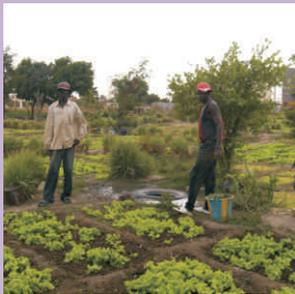




PROMOTING INDIGENOUS VEGETABLES IN URBAN AGRICULTURE AND LIVELIHOODS: POLICY LESSONS FROM SUB-SAHARAN AFRICA

Charlie M. Shackleton, Margaret W. Pasquini, Bianca Ambrose-Oji & Axel W. Drescher



1. URBANISATION IN THE DEVELOPING WORLD

Globally, the growth of urbanised areas continues at an exponential rate, and most spectacularly in the developing world. The global urban population will increase from 2.9 billion in 2000 to 5.0 billion by 2030. The mean rate of urban growth in non-OECD countries between 2000 and 2005 was just under 3% per annum, compared to 0.5% for rural regions of the same countries (UN-Habitat 2006). Although the proportion of Africans currently living in urban areas is the lowest in the world (+40%), because of this low base it is not surprising that the rates of urbanisation are among the highest at approximately 4.3% per annum. Projections vary, but sometime in the mid-2020s over 50% of Africa's population will be living in urban areas, as compared to just 15% in 1950 and 34% in 1994. As urbanisation takes place another important trend is revealed, namely the locus of poverty in Africa is slowly shifting from rural to urban areas. For example, it is estimated that more than 56% of the world's absolute or chronic poor will be concentrated in urban areas (WRI 1996). Since as much as 60-80% of the income of the urban poor is spent on the purchase of food (Maxwell et al. 2000), the issue of food supply, both its quantity and quality, is increasingly a central issue in poverty reduction debates and strategies. In rural areas, a common strategy to alleviate poverty is to call for measures to boost small-holder food production. Surprisingly, this is less common in urban poverty alleviation programmes, despite the widespread promise of urban and household agriculture in contributing to improved food security.

2. URBAN AGRICULTURE

The last 25 years have seen a notable increase in articles on urban agriculture in development literature (Redwood, 2008). Urban agriculture has attracted the interest of many researchers and development agencies largely for its benefits in terms of contributions to food security, poverty reduction, reducing the travel distance of fresh produce to market, and urban greening. Indeed various declarations advocating the development of sustainable cities all include commentary about the need to promote agriculture in urban spaces and places.

Though urban agriculture will never replace rural agriculture, in some contexts cities can offer more conducive environments for agriculture than their neighbouring rural areas. Firstly, there is greater access to inputs and at lower prices. Thus, urban farmers do not have to travel so far to access inputs such as seeds, fertilisers and tools. Secondly, access to labour is usually a lot easier in

cities than rural areas (although usually more costly), where often labour is a key constraint to scaling up household agricultural production. Thirdly, the greater spatial discontinuities in cities serve to isolate areas of urban agriculture from one another, which may well minimise disease and pest transmission. Additionally, pest populations are a lot lower by virtue of the significant transformation of much of the urban landscape. Fourthly, proximity to water is usually better, either from piped sources, household waste water, or runoff from hard surfaces (roads and paved areas). The importance of this better access is magnified in situations of drought, which may result in total crop failure in rural areas, but only crop reduction in urban ones. Agriculture does of course have high water demands. Many African cities are already struggling to meet domestic water use needs. Activities to promote agriculture in urban and peri-urban areas should be underpinned by a careful stock-taking of available water supplies, population growth rates and focus on water-saving technologies. Fifthly, cities are typically 2 – 3 °C warmer than surrounding rural areas (McGranahan et al. 2005) which serves to extend the growing season and growth rates of crops in those cities with marked temperature-induced seasonal growth periods, for example in southern African regions. Sixthly, large-scale adverse phenomena, such as drought, floods and fires are less frequent and less intense in urban areas. Lastly, the reduced availability of space for agriculture results in more intensive farming systems, and higher productivity per unit area.

All of these suggest that agriculture in urban and peri-urban areas should not be just an afterthought, or an add-on in the quest for sustainable cities, but more of an argument that agriculture belongs in cities, and should be an integral component of urban planning. Many of the benefits can be enhanced further through use of appropriate species, particularly those indigenous to the local situation. The role and potential of indigenous species in urban areas has been overlooked until very recently.

3. BENEFITS OF INDIGENOUS VEGETABLES FOR URBAN AGRICULTURE

Although the per capita global supply of fruits and vegetables had risen to 173 kg (i.e. 112 kg of vegetables and 61 kg of fruit) in 2002, this does not apply in SSA, where the trend was negative, and overall per capita supply (106 kg) is significantly less than other regions (Weinberger & Lumpkin 2005). However, local consumption of indigenous species is often not included in such surveys and statistics. African indigenous vegetables (AIVs) comprise scores of largely indigenous or naturalised vegetable species that are consumed throughout the African continent (Shackleton et al. 2009), currently largely off the radar of conventional research, market-development and intervention programmes (Pasquini & Young 2007). Hence, their real and potential contribution to urban food security and income generation is little appreciated, despite a number of advantageous attributes including: (i) widespread use, (ii) high nutritional status and consequent role in combating malnutrition, (iii) medicinal and anti-malarial properties of some species, (iv) their use contributes to conservation of biodiversity and local knowledge and traditions, (v) ease of cultivation with low inputs, (vi) relative drought resistance, (vii) contribution to food security, especially of the poor, and (viii) potential to provide supplementary for many or significant income for specialised traders. Recent research from several countries in west, east and southern Africa has highlighted the importance of AIVs in urban systems (Shackleton et al. 2009, p.276), notably:

- Hundreds of different species and varieties of AIVs are known and used;
- There is considerable diversity in the numbers of cultivated AIV species and varieties (which surpasses that of exotic vegetables), and an even greater diversity of wild collected species;
- Select species collected from the wild can be locally very significant in terms of volumes consumed and traded, which raises conservation concerns;
- There is extensive trade in cultivated AIVs worth billions of US dollars per year, benefiting millions of producers and vendors;
- AIVs and urban agriculture are an integral component of livelihoods throughout SSA;
- Women play strong roles in the production and/or marketing of AIVs in urban areas;
- Urban agriculture and the production of AIVs is not solely an activity of the urban poor;

- There are several popular AIVs with better nutrient and vitamin levels than conventional exotic vegetables;
- There is considerable potential to increase the contribution of AIVs to markets and urban diets.

Notwithstanding these benefits and the fact that urban agriculture plays a significant contribution in supplying fresh and nutritious products to urban households and markets at low cost because of proximity to the consumer, current policies and planning processes in most countries and cities are insufficiently supportive of and proactive about urban agriculture and AIVs.

4. AREAS FOR POLICY INTERVENTION

Currently, relatively few SSA countries have policies specifically orientated at use, cultivation or marketing of AIVs. They are usually viewed as simply another crop, or another product, and so are by default covered by general agricultural policies. The numerous advantages of AIVs relative to exotic vegetables are insufficiently communicated to and appreciated by policy- and decision-makers. This needs to change. In contrast to the weak or absent policies around AIVs, the policy dimensions of urban agriculture have received a lot more attention. Implementation of these policies is however, extremely variable from one country to the next. However, there are several encouraging examples of how development and research organisations have catalysed the process of policy change. For example, the RUAF Foundation Cities Farming for the Future Programme (<http://www.ruaf.org>) has been facilitating participatory and multi-stakeholder policy formulation and action planning on urban agriculture in cities across Africa, Asia and Latin America. The programme has had impressive impacts at different levels of policy, developments plans and legal frameworks, for example, seeing the inclusion of urban agriculture in municipal planning documents in Bulawayo (Zimbabwe), Accra (Ghana) and Bobo Dioulasso (Burkina Faso) and supporting the development or revision of urban agriculture by-laws in Bulawayo and Accra.

A key message that has been emerging from this programme, and also from events such as the policy dialogue organised under the IndigenoVeg project (<http://www.indigenoveg.org>), is that the development of fora where there can be a two-way conversation about what knowledge policy makers are missing and what information scientists can provide to fill these gaps, is essential to stimulate change. These fora foster the exchange of knowledge, but they are also important because they facilitate discussion and compromise over competing priorities. Such a dialogue about AIVs in urban agriculture in SSA identified six key areas for policy development and intervention.

4.1 Urban planning needs to accommodate urban agriculture

Urban planning and regulation have only rarely given explicit recognition to urban agriculture. In many SSA cities urban agriculture on public land is deemed illegal, although at times tolerated, but it is not explicitly planned for and accommodated. This relates to not only the physical space for cultivation of crops, but also access to the necessary infrastructure (such as water) and zonation so that it is located close to resident's homes and markets. However, growing recognition of the consequences of increasing urbanisation, the need for green and productive spaces in cities, coupled with concerns about the large distances food from rural areas has to travel to reach urban consumers (which reduces its freshness, adds to final costs, and has a significant carbon footprint) means that urban agriculture is to be promoted, both in public and private space. This requires policies and regulations that ensure sufficient land is available (a minimum target should be stipulated), that tenure is secure, and that city officials support and foster urban agriculture in the same manner they do other endeavours. The most pressing specific policy actions include:

- Designate areas (zoning) for agricultural production – high quality agricultural land should not be zoned for infrastructure, housing or commercial businesses; residential allotments should be large enough to allow an area for food production;
- Pass by-laws that legalise and promote urban agriculture and the conditions under, and place in,

which it will be permitted;

- Develop sustainable water supply programmes for urban agriculture (harvesting rain water, recycled waste water, etc.);
- Facilitate stakeholders to organise into institutional governance structures for farmers, processors and traders, who can then interact with city officials;
- Regulate interface between agriculture and waste management (use organic waste of compost, manage waste disposal to protect agricultural resources).

4.2 Urban administrations need to facilitate marketing of produce

Markets for urban produce and specifically AIVs are extremely diverse. This is most likely an adaptation by role players to local conditions, regulations and consumer demands. In many areas AIVs are marketed directly from farmer to consumer, mainly in close proximity to the where the AIVs are grown, but at times further away. But in some cities there is a network of intermediaries, each fulfilling a specific function and each selling some of the produce to consumers, but also further up the market chain. In some cities there are designated physical spaces where marketing occurs, in others vendors move around in search of customers, or vary their market place from day to day. Key issues for AIV farmers relate to insufficient designated market space, insufficient information regarding the volumes and prices of particular produce in the market at any time and intolerance by city officials. On the other hand officials are concerned about waste produce not being correctly dumped or removed, potentially unhygienic conditions for the selling of foodstuff, ensuring access and thoroughfares are not congested, and traders having the required permits to operate. Policy interventions to facilitate better market access, conditions and regulation include:

- Formally recognise AIVs businesses, from farmers to traders;
- Support and promote urban and peri-urban farmer and trader organisations;
- Ensure permit conditions are simple, well communicated and accessible, and that some or all the funds collected via permits are spent on promoting the trade or improving physical market space;
- Designate market areas and provide appropriate infrastructure, which includes areas for dumping waste produce, and water for washing fresh produce and work surfaces;
- Include AIV produce in municipal awareness campaigns and support programmes on nutrition, health and local economic development.

4.3 Improved input systems need to be implemented to develop AIVs in urban agriculture to their full potential

It is clear that AIV consumption and trade from urban agriculture is extensive. However, in many areas this has been achieved in the face of at best neglect and intolerance, or at worst policies and regulations against such activities. Consequently, it seems reasonable to expect that the much discussed benefits of urban agriculture and AIVs could be multiplied if city, state and national policies provided a more supportive framework. That is at the policy level. But at a more tangible level, resources (human and financial) need to be allocated to scale up and enhance the input systems. Two areas in particular:

- Increase extension support for AIVs in urban agriculture to put them on an equal footing to other agricultural produce (i.e. remove the current bias to exotic species and export crops);
- Allocate funding in national agricultural research institutions for research on AIVs, and development of information packages to farmers and consumers.

4.4 Gender programmes need to promote AIV production in urban agriculture

Women play a significant role in either or both production and marketing of AIVs and urban agriculture. Moreover, women are invariably responsible for preparation of the food for the household, and thus are a primary target for the promotion of AIVs. Recognising these two aspects means that policy interventions to promote urban agriculture amongst women can have beneficial outcomes both for women's employment and income generation but simultaneously also for maternal and child health. This is especially pertinent if the cultivated plot is close to the homestead so that production activities can be easily accommodated within the other roles that women typically fulfil, such as child-minding, washing, cooking, and so on. Specific interventions include:

- Support and promote women's groups and organisations;
- Initiate maternal health programmes to promote AIVs and home-gardening;
- Gender programmes should include urban agriculture in the portfolio of activities they promote;
- The higher nutritional benefits of AIVs relative to exotic vegetables need to be promoted, especially to women, who typically have the primary role of meal preparation.

4.5 AIVs need to be integrated into heritage and conservation programmes

The world's food systems rely on only a small proportion of known edible plants, which undermines the resilience of food systems, increases costs of breeding, production and transport, and reduces cultural and dietary diversity. SSA has hundreds, if not thousands, of AIVs. Currently, little is known about the nutritional, production and growth characteristics of most of these species. It is therefore crucial that efforts are made to document the local knowledge of useful species, and to systematically examine the properties of these species. Specific actions required include:

- Compilation of detailed national inventories of edible plants;
- Systematic screening of such species;
- Promotion of useful species in national and local heritage programmes and events.

4.6 Research policy shift towards diversification and traditional systems

The research and development carried out by the National Agricultural Research and Extension Systems (NARES) in Africa has tended to focus on a restricted number of major crops, with particular support to export crops, crops with a locally high commercial value and important staples. Though most of the NARES have specific vegetable research programmes, they tend to be smaller and disperse less funding. Even within these units research has undoubtedly been biased towards breeding improved varieties of a few select vegetables, usually exotic species, and improving agronomic practices in pure stand conditions. There is a need for a more explicit policy change in terms of the research and development mandates of these institutions to:

- Fund research programmes on a diverse range of AIVs, including efforts to domesticate important wild species;
- Develop agronomic practices packages for traditional and small-holder farming systems, incorporating AIVs (typically low input, with widespread intercropping);
- Develop specific programmes for urban and peri-urban areas which diversify the available range of AIVs and consider the entire value chain.

NOTE

This policy brief was adapted from Shackleton, C., Pasquini, MW and Drescher, AW. 2009. African Indigenous Vegetables in Urban Agriculture: Recurring Themes and Policy Lessons for the Future. In: Shackleton, C.M., Pasquini, M. & Drescher, A.W. (eds). 2009. African Indigenous Vegetables in urban agriculture. Earthscan, London. pp. 271-284.

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AUTHOR AFFILIATIONS

Bianca Ambrose-Oji is an Associate of CAZS-NR, Bangor University, United Kingdom.

Axel Drescher is Professor in Geography at the University of Freiburg, Germany.

Margaret Pasquini is Lecturer in Environment and Development at the Centro Interdisciplinario de Estudios sobre Desarrollo, at the University of Los Andes, Colombia.

Charlie Shackleton is Professor in Environmental Science at Rhodes University, South Africa.