



## Urban Agriculture and Food Security in the Low Income Households of Mwiki Location, Nairobi County

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### **ABSTRACT**

Access to nutritious food is another perspective in the effort to locate food and livestock production in cities. With the tremendous influx of world population to urban areas, the need for fresh and safe food is increased. The study sought to assess the contribution of urban agriculture to food security among low income families in peri-urban area of Mwiki Location, Nairobi County. A descriptive cross-sectional study design was used. A semi-structured questionnaire was administered to a sample of 260 households. Statistical Package for Social Sciences (SPSS 12.0.1) was used for data analysis. From the study findings 24% of the respondents were farmers, over three-quarters (80%) obtained their food through purchases and 17% from own production. Over two-thirds (72%) had enough food for all household members. Though the study indicates food security, the practice of urban agriculture is still low in the study area and needs to be increased.

**Key words:** urban, agriculture, farming, food, security

### **1.0 Introduction**

Access to nutritious food is another perspective in the effort to locate food and livestock production in cities. With the tremendous influx of world population to urban areas, the need for fresh and safe food is increased. Cities in Sub-Saharan Africa (SSA) are growing at an exceptional rate of about 5% annually (Crush, *et al.*, 2006). The UN-HABITAT (2006) reports that the percentage of urban residents in SSA is expected to rise from 30% to 47% of the total population during the period lasting from 2005 to 2030. It is acknowledged that as the world's urban population grows, so too does the population of the urban poor (Beall and Fox 2007). This will bring about new and critical challenges for urban development policy, especially in terms of ensuring household food security.

Unlike in rural areas where most households derive their food requirements from agricultural production, food security in urban areas is market dependant as most households procure their food from the market. Against this backdrop, urban agriculture or food production conducted in or around urban regions seems to provide a realistic and pragmatic solution.

In Kenya, there is sound campaign from the ministry of agriculture through National Agriculture and Livestock Extension Programme (NALEP) initiative and other agencies to promote agricultural activities. These entail production and utilization of underutilized crops such as sorghum, millet, cowpeas, cassava and sweet potatoes which are drought tolerant crops as well as livestock keeping such as poultry and rabbits. Mwiki Location is one of the areas that most benefited from the programme. Despite the continued efforts by the government and other stakeholders in supporting agriculture, evidence of enhanced household food security is scanty. There is therefore need to assess the contribution of urban agriculture to food security among low income families in peri-urban area of Mwiki Location, Nairobi County. The results of the study are useful to the government in evaluating the project and in developing programmes in urban agriculture.

### **2.0 Methods**

The study was conducted at Mwiki location within Kasarani Division, Nairobi County, Kenya. It employed descriptive cross-sectional study design. The sampling unit was the house hold. Fisher's formula (Fisher, *et al.*, 1991) was used to calculate the sample size. A sample of 260 households of low income families who practised urban agriculture was used in the study. With the help of administration (Assistant Chief and the headmen) and four research assistants, the researcher randomly selected these households in the study area. A pre-tested semi-structured questionnaire was used to obtain information on the socio-demographic characteristics, agricultural production and food consumption patterns from the respondents. The questionnaires completed each day were verified daily. The statistical package for social sciences (SPSS 12.0.1) was used for data analysis.

Permission to carry out the study was sought from the administration office at the District Commissioner and District Agricultural offices. Informed consent was sought from the respondents before commencement of the study. The research assistants were adequately trained in order to keep the interests of the respondents and treat data collected with utmost confidentiality throughout the data collection period.

### **3.0 Results**

#### **3.1 Demographic and socio-economic characteristics**

##### **3.1.1 Sex of respondents**

Close to two-thirds (62%) of the respondents were males and over a third (38%) were females (Figure 1).

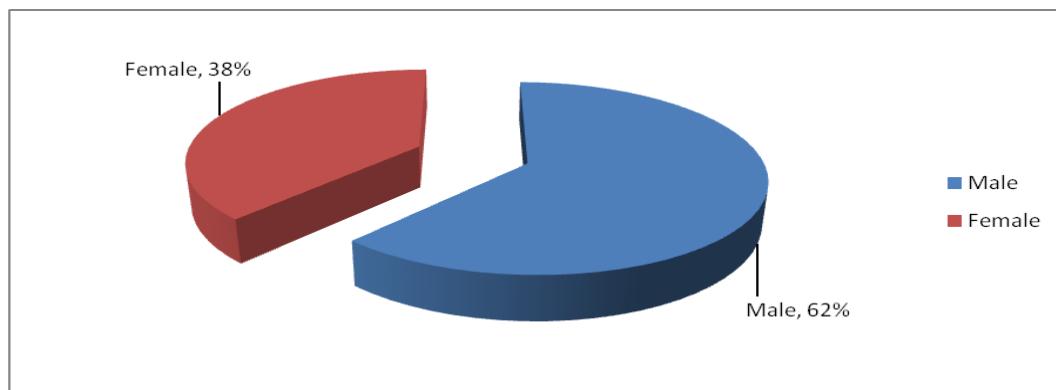
**Figure 1: Sex of Respondents****3.1.2 Age of Respondents**

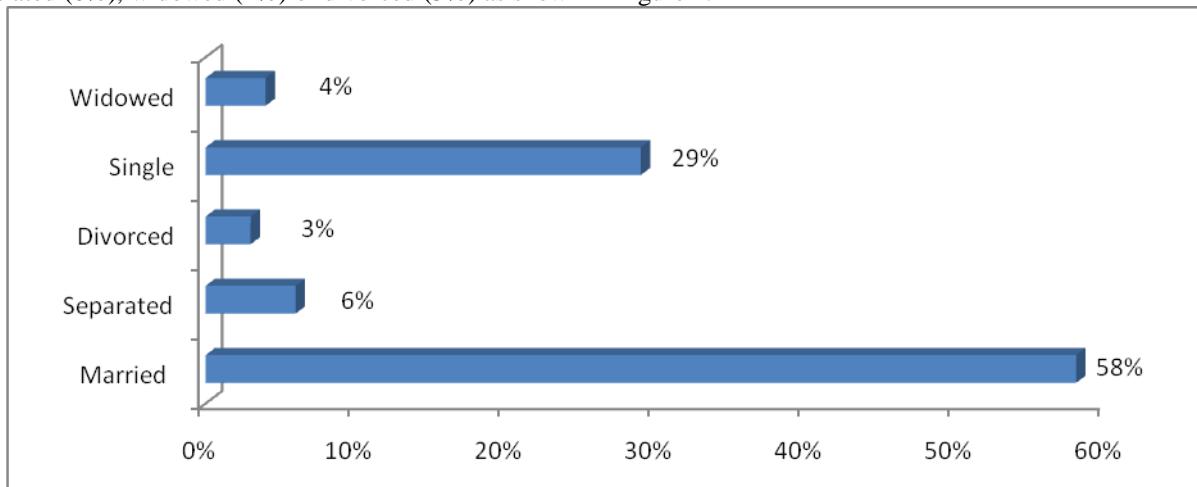
Table 1 shows the age of respondents across different age groups.

**Table 1: Distribution Age of the Respondents (n=260)**

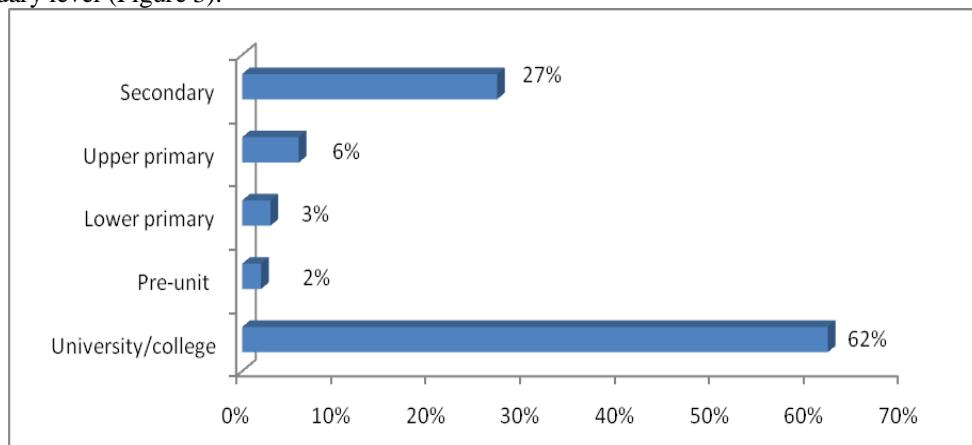
Years	Frequency	Percentage
0-20	5	2
21-30	118	45
31-40	82	32
41-50	31	12
51-60	13	5
61-70	11	4

**3.1.3 Marital Status**

Over a half (58%) of the respondents married and nearly a third (29%) stated that they were single. Others were separated (6%), widowed (4%) or divorced (3%) as shown in Figure 2.

**Figure 2: Marital Status****3.1.4 Education Level**

According to the findings, almost two-thirds (62%) of the respondents attained university/college and 27% reached secondary level (Figure 3).

**Figure 3: Educational Level**

### 3.1.5 Occupation

The study findings indicated that over a half (55%) had businesses. These were hoteliers, fish mongers, accountants, bar owners, salonists, landlords, masons, plumbers, software technicians and welders. Only 24% who were found to be farmers. Others were housewives (9%), drivers (5%) and only 3% pointed out that they were students/pupils (Figure 4).

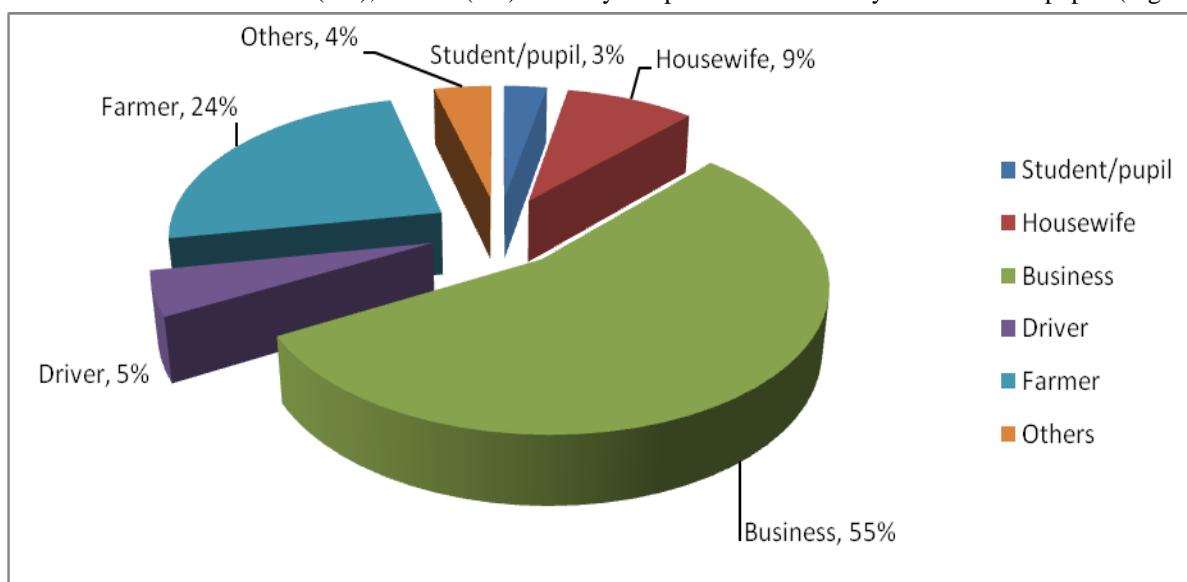


Figure 4: Occupation

### 3.2 Farming Activities

The farming activities that respondents engaged in at the time of the study include: poultry keeping, dairy keeping, crop production, vegetable farming, rabbit keeping, multi-storey gardening and livestock keeping (Table 2).

Table 2: Farming Activities (n=260)

Activity	Yes		No	
	Number	Percent	Number	Percent
Poultry keeping	155	60	105	40
Dairy keeping	146	56	114	44
Crop production	143	55	117	45
Vegetable farming	152	58	108	42
Rabbit keeping	108	42	152	58
Multi-storey gardening	88	34	172	66
Livestock keeping	114	44	146	56

### 3.3 Food Security Status

According to the study findings, over three-quarters (80%) of respondents indicated that their main source of food was through purchases and low proportion (17%) obtained food from their own production (Figure 5).

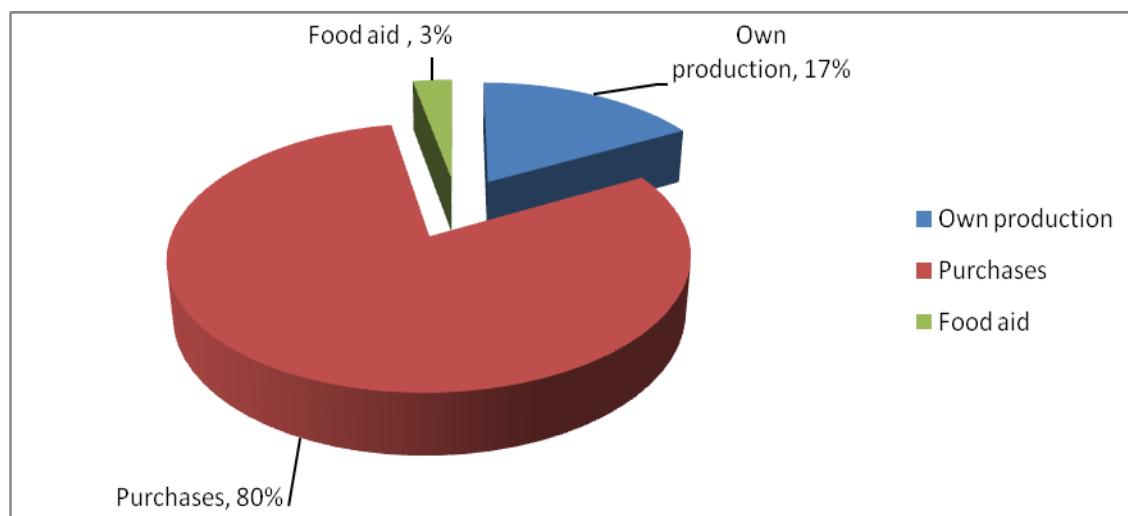
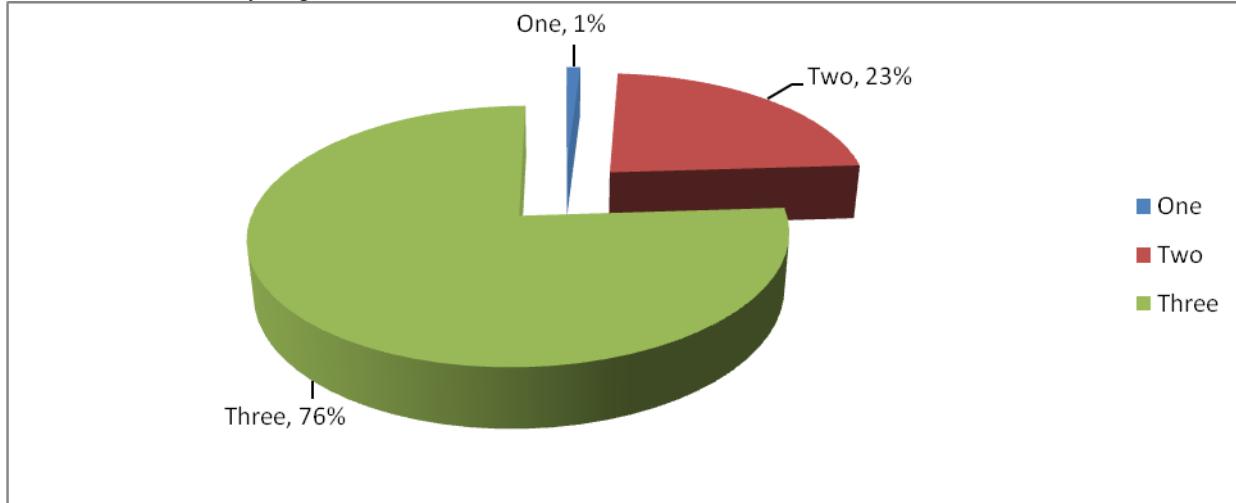


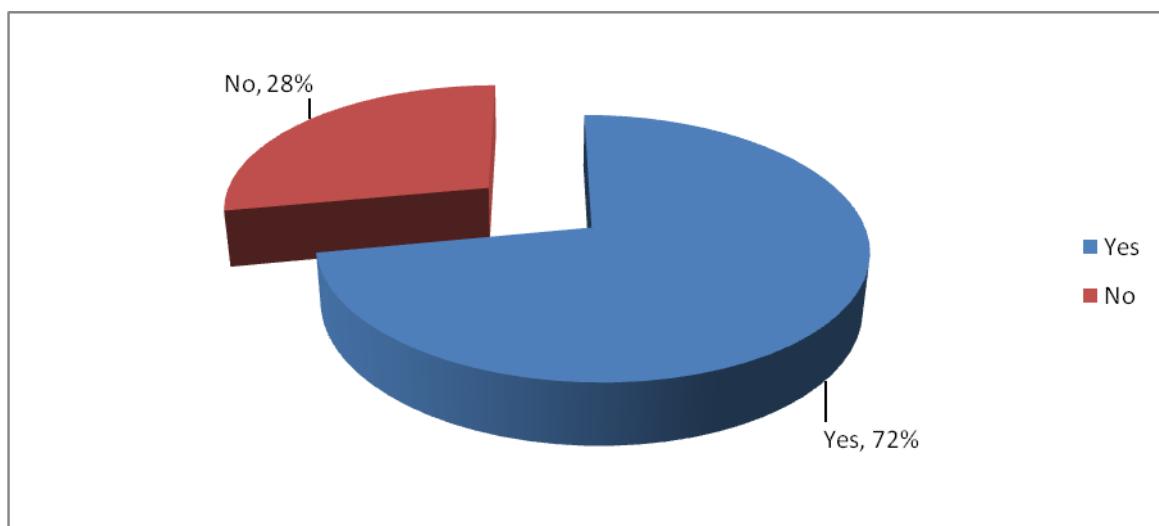
Figure 5 Main Source of Food

About three-quarter (76%) of the respondents indicated that they took three meals in a day, 23% took two meals and 1% took one meal in a day (Figure 6).



**Figure 6: Daily consumption pattern**

The study shows that over two-thirds (72%) of the respondents agreed that they always had enough food for all the members in the household and less than a third (28%) disagreed that there was enough food for members in the household (Figure 7).



**Figure 7: Food Sufficiency**

#### 4.0 Discussion

From the study findings, high level of education in the study population did not seem to contribute to high level of salaried employment owing to the lack of employment common to the Kenyan population. The main source of food for the study households is from purchases. The high proportion of monthly household income spent on food implies that the households are not able to produce their own food for own consumption. Moreover, more than half of the study populations keep small livestock such as poultry, rabbits, dairy goats and some keep dairy cows. This is probably due to small land size and lack of sufficient pasture. The land size is not adequate to allow farming activities that could contribute to sufficient household food consumption. Further, the low yields are attributed to low and unreliable rainfall in the study area. Another reason is that people get poor quality seeds and high cost of inputs leading to lack affordability by the study population who are not well off financially. However, despite these setbacks, the study findings show a high proportion (72%) of the study population who always had enough food for all the household members.

#### 5.0 Conclusion and Recommendations

From the study, it was found that a low proportion of the study population engage in urban agriculture. There is limited food production hence the residents are not able to obtain food for own consumption from their farms; they rely on purchases to a large extent. However there is no food insecurity in the study area.

There is need for the government of Kenya through NALEP backed by community leaders to legalise agricultural practices on public land and help these growers with schemes that promote the management and maintenance of community led urban agriculture. More extension officers should be employed to assist farmers by giving them quality technical packages on urban farming which should include wet gardens, multistory gardens, hanging gardens which can increase food production and eventually food security.

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