Urban Horticulture
(The Case of Finfinne Area Sebeta Town in Ethiopia)

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Abstract: The study was aimed to assess the horticultural crops production position, challenges and prospects of urban Horticulture in Finfinne area of Sebeta town, Southwest Shewa, Ethiopia. Data were collected through purposive sampling methods of a total of 80 respondents were selected from all kebeles of the town. Findings of the study revealed that, major horticultural crops produced in the study area are fruits, vegetables and root and tuber crops. Production of horticultural crops in the study area play a decisive role in generating household income, serve as employment opportunities, contribution to food supply, economic use of land and environmental enhancement. The major challenges of urban horticulture farming in the particular study area includes; Results of the survey indicated that constraints on the urban horticulture in Sebeta town are various. The main limiting factors are: poor understanding among the society and the municipality, displacement is common as it is one of the expansion areas, high tendency of the farmers to sell their plots of land to those who want to build residential houses, absence or limited agricultural inputs, shortage of land or inability to get enough land because of high land grabbing in the area for other investment and house construction is identified by the respondents as a critical adverse factor in the development and sustainability of urban horticulture, less attention to horticultural crops and priority to cereal crops in the town areas, shortage of irrigation water supply, seasonal insect pest and disease problems, seasonal price fluctuation of the produce, availability and access to credit services, high health risks because of the majority of the rivers in the town are polluted by industrial wastes which the words of one of the key informants have been translated as Rivers in Sebeta town and it is areas are contaminated with various pollutants among which are including disaster class one and two chemicals and heavy metals are found at a very concentrated amount and being toxic to plants, humans and the animals using this water from these rivers and lack or limited technical support from the government and non-government organizations. As a general, alleviating the identified problems may advance the production and productivity of urban horticulture farming in the town.


1. Introduction
The ever-increasing rate of urbanization draws attention to the vulnerability of cities/towns for unexpected social, economical and ecological difficulties and bottle neck for feeding the increasing population. Due to the enlarged urban population in the world exerts pressure on the demand in food (Brown, 2008). This shows that the cities and towns are excessively dependant of food from outside
instead of being producer of it for themselves. During such occasion, the low income groups are vulnerable to economic crisis because, from 50-90% of their income goes to food expense only (Karry, 2004). It had revealed also that for the large part of cities in developing countries, creating adequate formal employment options is challenging enterprise. Urban areas in Africa have been beaten by diminishing economies. Live in cities and towns are becoming more expensive, formal employment has declined as well (Kone, 2009).

Regardless of the economic issues, Tewodros, 2007 reported that in most of the African cities, urban farming is accomplished as informal sector and farming in or around cities is present in anywhere, but it is not in the same degree. Urban agriculture however, is one of the inherent exciting notions of continuous development because it can address virtually all areas of sustainability.

In present-day African cities and towns and their surroundings, urban horticulture takes many forms reflecting access to land, availability of water and the potential for bringing other resources in to the production process (Elis and Sumberg, 1998). Despite the availability of such important resources, urban horticulture lacks due attention and it has been single handed for a long time. The report of African study center, 2006 indicated that many governments of African countries still focused on rural agriculture by ignoring and under estimating it in urban areas. However, currently many governments are creating agencies to manage urban agriculture/ horticulture. Among these, Ethiopia, Malawi, Kenya, Tanzania, Uganda, Nigeria, and Zimbabwe are among few (FAO, 2002).

In addition to its immense potential in food security enhancement, urban horticulture/ agriculture has also the potential to moderate the urban temperature in and surrounding towns. Studies (Collins, et al., 2013; Gebremichael, et al. 2014) indicate that the mean monthly maximum temperature over Finfinne/Addis Ababa has been increasing by 0.19°C per decade since 1950s. With the low emission and good standard of urban horticulture/agriculture scenario the maximum temperatures will increase within a range of around 1.0 to 1.7°C and with high emissions and poor urban horticulture/agriculture performance scenario the maximum temperatures will increase within a range of around 2.0 to 2.5°C. in the same way, UN habitat (2010) also indicate that urban areas produce about 70% of greenhouse gas emissions worldwide. Developing countries are anticipated to contribute about 90% of the greenhouse gas emissions while they try to accomplish their development goals. This calls for enhanced attention for urban agriculture in urban conurbation in and around Finfinne/Addis Ababa including Sebeta town.

Sebeta towns can also secure social benefits from urban horticulture/agriculture. According to Golden (2013), one of the social benefits of urban horticulture/agriculture is creating safe spaces to recreate and create more local pride and attachment to the environment. It may function as an important strategy for social integration, physical exercises and education. It has also the capacity to protect the health of the community. Urban gardening is a good physical exercise to protect non-communicable diseases such as high blood pressure and diabetes. Gardening enables the gardeners secure their health advantages throughout their life time. It is associated with satisfying labor, physical and mental relaxation, socializing and a means to produce food and beauty. According to Bellows et al (2003), when appropriately practiced, gardening can be a key element in successful health intervention programs because it addresses simultaneously the physical, mental, spiritual and social health of individuals and their communities.

As a general, in Ethiopia irrespective of the work of urban agricultural management agency, urban agriculture is still a traditional practice and mostly under taking informally. However, it has been the most important part of income for urban farmers in and around Finfinne/Addis Ababa including Sebeta town. During the last few years, Sebeta town was expanded towards peasant agricultural land holdings; especially around Walete, Alemgena, Furi, Dima (Dima river catchment areas), Karabu, Dalati, Roge and Atebelia areas. In the selected study area there are observable urban horticulture cultivation practices at different levels. Though, instead the nearby rural areas such as Bole, Suba-keresa, Beyo, Gole-iblan, Wochecha, Gejja, Gujumbul, Haro-Jila and Atebelia are the predominant sources of such products, even for the farmers’ in Sebeta town where production and productivity of urban horticulture is not as such fruitful. Thus, this study was focuses on exploring the status, major challenges and opportunities of urban horticulture in Sebeta town.
2. Materials and methods

2.1 Description of the study area

Sebeta town is located at a distance of 20km from Finfinne city along the ways to Jimma, Southwestern Ethiopia. The geographical location of Sebeta town is found at 8052°30’N-9000°00’N latitude and 38035°00’E 38040°00’E longitude. With regard to relative location, it shares common boundaries with Finfinne/Addis Ababa in the North, Northeast and East, Burayu town in the North, and rural villages of Sebeta Hayaw Woreda to the south and west. The total area that was covered with the current topographic map of the town is estimated to 9.8 km². The town is situated on a fertile area known for natural resources that surrounded by different chain of hills and mountains such as Wochacha, Hoche and seasonal marshy plains including Furi-Gara-Bollo, Gajja, and Ballachis and Jamo(OUPI, 2015). Currently, the town has ten Kebeles which include Sebeta (01), Alem-gena (02), Wal-hate (03), Furi (04), Diima (05), Dalati (06), Sebeta (07), Karabu (08), Sebata (09) and Atabala (10). The population and housing census of CSA (2010) estimated the total population of Sebeta town to be 61,461. However, currently CSA projected the population of the town for the year 2014 was equal to 107, 298 (OBoFED, 2015).

2.2 Method of data collection

The data were collected by using a structured pre-tested, self-administered questionnaire and focus group discussion. The questionnaires used to collect survey data were developed based on literatures and previously-used questionnaires which prepared and administered in English and Afaan Oromo, so that participants could choose either language. It has both qualitative and quantitative type, which mainly focuses on the status, challenges and opportunities of urban horticulture in Sebeta town. Key informant interview guidelines served as a tool to conduct key informants’ interviews. Observation checklist was also used as a tool for guiding data that were generated through farm field observation.

2.3 Sampling procedures

In this study, purposive random sampling techniques were employed to determine the study area, the topic under study and farmers who practice urban horticulture. Sebeta town is purposefully selected as a research setting for the reasons of there are no studies done so far on the issue of urban horticulture in this area and the presence of urban horticulture practices in the area. For this particular study, the researchers selected a total of 80 farmers from ten kebeles found under Sebeta town by using simple random sampling.

2.4 Data analysis

The collected raw data were systematically organized, summarized, processed and interpreted using appropriate data analysis techniques to make them meaningful and to draw sound conclusion based on the research findings. Hence, in this study, the data collected via various methods of data collection instruments are analyzed, summarized, and presented through descriptive statistics. The analysis was made by using SPSS version 20 and Ms Excel.

3. Results and Discussion

3.1 Urban Horticulture Practices in Sebeta Town

There are wide varieties of horticultural crops growing in and around the town which it is carried out to feed the farmers family and for market purpose. As information obtained from the key informants and sample respondents, mostly they practiced these farming activities both by forming association and also by individuals who lonely practice the farming in view of increasing their income and for family consumption. During the survey it was observed that farmers of the area practice crop farming by inter-cropping with other vegetable crops. The farmers in the town raise their income through carrying out fruits, vegetables and root and tubers farming practices around the town and within the vicinity of the town. During the survey, information on what types of horticultural crops are produced in the town was collected from the selected sample respondents and through field observation.
The result from the study revealed that there are various fruits, vegetables and root and tubers crops under farming practices in Sebeta town at different levels. They are cultivated for their edible leaves, roots, fruit and seeds. In the town, vegetables are grown in the area in the environments ranging from urban areas and home gardens to larger farm practices. According to the survey results and field observations the commonly produced vegetable crops in the study area were Onion, Cabbage, Tomato, Lettuce, Pepper, Carrot and Beetroot.

Similarly, Enset and potato i.e. tuber crop are the commonly produced crop at the area whereas banana and papaya are rarely produced fruit crops.

3.2 Significances of urban horticulture in Sebeta town

The survey result of the study revealed that there are various significances of urban horticulture farming practices in the town. Among these, it play a significant role in creating family income, provide fresh produce to the town market to meet up the demand of consumers, Café, Restaurants and Hotels, serve as job opportunities, contribution to food supply, efficient use of land and environmental enhancement for decoration of the town.

Similarly, the result of the study indicated as Sebeta town can benefit from urban horticulture in many waste management and greening aspects in addition to food security for the town poor. Urban horticulture improves the urban environment and ecosystem through greening the area. In addition, it contributes for the urban cleaning through stimulating the productive reuse of urban organic wastes. In addition to direct benefits, urban horticulture also stimulates the development of related enterprises such as production of necessary agricultural inputs and the processing, packaging and marketing of outputs. The services rendered by these enterprises may owe their existence in part or wholly to urban horticulture. Input production and delivery may include activities like the collection and composting of urban wastes, production of organic pesticides, manufacturing of tools, water delivery, purchase and distribution of chemical fertilizers which it create another job opportunity for the town community and including the farmers.
3.3 Challenges of urban Horticulture in Sebeta town

Results of the survey indicated that constraints on the urban horticulture in Sebeta town are various. The main limiting factors are: poor understanding among the society and the municipality, displacement is common as it is one of the expansion areas, high tendency of the farmers to sell their plots of land to those who want to build residential houses, absence or limited agricultural inputs, shortage of land or inability to get enough land because of high land grabbing in the area for other investment and house construction is identified by the respondents as a critical adverse factor in the development and sustainability of urban horticulture, less attention to horticultural crops and priority to cereal crops in the town areas, shortage of irrigation water supply, seasonal insect pest and disease problems, seasonal price fluctuation of the produce, availability and access to credit services, high health risks because of the majority of the rivers in the town are polluted by industrial wastes which the words of one of the key informants have been translated as rivers in Sebeta town and it is areas are contaminated with various pollutants among which are including disaster class one and two chemicals and heavy metals are found at a very concentrated amount and being toxic to plants, humans and the animals using this water from these rivers which it is in line with reports of Hamere and Eyasu (2017) and Muluneh et.al., (2016) who indicated that as a result of fast population growth, uncontrolled urbanization and industrialization and poor waste management practices Finfinne/Addis Ababa and it is areas water resource are highly polluted threatening human health and the ecosystem function as a whole, and lack or limited technical support from the government and non-government organizations.

4. Conclusion and Recommendations

The currently population of 100 million people in Ethiopia is expected to double within the next 30 years. Almost 68% of the population lives in the country side while the rest situated in urban area. An estimated 5-10 million people suffer from lack of vitamins and essential minerals, of which 80% are children. Horticultural crops (fruit and vegetable) are the major source of most micronutrient and the only practical and sustainable way to ensure their supply. In urban areas of Sebeta town, the farmers’ conducts different types of agricultural practices in view of feeding their family and increasing their income through different ways. During the survey, information on what kinds of urban farming activities are practiced in the town were identified from selected sample respondents, from the town communities and through field observation. The survey result revealed that there are various significances of urban horticulture in the study area. Among these, it play a significant role in creating family income, provide fresh produce to the town market to meet up the demand of consumers, Café, restaurants and Hotels, serve as job opportunities, contribution to food supply, efficient use of land and environmental enhancement for decoration of the town.

The main limiting factors are: absence or limited agricultural inputs, shortage of land or inability to get enough land because of high land grabbing in the area for other investment and house construction which they fear that they are at risk of losing the land they cultivate at any moment with short notice, less attention to horticultural crops and priority to cereal crops in the town areas, shortage of irrigation water supply, seasonal insect pest and disease problems, seasonal price fluctuation of the produce, availability and access to credit services, high health risks because of the majority of the rivers in the town are polluted by industrial wastes, lack or limited technical support from the government and non-government organizations. Therefore, as a general, alleviating the above identified problems will improve the productivity and production of urban horticulture in the town. So as to general recommendations:

a. Provision of training and awareness creation for the local communities and other concerned bodies to encourage such farming practices in the area both by government and non-government organization.

b. Provision of enough land and credit service for those who are willing to participate in such practices.

c. The majority of the production in the study area focuses on cereal crops. Therefore, adapting production of horticultural crop is necessary since they play very important role in diversification of agriculture.

d. Finally, if the above mentioned recommendations are implemented, the challenges of Urban Horticulture in the study area will combated.
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6. Conflict of Interest

Regarding the publication of this manuscript, there is no any conflict of interest.

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