

Identifying market opportunities for urban and peri-urban farmers in Kampala, Uganda

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Abstract

Kampala, the capital city of Uganda, has a population of approximately 1.2 million inhabitants that is growing at a rate of over 3.9% per year. The growth of the city represents a large expansion in markets for agricultural products. Many of these markets offer comparative advantages to producers and processors located in or close to the city. Agriculture is widely practiced both within the municipal boundaries and peri-urban areas. In 1992, it was estimated that 56% of land in the city was used for agriculture.

The purpose of the study is to identify a portfolio of agricultural products with market demand, whose production is technically and economically feasible by urban and peri-urban farmers.

The study has involved the following steps: a) a participatory rapid urban appraisal, b) a rapid market study, and c) an evaluation of the most promising options for urban and peri-urban farmers. This paper describes the methodology used and results obtained in the first two steps. The evaluation and selection of most promising options is on going.

The rapid urban appraisal indicated that the most important commodities that farmers produce for sale are broilers, eggs, milk, pigs and pork, fruit (mango, avocado, jackfruit and paw paw), mushrooms and cocoyam. The major constraints to the production and marketing these commodities were determined.

The rapid market study has identified the following market opportunities: poultry products (broilers, eggs and indigenous chicken), vegetables (leafy vegetables, tomato, carrot, onion, cocoyam, mushroom, cauliflower and red pepper), fruits (avocado, mango, paw paw, pineapple, watermelon, jackfruit, tangerine, apple, pear, orange), meat (beef and pork) and fresh milk. For all these products, information on purchasing requirements (quality, packaging, minimum volumes, frequency of delivery etc.) has been collected.

This preliminary analysis indicates that there is demand for the commodities produced by Kampala farmers, and there are opportunities for producing a number of additional fruits and vegetables. The feedback of this information to farmers on the demand and requirements for these products, and their technical and economic production feasibility will provide the basis for consolidating enterprises that the farmers select as the most promising options.

Introduction

Kampala, the capital city of Uganda covers an area of 197 km² and has a population of 1.2 million inhabitants with a growth rate of 3.9 percent per year. Kampala in the 21st century is the showcase of Uganda's economic, political and social transformation. However, the rapid growth of Kampala raises concerns that the migration of people towards the city is bringing with it a migration of poverty and that often-unplanned urban growth is accompanied by environmental pollution, health risks and a decline in the quality of life. On the other hand, the growth of the city represents a large expansion in markets for agricultural products. Many of these markets offer a comparative advantage to producers and processors located within or close to the city. Urban agriculture is widely practised both within

the municipal boundaries and peri-urban areas. In 1992, it was estimated that 56 percent of the land in the city is used for agriculture (Maxwell, 1995b) and that approximately 70 percent of all poultry products consumed in Kampala are produced in the city (Maxwell, 1995a).

In 2002, as part of the Strategic Initiative on Urban and Peri-Urban Agriculture (SIUPA) of the Consultative Group for International Agricultural Research (CGIAR), the first one-year phase of a project to strengthen and promote urban agricultural systems was initiated with the goal of improving food security and the livelihoods of the urban poor in Kampala. This first exploratory and information gathering phase of the project will be the basis on which to develop a wider research and development proposal. The three components of the first phase are: i) An investigation of livelihoods and production systems; ii) An assessment of market opportunities for urban and peri-urban farmers, and iii) An exploration of schools as extension service providers and as producers of high quality seed.

The research described in this paper deals with the assessment of market opportunities for urban and peri-urban farmers in Kampala. The purpose of the study is to identify a portfolio of agricultural products whose production is technically and economically feasible by urban and peri-urban farmers and to establish the purchasing conditions for the identified products. The information generated will be subsequently used to strengthen or create new micro- and small crop and livestock enterprises.

Approach

The market opportunity identification process that is being employed has been adapted from the methodology described by Ostertag (1999). It has involved the following steps:

- i) A participatory rapid urban appraisal to establish the socio-economic and institutional profile of the area under study;
- ii) A rapid market study to capture opportunities for existing and potential crop and livestock products, and
- iii) An evaluation of the most promising options for urban and peri-urban farmers.

The third step is still in progress and the results are not reported in the present paper.

Participatory rapid urban appraisal

The participatory rapid urban appraisal was undertaken as a common activity that provided information for the livelihoods and production systems and the market opportunity identification components of the project. Four parishes, each representing different socio-economic conditions (urban old, urban new, transition from peri-urban to urban and peri-urban settings), were randomly selected from four of the five administrative divisions that make up Kampala. The criteria used for selecting parishes in each division included: a) presence of crop and livestock enterprises, b) presence of farm produce markets, c) presence of NGOs working towards the empowerment of local communities, d) relative levels of environmental degradation/pollution, f) population density and g) presence of local food processors.

The main tools used in the rapid urban appraisal were focus group discussions, interviews with key informants and observation. A total of 190 farmers (86 men and 104 women) from the four parishes participated in the exercise. Crops and livestock produced for income generation and household food security were identified. In addition, the scale of production, market outlets, value addition and constraints for the various enterprises were determined.

Rapid market study

The rapid market study included the following activities:

- a) Defining strategies for the market survey. Based on the information generated by the rapid urban appraisal, the enterprises of major importance to urban and peri-urban farmers were established and ranked. The Ansoff product-market growth matrix (Kotler, 1999) was used as a tool for planning the survey in terms of growth alternatives, based on the perceived opportunities and constraints of urban and peri-urban farmers in Kampala. The following market research strategies were adopted:
 - Products whose demand exceeds supply
 - Products that are in scarce supply
 - Products that are currently sold by urban and peri-urban farmers
 - Alternative high value products that could be grown by urban and peri-urban farmers
 - Street foods
- b) Developing the research plan and corresponding tools. A matrix checklist of the above market research strategies against the different categories of market outlets (traders, markets, supermarkets, hotels, food industries etc.), from which relevant information could be obtained, was developed. Where available, secondary sources of market information were consulted. For primary data collection, questionnaires for each of the different market categories of respondents were designed, tested and adjusted. All of Kampala's 5 major produce markets and 3 large supermarkets were included in the survey. In addition, 5 small supermarkets and a total of 21 small shops/kiosks were randomly selected from each of the five divisions of Kampala city. Top and middle range hotels have been interviewed, and 5 food processors were selected based on the categories of products currently being sold by urban and peri-urban farmers.
- c) Data collection. The survey was conducted using semi-structured questionnaires to obtain the information required. The methods of contact were by face-to-face discussions in teams of two and telephone interviews.
- d) Data processing and analysis. Data were cleaned, standardised and manually coded. Analysis was done using the Statistical Package for Social Scientists (SPSS) computer software.

Evaluation of options

Based on the results of the rapid market survey, and for those options that look most promising, more precise information on the market, the production characteristics of the products in question and their corresponding financial costs and returns will be obtained. With this additional data, farmers will be asked to rate the different options against their own criteria for selecting enterprise options. This exercise is pending.

Results

Participatory rapid urban appraisal

Table 1 shows the existing agricultural enterprises in order of their importance for income generation and household food security use, as well as an indication of the ranking of enterprises based on the number of people involved.

The results indicate that the most important income generating products in Kampala are poultry (broilers and eggs), milk, pigs, fruits (mango, avocado, jackfruit and paw paw), cocoyam, mushrooms and leafy vegetables. There is no significant overlap between the principal income generating enterprises and food security crops and livestock products produced for home consumption. Among the important income generating enterprises, poultry and fruits are the two categories of enterprise common across all urban/peri-urban categories.

Table 1. Existing agricultural enterprises in order of their importance for income generation and food security

Parish	Bukesa	Banda	Buziga	Komamboga
Classification	Old urban	New urban	Urban-peri-urban transition	Peri-urban
Participation m=male f=female	74 (41 m, 33 f)	51 (23 m, 28 f)	40 (12 m, 28 f)	25 (10 m, 15 f)
Principal income generating enterprises	- Poultry - Cattle (dairy) - Mushrooms - Fruits - Coco yam	- Coco yam - Poultry - Cattle (dairy) - Leafy vegetables - Pigs	- Poultry - Cattle (dairy) - Fruits - Pigs - Mushrooms - Sugarcane	- Pigs - Cattle (dairy) - Poultry - Fruits - Cassava
Food security crops/livestock	- Fruits - Matooke - Maize - Beans - Coco yam	- Leafy vegetables - Coco yam - Beans - Maize - Matooke	- Sweet potato - Cassava - Matooke - Beans - Maize - Fruits	- Sweet potato - Cassava - Beans - Matooke - Fruits - Leafy vegetables
Ranking of crops/livestock based on number of people involved	- Poultry - Matooke - Flowers (potted plants) - Maize - Beans - Fruits	- Coco yam - Poultry - Cassava - Leafy vegetables - Matooke	- Sweet potato - Cassava - Poultry - Beans - Matooke - Fruits	- Sweet potato - Cassava - Poultry - Pigs - Matooke - Fruits

Table 2 summarises the scale of operation, prices, market outlets and constraints faced by farmers for the principal income-generating products. With the exception of dressed poultry, pork meat and cooked cocoyam as a snack food, there is little value addition and there are no sales to food industries. The relative scale of production conditions the type of market outlet that farmers are using for any particular product. Among the constraints, farmers mentioned lack of appropriate (cold) storage facilities and lack of capital, both of which limit the possibility to bulk production of higher value and perishable products (poultry, fruits, mushrooms etc.), and thus capture higher volume markets.

Across the different groups (old urban, new urban, transition and peri-urban) it was observed that there was a definite gradient in terms of age, degree of responsibility, ownership of resources and equality of participation of men and women, and level of interest and motivation. In the old urban situation participants were younger, appeared to have time at their disposal, were alert and open to new opportunities and with very high expectations with respect to the project. There was also more equal participation of men and women in the discussions that were conducted in entirely in English. On the other hand, in the peri-urban situation, participants were more elderly, possessed more resources and had other commitments, which made them less disposed to invest more time than necessary. The men dominated the discussions that had to be conducted in local language because few people spoke English.

Rapid market survey

In Tables 3, 4 and 5 the responses from all categories of market outlet have been bulked for the purposes of this result summary.

Table 3 shows that between 65-100% of traders in all product categories reported equal or greater sales compared to from the previous year.

Table 2. Scale of operation, prices, market outlets and constraints of the principal income-generating products.

	Poultry	Milk	Fruits	Pigs	Mushrooms	Cocoyam	Leafy vegetables
Average supply quantity per household	600 broilers/year 2,500 trays of eggs/year	10,950 litres/year	Avocado: 300 kg/year, Mango: 300 kg/year, Pawpaw: 150 kg/year, Jackfruit: 200 kg/year	50 kg/year	750 kg/year	1200 kg/year	560 kg/year
Average supply price (Ushs)	3,300/broiler Eggs 2600/tray	450/litre	Avocado and Mango- 200/kg, Pawpaws- 500/kg, Jackfruit- 300/kg	1650/kg	3000/kg	500/kg	1000/kg
Market outlets	Shops, small local supermarkets, roadside roasters, restaurants.	Neighbours, local retailers	Neighbours, roadside vendors, wholesalers	Butcheries, restaurants, small local supermarkets	Small local supermarkets, hotels, restaurants, shops, produce markets, neighbours	Produce markets, roadside vendors	Schools, neighbours, market vendors
Supply form	Live birds, dressed	Fresh	Fresh	Live pigs, pork	Fresh and dry	Fresh and often cooked	Fresh
Constraints	Limited capital, unreliable markets, expensive inputs.	Lack of storage facilities, limited capital	Lack of storage facilities	Low prices	Unreliable markets, lack of market information, lack of storage facilities for fresh mushrooms.	Lack of organised marketing	Lack of storage facilities, limited capital investment

Table 3. Change in sales over the past two years for various product categories (percent of respondents)

Responses/product	Fruits (n=35)	Vegetables (n=34)	Poultry (n=11)	Dairy (n=9)	Pork (n=6)	Mush- rooms (n=7)
Greater than previous year	57.1	61.8	54.5	66.7	76.5	42.9
Equal to previous year	8.6	11.8	27.3	11.1	23.5	42.9
Less than previous year	17.0	20.6	18.2	22.2	0	0
No idea/no response	17.0	6.0	0.0	0.0	0.0	14.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Products with increasing sales and in scarce supply

Category	Products with high sales growth	Products in scarce supply	Reasons for scarcity
Poultry	Eggs Broiler Local chicken	Local chicken Broiler	Local birds- scattered nature of production and distant sources of supply Broilers- unreliable supplies
Fruits	Mango Avocado Jack fruit Apple Water melon Pineapple Sweet banana (finger banana) Bogoya (large banana) Paw paw Passion fruit	Avocado Paw paw Water melon Orange Mango Pineapple Tangerine Passion fruit	-Seasonality of production -Delay/lags in importing some fruits.
Vegetables	Leafy vegetable (bugga, dodo, jobyo) Tomato Cabbage Onion Green pepper Eggplant Broccoli Mushroom Carrot Garlic Hotmeal Ntula Cucumber	Leafy vegetable (nakati, bugga, dodo) Onion Pumpkin Garlic Green pepper Red pepper Tomato Eggplant Mushroom Carrot	-Seasonality of production -Delays in transit for the imported products.
Legumes	Bean Cowpea Groundnut		
Livestock	Beef Pork	Pork Goat	-Scattered production. -Government law prohibits transporting goat together with cattle, yet its uneconomical to transport goats alone.
	Dairy Milk Yoghurt Butter	Milk	-Seasonal production -Distant sources of supply
	Fish		

Table 4 indicates that there is demand for the crops and livestock products produced by urban and peri-urban farmers. This implies that these products could present an opportunity for urban and peri-urban farmers to increase their incomes if they can meet the demands of traders in terms of quality, quantity, continuity and price (see Table 5). It also shows that demand exists for fruits and vegetables other than those being currently produced.

Table 5. Selected products with market potential and their purchasing conditions

Product	Purchase price	Minimum purchase	Source	Quality standards
Fruits				
Mango	218/= per kg	250 kg per day	Masaka, Jinja	Mature, half ripe, free from external damages
Avocado	312/= per kg	42 kg per day	Kabale, Mbarara, Masaka	Mature, half ripe, free from external damage
Paw paw	517/= per kg	965 kg per day	Mukono, Mpigi	Mature, half ripe, free from external damages
Livestock				
Dairy Milk	370/= per litre	2,050 litres per day	Mbarara, Nakasongola, Mukono	Good odour Fresh and concentrated
Pork	1350/= per kg of live for carcass	3 pigs per day	Masaka, Jinja, Mpigi, Mukono	Low fat content Min. weight of live carcass (16kg) Max. weight of live carcass (55kg)
Vegetables				
Bugga	778/= per kg	23 kg per day	Wakiso, Mpigi	Fresh and intact green leaves
Dodo	778/= per kg	30 kg per day	„	„
Nakati	1000/= per kg	16 kg per day	„	„
Carrots	950/= per kg	37 kg per day	Kabale, Mbale	Clean, medium size, orange colour
High value products				
Mushrooms	3000/= per kg (fresh) 4000/= per kg (dried)	11.7 kg per day	Kampala Jinja	Mature Well dried Good aroma
Poultry				
Local chicken	4500/= per bird	66 birds per day	Lira, Arua, Jinja, Iganga	Average sized and in good health
Broilers	3200/= per bird	108 birds per day	Kampala, Jinja	At least 1.5 kg and in good health

Discussion and conclusions

Tables 2 and 5, illustrate that on average actual supply quantities for all products by urban and peri-urban farmers are less than the quantities demanded by traders, even the small kiosks that specialize in fruits and vegetables. This explains why most of the products shown in Table 5 are procured from rural districts where supplies are sufficient and more reliable. This implies that urban farmers face two alternatives: i) to confine themselves to the local or niche markets that they can supply with their present production levels, or ii) move toward collective action as a means to supply greater volumes to those markets indicating growth possibilities.

In addition, the average purchase/wholesale prices of some of the products studied, like milk and pork, obtained from districts other than Kampala were found to be less than the farm gate prices of the same products produced in Kampala. This could be attributed to, *inter alia*, economies of scale

enjoyed by extensive producers in rural areas (case of milk) or lower feed costs (case of pigs). On the other hand, there are certain commodities like poultry, mushrooms and fruits in which producers in Kampala have a comparative advantage because of proximity to feed supplies (poultry), and closeness to market that reduces transport costs and enables the timely delivery of fresh produce (mushrooms and fruits).

Based on this analysis, it is possible to categorize the current products of urban and peri-urban farmers in the following manner:

1. Those products with which farmers are meeting all the purchase conditions with respect to quantity, quality, continuity and price. Examples of these are poultry (broilers and eggs) and mushrooms.
2. Those products with which farmers are meeting requirements of quality and price, but are unlikely to meet the additional requirements of quantity and continuity in order for their enterprises to grow. Examples of these are vegetables and fruits.
3. Those products with which farmers are unable to compete in terms of price, quantity and continuity with producers from rural areas selling into mainstream markets. The examples of these products are pork and milk. The quality of these products, especially milk, is competitive and could be used as a lever to capture a share of the market that will pay higher prices for better quality.

Peri-urban farmers would be better placed to make use of the opportunities identified by the market study that require land as a principal input (dairy, pigs, fruits and vegetables). However, it was interesting to observe the relative lack of motivation at the outset towards new opportunities, relative to those farmers from the urban areas. Whether this attitude might represent an obstacle needs to be further investigated.

Urban farmers were open to new opportunities. However, the study has been unsuccessful in identifying alternative products, beyond mushrooms and poultry, of high value and with a quick return on investment that could be produced on reduced land areas.

Overall, the study has shown that demand for a wide range of food products is growing in Kampala. This is to be expected given the rate of growth and economic development. While the marketing of food, especially fresh food, is still predominantly in the hands of small traders in produce markets, there is an increasing trend towards the 'supermarketization' of the food system (Weatherspoon and Reardon, 2003). Urban and peri-urban farmers, at least those with whom the project has interacted, have not yet been able to capture a share of this new market that has very demanding purchase conditions.

Without depreciating the important role of urban and peri-urban farming in contributing to local food security, it is imperative that farmers are supported in their endeavors to produce income-generating products, as only through this means will it be possible to make a significant impact on the livelihoods of urban and peri-urban dwellers occupied in agriculture.

Recommendations

As mentioned in the introduction, this study is part of an exploratory and information gathering process whose results will form the basis of a wider proposal to support urban and peri-urban agriculture in Kampala. The preliminary results show Kampala farmers to be market oriented and that there are opportunities for them to grow their enterprises and thereby improve their livelihoods. However, there are many obstacles for them to overcome.

To be able to achieve the goal of improved livelihoods will require an integrated and concerted program that brings together a number of support institutions that can provide appropriate services to urban and peri-urban farmers. At present this type of integrated program does not exist. The inter-

institutional and multidisciplinary nature of the present project is an attempt to bring together the most appropriate actors, from both research and development.

With respect to the marketing and enterprise development component of this initiative, local capacity needs to be built to provide the following functions:

1. Market information that can help farmers decide what crops and livestock products to produce and where to sell;
2. Microfinance schemes to motivate expansion of production and the creation of new enterprises;
3. Technical and business extension and training services;
4. A legal framework that will encourage appropriate and environmentally sound agroenterprise activity in urban settings, including access to suitable land resources;
5. Support for farmer organisation for collective action in marketing and the provision of other essential services (inputs etc.).

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