

Enhancing Food Security in African Cities: Rural Farming by Urban Households – The Case of Nakuru Town, Kenya.

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Abstract

Given the present circumstances of urban unemployment and poverty, access to rural food and/or income sources is an essential element in the livelihood of many urban dwellers in sub-Saharan Africa. This paper examines the nature and importance of rural farming activities in enhancing urban food security and income diversification of urban households, using Nakuru town, Kenya, as a case study. Based on a general survey held in 2001 among a representative sample of 344 households in Nakuru town, 194 (56%) could be classified as ‘rural farmers’ – that is urban households practising rural crop cultivation and/or livestock keeping. Of these, 173 (50%) could be classified as ‘rural crop cultivators’ and 111 (32%) as ‘rural livestock keepers’. The results so far indicate that rural farming is an important livelihood strategy for the urban households in terms of enhancing their food security and income diversification. For the large majorities, rural farming forms at least an additional food and/or income source. The importance of rural farming is even stressed further by the fact that 75% of the rural crop cultivators indicated that they could not survive without it. Livestock becomes an important food and/or income source only in situations where need arises, and therefore acts as a social security.

Introduction

In the mid-1970s, Africa was the least urbanized region in the world, with 25% of its population living in urban settlements. By the year 2000, 37% of the African population was expected to be living in urban areas and in 2025 it is projected to be more than half. Although these proportions are still lower than for other continents and for the world as a whole, the annual growth rates of the urban population are highest in Africa (UNCHS/Habitat 1996). In Kenya, the share of urban population increased from 7.8% in 1962 to 20% in the year 2000 (Kenya 2000).

The high rate of urbanization in Kenya and in other developing countries has been accompanied by increasing urban poverty. Close to a million more Kenyans have in the past joined the ranks of those who cannot afford a decent meal, school fees and adequate health care. This brings the total number of people living below Kenya shillings 80-a-day² extreme poverty level to 10 million³ – most of them in the rural areas. As a result of the escalating trends in urban poverty, many households, especially those in the low-income bracket, suffer from food insecurity. As a coping strategy, risk spreading or income diversification through multi-spatial sourcing of food and/or income is increasingly becoming an important feature in many urban households.

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² Less than 1 US\$ a day

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There are clear indications that many urban households in sub-Saharan Africa rely partly on rural activities (mainly farming) for their livelihood, particularly (but certainly not solely) the urban poor. The reverse situation – rural households having an urban ‘foothold’ from which an income supplement is derived – has been widely documented. Less well known (and probably of more recent date) is the situation of urban households partly depending on rural sources for their livelihood.

This paper examines the role of rural farming activities in enhancing urban food security and income diversification of urban households in Nakuru town, Kenya. First, however, within the context of urban poverty and changing nature of urban–rural linkages, a general overview of rural farming by urban households in sub-Saharan Africa is presented. This is followed by background information on Nakuru town, methodological considerations and the characteristics of the sampled households.

This study is part of the Nakuru Urban Agriculture Project (NUAP)⁴ whose objectives are: 1) to determine the scope of urban farming within the municipality of Nakuru; 2) to determine the importance of urban farming for the food security and income situation of the households involved; 3) to assess the interrelationships between the different aspects of urban agriculture (environmental impacts, legal and institutional aspects, food and nutrition aspects, urban agriculture and planning, etc); and 4) to assess the importance of rural food and income sources for the urban households – the focus of the current study.⁵

Rural farming by urban households in sub-Saharan Africa: an overview

For both urban and rural populations in sub-Saharan Africa, recent and current global changes have resulted in deepening social differentiation and increasing poverty (Tacoli 1998). Life in the urban areas has become more expensive while employment in the formal sector has gone down and real wages do not keep up with the price increases or even declined in absolute terms (UNCHS/Habitat 1996).

In many sub-Saharan countries, employment in the public sector was seriously cut, particularly in the lower echelons so that women, who tend to be concentrated at the lower end of the occupational hierarchy, were affected even more than men (ILO/JASPA 1992). The manufacturing sector was also badly hit due to such structural adjustment effects like shortages of imported materials, reduced investment, declining demand, etc. (Gilbert 1994). This has led to the 'informalization' of the urban economy in Africa (Stren 1992). Nowadays, "the majority of the urban workforce are (...) engaged in a highly differentiated range of small-scale, micro-enterprise or informal activities" (Rogerson 1997: 346).

⁴ A joint research project between the University of Nairobi (Department of Geography, Department of Urban and Regional Planning, Centre for Urban Research) and the African Studies Centre, Leiden, The Netherlands.

⁵ The discussion thereafter is based on the data obtained from a general survey of this part of the project on "*Rural livelihood sources for urban poor households: a study of Nakuru town, Kenya.*" It is expected that subsequent in-depth surveys and analyses, yet to be done, will give further insights on the subject. For urban farming in Nakuru town, see Foeken & Owuor 2000.

People's responses to (urban) poverty are roughly twofold: first, try to raise or at least maintain one's income and, secondly, reduce one's expenses. Raising or maintaining one's income can usually only be done by diversification of income sources. Cutting expenses is done on such services like education and health (Foeken & Owuor 2001). An increasing number of the urban poor in sub-Saharan Africa has started to grow some food within the city. This has become an important coping mechanism in the context of cuts in food subsidies, rises in the cost of living and declines in poor family purchasing power (Kanji 1996; Nugent 2000).

In the context of urban-rural linkages, the processes described above have caused two fundamental changes. First, the "dynamics of income distribution between urban and rural areas has changed" (Jamal & Weeks 1988: 274): the rural-urban income gap has substantially narrowed or, in some cases, even closed. Second, there is a relative shift over time in the locus of poverty, from rural towards urban areas (Kanji 1996). And although there is still far more rural poverty than urban poverty in tropical Africa, urban poverty is increasing at a faster rate. Moreover, in many ways the harsh economic conditions of the 1980s and 1990s have been felt even more acutely in the cities than in the rural areas, as life is generally more expensive in urban areas (O'Connor 1991).

One of the consequences of these processes concerns the sectoral changes in both rural and urban areas (Tacoli 1997; Tacoli 1998). 'Typical urban' activities like e.g. manufacturing are increasingly taking place in rural areas as well. On the other hand, agriculture — an activity typically associated with the rural areas — has become very common in urban areas (Obudho & Foeken 1999). The growth of urban agriculture since the late 1970s is largely understood as a response to escalating poverty and to rising food prices or shortages which were exacerbated by the implementation of structural adjustment policies in the 1980s (Drakakis-Smith 1992; Foeken 1998; Tacoli 1998). What these changes in the two areas have in common is the element of risk spreading or risk management (Painter 1996): households perform a wide range of different activities in order to maintain a certain level of living or even to avoid starvation. This is what Jamal and Weeks (1988: 288) call the 'trader-cum-wage earner-cum-*shamba* growing' class.

The global changes described above have also had an impact on rural-urban linkages in sub-Saharan Africa. First, new forms of migration have emerged or old ones have intensified and others have slowed down (Tacoli 1997). There are indications that the rate of rural-urban migration has decreased, while return migration, i.e. from the city to the rural 'home', is emerging (Tripp 1996; Baker 1997; Potts 1997) and circular migration between urban and rural areas is increasing (Smit 1998).

Second, rural links have become "vital safety-valves and welfare options for urban people who are very vulnerable to economic fluctuations" (Potts 1997: 461). There is evidence of significant shifts in the nature of transfers of goods and cash between urban and rural households, in the sense that remittances from urban to rural areas are declining and transfers of food from rural to urban areas are increasing.

Despite the increasing indications that rural farming is an important livelihood element of urban dwellers, studies specifically focussing on rural farming as a livelihood source of the urban households in sub-Saharan Africa have up to now not been effected (Foeken & Owuor 2001). What is known about the topic is derived from mostly urban

studies that were broader in scope and usually mentioned the aspect of rural farming by urban households but only in passing (some of them within the broader studies of rural-urban linkages). Though limited in the present focus, the general scenario that arises from such studies that have been carried out across the continent⁶, and in Kenya⁷, is that the importance of rural produce for urban households with access to rural land should not be underestimated.

In a general survey (on urban agriculture) on a national scale, in Kenya in the mid-1980s, it was found that 52% of the households claimed to have access to rural land (Lee-Smith *et al.* 1987). Moreover, at least one-third of the households stated to have livestock back in the rural area (Lee-Smith & Memon 1994). In Gaborone and Francistown (Botswana), too, 37% of the low-income households were cattle holders, with an average herd size of more than 20 animals (Krüger 1998).

A large majority of the low-income households in Enugu, Nigeria, "partly relied on food produced in the rural home", both in the 1960s and in the 1980s (Gugler 1971; 1991). For the textile workers in Kano and Kaduna, Nigeria, the claim to rural land is "important as a security mechanism" during adverse times (Andræ 1992). In Harare, the rural produce represented "a fairly significant addition" to the households' income (Potts and Mutambirwa 1992).

According to Krüger (1998: 128), the "long-lasting rural-urban linkages" in Botswana are more important for the food security situation of the urban households than for instance urban farming. In the slum of Korogocho, Nairobi, over one-third of those with access to rural land stated that the plot was "a regular food and/or income source" (Mwangi 1995). In a study by Baker (1996) in the small town of Biharamulo in northern Tanzania, an attempt was made to calculate the contribution of the sales of rural, agricultural produce to the urban households' income, which resulted in the surprisingly high figure of 70%.

Besides obtaining food from the urban households' rural plots, there are also examples of food donations and gifts from rural to urban households. In Harare, 20% of the respondents appeared to receive gifts of food, mainly traditional basic crops, from the rural areas, which led Drakakis-Smith (1992: 276) to the conclusion that "there is still a substantial subsidy from rural to urban households." Also in Dakar, Senegal, there was found to be a considerable flow of cash and food supplies from the rural homes to the urban areas (Fall 1998).

In a few studies, a comparison was made between households with an economic base in both the urban and the rural area ('multi-spatial livelihoods') and households with one spatial-economic base only. Baker (1996: 46) found that "the most economically successful and most secure group of households are those which combine crop production and marketing with a variety of non-farm and off-farm income-generating

⁶ See e.g. In Nigeria (Gugler 1971; Gugler 1991; Andræ 1992), Congo-Kinshasa (Makwala 1972; Nicolai 1989), Tanzania (Baker 1996; Tripp 1996), Zimbabwe (Potts & Mutambirwa 1990; Drakakis-Smith 1992; Kamete 1998), Senegal (Fall 1998), South Africa (Smit 1998), and Botswana (Krüger 1998)

⁷ See e.g. Lee-Smith *et al.* 1987; Lee-Smith & Memon 1994; Mwangi 1995; Mwangi & Foeken 1996; and Foeken & Mwangi 1998. For *Nakuru* see Foeken & Owuor 2000; Foeken & Owuor 2001; and Versleijen 2002.

activities." These households, with a foot in both the urban and the rural economies, were not only found in 'his' town of Biharamulo, but in the surrounding villages as well.

Among the poor urban dwellers in Nairobi, it was found that those with access to both urban and rural land were somewhat better off in terms of welfare level, food intake and nutritional condition of the children than those without (Foeken & Mwangi 1998). Finally, put differently, among the poor urban households in Botswana lacking a rural foothold, quite a number were "living under severe risk" (Krüger 1998: 134).

From the above overview, it is clear that access to rural food and/or income sources is a crucial element in the livelihood of many urban dwellers particularly in the present circumstances of urban unemployment and poverty.

Nakuru town: background information

Nakuru is located in the heart of the Great East African Rift Valley, 160 km northwest of Nairobi. Nakuru came into existence in 1904 as a railway station on the East African Railway (or Uganda Railway) and soon developed into an important regional trading and market centre. The total area of the municipality is about 300 square kilometres, of which 40 square kilometres is covered by Lake Nakuru (MCN 1999).

Over the past 30 years, the population of Nakuru town has increased fivefold from 47,000 in 1969 (Kenya 1970) to 239,000 in 1999 (Kenya 2000). At present, Nakuru is the fourth largest town in Kenya after Nairobi, Mombasa and Kisumu. The average annual growth rate between the censuses of 1989 and 1999 was 4.3%, which was much lower than the figure of 6.5 from the previous decade. In 1997, the prevalence of absolute poverty in Nakuru town was 41% compared to about 30% in 1994 (Kenya 2001).

The important economic sectors of Nakuru are commerce, industry, tourism, agriculture and tertiary services (MCN 1999). Besides these economic activities, Nakuru town is an important transport and administrative centre. The town also serves as a centre for agro-based industrial and manufacturing activities for its immediate rich agricultural hinterland.

Nakuru's location along the Kenya-Uganda Railway and the Trans African Highway, linking the coastal region, Nairobi and the western parts of Kenya, has played an important role in its growth. Other factors include the attractive climate (dry sub-humid equatorial climate), and a rich agricultural hinterland. The rail line and the highway that passes through the town enhance migration to the town and the subsequent urban-rural linkages.

Research Methodology

In order to obtain an overview of the importance of rural farming activities for the livelihood of urban households in Nakuru town and for the urban poor in particular, a representative sample of 361 households was identified through a multi-stage proportionate stratified random sampling procedure, using the Central Bureau of Statistics (CBS) Enumeration Areas (EAs).

At the end of the survey, a total of 344 households were interviewed, representing 31% of the total number of households in the selected EAs and 0.5% of the total number of households in Nakuru municipality (Table 1). The 4% loss was mainly due to refusals and unavailability of household head and/or spouse to respond to the questions.

Table 1: Household sample

Enumeration Areas/Estate Name	Housing density and socio-economic classes*	Number of households sampled**	Number of households covered
1. Teachers	Medium density-middle income	39	40
2. Naka	Medium density-high income	14	12
3. Freehold	Medium density-middle income	35	30
4. Kivumbini	Medium density-low income	41	33
5. Abong' Lo Weya	Medium density-low income	36	31
6. Bangladesh	Medium density-middle income	27	28
7. Shabaab	Medium density-middle income	29	31
8. Kaptembwa	High density-low income	26	28
9. Kwa-Rhonda	High density-low income	22	18
10. Mwariki	High density- low income	24	26
11. Kaloleni	Medium density-low income	30	31
12. Ngei	Medium density-middle income	26	28
13. Baruti	Low density-low income	12	8
Total		361	344

* Based on MCN, 2000 and personal observations.

** Proportionate to the number of households in each of the selected EA.

Data collection was done using a pre-coded questionnaire. The questionnaire sought to gather quantitative data on: household demographic characteristics; urban farming and non-farming economic activities; rural crop cultivation by Nakuru town households; rural livestock keeping by Nakuru town households; rural non-farming economic activities; urban-rural linkages and migration history of the head of the household and the spouse; and the general food security situation.

The respondent to the questionnaire was either the household head or the spouse. Slightly more than half of the respondents were household heads (55%) while the rest were spouses. However, the majority of the respondents (64%) were female. Altogether, the 344 households accounted for a research population of 1,511 persons (0.7% of the total population of Nakuru municipality).

Characteristics of the sampled households

Since the unit of analysis is the household⁸, it is important to understand some of the characteristics of the sampled households as summarized in Table 2. This will also give a clearer picture of the general characteristics of Nakuru households.

⁸ A household usually consists of a person or a group of persons who live together in the same homestead/compound but not necessarily in the same dwelling unit, have common housekeeping arrangements and are answerable to the same household head. The head of the household is that person living in the same household and is acknowledged by other members to be its head. Such a person holds some primary authority and responsibility of the household's affairs, mainly economical and cultural (Otieno 2001).

Table 2: Characteristics of the sampled households (%; N=344)

Sex of the household head	Male	81.1
	Female	18.9
	Total	100.0
Marital status of the household head	Never married	15.4
	Married monogamously	69.8
	Married polygamously	3.2
	Divorced/separated/Widowed	11.1
	Staying together	0.6
	Total	100.0
Occupational status of the household head	Regular (formal) employment	43.3
	Self employment (informal sector)	40.7
	Temporary/casual employment	14.6
	Unemployed/Home maker/Retired	1.5
	Total	100.0
Household's monthly income situation (in Kshs)	Up to 5,000 (very low)	24.4
	5,001-10,000 (low)	30.5
	10,001-20,000 (medium)	22.4
	> 20,000 (high)	22.7
	Total	100.0
Ethnic background of the household head	Kikuyu	51.2
	Luo	16.0
	Luhya	9.9
	Kalenjin	6.4
	Kisii	6.1
	Kamba	3.5
	Other	6.9
	Total	100.0

Table 2 reveals that slightly over three quarters of the households were male-headed. Female-headed households accounted for only 20% of the households. The age distribution of the household heads showed the usual spread with the large majority being between 20 and 50 years old and a dominant age group of between 30 and 39 years. The mean age of the household heads stood at 38 years. Over 80% of the household heads were regularly present in Nakuru municipality. Those regularly absent were working elsewhere, living in the rural plots or living elsewhere.

About three quarters of the household heads were married, the large majority of them monogamously. Fifteen percent were never married while the rest were divorced, widowed, separated or staying together. In terms of occupational status, most of the household heads were either regularly employed in the formal sector (43%) or self-employed (41%). Fifteen percent had only a temporary job or performed casual labour.

As far as monthly cash income is concerned, over half of the households (55%) fell in the category of low to very low-income households (i.e. those earning below Kenya shillings 10,000/=). About one quarter could be categorized as 'very low'. The high-income households formed about another one quarter.

The majority of the households were of nuclear type, consisting of the household head, spouse and (biological) children. Forty-four percent of the households consisted of two

to four persons. Only 38 households were single person households, while another 32 could be classified as 'large', with at least 8 members. The average household size was four.

Finally, Table 2 shows that the Kikuyus were by far the dominant ethnic group of the household heads, followed by the Luos (16%). The Luhya, Kalenjin, Kisii and Kamba formed fairly small minorities, amongst many other ethnic groups represented in the sample. Nine out of every ten in-migrant household heads (those not born in Nakuru) were from the Central (35%), Rift Valley (25%), Nyanza (19%) and Western (11%) provinces of Kenya. The leading districts of origin being: Nyeri, Nakuru, Nyandarua, Nandi, Kiambu, Kakamega, Kisii, Kericho and Siaya, in that order.

Rural plots: size, location, ownership and use

Rural crop cultivation and/or livestock keeping by urban households can only be possible with access to a rural plot.⁹ The plots may be (inherited) family land back home or can be purchased or rented land elsewhere. However, not all households with access to a rural plot engage in rural crop cultivation and/or livestock keeping. Out of the 327 households with access to a rural plot, 154 (47%) did not engage in rural farming in 2000.¹⁰ Regardless of that, this section presents an overview of plot sizes, spatial location, ownership, acquisition and who mainly uses it.

Almost all the households had access to a plot outside Nakuru municipality, with only 5% of the households claiming not to. Table 3 shows that 38% of these households had access to more than one plot. Only one household had access to five plots. On average, the urban households in Nakuru had access to 1.5 plots outside the municipality, with an average plot size of 4.6 acres. It can therefore be inferred that the average Nakuru household had about 7 acres of rural land at its disposal in 2000.

However, there occurs variation within the various household income categories as the high-income households had relatively larger plots. For example, the mean plot size for the very low-income households was 3.8 acres, with the largest plot being 25 acres, while the high-income households had a mean plot size of 5.3 acres, with the highest being 100 acres. Furthermore, over 70% of the plots were below the mean plot size of 4.6 acres (Table 3).

Over three quarters of these plots were concentrated in Rift Valley, Central and Nyanza Provinces of Kenya. A closer look by district reveals an over-representation of Nakuru (36%), followed not so closely by Nyandarua (8%), Kakamega (6%), Siaya (5%) and Nyeri (5%).¹¹ This somewhat correlates with the district of origin of the household head, indicating that most of the plots were located in the 'rural home'¹² of the Nakuru townspeople. In fact 66% of the plots were mentioned as being also the rural home of the household head (in this case, mainly the male-headed households). The percentage

⁹ A rural plot is herein referred to as any plot/land outside Nakuru municipality

¹⁰ Data on rural farming (crop cultivation and/or livestock keeping) was collected from households who **engaged** in the activity in 2000.

¹¹ In the recent past, there has been a sporadic large-scale sub-division of districts in Kenya. To avoid confusion, the old districts have been used.

¹² It is a common feature for most ethnic groups in Kenya to identify them-selves with a 'rural home' as opposed to the 'urban house'. A rural home is the ancestral land that is inherited from father to son.

decreases with an increase in income: over 80% of the very low-income households considered the rural plot to be also the rural home with only 52% in the high-income category.

Table 3: Characteristics of the rural plots (%)

Number of plots per household (N=327)*	1	61.8
	2	29.1
	3+	9.1
	Total	100.0
Size of plot (in acres) (N=483)**	Less than 1	19.0
	1.1-2.0	31.3
	2.1-4.0	20.9
	4.1-8.0	16.4
	8+	12.4
	Total	100.0
Ownership of plot (N=491)	Own land	52.1
	Family land	44.4
	Landlord	3.3
	Non-relative's land	0.2
	Total	100.0
How plot was acquired (N=491)	Inheritance	55.6
	Private purchase	36.0
	Allocation	5.3
	Rented	3.1
	Total	100.0
Who uses the plot (N=491)	Myself/spouse	39.7
	Other family	42.6
	Rented out	4.1
	Somebody (freely)	2.4
	Nobody there	11.2
	Total	100.0
How the plot is used (N=491)	Crop cultivation only	34.0
	Livestock keeping only	2.0
	Crops and livestock keeping	47.5
	Idle	12.6
	Rented out	2.4
	Other	1.4
	Total	100.0

* Only 327 households had access to rural plots

** Some households refused to disclose their plot sizes

Most of the plots were either owned by the household heads themselves (52%) or formed part of the family land (44%) back home. Some plots (3%) were rented from a landlord (Table 3). However, ownership of rural plot differs substantially within the various income classes. As household monthly income increases, the percentage of plots owned by the household head him/her-self becomes higher. In other words, the low and

the very low-income households had a higher percentage of plots owned by the rural family.¹³

The same trend can be said for how the plot was acquired and who mainly used it. According to Table 3, most of the plots were either inherited (56%) or privately purchased (36%). While 60% of the very low-income households acquired their plots through inheritance, almost the same percentage in the high-income category acquired their plots through private purchase.

Likewise, most of the plots were either used by the Nakuru townspeople themselves (49%) or their rural families back home (43%). About half of the high-income households used the plots themselves (household head and/or spouse) while rural family member used almost two-thirds of the plots in the very low-income category. Interesting to note here is that 55 plots (11%) were left idle since there was nobody there (32 of these plots were owned by the high-income households). Plots rented out were very few.

The unfolding scenario here is that ownership was closely related to how the plot was acquired and who mainly used it. Own land tends to be privately purchased and used by the owner while family land is inherited and mainly used by rural family members. An important factor in play here, especially for the low-income households, is distance. Mainly other family members used plots located further away from Nakuru municipality.

Surprisingly, there were no gender differences regarding access to rural plots. The percentage of female-headed households with access to a rural plot was as high as the one for male-headed households: 96% and 92%, respectively. However, the percentage of female-headed households having access to family land was relatively higher. Male-headed households tend to have access to their own plots. Consequently, the rural family members used 65% of the plots accessible to female-headed households with only 15% used by them. These figures were 38% and 45%, respectively, for male-headed households.

Rural plots: in how far are they a source of food and/or income to the urban households?

To get some insight in the importance of the rural plots to Nakuru townspeople, whether they (directly) engaged in rural farming activities in 2000 or not,¹⁴ the respondents were asked about how the plot was used, besides being a homestead. Over three quarters of the plots were used for (rural) farming purposes: both crop cultivation and livestock keeping (48%); crop cultivation only (34%); and livestock keeping only (2%). Sixty-two plots (13%) were left idle while only twelve (2%) rented out (Table 3). The only variation within the income categories in terms of how the plot was used is that the

¹³ Due the complex nature of kinship ties and networks in Kenya, it is very difficult to determine what constitutes a rural family. However, a family is defined as those members of the household who are related by blood, marriage or adoption. The degree of such relationship depends on the socio-cultural use and meaning of the term, such that worldwide classification may not be established (Otieno 2001).

¹⁴ In most cases the rural family members at home (mainly parents, brothers and sisters) use the land. Even then the importance of (the) rural plot, whether direct or indirect, should not be underestimated.

percentage of plots left idle and the ones rented out (for income) was higher in the medium and high-income households.

The importance, in qualitative terms, of the rural plots for the Nakuru town household is shown in Table 4. The information was obtained by asking the respondent “in how far is the rural plot a source of food and/or income to the urban household?” Over two thirds of the plots were a source of food to the urban household, while almost half were (also) a source of income, with the food component being important to the low and very-income households. The income component tends to be important for the medium and high-income households.

Table 4: Importance of rural plots for all households and by income category (%; N=491)

	All households	Monthly income <10,000/=	Monthly income > 10,000/=
Food source only	31.8	39.9	24.4
Income source only	7.7	4.3	10.9
Both food and income source	37.3	33.9	40.3
Neither food and income source	23.2	21.9	24.4
Total	100.0	100.0	100.0

Although about one-fifth of the plots were not considered as either food or income source to the urban households, the potential of such plots in terms of indirect (fungible) income to the urban household should not be underscored. Despite these households reporting that the plots were neither a food nor income source to the urban households, most of them, especially in the very low-income households, were quick to add “...but the plot is being used by my parents at home [for farming] and saves me a lot of trouble to (regularly) send them money for food and in this case you can see I save a lot for my family here in town”. For both the male and female-headed households, the rural plot was equally important as a source of food and income: 79% of the male-headed households and 72% of the female-headed households.

In conclusion, two things become clear from the foregoing discussion: 1) the importance of rural produce for urban households with access to rural land should not be underestimated; and 2) claiming access to a plot of rural land does not necessarily imply its actual use by the urban household. While the subsequent sections go a step further to discuss the nature and importance of rural farming using information obtained from the urban households actually involved in the activity, there is also need for further research on those households having access to rural plot but not actually using them.

Rural crop cultivation by urban households in Nakuru town

More than half (53%) of the 327 households in Nakuru municipality who had access to a rural plot could be classified as ‘rural crop cultivators’ (urban households practicing rural crop cultivation). Surprisingly, the percentage of rural crop cultivators increases with an increase in household income. This is because of their ability to acquire land (ownership) for crop cultivation and as seen before, most low and very low-income households have access to rural land that is being used by the rural family members. In terms of gender, a higher proportion (57%) of the male-headed households practiced rural crop cultivation than the 37% from the female-headed households.

A wide range of crops from cereals, legumes and nuts, roots and tubers, vegetables, fruits, fodder and cash crops were cultivated in the rural plots by the Nakuru townspeople in 2000. Table 5 presents a list of the ten common crops cultivated in the rural plots. These crops were cultivated by at least 10% of the crop cultivators with maize and beans being the dominant ones. For example, nine out of every ten crop-cultivators cultivated maize, a staple dish, while about two-thirds cultivated beans. Irish potatoes, kale (*sukuma wiki*), cabbage, and bananas were cultivated by 15 to 30% of the cultivators and tea, millet, green peas and coffee by less than 15%.

Table 5: Major crops cultivated in the rural plots (%; N=173)

Crop type	Number of households cultivating the crop	Percentage of households cultivating	Percentage self consumed*	Percentage sold*
Maize	159	91.9	48	35
Beans	120	69.4	57	26
Irish potatoes	50	28.9	40	36
Kale	37	21.3	47	33
Cabbage	33	19.1	47	34
Bananas	28	16.2	48	30
Tea	25	14.5	0	100
Millet	23	13.3	50	32
Green peas	22	12.7	45	44
Coffee	18	10.4	0	100

* Taking into account the various proportions mentioned

When the various proportions of self-consumption¹⁵ are taken into account, it is evident that on average, about 48% of the harvest from the common crops cultivated (excluding tea and coffee) was consumed by the urban household. On the other hand, 47% was sold and therefore providing some income to the urban household. The remaining 5% was given away (Table 5).

Maize and beans, the two most common types of crops cultivated by urban households, yielded a total of about 252,000 kg of produce in terms of harvest. The 159 households cultivating maize harvested in 2000 about 220,000 kg (roughly 1400 kg/household) while the 120 households cultivating beans harvested about 30,000 kg (roughly 255 kg/household). Using the percentages in Table 5, we can say that about 106,000 kg of maize and 16,000 kg of beans were consumed by the urban households with a mean of about 670 kg and 140 kg per crop cultivating household, respectively.

Though the figures may look modest, there is no doubt that “the *unga*¹⁶ from the maize adds another *sufuria*¹⁷ of *ugali*¹⁸ to my household” as one of the respondent explained when asked how two *gorogoros*¹⁹ of maize from the rural plot helps the urban

¹⁵ The various proportions were categorized as: all of it (100%); most of it (75%); about half (50%); less than half of it (30%); only a small portion (10%); and none (0%). This means that the percentages presented in Table 5 can at best be indications.

¹⁶ A Swahili word for maize flour

¹⁷ A Swahili word for a (cooking) pot

¹⁸ A meal made from maize flour. This is a common food in most communities.

¹⁹ *Gorogoro* is a name used locally for a 2 kg tin (mainly from used cooking oil)

household. Furthermore, when these figures are compared with the urban production of Nakuru town, it becomes clear that rural production is more important than urban production, at least for maize and beans.²⁰ As would be expected, harvests increase with an increase in the household income as a result of the relatively large plots they have.

Based on the same calculations as above, we can cautiously say that about 77,800 kg of maize and 7,600 kg of beans harvested were sold, with a mean of about 500 kg and 64 kg per crop cultivating household, respectively. Though modest, the produce sold is mainly an additional income to the urban household or, more often than not, is used in the rural home thus saving the urban household from (frequently) sending money home.

Both the household head and/or spouse took a keen interest in rural crop cultivation, as in one way or the other they were involved in the rural crop production process. They were involved in land preparation, planting, weeding and other care, marketing and supervisory role, either directly or indirectly. The percentage of spouses²¹ involved in rural crop cultivation decreases with an increase in income. This is a clear indication of the importance of rural farming to the low and very low-income women.

Hired labour also played an important role in rural crop production such that four-fifth of the crop cultivators hired labour. Those with relatively high income tend to hire labour more than those with low incomes. For example, 94% of the high-income households hired labour for crop cultivation while only 44% of the very low-income households were able to do that. All the rural crop cultivators except one, at least used an input during crop cultivation.

Lastly, in almost all the cases, it is the household head (39%), spouse of the head (36%) or rural family member (22%) who was responsible²² for rural crop production. Responsibility of the spouse and rural family member reduces as income increases – that is the (male) household heads in the high-income households tend to be responsible for rural crop production. While the male might be responsible for rural crop production, the women do much of the work.

Rural livestock keeping by urban households in Nakuru town

About one-third (34%) of the 327 households in Nakuru municipality who had access to a rural plot could be classified as ‘rural livestock keepers’ (urban households practicing rural livestock keeping). Just like in rural crop cultivation, the percentage of rural livestock keepers increases with an increase in household income: 24% in the very low-income households and 44% in the high-income households. And just as would be expected, there were twice as many males in Nakuru involved in rural livestock keeping than females.

²⁰ A study of urban farmers in Nakuru town reported the following production figures: maize and beans cultivated in the municipality yielded a total of about 30,000 kg of produce in terms of harvest in 1998. The 101 households cultivating maize harvested about 22,600 kg (224 kg/household) while the 94 households cultivating beans harvested about 7,000 kg (75 kg/household) (see Foeken & Owuor 2000).

²¹ The spouse is the wife to the household head in this case.

²² Person responsible is the one who makes decisions on various aspects of rural crop production and/or livestock keeping.

Cattle were by far the most common type of animal kept by rural livestock keepers (Table 6). Other main types of livestock were chicken and shoats. Turkeys, pigs, ducks and rabbits were kept in small numbers. The high-income households had more livestock than the very low-income households. Unlike in urban livestock keeping where the small animals are common, the large animals seem to be commonly kept by rural livestock keepers.

The livestock keepers themselves owned²³ over three-quarters of the livestock. The other one-third constituted family property. However, it becomes very difficult, in a cultural setting, to distinguish between what is ‘own’ property on one hand and what is ‘family’ property on the other. The livestock were reared within the homestead and/or herded outside (‘free range’).

Table 6: Livestock kept in the rural plots (%; N=111)

Livestock type	N*	%**	Number in Dec. 2000	Number in Aug. 2001***	Number sold (2001)
Cattle	86	77.5	481	477	25
Chicken	52	46.8	734	864	69
Goats	44	39.6	620	716	26
Sheep	38	34.2	229	264	19

* Households keeping that livestock

** Percentage of households keeping that type of livestock

*** At the time of the survey

Urban households keep livestock in the rural plots for both own consumption and for selling. Surprisingly, own consumption, especially for the low and very low-income households, came out more strongly as the purpose for keeping livestock than selling: 41% for mostly own consumption; 12% for mostly selling; and 44% for both own consumption and selling. This is true because livestock is only sold when need arises. Most of the time they are slaughtered during cultural ceremonies or just reared for social security purposes. Livestock was also reared as a hobby/custom and for cultivation purposes.

As would be expected, milk, eggs, meat and skins were the only products from the livestock kept by rural livestock keepers in 2000. Milk was the most important animal product with 75% of the rural livestock keepers mentioning it as one of the products in 2000. Eggs, meat and skins respectively accounted for 48%, 44% and 18% of the animal products mentioned.

The frequency of milk and eggs production can be said to be most of the year. The urban households consumed 52% and 66% of the total production of milk and eggs, respectively. On the other hand, 36% of the milk and 22% of the eggs were sold. This means that rural livestock keeping by urban households is, basically, for self-consumption in terms of milk and eggs production. However, as indicated above, the animals are sold when need arises. It is not yet clear as to how these two products, especially milk, reach the urban household and at what intervals.

²³ Ownership here is mainly through purchase of the animal by the urban household.

Over half of the household heads in livestock keeping households were involved in the rural livestock keeping process. While 43% of these households hired labour, household heads and rural family member dominated the responsibility in rural livestock keeping. As the household income increases, the percentage of labour hired and the household head being responsible increases. A rural family member being responsible for livestock keeping was dominant among the low and very low-income households. Lastly, nine out of every ten rural livestock keepers used inputs during the livestock keeping process in 2000.

Importance of rural farming activities by urban households in enhancing urban food security and income diversification

In addition to the emerging indications above, the perceived general importance of rural farming to the Nakuru townspeople can also be measured in a more subjective way, namely by the relevance attached to the activity by the people involved. First, both the rural crop cultivators and the livestock keepers were asked for what reason(s) they practiced this type of activity. As Table 7 indicates, the need for (additional) food and income is an important factor for Nakuru households to practice either rural crop cultivation and/or livestock keeping. The large majority of both rural crop cultivators and livestock keepers mentioned the ‘need for food’ as one of the reasons, while about half mentioned it as a major reason. A few households (1%) practiced rural crop cultivation because they had no any job, while others (5%) kept livestock for social security reasons.

Table 7: Reasons for practicing rural crop cultivation and livestock keeping (%)

	Crop cultivation (N=173)		Livestock keeping (N=111)	
	Reasons total >100%	Main reason =100%	Reasons total >100%	Main reason =100%
Needed food	94.2	50.9	83.8	46.8
Needed income	60.1	40.5	55.0	36.0
Income diversification	34.7	8.7	32.4	8.1
Hobby/custom	13.3	0.0	25.2	3.6
Other	1.2	0.0	5.4	5.4

A closer look at rural crop cultivation and livestock keeping reveals that there were hardly any differences between the income categories as far as the need for food is concerned. If the very low and the high-income households are compared, the percentages mentioning the need for food were very high in both, with 100% for rural crop cultivators in the very low-income households. However, the percentage of those mentioning the need for income and income diversification increases with an increase in household income. Keeping livestock for social security was dominant amongst the low-income households.

Interestingly, when asked which was the main reason to practice rural crop cultivation, 69% in the low-income households mentioned the need for food against only 37% in the high-income households. For the rural livestock keepers, the figures were 53% and 36%, respectively. In both cases, the need for income and income diversification as the

main reason was stronger for the high-income households than for the very low-income households.

Secondly, both the rural crop cultivators and livestock keepers were asked for the proportions these activities contributed to their household's food and income situation in 2000. Over three quarters of the crop cultivators said that rural crop cultivation constituted either wholly or part of the food they consumed. When asked the same question to the livestock keepers, 58% of them mentioned that rural livestock keeping contributed to their urban household's food situation in 2000.

Despite having no major variations within the income groups, 13% of the very low-income households said that rural crop cultivation contributed to most of the food they consumed. The contribution of livestock keeping to the urban household's food security situation was relatively minimal and more pronounced in the high-income households compared to rural crop cultivation.

On the other hand, 71% of the rural crop cultivators and 50% of the rural livestock keepers said that the activity contributed to the urban household's total income situation in 2000, respectively. As would be expected, the contribution of rural crop cultivation and livestock keeping to the urban household's income situation increases with an increase in the household's income.

Thirdly, both rural crop cultivators and livestock keepers were asked about the general importance of these activities (Table 8). For the large majorities, rural farming forms at least an additional food and/or income source, correlating well with the reasons for rural farming in 2000. The importance of rural farming is even stressed further by the fact that 75% of the rural crop cultivators 'could not survive without it'. Livestock becomes an important food and/or income source only in situations where need arises, and therefore acts as a social security.

Table 8: Importance of rural crop cultivation and livestock keeping (%)

	Crop cultivation (N=173)	Livestock keeping (N=111)
Could not survive without it	74.6	39.6
Major income source	16.2	2.7
Additional income source	57.2	54.1
Major food source	23.7	0.9
Additional food source	66.5	67.6

The above figures show no marked differences for the four income groups. For the poor and the rich households alike, rural crop cultivation is both a food and an income source to the urban households involved.

Lastly, are there gender differences regarding the importance of rural farming to the urban households? There were no major differences. However, it is important to note that 100% of the female-headed households mentioned the need for food as one of the reasons for practicing rural crop cultivation. Contrastingly, more female-headed households practiced rural livestock keeping because of the need for income as opposed to the need for food.

Finally, in order to have at least an indication whether the ‘rural farmers’ were able to reach a higher level of urban household food security than the ‘non-rural farmers’, three general questions regarding this issue were asked: 1) Do you buy all your food requirements; 2) what was the most important food source in 2000; and 3) did you usually have enough to eat in 2000?

Table 9 shows that about half of the non-farmers buy all their food requirements while 84% of the rural farmers do not. That is to say that a large percentage of non-farmers spend much more on food than the rural farming households. This is confirmed by the fact that the most important food source for the non-farming households in 2000 was purchased food, with a very high percentage of 84%.

For the farming households, rural farming provided them with at least half of their food requirements. Consequently, the rural farming households depended less on purchased food than the non-farmers. Interestingly, the large majority in both groups had enough to eat most of the time in 2000.

Table 9: Rural farmers and non-farmers: summary of general food security issues (%)

	Rural farmers (N=194)	Non-farmers (N=133)
Do you buy all your food requirements?		
Yes	16.0	53.4
No	84.0	46.6
Most important food source in 2000		
Mainly urban production and other sources	0.5	15.8
Mainly rural production and other sources	55.7	--
Purchased	40.2	84.2
Did you usually have enough to eat in 2000?		
Always + Most of the time	93.3	90.2

Conclusions

Given the present circumstances of urban unemployment, deepening social differentiation, decline in real wages, rises in the cost of living, escalating urban poverty, and urban food insecurity, risk spreading or income diversification through multi-spatial sourcing of food and/or income is an important coping mechanism in many urban households. From the foregoing discussion, it is evident that rural farming by urban households can play a major role in enhancing urban food security and income diversification of the households involved. The percentages of Nakuru town households having access to a rural plot (95%) and those practicing rural farming (56%) tell a lot about their attachment to the rural plots.

For the Nakuru townspeople, having access to a rural plot is not only a potential source of additional food and/or income, but also a place you can ‘fall back to’ during adverse times and especially nowadays when retrenchment is the order of the day. Indeed, 54% of them indicated that their future plan is to retire to ‘our rural home or one of the rural plots’. Although about one-fifth of the plots were not considered as either food or

income source to the urban household, the potential of such plots in terms of indirect (fungible) income to the urban households need to be explored.

For most of the 'rural farmers' in Nakuru town and regardless of the socio-economic status, the need for (additional) food and income was an important driving force to practice either rural crop cultivation and/or livestock keeping. This is particularly true because the high income-households turn into rural farming as a way of augmenting their declining salaries within the formal sector. The role of rural farming in enhancing food security in urban poor households is even greater due to the escalating urban poverty. For example, despite having relatively smaller inherited family plots that are mainly used by the rural family back home, a large majority (78%) of the low-income households in Nakuru town 'could not survive' without rural crop cultivation.

Though the production figures may look 'modest', over half of the rural farmers indicated that rural farming constituted either wholly or part of the food they consumed and/or household's total income situation in 2000 and therefore enhancing food security and income diversification of Nakuru town households. However, there is need for more analysis on the contribution of rural farming to the total energy requirements of the urban households, nutritional value of the produce and the economic value of engaging in rural farming.

The above confirms that rural links have become "vital safety-valves and welfare options for urban people who are vulnerable to economic fluctuations" (Potts 1997: 461). There are indications of significant shifts in the nature of transfers of goods and cash between urban and rural households, in the sense that remittances from urban to rural areas are declining and transfers of food from rural to urban areas are increasing. This is contrary to what is perceived that due to spiraling costs of transportation, many urban low-income households that were previously dependant upon direct food remittances from their rural home can no longer afford this.

Lastly, the potential role of rural farming in enhancing urban food security in African can be achieved through an organized transportation and marketing system and integrating rural farming in urban food security policies. In designing policies on enhancing urban food security, rural farming by urban households should be taken into consideration as well.

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