

## INSTITUTIONAL ASPECTS OF URBAN AGRICULTURE IN THE CITY OF DAR ES SALAAM

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### 1. Introduction

This paper analyses the mechanisms for institutionalising strategies of urban agriculture in the context of an East African city. The policy agenda needs to focus on managing urban land uses for improving production of food to sustain the growth of cities. The particular focus here is on the planning and management initiatives taking place in the city of Dar es Salaam. With an estimated population of almost 3.0 million and a growth rate of 8% per year, fuelled by rural-urban migration and natural increase, Dar es Salaam is one of the fastest-growing cities in sub-Saharan Africa.

The initiatives described permit different stakeholders to discuss their problems, to negotiate strategies and to seek collectively solutions to priority issues of common concern. It is based on enabling participation and building commitment. Several activities have taken place in strengthening the capacity of the city authority, namely:

- consultation in which rapid assessments are conducted, environmental issues are clarified, key actors are drawn in, political commitment is achieved, and priorities are set through an informed consultative process;
- formulation of an integrated strategy for urban management that embodies long-term goals and phased targets for meeting the goals; agreement on issue-oriented strategies (that cut across the concerns of various actors) and actor-specific action plans (that cut across various issues) for achieving the targets; identification of project options, policy reforms and institutional actions; and
- follow-up and consolidation, in which agreed programmes and projects are initiated/ implemented, policy reforms and institutional arrangements are solidified, the overall process is made routine, and monitoring and evaluation procedures are put in place.

Through this process, different stakeholders are brought together. Stakeholders include those who are affected by the problems, those who create the problems and those who have the institutional responsibilities, tools, instruments and resources to manage the problems.

## **2. Shortcomings in urban planning**

In the past, the growth and development of Dar es Salaam has been guided by comprehensive plans known as Master Plans. These were prepared to cover a period of 20 years, indicating the anticipated growth direction of the city through land-use zoning with development standards.

The 1979 Master Plan provided the framework to manage the future growth and development of the city. However, implementation of the development policies, programmes and projects proposed in the plan was severely limited because:

- the plan was comprehensive in nature, proposing optimal but unaffordable infrastructure and social-service development and budgetary requirements;
- it was control oriented with rigid standards and conditions that could not be enforced in the context of the rapid urbanisation;
- implementation was limited by a sectoral approach to development;
- the plan was prepared by expatriates, with limited participation of nationals; this reduced local understanding and commitment to implement the proposals.

The 1979 Master Plan has not guided the growth and development of the city. There were no institutional mechanisms to co-ordinate the parties involved in managing growth or to encourage investments. The plan contained no representation from the interested parties in urban development, as there was no participatory mechanism to involve them in either plan preparation or its subsequent implementation. By 1990 the demands for water, good communications, serviced land, sanitary management of solid and liquid wastes remained unmet, resulting in deteriorating environmental conditions.

## **3. New initiatives: environmental planning and management approach**

The Sustainable Cities Programme in Tanzania (SCP-TZ) builds capacity of municipal authorities to enable them plan, co-ordinate and manage their urban development through the application of the environmental planning and management (EPM) approach. Dar es Salaam City was one of eight cities in Africa to adopt and apply the EPM process in urban planning.

The process is being carried out by the Sustainable Dar es Salaam Project (SDP), which was launched in 1992 and became fully operational in November 1993. Its overall aim is to strengthen the capacity of the city authority (then the Dar es Salaam

City Council) to plan and manage the growth and development of the city in partnership with interested groups of stakeholders, including public, private and civil-society organisations.

This approach focuses on the environment-development interaction and is both bottom-up and stakeholder-driven. Through stakeholders' consultation, critical issues are identified and prioritised. Issue-specific stakeholder working groups are then formed around these issues to prepare strategies and action plans. The municipal authorities, together with the stakeholders, then implement the action plans.

The project contributes to sustainable development of the city region by:

- strengthening the local capacity of the partners to jointly plan, co-ordinate and manage environmental and development activities;
- preparing a long-term strategic and integrated investment and urban development plan through policy formulation and policy implementation.

The project sets out to achieve this by adopting a four-stage approach: preparation of a city environmental profile; holding a city consultation on environmental issues; establishing an institutional framework (working groups) to prepare preliminary development strategies and detailed action plans; and preparation of a strategic urban-development plan for Dar es Salaam.

The city consultation in 1992 identified nine environmental issues that were to be addressed by SDP. Urban agriculture (UA) was one of the major environmental issues. After the main consultation, "issue-specific mini-consultations" were conducted between 1993 and 1995, involving key stakeholders who represented public, private and civil society organisations. The objectives included: prioritising the most pressing problems; agreeing on environmental strategies of action; agreeing on immediate and short-term actions for the representative institutions; and formulating, mobilising and establishing cross-sectoral and multi-institutional working groups to prepare detailed spatial, financial and institutional action plans for each strategy component.

#### **4. Urban agriculture and the Urban Agriculture Working Group**

A working group within SDP was formed to deal with the development and management of UA in relation to recreational areas, open spaces, hazardous areas and greenbelts.

The working group adopted the following definition: *UA refers to carrying out farming activities in built-up areas where open space is available, as well as keeping livestock (dairy cattle, goats, sheep, pigs and fowl) in built-up and in periurban areas.* In the Town and Country Planning Ordinance (CAP 378), (Urban farming) Regulations 1992, "urban farming" means carrying out of plant and animal husbandry activities within statutory township boundaries as provided in schedule 3-1<sup>1</sup>. Two examples taken from these regulations state: (i) no person shall occupy or use more than three acres of land for urban farming; and (ii) no person shall, except where that person practices zero-grazing, graze his animal in an urban area" (Government Notice No. 10, of 5/2/93, p.10).

For a more detailed account of the nature of UA currently practised in Dar es Salaam, the reader is referred to the city case study (Jacobi et al. 2000)

This working group comprised representatives from various stakeholder groups:

- segments of the urban dwellers (the urban poor, men, youth groups and women groups);
- village governments (especially in the periurban areas);
- various government ministries: Ministry of Agriculture and Co-operatives; Ministry of Lands, Housing and Urban Development; Ministry of Natural Resources, Tourism and Environment; Ministry of Water, Energy and Minerals;
- financial institutions;
- the Dar es Salaam City Council (now Dar es Salaam City Commission);
- the National Environmental Council;
- business groups: Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA); charcoal makers and retailers; wood-building materials cutters and retailers; firewood cutters and dealers;
- informal businesses, e.g. petty trading - street hawking, street food vending, market operators;
- civil society groups, non-governmental organisations (NGOs) and community-based organisations (CBOs) within the city and in the urban villages.
- Dar es Salaam City Council;
- National Urban Water Authority;

- Ministry of Agriculture and Co-operative Development;
- financing institutions;
- industries that produce wastes (solid and liquid);
- urban farmers (in view of their activities vis-a-vis legislation, land-tenure issues, availability and non-availability of land for UA);
- urban dwellers, particularly those who inhabit hazard areas in valleys and floodplains; and
- livestock owners/keepers (bylaws restrict the number of animals that can be reared for reasons of hygiene, environmental hazards, social nuisance and accidents).

#### **4.1 Urban agriculture structural and policy problems**

In spite of the potential role of UA, it is characterised by various structural and policy problems that have so far constrained its contribution in the urban economy, the environment and human health. The Urban Agriculture Working Group has concerned itself with the broad policy and structural issues that constrain UA. Some of the key issues are:

##### ***4.1.i Insufficient consideration by relevant departments***

The Ministry of Agriculture and Co-operatives recognises the importance of UA and provides extension services, though not as effectively and intensively as in rural areas. Being a relatively new area of intervention, UA requires greater consideration and needs more financial and planning attention from the Ministry.

##### ***4.1.ii Neglect of small urban livestock keepers and crop growers***

In the Ministry of Agriculture and Co-operatives, there is a unit on horticulture, but few of the activities are linked with urban livestock and crop production systems, processing and marketing, or extension services for urban small farmers.

##### ***4.1.iii Failure by relevant authorities to designate and allocate land for UA***

As urban areas expand, agricultural land is lost to other uses. This uncontrolled development is constraining the establishment of a greenbelt around the city, as envisioned by the city planners (for example, rapid expansion along the Bagamoyo road and west towards Goba, and also new settlements like SalaSala).

##### ***4.1.iv Land tenure issues***

In the periurban areas, people buy land on a customary tenure without due regard to other planned land uses that might be necessary in the future. This is compounded

by the trend of people occupying land with potential for agriculture and using it for residential development.

***4.1.v Conflicts between different land uses and urban agriculture over water***

Apart from experiencing water shortages on account of drought, a major conflict exists between Dar es Salaam Water & Sewerage Authority (DAWASA) and those carrying out agricultural activities. This is mainly due to the high tariffs charged by DAWASA while large amounts of water are needed for cultivation.

**4.2 Key aspects of the new strategy**

In order to remove the constraints discussed above, the Working Group on Urban Agriculture developed a mixed land-use strategy that comprises various elements to be supported by developing instruments to encourage uptake of inputs and techniques that promote UA. The strategy has the following elements:

- restructuring land-access and land-use laws. The city council or the Ministry of Lands, Housing and Urban Development should make sure that the urban poor gain access to land on the fringe of the city for housing and farming, and they should abolish the bylaws that prohibit owning more than 3 acres of land for farming;
- using new UA techniques to use land more intensively (in small and marginal areas) as opposed to large tracts of land in the periurban fringe. This means trying out hydroponic farming, encouraging container farming (farming using limited soil media); and training farmers to make more use of the vertical growth of plants (trellising);
- incorporating non-food production, for example, floriculture (by encouraging the youth and other people to grow flowers in pots and on roadsides for sale), and arboriculture (tree planting on roadsides, in homes and in watersheds);
- moving large livestock to periurban areas and promoting growing of fodder on periurban farms; composting of organic waste collected in the city centre and transporting it to periurban areas, and generating biogas in areas where composting is taking place;
- reclaiming land that has been left derelict after quarrying/mining (e.g. Kunduchi quarrying/mining sites near SalaSala) for use by urban farmers;
- encouraging people to use more underground water from wells and boreholes, using hand pumps and electricity, where possible;
- using urban biodegradable wastes from market centres and homes for composting to grow mushrooms; and

- developing aquaculture in coastal lagoons and other appropriate inland areas and in tanks.

A mixed land-use strategy for the city that would incorporate the demand for agricultural activities has several specific components:

- maintaining green spaces with flowers and ornamental trees to beautify the city;
- avoiding subdivision of areas by overbuilding, and keeping open spaces under some form of agriculture;
- maintaining trees to break wind and to reduce air pollution, especially by gaseous fumes and dust;
- encouraging livestock keeping and crop growing in low-density residential areas where this is already a common practice, provided stipulated bylaws are followed;
- supporting vegetable growing and small livestock keeping in high-density areas where open space is available and small-scale farming is common practice;
- where new plots are surveyed and allocated, especially in the periurban areas, bigger plots of at least 3-4 acres should be allocated for residential purposes to those who intend to carry out urban farming (crop growing and livestock keeping). Such large areas would allow space for fodder production, disposal of manure or construction of composting systems (and thereby produce manure and biogas);
- no livestock rearing in high-density residential areas;
- zero-grazing in built-up low-density residential areas; and
- open grazing only in periurban areas.

### **4.3 Instruments to enhance the urban agriculture strategy**

One example of the kind of measures proposed by the Working Group to promote UA development through a strategy of mixed land use is a project to rehabilitate the city's existing horticultural gardens. This is discussed briefly below before considering other types of supporting instruments under the UA strategy.

In the 1970s, the Dar es Salaam regional authorities established horticultural gardens to provide food security, create jobs and alleviate poverty. The project for urban horticultural garden development selected former gardens and added new ones. These form the principal demonstration and production areas. Impacts are expected to spread to all parts of Dar es Salaam city region.

The strategy of rehabilitating the city horticultural gardens will benefit many who

work in the informal sector. In the periurban horticultural gardens in areas such as Malolo, Gezaulole, Kinyamwezi and Ukiviuta, youth groups will be supported in farming activities. Other interested people will also be supported. Tree nurseries are being prepared and will be planted by residents on their homesteads to combat soil erosion and conserve water catchment areas. Production of citrus fruit, vegetables and flowers as well as processing and marketing will be emphasised. Planting of trees to contribute to production of charcoal and construction materials will be encouraged.

The overall objective is to increase production of fruit and vegetables to meet the city demand and to improve the economic and nutritional status of the residents. The project has five target stakeholder groups: individual growers, community-based organisations (CBOs), non-governmental organisations (NGOs), the private sector and the City Council. In a group approach, five pilot gardens are being used for production purposes.

In order to stimulate the interest of farmers in the rehabilitation exercise, and to make use of the products and replicate the process in other residential areas, NIGP/DCC are availing funds for carrying out the rehabilitation. A credit scheme will be made available to committed growers and will be administered by a financial institution identified by NIGP.

In order to implement action plans intended to establish planned, regulated and sustainable urban horticultural development, a local project management structure is in place. The five pilot projects are maintaining five different accounts, each to establish a revolving fund so that revenues can be ploughed back to their gardens. An efficient marketing system is lacking at the present but is being explored. Serious rehabilitation has started to take place on the five designated gardens.

#### **4.4 Other instruments to enhance the urban agriculture strategy**

##### ***4.4.i Information campaigns***

- The mass media play an important role in educating operators and decision-makers on the significance of UA. Television and newspapers can produce articles on urban farming, research and environmental issues. Newspapers can warn residents against keeping animals in the urban areas contrary to the laws;
- workshops and seminars help to disseminate information on UA and strategies for poverty alleviation, income generation and planning issues in general; and
- booklets and leaflets on urban farming or horticulture development, on methods

of controlling pests and insects through intermediate or adaptive technology, e.g. integrated pest management (IPM), and on water harvesting can be employed.

**4.4.ii *Economic incentives***

- Provision of insurance from the National Insurance Company to cover livestock investments is a great incentive to urban livestock keepers;
- provision of extension services and ensuring availability of feeds and veterinary drugs;
- charging reasonable tariffs for use of treated water in irrigated agriculture as well as making small-scale credit available to small-scale UA producers; and
- encouraging owners of land (especially public institutions) to put such land under UA temporarily.

**4.4.iii *Provision of finance for long-term investments***

- Supporting possibilities of obtaining NIC coverage where large numbers of livestock or poultry are being produced;
- promoting large-scale production and processing of dairy products in the periurban areas to supply key institutions like schools and the army;
- encouraging investments in market gardening and commercial floriculture;
- encouraging investments in major supply units for gardens and farms, e.g. installation of water pipes, tanks and pumps to tap underground water; and
- construction of systems to harness and store rainwater.

**4.4.iv *Regulations***

- The City Council / City Commission must enforce existing bylaws (e.g. prohibition on rearing more than four head of cattle in urbanised areas); people wishing to keep more than four head should be helped to move to periurban areas;
- the City Council / City Commission in collaboration with the Ministry of Lands, Housing and Urban Development should allow residents with plots in the periurban areas or low-density areas to practise UA provided the areas do not exceed 3 acres as stipulated in the bylaw on urban farming of 1992;
- issue “stop” orders to prohibit building on hazardous floodplains, especially in the Msimbazi Valley;
- farming in prime water-catchment areas should be restricted in order to protect sources of surface water;

enforce bylaws to protect road reserves from haphazard building and squatting, yet allow roadside UA to operate, because it preserves road reserves, is easy to modify and compensation is minimal since UA activities in such areas are temporary or transient;

- ensure secure land tenure by allocating land to UA practitioners, and allocate relatively big plots in periurban areas for people intending to carry out mixed land uses including agriculture;
- regulate water tariffs to ensure fair rates for UA operators;
- free grazing should be restricted to periurban areas, while zero-grazing is to be encouraged; and
- UA on house plots in open urban areas can continue, but residents must keep the environs clean and recycle as much household waste as possible.

#### ***4.4.v Increasing co-ordination***

- Ministries that share much in common with regard to UA (Ministries of Lands, Natural Resources and Tourism, Water and Minerals, Agriculture and Co-operatives) need to exchange expertise to be able to promote UA strategically;
- working groups must involve CBOs, NGOs and small- and large-scale farmers in prioritising needs and developing strategies to improve UA and to minimise environmental problems; and
- since the city is expanding quickly along the major road arteries, efforts must be made to co-ordinate with developers and road-construction companies to allow enough space for road reserves, installation of utilities, planting trees and flowers, and growing fruit and vegetables.

#### **4.5 Institutional implications of implementing the urban agriculture strategy**

In the past, the general public lacked proper understanding of planning and implementation processes and of central and local government policies in the city. Public awareness was low, and so was public participation in policy formulation and implementation.

An approach is said to be institutionalised when it is understood, widely accepted and routinely applied in decision-making in city management and planning. The establishment of the planning and co-ordination department within the city has enhanced the strength of system-wide capacities for planning and management. It has improved cross-sectoral and interorganisational co-ordination. It has created an effective system to monitor and evaluate.

Effective adaptation of the planning and management process calls for new institutional relationships and compatible political and social norms. For example, managing the cultivated areas in the flood-prone areas of the city should involve co-ordination between the Ministries (Agriculture, Lands, Natural Resources), city departments, environmental council, NGOs, CBOs and the cultivators themselves.

The institutional aspects discussed in this paper indicate clearly where future emphasis needs to be placed by the city authorities if UA is to prosper. The consistent application and promotion of the approach described here will support improvements in information and expertise, in decision-making, in implementation and in efficient resource use. During the city consultation, a mechanism for prioritising issues and building consensus was established. This consensus is being practically addressed now through cross-sectoral working groups.

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- 1 Stipulated schedule: (i) Cultivation of crops including horticulture (garden cultivation), viticulture (grape growing), floriculture (cultivating flowers), plant stirpiculture (breeding of special stocks, strains), including medicinal and cosmetic herbs; (ii) Rearing of animals including cattle, goats, sheep, pigs, poultry, rabbits, horses, and animal stirpiculture; (iii) Urban forestry, including arboriculture (cultivation of trees or shrubs), silviculture (tree growing), apiculture (bee-keeping), and sericulture; (iv) Wildlife keeping including zoos, zoological gardens, etc.; (v) Aquaculture (cultivation of crops or rearing of animals in water); (vi) Serpentaria, including snakes and crocodile farms; (vii) Farm homesteads: the carrying out of any activities in (i) to (vii) in association with residential accommodation.

**References**

- Baruti P et al. 1992. Environmental profile of the metropolitan area. UNDP/URT/90/033.
- Dar es Salaam City Council. Strategic urban development plan framework for Dar es Salaam (draft).
- Egziabher AG et al. 1994. Cities feeding people: an examination of urban agriculture in East Africa. Ottawa: IDRC.
- Franz V, Emiel W & Kadmiel W. 1995. Policy program options for urban poverty education: a framework for action at municipal government level. UNDP/UNCHS (Habitat) / World Bank Urban Management Program 20. Washington DC: World Bank.
- GTZ (German Technical Co-operation). 1995. Urban Vegetable Promotion Project (UVPP), ZOPP 5 planning workshop (& project evaluation), 28 March - 1 April 1995, Arusha.
- Government Printer. 1956. Town and country planning ordinance, Cap. 378. Dar es Salaam: Government Printer.
- Kyessi A & Mtani A. 1993. Potentials for sustainable urban agriculture in Dar es Salaam. Paper presented at a One-Day Workshop on Urban Agriculture in Dar es Salaam, British Council Hall, 12 November 1993.
- Marshall Macklin Monogan Ltd. 1979. The Dar es Salaam Master Plan. Ottawa: MMM.
- Materu JS. 1993. Urban agriculture in the city of Dar es Salaam: who are the main actors? Paper presented at a One-Day Workshop on Urban Agriculture in Dar es Salaam, British Council Hall, 12 November 1993.
- Mlozi MRS. 1995. Information and the problems of urban agriculture in Tanzania: intentions and realizations. PhD thesis, University of British Columbia.

NIGP/STOAS. 1995. Project for the development and maintenance of horticultural gardens in Dar es Salaam. NIGP/STOAS (Foundation for Development of Agriculture, Education and Training).

Sawio CJ. 1994. Who are the farmers of Dar es Salaam? In: Egziabher AG et al. (eds), *Cities feeding people: an examination of urban agriculture in East Africa* (Ottawa: IDRC), pp 25-46.

Smit J et al. 1996. *Urban agriculture, food, jobs and sustainable cities*. New York: UNDP.

Sommers P & Smit J. 1994. *Promoting urban agriculture: a strategy framework for planners in North America, Europe, and Asia*. Cities Feeding People Series, Report 9. Ottawa: IDRC.

World Resources. 1996-97. *The urban environment*. In: *A guide to the global environment*.