

Cow shed
in Nairobi

Photo by Rene van Veenhuizen



Livestock in a middle-sized East-African town: Nakuru

In a survey done in 1999, basic information was collected on urban farming practices in Nakuru, Kenya. The main aim was to obtain a general overview of urban agriculture in this town for the local authorities in the context of their town planning exercises. Part of the survey covered several aspects of livestock keeping.

Nakuru is located in the heart of the Great East African Rift Valley, 160 km north-west of Nairobi. It is the fourth largest town in Kenya, with a population of 240,000. The annual growth rate between the censuses of 1989 and 1999 was 4.3%, which was much lower than the 6.5% during the previous decade. The major economic sectors of Nakuru are commerce, industry, tourism, agriculture and tertiary services. Because of the rich agricultural hinterland, Nakuru is called the "farmers' capital" of Kenya and is famous for its agro-based industries. There are over 100 agro-industrial establishments ranging from food processing to farm machinery assembly.

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Within the boundaries of Nakuru town, three forms of urban agriculture can be distinguished. First, there are a few large farms located on the fringes of the town. Second, there is a lot of small-scale farming in the *peri-urban* areas (i.e. the areas between the built-up area and the town boundaries), which came to be included after the boundary extension of 1992. With the growth of the town's population, many of these small farms have been subdivided into small-holder portions and urban residential plots. Farming is still the dominant activity there. Third, there is the usually less visible form of *intra-urban* agriculture, i.e. within the built-up area. Though very common, compared with the farming activities in the peri-urban areas, intra-urban farming is generally a much more modest activity ('micro farming') mainly due to lack of space. This does not necessarily mean that intra-urban farming is a marginal activity in terms of household income: for many it constitutes a significant

element in the household's food supply and/or income. The results presented in this article concern the population in the built-up area only.

LIVESTOCK KEEPERS IN TOWN

Twenty percent of all the Nakuru households could be classified as livestock keepers in town. Although livestock is kept by all urban income categories, the activity becomes more common as incomes rise.

For instance, in the survey it was found that among the poor households (with a monthly income of less than 5,000 Kenyan Shillings per month, 14% kept livestock, while among the more well-to-do (over 20,000 shillings per month) this was 38%. Not surprisingly, livestock keeping was also more common in the areas with lower housing densities. For the large majority of the Nakuru livestock keepers, the livestock meant an additional source of food. For one third, it was also a source of income, while one quarter of the households tried to diversify their income sources in this way. Livestock keeping appeared to be more of an income source than crop cultivation, which is more for self-consumption.

TYPES OF ANIMALS

As in many other towns, chickens are by far the most common type of livestock kept by the Nakurians. The percentages of households keeping large livestock (cattle, sheep, goats and pigs) did not exceed 5%, while other small livestock than chicken (ducks, rabbits, doves and turkeys) were even less common.

Nevertheless, we can roughly estimate the numbers of livestock in Nakuru town by the end of 1998 to be 12,000 head of cattle, 6,600 sheep, 6,800 goats, 360,000 chicken, 13,500 ducks, 3,000 rabbits, 1,400 doves and 600 turkeys (built-up area only).

Of the lower-income households, only 19% kept one or more of the larger livestock types (Table 1). For the higher income group, this figure is 46%. This difference is undoubtedly related to the costs of buying a large animal, cattle in particular. Small livestock is very common among all livestock-keeping households.

Animals are either kept within the livestock keeper's own compound or are herded outside ('free range') or a combination of the two. In one-third of the households with large livestock, all animals grazed freely in the neighbourhood, while small livestock (this concerns largely chicken) were even more often left freely roaming around.

Keeping livestock, either large or small, solely for commercial purposes is very rare in Nakuru. Small livestock is kept first of all for own consumption: almost 60% of those who keep these animals slaughter and consume most or all of them, while another third consumes part of the animals and sells the rest. Large livestock is less consumed by the keepers

themselves: almost three-quarters sell at least part of the animals. There are no clear differences between richer and poorer households as far as the purpose for rearing livestock in town is concerned.

INPUTS

Thirteen (11%) of the livestock-keeping households had not used any external inputs. These were all small-livestock keepers. In general, large livestock received more attention than small livestock. This applied to almost all types of inputs.

All cattle holders gave their animals for instance veterinary drugs and feed supplements, while improved breeds/artificial insemination and feeding with crop residues were also very common (for both inputs 77% of the cattle holders).

The use of inputs was more common among the richer households than among the poorer ones. This applied particularly to the more expensive inputs, such as veterinary drugs, feed supplements and improved breeds/artificial insemination.

Livestock meant an additional source of food

Also assistance for large livestock was much more common than for small livestock, which has to do with the higher value attached to larger animals. Assistance was mostly provided by an extension officer (39%), a neighbour (25%) or a combination of an officer, neighbour and/or relative (17%). Interestingly, there appeared to be no relationship between receiving technical assistance, on the one hand, and the occurrence of deaths of the animals, on the other. This can be explained by the fact that usually animals are only vaccinated after an outbreak of a disease. Preventive measures are hardly taken.

LABOUR

In most cases, it was either the head of the household (38%) or the spouse (56%), spouses are always women, responsible for rearing the animals. For large livestock the responsibility was equally distributed between the head and the spouse, while for small livestock the spouses formed the majority. In 16% of the livestock-keeping households, taking care of the animals was a full-

time job for the person involved. Higher-income and lower-income households did not differ in this respect. They did, however, in terms of hiring additional labour: 43% of the higher-income households did so, against only 13% of the lower-income households. Money constraints undoubtedly explain this difference.

PROBLEMS

Table 2 lists the constraints most frequently mentioned in the survey. It is clear from the table that the animals' health was by far the greatest concern for the farmers. Theft, lack of feed and lack of funds/capital were constraints mentioned by at least 10% of the livestock-keeping population. Two respondents mentioned 'nuisance', a problem that differs from the other constraints in that it refers more to the farmer's neighbour(s) than to the farmer him/herself. It probably shows that these two respondents had problems with their neighbour(s) because of the latter's problem with the farmer's livestock.

Although, generally speaking, the keepers of large livestock and those of small livestock were unanimous regarding the various problems, there are some problems which were more specific to large than to small livestock and vice versa (Table 2). Lack of feed and safe drinking water was much more of a problem for large livestock keepers, probably simply because these animals eat and drink much more than small animals.

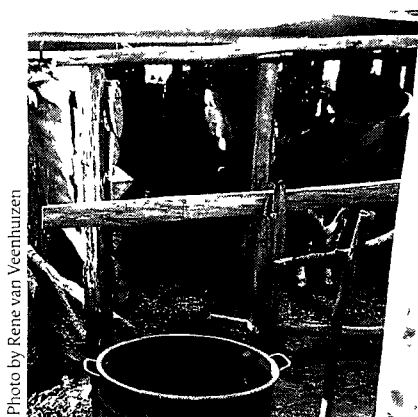


Photo by Rene van Veenhuizen

Table 1: Types of livestock by household income

type of livestock	household income (Kenyan shillings/month)	
	lower (<10,000)	higher (>10,000)
large	5	8
small	67	20
both	11	9

Harassment, though not frequently mentioned, was also a constraint specific to large livestock. This may be related to the regulation saying that it is forbidden to let large animals freely roam around. One problem more frequently mentioned by

It is important to distinguish between large and small livestock

the small livestock keepers concerned the threat of predators. This is logical, since a chicken or a duck is much more likely to fall prey to a wild animal (or dog) than a goat or a pig.

WASTE DISPOSAL

None of the livestock-keeping respondents mentioned the disposal of the animals' waste as a constraint, even though this is generally considered as one of the major nuisances of keeping animals in town. One-third of the farmers said that they dump part or all of the waste in the street. The large majority of them (92%) dumped the whole lot in that way. However, this practice was more common among the keepers of small livestock than among those with large animals. It was also more common among the poorest households (49%), most likely because these people often have no compound. On the other hand, many more (62%) of the livestock keepers were able to utilise part or all of the waste productively, namely for crop cultivation purposes, either by themselves (on a plot in town or in the rural area) or by their neighbours. The dung of the larger animals in particular appeared not to be wasted in Nakuru town.

CONCLUSIONS AND POLICY IMPLICATIONS

Livestock keeping is a neglected subject in the urban agriculture literature. The results of the Nakuru survey show that although a minority of the households are engaged in livestock keeping, the total number of animals is considerable. For the large majority of these people, the produce forms an important food source and for many an income source as well. Moreover, it provides employment for a number of people, which is a factor that should not be neglected by policy makers.

At the same time (according to the municipal by-laws which date from the colonial period) urban agriculture is an illegal activity. Particularly the keeping of large livestock is generally seen as a nuisance. When there are complaints or when the health risks are considered to be too high, action is undertaken, such as confiscation of the animals. Animals freely roaming around in the streets can cause dangerous situations, as the authors have seen more than once.

Hence, there is a need for regulations, the more so because municipal authorities of Nakuru are presently undertaking an urban planning exercise in the context of the Localising Agenda 21 programme. This involves environmentally-friendly planning, of which urban agriculture is an inevitable part. This is recognised by the municipal authorities.

The first step would be to designate zones where certain types of animals, or broader, certain types of urban agriculture, are allowed under certain conditions. For example, that the number of cattle should be bound to a certain maximum and should only be kept under zero-grazing in the peri-urban areas and/or in compounds of a certain minimum size in the built-up area.

An important issue in terms of environmentally-friendly planning concerns the "closing of the nutrients cycle", i.e. the re-use of animal waste for crop cultivation as well as the use of crop residues and other organic waste as feed for the animals. To some extent, this is being practised already by the Nakuru livestock keepers, but more can and has to be done.

One way of developing the sector is by providing more and better technical assistance, as pests and diseases and the related high death rates among the animals are the most serious problems the livestock keepers are facing. Here lies a task for the extension officers of the Ministry of Agriculture. Although they do visit farmers within the municipality, they usually do so only on request.

Table 2 Most frequently mentioned problems with livestock keeping by type of livestock (%)

	large livestock	small livestock
	N (n'holds) = 33	108
<i>no problem</i>	9.1	11.1
<i>diseases</i>	75.8	71.3
<i>theft</i>	24.2	20.4
<i>lack of feed</i>	27.3	12.0
<i>lack of funds/capital</i>	15.2	10.2
<i>lack of safe drinking water</i>	24.2	6.5
<i>predators</i>	3.0	10.2
<i>lack of space</i>	3.3	7.4
<i>harassment</i>	12.1	2.8

The results of the survey show that in creating policies, it is important to distinguish between large and small livestock. For instance, large livestock is usually more of a nuisance (traffic accidents, waste disposal, diseases) than small livestock. Small livestock can more easily be allowed in the built-up area than large livestock. On the other hand, large livestock can play a more important role in the "nutrient cycle" than small livestock.

A major constraint, as in many other African towns and cities, concerns the lack of enforcement of the existing laws, by-laws and regulations, partly related to a shortage of manpower. Formulating new regulations without the necessary will and power to enforce these regulations is thus a useless exercise.



Goats and Cattle roaming for food

Prerequisites for any policy regarding the integration of urban agriculture in urban planning include the recognition that urban agriculture is not only a rural land use as well, the understanding that urban agriculture is an important economic activity for many urban dwellers, the conviction that urban agriculture has to be incorporated in any future town planning exercise, and a fruitful working relationship between the municipal authorities and community-based organisations.

The very positive thing about Nakuru is that, unlike many other African towns and cities, these prerequisites are all met.