

Practices, Roles and Challenges of Urban Agriculture in South Western part of Ethiopia: The case of Bedelle town

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Abstract- This study was aimed to assess practices, roles and challenges of urban agriculture in Bedelle town. Through purposive and stratified random sampling methods a total of 60 respondents were selected from the two kebeles of the town. To achieve the objectives of the study both qualitative and quantitative methods of data analysis were used. Descriptive statistics such as percentage distribution, bar graphs, were used. According to the major findings of the study, the major types of urban farming practices in the study area includes; horticulture or production of fruits and vegetables, crop farming or production, livestock rearing such as beef farming, dairy farming and pig farming as well as trees and grass planting. The survey result reveals that there are various significances of urban farming in the study area. Among these, it play a decisive role in generating household income, serve as employment opportunities, contribution to food supply, economic use of land and environmental enhancement, beautification of the town and solid waste management are the major roles of urban agriculture in the area. The result of the study also reveals that the major challenges of urban farming practices in the area includes; lack of access to credit, shortage of inputs, land granting system, lack of technical support from concerned bodies/less contact with agricultural sectors, planting of non edible trees, lack of enough space/land shortage for cultivation, disease, problem of market are the major challenges of farming practices in the area. Finally, suggestions have been forwarded based on the findings of the study.

Index Terms- Associations, Urban, Urban Agriculture, Urban dwellers

I. INTRODUCTION

1.1. Background of the study

The world population is predicted in the near future to live more in urban than in the rural areas for the first time in the history of mankind (FAO, 2001). Obviously our continued existence living standard is influenced by our capacity to provide food for ourselves in a sustainable manner. The increasing rate of urbanization accentuates the vulnerability of cities for extraordinary social and ecological quandaries and bottle neck for feeding their mounting population (Derescher, 1996). Due to the increased 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).

For such ends urban agriculture is a response to urban predicament, a survival tactic of the rural migrants and for those who are disenchanted of not find work in the city and they become the ingredient of the raising population of the urban poor (ASC,2006). Despite its long existence and ever present, urban agriculture is still single handed and lacks appropriate attention. It has been ignored by academic, planners and municipal policy makers by neglecting subsistence production activated in domestic economy has not been taken in to account to be of great significance (Smith and Momen, 1987). In most African cities, urban farming is accomplished as an informal sector (Tewodros 2007). Farming in cities is present in anywhere, but it is not in the same degree (Kaufman J. and Martin B. 2000). Urban agriculture however, is one of the inherent exciting notions of continuous development because it can address virtually all areas of sustainability.

In contemporary African cities and towns and their surroundings, urban agriculture 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 agriculture lacks due attention and it has been single handed for a long time. The many governments of African countries still focused on rural agriculture by ignoring and under estimating it in urban areas (African study center, 2006). However, currently many governments are creating agencies to manage urban agriculture. Among these, Ethiopia, Malawi, Kenya, Tanzania, Uganda, Nigeria, and Zimbabwe are few examples (FAO, 2002).

Irrespective of the work of urban agricultural management agency in Ethiopia, 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 Addis ababa contributing more than 60% of their total household income (Tewodros, 2007). In the study area there are observable urban farming practices. However, instead the nearby rural areas are the predominant sources of such products, even for the urban farmers' theme production and productivity of urban agriculture in the area is not as such fruitful. Thus, this study focuses on investigating the practices, roles and challenges of urban agriculture in Bedelle town.

1.2. Statement of the problem

In the present day world urbanization is escalating over time in the expense of arable land. Cities throughout the world are facing with unpredictable social, economical and ecological challenges, not slightest of which is how to give to eat their growing population (UN, 2006). In developing nations, rate of urbanization is higher and competing its agricultural land in the nearby rural areas (Drescher, 1996). As being one among the developing countries the situation in Ethiopia is not dissimilar to this general feature. The horizontal expansions of urban centers in general and Bedelle in particular increasingly consume away the rural arable lands.

Urban farming appeared as the prior solution for the situation. Producing food in urban areas will support the rural production of food which is increasingly depleting. Rural migrants are out numbering the urban poor. Farming in urban area can be the coping strategy for such migrants and the urban poor. Properly handled and managed urban agriculture could support the urban community beyond the consumption of producers. Even though, urban agriculture is an important source of vegetables, fruits and other cereal crops in most cities and towns of developed and developing nations. In Bedelle town vegetables, fruits and other cereal crops used by the town population are mostly supplied from rural and distance places like Addis Ababa and other areas of southern nations, nationalities and peoples. This is because of low productivity of urban agriculture in the area although the area has high potential of production in different kinds of urban farming practices. Virtually all urban centers of Ethiopia at large and Bedelle town in particular, unemployment is the challenging problem. However, the effort by the municipality or other concerned officials to fortify farming in the town is limited.

Urbanization and agriculture are mostly considered as incompatible activities that compete expensive urban lands. However, in reality in urban areas, significant amount of land is available for agriculture. In the study area, such vacant lots mainly around homes are found with most of them failed to give production. Back yard gardening is easy to start and to run by the children or women in the house hold who might be marginalized from formal employment (Freeman, 1991). Such yards could produce out puts that can make self sufficient in food the households with such home steadies. Even high yields can be raised even in the simplest of containers (CFSC, 2003). Despite the existence of sticky situation of urban farming in the study area, the researchers didn't found studies that portrayed the inherent setbacks and opportunities. Hence, the study was conducted to assess the major practices, roles and challenges of urban agriculture in Bedelle town.

1.3. Objectives of the study

1.3.1. Main objective

The general objective of the study was to assess the major practices, roles and challenges of urban agriculture in Bedelle town.

1.3.2. Specific objectives

More specifically, the study has the following objectives:

- ❖ To investigate the farming practices in the town
- ❖ To describe the significance of urban agriculture in Bedelle town

- ❖ To explore the major challenges of urban agriculture in the town

1.4. Significances of the study

Rapid and extensive urbanization of less developed nations is perhaps the most dramatic demographic phenomenon of our modern times. This trend aggravated the number of people living in cities and towns resulting the increase in demand of food supply in the urban settings. The fact in the country in general and Bedelle town in particular is an observable truth. It has the following importance:

- ✓ Food security: for the question of urban food problems and related difficulties, especially very low access and production of vegetables and fruits in the area, urban agriculture can provide quick answer and remedial solutions to this end.
- ✓ The study will find out the challenges of urban farming that can set back the performance of farmers, the extent, type and prospects of the urban farming.
- ✓ Raise the involvement of the growing young population in to urban agriculture by creating employment opportunity.
- ✓ Planers and municipal policy makers will get important inputs in supporting and planning the urban farming.
- ✓ The finding also has been believed to be critical to planners to re assess their planning and zonation of areas for agriculture in the town and for the municipality to give more emphasis to urban farming.

1.5. Scope of the Study

Urban agriculture can occur inside the urban centers (intra-urban), or on fringe areas (peri-urban, however, the study was only delimited to urban agriculture taking place in urban areas or urban kebeles of Bedelle town. Issues that were assessed includes; the challenges that hindered urban agriculture from its advancement, the type of farming practicing in the town and the major significances of urban farming were the major issues assessed in this study.

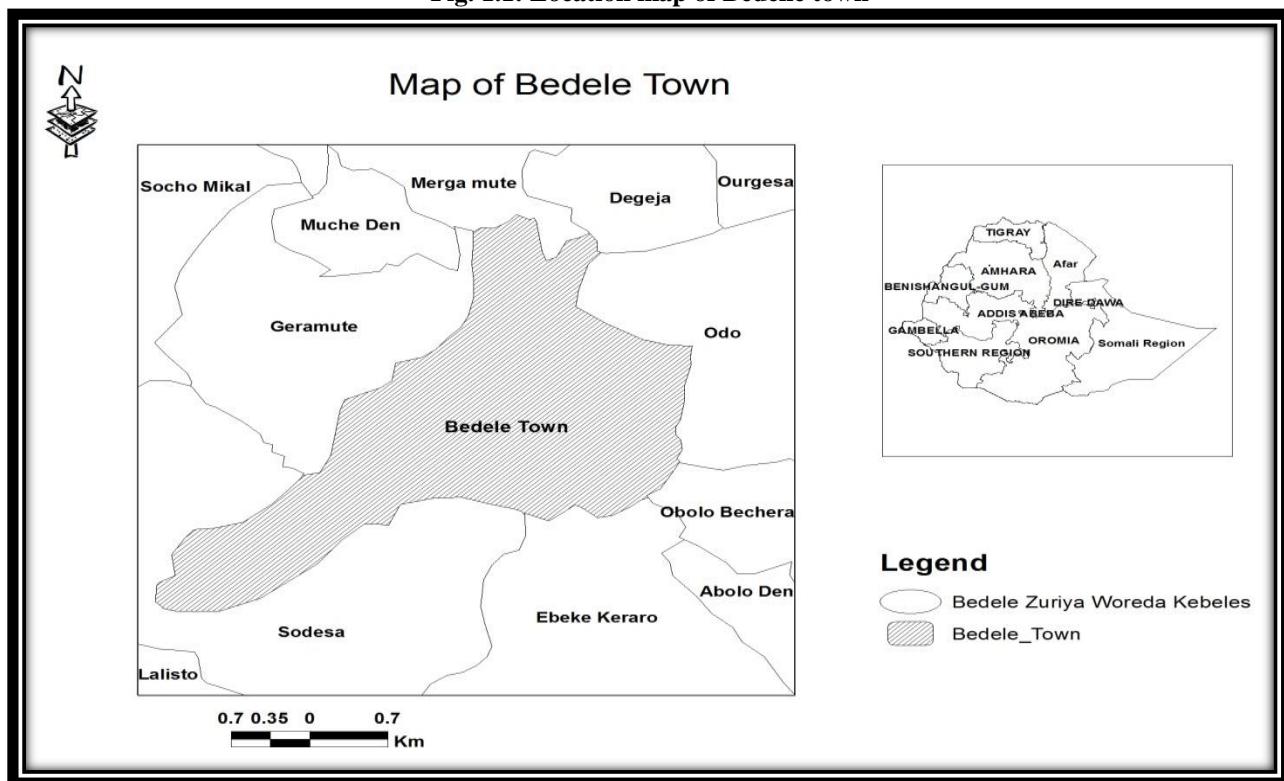
II. MATERIALS AND METHODS

1.1. Study area description

1.1.1. Naming of the town

According to the traditional surrounding Oromo people there is only one view about the original name of the town. According to this view the original name of the town Bedelle derived from the oromo term "Bede" a traditional material that are used for making Enjera. Bedelle town is located in the south western of Oromia national regional state, Illu Ababora Zone Bedelle district. It is located 480 km from Addis Ababa. The town shares boundary with the surrounding peasant administration namely: Mirga mute from the north Ilke and Kerero from the south Bita Mute and Siddisa from the west, Odo from the west. Astronomically the town located approximately between $8^{\circ} 17'$ and $8^{\circ} 37'$ N latitude and $36^{\circ} 13'$ and $36^{\circ} 19'$ E longitude.

Fig. 1.1: Location map of Bedelle town



1.1.2. Research Design

It is important before research is undertaken to create guidelines that would give order and direction to research project. So as to assist the researchers not to lose focus of the research inquiry (Best, 2003). This is done through research design and methodology. The research design was a descriptive type of study utilizing survey method. In this study, the researchers also employed a mixed methodology to assess the practices, roles and challenges of urban agriculture. Both qualitative and quantitative approaches were employed. The existing social world is best studied using several analysis and point of view, which means diverse methodologies are most excellent ways of expressing and assessing the social world (Sarantakos, 2005).

1.1.3. Sampling technique and Sample size

In this study, two types of sampling techniques are employed. These are purposive and stratified random sampling methods. Purposive sampling method was used to determine the study area, the topic under study and farmers who practice urban agriculture. Bedelle town is purposefully selected as a research setting for at least two reasons: First, research works are very little and there are no studies done so far on the issue of urban agriculture in this area. Consequently, the study is partially intended to fill this gap. The second reason is that Bedelle town has been selected as a study area due to the presence of urban agriculture practices. Purposive selection of the topic is due to the fact that in order to ensure livelihood sustainability of urban people of the area, assessing issues related to urban agriculture is important from development perspectives. Again from section of

the society, farmers who practice urban agriculture have been purposefully selected given the fact that including all society as study population is difficult.

In order to obtain the sampling units or respondents the researchers employed stratified simple random sampling method. Because it is believed that this method would not affect the representation of the samples as farmers represent from each kebeles and this method gives equal chance of being selected for each farmers. These farmers are stratified according to their **Association** to conduct the survey in the area. Accordingly, there are **19 Association or Small and Micro Enterprise (SME)** in the two kebeles of the town (i.e 7 from 01 and 12 from 02) and the total farmers are **194**. The researchers selected **60** farmers for the study. The farmers are selected from each stratum by using simple random sampling and by applying the principle of proportional sample selection method. The sample size in each stratum is proportional to the size of stratum.

3.2.3. Nature and Sources of Data

The nature of the data was qualitative and quantitative. Both primary and secondary data sources were used. The primary sources of data for this study were collected from sample households that practice urban agriculture, municipality workers and traders that supplies the products of urban agriculture from the town or in the outside, unemployed youths in the town. The secondary sources of data were collected from various published and unpublished documents of the municipal and urban agriculture department office, CSA data, and woreda and kebele public administration offices of Bedelle town.

3.2.4. Data Collection Instruments

Primary data collection methods /tools/ were: questionnaire, interviews, field observation, FGD, Global Positioning System (GPS) and photographs.

3.2.4.1. Data analysis and Interpretation Techniques

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 qualitative and quantitative methods. The data collected through questionnaire are quantitatively tabulated, interpreted and presented by using certain Statistical methods such as frequency distribution, tables and bar graph, percentages, maps, pie chart were used for the analysis of the data collected. The analysis is made by using SPSS version 20 and Ms Excel. The data collected through interview, personal observations and focus group discussion are analyzed qualitatively.

III. RESULTS AND DISCUSSION

3.1. Urban Farming Practices in Bedelle Town

In urban areas of Bedelle town, the farmers' conducts different types of agricultural practices in view of increasing their income through different ways. Farmers who reside in the town raise their income manifold through carrying out different farming practices around the town and within the hinterland of this town. Farmers of the area conduct various farming activities and use to feed their families as well as sell agricultural product for cash profit which in turn enable them to earn money. During the survey, information on what types of farming activities are practiced in the town were collected from selected households or sample respondents, from town communities and through onsite inspection (field observation). Moreover, secondary data sources were collected from municipality of the town and district offices of the town kebeles. The feed backs received from these

sources revealed that there are various urban farming practices in the area under study. There are 19 Associations that practice different types of urban farming practices in the two kebeles of Bedelle town (i.e 7 from 01 and 12 from 02). In addition to this, some individuals practice urban farming in the area lonely.

3.1.1. Horticulture [fruits and Vegetables Farming]

❖ It is kind of urban farming practices in the area which is concerned with the production of fruits and vegetables. A wide variety of plants are cultivated for their edible leaves, roots, fruit and seeds. Vegetables provide important minerals and vitamins in human nutrition and add variety as well as interest to our meals. Vegetables are grown in the area in the environments ranging from urban areas (City windows boxes) and home gardens to larger farm practices. Most of the fruits crops are harvested in the area by hand and oxen for home consumption and commercial purpose (sale). The field survey indicated that in the two kebeles of the town different types of vegetables and fruits are produced as an integral part of farming system of the study site. Farmers of the area (town) organized themselves in **Small and Micro Enterprise (SME)** and practice various farming activities while others individually (lonely) practice farming activities in the area. As can be seen from the table above, there are two associations that practice horticultural farming practices. In these kebeles Vegetables and fruits are grown as sole or intercropped with other vegetable or cereals. The most common vegetables that are produced in the study area include- cabbage, lettuce, carrot, onion, garlic, sweet potato, potato, Augio (kororima), and the common produced fruits area banana, mango, sugarcane, Avocado are the most common ones.



Figure 4.3: Banana production, photo by researchers, 2014



Figure 4.4: Sugarcane production, photo by researchers, 2014



Figure 4.6: Lettuce, Carrot and cabbage production photo by researchers, 2014



Figure 4.7: Sweet potato and Augio/kororima production photo by researchers, 2014

3.1.2. Crop farming practice (crop production)

There are also wide varieties of crops growing in the town and in the hinter land of Bedelle town. Crop farming is also another types of farming practice that are commonly observed in the area such kinds of farming activity is carried out to feed the farmers family and for market purpose. As information obtained from the key informants and sample respondents, the most common types of crop farming practice involves crops such as, maize (corn) and beans. These farming activities are practiced

by group of people who form association (**SME**) in the two kebeles of the town; there are also other individuals who lonely practice this farming. During the survey it was observed that farmers of the area practice crop farming by inter-cropping with other vegetables and crops. These farming activities are practiced by Walif and Kamise Association in kebele 01. In the area such crop farming activities are practiced by informal households at the back of their backyard and hinterland of the town.



❖ Figure 4.8: Inter-cropping farming practice, photo by researchers, 2014

Livestock farming practice

Livestock production is an important component of agriculture activities in developing countries like Ethiopia. Such types of farming activities are kept in both urban and rural areas of the country for various uses including milk and milk products, meat, eggs, food, cash and various cultural uses (power etal, 2004). Livestock farming play decisive role as they offer opportunities for risk of copying, farm diversification and intensification and provide significant livelihood benefits (Bossio, 2009). Livestock farming is an integral part of farming system and has major

economic and social functions in the country in general and urban people of Bedelle town in particular. The field observation also indicated that there are various types of livestock breeding in the area such as cattle rearing/cows, oxen, calf), sheep and pig rearing. In the area under study such types of farming practices are mainly categorized into followings. These are:

- ◆ Beef farming,
- ◆ Dairy farming and
- ◆ Pig farming



Picture: 4.11: pig farming practice in the area, photo taken by researchers, 2014



Picture 4.12: Dairy and beef farming practices, photo by researchers, 2014

In general, the most common types of farming practice in the study area includes: Horticulture (fruits and vegetables), Crop farming (crop production), Livestock farming, Beef farming, Dairy farming, Pig farming, Tree and grass planting

There was also a **poultry farming practices** before a year for many years, however, currently, **poultry farming activity was halted as information obtained from some households and people of the area.** Onsite inspections during the survey also revealed that poultry farming has halted the practices of poultry farming.

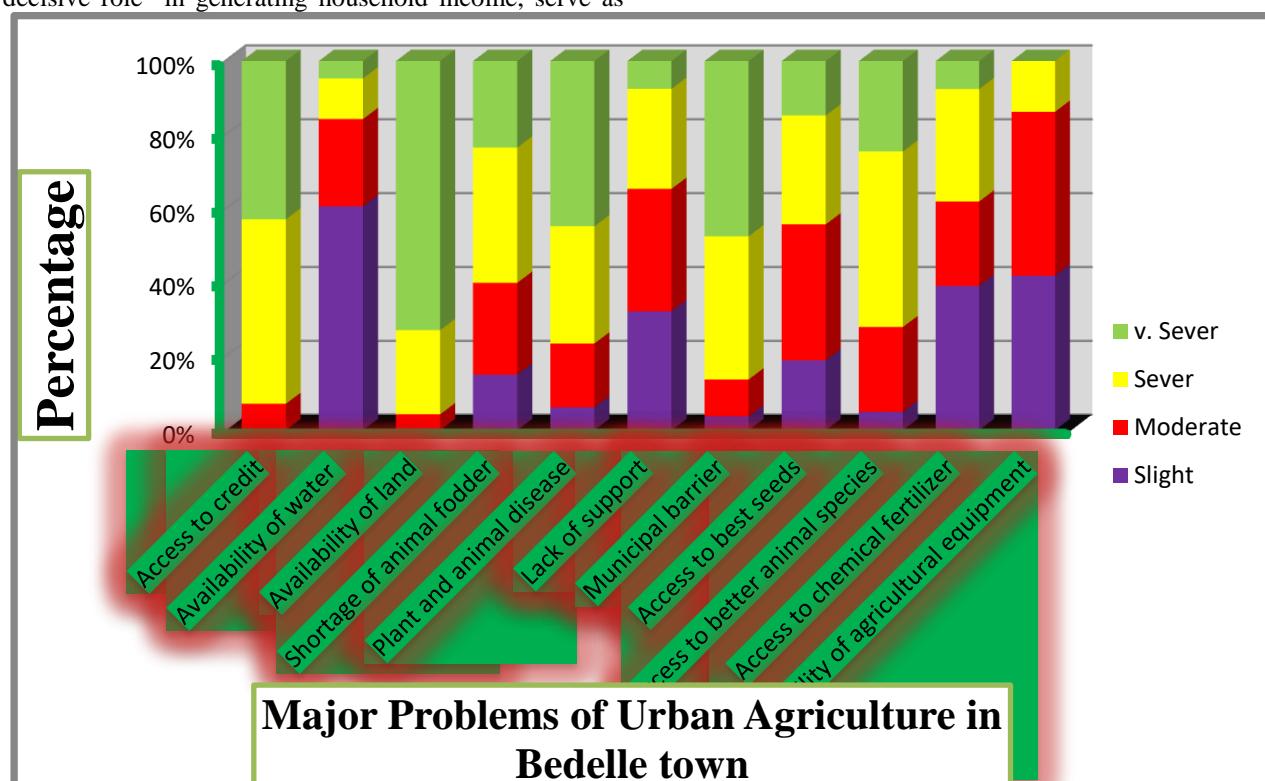
3.2. Significances of urban farming in the study area

The survey result reveals that there are various significances of urban farming in the study area. Among these, it play a decisive role in generating household income, serve as

employment opportunities, contribution to food supply, economic use of land and environmental enhancement beatification of the town and solid waste management are the major roles of urban agriculture in the area.

3.3. Challenges of urban Agriculture in the study Area

Results of the survey indicate that constraints on the urban agriculture in Bedelle are various. The major determinant factors are: Access to inputs, Inability to get land and its granting system, Absence of allotment gardening, Priority to non edible trees in urban areas, Seasonal rain, Disease, Fragmentation of members group gardening, Market Accessibility, Availability and access to credit, Health risks, Lack of technical support from the concerned body, Lack of training.



Source: Researchers' field survey, 2014

IV. CONCLUSIONS AND RECOMMENDATIONS

3.4. Conclusions

Agriculture is the back bone of Ethiopian economy or it is basis for the entire socio-economic structure of the country and has major influence on all other economic sectors and development process of the country . It accounts 50% of the **GDP** of the country and also provides employment for about 85% of the total working labour. Moreover, it accounts 90% of the total foreign exchange earnings (WB, 2000). This implies the life of the country's society who lives both in urban and rural areas overwhelmingly depends on agriculture. Eventhough agricultural activities are mostly practiced in rural parts of Ethiopian; there are also practices of in urban agriculture in urban parts of the country in general and Bedelle town in particular.

In urban areas of Bedelle town, the farmers' conducts different types of agricultural practices in view of increase their income through different ways. Farmers who reside in the town raise their income manifold through carrying out different farming practices around the town and within the hinterland of this town. Farmers of the area conduct various farming activities and use to feed their families as well as sell agricultural product for cash profit which in turn enable them to earn money. During the survey, information on what types of urban farming activities are practiced in the town were collected from selected sample respondents, from town communities and through onsite inspection (field observation). Moreover, secondary data sources were collected from municipality of the town and district offices of the town kebeles. The feed backs received from these sources revealed that there are various urban farming practices in the area understudy.

According to the major findings of the study, the major types of urban farming practices in the study area includes;

horticulture or production of fruits and vegetables, crop farming or production, livestock rearing such as beef farming, dairy farming and pig farming as well as trees and grass planting. There was also a poultry farming practices before a year for many years, however, currently, poultry farming activity was halted as information obtained from some households and people of the area. Onsite inspections during the survey also revealed that poultry farming has halted the practices of poultry farming in the area under study.

The survey result reveals that there are various significances of urban farming in the study area. Among these, it play a decisive role in generating household income, serve as employment opportunities, contribution to food supply, economic use of land and environmental enhancement beatification of the town and solid waste management are the major roles of urban agriculture in the area. There are different factors that affect/limits/ the practice of urban agriculture. The potential of urban agriculture in the Bedelle town is constrained by the limitation of various determinant factors. In most cases, the problem of access to the key ingredients that could make the urban agriculture in Bedelle successful is not physical but instead administrative. For instance, lack of land or the way they granting land, problem of finance, animal disease, lack of training, problem of the cooperation between the urban agriculturalists , the municipal offices, veterinary professionals, micro and small scale enterprises and trade and industry offices are the basic and critical problems (sever problems) of urban agriculture in the study area. However there are also other factors that limit the production and productivity of the sector in moderate level in the area like market, group fragmentatation and others, allotment gardening, priority to give to non edible trees, seasonal rain fall and access to inputs are also contributing factors. Therefore, alleviating such problems will improve the productivity and production of urban agriculture.

3.5. Recommendations

- The finding of the study indicates that lack of external support (financially, technically as well as other incentive provision) from different stakeholders such as municipality of the town, Agricultural sectors of the woreda is very decisive to enhance urban farming practice in the area. Lack of collaboration of animal health, municipality and trade and investment offices with the associations is another problem. Therefore, good and frequent contact, assistance and relationship is basic for increased production and productivity.
- Awareness creation that are most effective in increasing the capacity of different partners to engage them in urban farming practices plays a paramount roles in mitigating the problem of unemployment in the area under study. Therefore, the provision of training and awareness creation for the local communities and other concerned bodies is found to be very important to encourage such farming practices in the area.
- The problem of land is the first critical problem for associations and also individuals. Therefore, the woreda Administration in collaboration with municipality of the town should create a conducive environment to solve the problem of land shortage for urban agriculture. Because

there is no problem of land in the town but the way of granting is the basic problem.

- Provision of credit for those who are willing to participate in such farming is found to be essential to solve the problem of financial constraints that hinders the practices of urban farming.
- The majority of plantation trees are non edible. Therefore, converting plantations to be edible and make them dual purpose is the basic thing.
- Creating market opportunity especially, pig production in various ways is essential.
- Finally, it is researchers' conviction that the above mentioned recommendations if implemented will combat the challenges of Urban agriculture in the area if not fully, at least partially.

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