

Tanzania Food Gardening Network (TaFoGa Net)



GENDER ROLES IN URBAN AGRICULTURE: THE CASE OF HORTICULTURE IN KINONDONI MUNICIPALITY, DAR ES SALAAM

Second Draft

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ABBREVIATIONS

ARU	Ardhi University
DAWASCO	Dar es Salaam Water Supply Corporation
FGD	Focus Group Discussion
TaFoGa Net	Tanzania Food Gardening Network.
MUHAKI	Muongano
MKURABITA	Mpango wa Kurasimisha Rasilmali na Biashara za Wanyonge Tanzania

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EXECUTIVE SUMMARY

A descriptive horticulture study was conducted to assess the status of gender roles in urban agriculture in Kinondoni Municipality Council – Dar es Salaam; as a unit of analysis in broad dimension relating to tenure security, gender and age, health, social, economic, culture, attitude, knowledge and practice. Sustainable Cities International Program assigned this study on baseline data collection to TaFoGa Net with an objectives of reviewing literature and policy framework for horticulture practices in Tanzania, determine spatial factors for horticulture activities- type and scale, where located, land tenure access and security / tenure rights, identify horticulture resources support including extension services, credit facilities, water supply, energy, etc.- which ones and who are providing them, Formalization of horticulture activities – opportunities and challenges - does the criteria to choose farmers groups favour farmers and recommend policy review areas - decision on the actions/interventions to be taken to enhance horticulture activities. 21 horticulture groups in Kinondoni Municipality were selected by simple random sampling method, and from these groups 60 horticultural farmers were interviewed. The study focused on roles existing and practiced by women in horticultural activities in Dar es Salaam.

Computer analyzed the data collected. The methods of data collection included Interview and Observation. The standardized questionnaires were used as an interview guide. The focus group were used to get opinion, perception and suggestions from the horticultural groups and agricultural and livestock development department in Kinondoni Municipality. The study findings revealed that Kinondoni Municipality is one of the three Municipalities which compose the Dar es Salaam City Council. It has a total population of 1,083,913 (2002 census).

1. INTRODUCTION ON URBAN AGRICULTURE

1.1 Study background

In Developing Countries, the urbanisation process is taking place at an extremely fast rate. Although Sub-Saharan Africa is still the least urbanised area in the world, it has recorded the most rapid growth of the urban population during the recent decades (UN-Habitat, 1996:84, UN-Habitat, 2012). Consequently, many urban centres in Sub-Saharan Africa including Mwanza, Kisumu, Kampala and Dar es Salaam are experiencing rapid urbanisation under poverty (UNDP 1998; Kombe and Kreibich 1999; Lupala, 2002; Kyessi 2002 and Mireri 2009). By 2015, it is expected that about 50 percent of the population of Sub-Sahara Africa will be living in urban areas. Due to the rapid pace of urbanisation, the capacity of the local authorities to cope with the unprecedented population needs in both urban and peri-urban areas has been progressively diminishing (Lupala, 2001; Kyessi 2005).

Besides natural growth, a major cause of the rapidly increasing urban population is the influx of migrants from the rural areas. Most of these immigrants have only one way to go as soon as they arrive in the city, notably to one of the informal settlements where majority of the urban poor live. Since the beginning of the 1980s in particular, these low-income areas have grown substantially. It was estimated that in 1993 about 50% of the Nairobi population of about 1.5 million lived in these “unplanned” and “unserved” areas (Foeken and Owuor, 2000 citing Gathuru 1993). Likewise, it was estimated that in 1999 about 70% of the Dar es Salaam population of about 2 million lived in these unplanned and unserved areas while in Kampala, a majority of people lived in the poorly drained swampy suburbs with over 80% living in very crowded single rooms (Kyaddondo and Nakkazi 2001:2).

For many of the poor urban dwellers, it is very hard to find employment. Moreover, by the early 1990s, most of the Sub-Saharan countries were implementing structural adjustment programmes (SAPs) implying, amongst others, drastic cuts in public spending, trade liberalisation, removal of subsidies, increase in interest rates and devaluation. As a consequence, unemployment increased and real incomes fell, while at the same time prices for daily use items rose (Nakirunda 2003) and welfare services declined. In the circumstances, the urban poor were hard hit (Foeken and Owuor 2000 citing Tinker 1994; Drakakis_Smith, Bowyer-Bower and Tevera 1995).

For this reason, in order to make a living or to at least maintain their present standard of living, an increasing number of Sub-Saharan urbanites had to resort to all kinds of income-generating activities in the urban informal sector that often include urban agriculture (Foeken and Owuor 2000; Lee-Smith and Memon 1994; and Maxwell and Zziwa 1990) for survival. Many of the urban migrants resort to urban agriculture for employment and household for food supply (Kyessi 1998). Although urban agriculture is not a new function in urban centres, its growth during the last three decades is generally considered as a response to the declining economic situation, as can be seen in for instance Lusaka (Sanyal 1985), Nairobi (Freeman 1991) and Dar es Salaam (Sawio 1993).

In general, to account for the growth of urban agriculture in developing countries, a plethora of factors come into play: rapid urbanisation, insufficient agricultural policies, crippled domestic food-distribution systems, constrained public spending and subsidies, wage cuts, soaring inflation and rising unemployment, plummeting purchasing power, and lax urban land use regulations or enforcement. These factors are multiplying and recurrent. Their compounding effect is becoming so extensive and pervasive that a return to normality is gradually becoming precarious possibility in many parts of the world. This is why conditions sufficient to dampen growth of urban agriculture are increasingly unlikely to arise in Africa (IDRC 1994) given the significant socio-economic contribution to day-to-day survival of the urban residents, especially the urban vulnerable (Maxwell and Zziwa 1990 & 1994; CIAT 2004 and Musimenta 2002).

1.2 Urban agriculture defined

Several attempts have been made to define the concept 'urban agriculture'. Available literature tends to concur on the meaning of urban agriculture. Madden and Chaplowe (1997) defines urban agriculture as the practice of crop cultivation and livestock raising within the boundaries or the immediate periphery of a city. Mougeot *et al.* (1999) also defines urban agriculture as an industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city, or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and reusing natural resources and urban wastes, to yield a diversity of crops and livestock (Smith *et al.* 1996 p. 3). The choice of what to produce and how to produce it is determined by the culture, traditions, market, water supply, and rainfall, and climate, exposure to sun, soil condition, plot size and

distance from home as well as technology. Family and individual resources, land availability and location are critical determinants of the type of urban agriculture practised.

Urban agriculture is a remarkably adaptable and mobile land use strategy. It occurs in a variety of localities, although it tends to migrate to urban peripheries and cheaper real estate as land value increases. UNDP (1996) defines urban agriculture as an industry that produces, processes and markets food and fuel, largely in response to daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and recycling natural resources and urban wastes, to yield a diversity of crops and livestock.

Urban agriculture may be divided into five broadly defined farming systems: aquaculture, horticulture, animal husbandry, agro-forestry and other urban farming activity. Also, studies have revealed that more than 40 production systems and subsystems have been in city cores, wedges and peripheries. These include home spaces (gardens) rights of way, road and river sides, land reserves, flood plains, hillsides and wetlands (UNAP 1996; Smit *et al.* 1996; and Mougeot *et al.* 1999). Recent theoretical studies in East African countries have noted periods of economic decline, the boundaries of households tend to expand, and household income not only declines in real terms but the relative proportion of income from wages declines even more and the proportion of income from informal trade and subsistence increases. (Wallerstein and Smith 1992 and Rakodi 1991).

There were three main categories of reactions to the drastic drop in the real value wages during the periods of economic decline. The first major response was to diversify income generating strategies at the household level beyond formal employment, trade or wage labour. The second was the dramatically increased participation of urban women in income generating activities of all types, but particularly activities other than wage labour (Basirika 1992 and Manyire 1993). A third category of response was linked directly to the high cost of food, and included changes in the diet, increased inter-household linkages with rural sources of food, and farming in the city (Jamal, 1985; Maxwell and Zziwa,1993). All three categories of response contributed to the informalisation of the city's economy. In addition, natural population increases and pressure on the land – which has fuelled the rapid urbanisation, have spawned a surplus labour force that can't find jobs. As a result, informal sector enterprises which require little start-up capital swelled as people scrambled to find ways to survive [Urban Edge 1989 13(1):2].

1.3 Forms of urban agriculture

There are different forms of urban agriculture. The most notable is the roadside agriculture that has developed within many African cities where miles of road reserves are used for agriculture. These developments have been observed along the roads of Nairobi and Kisumu in Kenya, Dar es Salaam and Mwanza in Tanzania, Kampala and Jinja in Uganda and many other urban centres in Africa (Mwangi and Foeken 1996; Sawio 1993; Smith *et al.* 1996 and Mireri *et al.* 2009).

High rates of urbanisation associated with deteriorating economic performance in both Kenya and Tanzania have heightened urban poverty.

In both countries, urbanisation rate has consistently been in the range of 4-10 per cent per annum during the last three decades while annual economic growth rates had been put at below 6%. These key factors have accelerated the growth of urban agriculture as a survival strategy by the poor urban households. Commercial urban agriculture, spurred by increasing urban market, has also grown as urban populations seek alternative income and employment. Madden and Chaplowe (1997) amply demonstrate the critical role of urban agriculture. They indicated that in one study in Kenya, 40 per cent of the urban farmers in the six major cities claimed they would starve if they could no longer continue farming. Indeed, UNDP (1996) states that in most developing countries, the majority of urban farmers come from low-income groups.

1.4 Who are the urban farmers?

In Tanzania, although urban agriculture is accepted as a land use in urban areas the planning practice has not officially demarcated land for the same (Kyessi 1998). Urban farmers include high-income families such as government officials who raise livestock and poultry in residential areas. On the other hand, many low-income farmers apart from being employed by the urban elites, they also grow food crops such as spinach, cucumbers and amaranths (mchicha in Kiswahili) (Sawio, 1993, Smith *et al.* 1996, Jacobi, 2002). Due to poverty and high rate of urbanization in most urban centres in Tanzania, many households in urban and peri-urban areas do gardening and even keep livestock in small scale. Out of this practice, a large number of the urban farmers rely on urban agriculture as an additional source of income for their livelihood (Kyessi, 1998, Mushi, 2003).

Possibilities of income generation provided in or available to the urban population make urban agriculture a more attractive option, because relatively, there is space for its practice. In most towns where poverty and urbanisation is alarming, gardening and particularly livestock keeping provide an important rural-urban linkage and provide inputs for crop producers (Sawio, 1993 and 1998). For instance, livestock production offers a comparatively cheaper source of natural fertilizer; when for example, many crop farmers can depend on available large quantities of poultry manure at a more affordable cost. However, with increasing competition for these resources, the manure is seldom-stored long enough causing contamination of food and water with pathogens.

IDRC (1994) shows that two groups undertake urban farming in Kenya: the traditional farmers, who have been engulfed by urban development, and recent migrants. During the last 20 or 30 years, relatively large areas of peri-urban land have been annexed from contiguous rural local authorities and incorporated within the urban municipalities. The second major group of urban farmers comprises urban migrants and their families. Although these urban farmers come from all income groups, the poor dominate.

The proportion of urban households practising urban farming is much higher in the smaller towns, such as Kitui (57 per cent), than in the larger cities of Nairobi (20 per cent), Mombasa (26 per cent) and Kisumu (30 per cent). With the exception of a small group of commercially oriented farmers, urban agriculture in Kampala represents a form of semi-proletarianism, or relying on a measure of cash income (labour markets participation or petty trading) as well as on home production for direct consumption. There are two distinctly different forms of agriculture within the city. The first, occurring within the central city, the old suburbs and city council housing estates, represents a long term movement away from sole reliance on the labour market in both the formal and informal sectors of the city's economy for livelihood, with increased effort overtime devoted towards production for direct consumption. The other occurring within the city ... areas in which farming has always been a prevalent activity ... represents movement towards either the labour market or informal trade, but a reluctance to become entirely dependent on either.

An estimated 35% of households in the entire city are involved in agriculture (Maxwell, 1994). Maxwell (1998) identifies at least four major patterns of household engagement in urban farming, which emerge from 40 case studies. A small group of urban farmers produce mainly for the urban market, and can be described in terms of a commercial logic. By far the largest number raise poultry but other forms of commercial production can be noted. This group tends to be reasonably wealthy and has access to commercial credit. Second group, formal mostly in the more peri-urban parts of the city, gain the majority of their livelihoods from agriculture and so can be described in terms of self-sufficiency. But it is largely production for home consumption rather than for sale, and “self-sufficiency”, which refers mainly to basic staples, not all foodstuffs. This group has access to fairly large amounts of land, usually on the basis of customary tenancy. A third group can be characterized as farming to achieve a measure of food security.

Their income is predominately from non-agricultural sources, and they purchase the majority of their food from the market. The last group farms because they have other means often single women with children recently widowed. The vast majority of farmers in this group are women, who have gained access to some land and are producing food on it. This is the “measure of food security” category by far the most common. The labour in urban farming in Kampala is predominantly that of women. Men are somewhat more involved in helping to provide cash for the purchase of inputs and in obtaining land for farming. Hiring labour outside the household is associated with middle and upper income groups.

Maxwell (1998) concluded that urban farming is largely a strategy of urban women who come from low-income households who do not have access to sufficient money to guarantee access to food for the persons for whom they are responsible for feeding, either because of insufficient total household income or because women lack control over the way in which household income is allocated. In terms of the imperative to provide a secure source of food, whether for supplementary or reserve usage, the household is the social unit from which the imperative springs. Musiimenta, (2002) in her paper based on a research that was carried out in two selected divisions of Nakawa and Makindye in Kampala city, Uganda, in 1997 and (Maxwell, 1993) noted that due to the socio-economic status of women and their traditional gender roles, they dominate informal sector of which urban agriculture is part.

Therefore, urban agriculture has become an important survival strategy of the poor who are mostly women, a measure of food security and a coping strategy for the urban poor. On major question requiring investigation is whether a similar pattern is observed in Dar es Salaam.

1.5 Urban agriculture versus urban environment planning and management

The participation of both rich and poor households in urban agriculture has serious implications on the growth and development of urban agriculture versus land use management and the urban environment in general. Prejudice against urban agriculture is closely tied to colonial influence on Kenyan planning profession.

UNDP (1996) reports that colonial rulers who had concepts of grandeur, precepts of cleanliness and a firm intent to distinguish themselves from 'the bush' established many current African cities in the 19th and early 20th centuries. Maxwell (1994) adds that urban agriculture is virtually an oxymoronic concept to many African authorities and state officials who consider the practice to be illegal, economically insignificant and a threat to public health.

The integration of urban agriculture in the urban landuse system and acceptance by planners by incorporating it into the urban landuse planning seems to be an important challenge for the sustainable urban agriculture. This may eliminate any form of harassment while the urban farmers may access critical extension services and credit facilities. Kenyan and Tanzanian population in urban centres have observed increased rates of pollution of land, air and water resources. In the absence of effective control, pollution can contaminate agricultural produce. How will local authorities ensure that crops and livestock are grown and kept, respectively, in designated zones? Are there some appropriate safety standards for urban agriculture?

In general, there are a number of problems with the farming and keeping of livestock in urban areas. The problems may include access to grazing land and water (both for drinking and washing the animals) and storing animal dung for sale. The difficulties for the urban authorities include the gardening in environmentally restricted areas, roaming and herded animals, which contribute, to traffic chaos, poorly managed animal dung and complaints about offensive odour and their concern for human health hazards.

Madden and Chaplowe (1997) observes that problems with urban agriculture arise from its close proximity to dense human populations sharing air, water and soil resources. In some cases, urban cultivators divert municipal water supplies meant for other uses in the city, contributing to water

shortages. Also, there is great risk of chemical contamination in dense urban settlements. Soils near the roadways and industries risk heavy metal pollution from airborne lead and cadmium from gasoline exhaust. Intensive livestock rearing is another form of urban agriculture that risks harm to urban residents, leaching of solid and liquid waste can lead to ground water contamination. Sometimes animal refuse can also carry germs that cause diseases transmitted through milk and meat, such as tuberculosis and anthrax.

Other health concern in urban agriculture arises from the un-regulated use of uncomposted solid waste and untreated wastewater to irrigate crops or to feed livestock. This practice can cause serious food contamination and increase the risk of illness among farm workers. Recycled wastes sometimes contain toxic chemicals and industrial wastes that are hazardous to human health if transmitted through food. It would be interesting to understand the combination of information, monitoring mechanisms and appropriate legal and administrative frameworks for sustainable urban agriculture.

There are various types of conflicts and tensions encountered by urban farmers. These range from land boundaries to evictions by environmental organizations (e.g. NEMA), city council authorities and landowners. Unfriendly policies and laws also deter the poor, especially women, from gaining access to land. Urban farmers also lack access to new technologies and information on agriculture e.g. improved machinery, fertilizers and seeds, and inadequate extension services.

1.6 Resources for urban agriculture

Urban farmers, around the world, farm on land or in water under a variety of legal and extralegal arrangements. Some own the land on which they farm; others rent, lease or have access from a landlord that may be private individual, public agency or the municipal or other government; most simply farm informally or illegally. In the case of public lands, most farmers are squatters. Private landowners often will not lease their land for farming because of the lack of adequate laws governing tenancy and lease agreements. With low tenure security and questionable legality, the farmer is not motivated either to follow efficient farming practice or to be concerned about the long-term condition of the land, the need to regenerate the soil or the impact of the farming activity on the environment (UNDP, 1996). Mireri (2002) stated that urban farming is a profitable venture and guarantees quick return on capital. Mireri, further reported that profitable farming can be practised on small parcels of land in the urban areas.

1.7 Policy Implications

It is quite apparent that urban agriculture is an innovation of urban households themselves, responding to the economic conditions in which they find themselves. As such any attempt to build on initiatives in the informal economy must select the productive activities within the sector as its foundation. Urban agriculture as shown in this review is one of those productive activities. The emerging issues for policy direction and research include:

- 1) Urban agriculture is recognised as one of the landuses in urban areas; however, integrating it in municipal planning still remains a major challenge to planners, politicians and practitioners.
- 2) The link of urban agriculture to poverty, food security, and environmental degradation has not been studied much in detail to inform policy makers and practitioners.
- 3) Harmonization of individual plans is required on undeveloped land with urban agriculture to ensure that the temporary users of idle land vacate the lots once the developers are ready to develop them.
- 4) Gender responsive development planning, is a pre-requisite as it identifies the inequalities existing between men and women, however, a gender role in practice of urban agriculture is still a grey area.

2. THE RESEARCH PROBLEM, STUDY OBJECTIVES AND METHODOLOGY

2.1 The research problem

Horticulture is increasingly becoming a common urban agriculture activity in most urban centres in developing countries. When one observes several parts of the city of Dar es Salaam, urban agriculture is practiced in front and backyard gardens, inside house rooms, on road reserves, along river banks and at the peri-urban areas. However, much has not been written, specifically, on the gender roles in horticultural activities.

2.2 Study objectives

The following are the objectives of the study:-

1. Review of literature and policy framework for horticulture practices in Tanzania.

2. Determine spatial factors for horticulture activities- type and scale, where located, land tenure access and security / tenure rights.
3. Identify horticulture resources support including extension services, credit facilities, water supply, energy, etc. - which ones and who are providing them?
4. Formalization of horticulture activities – opportunities and challenges - does the criteria to choose farmers groups favour farmers?
5. Recommend policy review areas - decisions on the actions/interventions to be taken to enhance horticulture activities.

2.3 Significance of the assessment

The assessment intended to provide a general picture on gender roles in urban horticultural in Dar es Salaam as a benchmark that helps the designing of potential interventions towards improving service level for the urban farmers in Dar es Salaam.

2.4 Methodology

Study area

The study area was Kinondoni Municipality Council, which is among the current three Municipals in Dar es Salaam City. The study design was descriptive and cross-sectional aiming at quantifying the distribution of certain variables in the study population at one point in time.

Probability sampling method was used to sample the horticultural groups that farms along the major roads in Kinondoni Municipality. The sample selection procedure was probability sampling by using simple transect-walk sampling method. The sample size of the study was picked from 20 horticultural groups, which were operating in major roads of Kinondoni Municipality.

Data collection methods and tools

In order to be able to carry out this study the following steps were followed:-

- ✚ The consultation with authority was done at Municipality and urban group farmer's authority to obtain permission of the study. The meetings were convened at each groups to set appropriate time for collection of data.

- ✚ The primary activity was to collect detailed information on the status of horticultural groups and map them in Kinondoni Municipality. Data collection methods and tools included key informant interviews, standardized questionnaires and direct observation. The data collectors were selected from TaFoGa Net and Kinondoni Municipal Council in the department of Livestock and Agriculture development department to collect data. The selected data collector was trained on how to conduct research theoretically and practical application of the tools for data collection. Standardized Questionnaires and observations methods were used. In brief two data collection methods were used in this study; these are Interview and observation. Questionnaires were used to collect data from the horticultural groups members through interview on social aspects, farming aspects, income, extensions services, market information, legal aspects (land tenure), policy aspects, household decisions, organization set-up, technological aspect and observation method was used to collect data from the existing farming plots and physical Environment.
- ✚ Data were sorted and categorized according to the sex interviewed before the actual data processing and analysis. Computer did the secondary qualitative data processing and analysis for this study. Cleaning and validation of data was done manually. Data analysis was done manually and use of computer programs such as SPSS and Excel.

Ethical Considerations

During data collection the assurance of confidentiality adhered and study respondent was alerted to know how the data will be used before interviewed. Also the data collectors were reminded to observe /respect certain cultural values or traditions by avoiding questions which intrude sensitive issues. The data collected was treated anonymously. i.e. no name of the study respondent was written during data collection.

3. RESULTS OF QUESTIONNAIRE AND FOCUS GROUP DISCUSSION IN THE STUDY AREA

The following sections focus on the results from the questionnaire on horticultural activities of urban farmers and from the focus group discussions held with various groups in Kinondoni Municipal.

3.1 Profile of Kinondoni Municipal Council

Geographical setting and demographic data

Kinondoni municipality is within the Dar es Salaam city. The Municipality is bordered by the Indian Ocean to the North East, Ilala Municipal to the South, Bagamoyo District to the North, Kibaha District to the West and Kisarawe District to the South West. The municipality is well linked by roads and other communication networks to the rest of the city and other parts of the country. Major road links are: - Morogoro Road, Bagamoyo Road, Kawawa Road, Mandela Road and, Sam Nujoma Road.

The area lies in the coastal belt of Tanzania and therefore experiences a modified type of equatorial climate. It is generally hot and humid with mean annual temperature of 26⁰C. The hottest months are usually from October to March after which temperature slows down. It is a bit cool between May and August with mean temperatures around 25⁰C. The area has two rainy seasons, the short rainy season, which starts from October, and ends in December, and long rainy season starting March and goes through June. In both cases the area receives rain of an average of 1000mm per annum.

According to the 2002 Population and Housing Census, Kinondoni Municipality had a population of 1,083,913 inhabitants. Currently, the population is estimated to 1,568,884 inhabitants

Administration

Kinondoni Municipality Council is among the three Municipalities in Dar es salaam Region, namely Ilala, Temeke and Kinondoni Municipality. Administratively Kinondoni Municipal is divided to four (4) divisions namely: Magomeni, Kinondoni, Kibamba and Kawe. These divisions are then divided into thirty four (34) wards, which in turn are sub divided into sub wards commonly known as Mtaa (singular) or Mitaa (plural). There are 127 Mitaa. The Municipality also has 3 electoral constituencies namely: Ubungo, Kawe, and Kinondoni. The Municipal governing body is the Full Council which comprises 48 Councillors out of whom 27 are elected Ward representatives, 10 Councillors (women special seats) and 11 are Members of Parliament (MPs).

Social services

Kinondoni municipality has three major roads that go outside the Municipality and many other closing roads, there are public school and private schools, there is Mwananyamala hospital owned by the government, dispensaries, etc. The area is supplied with electricity and some area of Municipality is supplied with piped water mainly by DAWASCO. The area is under MKURABITA exercise for the purpose of approving the settlement to individuals in the community.

3.2 Description of the Horticultural Activities in the target population

3.2.1 General

Horticultural activities in Kinondoni is a very important economic activity that affects the lives of many people. Those engaged in it realize commercial benefits, or practice it for subsistence to supplement their meager incomes or simply for survival. Great amounts of food are produced in the various sub sectors of this activity as detailed above, but its actual contribution to the food provision and food security needs to be investigated further.

3.2.2 Social Aspects

The project results show that men and women, boys and girls, the poor and the rich are involved in horticultural activities in Kinondoni. Of the respondents 58.3% were males while 41.7% were females of which 16.7 were not married, 71.7% were married, 11.6% were widowed. In terms of age the majority of respondents were fairly youth with 56.7%, followed by middle youth 35% and elderly with the age of 41 to 65, being 8.3% (Figure 1).

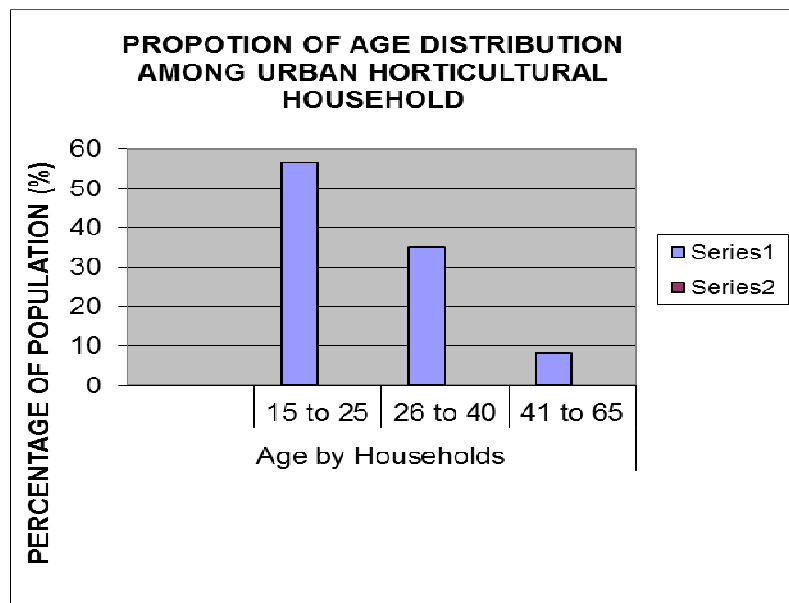


Figure 1: Age Distribution among urban agricultural households

Educational Level

Education is an indicator for a person to be able to perceive development. It was noted that 5% had no-formal education though most of the respondents (78.3%) had gone as far as primary education while 11.7% reached secondary education and 5% had vocational education from VETA and there was no one with College or University education. The male respondents are more educated than the females (See Figure 2):-

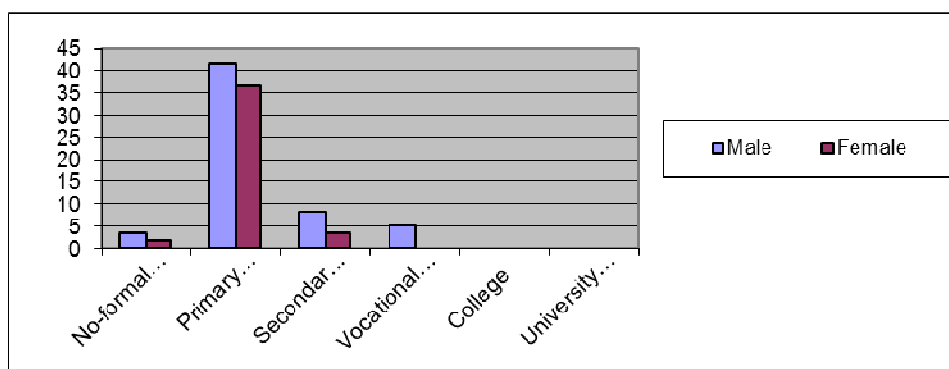


Figure 2: Educational level of respondents

Reason for engagement in horticultural activities

It was been observed that among the interviewed, 51 out of 60 had migrated from outside Dar es Salaam and just 9 were been born in Dar es Salaam city. 36 have been living in Dar es Salaam

for more than 10 years and 24 has been in the city below 10 years. 23 have been engaging in horticultural activities for more than 10 years while 37 have been in this activity below 10 years.

The reasons for them to engage in horticulture included self-employment and income generating for sustaining their families (87%), beautifying the city by greening (3%), environmental conservation (3%) and giving the urban dwellers nutrition food (7%) (See Figure 3).

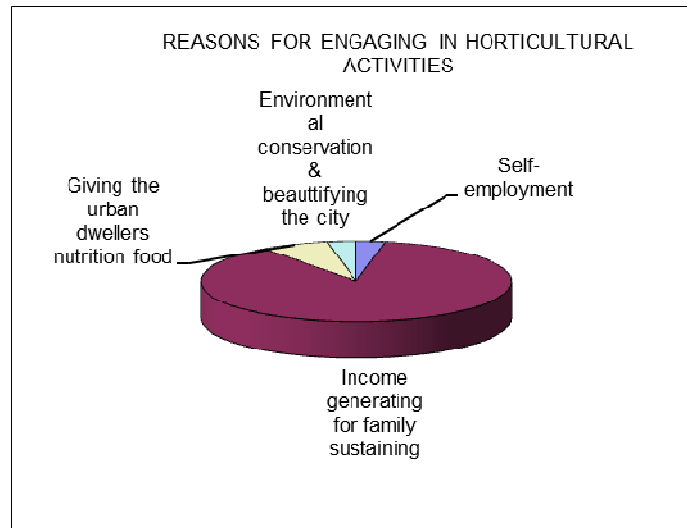


Figure 3: Reasons for engaging in horticultural activities

Social relationship existing in horticultural activities

The social relationship existing between men and women involved in horticultural activities has been mention much in business, to earn the money, males are concentrating much in agriculture but women concentrate in selling vegetables and cooperation and idea exchanges.

3.3 Farming aspects

Time spent in horticultural-related activities.

The preparation activity has been mention to take two days a week by 53 respondents while 7 respondents have mention to be done daily. Planting has mentioned to take one day with all respondents. Watering is being done daily, weeding takes time once per week, harvesting takes three days, processing takes one week and marketing it depends.



Plate 1: JITIHADDA group at Kawe Garden in collaboration with Kinondoni Municipal

Data gathered from the questionnaire shows that men and women farmers, including their children, contribute to their horticultural activities, making the activity a household enterprise. Men are responsible for tasks requiring heavier physical exertion such as clearing the land and land cultivation. Men spend more time in preparing planting materials, planting, weeding, watering, fertilizer application, pesticide spraying, and hilling up. Meanwhile women make significant contributions in terms of leaf stripping and selling food to horticultural farmers; in addition women use most of their time to sell horticultural products to the streets and rarely in the market places.

Marketing

There is no any mechanism for farmers to get information concerning marketing, though 60 (100%) respondents has mentioned to receive customers, who themselves comes to the sites/garden and buy the products. Low price for agricultural produce was the main marketing problem reported by horticultural farmers (79% of horticultural group farmers that reported main

marketing problems). Other problems in their order of importance were lack of transport (10%), longer distance to the markets (9.2%), and lack of market information (1.8%).

3.4 Employment and income

Employment

In Dar es Salaam, urban agriculture forms at least 60% of the informal sector (Majani UCLAS, Dar es Salaam, 2001) and urban agriculture is the second largest urban employer. In 1993, urban fresh milk production was worth an estimated USD 7 million in 1993 (Mougeot 1994). The annual gross output of over ten thousand UA enterprises in the city of Dar es Salaam totaled 27.4 million USD, with an annual value added amounting to 11.1 million USD.

Income from horticultural activities

The income earned by the horticultural activities has been grouped in two groups. The first group with 23 respondents has reported to earn more than 30,000/= and below 100,000/= Tshs per term or per month per household. The second group with 37 respondents has mentioned to earn more than 100,000/= and below than 600,000/= per month per household. All the respondents use the money earned from horticultural produce to pay household needs like food, house rent, school fees, allowances and buying seeds for their garden. The result of controlling of spending the money at the household level is as shown in the pie chart below (Figure 4).

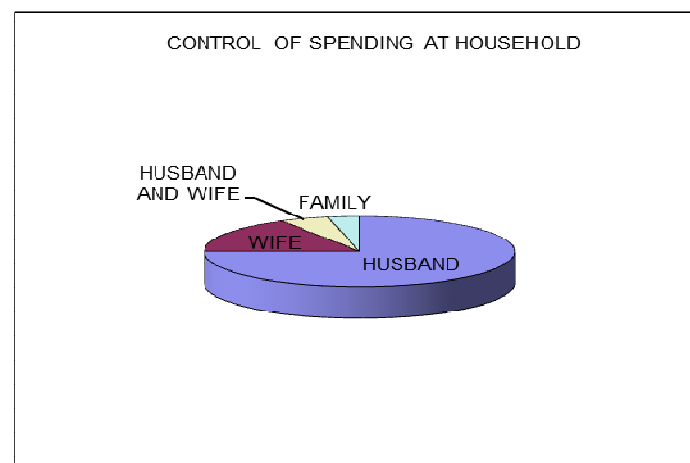


Figure 4: Control of money spending at household level

3.5 Gender roles

All the respondents interviewed mentioned to have equal roles among women and men in horticultural-related activities such as site preparation, seed planting, watering, weeding, harvesting, processing and marketing. There is no role of children in the mentioned agricultural activities.

Agricultural extensions services

Among the sixty persons interviewed, 21 of the total farmers mentioned to have received crop extension services while 39 have not received any kind of extension services. The services received are trainings in entrepreneurship, gardening skills and marketing from the extensions officers of the Kinondoni municipality.

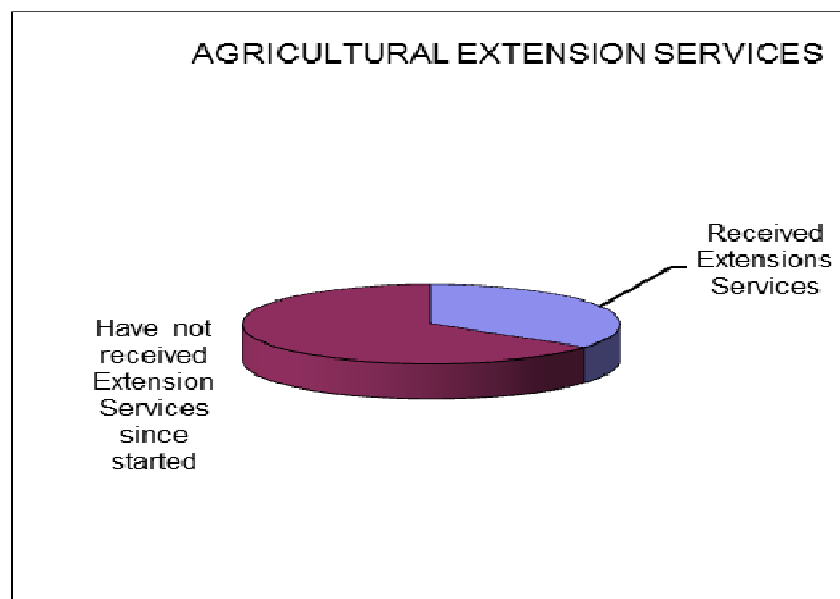


Figure 5: Agricultural extension services



Plate 2: Drive-in Farmers Group receives extensions services from Kinondoni Agricultural and Livestock officers

3.6 Legal Aspects

Land tenure

Administration of land rent in Tanzania is governed by the Land Act No. 4 of 1999, the Local Government (Urban Authorities) Act of 1983, and the Town and Country Planning (Urban farming) Regulations of 2001. According to the law, land rent for farming outside statutory ownership is charged at rates for township farms are set at Tshs. 5,000 per acre per year. However, these rates apply to only those farms with formal ownership (title deeds). Those who do not hold titles are not required by law to pay the rent. About 90 percent of horticultural group farms in Kinondoni have not been surveyed and hence are not subject to land rent. It is therefore important that the Government address this issue and proper definition on urban/village farming be made in order to bring clarity. It is not known how the communities allocate each other land, but no disputes have been brought forward to the local authority except complaints by residents in affluent suburbs on cultivations outside their homes and private owners of vacant land.

Perhaps this is so because such cultivation is regarded as an illegal activity anyway. It is common to find unsuitable and unfertile land being cultivated such as slopes of hills, stream banks and road reserves.

Land ownership

It was recorded that 96% of the horticultural farmers uses open spaces for their activities and 4% of horticultural farmers uses the zoned area for agricultural services. The land used ranges from a plot of 200m² to 15,000m² and is determined by the number of people farming in the same group /area. The sustainability of farmers is very minimal because of the infrastructure developers and investment like building, road construction etc.

Land conflicts

Land conflicts between horticulturalists and land owners or the government is a common problem mostly in urban areas with inhabitants having clashes over land with developers/investors. For example the case of Driven-in group, clashes between farmers and developer are reported and in extreme case, few workers at farm were harshly removed. These measures make horticulturist feel insecure and as a result, they discourage increased investment flows into the industry. Urban farmers grab land wherever they can.

Recommendation: To address land conflicts, the government should set up a suitable system that would guarantee investors with land ownership which they have already acquired property rights in accordance with the country laws.

3.7 Resources inputs

Water Supply

The main source of water used for irrigation in horticultural groups farms in Kinondoni municipality are (92% of groups with irrigation). This was followed by river (6%), tap water contributing 14% each, borehole and canal accounting for 2 percent each. Rivers, boheholes and canals are the main source of irrigation water for most horticultural farmers group using irrigation in Kinondoni municipality.

Land allocation

The most vital issue is the political will among decision makers who are able and have been vested with responsibility of deciding which land tract to be used for what. Where they need to

evaluate the potentiality for certain use, issues like land suitability classification and land capability classification must be accessed to ensure efficient zoning. Therefore access to land for urban cultivation will no longer be a major problem as there will be land set aside specifically for horticultural activities. In recent times the Kinondoni Municipal has demarcated some areas for urban agriculture. The demarcated areas are very far from the areas where most poor and urban farmers reside. It is not known how the communities allocate each other land, but no disputes have been brought forward to the local authority except complaints by residents in affluent suburbs on cultivations outside their homes and private owners of vacant land. Perhaps this is so because such cultivation is regarded as an illegal activity anyway. It is common to find unsuitable and unfertile land being cultivated such as slopes of hills, stream banks and road reserves.

Finance

Financing land for urban agriculture is a costly exercise that Municipalities such as Kinondoni may struggle with. The Central Government should therefore provide resources through its programs such as KILIMO KWANZA to finance urban agriculture. The Kinondoni Municipal Council can however allocate resources to Agriculture and Livestock Departments to train, supervise, and assist urban farmers in good farming practices. The Municipality can also through its budget procure some land that can be rented out to residents who want to farm.

Technology

In high density areas, container gardening should be promoted. The Municipality should conduct appropriate training to farmers in high density. The polluted source of the Msimbazi River needs to be tackled by a joint intervention by the Ilala, Kinondoni Municipal Councils in collaboration with the NEMC and Tanzania Food Gardening Network to reduced and ultimately stop. And the environment of the area to be rehabilitated. Laws against pollution by industrial effluent should be enforced.

4. CONCLUSION AND THE WAY FORWARD

4.1 Conclusion

This study was set out to assess gender roles in horticultural activities in Kinondoni municipality. It is concluded from this study that the status of gender roles activities in horticultural in Kinondoni Municipality is moderate. It is further noted that implementation of community managed activities is diverse for the development and enhancement of sustainable development and the national poverty reduction strategy in the city area. There is evidence that horticultural agriculture has potential to improve livelihoods of urban dwellers. This has been demonstrated in the study that urban agriculture has improved incomes and livelihoods of the urban farmers. Thus, in this context there is need therefore to lobby for urban agriculture farmers to join TaFoGa Net so that the more positive impacts and benefits of urban agriculture are realised. Respondents suggested four major issues to be further deliberated upon; these include:

- Land/space to be allocated for urban agriculture to benefit many disadvantaged groups;
- Provision of affordable inputs to farmers such as water supply, seeds, etc. ; and
- Training of urban farmers to improve urban agriculture productivity.

4.2 The way forward

Urban agriculture needs to be integrated into future land use plans. This will help in capacity building and ensure sustainable agriculture within the city. The existing policy on urban agriculture needs to be reviewed and improved upon with the involvement of urban agriculture actors including the multi-stakeholder forum (TaFoGa Net). The policy should address amongst other things energy, legal, gender and socio-political matters in greater depth. Further researches on these aspects and others that are affecting urban agriculture practices in the city need to be encouraged.

In addition, the integration of urban agriculture through land use planning and budgeting seems to be given priority in all the municipalities of the Dar es Salaam City Council. Thus, a department of urban agriculture needs to be established in the Ministry of Agriculture and Food Development and also institutionalized in the city of Dar es Salaam because the activity seems to be expanding day by and year by year. The Tanzania Food Gardening Network (TaFoGa Net) and other interested actors are required to lobby the Government for this action to be implemented sooner than later. Finally the partnership forged between Municipalities, City

Council and TaFoGa Net and other stakeholders will be maintained as one of the ways of ensuring viability and sustainability of urban agriculture in the city.

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1. NBS Agricultural Research of 2007/2008

Appendix 1: Questionnaire

Dodoso Kuhusu Ukulima wa Bustani Mijini Katika Manispaa ya Kinondoni.

Wajibu wa Kijinsia katika Shughuli za Kilimo cha Bustani.

Dodoso No.:.....

Jina la Msaili:.....**Tarehe:** **Simu**

Mahali: Wilaya:.....**Jina la Kata:**

Jina la Mtaa:

Kipengele cha mahusiano wa Jamii

1. Jinsi ya Msailiwa: wa-kiume/wa-kike-----Umri -----miaka.
2. Majukumu ya ndoa: Hajaolewa /Ameolewa /Kaachika /Mjane/
Mgane.....
3. Kiwango cha juu cha elimu: Hajasoma.....Shule ya msingi (darasa).....Shule ya
Sekondari Kidato....., Elimu ya utalaamu.....Chuo.....Vyuo vikuu.....
4. Umezaliwa wapi?.....
5. Umekuwepo Dar es Salaam kwa muda gani.....
6. Unaishi wapi hapa Dar es Salaam.....
7. Unalipa nauli kiasi gani kuja sehemu yako ya kazi na kurudi.....
8. Shughuli yako ni nini?
9. Kwa muda gani umekuwa ukujihusisha na Shughuli za Kilimo cha Mijini?
Miezi.....miaka.....
10. Sababu zipi zilizopelekea ujiingize katika Shughuli za Kilimo cha Mijini?

- 1.....
- 2.....
- 3.....
- 4.....

11. Kuna watu wangapi katika kaya yako.....

12. Ni aina gani ya mahusiano yaliopo katika ukulima wa bustani mijini kati ya wanaume/wanawake?

- 1.....
- 2.....
- 3.....

Kipengele cha Ukulima

13. Unatumia muda gani katika kila Shughuli inayohusiana na Kilimo cha Bustani na Mgawanyo wa kazi?

Shughuli inayohusiana na Kilimo cha Bustani	Muda unaotumika kwa siku/wiki	Shughuli hufanywa na
Maandalizi		
Upandaji		
Umwagiliaji		
Upaliliaji		
Uvunaji		
Usindikaji		
Uuzaji/Masoko		
Nyinginezo		

Majukumu ya Kijinsia katika Kilimo cha Bustani

14. Majukumu gani yanafanywa na wanaume/wanawake/watoto katika kilimo cha bustani?

Majukumu ya wanaume	Majukumu ya wanawake	Majukumu ya watoto

15. Kuna vizuizi vyovyote kwa wazalishaji wapya katika bustani? Ndiyo.....Hapana.....

16. Kama ndiyo, vipi huondolewa?

- 1.....
- 2.....
- 3.....

17. Kama hapana kwa nini?

- 1.....
- 2.....
- 3.....

Mapato

18. Kiasi gani cha mapato hutokana na shughuli ya Bustani? TShs.kwa mwezi/msimu.....

19. Mapato hutumikaje kwa mwezi/msimu? Mishahara....., kununulia Pembejeo.....,kulipia posho..... kuweka akiba.....

20. Vyanzo gani vya mapato huwekezwa kwa ajili ya kutekeleza shughuli za bustani?

- 1.....
- 2.....
- 3.....

21. Nani hutoa maamuzi kutokana na mapato/ziada inayoongezeka/inayotokana na shughuli za bustani?.....

22. Mapato yanayotokana na shughuli za bustani huwa mnagawana namna gani?.....

Kupatiwa Utalaamu wa Ugani

23. Ni ugani upi wa kiufundi ulizowahi kupewa kwa ajili ya shughuli ya bustani mijini?

- 1.....

2.....

24. Umewahi kupatiwa huduma zipi za utalaamu kutoka kwa maafisa kilimo kwa ajili ya shughuli za bustani?

1.....

2.....

3.....

25. Mafunzo gani hufanywa kwa watu walio katika kaya / wanaume / wanawake ambayo wamekwisha yapata (e.g. mipango ya biashara, mbinu za uzalishaji n.k)

1.....

2.....

3.....

26. Matatizo gani unayoyapata kutokana na ugani?

Taarifa na Masoko

27. Unapataje taarifa za shughuli za bustani?.....

28. Unapata wapi wateja wa mazao yako?

29. Unakumbana na vikwazo gani vinavyohusiana na uuzaji wa mazao yako?.....

30. Unawekaje kumbukumbu za mazao na mapato yanayotokana na kilimo cha bustani mijini?

1.

2.

Kipengele cha Sheria

Umiliki wa Ardhi

31. Nani mmiliki wa ardhi unayotumia kwa ajili ya shughuli za bustani?

1. Nimepanga Unalipa kiasi gani kwa msimu Tshs.....

2. Nina hati
 3. Eneo lililowazi/achwa/ linalomilikiwa isivyo halali
 4. Nimeazimwa eneo la kufanyia Kilimo
32. Eneo lina ukubwa kiasi gani kwa jumla/kipandeM²
33. Unapendelea upate ukubwa kiasi gani wa Ardhi ya shughuli za bustani?...M²
34. Matatizo gani ya Ardhi unayokumbana nayo.....

Kipengele cha Sera.

35. Unafahamu sera yeyote/sheria ndogondogo za serikali zinazohusu shughuli za bustani mijini unazozifahamu?
1. Ndiyo
 2. Hapana.....
- Kama Ndiyo, tafadhari elezea/zitaje
1.
 2.
 3.
36. Unapata msaada gani kutoka serikalini kwa kujishughulisha kwako katika shughuli za bustani?
1.
 2.
 3.
37. Una taarifa ya kipengele cha mazingira katika utekelezaji wa shughuli za bustani? Ndiyo... Hapana.....
- Kama ndiyo, tafadhari fafaua.....
- Kama hapana, kwa nini.....
38. Umewahi kulipa faini ya aina yoyote wakati ukijishughulisha katika shughuli za bustani? Ndiyo..... Hapana.....
- Ulilipa kiasi gani TShs
- Mara ngapi?.....

Kama ulilipa faini ilikuwa kwa ajili ya nini

39. Una mapendekezo gani kuhusiana na sera za Ukulima wa bustani mijini?

1.
2.
3.

Muundo na Ushirika

40. Mnacho Kikundi chochote? Ndiyo..... Hapana

41. Kikundi chenu ni cha aina gani.....

1. Kikundi halali
2. Kikundi cha watu waliojikusanya
3. Kikundi cha ushirika
4. Kikundi kisicho halali

42. Shirika au Kikundi kina wanachama wangapi: Wanaume.....
Wanawake.....

43. Ni aina gani ya Muundo wa Shirika mlio nao? Elezea

(weka taarifa au dokumenti zozote za kusaidia/ katiba, cheti n.k)

44. Majukumu gani hugawiwa kwa wanachama wa Kikundi

45. Una shirikiana na nani?

S/No	Mhusika/Mshiriki	Msaada anaotoa
1		
2		
3		
4		
5		

46. Kikundi kinapata Changamoto/ Mapungufu gani

1.
2.
3.

Kipengele cha Teknolojia

Mbolea

47. Ni aina gani ya mbolea unayotumia?

1. Samadi.....
2. Mboji
3. Mbolea ya Kemikali
4. Zote.....

48. Unaandaa mbolea ya Samadi mwenyewe? Ndiyo..... Hapana.....

49. Kama ndiyo, ni wapi unapotengenezea?

50. Kama hapana, ni kiasi gani cha fedha hutumika kununua samadi kwa mwezi/mhula
TShs.....

Usambazaji wa Maji

51. Unatumia maji ya aina gani?

1. Maji safi ya bomba
2. Maji safi yanauzwa na wauza maji
3. Visima vifupi
4. Visima virefu
5. Maji ya mto/mifereji
6. Maji ya kuvunwa ya mvua

52. Kipi ni chanzo chako cha maji?

1. Unamiliki chanzo
2. Unanunua kutoka kwa wauzaji
3. DAWASCO
4. Unapata kwa jirani.

53. Unatumia kiasi gani cha maji kwa siku/wiki/mwezi katika lita.....
54. Maji yanauzwa kiasi gani TShskwa lita 20.....

Teknolojia

55. Unatumia Teknolojia gani katika shughuli za bustani?
1. Jembe la mkono
 2. Farm- kit,
 3. Ukulima wa kwenye mifuko
 4. Vinginevyo (taja).....
56. Unatumia nishati ya aina gani?
1. Mwanga wa jua,
 2. Umeme wa TANESCO
 3. Mafuta ya Taa
 4. Nyinginezo (zitaje).....
57. Kiasi gani unalipa kwa ajili ya kupata nishati za hapo juu.....
58. Unakumbana na ugumu gani katika teknolojia hizi? 1.....2.....3.....

Changamoto/Vikwazo

59. Ni Changamoto gani unazokumbana nazo katika shughuli zako za kilimo cha bustani mijini?
1.
 2.
 3.
60. Una mapendekezo gani katika kuboresha shughuli za kilimo cha bustani mijini?
1.
 2.
 3.
 4.