production an important coping strategy. This situation is more prevalent in Sub-Saharan Africa in areas where urban poverty levels and food insecurity are higher than anywhere else, and access to land is often easier (relative to more densely populated cities in Asia). This mechanism was also prevalent in other crisis or transition contexts, such as in East European

cities and Havana, Cuba, after the fall of the Soviet Union. Harare, Zimbabwe, is the most contemporary example of a city in which urban food production surged in response to economic stress (e.g. Redwood, 2009). The importance of mechanism 1 often appears more limited out of crisis contexts. For example, in Ghana, although very high proportions of urban people are involved in agriculture, it only covers a tiny share of urban food costs⁵.

Mechanism 2 or production for the market was identified as a critical mechanism across all the recent case studies reviewed - and also the most important in terms of income generated. Urban agriculture can complement rural food influx by providing products that rural agriculture cannot supply easily. For specific perishable products, it is reported to supply as much as 80 per cent of urban consumption (e.g. leafy vegetables in Accra).

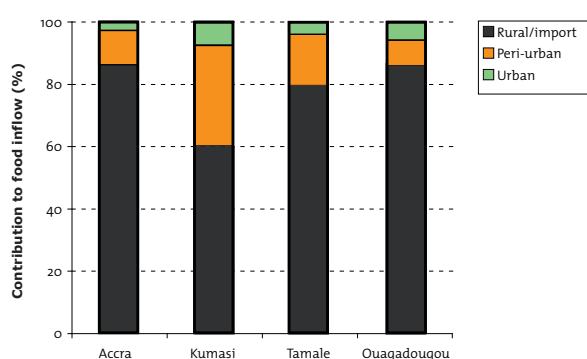
But beyond its overall contribution to urban food supply, what is striking is the extreme diversity of production by urban farmers sold to local markets. While the production of traditional perishables such as vegetables, meat, fish and milk continues to be widespread, other crops including flowers, fodder and different uses of land such as agro-tourism are also becoming more important. Value chain structures are also diversified; they can be very simple in situations where produce is sold directly by farmers to walk-in clients or extremely complex where a variety of different users, transport, collection and marketing channels operate. Also, it appears to offer relatively high incomes to urban vegetable producers in East and West-African cities. However, beyond information gathered through studies of fresh vegetable production, our understanding of market-orientated urban agriculture is often still limited.

Mechanism 3 is an under-researched area. Urban agricultural labour has only been studied in a few cities where there is anecdotal evidence of its scale. Beyond being a research 'gap', there is no reason that it should not be as important as other mechanisms, with workers either hired on large urban and periurban commercial farms, or working as casual labour for smaller-scale farmers. It is plausible that most urban agriculture wage labourers are income poor, whereas this is not necessarily the case for people involved as producers, either for the market or for their own consumption.

Mechanism 4 links urban agriculture to urban food security. It is clear that the vast majority of urban dwellers are net food buyers. Even urban farmers can rarely produce enough food, in quality and diversity to feed their families. Guaranteed access to cheap food is a major concern to urban poor, and therefore to urban policy makers. But does urban agriculture contribute to the regulation of urban food prices?

Urban agriculture can contribute a significant share of some specific products to urban markets. However, available information on a few cities (**figure 2**) suggests that, on the whole, it only plays a limited role in supplying urban food markets. It is unlikely that it has a significant poverty-reducing effect by depressing the prices of the staple foods consumed by the resource poor.

Figure 2: Contribution of different areas to urban food inflows in selected West-African cities



Source: Drechsel et al., 2006.

Information gaps

What is clear from the analysis above is that mechanisms 2 and 3 appear to hold the best potential for increasing urban farmer incomes at scale. Both mechanisms are also inherently appropriate for a value chain analysis. Value chain analysis separates the different functions, or nodes, of production, processing and marketing in order to understand how they work, who participates and gains, and how the efficiency of the chain can be improved. Value chain analysis is also well-suited as a framework to understand the labour market effects of urban agriculture. Despite this potential, very few studies⁶ have focused on urban agriculture value chains to date.

At present we know in some cases a bit about the numbers of producers and their return, but we rarely know:

- who participates and the value of that which is captured in nodes other than production of the value chains;
- the numbers of wage labourers who depend on urban agriculture and related services, their backgrounds, labour conditions and wage levels;
- the other income sources of those engaged, and the significance of urban agriculture to their livelihoods;
- the difference in income levels between those (fully or partly) engaged in urban agriculture at various nodes and the average income of urban dwellers (which would provide a better idea of its relative impact);
- how to improve the efficiency and pro-poor impact of the production, processing and marketing systems of urban agriculture value chains.

This is critical information to be able to design interventions which will both improve the functioning of current production, processing and marketing systems and also enhance the incomes of participants in urban agriculture value chains.

Implications

Based on available information, mechanism 1 and 4 seem to have a weak poverty-reducing effect. As they are the only two involving a very large number of poor people in urban areas, urban agriculture may only have a limited potential to transform urban poverty. Mechanism 1 (production for own use) makes a positive but generally very small contribution to the

livelihoods of many urban poor (as well as the non-poor). Mechanism 4 (food prices) would have a very widespread impact on the urban poor if urban agriculture had a significant influence on the price of staples in urban areas – but there is no evidence of this influence. In addition, these two mechanisms are associated with coping strategies rather than developmental strategies that can reduce poverty at scale on a sustainable basis.

This leaves us with Mechanisms 2 (marketed output) and Mechanism 3 (agricultural wages), which have clear potential to reduce poverty by increasing farmer incomes. Both these mechanisms are also clearly associated with livelihoods and development strategies. We believe that value chain analysis is well-suited to analysing how to improve the production, processing and marketing systems of urban agriculture – and also how to enhance the pro-poor impact of these chains. Viewing agriculture through a value chain lens is standard practice in rural areas, but is more rarely applied to urban agriculture. Adopting a value chain approach should help in building links with the rest of agricultural development thinking. So far, most urban agriculture work has focused on producers, while far less attention has been paid to market intermediaries, which are critical to the operation of the whole chain.

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Notes

- 1) The ODI is the United Kingdom's leading development policy 'think tank' (see www.odi.org.uk): an independent organisation with a mission to inspire and inform development policy and practice to reduce poverty and suffering.
- 2) The IDRC is a Canadian Crown corporation that works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.
- 3) We acknowledge the valuable insights provided by RUAF, the World Bank, FAO, Rockefeller Foundation and policy-makers, researchers, practitioners and farmers in six cities in four countries.
- 4) Rural Income Generating Activities
- 5) A recent IWMI survey of people engaged in backyard gardening in Kumasi and Accra showed that this activity contributed in general to an annual savings between 1 and 5 per cent of overall food expenditures with the higher values (up to 10 per cent) reported by the poorer households.
- 6) African indigenous vegetables in urban agriculture / edited by C.M. Shackleton, M. Pasquini and A.W. Drescher. Earthscan, 2009.

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