Urban agriculture in East Africa as a tool for poverty reduction: a legal and policy dilemma?

Foeken, D.W.J.

African Studies Centre
Leiden, The Netherlands

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Dick Foeken

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African Studies Centre
P.O. Box 9555
2300 RB Leiden
The Netherlands

Telephone +31-71-5273372
Fax +31-71-5273344
E-mail asc@ascleiden.nl
Website http://www.ascleiden.nl

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Introduction

Millennium Development Goal 1 calls for a reduction of 50% of the proportion of people whose income is less than one US-dollar a day and of the proportion of people who suffer from hunger between 1990 and 2015. However, during the 1990s, the percentage of people in sub-Saharan Africa living below the 'poverty rate' of $1 a day had risen and the number of undernourished people as well.[1] Instead of a reduction, poverty is actually on the increase in this part of the world. In addition, by the year 2015, about half of its population will be living in urban centres and poverty will have increasingly moved from rural to urban areas. According to Satterthwaite (1997: 5), urban poverty in sub-Saharan Africa "has been steadily and frighteningly on the increase during the 1980s and 1990s". Even though, in absolute terms, the rural poor (still) outnumber the urban poor, the latter group has been increasing at an alarming rate during the past decades, a phenomenon commonly described as the 'urbanization of poverty' (e.g. Lee-Smith & Memon 1994). The urban areas were particularly hard hit by the declining economies and the resulting structural adjustment policies, the cost of which were disproportionately felt by the urban poor (Rakodi 2002). Life in the urban areas has become more expensive while employment in the formal sector has gone down and real wages did not keep up with the price increases or even declined in absolute terms (Jamal & Weeks 1988; UNCHS 1996; Simon 1997). In other words, many urban households have been faced with a serious decline of their purchasing power. People have responded to this in a number of ways, of which diversification of income sources is undoubtedly the most notable one (Bigsten & Kayizzi-Mugerwa 1992; Ellis 2000; de Haan & Zoomers 2003; Kaag *et al.* 2004). A wide range of activities is employed, all in the informal sector (e.g. Lee Smith & Memon 1994; Rogerson 1997; Hansen & Vaa 2004; Owuor & Foeken fc).

Urban agriculture is an important aspect of this informalization process and has expanded considerably during the past decades. It can be interpreted as an adaptive response by urban households to improve their food situation and to diversify their livelihood options under conditions of persistent economic uncertainty and threats such as unemployment and declining purchasing power (Mougeot 1994, 2005; Foeken & Owuor 2000; Foeken & Mwangi 2000). Studies so far have revealed that urban agriculture contributes to household food and nutritional security, the creation of informal employment, income diversification through sales of surplus produce or savings on food expenditures, and more broadly promotes urban food supply systems and, at least in potential, environmental sustainability (Mougeot 2000; Foeken *et al.* 2004; Brock & Foeken 2005). It is widely recognised that especially the urban poor

[1] See http://ddp-ext.worldbank.org/ext/MDG/gdmis.do.

could benefit from farming in town because of the relatively low investments needed to start the activity. There are indications that in nutritional terms, the poor who practice urban farming are better off than the poor who do not (Mwangi 1995; Mwangi & Foeken 1996; Foeken fc). However, as some studies done in Kenya and Tanzania have shown, it is exactly the poor who are under-represented among the urban farmers; no access to land being the major obstacle (Flynn 2001; Foeken fc). And if they do have access to land, they face other constraints (a lack of capital being the main one), which causes them to perform worse than the non-poor urban farmers (e.g. Foeken fc: Chapter 10).

Despite its importance as a livelihood source, farming in town is illegal in many African countries (Foeken fc). By-laws frequently date from colonial times and forbid all agricultural activity within the boundaries of urban centres, as it does not fit in the western perception of what constitutes 'urban' (e.g. the city-is-beautiful idea) and because it is supposed to cause all kinds of environmental hazards. However, as the practice has become increasingly widespread over the last two decades, a change in policy has occurred (Bakker *et al.* 2000). During the 1960s and 1970s, policies were restrictive in the sense that harassment and destroying of crops were common measures taken by the local authorities. In the 1980s, a gradual shift in attitude took place and nowadays, urban farming is usually tolerated as long as it does not become a nuisance. In some urban centres, for example Dar es Salaam, authorities are encouraging the practice of urban farming in order to raise food-supply levels (Jacobi *et al.* 2000).

Although quite a lot of research on urban agriculture in sub-Saharan Africa has been done (see e.g. Obudho & Foeken 1999), one of the neglected areas concerns the legal and policy issues. These issues can be captured in a number of *contradictions*:
● between legislation and policy, on the one hand, and the practice of urban farming, on the other, ● between different legislations at the national level, ● between national and local legislations, ● between local legislation and local policies, and ● between different policy-making agencies at the local level (see also Mushamba 2002; Odhiambo 2002). The purpose of this paper is (1) to describe some of these contradictions, (2) to assess in how far existing legislation and policies influence the possibilities for the urban poor to engage in urban agriculture, and (3) to indicate what needs to be done to let the poor benefit from the urban farming possibilities.

What is presented below is based on two studies, one in Nakuru Municipality (Kenya) and the other in Morogoro and Mbeya Municipalities (Tanzania). Although the main focus of both studies was not on legal and policy issues, enough information was collected to be able to assess the contradictions in the legal and policy setting of farming in the three towns. Fieldwork for the Nakuru study was carried out in 1999 and 2000

and for the Morogoro-Mbeya study in 2000 and 2001.[2] The three towns resemble each other in size, as they all had a population of around 250,000 in 2000. In terms of climate and physical circumstances, they show similarities as well as differences. Nakuru lies at an altitude of about 1700 m above sea level and is fairly flat (except for the Menengai Crater at its northern boundary). Due to its location on the floor of the Great Rift Valley, it has fertile, volcanic soils. With an average annual rainfall of about 940 mm, Nakuru has a dry sub-humid climate, although rainfall shows strong fluctuations between and within years, making rain-fed agriculture a rather risky business. Morogoro shows, except for its altitude (about 500 m above sea level), more or less the same characteristics. Mbeya lies at the same altitude as Nakuru, but is more hilly and receives more rainfall, namely an average of about 1200 mm a year.

The practice

About a third of Nakuru households were engaged in urban agriculture (Table 1).[3] Crop cultivation was more common than livestock keeping. Compared to Nakuru (and indeed to what is known from the literature on urban agriculture in sub-Saharan Africa), the number of people engaged in urban farming in Morogoro and Mbeya was very high: almost all households in these two towns could be classified as 'urban farmer'.[4] Conspicuously, while in Morogoro crop cultivation was the dominant type of urban agriculture, in Mbeya it was livestock keeping. In Nakuru, poor households[5] appeared to be under-represented among the urban farmers and this applied to both crop cultivation and livestock keeping. In Morogoro, poor households were only under-represented

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[2] The funding of the Tanzania study by the Netherlands-Israel development Research Programme (NIRP) is gratefully acknowledged. This study focused on sustainability of urban farming; the results are laid down in Foeken, Sofer & Mlozi (2004). The Kenyan study focused on socio-economic aspects, farming practices and environmental issues; it has yielded various publications so far, the major one being Foeken (fc). Most of the figures presented in this paper are derived from these two sources, although some new analysis has been carried out as well.

[3] For practical reasons, in both studies, urban agriculture was defined as any agricultural activity within the municipal boundary. Both studies dealt only with urban farmers living in the built-up area; thus, peri-urban farming – defined as farming in the zone between the built-up area and the municipal boundary – was not included.

[4] I.e. cultivating crops on a plot of at least one square metre and/or keeping one or more types of livestock. One square metre as a bottom-line may seem very small but studies have shown that there are examples of surprising production levels from such a tiny plot (see, for example, Smit *et al.* 1996). The overwhelming majority of the urban crop cultivators in the two studies had plots that were much larger, however. The benchmark for livestock used in this study was one head of cattle or five goats/sheep or ten small animals.

[5] In Nakuru, poor households were defined as households with a gross monthly cash income of less than 5,000 Kenyan shillings (which equals about US$0.67 per person per day; see Foeken fc). In Morogoro and Mbeya, households with a gross monthly cash income of less than 50,000 Tanzanian shillings were defined as 'poor' (which equals about US$0.50 per person per day; see Foeken *et al.* 2004: 42).

among urban livestock keepers, while in Mbeya the proportions of poor households in both types of urban farming hardly differed from those of the non-poor. In another Tanzanian town, Mwanza, Flynn (2001) found that in her small sample, only 20% of low-income households were engaged in urban farming, compared to half of the middle-income households and all of the high-income households.

Table 1 Engagement in urban agriculture, by type of farming and town (% households)

	Nakuru	Morogoro	Mbeya
All households	(N=594)	(N=300)	(N=308)
Engaged in urban agriculture	35	90	93
Engaged in urban crop cultivation	27	81	63
Engaged in urban livestock keeping	20	38	78
Poor households only	(N=310)	(N=122)	(N=157)
Engaged in urban agriculture	22	93	92
Engaged in urban crop cultivation	14	86	57
Engaged in urban livestock keeping	14	25	79

Tables 2 and 3 show a number of characteristics of urban crop cultivation and urban livestock keeping that are all to some extent related to legislation and/or policy. The figures present an indication of the first of the above-mentioned contradictions, namely between legislation and policy, on the one hand, and the practice of urban farming, on the other. Many urban farmers in the three towns cultivated crops outside their own compounds (Table 2, row 1). That implies that growing crops in some open (often undeveloped) space – usually not belonging to them, without any official consent and without paying any rent – is quite common, particularly in the two Tanzanian towns. In all three towns, maize was the most common crop (row 2). Yet, maize falls under the crops taller than one metre that are usually forbidden in local by-laws because they can be used as hide-outs for criminals. The use of chemical inputs, commonly perceived as a threat to the urban environment, was fairly widespread (row 3), particularly in Mbeya. On the other hand, a positive contribution to sustainable urban agriculture (recycling) and thus to a better urban environment is the use of livestock waste for crop cultivation (row 4). Irrigation of crops was common in Nakuru, but not in Morogoro and Mbeya (row 5). Almost all irrigation water in Nakuru was obtained from municipal taps, which is illegal. A special point of concern is irrigation with untreated sewage water, for instance in Nakuru. Although strictly forbidden, this practice was common in areas with sewers. Crops in these areas are supposed to be contaminated, which led the Nakuru Municipal Council in 2004 to destroy all the crops in one of these areas. Finally, only a few of the crop cultivators in Nakuru had been visited by a professional adviser (row 6), which is remarkable because for the Ministry of Agriculture, Nakuru Municipality is

just one of the extension divisions of Nakuru District. In this respect, the situation in the two Tanzanian towns was better, although two-thirds of the crop cultivators there had not received any professional assistance either.

Table 2 Characteristics of urban crop cultivation, by town (% of crop-cultivating households)

	Nakuru (N=160)	Morogoro (N=243)	Mbeya (N=194)
1. cultivated plot(s) outside one's compound	39	68	56
2. cultivated maize	61	80	83
3. used chemical inputs	48	34	80
4. used manure as fertiliser	53	17	62
5. irrigated the crops	44	8	14
6. received professional assistance	3	33	32

Cattle is the most common type of large livestock kept in the three towns, although there were marked differences as well (Table 3, row 1). Mbeya in particular stands out as a 'cattle town'. According to the local by-laws in both Morogoro and Mbeya, it is forbidden to keep more than four head of cattle. Table 3 (row 2) shows that quite a number of households were apparently breaking the law. Keeping livestock in free range is an offence in all three towns, but that occurs as well, particularly in Nakuru (row 3). Also common in Nakuru was the practice to dump some or all of the animals' waste in the street (row 4), which is also against the law. A more positive point – in terms of the urban environment – is the fact that about half of the livestock keepers in the three towns used crop residues as feed (row 5), which shows that recycling is fairly common. Not many urban livestock keepers complained about harassment of their animals by the local authorities (row 6). In fact, not one of the livestock keepers in the

Table 3 Characteristics of urban livestock keeping, by town (% of livestock-keeping households)

	Nakuru (N=121)	Morogoro (N=114)	Mbeya (N=239)
1. kept cattle	21	54	85
2. kept more than four head of cattle*	19	37	15
3. kept large livestock in free range**	46	9	10
4. dumped waste in the street	33	0	2
5. used crop residues as feed	44	45	56
6. mentioned harassment as constraint**	12	0	0
7. received professional assistance	17	74	79

* Percentage of households keeping cattle.

** Percentage of households keeping large livestock (cattle, goats, sheep, pigs).

two Tanzanian towns mentioned this as a problem, which may be an indication that the Nakuru authorities were somewhat stricter in enforcing the law than their Tanzanian colleagues. Finally, technical advice from professionals was very common in Morogoro and Mbeya, but much less so in Nakuru (row 7). This is related to the percentages of households keeping (improved) cattle. Of all types of livestock, cattle require the largest investments and are the most financially rewarding; hence, it is the type of livestock best taken care of.

National legislation and policies

In Kenya, there exists a variety of national legislation relevant for urban agriculture. To start with, the Agriculture Act[6] (Section 2) gives the following definition of 'agricultural land':

> (…) all land which is used for the purpose of agriculture, not being land which, under any law relating to town and country planning, is proposed for use for purposes other than agriculture.

This does not completely rule out the possibility of practising agriculture within a town's boundary. Any doubt seems to be taken away by the definition of 'agricultural land' given in Section 2 of the Land Control Act,[7] namely "land that is not within (…) a municipality or a township". However, in the same section of the same Act, a provision is made to allow for urban agriculture because 'agricultural land' can also be

> (…) land in Nairobi Area or in any municipality, township or urban centre that is declared by the Minister, by notice in the Gazette, to be agricultural land for the purposes of this Act.

Related to this, Section 29 of the Physical Planning Act[8] provides "each local authority" the power

> (a) to prohibit or control the use and development of land (…) in the interest of proper and orderly development; (…)
> (c) to formulate by-laws to regulate zoning in respect of use and density of development; (…)
> (f) to reserve and maintain all the land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical development plan.

Crucial here is how a local authority defines "proper and orderly development" and whether there is room for agriculture as a form of urban land use in the "physical development plan".

Whereas these Acts offer the local authorities the legal provision for whether to allow urban farming or not, other Acts provide the framework to control the activity.

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6 Laws of Kenya: The Agriculture Act – Chapter 318, Revised Edition 1986. Nairobi: Government Printer.

7 Laws of Kenya: The Land Control Act – Chapter 302, Revised Edition 1989. Nairobi: Government Printer.

8 Laws of Kenya: The Physical Planning Act – Chapter 286, Revised Edition 1996. Nairobi: Government Printer.

The most important one is the Public Health Act[9], dealing with everything causing "any nuisance or other condition liable to be injurious to health". Section 118 of this Act defines nuisances in relation with animal keeping:

> (f) any stable, cow-shed or other building or premises used for keeping of animals (…) which is so constructed, situated or kept as to be offensive or which is injurious to health;
> (g) any animal so kept as to be a nuisance or injurious to health;
> (h) any accumulation or deposit of refuse, offal, manure or other matter whatsoever which is offensive or which is injurious or dangerous to health.

As for the cultivation of crops in town, Section 157 provides the Minister of Public Health, "after consultation with the Minister of Agriculture", with the power to prohibit this "(…) where it is shown (…) that the growing of any crop or the irrigation of any land being within the boundaries of a township or within three miles of such boundaries is unhealthful or insanitary (…)". This article provides also the legal backing for prohibiting irrigation with sewage water.

Another section in the Public Health Act that is very important for urban crop cultivation is 168A, which deals with the breeding of mosquitoes and flies:

> Every municipal council may (…) make by-laws for preventing and abating conditions permitting or favouring the breeding of mosquitoes and flies and, generally, for the prevention of malaria and other insect-borne diseases.

Although, on first sight, there seems to be no direct link with urban agriculture, this act – which dates from the colonial period – provides the basis for prohibiting maize growing in town on health grounds, as mosquitoes are supposed to breed in the water that assembles in the axils of the plants.

Obviously, the Public Health Act also deals with "pollution related to health". For instance, Section 130 provides the Minister with the possibility to prohibit the erection of, for instance, "stables, cattle-kraals [or] pig-sties" and the deposit of "any manure" likely "to entail risk of harmful pollution". And Section 129 imposes on every local authority the duty to prevent "any pollution dangerous to health of any supply of water". Pollution of water is also included in the Water Act,[10] where Section 94 states that

> (…) no person (…) shall throw (…) any rubbish, dirt, refuse, effluent, trade waste or other offensive or unwholesome matter or thing into or near to any water resource in such manner as to cause (…) pollution of the water resource.

Thus, both the Public Health Act and the Water Act provide the legal framework for forbidding the use of, for instance, chemicals in urban agriculture.

Perhaps the most important national legislation in relation to urban agriculture is the Local Government Act.[11] It provides the local authorities with full decision-making

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[9] Laws of Kenya: The Public Health Act – Chapter 242, Revised Edition 1986. Nairobi: Government Printer.

[10] Republic of Kenya: Kenya Gazette Supplement No. 107 (Acts No. 9), The Water Act, 2002. Nairobi: Government Printer.

[11] Laws of Kenya: The Local Government Act – Chapter 265, Revised Edition 1998. Nairobi: Government Printer.

power in relation to crop cultivation and the livestock keeping within the municipal boundaries. For instance, Section 144 states that:

> Any land belonging to a local authority (…) may (…) be appropriated for any other purpose for which the local authority is authorized to acquire land.

In other words, by means of urban-agriculture-friendly by-laws, a local authority may invoke this Act to temporarily provide its urban dwellers with land for urban agriculture. More specifically, Section 155 provides that every municipal or town council "shall have power (…) to engage in livestock and agricultural undertakings" and

> (…) to require the planting of any specified crops by persons for the support of themselves and their families *in areas which in the opinion of the (…) council are suffering from or likely to suffer from shortages of foodstuffs*. [author's emphasis]

In other words, if willing, the Nakuru Municipal Council has the legal possibility to engage in or to allow the crop cultivation for the (very) poor and in the areas where these poor are living. However, growing crops on land that does not belong to the cultivator – which is quite common in Nakuru (see Table 2) – is illegal. Every municipal or town council has, according to Section 154, the power

> (…) to prohibit the cultivation by unauthorized persons of any unenclosed and unoccupied land in private ownership and of any government land and land reserve for any public road.

Another provision to forbid, restrict or control crop cultivation is offered in Section 160, stating that "every (…) council shall have power to plant, trim or remove trees, flowers and shrubs in or on any public space". This may seem a rather harmless act in relation to urban crop cultivation, but not anymore when vegetables are considered as 'shrubs', as a mayor of Nairobi once did. The Local Government Act also provides the legal framework for the ban on sewage water for irrigation, because for instance Section 173 states that "any person who (…) makes or causes to be made any opening into any (…) sewer (…) shall be guilty of an offence." And, like crop cultivation, the local authorities can also "prohibit or control the keeping of animals, birds and bees so that their keeping shall not be a public nuisance or injurious to health" (Section 162).

Finally, besides the local authorities, there is also a role to play for the local Chiefs, as laid down in the Chiefs' Act.[12] For instance, according to Section 10,

> Any chief may from time to time issue orders to be obeyed by the persons residing (…) within the local limits of his jurisdiction for (…)
> (f) preventing the pollution of the water (…);
> (h) preventing the spread of disease, whether of human beings or animals.

And Section 11 adds to this: "suppressing or controlling animal or insect pests or plant pests or diseases" and "restricting or prohibiting the use of grazing by any form of stock" in specific areas.

[12] Laws of Kenya: The Chiefs' Act – Chapter 128, Revised Edition 1998. Nairobi: Government Printer.

In sum, according to the national legislation in Kenya, urban agriculture can be forbidden, restricted, allowed, controlled, facilitated or even promoted. Which line is actually followed at the local level depends entirely on the by-laws and ordinances made by the local authorities. The local authority's power to draw up such a local legal framework is provided by the Local Government Act, while the various other Acts discussed above form the legal handle for the provisions made in these by-laws.

Compared to Kenya, the situation in Tanzania is quite different and much more straight-forward in the sense that at the national level, urban agriculture has been a recognised activity since the beginning of the 1970s. Whereas in Kenya, there is no national legislation directly dealing with urban agriculture and the national government never devised any policy for that matter, the Tanzanian government did both. As a result, urban agriculture in Tanzania is practised in a generally favourable political and legal context. Faced with a poor economy in the 1970s and 1980s, the national government issued policies to actually encourage people to undertake urban agriculture. Urban dwellers were thus thought to be able to attain food self-sufficiency. Government and political leaders time and again told urban dwellers to raise livestock and grow food crops in their backyards and on other open spaces (Mlozi 2001). Policies behind this included *Siasa in Kilimo* ("Politics is agriculture") in 1972, *Kilimo cha Umwagiliaji* ("Irrigated agriculture") in 1974, *Kilimo cha Kufa na Kupona* ("Agriculture for life and death") in 1974/75 and, in the same year, *Mvua za Kwanza ni Zakupandia* ("First rains are for planting"). Others were the National Economic Survival Programme (NESP) of 1981/82, the National Food Strategy of 1982, the National Livestock Policy (NLP) and the National Agricultural Policy (NAP) of 1983, and the National Economic Recovery Programme (ERP) of 1986-1990.

More recently, the Agricultural and Livestock Policy of 1997 observes, on the one hand, that "agriculture is not a principle function of towns" but, on the other hand, "when properly organized [it] has the potential to provide employment and income and is a complementary source of food supply" (Kitilla 2001: 79). The positive attitude of the national government towards urban agriculture was once more expressed in the National Human Settlement Development Policy of 2000 put forward by the Ministry of Lands & Human Settlement Development (URT 2000):

> Urban agriculture exists in most urban areas both in the developed and developing countries. As an economic activity, it provided income and employment opportunities to the urban populations, and a reliable supplementary source of food supply to urban dwellers at affordable prices. As a land use, well-planned urban agriculture creates a pleasant greenly scene.

This implies the outright recognition that urban agriculture is an important economic sector in terms of food supply and employment and is therefore an important livelihood source for many. Moreover, the potentially positive contribution of urban agriculture to

a better urban environment is also recognised. Yet, the Ministry also signalled the potential dangers of the practice:

> Although urban agriculture is considered an important component in sustainable development, improperly practised urban agriculture conflicts with other urban land uses and leads to land degradation, water pollution, and is a threat to health and safety.

Therefore, in the same document (URT 2000), the government sets a number of policy goals:

i. to designate special areas within planning areas whereby people will be granted legal rights to engage in agricultural activities;
ii. to continue to regulate and research the conduct of urban agriculture and to ensure that it does not disrupt planned urban development;
iii. to review existing laws to facilitate planned urban agriculture; and
iv. to facilitate the construction of appropriate infrastructure to mitigate/prevent land degradation, water pollution, and health and safety hazards in areas where urban agriculture is permitted.

Already since the beginning of the 1990s, attempts have been made to control the sector. For instance, in the Urban Farming Regulations of 1992 guidelines are laid down on, amongst others, maximum plot size, number of cattle, and rearing system for livestock (Kitilla 2001). Moreover, it includes a prohibition of any farming activity whenever it causes a nuisance.

At the ministerial level, in a bid to encourage urban dwellers to produce their own food, the government set up an urban agriculture extension service in the 1970s under the Ministry of Agriculture and Food Security (MAFS). Currently, MAFS uses its urban-based Agriculture and Livestock Extension Agents (ALEAs) to promote the raising of livestock and the growing of crops. ALEAs visit urban dwellers and impart modern skills and knowledge (non-formal education) about agriculture so that farmers' production levels increase.

Local by-laws and policies

Throughout the 1990s, farming in Nakuru was officially illegal but was tolerated by the authorities. The main legal control mechanisms were the Public Health By-Laws of the Municipal Council of Nakuru, for instance those of 1994.[13] These by-laws were based on the Public Health Act mentioned above. That means that farming is prohibited if it causes a "nuisance". For instance, fly and mosquito breeding, disposal of dirty water, pollution of wells and foul smells are considered nuisances, some of which can cause diseases such as malaria, typhoid, cholera, diarrhoea etc. Pigs are usually seen as the greatest nuisance. Thus, any farming activity that was either considered being

[13] The Municipal Council of Nakuru (Public Health) By-laws, 1994 (approved in January 1995 by the Minister for Local Government).

detrimental for public health and/or safety or that other people complained of was dealt with by the municipal authorities, in casu the Public Health Officer.[14] In practice, this concerned mainly livestock confiscated because of being a nuisance to neighbours or to the wider community (e.g. traffic accidents). Dumping waste from livestock in the street could also be punished, on the basis of By-law 93, stating that

> Any person who throws (…) in any street (…) or open space (…) any waste (…) or other refuse, liquid or solid likely to cause nuisance (…) shall be guilty of an offence.

However, the fact that by the end of the 1990s, quite many of the Nakuru urban livestock keepers did dump (some of) their animals' waste in the street shows that this 'offence' was rarely or even never punished.

During the past five years, under the influence of developments elsewhere and of research carried out in Nakuru itself,[15] there has been a growing awareness among the local authorities that farming in town was very important for the livelihood of many Nakuru townspeople and that it was better to try to regulate the sector instead of maintaining a 'laissez-faire' attitude (which is so common in many African towns and cities) towards something that is officially illegal. A good possibility to translate this awareness into policy was the *Localising Agenda 21* (LA21) programme. Its objective was to provide training for the development of a new approach towards urban planning and management, focusing on environmentally-conscious development of Nakuru ("People's Green City"), with particular attention to the low-income groups. The first step was the organisation of a Consultation Workshop in 1995, which led to a common understanding of the factors promoting and hindering the sustainable development of Nakuru. The result of the workshop was an Urban Pact, amongst others expressing the visions concerning the desirable development of the town. One of these visions was Nakuru as an 'eco-town',[16] integrating natural and human imperatives. Inevitably, urban agriculture should be an integral part of this 'vision': urban agriculture is a fact of life that cannot be ignored when planning for sustainable urban development. As Kulshreshtha (1998: 47) put it:

> The assimilation of agriculture as an integral urban function and the protection of the agricultural lands from the threats of expansion of other urban land uses, have become important development imperatives for Nakuru. In the face of slow industrial growth and investment in Nakuru, urban agriculture reveals its potential as a viable, eco-friendly and sustainable development option. This option calls for reorienting and harnessing its potential for urban employment, for economic growth

[14] Mr. S.C. Kiarie, Public Health Officer, Municipal Council of Nakuru, personal communication, September 1998.

[15] A two-day workshop in November 2002 organised by the research team of the Nakuru Urban Agriculture Project (NUAP) was a case in point. The workshop's objectives were (1) to present the results of the various NUAP studies to all relevant local stakeholders, (2) to discuss the practices of urban agriculture in Nakuru and formulate possible improvements, and (3) to discuss policy and planning issues concerning urban agriculture in Nakuru and formulate recommendations.

[16] The other visions being a railroad town, a center of eco-tourism, a regional capital and a service centre, and a prototype town of the East African highlands (Mwangi 2001).

> and even more importantly, for living in harmony with nature – a fact that is rooted in the being of Nakuru.

Other decisions taken during the Consultation Workshop were, amongst others, to set up of a town planning unit and to prepare the so-called *Strategic Nakuru Structure Plan* (see MCN 1999). The final Plan was approved in April 2001 and according to Mwangi (2001: 17), "it is the blueprint for urban sustainable development for the town and is probably one of the most important achievements of the LA21 programme." However, urban agriculture is conspicuously absent in this document. The only time the activity is mentioned (on p. 44) farming in town is seen as a temporary feature: "Economically, urban agriculture is a transitory activity which eventually gives way to more traditional urban functions". This sounds rather contradictory to Kulshreshtha's remarks cited above.

Having missed this chance and lacking any by-laws dealing with urban agriculture, the Municipal Council decided to 'borrow' the *Kampala City Urban Agriculture Ordinance*.[17] Section 2 of this Ordinance recognises that

> The production of food in the City benefits health in terms of nutrition, and may have other good effects like creating a green environment.

At the same time, however,

> Urban agriculture can also create health hazards and damage the environment. Therefore, it must be subject to proper planning and management.

What this 'proper planning and management' constitutes is outlined in the rest of the Guideline and includes such issues as urban agriculture permits, places where farming is not allowed (e.g. road reserves, greenbelts, parks) and practices that are forbidden (e.g. no "untreated human waste to be used as manure", proper use of chemicals).

In 2004, new Environmental Management By-Laws were drafted.[18] These by-laws replace the 1994 Public Health by-laws and include (again) the prohibition of anything causing a nuisance to the people's health or polluting the environment. The big surprise of these by-laws, i.e. as far as urban agriculture is concerned, can be found in Part XVI, dealing with "Greening and Beautification". Here, any form of urban agriculture is simply forbidden. For instance, By-law 180 dealing with the growing of food crops, states that

> (i) Any person found growing food crops within the Council's jurisdiction shall be guilty of an offence.
> (ii) Any person who grows (…) tall grass or vegetation of more than half-foot high in his or her plot or within a radius of five metres from the boundaries of the plot shall be guilty of an offence.

And By-law 176 deals with livestock keeping:

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[17] The Kampala City Urban Agriculture Ordinance: A Guideline. Kampala/Nairobi: KUFSALCC/Urban Harvest.

[18] The Municipal Council of Nakuru (Environmental Management) By-Laws, 2004 (Draft).

> Any person who rears or keeps any animal within the jurisdiction of the Council shall be guilty of an offence. Such animals shall include but are not limited to cows, pigs, goats, sheep, chicken, turkey, duck and donkeys.

The latter is confirmed by the recently approved (in January 2005) Control of Stock By-Laws of 2004,[19] in which, according to By-law 4,

> No person shall keep or graze any stock or horse within the boundaries of the Municipal Council of Nakuru unless he is in possession of a permit (…).

This permit, however, is issued only in respect of stock held for slaughter at the Council's slaughterhouse, stock to be offered for the Nakuru Agricultural Show, or stock that has been "lawfully impounded" (By-law 5). In other words, it is not possible to obtain a permit for livestock kept in the way many Nakurians currently do. Even so, By-law 6 prohibits the construction of any stable or shed or whatever building for keeping livestock. By-law 7 provides that "no stock shall be kept (…) in or under any portion of any building (…) used for the purposes of human habitation", so keeping chickens in a room in the house, as some people do, is illegal.

With these two recently made by-laws, a better example of the contradictions between local legislation, on the one hand, and the urban agricultural practice, on the other, seems hardly possible. The picture becomes even more confusing in the context of some developments 'on the ground'. Not only is farming in Nakuru an omnipresent phenomenon, officially recognised NGOs are actively involved in urban farming. Two of these NGOs are the Agriculture and Rural Development Programme and the Ecumenical Church Loan Fund, which are discussed below (see the section on "Legislation, policy and the poor"). Another (Danish sponsored) NGO called SENVINET (Strategic Environmental Network) is working in Nakuru since the mid-1990s on an environmental-awareness programme, focusing on school children and actively promoting organic farming at schools, thereby assisted by extension officers of the Ministry of Agriculture.

In addition, high-ranking representatives of the Municipal Council recently expressed themselves quite positively about farming in Nakuru town. In November 2002, a workshop was held at which the results of the various NUAP-studies were presented to and discussed by various stakeholders, including Municipal Council officers. The then Director of the Department of Housing spoke about the workshop as "an eye-opener" stressing that "we need to revise our housing policy", i.e. new municipal houses should have a compound so that the inhabitants can at least produce part of their own food. In December 2004, a meeting was held in Nakuru in the context of an initiative entitled "Local Participatory Research and Development on Urban Agriculture and Livestock Keeping in Nakuru". The purpose of the meeting was to

[19] The Municipal Council of Nakuru (Control of Stock) By-Laws, 2004 (approved in January 2005 by the Minister of Local Government).

develop a common understanding of this initiative among all stakeholders, including representatives from the Municipal Council. As can be seen in the report of the meeting,[20] all groups – government officials included – "strongly felt that there was a need for the proposed initiative in Nakuru (…) and expressed their commitment to the project if it came to fruition." Finally, during another consultative meeting with various local stakeholders in May 2005, the representative of the Department of Environment said that they were now actively promoting urban farming in Nakuru, at least as long as the activity is carried out in an environment-friendly way.

As with the national legislation, the situation in Tanzania (Morogoro and Mbeya) regarding local legislation in relation to urban agriculture is completely different from that in Kenya (Nakuru). By-laws regulating both crop cultivation and livestock keeping exist in all Tanzanian towns and municipalities. The first urban by-laws regulating crop cultivation and livestock keeping in urban centres were enacted by the British colonial authorities back in 1928.[21] These by-laws had three main objectives: (i) to prohibit people of African descent to grow crops and to raise livestock in urban areas; (ii) to prevent urban agricultural activities, especially growing crops taller than one metre, in urban areas because they were thought to increase the presence of malaria-carrying mosquitoes; and (iii) to maintain a cleaner urban environment and sustain urban aesthetics by preventing people of African descent from growing crops in open spaces in town. After independence in 1961, most of these by-laws fell into disuse.

In the early 1980s, government policies encouraging urban agriculture, especially livestock keeping, started to have a negative effect on the operations of many urban councils and the physical urban environment, and it became obvious that the existing municipal by-laws regarding urban farming needed to be revised. Two examples of such revised by-laws are discussed in this paper, namely the 1987 by-laws on crop cultivation in Mbeya and the 1999 by-laws on livestock keeping in Morogoro. By-laws in all other Tanzanian urban centres are about the same as those of Mbeya and Morogoro and all of them essentially state that growing crops or raising animals is permitted albeit under certain conditions. Specific by-laws forbid planting crops in designated areas or restrict the cultivation of certain crops. For instance, crops taller than one metre are forbidden, which includes maize – one of the most common crops in Tanzanian towns. Penalties for violating these by-laws are clearly laid out (Mlozi 2001). By-laws concerning livestock keeping include the required purchase of a special permit from the Town or City Director; a maximum of four head of cattle, only to be kept in

[20] See http://www.cipotato.org/urbanharvest/news_events2005/nakuru.htm.
[21] By-laws for Regulating the Cultivation of Crops and Keeping of Animals in Urban Areas.

zero-grazing and in specific structures; and the compulsory removal of manure, liquid waste material and other animal waste (Kitilla 2001; Mlozi 2001).

The Mbeya by-laws on crop cultivation[22] apply to 15 of the 36 wards in which the town is divided (a 'ward' is the administrative entity directly under the Municipal Council). These 15 wards roughly coincide with the built-up area of the town. The other 21 wards constitute the peri-urban area where farming has always been and still is the dominant economic activity. In as far as the built-up area is concerned, the by-laws make a distinction between areas where growing crops is completely prohibited (By-law 3) and where it is permitted (By-law 4). The area where crop cultivation is prohibited covers eleven wards and most of another one. Growing crops is also prohibited in "all areas of Road Reserve and all other areas along the main roads up to a distance of fourteen meters from the road bank" as well as in "all public spaces including children grounds and all surveyed plots being held under any law for the time being in Tanzania." By-law 4 lists the three wards as well as a river valley where crop cultivation is permitted. As for the river valley itself, crop cultivation is not allowed within fifteen metres of the river bank.

In practice, these by-laws imply that urban agriculture is an illegal activity in most of the built-up areas of Tanzanian municipalities. The cultivation of annual crops is not restricted in these areas but for permanent crops a written permission from the Municipal Director is required. By-laws 8 and 9 regulate the ways in which crops have to be cultivated, including for instance the use of machinery, planting time, the use of inputs, weeding, the use of certified seeds, planting on slopes, as well as what to do in case of pests or disease. By-law 11 stipulates the penalties for not adhering to these regulations, including fines, imprisonment and the destruction of crops.

Although these by-laws exist and clearly stipulate the penalties for infringement, they are rarely implemented. For example, it is common to see crops of all varieties planted in all municipal wards, on road reserves and riverbanks, in open public spaces (including children playgrounds) and on surveyed plots. However, the by-laws are ignored at will. That raises the question whether or to what extent the urban farmers are aware of the existence of these regulations. A group of farming households in both Mbeya and Morogoro were asked which crops they thought were not allowed to cultivate in town. The Mbeya respondents were unanimous that crops taller than one metre (or three feet) were prohibited. Everybody pointed at maize but bananas, sugar cane and sunflowers were also mentioned. Many Morogoro respondents mentioned tall crops as well because these "form bushes in which thieves hide", as some respondents said. Others explained that tall crops make the town look dirty. A few respondents mentioned tree crops, such as fruit trees and coconuts because of potential danger to

[22] The Mbeya Municipal Council (Regulations of Cultivation) By-laws, 1987 (approved in June 1987).

electricity lines, roads and houses. Finally, there were several people who thought that there were no restrictions at all on growing crops in town.

In the Morogoro by-laws on livestock keeping,[23] "animals" are cattle, donkeys, goats, horses, mules, pigs and sheep. In other words, small livestock like chickens, ducks, rabbits and turkeys, most of which are now raised in urban areas, are left out. In By-law 3, the Council stipulates that it

> shall earmark certain areas to be known as 'specified areas' within the Urban area for the purpose of keeping animals [and] along which to move an animal or animals and permits shall be issued by the Council in respect of animals authorized in the Urban area.

Yet, the by-laws do not specify the numbers and types of animals that urban dwellers are allowed to raise in different density areas. By-law 5 forbids keeping animals outside "a building, structure or enclosure", so keeping animals in free range is prohibited. According to By-law 8, animals are not allowed to be kept "in a building or part of such building that is used for human habitation", but people do keep improved chickens in their houses, as the researchers observed. On the other hand, chickens are not defined as animals in these by-laws, implying that keeping chickens in the house is allowed (unlike Nakuru). Animals can only be moved with special permission from the Council. Despite these regulations, most urban dwellers keep animals without a permit. By-laws 5 and 6, requiring urban dwellers to remove manure, liquid filth and other animal waste, are never enforced. The fact that there are many senior government and ruling party officials among livestock keepers who ignore the by-laws with impunity is probably the best assurance for most other livestock keepers that they will not be punished if they violate the law. This is not unique to Morogoro, because in all Tanzanian municipalities virtually all the by-laws are ignored by most urban farmers (Mvena *et al.* 1991). Besides the fact that the municipal authorities do not have the means to effectively enforce them, there are other reasons as well. One of these is that the very people who are supposed to see to the enforcement of the laws are the ones violating them; or, as Sawio (1993: 348) describes it, "it appears impracticable for a junior officer to punish his or her boss who is found violating the law". For instance, many senior officials living in the high-income, low-density areas of Dar es Salaam keep more than the permitted four head of cattle and allow them to graze openly on public land.

Opinions among respondents in the two towns regarding the types of animals allowed to be kept in town differed, both within and between the two towns. Most of the respondents in Mbeya thought that keeping large livestock – cattle, goats, sheep and pigs – was simply prohibited. According to some respondents, no livestock at all were allowed to be kept in town. Others, however, stated that livestock were allowed if there were not more than four animals and if they were not kept in free range. The Morogoro

[23] The Morogoro Municipal Council (Animals in Urban Area) By-laws, 1999 (approved in June 1999).

respondents seemed to be more aware of the contents of the by-laws, as a third of them knew about the ban on keeping animals in free range. Several others mentioned the limitation regarding the number of animals (four) that people were allowed to keep. Two respondents (wrongly) thought that livestock keeping was not permitted at all, while another two admitted that they did not know. Finally, one respondent aptly put it this way: "no livestock is prohibited to be kept in town, but it depends on the owner the way you follow the by-laws".

Respondents were also asked whether they thought that livestock raising and growing crops in town could be stopped by applying the municipal by-laws. Two-thirds of the respondents in Morogoro thought that it could *not* stop farming activities in town. Most of them stressed the importance for the households involved in terms of employment, food and income. One respondent stated that "using the by-laws (…) will make poverty increase among families", while another one said that "it is the only way of increasing their income [and] to sustain their living and their families". Two respondents stressed that "the number of thieves and criminals will increase". Among the respondents who thought that urban farming could be stopped by applying the by-laws, some mentioned certain conditions. Most of these conditions were related to the contents of the by-laws and to the willingness of the municipality to enforce them. Another respondent put it as follows:

> To raise animals and cultivate crops can only be prevented if there is a selected area for livestock keeping and crop growing, and serious action should be taken against those who keep animals and cultivate crops and who cause environmental degradation.

Finally, two Morogoro respondents thought that livestock keeping could be stopped but crop cultivation could not. As one of them said,

> I think livestock keeping can be prevented by using the municipal by-laws because it is difficult to raise livestock in town since most of the animals scavenge in the streets and there is not enough space to keep animals. But crop cultivation cannot be prevented because it is the activity the people depend on.

In contrast with Morogoro, the majority (60%) of the Mbeya respondents were of the opinion that farming in town could be stopped if the by-laws were enforced, though according to one of them "only in the centre of the town". The remaining respondents in Mbeya thought that the practice could *not* be stopped using these legal measures because "it is too important for the people engaged in it" and "the ones who are supposed to implement the by-laws are doing it as well". Two particular citations are illustrative:

> They cannot stop the crop growing and livestock raising because these activities reduce the hardship of life and the by-laws are not applied equally to leaders and other people, so when the leaders break the laws, other people follow.

> Crop growing and livestock raising cannot be prevented (…) because the by-laws are there for many years and livestock keepers who are fined still continue to keep them. The municipality is slashing crops but the following year the urban farmers cultivate them again.

These quotes suggest that the Mbeya Municipal Council does try, to some extent, to exert control over farming activities. This was confirmed by the Acting Town Director who stated that

> there is no official support for urban agriculture in Mbeya. The Municipality tries to prevent it, but the people "do not respond". The people know that the Municipality forms a threat. The Municipality intends to take measures, that is destroy crops, take away livestock, but this is difficult to implement.[24]

The Municipal Town Planner (MTP), however, held another opinion:

> There is support for urban agriculture in Mbeya Municipality, especially in the peripheral areas of the Municipality, that is the areas that look more rural. Some of the people there not only cultivate crops but also raise animals.[25]

The MTP further explained that "according to the current master plan (1985-2005), zones in the periphery were for agricultural development". However, a look at the map of the master plan showed that the dark-green zones concerned forest land or a large farm and the light-green zones were designated as "open space and hazard land". The MTP admitted that agriculture was not officially recognised as a type of urban land use. In addition, "in the new master plan, there will be no room for urban agriculture". The latter observation was in line again with the Acting Town Director's view:

> A new master plan is going to be developed by the municipal authorities (…). The new master plan is in its initial stages. Environmental aspects such as management of solid waste and sewage water are very important, but there is no room for urban agriculture.

The confusion may lie in the distinction between farming in built-up areas and farming in peri-urban areas (the zone between the built-up area and the municipal boundary). As mentioned above, only 15 of the 36 wards in Mbeya Municipality are truly 'urban' (built-up areas), while the other 21 are 'peri-urban' and therefore of a 'rural' character, which means that "about three-quarters of the Municipality consists of arable land".[26] According to the Municipal Agriculture and Livestock Development Officer, as far as the Ministry of Agriculture is concerned,

> the municipal policy is to allow unrestricted crop cultivation only in the peri-urban areas and as far as the built-up area is concerned only crops that are not taller than two feet. Animals are allowed only in zero-grazing (free grazing can incur a fine of TSh. 10,000[27] per animal), with a maximum of four head of cattle. There are no official restrictions regarding the number of goats, sheep and chickens that can be kept, although the keeping of goats is being discouraged.[28]

All municipal officers interviewed in Mbeya recognised the environmental hazards caused by the sector, particularly from large livestock kept in the built-up areas: air pollution, especially from pigs (which is big business, for the Dar es Salaam market);

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[24] Ms. S. Siriwa, Acting Town Director, Mbeya Municipality, personal communication, September 1999.

[25] Mr. J. Mwangoge, Municipal Town Planner, Mbeya Municipality, personal communication, September 1999.

[26] Mr. M. Mhando, Municipal Agriculture and Livestock Development Officer, Mbeya Municipality, personal communication, September 1999.

[27] The exchange rate at that time was about 700 Tanzanian shillings for one US dollar.

[28] Mhando, op. cit.

water pollution, especially where farming is done near rivers; and soil erosion, especially from livestock freely roaming around, but also from crop cultivation. Waste from livestock is considered particularly problematic, especially in high-density areas "where people have very little or no space to dump the waste". But the Ministry of Agriculture has "only an educational task (…); measures can be taken, but only through the Public Health Officer".[29]

In short, the Mbeya policy can best be characterised as a laissez-faire one. There is no assistance for the agricultural sector in the town. Or, in the words of the Municipal Town Planner: "We just let it go. There is no active support of any kind."

The situation in Morogoro is different. Although, according to the Acting Municipal Director in that town, "officially, farming in town is illegal", the policy is that the Municipality allows farming "on the condition that environmental degradation is being prevented and city development is not being hindered".[30] Morogoro participates in the UNDP Sustainable Cities Programme, which implies that urban agriculture has become an integral part of its town planning "because of its importance for the people and for the food provision of the town".[31] The policy implication of the participation in this programme is mainly that both the Council and the Ministry of Agriculture are actively developing plots for urban farmers (see next section).

Keeping cattle in town – and especially in the built-up areas – is generally regarded as an undesirable activity by the Morogoro authorities. According to the Acting Municipal Director (who himself was keeping two dairy cows at the time), "livestock keeping has an impact on the environment and on safety on the roads" and "there are many complaints from neighbours"; so "the official policy is that cattle keeping is restricted to four animals, zero-grazing".[32] The Ministry of Agriculture tries to discourage the keeping of too many cattle, for instance by raising fees for livestock[33] but "the collection of the fees is problematic". Moreover, penalties are imposed on animals found roaming around.[34] According to the Municipal Agriculture and Livestock Development Officer, "these measures worked because you nowadays see many fewer animals roaming around".[35]

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29 Mhando, op. cit.

30 Mr. E. Kalunelo, Acting Municipal Director, Morogoro Municipality, personal communication, September 1999.

31 Mr. Mkupete, Head, Department of Town Planning, Morogoro Municipality, personal communication, September 1999.

32 Kalunelo, op. cit.

33 For instance TSh. 1,000 per year per head of cattle or per pig, TSh. 800/yr per calf or donkey and TSh. 500/yr per goat or sheep.

34 For instance, TSh. 10,000 per head of cattle and TSh. 5,000 per goat or sheep.

35 Mr. Maeda, Municipal Agriculture and Livestock Development Officer, Morogoro Municipality, personal communication, September 1999.

At the time of the fieldwork (2000-2001), the Ministry of Agriculture in Morogoro was pursuing other policies as well.[36] One of these concerned the propagation of organic farming by bringing livestock keepers and crop cultivators together. Apparently, this policy was to some extent successful because "crop cultivators now sell their crop residues to livestock keepers". The next step was to be the reverse flow: manure going from livestock keepers to crop cultivators. More generally, the Ministry has started to educate farmers about environmental conservation. For instance, cultivators are encouraged to grow trees along the edge of their plots. Zero-grazing is compulsory and animal waste should be disposed of properly, i.e. "solid waste should be used on the plots and urine should be collected and not allowed to flow onto the neighbour's plot". Finally, because it is impossible for most urban farmers to obtain credit, the Ministry has started to organise farmers into small groups of 5 to 20 persons to form so-called Saving and Credit Schemes. In 1999, several groups were being set up and now they are encouraged in all wards.

Access to land

Land is the basic resource for urban farming: it has to be available, it has to be suitable and it has to be accessible (Mubvami *et al.* 2003). Moreover, accessibility of land is not just 'to get hold' of a piece of land, the type of ownership of that particular piece is equally important because land tenure has a long-term influence on the sustainability of urban agriculture: "clear property rights (...) determine producers' willingness to invest (...) in crop production" (Yachkaschi (1997: 25), investments for instance being the cultivation of perennials, irrigation systems, and soil and crop improvement measures.

In Nakuru, most households did *not* undertake any agricultural activities. For the large majority of these people "no access to urban land" was the main reason. During pre-colonial times, land in Nakuru was in communal ownership. Nowadays, all land is in public or private ownership. Public land is owned by either the municipal council or the central government and is used for municipal and government purposes or leased out for a specified period to individuals for various predetermined urban land-use activities (MCN 1999). Public land constitutes the bulk of the municipal area and nearly all residential estates consist of leased-out public land. In residential estates where the houses have a compound, access to land is guaranteed. It is in those areas where most households do farm. People living in estates with the highest densities, i.e. where the houses are built in rows and 'back-to-back', have to look for a plot elsewhere. However, during the last decades, access to some open space for farming has become increasingly

[36] Ibid.

problematic. That is partly due to the town's expansion of the built-up area. For instance, Foeken (fc) describes the case of a respondent who told that her husband had 'acquired' a piece of "idle open land" of about half an acre in 1975. During twelve years, she cultivated maize and beans there, which was enough to feed the household for about six months a year. However, in 1987, the Municipal Council repossessed the land for expansion. The only plot left to them was a small *shamba*[37] bordering the house. Another respondent recollected that between 1963 and 1978 she sold vegetables she cultivated in open spaces not very far from her estate:

> "Nakuru was not developed as it is now. The only development in most of these areas were the Nakuru Municipal Council housing estates like Kaloleni, Abong' Lo Weya, Flamingo and others. Open spaces, which we used for farming, were many and nobody bothered with us. Many of these open spaces were undeveloped Nakuru Municipal Council land. I had three plots not far from each other. They were not very big, I think less than half an acre each. It was not advisable to take a big plot because of security and fear of loosing the plot when the owner reclaims it. Three or four different people could cultivate a plot of about one acre. Of course they had other smaller plots elsewhere."

She added that there was no rent to be paid because the owners were "more than happy that somebody was taking care of their plots".

As a result of the increasing scarcity of farming land in town, it has become (much) more expensive to rent a piece of land. One respondent compared the situation before around 1990 with the present situation, as follows:

> "It was very cheap to rent a plot in the municipality by then. With not more than KSh. 5, you could get a sizeable plot to rent on a monthly basis. For those who liked farming, renting a plot was a normal and common thing to do those days. Nowadays, to rent a plot within the municipality, that is if you are lucky, costs not less than KSh. 6,000 per year for an acre."

A special case in Nakuru concerns Ziwani, which is a residential estate where employees of Kenya Railways are living. Although it is a medium-density area with plenty of space for farming, the landlord (Kenya Railways) does not allow that. There are plots available along the railway to Nairobi, a zone to which the residents of Ziwani have easier access than others. However, because the estate is located at some distance of the railway, people live at more than half-an-hour walking from their plots, which increases the risk of theft of crops. Moreover, Kenya Railways can at will decide not to allow anymore the use of a plot. That happened to a household that cultivated a plot of 50 m^2. Suddenly the "railway boss" forbade them to use the plot any longer "because of a fuel tank nearby". The plot was very important to the household because "if you manage to grow your own food for several months per year, then you can educate your children from your salary" (Versleijen 2002: 36-37).

Many people in Nakuru who were not farming in town at the time of the research would like to do so if they had access to some piece of land. In theory, the Nakuru Municipal Council would be in a position to help these people by, for instance, creating

[37] *Shamba* is the Swahili word for plot or piece of land.

areas in the peri-urban zone specifically for farming on a semi-permanent basis. No such policy exists up to now. Yet, of a group of 18 officials (among whom various municipal officers), the large majority (14) agreed with the statement that "growing crops in town should be accepted in designated areas only" (Foeken fc). Other signs of a change in policy could be derived from the statements by the director of the Department of Housing in November 2002 and the officer from the Department of Environment in May 2005 cited above.

In Tanzania, "all land is officially controlled by the state, which in turn grants rights of use and occupancy to different segments of society including individuals, villages, companies, parastatal organisations and various investors" (Mlozi 2001: 52). As a result, formal land markets do not exist. Under President Nyerere, many housing schemes were established for government and parastatal employees who benefited from almost free housing that was often combined with the right to grow crops on a small piece of land close to their homes. Hence, as Yachkaschi (1997) noticed, the large majority of the home gardeners in Dar es Salaam, Arusha and Dodoma cultivate on land formally owned by the state and for which they do not have to pay rent. The latter applies also to open-space plots, the difference being that these plots were not allocated to the users by the state; the plots are used illegally. So, these producers are faced with high insecurity of land tenure, the more so because of the country's increasing population density. In contrast, most peri-urban land was owned by the cultivators, at least according to Yachkaschi's (1997) respondents. Opinions differ in this respect, as can be deduced from by Kyessi's (2001) observation that land tenure is uncertain in informal as well as peri-urban areas. According to him, the problem of land tenure is the major challenge for urban agriculture as a viable long-term source of food and income.

Both Mbeya and Morogoro have extensive peri-urban zones with a largely rural character. As a result, compared to Nakuru, access to land is less of a problem, which is confirmed by the very high percentages of households practicing urban farming in these two Tanzanian towns. In addition, many respondents claimed to own the plot(s) themselves. On the question what the municipal council should do to develop the urban agricultural sector, the most frequently mentioned answer was that areas should be selected for farming purposes in the peri-urban zone. This is in line with the by-laws stating that the municipal council should select certain areas where farming is allowed. In Mbeya, no such policy had yet been developed at the time of the study. In Morogoro, however, the Municipal Council was actually in the process of providing land for people who want to practice urban agriculture (see next section).

Legislation, policy and the poor

To what extent do existing legislation and policies influence the possibilities for the urban poor to engage in urban agriculture? In Kenya, national legislation and policies in relation to farming in urban areas are rather vague. Actually, the Local Government Act puts all decision-making power in the hands of the local authorities. However, in this Act, there is one reference to urban agriculture and the urban poor, namely the earlier mentioned Section 155 which provides the local authorities with the power "to engage in livestock and agricultural undertakings" specifically by those and for those who "are suffering from (…) shortages of foodstuffs". In Nakuru, the *Localising Agenda 21* programme was a chance to bring into practice this possibility offered by the national legislation, the more so as the programme focused on environmentally-conscious planning and development, with particular attention for the low-income groups. Instead, new by-laws have recently been drafted in which *any* form of urban agriculture is simply being labelled as "an offence".

Despite the illegal character of urban agriculture in Nakuru, various developments have been – and are still – going on whereby (poor) urban farmers are being supported. All these developments have been instigated by NGOs, albeit with the consent of the municipal authorities. The Agricultural and Rural Development Programme (ARDP) – under the Catholic Diocese of Nakuru - focused on small-scale farmers, providing them with indirect support (training) or direct support (e.g. loans for buying animals, materials for building a water tank for irrigation or a zero-grazing unit for dairy cattle). Although the programme took mainly place in the rural areas (i.e. four Kenyan districts), several urban and peri-urban farmers in Nakuru Municipality were also included among the participants. In general, the programme was quite successful. As for the urban farmers in Nakuru, a comparison of this group with a group of 'neighbours' (i.e. urban farmers not participating in ARDP) showed that the income from selling animals (mainly cattle) and animal products (mainly milk) was much higher among the ARDP farmers (Foeken fc).

The Ecumenical Church Loan Fund (ECLOF) is a global initiative with its headquarters in Geneva, Switzerland. The Kenyan branch – ECLOF-Kenya – was launched in 1994. Besides the country's head office in Nairobi, ECLOF-Kenya has offices in six other towns, Nakuru being one of them. ECLOF-Kenya supports the building of sustainable communities by providing fair credit services for human development in both rural and urban areas. One of its main objectives is "to increase accessibility to credit by the economically active and marginalized micro/small business and farming people of Kenya". The Nakuru branch was set up in 2001 and three years later the Nakuru office served about 600 members (clients), most of whom were small-

scale traders. A small proportion (5%) of the members were farmers, benefiting from ECLOF's financial assistance for expanding or improving their farming activities. The large majority of these farmers engaged in dairy farming (zero-grazing) and poultry keeping in the rural areas. Five of the farmers could be classified as *urban* farmers, i.e. living and farming within the municipal boundary or, more precisely, in the peri-urban areas of Nakuru town. Due to the requirement that the activity must be income generating (see below), all five urban farmers were involved in livestock keeping: three in dairy farming (zero-grazing), one in pig raising and one in poultry keeping. To be eligible, the potential member must be engaged in an income-generating activity (business or farming) and at the same time belong to a registered group. This is usually a group of friends or neighbours with a common interest. Members of a group who are well known to each other are therefore able to co-guarantee one another when applying for a loan.[38] While ECLOF-Kenya encourages already existing groups, the majority of their members came together after learning about ECLOF's activities. That applied also to the four cases that are described in Foeken (fc). All four were low-income households (including one female-headed household) and they all managed to substantially raise their income by using the loan for expanding their commercial (urban) livestock undertaking. One of them concerned the improvement and expansion of a pig farming business, an activity usually considered as one of the least desirable in an urban setting from an environmental point of view.

More recently, the above-mentioned initiative called "Local Participatory Research and Development on Urban Agriculture and Livestock Keeping in Nakuru" was launched in December 2004. This programme is an initiative of two NGOs (Urban Harvest, an international research body sponsored by CGIAR[39], and Kenya Green Town Partnership Association), the University of Nairobi (Department of Soil Science) and also the Municipal Council of Nakuru. The major aims of the programme are to further develop the Urban Agriculture and Livestock Keeping Research and Development Centre already established next to the Nakuru dumpsite and to help Nakuru urban farmers and livestock keepers to improve their livelihoods and contribute to urban security.

In Tanzania, despite the favourable national legislation and policies towards urban agriculture, the local by-laws are such that urban agriculture is an illegal activity for most inhabitants because the activity is largely confined to the peri-urban zones. Yet, as

[38] An example from yet another loan scheme, Pride Kenya, was the Baraka women's group, consisting of 36 members. Each member contributed KSh. 500 per month, with which members facing some crisis situation – such as death, sickness or inability to repay the Pride Kenya loan – could be assisted. (Samuel O. Owuor, field notes, 2003).

[39] Consultative Group on International Agricultural Research.

in Nakuru, in both Mbeya and Morogoro, urban farming is very common indeed among the people living in the built-up area and the local authorities let it go. The two municipalities differ (at least at the time of the study, i.e. in the years 2000-2001) insofar as policies regarding the sector are concerned. In Mbeya, a laissez-faire attitude prevails and the only 'policy' concerns restrictive measures when and where it is deemed necessary to intervene. The Municipal Council of Morogoro, on the other hand, has launched a policy that is focused on the development of two types of plots:[40]

1) *Garden plots* of 1.5 to 3 acres in the so-called Green Belt areas. "The concept of garden plots is now part and parcel of town planning." Green Belts have been created along the rivers and "other hazardous areas" such as mountain slopes. Somebody who is interested in a 'garden plot' has to pay TSh. 65,000 for the necessary survey work. After that, he signs a lease contract with the municipality (based on the Land Act of 1998) for a period of 1 year, 33 years, or 99 years. The 33-year contracts are the most common; the 99-year contracts concern larger plots. The municipality discourages one family from obtaining more than one plot "but it cannot be avoided entirely". The leaser pays an annual 'land rent' or 'lease fee' of TSh. 20,000 to 25,000 depending on the size of the plot. The leaser is allowed to build a house on the plot "but the predominant activity must be farming". The garden plots "have a long-term objective".
2) Plots in the so-called *nguvukazi* areas. These are located on the former sisal estates, which were long since abandoned and have become part of the town after the expansion of the town boundaries. The municipality sub-divided these areas into 5-acre plots. Each of the 19 wards in Morogoro has a right to part of the plots. The allocation is taken care of by the ward leaders and started in 1974. The users pay a modest fee because use is of a temporary nature, as "the present *nguvukazi* land will surely be used for further urban development".

In addition, the Ministry of Agriculture (in Morogoro) acquired 3,000 hectares of land about 50 kilometres outside the town for use by townspeople who would not otherwise have access to land.[41] The plots are one acre in size and cost TSh. 1,000 per acre for demarcation. They are partly intended for former villagers who became urbanites after the town expanded and who subsequently lost their plots to urban development. This scheme can be seen in the context of a policy launched by the Tanzanian Prime Minister at the end of the 1990s that allowed each urban household to have four acres at its disposal: three to feed itself and one for commercial purposes.[42] According to this policy, the Municipal Council has to make a plan, allocate a budget and present it to the Ministry of Agriculture. Another initiative by the Ministry concerns the earlier-mentioned Saving and Credit Schemes, whereby urban farmers are organised in small groups to be able to obtain a loan.

Do the urban poor benefit from such policies as taking place in Nakuru and Morogoro? That depends first of all on how one defines 'poor'. Although policies are often, at least on paper, directed towards 'the poor', the 'very poor' can easily miss the boat. In Nakuru, participants in the ARDP and ECLOF programmes were already engaged in urban farming before entering the programme; in other words, they were not likely

[40] Mkupete, op. cit.
[41] Maeda, op. cit.
[42] Kalunelo, op cit.

belonging to the very poor. At the same time, the Nakuru study revealed that it is these very poor who were quite underrepresented among the urban farmers. For them, providing access to a piece of land would be more worthwhile than such loan schemes. However, no policy like that is presently pursued in Nakuru. In Morogoro, such a policy does exist, but it is doubtful whether the very poor will benefit from it. The 'garden plots' are simply too expensive (one-time costs for surveying and annual costs for renting). The *nguvukazi* plots might be affordable, but allocation tends to be by means of personal networks, so the ones with the closest relationship to the ward leaders are most likely the beneficiaries; and these are not likely to be the very poor. Finally, the plots provided by the Ministry of Agriculture might also be affordable, but the distance (50 km) and the cost to overcome that distance are probably a major constraint for the very poor.

Conclusions

In the three East African towns under investigation in this paper, urban agriculture is a very common economic activity indeed. At the same time, the activity has no legal status, at least in the built-up areas. In addition, as this paper has shown, legislation, policy and practice show many contradictions at and within various levels of decision-making. Martin *et al.* (2000) describe a very similar situation in Harare (Zimbabwe) and to a lesser extent Pretoria and Cape Town (South Africa) as well. Such contradictions put the local authorities in a kind of splits. For a long time, a laissez-faire 'policy' prevailed, implying that urban agriculture was tolerated (but certainly not necessarily welcomed), mainly because of the scale of the phenomenon and the incapability to enforce the law. Meanwhile, there has been a gradual change in terms of policy-making, at least in Nakuru and Morogoro. Recognising the importance of the activity for the livelihood of many townspeople, awareness grew that it is better to try to control and where possible to promote the activity - especially for the poor - than to restrict or even forbid it. The peculiar thing is, however, that the by-laws remained as restrictive as they were, even the newly drafted ones in Nakuru.[43]

Therefore, if the authorities are serious about reducing urban poverty by means of urban farming, the very first thing to do is to recognise urban agriculture as an

[43] In the third East African country, Uganda, the situation is not very different. There as well, urban agriculture has no legal status. Yet, in Kampala, an Urban Agriculture Unit has been established within the Kampala City Council, the Urban Harvest programme was introduced (in 2000) and urban agriculture was even legalised (Urban Agriculture Ordinance 2001). However, this legal framework is still far from supportive. For instance, to engage in urban agriculture, people need a permit issued by the City Council. The urban poor are not aware of this. Moreover, the City prefers to provide licenses to agro-businesses, such as large poultry farms (see Kiguli *et al.* 2003).

acceptable urban activity, not only in words but also in the by-laws. The problem does not lie at the national level, as national legislation leaves room for farming in town. The problem lies solely at the local level. Even though local authorities increasingly recognise the importance of urban farming as an important livelihood component for (many of) the urban poor, the translation of this awareness into a formal recognition in by-laws and ordinances seems to be too great a step (as yet).

The second thing to do is the integration of urban agriculture into urban planning and development (see e.g. de Zeeuw *et al.* 2000). However, as long as there is no juridical framework in relation to urban agriculture, this second step will not (or cannot) easily be made. In general, urban planners do not (want to) see farming as a recognised type of urban land use, and *if* they do, it merely concerns large-scale commercial farming; in other words, a type of farming that is part of the formal sector and able to compete with other 'more rewarding' types of urban land use like trading and industry. The total ignorance of urban agriculture in the *Strategic Nakuru Structure Plan* is telling in this respect. Moreover, this is a problem of a general nature in sub-Saharan Africa.[44]

The next steps to be taken are ● the integration of urban agriculture in urban food security and health policy by improved access of urban farmers to agricultural research, technical assistance and credit services, by improved systems for input supply and product distribution, and by creating awareness of health risks through urban agriculture; and ● the integration of urban agriculture in environmental policy by promotion of safe re-use of urban organic wastes and waste water by urban farmers, and by promotion of ecological farming methods (de Zeeuw *et al.* 2000). Although there are some first positive signs in these directions in the three towns under investigation (like the work of the extension officers in Mbeya and Morogoro and the credit schemes in Nakuru), very much more still has to be done. Much can be learnt in this respect from examples elsewhere in the world, the most impressive one probably being the case of Havana, a city that is self-sufficient in quite a number of agricultural products, all ecologically produced (see Gonzalez Novo & Murphy 2000). Less far away, in Cotonou (Benin), successful commercial farming is being undertaken by low-income people as a full-time occupation in areas where the city authorities permit crop cultivation (see Brock & Foeken 2005). What the Havana and Cotonou cases have in common is that the farmers are organised in cooperatives, which probably explains part of their success. Finally, even closer to home, in the Tanzanian cities of Dar es Salaam, Arusha and Dodoma, trials have shown that yields of leafy vegetables can be raised substantially (Jacobi 1997) to a level much higher than at present in Nakuru, Mbeya and Morogoro.

All this requires first of all an understanding that urban agriculture is not just *a* livelihood source for the urban poor, for many of them it is a means to survive. Access

[44] See *Urban Agriculture Magazine* No. 4, July 2001.

to land (‘natural capital’ in the livelihoods approach) is the main obstacle, so providing land should have the highest priority. Institutional support in combination with the creation of farmers associations (‘social capital’) is another prerequisite for successful poverty eradication by means of urban agriculture. Examples like the credit schemes in Nakuru and the farmers cooperatives in Cotonou are promising developments in this respect. Such initiatives have in common that it is the private sector taking the initiative and the local government allowing or maybe even supporting it. Only in Morogoro, some initiatives originated from the side of the municipal government. It is time that local authorities give up this wait-and-see attitude and recognise the sector in legal, policy and planning respects.

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