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ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

PROBLEMS AND CONSTRAINTS OF URBAN
AGRICULTURE IN ADDIS ABABA:

A CASE STUDY OF URBAN AGRICULTURE COOPERATIVES
IN NIFAS SILK- LAFTO SUB-CITY

BY
SAMUEL NIGATU

JULY 2009
ADDIS ABABA

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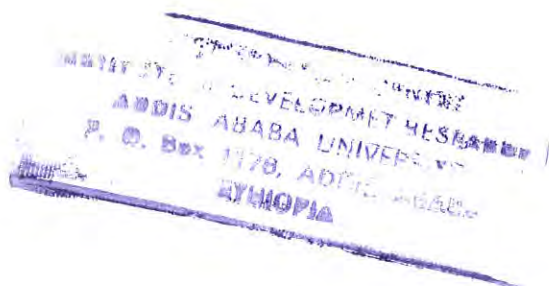
A Thesis Submitted to the School of Graduate Studies of Addis Ababa
University in Partial Fulfillment of the Requirements for the Degree of Master
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By: Samuel Nigatu

Advisor: Ali Hassen (Ph D)

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**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**COLLEGE OF DEVELOPMENT STUDIES
(CDS)**

Title

***Problems and Constraints of Urban Agriculture in Addis
Ababa: A case study of Cooperatives in Nifas Silk Lafto
Sub-City***

By

Samuel Nigatu

DEVELOPMENT STUDIES

APPROVED BY THE BOARD OF EXAMINERS:

SIGNATURE

Dr. Mulugeta Feseha
FACULTY CHAIRMAN



Dr. Ali Hassen
ADVISOR



Dr. Getnet Alemu
INTERNAL EXAMINER



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I am indebted to my mother, Mogesa Jaboro, and my brothers and sisters. Their encouragements have meant a lot to me. They have taught me a lot to believe in myself and never give up. Finally, I would like to thank all of my friends for their inspirations and supports to me.

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CGAAUAO	City Government of Addis Ababa Urban Agriculture Office
CSA	Central Statistic Agency
EOC	Ethiopian Orthodox Church
FAO	Food and Agricultural Organization of the United Nations
FDRE	Federal Democratic Republic of Ethiopia
FGD	Focused Group Discussion
GDP	Gross Domestic Product
HIV	Human immunodeficiency Virus
IDRC	The International Development Research Center
IFPRI	International Food Policy Research Institute
MoFED	Ministry of Finance and Economic Development
MSE	Micro and Small Enterprises
ORAAMP	Office of Revised Addis Ababa Master Plan
RUAF	Resource Centers on Urban Agriculture and Food Security
UA	Urban Agriculture
UADNSLSC	Urban Agriculture Department of Nifas Silk-Lafto Sub-City
UNDP	United Nations Development Program
UPA	Urban and Peri -Urban Agriculture
USAID	United States Agency for International Development

Abstract

The paper attempts to find out those factors that threaten the productivity and success of urban agriculture carried out by the cooperatives in Addis Ababa from the perspective of provision of agricultural inputs; performance of institutions that are setup to assist urban farmers; organizational and administrative arrangements of the cooperatives themselves; marketing related issues of agricultural products; as well as environmental concerns linked to farming activities undertaken by the cooperatives. For this purpose cooperatives that are located in Nifas silk-Lafo sub-city are selected. In the study area there are 45 cooperatives engaged in different kinds of urban agriculture i.e., vegetable production, fattening, dairy cow, as well as poultry production. One vegetable, 12 dairy cow, seven fattening, two poultry, and one poultry and dairy cow producing cooperatives are selected as samples. From each cooperative 20 % of members, a total of 80 individuals are selected using simple random sampling technique. From the discussions and analysis with members of the cooperatives it has been found out that the major problems that affect the cooperatives are; physical constraints manifested through lack of access to land, water, as well as shortage of modern agricultural inputs such as forage, fertilizer, veterinary service; institutional problems including less attention to urban agriculture evidenced through allocating low budget to the sector in terms of finance, human and material resources, absence urban agriculture policy, failure to give training to farmers and inadequate follow up etc. The problems of the urban agriculture cooperatives stem also from organizational weaknesses of the cooperatives themselves. These include; weak culture of working together, absence of leadership quality, lack of skill, extra job, drop out etc. The cooperatives are also suffering from lack of marketing place to demonstrate and sell their agricultural products. This in turn made them susceptible to the exploitation of middle men that distort the price. The other big problem in this regard is seasonal fluctuation in demand of agricultural products. This is highly related with the religion and cultural practice of residents of the city. The majority of dwellers of the city are followers of Ethiopian Orthodox Church who abstain from eating livestock products during fasting time. Because of this the demand for livestock products is extremely low whereas the demand of vegetable products is high in time of fasting period. Interestingly, the opposite holds true during holidays and non fasting periods. Consequently, most of the cooperatives are working below their true potential and some are in danger of terminating the business. This in turn lowers the provision of agricultural products in the city and result in higher price and to some extent contributes to unemployment of those engaged in the sector.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The rapid urbanization that is taking place in less developed countries goes together with a rapid increase in urban poverty and urban food insecurity. It is estimated that by 2020 the developing countries of Africa, Asia, and Latin America will be inhabited by some 75% of all urban dwellers. It is expected that by the same year, 85% of the poor in Latin America, and about 40-45% of the poor in Africa and Asia will be concentrated in towns and cities (RUAF, 2008b).

However, this ever increasing urban growth in developing countries has not been supplemented by the development of enterprises and infrastructure required to absorb the new employment needs (Henderson, 2002 quoted by Moustier and Dans, 2006). A study conducted on the impact of rapid urbanization indicates that in less than thirty years, the number of people who go to bed hungry in Latin America has increased by 20%, with the numbers of those affected reaching as high as 65 million people (Cabannes and Marielle, 2008). Ensuring food security and appropriate nutrition of the urban population - and in particular of the poor households - has become a major challenge worldwide (Cofie, *et al.*, 2003).

East African countries have registered rapid rate of urbanisation (6-8 per cent) for the last forty years. This has happened against declining economic growth and weakening institutional and physical infrastructure. These countries are not capable enough to provide sufficient food demanded by the expanding urban population by means of imports from rural areas. This leads to increased food insecurity and prevalence of poverty in the urban areas (Mireri, *et al.*, 2006).

As part of east African countries, Ethiopia is experiencing rapid rate of urbanization coupled with urban poverty. For instance, according to MoFED (2006) the urban population of the country is growing at a rate of 4.4% per year, and is estimated to reach 22

million by 2020. The same source reveals that the average urban poverty and unemployment is estimated to be 35% and 26% - 40% respectively. This put tremendous pressure on food security, employment opportunity, as well as income of inhabitants of the major towns of the country.

In an effort to improve their situation, many of the urban poor use any available space to grow more food. From rooftops to window boxes, on roadsides, riverbanks, and vacant lots, people will find places to grow a little food to feed their families. Some even manage to grow enough to sell the surplus, providing much needed income. For others, especially on the outskirts of the city, farming becomes their main occupation and may provide support for an entire family or group of families. It is believed that urban agriculture is playing a significant role in the lives of urban poor.

Urban agriculture (UA) encompasses the production of food and non-food plant and tree crops and animal husbandry in, or around, a village, town or city. Urban agriculture involves crop and livestock production of different kinds. Urban agriculture includes food products, from different types of crops such as grains, root crops, vegetables, mushrooms, fruits and animals including poultry, rabbits, goats, sheep, cattle, pigs, guinea pigs, fish, etc (Mireri, *et al.*, 2006) as well as non-food products like aromatic and medicinal herbs, ornamental plants, tree products, etc. or combinations of these (RUAF, 2008a).

Urban agriculture plays a very decisive role in terms of the urban economy, urban food supply and urban food development in general. Although largely informal economic activity, urban farming provides employment as well as income for those involved. It is estimated that 800 million people are involved in urban agriculture world-wide and contribute to feeding urban residents (Wikipedia, 2008). The income generated from urban agriculture can be raised directly through the sale of crops or indirectly because less food has to be bought ('fungible income'). At the town or city level, urban farming contributes positively to the provision of affordable food for poorer urban dwellers (Foe ken, Sofer, and Mlozi, 2004).

Urban agriculture is a common feature of Sub-Saharan Africa and it is estimated that as many as 40% of the urban population in Africa is involved in the sector (Mougeot, 1994). According to G/Egziabher in Ethiopia urban agriculture is the final sequence of survival strategies exhibited by households. Households in the urban areas respond to the extreme threat of poverty and food insecurity by carrying out urban farming on any vacant space available. Urban agriculture is also practised because of shortage of income and unemployment in the urban centres (G/Egziabher, 1994).

Urban agriculture provides a complementary strategy to reduce urban poverty and food insecurity and enhance urban environmental management. Urban agriculture plays an important role in enhancing urban food security since the costs of supplying and distributing food to urban areas based on rural production and imports continue to increase, and do not satisfy the demand, especially of the poorer sectors of the population. Urban agriculture contributes to food security and food safety in two ways: first, it increases the amount of food available to people living in cities, and, second, it allows fresh vegetables and fruits and meat products to be made available to urban consumers (RUAF 2008b).

Next to food security, urban agriculture contributes to local economic development, poverty alleviation, employment, income generation and social inclusion of the urban poor and women in particular, as well as to the greening of the city and the productive reuse of urban wastes (RUAF, 2008b).

Despite its critical role in producing food for city, urban food production has largely been ignored by scholars and agricultural planners; government officials and policymakers at best dismiss the activity as peripheral and at worst burn crops and evict farmers, claiming that urban farms are not only unsightly but also promote pollution and illness. Possibly this lack of recognition and understanding of urban agriculture stem from the stereotypical view held by policy-makers that 'rural' and 'urban' are distinct entities, where rural is perceived as being synonymous with agriculture and urban is associated with services and manufacturing (Binns and Lynch, 1998). There seems to be widespread agreement that

urban agriculture has been neglected by governments and researchers and must now become the focus of urgent attention.

1.2 Statement of the problem

Ethiopia is one of the least developed countries that have been experiencing rapid rate of urbanization together with urban poverty. This high rate of population growth and rapid urban growth combined with the prevalence of urban poverty leads to a rapidly growing number of urban poor in the country (FDRE, 2007).

This trend of rapid urbanization has placed enormous pressure on the country's food supply, employment, income, including that of the capital, Addis Ababa, according to an Ethiopian agricultural researcher, G/Egziabher (Lee, 1997).

Addis Ababa, the national capital, is a true primate city that constitutes one-quarter of urban population of the country (FDRE, 2007). Poverty is rampant and widespread in the city. "Hunger and poverty are serious problems in Addis Ababa" (Lee, 1997).

The unemployment problem in Addis Ababa is also very serious and has increased at alarming rate in recent years. The city has large unemployment population exacerbated by in-migration in search for job. The average unemployment rate is estimated to reach up to 40 % (MoFED, 2006). Unemployment is a major contributor to poverty in the city: a third of the city's adults are unemployed – women more than men, youth more than middle-aged persons. Large parts of the 30% of unemployed residents are involved in street vending occupations (USAID, 2002).

Now days the price of food is also another head ache in the city .The prices of food items are beyond the purchasing power of the residents mainly because of shortage of food supply and low level income of the majority of residents of the capital.

In response to the wide spread poverty, unemployment, and shortage of food supply as well as low levels of income, many people have been engaged in urban agriculture individually

and collectively. In fact Addis Ababa has had a long and varied experience in urban agriculture since its establishment by Emperor Minilik (Mulugeta, 2002). Producing food in the city isn't new. It's a traditional lifestyle. Cows, s'heep, chickens, maize, and other vegetables are common in the urban environment (Lee, 1997).

Many urban poor are organized in groups, associations, and cooperatives to engage in urban agriculture as a reaction to poverty, food insecurity and unemployment. Even some vegetable producers, organized in associations or cooperatives, have been producing vegetables along the river banks for more than 50 years. And it is also estimated that more than 60% of the milk consumed by urban households is produced by small dairy producers inside the city (De Stoop, 2002). In 2002, the city had a population of around 60,000 dairy animals with around 50% of families rearing sheep and goats (Tegegne, *et al.*, 2002).

The number of people organized in associations and cooperatives to engage in urban agriculture in Addis Ababa is increasing from time to time. For instance according to unpublished data(report) of City Government of Addis Ababa Urban Agriculture Office more than 3807 individuals are organized in groups, associations, and cooperatives, to produce fruits and vegetables in 2008 (CGAAUAO, 2008).

Nifas-silk-lafto sub-city is one of the ten administrative units of Addis Ababa city where different kinds of urban agriculture have been practiced. As the case of the city, the number of micro and small enterprises (cooperatives) engaged in urban agriculture in the sub-city is showing an increasing tendency over time. In 2008 more than 45 cooperatives are undertaking vegetation, poultry, diary, beef, mushroom production etc. (UADNSLSC, 2008).

Nevertheless, the cooperatives engaged in the activity are not as such successful and profitable as they are expected by many including members of the cooperatives themselves and even by the government and other concerned bodies, despite the fact that agricultural products are highly demanded by residences of the city and as a result are very expensive. It has been observed that the survival of significant numbers of cooperatives working in

urban agriculture is at stake and others are out of picture. Contrary to this fact, new urban agriculture cooperatives are being formed in the sub city as never before in search for maximum profit.

Despite the fact that urban agriculture cooperatives are in great problems, they have not been given due attention by researchers, policy makers and town planners. Very few researches have been conducted on urban agriculture in Addis Ababa and none of them gave particular emphasis on the problems and constraints that urban farmers that are organized in cooperatives and associations face in their endeavor.

Thus, it was the purpose of this study to find out those factors that threaten the productivity and success of urban agriculture undertaken by the cooperatives from the point of view of the provision of agricultural inputs; performance of institutions that are supposed to help urban farmers, organizational and administrative issues experienced by members of the cooperatives themselves; marketing of agricultural products as well as environmental concerns related to farming in the study area and to suggest possible solutions for the problems.

1.3 Objective of the study

General Objective

To identify the main responsible factors that deter the success of urban agriculture cooperatives from the perspective of provision of agricultural inputs, competence of institutions that are formed to help farmers, organizational issues of the cooperatives, and marketing of agricultural products as well as environmental problems linked to the practice of farming; and to recommend possible solutions that help alleviate those problems in the study area.

Specific Objectives

- To explore problems in relation access to resources, inputs, and services required by the cooperatives;

- To identify institutional constraints as a result of failure of stakeholders that are responsible to support the cooperatives;
- To identify internal constraints that are observed among members of the cooperatives themselves;
- To assess problems in relation to marketing of agricultural products produced by the cooperatives;
- To assess environmental problems associated with the practice of urban agriculture by the cooperatives;
- To recommend possible solutions that help alleviate those problems;

1.4 Research Questions

- What are the major problems and constraints that the cooperatives face in areas of access to resources, inputs, and services?
- What are the major institutional problems and constraints that affect the productivity of urban farming in the study area?
- What are the major internal problems and constraints that are observed among the cooperatives themselves that affect the productivity of urban farming in the study area?
- What are the major problems and constraints that affect marketing of agricultural products produced by the cooperatives?
- What are the major environmental problems observed with the practice of urban agriculture by the cooperatives?

1.5 Significance of the study

It is undeniable that urban agriculture contributes a lot in the lives of urban poor in terms of food provision, employment opportunity, income and environmental management. Many urban poor are organized in groups as associations and cooperatives as a response to the multifaceted problems observed in the metropolis.

However, urban agriculture in Addis Ababa has not been given its rightful place by government, researchers, policy makers as well as urban planners and as a result it is exposed to many multifaceted problems that deter its success. In this paper an attempt is made to identify those constraints and problems that hinder the development of urban agriculture in Addis Ababa so that possible solutions will be recommended.

Thus, it is believed that the research findings are expected to help farmers who have been and will be involved in urban agriculture in the future to ease those problems and make better solutions that promote the success of urban agriculture in the city. The research findings are also expected to be used by policy makers, practitioners, and researchers in the field of urban agriculture. This is because it is assumed that the research findings help them to be aware of the problems and to give due attention in adopting better policies that create a better working environment for urban farmers and to make further research in the area. At the national level, the whole community including urban dwellers will be benefited from the research results for it is the community at large that is the ultimate beneficiary in the whole activity of urban agriculture.

1.6 Scope and Limitation of the study

Urban agriculture encompasses the production of food and non-food plant and tree crops and animal husbandry in, or around, a village, town or city. Urban agriculture involves crop and livestock production of different kinds. Urban agriculture includes food products, from different types of crops grains, root crops, vegetables, mushrooms, fruits and animals like poultry, rabbits, goats, sheep, cattle, pigs, guinea pigs, fish, etc. (Mireri, *et al.*, 2006) as well as non-food products like aromatic and medicinal herbs, ornamental plants, tree products, etc. or combinations of these (RUAF, 2008a).

However, the scope of this research is limited to the investigating and explaining the contribution of crop cultivation, dairy and poultry production which are mostly practiced by the cooperatives in the study area.

Lack of research findings on the sector in the country, data not being available on urban agriculture activities in the study area are some limitations of the study.

High resistance by some members to respond to the questions was observed in some cooperatives. In some instances, some members were reluctant to respond to the questions because of exhaustion by some other questionnaires administered by some researchers. Therefore, time taking explanation on the purpose of the research was done to avoid member reservation.

1.7 Organization of the Thesis

The thesis is organized in to seven chapters. The first chapter deals with background to the study, statement of the problem, objectives of the study, research questions, significance of the study, and scope and limitation of the study. The second chapter is dedicated to discuss related review of literatures concerning potentials of urban agriculture, and constraints that urban farming is facing in towns and cities. It also discusses the need to integrate urban agriculture in to urban land use planning. In addition, the chapter reviews urban agriculture in Ethiopia and finally it displays conceptual framework that direct the objective of the study. Chapter three discusses the methodology employed to conduct the study. The fourth Chapter deals with background of the study area; such as location, area, climate, population, as well as farming in Addis Ababa. The chapter also discusses general characteristics of sampled respondents' in terms of their age, sex, marital status, educational background, as well as their responsibilities in their respective cooperatives. Chapter five is devoted to deal with characteristics of urban farming in study area in terms of type of urban farming practiced, use of technology, reason for urban farming, end use of agricultural products, and location of urban farming, farm experience, and ownership of plot of land. Chapter six focuses on the major problems and constraints that urban farming cooperatives face like physical constraints in areas of provision of agricultural inputs,

institutional constraints caused by failure of concerned institutions that are responsible to work in urban related issues, organizational constraints observed by the cooperatives themselves, marketing constraints associated with the sale of agricultural products, and finally it discusses environmental problems related with the practice of urban agriculture in the study area. The last chapter presents the summary of the research findings and recommendations that are suggested to alleviate the major problems and constraints that the cooperatives face.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Potentials of urban agriculture

Urban agriculture is mainly practiced in city open spaces, along riversides and urban fringes where land is not suitable for building construction. Urban agriculture brings with it great potentials for enhancing the situation of the urban citizens, especially those with the lowest incomes who are dependent on the access to locally grown food. The overall benefits of urban agriculture can be summarized as follows;

2.1.1 Food Security and Nutrition

Over the next 50 years, the human population is expected to reach at least 8.6 billion demanding evermore farmland that is no available. Thus, alternative strategies for obtaining an abundant and varied food supply must be seriously considered. One of these alternatives is urban agriculture (Collective Roots, 2008b).

Urban agriculture contributes to urban food security through increased food availability, stability and, to some extent, accessibility (Egal, Arine and Stephan, 2003). When carried out properly under safe conditions; UA can contribute to food security in different ways. Firstly, the quantity of food available is increased through urban agriculture. Urban agriculture (in as much as it produces food), increases food availability and contributes to the overall urban food supply. Poor urban dwellers often lack the purchasing power to acquire adequate amount of food. Urban agriculture appears to reduce food security by providing direct access to home- produced food to households and to the informal market. Much urban agriculture is consumed at home (Murer *et al.*, 2006).

Secondly urban agriculture is a very efficient tool to fight against hunger and malnutrition since it facilitates the access to food by an impoverished sector of the urban population. It is known that a large part of the people involved in urban agriculture is the urban poor. In developing countries, the majority of urban agricultural production is for self-consumption, with surpluses being sold in the market. According to the FAO (Food and Agriculture Organization of the United Nations), urban poor consumers spend between 60 and 80

percent of their income on food, making them very vulnerable to higher food prices; thus, they will be left with nothing for health, education and other necessities (FAO, 2006). They also hardly consume varieties of food. Therefore, it is not surprising that urban farming contributes to improving livelihoods for the urban poor. It improves not only quantity of food intake but also the nutritional value if the poor self-grow vegetables, fruits, chickens and so on. IDRC report emphasized the role of urban agriculture as follows:

The contribution of urban agriculture to food security and healthy nutrition is probably its most important asset. Food production in the city is in many cases a response of the urban poor to inadequate, unreliable and irregular access to food, and the lack of purchasing power (Veenhuizen, 2006).

The production of food in urban and peri-urban areas brings nutrition and health benefits to poor producer households. This is because UA enhances the freshness of perishable foods reaching urban consumers, increasing overall variety and the nutritional value of food available. Studies in Kampala, Uganda, and Kigali, Rwanda, have shown positive correlations between food production and improved nutrition, owing to higher and more stable access to food virtually throughout the year (Lee-Smith and Gordon 2006).

While not universal, case studies have shown differences in nutrition, especially among children, when poor urban families farm. An important reason appears to be that food produced by consumers or in close proximity to them is often fresher than food that travels long distance to markets (FAO, 2006). Poor consumers in Yaoundé, Cameroon, depend on indigenous leafy vegetables, produced almost exclusively in the urban inland valleys, a major part of their micronutrients. Urban agriculture in Havana has had a significant, direct effect on urban nutritional status, providing a per capita supply of between 150 and 300 grams daily of fresh vegetables and herbs (Lee-Smith and Gordon, 2006).

Urban agriculture also appears to enhance food security during times of crisis and severe scarcity. Whether caused by national crises (civil war, widespread drought, currency devaluations, inability to import, etc.) or household crises (illness, health, sudden unemployment, etc.), UA plays an important role in providing emergency supplies of food (Egal, Valstar and Meershoek, 2003).

2.1.2 Economic Potential

UA offers opportunities for productive employment in a sector with low barriers to entry. UA is estimated to involve 800 million urban residents worldwide in income-earning and/or food-producing activity (Wikipedia, 2008). Based on a combination of national census data, household surveys, and individual research projects in specific cities, it is estimated that one-quarter to two-thirds of urban and peri-urban households are involved in agriculture (FAO, 2006).

Urban agriculture is often carried out on a part-time basis by women, who can combine food production activity with child care and other domestic responsibilities. Women often have lower educational levels than men, so it is difficult for them to compete in a shrinking labour market. Farming may thus be the only option left to them when faced unemployment and poverty (Foeken, Sofer, and Mlozi, 2004).

Case study data indicates that both food availability and incomes in poor farming households are significantly higher compared to households of non-farmers. Interestingly, the urban gardeners are not typically the poorest residents but rather those families that have lived long enough in the city to secure land and water, and become familiar with the market channels for selling surpluses (FAO, 2006).

Urban farming can be a good source of income for the urban poor, if it is especially practiced as a formal sector. However, Bryld (2003) doubted if it has a significant contribution to macro economies of cities although he stated that urban farming has an economic relevance because it is helping urban farmers, especially the poor, to use their non-farm income for other purposes instead of purchasing food, i.e. it improves the welfare of urban farmer households. RUAF (2008b) reported that the poor households in developing countries spend 50-70 % of their income to purchase foods; hence, it appreciated the benefits of self-growing crops and/or participating in other forms of urban agriculture by the urban poor.

UA provides food and creates savings in household expenditure on consumables, thus increasing the amount of income allocated to other uses. Urban agriculture surpluses can be sold in local markets, generating more income for the urban poor. The numbers of urban poor and those operating in the informal sector are increasing throughout Africa, Asia and Latin America, and many of them incorporate agriculture as part of their livelihood strategies. Although the contribution of urban agriculture to the GDP (Gross Domestic Product) may be small, its importance to many city inhabitants is substantial, especially in difficult times (RUAF, 2002).

Urban agriculture complements rural agriculture and increases the efficiency of the national food supply in terms of producing niche products, or may substitute food imports (leading to foreign exchange savings). The contribution to urban food supply varies, relative to rural agriculture; depending on product and season. When the economy improves urban agriculture also may take on other functions for the urban citizens: gardening for leisure and physical exercise, offering of recreational services to urban tourists (RUAF, 2002).

2.1.3 Social Advantages

Actors in urban agriculture came from various groups of urban society. They can be the poor or the rich, women or men, natives or migrants, and so on. UA may function as an important strategy for poverty alleviation and social integration of disadvantaged groups (such as immigrants, HIV-AIDS affected households, disabled people, female-headed households with children, elderly people without pension, youngsters without job) by integrating them more strongly in to the urban network, providing them with a decent livelihood and preventing social problems (Gonzalez Novo and Murphy, 2000).

The participation of mostly women and other vulnerable households in the sector draws attention, and implies the role of the sector in poverty alleviation and integrating urban societies. UNDP put in its 1996 stated that "urban farming improves social equity by improving the health and productivity of poorer populations and by providing them an opportunity to earn additional income." (UNDP, 1996). In so doing, it contributes

immensely to feelings of higher self-esteem and safety among the urban poor (Mubvami & Mushumba, 2006).

2.1.4 Environmental Advantages

In most cases, urban agriculture is practiced in marginal spaces in cities and outskirts where lands are not suitable for other use. It, therefore, creates beautiful scenarios and landscapes, and improves microclimate, and nutrient recycling (Bryld, 2003). It also contributes to a sustainable urban environment by improving soil and air quality, supporting biodiversity by providing habitats for insects and birds, and reducing unnecessarily high temperatures caused by the heat island effect. Additionally, growing and distributing food within cities decreases energy needs and costs associated with long distances and conventional growing methods (Collective Roots, 2008a).

Study conducted by IDRC also confirmed that UA and forestry can also have a positive impact upon the greening of the city, the improvement of the urban micro-climate (wind break, dust reduction, shade) and the maintenance of biodiversity as well as the reduction of the ecological food print of the city by producing fresh foods close to the consumers and thereby reducing energy use of transport, packaging, cooling, etc (Veenhuizen, 2006).

Urban agriculture uses wastewater and organic solid waste in most cities. These wastes can be transformed into resources for growing agriculture products: the former can be used for irrigation, the latter as fertilizer. The use of wastewater for irrigation increases the availability of freshwater for drinking and household consumption (Wikipedia, 2008).

2.2 Constraints of Urban Agriculture

Despite the advantages of urban agriculture mentioned above, it has some constraints worth noticing. In many cities, it is being practiced as an informal sector and has little support from local councils (Bryceson and Potts, 2005).

2.2.1 Space for Urban Farming

One major challenge to the viability of UA is land availability. Urban agriculture requires land, whether the farming system is soil based or not. However, there is lack of space for growing crops in cities. As Bryld (2003) said it, “besides feeding the poor in the cities, there is an urgent need for providing shelter for the homeless”. Knowing that growing food in cities requires land, it may not be prioritized in urban land uses since the demand for urban spaces to build houses is by far higher than using spaces for agricultural activities. In most cities and towns there is a high demand for land for residential, commercial and industrial development among others. Argenti (2000) further emphasized that “...agricultural productive lands are likely to be lost in this competition.”

According to FAO (2006) urban and peri urban agriculture is influenced by rapidly changing land rights, uses, and values. High population densities lead to competition and conflicts over land and natural resources through conversion of land from agricultural to residential and business uses. The same source reveals that steady access to land at affordable prices is almost unknown to urban, and evens some peri-urban farmers. What is happening to many urban farmers, both men and women, is the constant threat of losing access to their plot and being forced to stop production activities. In many areas non-farming households' inability to access land in the city is the major reason given for not farming.

The study conducted on the effect of urbanization on urban and peri urban agriculture in Korea indicated that the most significant effect of urbanization on UA is the rise in land price in peri-urban areas. While this was apparently advantageous in terms of property value to farmers who hold farmlands in peri-urban areas, it also brought about many problems in terms of farming. The rise in land price in peri-urban areas was caused not by expected increase in agricultural income but by the possibility that farmlands would be converted into factories or housing areas, giving owners' great marginal profits (Kwon, 2007).

2.2.2 Health Problems

Urban agriculture can be a health hazard. It uses resources of cities such as waste water and urban wastes for production. Use of wastewater/polluted rivers and untreated compost may contaminate crops/livestock and become health hazards to human beings. Contamination of crops with pathogenic organisms as a result of irrigation with water from polluted streams and insufficiently treated wastewater or the unhygienic handling of the products during transport, processing and marketing of fresh products is the one cause of health problems of urban agriculture (FAO, 2006). The people who face potential risks from the use of wastewater for agriculture are agricultural field workers and their families, crop handlers, consumers, and those living near irrigated fields (FAO, 2006).

Wastewater can have direct and indirect health impacts. Direct contact with untreated wastewater through flood or furrow irrigation can lead to increased parasitic worm infection mainly roundworm, whipworm, and hookworm (Buechler, Devi Mekala and Keraita, 2006).

The main risk for the public arises when vegetable or salad crops grown with untreated wastewater are consumed raw. This can be linked to typhoid and cholera as well as to faecal bacterial diseases, bacterial diarrhea and dysentery among consumers of wastewater-irrigated produce (Buechler, Devi Mekala and Keraita, 2006).

Pollution released in to streams from industrial and commercial activity as well as residences affects the soil, air and water resources that urban agriculture uses. This pollution in turn poses health hazards to producers, handlers and consumers.

In most cities of developing countries, these water bodies may be the only source of irrigation. In Nairobi, the majority of plots farmed are located along the Nairobi River, which is heavily contaminated with both industrial and human waste (Foeken *et al.*, 2000). And studies carried out in Accra showed a high incidence of fecal pollution and microbial contamination along the banks of streams and drains that are used for watering vegetables (Amuzu *et al.*, 1992). Vegetables grown on polluted soils and in the vicinity of rail, roads

and industrial areas can be contaminated with heavy metals (mostly lead), pesticides, sulfur, and nitrate (Klemsu, 2000). These toxicants affect the nervous, digestive and circulatory systems, particularly threatening the health of young children (Klemsu, 2000).

In general (Lee-Smith and Gordon, 2006) have put the major health hazards associated with urban agriculture and its products as (1) chemical, involving direct or indirect contact with chemicals; (2) physical, such as injury from tools or equipment; (3) biological, involving direct or indirect transmission of harmful organisms; and (4) psycho-social, related to anxiety and stress.

2.2.3 Lack of Government Policy Support

The major constraints of urban farming in many cities include lack of policy issues about urban agriculture which resulted in less attention to the sector, limited working capital for farming and other use of resources (ORAAMP,2000).Urban agriculture is considered by many – and policy makers in particular – as an environmental hazard. They justify this by claiming that livestock can cause bad smells, noise, erosion and traffic accidents, and may be the source of diseases (Foeken, Sofer and Mlozi, 2004).

Specific land problems arise because town by- laws and regulations prohibit food production of certain types especially livestock rearing but sometimes crops also. Even in cities where agricultural use of land has been accepted and formalized, farming is squeezed by the growth of the city boundaries for residential and commercial purposes. (www.agent.org/activities). It seems that much urban agriculture is regarded by urban authorities as illegal and security of tenure is a recurring problem for producers (Binns and Kenneth, 1998).

Mougeot on his part argues that most importantly lack of positive government recognition in most of the developing countries has constrained urban farming in many ways. He says that the agriculture, food, health, nutrition and environmental policies of most countries do not include urban agriculture. Such lack of recognition, according to him, leads to

insecurity among farmers and consequently limits their commitment to and investment in farming (Mougeot, 2000).

The socio-cultural biases against urban agriculture are often strong. Some arise from the outdated, European 'city beautiful' views of what a city should be; some are related to local cultures. They often pertain to views about aesthetics, efficiency, hygiene and modernity in general. The biases tend to be persistent, particularly when they become institutionalised through policies, laws, regulations and enforcement mechanisms. The negative attitudes of critical actors are particularly constricting. For instance, when planners and economists regard urban agriculture as a marginal, informal-sector activity, the bias spreads to the market and credit agents, to legislators and the general population. The result is insufficient official support and private financing and policies and legislation inimical to farming in cities (UNDP, 1996).

2.3 Integrating Urban Agriculture in to Urban Land Use Planning

The current global trend toward ever-increasing urbanization, ongoing food insecurity, and environmental degradation – particularly in countries of the so-called South – makes it imperative to consider urban agriculture (UA) as a food provisioning alternative that addresses the nutritional needs of city dwellers while potentially contributing to the environmental health of cities and their surrounding territories (Premat, 2006).

The growth of urban agriculture in least developing countries has taken place in the face of socio-economic prejudices in form of planning standards and regulations that exclude agriculture from urban land use systems (Mireri *et al.*, 2006). In many cities, urban, peri-urban agricultural activities -- including animal husbandry, horticulture, aquaculture, fruit production, and food processing and marketing -- are practiced in various locations, usually with little regulation (Cabannes and Marielle, 2008).

Urban agriculture is increasingly becoming an important activity in urban economies. It can contribute significantly to the well being of farmers and other citizens in terms of food security and nutrition, income generation, and employment opportunity, if properly

managed. UPA is estimated to involve 800 million urban residents worldwide in income-earning and/or food-producing activities (Wikipedia, 2008; FAO, 2006).

The most unique feature of urban agriculture, which distinguishes it from rural agriculture, is that it is integrated into the urban economic and ecological system: urban agriculture is embedded in -and interacting with- the urban ecosystem. Such linkages include the use of urban residents as labourers, use of typical urban resources (like organic waste as compost and urban wastewater for irrigation), direct links with urban consumers, direct impacts on urban ecology (positive and negative), being part of the urban food system, competing for land with other urban functions, being influenced by urban policies and plans, etc. It is an integral part of the urban system (RUAF, 2008a). Because of its unique features, urban agriculture needs to be considered in urban use planning.

The land use plan is used to refer to that portion of the master plan which is devoted to proposals for industrial, commercial, business, and residential uses- the so called private uses of land, the public uses being covered by the term "community facilities". In other cases, while being constructed as a part of the master plan, proposals for both public and private uses of land are considered to be part of the land use plan (Stuart, 1965).

Urban agriculture has the potential to prosper in modern cities because of its multiple functions and relations with city issues. Cities provide easy access to markets' and a prevailing high demand for food. Other reasons for agriculture in the city are reduced transport costs for produce and an abundance of resources and opportunities (such as recycled waste, under-employment and the availability of urban labour). In fact urban agricultural practices have always been part of the city, but the integration of urban agriculture into the urban economy is what is lacking in today's urban planning and policies (Mubvami and Shingirayi, 2006).

To some planners, the term "agriculture" and "urban planning" are relatively mismatched. Since UA is often informal, and tends to be shifted to outskirts of cities, far away from markets and infrastructure, urban planners have the propensity to exclude the urban

farming sector from planning activities without analyzing the economic, environmental and interrelation with other sectors. Such neglect, however, creates several problems in many growing cities in developing countries of the world. The problem of physical disorder and its attendant issues of unsustainable urban growth and environmental inadequacies are a clear manifestation of the failure of land use planning and planners to recognize and incorporate certain aspects of urban complex into the land use allocation process, and device specific tools of administering or managing them (Jelili and Adedibu, cited by Adedeji and Ademiluyi, 2009).

Planners are often accused of posing the greatest challenge to urban agriculture as they have not integrated it into urban areas as a land use nor designed residential estates to allow the activity to be carried out on-plot. Possibly this lack of recognition and understanding of urban agriculture stem from the stereotypical view held by policy-makers that 'rural' and 'urban' are distinct entities, where rural is perceived as being synonymous with agriculture and urban is associated with services and manufacturing (Binns and Kenneth, 1998).

The central question here is how planners, urban managers and policy makers can facilitate or support urban agriculture. There is a need to understand what planning is all about and the constraints that planners face in trying to integrate urban agriculture into development plans (Binns and Kenneth, 1998). Urban agriculture could play an important role in urban planning by linking it to environmental, social and economic issue.

The study conducted on urban agriculture and urban planning in Tanzania argues that for an unpredictable future, the growth of the urban agriculture sector is likely to remain a necessary reality depicting urban land development in rapidly urbanising cities in Sub-Saharan Africa. The study shows inclusion of urban agriculture based livelihoods in spatial land use planning processes and structures, including decision making, preparation, and implementation and monitoring are observed rationale for improving the livelihoods of the urban poor-smallholder farmers and space use. This can be achieved through, but not limited to, adopting participatory urban planning approaches, settlement upgrading, institutional collaborations, decentralising roles to the local level and strengthening

smallholder organization through institutionalisation and giving them a voice platform in the political dialogue (Magigi, W. 2008).

According to the same study these options can be effective if the government is able to enforce and review policy and legislatures in place and if different actors are involved in the decision making processes, and if information and communication awareness is established. Other improvement include the use of treated wastewater technology for farming, granting long term tenure security, improving accessibility to resources, and adopting flexible planning standards. The study concludes that urban planners and policy makers have little choice but to ensconce and consolidate emerging forms of urban agriculture based livelihoods within land use planning practises and within a guided planning framework. If urban agriculture forms are not guided, then the negative effects, in the long run can undermine the livelihood of the urban poor and degrade the environment. Thus, there is an urgent need to guide the processes, strengthen institutional structures and linkages in land use planning practises, and consider local communities priorities when working to improve urban land governance in Tanzania (Magigi, W, 2008).

Therefore UA must be integrated into the city master plan and a thorough revision of the urban regulation must be carried out to include UA as an official part of urban land use. In order for agriculture to become more urban in character and also integrated into the larger urban land use planning, this must be innovated to cope effectively with city constraints and tap no less effectively on urban assets and flows found and generated by the city. Several studies exemplified the principle of integration through comparisons between intra-urban, peri-urban and rural activities. Urban land use planners should endeavor to promote multifunctional land use, and greater community participation in the management of urban open spaces as a way of integrating UA as a key concept in urban development programs. And also facilitate dialogue between different stakeholders so as to build consensus on UA (Adedeji and Ademiluyi, 2009).

Recently many urban centres have showing positive attitudes towards urban agriculture mostly because it provides some answers to the unique social, economic and environmental

challenges posed by fast urban growth. For instance, one mayor of Maranguape town in Brazil said the following statement;

Urban agriculture is mainly an informal activity in Maranguape, introduce to the city by migrant workers. Urban agriculture, however, has to be integrated into the municipal planning as part of the Main Urban Development Plan (Cabannes, and Marielle, 2008).

2.4 Urban Agriculture in Ethiopia

In Ethiopia, urban agriculture is used by the poor as the survival strategy. Dairy husbandry and other agricultural activities, such as keeping poultry, bees, and swine, vegetable farms, and floriculture, are mostly carried out on an individual basis within a residential compound. Such UA activities appear to provide practical solutions to some of the major problems of shortage of income, poverty, unemployment, and food insecurity faced by the urban low-income population (Egziabher, 1994).

Tewodros conducted study on urban agriculture in Addis Ababa and his findings revealed that cultivating vegetable crops and rearing large cattle are the most common agricultural activities by the urban crop producers and livestock owners, respectively. The former are the most dominant groups among all urban farmers in Addis Ababa. Many urban farmers (40 %) also experience mixed farming in the city. Urban farming in Addis Ababa has significant influence on the livelihoods of urban farmer households as compared to other livelihood options, where over 65 % of the households' income is derived from farming (Tewodros, 2007).

Vegetable producers supply most of the Addis vegetable demand. This implies that the urban vegetable production is not only contributing to the improved economic and nutritional conditions of the households actually involved in the production, but also it is offering a variety of benefits to the non-producing city inhabitants (Mohammed, 2002).

G/Egziabher, who made her doctoral thesis on urban agriculture in Addis Ababa, observed that most urban agriculture is carried out by extended families because of the need to share work. In addition, it allows families to fulfil cultural and social obligations. Family gardens

also guarantee the cooperation and assistance of different branches of the family to ensure long-term survival. "It's like insurance," she says. "I help you now, you help me later" (Egziabher, 1994).

The IDRC research team that visited the capital to oversee the condition of urban agriculture in Addis Ababa observed that the collective manner in which families ran their operations meant that those families had more money. They had less need to spend income from their jobs to buy food. About 60% of families who engaged in urban agriculture owned their own homes. The extra money also allowed the families to achieve higher education levels (Lee, 1997).

Besides this, urban agriculture has equal importance in the livelihoods of both the poor and better-off urban farmers, and contributed to income inequality among the farmers. In addition, the livelihoods of poor urban farmer households are less diversified, and the strategies of the majority (80 %) are either principally crop farming or non-farm based livelihoods, where as the better-off households follow mostly combinations of farm and non-farm based livelihood strategies (Tewodros, 2007).

Urban agriculture in the capital is also playing a significant role in making an economic use of land and water. This is because the cooperatives and households have put an idle and mostly unbuildable part of the city as well as idle water bodies in to productive use (Mohammed, 2002).

Even though urban agriculture has helped improve production and food security for the urban poor in Ethiopia, it is facing many problems. Urban development planning has neglected urban agriculture over the years. This has led to lack of supportive services to the sector. Urban agricultural practices are underdeveloped. They have not developed them to suit the changing demands for better technology (G/ Egziabher, 1994).

Urban agriculture has not been encouraged and given its rightful place in the economy. For example, extension services are not enough to the urban farmers. At the time when

G/Egziabher made her research on urban agriculture in Addis Ababa there was no stated policy regarding urban agriculture in Ethiopia (Lamba, 1993). Surprisingly there is no urban agriculture policy in Ethiopia even after 16 years.

In Ethiopia, urban farmers carry out urban agriculture on land in transitional use and where usufruct rights are at issue. This problem leads to low investment in urban agriculture and therefore poor productivity (Lamba, 1993).

Encouraging urban agriculture may reduce the problems of waste disposal in the major towns of Ethiopia; wastes can be used as manure and consequently increase agricultural productivity. Urban agriculture can also improve the health of the people through the reduction of wastes and an increase in the nutritional status. On the other hand, if wastes are left unused, they become a health hazard especially in the slums.

2.5 Conceptual Framework

The success of urban farming is determined by a lot of factors. It is unquestionable that urban farming requires land whether it is soil based or not. However, since land in urban areas has high demand and is very much expensive, as well as other "traditional land uses" is given priority, urban agriculture is forced to loose in the competition. In addition land urban farming needs other agricultural inputs. The inputs are supposed to be products of latest technology that help improve the quality and quantity of agricultural products with in limited supply of land so as to be profitable. This is because urban agriculture does not have larger plot of land as its rural counterpart. So it requires higher productivity within available small plot of land. The absence of modern agricultural inputs greatly reduces the output.

The other problem is institutional constraint. Many people mainly higher officials tend to develop negative socio cultural biases towards urban agriculture. Most people including researchers, urban planners, policy makers, and higher government officials do not have enough awareness about the contribution of urban agriculture in the life of urban poor. This is manifested by giving less attention to the activity in terms of allocating low budget,

insufficient human and material resources etc. This in turn negates the performance of urban agriculture.

The other factor that affects the performance of urban agriculture is the farmers themselves. Urban farming requires devotion and knowledge. The absence of both lowers the productivity of urban farming. The problem is especially serious on urban farmers who are organized to form cooperatives, and associations. This is partly due to low culture of working together, lack of commitment, leadership problem etc.

The low performance of urban farming owing to the above inter related factors leads to low productivity of urban farming and even to the termination of the business, which in turn results in increasing number of unemployment. Lower productivity of agriculture also means lower supply of the product that could not able to satisfy the needs of the people. This in turn contributes to higher price of agricultural products. The final result of the sequences would be high socio-economic burden on the society.

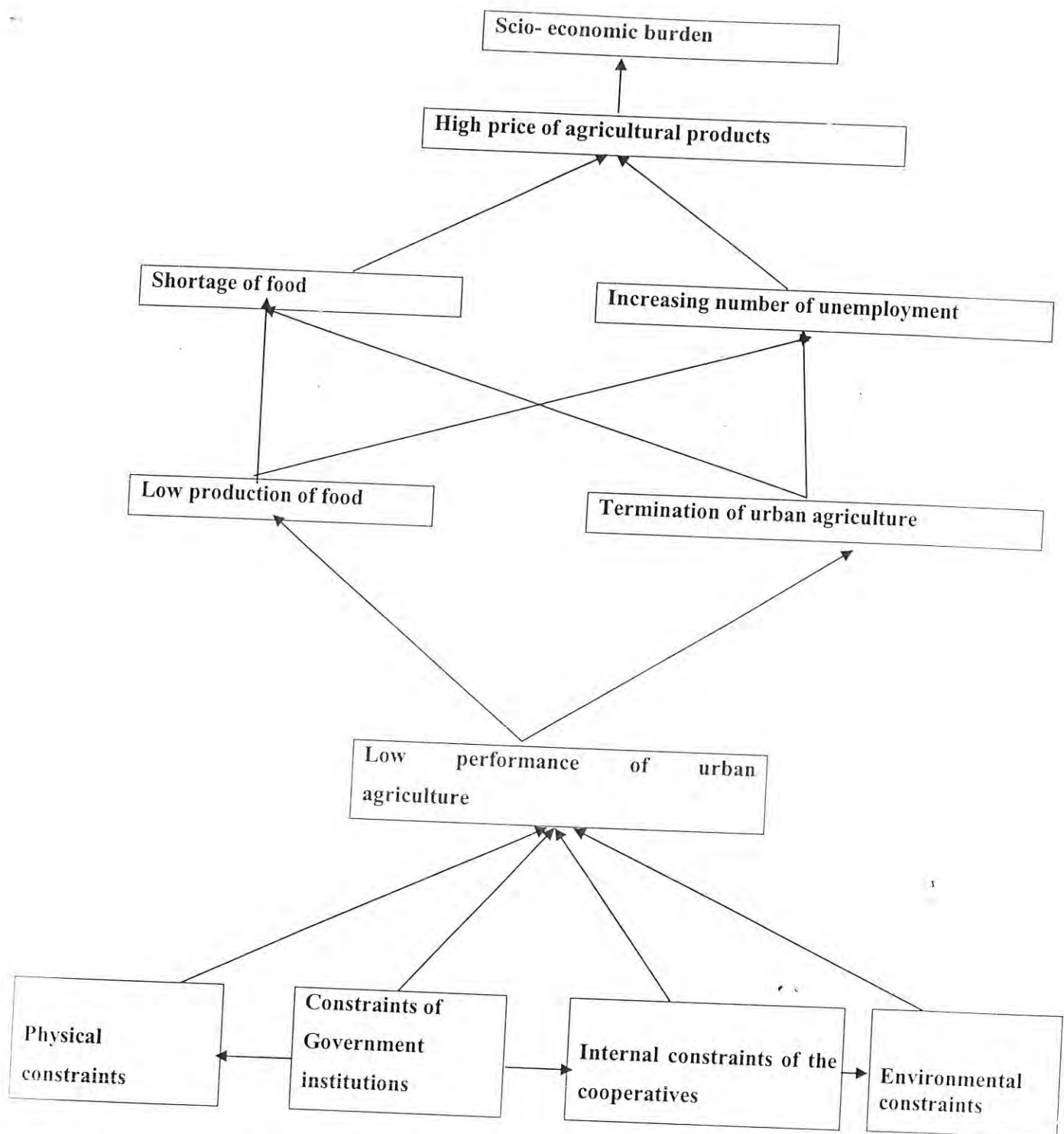


Fig. 2.1 the schematic presentation of the conceptual framework
 Author's own construction

CHAPTER THREE

3. METHODOLOGY

3.1 Study site selection

The study was conducted in Addis Ababa city, Ethiopia. The city was selected because it is the largest city in Ethiopia consisting more than 25 % of the total urban population in the country (FDRE, 2007); thus, it is assumed that it holds many of the urban farmers.

Different criteria were considered in selecting Nifas-Silk-Lafto sub-city, which is one of the ten administrative units of the city, for the study. Major criteria were presence of urban agriculture office and location of sub-city. This information was obtained after contacting with Addis Ababa urban agriculture office and Addis Ababa city administration. As a matter of fact urban agricultural offices are established in sub cities where the majority of urban farmers are reported to reside. Second, in the selected sub-city different types of urban agriculture are practiced which makes it favorable for the study. And at last the sub-city is accessible for the researcher.

3.2 Research Design

The nature of research problem most often indicates the methodology of the study (Creswell, 2003). The study aimed at examining the various factors affecting the productivity of the urban farming cooperatives that are located in Nifas Silk-Lafto sub city. Hence the study commands methodological pluralism (i.e. a combination of different data collection techniques), where both quantitative and qualitative data collection and analysis were employed, in order to answer the research questions formulated. Such methods help to find adequate information, and to get individual, group and institutional views.

In this research case study was employed as a strategy so as to realize objectives of the research. This is because case study helped the researcher to investigate a contemporary phenomenon within its real life context using multiple sources of evidences.

3.3 Choice of research Methods

The choice of research methods is determined by the nature of the research problem that lends itself to different methods and techniques of research. In this study both quantitative and qualitative research methods were utilized. Qualitative research is defined as any kind of research that produces findings that are not arrived by means of statistical procedures or other means of quantification. In the study a qualitative method was used to understand the views, feelings, ideas, beliefs, opinions, etc of the city's farmers regarding the major problems and constraints that they face in areas of provision of agricultural inputs, the technical assistance and other supports that they should have get from government, marketing problems they face in their products, and even the main organizational problems created by the associations themselves. The methodology was also used to understand the reflection of extension workers, agricultural experts, kebele administrators, urban agriculture office workers about the activities of urban agriculture in Addis Ababa in general and urban farming cooperatives in particular. Here especial emphasis was given on the major reasons why the institutions fail to help urban agriculture in the metropolis.

The study also utilized quantitative method as well. Quantitative method was utilized to assess data that are measured with numbers, and analyzed using statistical techniques.

3.4 Sampling Techniques

3.4.1 Sampling Method and Sample Size

In the sub city there are 45 cooperatives engaged in different kinds of urban farming activities. Hence all cooperatives in the sub city are used as the sampling frame. List of urban farmer cooperatives were obtained from agriculture office of Nifas Silk-Lafto sub city and from kebeles of the sub city.

There are three vegetation producing cooperatives, 23 dairy cow producers, 14 cooperatives that are engaged in fattening animals, 4 poultry producers, and one cooperative that engaged in both dairy cow and poultry production.

For the purpose of the study, one vegetation, 12 dairy cow, seven fattening, two poultry and one poultry and dairy cow producing cooperatives were selected as samples. Here, it should be noticed that the number of cooperatives selected for sampling from vegetation and livestock producing cooperatives are different. This is because vegetation and livestock producing cooperatives constitute different number of members. Since vegetation producing cooperatives have many members, 30% of vegetation cooperatives were selected whereas 50% of livestock producing cooperatives were selected since each cooperative has few numbers of members.

Once, the urban farming cooperatives were first stratified on the basis of their type of farming activities i.e. vegetable producers, and those engaged in livestock production of different kinds (poultry, fattening and dairy cow production, as well as dairy cow and poultry), from each association 20 percent of the population, a total of 80 members, were selected using stratified proportionate sampling technique so as to make it representative. See table 2.1.

Table 2.1; Type, number and percentage of cooperatives selected for sampling using stratified proportionate sampling technique.

No	Type of farming activity	No. of members	% of samples	No. of samples
1	Dairy cow production	12	20	2
2	Dairy cow production	12	20	2
3	Dairy cow production	12	20	2
4	Dairy cow production	12	20	2
5	Dairy cow production	12	20	2
6	Dairy cow production	11	20	2
7	Dairy cow production	11	20	2
8	Dairy cow production	11	20	2
9	Dairy cow production	10	20	2
10	Dairy cow production	10	20	2
11	Dairy cow production	10	20	2

12	Dairy cow production	10	20	2
13	Dairy cow production	10	20	2
14	Dairy cow production	10	20	2
15	Fattening	16	20	3
16	Fattening	12	20	2
17	Fattening	12	20	2
18	Fattening	12	20	2
19	Fattening	11	20	2
20	Fattening	10	20	2
21	Fattening	10	20	2
22	Poultry	22	20	4
23	Poultry	12	20	2
24	Dairy cow and poultry	12	20	2
25	Vegetation production	145	20	29
	Total	347		80

3.4.2 Recruiting and Training of Enumerators

A total of three enumerators were recruited from local areas to ease communication with urban farmers so as to collect reliable data from the sample urban farmers. All enumerators were high school graduates. These enumerators were given training for three days. Each assistant interviewer was trained about the purpose of the study, contents of the questionnaire and interviewing procedures. Interviews were used to be held for 40 minutes to one hour depending on types of urban farmers.

Then, the enumerators were deployed to the selected urban farmers to undertake survey questionnaire. During the period of data collection, I myself was there to visit the enumerators and to conduct a thorough check on the quality and verify the validity of their work in the data collection process in the field.

3.5 Collection of data

3.5.1 Primary data collection

In this research various techniques of primary data collection were utilized based on their appropriateness to the study. These were questionnaire, interviews, observation, focused group discussion, as well as key informant interview.

3.5.1.1 Questionnaire

Individual farmers who are members of the cooperatives were interviewed using a structured questionnaire. The questionnaire covered different topics to capture relevant information about demographic characteristics of urban farmers, types of agricultural practices, reason for farming, end use of agricultural products, location of farming, ownership of the land as well as farming practice of members of the cooperatives. It also covered different issues in relation to availability of agricultural inputs and services like land, water, improved seed, forage, fertilizer, and veterinary services. The questionnaire also raised some issues in areas of institutional supports expected from stakeholders, marketing of agricultural products as well as environmental related issues.

The questionnaire was prepared as simple as possible taking respondents' various backgrounds (e.g. age, education, etc) into consideration. Later, it was translated into Amharic, the commonly spoken and official language of the city. The questionnaire was also pre-tested on ten urban farmers, and corrections were made to improve the relevancy of the questions for the study area.

A survey of individual urban farmers was carried out during months of January –February, 2009. Despite busyness of the farmers, efforts were made to keep in touch and discuss with them at their spare times.

3.5.1.2 Interview

The interview is a flexible and adaptable way of finding things out (Robinson, 1993). According to him face - to - face interviews offer the possibility of modifying one's line of enquiry, following up interesting responses and investigating underlying motives in a way

that postal and other self-administered questionnaires cannot. Non verbal signs may give messages which help in understanding the verbal response, possibly changing or even, in extreme cases, reversing its meaning (Robinson, 1993).

In order to get additional and depth information from some members of the cooperatives, interview was also utilized as one tool of primary data collection.

3.5.1.3 Focused Group Discussion

A focused group discussion, as a tool of collecting primary data, is like a conversational interview conducted with a group of about 6 to 12 individuals, who are usually the same type of people. FCDs share similar advantages to interviewing, but have additional gain if allowing the research to explore how meanings and experiences are talked and matched between participants.

Four focused group discussions were formed with urban farmers; each representing urban farming cooperatives from different types of urban farming activities, i.e. vegetable producers, dairy cow producers, and those individuals engaged in livestock fattening as well as poultry producers. As a result one focused group discussion with each category, a total of four focused group discussions were made with the respective cooperatives grouped based on the type of farming they are involved in. Each group consists of six members.

During the discussion the researcher had an interview guide to direct a dialog among the focus group discussion participants in order to find out their experiences, opinions, views, perception in a given idea or issue. At the time of dialog the researcher was not strict to measure their discussion absolutely on the criteria of the predetermined interview guideline and was not rigid. The researcher provided sufficient time and opportunity for participants to express their views and opinions of the issues raised during discussion.

3.5.1.4 Observation

Observation involves being present in a situation and making a record of one's impression of what takes place. It is also clear that directness is the major advantage of observation which provides a degree of validity as it concentrates up on what people really do as opposed to what they say they will do. Here you do not ask people about their views, feelings, or attitudes; you watch what they do and listen what they say (Robinson, 1993). Observation also seems to be pre-eminently the appropriate technique for getting at 'real life' in the 'real world' (Robinson, 1993).

The researcher has visited and hence observed the working places of the cooperatives while the workers are doing their task. He has got the chance to observe the area of their plot of land, tools they utilize for farming, etc.

3.5.1.5 Key Informant Interview

The key informant interview is a powerful data collecting instrument in qualitative research. The key informant may be an expert or knowledgeable person with first hand information about urban agriculture, who tells important information to the interviewer. The logic is that key informants know the issue very well to talk with relevant issues to get reliable information about the subject.

Five key informants were identified and recruited for the purpose of the study. These include two experts from Addis Ababa city government of urban Agricultural Office, one from crop production, and the other animal husbandry, and three were from Urban Agriculture Department of Nifas Silk -Lafto sub city. These individuals do have better knowledge about the extent of urban agriculture in the sub city. The interviews were conducted with them in order to gather their experience and views towards the issue of urban agriculture. Since they have ample information about the subject it was possible to get enough information regarding urban farming in the capital.

3.5.2 Secondary data sources

Secondary data collected by others for different purposes were also used in this study. Secondary data were used from various sources produced by different government and non-governmental organizations according to their relevance to the purpose of the study. These data were helpful to conceptualize and provide clear ideas to analyze the research work. Secondary data also helped to gain better insight of the issue under the study before getting into the field work.

Addis Ababa city administration, Urban Agriculture offices, and Central Statistical Authority of Ethiopia were major sources for collecting secondary data. Executive summary of the current land use and city structure of Addis Ababa, and its master plan were obtained from Addis Ababa city administration. Maps showing existing land use, and location of sub-city and 'kebeles' were also collected from the city administration office. Demographic, meteorological and geographical information were collected from the Central Statistical Authority.

3.6 Data analysis

The collected data were coded, entered into a computer database and analyzed using Statistical Packages for Social Sciences (SPSS) for windows, version 10. MS-Excel was also used for drawing graphs and plots depending on its convenience.

Data analysis was started with calculating frequencies (percentages), values of respondents' characteristics. Respondents' characteristics include age, sex, marital status, level of education, and their responsibilities in their respective associations. Frequencies (Percentages) were repeatedly used to show proportion of respondents in the respective issues. Qualitative data were also analyzed to describe and to explain the attitude, opinion, views of respondents gathered through interview, focused group discussion, and key informant interview.

CHAPTER FOUR

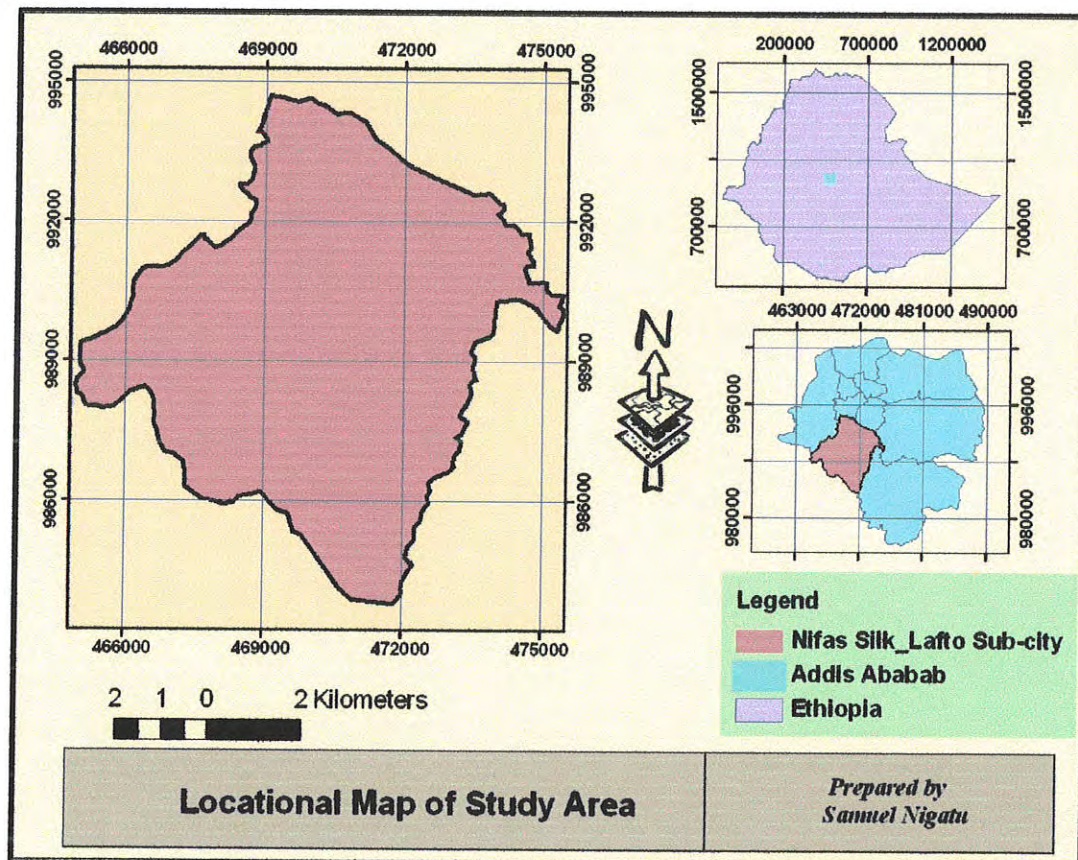
4. DESCRIPTION OF THE STUDYAREA AND CHARACTERISTICS OF RESPONDENTS

4.1 Description of the Study Area

4.1.1 Geographical Location and area

Addis Ababa is located at the geographical center of the country and lies between 8 degrees and 55 minutes north and 9 degrees and 05 minutes north latitude and 38 degrees and 40 minutes east and 38 degree and 50 minutes east longitude. Based on Addis Ababa urban land use plan report (ORAAMP 1999), the total land area of Addis Ababa is 530.14 square-kilometers.

Fig 4.1; location map of the study area



4.1.2 Climate

The city has a warm temperate and rainy climate. Its average daily temperature is about 16°C. The average monthly maximum temperature ranges between 20.3 degree centigrade in August and 24.3 degree centigrade in May during day time and the average monthly minimum is between 7 degrees centigrade and 12 degrees centigrade at night. Mean annual precipitation is about 1180 mms. The average annual rainfall amount is 1178 mms with variations between 8 mm in November and 2780 mm in August and has uni-modal rainfall regime starting from June to September. Dry seasons occur in October through February. During dry season, many urban dwellers engage in urban farming.

4.1.3 Population

Population of Addis Ababa is about 3,000,000 with growth rate of 3.7% according to Central Statistical Authority of Ethiopia (2005). Some of the city residents are indigenous people in the area, while the other part of the population consists of migrants from other regions of Ethiopia.

The city is made up of urban and peri-urban areas, and is divided into ten sub-cities which are Addis Ketema, Akaki-Qality, Arada, Bole, Gulele, Kirkos, Kolfe-Keranio, Lideta, Nifasilk-Lafto, and Yeka sub-cities. The Addis Ababa city Council is responsible for administration of the city. Seven of the sub-cities have urban agriculture offices under their sub-city capacity building program offices; that is, except Arada, Addis Ketema and Kirkos sub-cities. Nifas Silk-Lafto sub-city has the total population of 316,108 out of which 148,892 are male. Whereas the rest, that means 167,216 are females (CSA, 2008).

4.1.4 Physical characteristics of the city

The average altitude of Addis Ababa is 2408 meters above the sea level. The highest peak is found at Mount Entoto with 2800 meters. The lower part of the Akaki plain has an altitude of 2200. The city is surrounded by the Entoto massive in the north. The upper parts of the city is characterized by steep slopes with high mountains, flat topped plateau while the lower part is less steeper (Region 14 Environmental Protection Bureau, 1997). The city is endowed with numerous streams that start from North West and north east running

towards the south and draining to the Awash River. The most important streams and rivers are the Kebena, the Ginfle, the Bantiyketu, the Buhe, the Akaki and the Kechene rivers (Region 14 Environmental Protection Bureau, 1997).

4.1.5 Farming in Addis Ababa

Urban farming in Addis Ababa city can generally be divided into two categories: the first category is farming on back yard and open spaces around houses, low-lying areas and along river sides in the city core areas; and the second category is found in peri-urban areas within commuting distance, that is, as far as public and private city transport in Addis Ababa can take the farmer. In the study, the first category was considered as urban area because it is mainly occupied by residential houses, offices and other facilities with and without space for farming, and the second category as peri-urban area since it is away from the city core area and consists mainly of some residential houses with comparatively larger areas for farming than the urban area. Urban fringes can be included under either of the two categories depending on their association with the city and the surrounding rural areas. Places which were under neither of the categories were considered as rural and were not included in this study.

4.2 Characteristics of Respondents

On the survey data sex, age, marital status, educational background, and responsibility of members of the cooperatives were collected.

4.2.1 Age, Sex and Marital status of Respondents

Some basic demographic characteristics respondents under the study in Nifas silk -Lafto sub city are presented in Table 4.1, Table 4.2, and Table 4.3.

Among the members interviewed, 62 % were male and 38 % female. This is mainly because most of time males have the tendency and courage to be organized to form cooperatives than females who are more passive and prefer to spend their time at domestic tasks rather than to be organized to do business outside of home.

The majority of respondents were found at the ages between 26 to 35 years (table 4.2). They accounted for 28 % of the total number of respondents. They were followed by respondents who were found between 36 to 45 age groups that constituted 25 %. The third major groups were found at the ages between 46 and 55 that consist of 24 %. Youngsters, i.e. who were found between 15 and 25 years of age accounted for 21 % of the total number of the respondents.

Table 4.1; Distribution of sampled respondents by sex

No	Sex	No of respondents	Percentage
1	Male	50	62
2	Female	30	38
	Total	80	100

Source; author's survey, 2009

Table 4.2; Distribution of sampled respondents by age category

No	Age	No of respondents	Percentage
1	16-25	17	21
2	26-35	22	28
3	36-45	20	25
4	46-55	19	24
5	56-65	2	2
	Total	80	100

Source; author's own survey, 2009

Most of sampled respondents were single (table 4.3). Unmarried respondents accounted for 38 % of the total number of respondents. Next to single respondents were married, that consisted of 34 % who were followed by widowed ones that covered 16 % of the total population of the study area. Finally divorced respondents accounted for 12 % of the total number of respondents.

Table 4.3; Distribution of sampled respondents by marital status

No	Marital status	No of respondents	Percentage
1	Married	27	34
2	Single	30	38
3	Divorced	10	12
4	Widowed	3	16
	Total	80	100

Source; author's survey, 2009

4.2.2 Educational Status of Respondents

The survey result shows that many of the respondents (59 %) had below secondary school education. It also shows that the majority of the respondents (76%) had formal education, i.e., with primary, junior-secondary and secondary education, each account for 18%, 18% and 25% respectively. Respondents above 12th grade constituted 16 %. Those with no formal education were 24 %. From the analysis it can be observed that the majority of sampled respondents (i.e., 59 %) of the respondent are with education above the primary level. This finding shows us something. People with higher academic background have better information and knowledge to participate and work in cooperatives and associations.

Table 4.4; Educational status of sampled respondents

No	Educational status	No of respondents	Percentage
1	Illiterate	9	11
2	Literate (able to write and read)	10	12
3	1-6 Grade	14	18
4	7-8 Grade	14	18
5	9-12 Grade	20	25
6	Over 12 th Grade	13	16
	Total	80	100

Source; author's survey, 2009

4.2.3 Responsibility of respondents in their respective cooperatives

In the cooperatives all members are given different responsibilities. From the rules and regulations of the cooperatives it has been learned that all members have equal rights and responsibilities to share every position turn by turn. Therefore, this research attempts to identify responsibilities and positions of respondents. The following table shows the responsibilities of respondents under the study

Table 4.5; Responsibility of sampled respondents in their respective cooperatives

No	Responsibility of respondents	No of respondents	Percentage
1	Member	43	54
2	Chairman	9	11
3	Vice chairman	6	8
4	Cahier	11	14
5	Secretary	5	6
6	Manager	1	1
7	Team leader	4	5
8	Monitor	1	1
	Total	80	100

Source; author's survey, 2009

From table 4.5 one can easily observe that the majority of sampled respondents were members of the cooperatives without specific responsibility. Members accounted for more than half of the total sampled respondents i.e., 54 % of the total respondents. They were followed by cashiers that constituted 14 %. Chair persons of the cooperatives constituted 11 % of the total population.

CHAPTER FIVE

5. CHARACTERISTICS OF URBAN FARMING

5.1. Urban Agricultural Production Systems in Nifas Silk-Lafto Sub-City

5.1.1. Types of Agricultural Production Systems

In the study area, different agricultural production systems are carried out by the cooperatives which include crop production, livestock production of different kinds. However, the most common types of agricultural production systems carried out by the majority cooperatives include; vegetables production, dairy cow production, animal fattening as well as poultry production. Therefore, the study focused on these most common agricultural productions systems. The results of the survey are presented in the following sub-sections.

5.1.1.1 Vegetable Production

36 % of sampled respondents were engaged in vegetable production (table 5.1). A variety of crops are grown across the surveyed sub-city. The most common types of crop production practiced in the study area by cooperatives are vegetables. This is because they are highly demanded by residents of the city. Since they are produced in the territory of the city, they are relatively near to the market. Cultivating a variety of vegetables is found to be the most common practice compared to other kinds of crops. Carrot, different types of cabbage, cauliflower, lettuce, tomato, and/or potato are the most commonly cultivated vegetable crops. All the vegetable producers reported that they cultivate vegetables mainly for selling of the produces. And, they use the money for purchasing their foodstuffs and cover other household expenses. Cultivating field crops or tree planting are less common activities.

5.1.1.2 Livestock Production

The study reveals that 64 % (table 5.1) of respondents are engaged in rearing of livestock of different kinds. This is mainly because animal production relatively requires a smaller amount of land as compared to that of crop cultivation. And at the same time it is possible to raise animals within houses (shades or shelters).

Out of the livestock producers, the majority of them are engaged in dairy cow production. They account for 35 % of the total respondents. Next to dairy producers are respondents who are engaged in fattening of livestock that constitute 19 % of the total respondents. The following table presents distribution of respondents by type of urban farming activities they are engaged in.

Table 5.1; Distribution of sampled respondents by type of farming activity

No	Type of urban agriculture	No of respondents	Percentage
1	Vegetation.	29	36
2	Dairy cow	28	35
3	Fattening	15	19
4	Poultry	6	8
5	Dairy cow and poultry	2	2
	Total	80	100

Source; author's survey, 2009

5.2. Input Use and Technologies

Farmers basically require land, labor and capital to carry out their farming activities. In this section, agricultural inputs and technologies employed by urban farmers in Addis Ababa of Nifas silk-Lafto sub city are presented, both for crop and livestock producers.

5.2.1 Inputs and technologies for vegetable production

It was generally found that urban farming activities in Addis Ababa are not different from the rural Ethiopia in terms of technology uses. It was observed in all the cooperatives under the study that the farmers employ traditional tools such as hand tools and extensive labor to cultivate their fields. Use of irrigation was found to be a common activity for vegetable production. Vegetable producing cooperatives irrigate their fields during the production period.

However, in all the case, furrow irrigation is the most common activity, which is labor demanding and has risk of flooding during heavy rains. The farmers reported that building

dam is a pre requisite for cultivating crops every year. It is because the dams are washed away by heavy rains during the summer and sometimes in dry seasons when there are sudden heavy rains.

Use of fertilizer and manure is also common in all cases, where 100 % of the vegetable producers apply fertilizers and/or manure before/after planting their crops. Major source for fertilizer is purchasing directly from market (86 %), where as purchasing fertilizer from urban agriculture departments of Nifas Silk- Lafto Sub-City is relatively less common (i.e., 24 %).

5.2.2 Inputs and technologies for livestock production

Most of the livestock raising cooperatives tend to invest more on large cattle such as cows and oxen than other kinds of livestock.

They keep the livestock mostly in barns. Some of the livestock producers purchase processed feed for their livestock, and stall feeding is the most common feeding technique in all the cooperatives. Using tap water is the most common way of watering livestock. Wage labor use was found to be relatively common in livestock rearing, and member labor is most widely used input by many livestock owners.

5.3 Reason for urban agriculture

People engage in urban farming for many reasons. Most urban poor households produce agricultural products to satisfy the basic need of food. Some even manage to grow enough to sell the surplus, providing much needed income. For others, especially on the outskirts of the city, farming becomes their main occupation and may provide support for an entire family or group of families. For others urban farming is a source of employment opportunity.

When we come to the study area, the majority of the respondents (33 %) engaged in urban agriculture so as to get money i.e., generate income. They are followed by respondents who wish to fill food shortage and at the same time to get job. These respondents account for 23

% of the total respondents. The third major groups of individuals are engaged in urban farming because they did not have job. They consisted of 21 % of the respondents. The other 13 % of respondents participated in the business so as to fill food shortage and to generate income in to their pocket. The following table presents the reason why the respondents engage in urban farming.

Table 5.2; Distribution of sampled respondents by the reason why they are engaged in urban farming

No	Reason for Urban Agriculture	No of Respondents	Percentage
1	To fill food shortage	1	1
2	To get income	26	33
3	To get job	17	21
4	Inheritance from parents	1	1
5	Hobby	1	1
6	To fill food shortage and to get income	10	13
7	To fill food shortage and to get job	18	23
8	To get income and to get job	5	6
9	Other(inheritance and to get income)	1	1
	Total	80	100

Source; author's survey, 2009

5.4 End use of agricultural products

The cooperatives use agricultural products for different purposes. It is obvious that most of the products are taken to market because it is the basic reason why the cooperatives are established. Nonetheless, it does not mean that all of agricultural products are produced for marketing purpose.

As discussed above the cooperatives are market oriented, and as a result most of agricultural products are used for marketing purposes. 61 % of respondents said that they sell all of their products for market; where as 38 % of respondents respond that they sell the majority of agricultural products and they use the rest for home consumption. From

focused group discussion made with some respondents, it is learned that members utilize some of agricultural products for home consumption particularly when the products are not good enough for market and there is less demand for the products. Their answer is presented in the following table.

Table 5.3 End use of agricultural products by sampled respondents

No	Usage of agricultural products	No of respondents	Percentage
1	For market	49	61
2	For home consumption	-	
3	Half for market and half for home consumption	1	1
4	Majority for market and few for home consumption	30	38
	Total	80	100

Source; author's survey, 2009

5.5 Location (place) of urban farming

Most of the time urban agriculture is undertaken in areas where the land is not suitable to other functions such as residence, manufacturing, business centers, etc. From field observation and questionnaire it is shown that all of the urban agriculture cooperatives are located in the outskirts of the city. Vegetable producing cooperatives are located along river side of Akaki River whereas livestock production is taken place in different places though all of them are found at the periphery of the city. This is mainly because the price of land at the periphery of the city is relatively cheap as well as it is accessible as compared to downtown of the city.

5.6 ownership of land

Ownership of land dictates the belongingness that the person feels toward the land he/she occupies and then the security that a farmer feels in the direction of the sustainability of farming activity in the future. It is believed that if the land belongs to the farmer, he does not have the doubt of losing his land as a result he works hard to achieve success in his task

and at the same he/she invests on the land. On the other hand, if the land belongs to someone else, it negatively affects the security that a farmer feels and as a result affects the investment towards his farm and its sustainability. Especially the problem is very serious if the land is rented from private individuals.

Concerning the case of sampled respondents of the study, the majority of respondents get the land from government. This is because according to the 1995 FDRE constitution and other laws of the country, the land belongs to government and administrated by government and its people. Particularly it is true of respondents from vegetable producing cooperatives. By the way most members of vegetable cooperatives inherited the land from their ancestors. Livestock producers have different answers to the question of ownership of their working place. Since all livestock producing cooperatives raise animals inside of some shelters, some of them (19%) were given shades by government in the form of rent. Here, it should be noticed that these shades were not actually prepared for animal keeping but rather for other purposes such as woodwork, construction, and metalwork, etc. Other respondents reply that they either rented from private individuals (25 %) or work on their own houses (24 %). The following table shows ownership of land of sampled respondents.

Table 5.4: Ownership of land of sampled respondents

No	Ownership of land	No of respondents	Percentage
1	Own land	19	24
2	Government	41	51
3	Rent from private individuals	20	25
	Total	80	100

Source; author's survey, 2009

5.7 Farm Experience

Farm experience is the number of years the respondents are involved in farming. The majority of respondents (46 %) have 1.1 year – 5 years experience (table 5.4). The second largest group of respondents (35 %) have only one and less than one year of experience. It is found that 81 % of the respondents have five years and less experience. From this data

we can draw a conclusion that most individuals are becoming involved in urban farming in recent years. In other words, the number of people engaged in urban agriculture in forms of cooperatives is increasing from time to time.

Table 5.5: Distribution of sampled respondents based on their farm experience

No	Farm Experience	Frequency	Percentage
1	1 month-1 year	28	35
2	1.1 year- 5 years	37	46
3	5.1 years – 15 years	9	11
4	15.1 – 35 years	6	7
	Total	80	100

Source; author's survey, 2009

CHAPTER SIX

6. CONSTRAINTS OF URBAN AGRICULTURE

The potential of urban agriculture in the city of Addis Ababa is constrained by the limitation of various determinant factors. Results of the survey indicate that constraints that urban agriculture cooperatives face in the study area can be broadly categorized in to physical constraints, institutional constraints, organizational constraints, marketing constraints as well as environmental constraints. In this chapter an attempt is made to discuss each constraint in detail one by one.

6.1 Physical constraints

6.1.1 Shortage of Space for Urban Farming

Urban agriculture requires land, whether the farming system is soil based or not. But the problem is that land is not easily available in urban centers for urban agriculture. Even though urban agriculture benefits urban residents by providing food, job and income, it may not be prioritized in urban land uses since the demand for urban spaces to build houses is by far higher than using spaces for agricultural activities. In most cities and towns there is a high demand for land for residential, commercial and industrial development among others and as a result agricultural lands are likely to be lost in this competition.

Addis Ababa is expanding at alarming rate with the development of real estate, road construction, and other infrastructural developments. This leads to shortage of land that might be accessible to urban agriculture in the city. This is the major problem that urban farming in Addis Ababa is facing.

From focused group discussion made with members of the cooperatives it has been found out that, they really wanted to expand their business because it was difficult to be successful working in this very narrow place. Thus, they asked government to give them land. What was disappointing, however, is that at this time government does not have land to offer to cooperatives. The following table presents the percentage of respondents on the basis of their requirement to get land and the response they get from government.

Table 6.1; Distribution of sampled respondents on the basis of their requirement to get land and response they get.

No	Have you ever asked government to give you land?	Frequency	Percentage
1	Yes	62	78
2	No	18	22
	Total	80	100
	If yes, what kind of response did you get?		
1	We were given land	-	
2	We were told to wait	33	53
3	We were told we will never get it	28	45
4	Missing	1	2
	Total	62	100

Source; author's survey, 2009

From table 6.1 it is shown that 78 % of respondents asked government to give them additional land so as to expand urban agriculture. However, none of them could be able to get what they needed. They got different answers from government but none of them were encouraging. 53 % of them were told to wait for unspecified time, where as 45 % of them were told to give up on their demand for government already told them that it has nothing to offer them.

In addition to asking government to give them additional land so as to expand their urban farming, most cooperatives made some attempts to buy or rent and even to borrow from individuals. Nevertheless, the results were not found to be satisfactory. The respondents were asked to mention whether they face problems regarding their effort to expand their land and the response they get.

89 % and 80 % of respondents reply that they made attempt to buy and rent land respectively. However, the results were found to be failure. During focused group discussion it is learned that, two main reasons are responsible for the failure. The first one

is the price of land and even shelter for animal production. It is well known that land and house are very expensive in the city. Since urban agriculture cooperatives are somewhat poor, they cannot afford to buy and rent with this high price. The other main reason is the land is not for sale in the market as it is forbidden by the constitution of the country. The following table shows response of respondents who claim that they face problem in their attempt to buy or/ and rent land or shelter for livestock keeping.

Table 6.2; Distribution of sampled respondents on the basis of their attempt to expand land and the problem they face.

No	Do you face problem to buy land?	Frequency	Percentage
1	Yes	71	89
2	No	1	1
3	No answer	8	10
	Total	80	100
	Did you face problem to rent land?		
1	Yes	48	60
2	No	24	30
3	No answer	8	10
	Total	80	100
	Did you face problem to borrow land?		
1	Yes	3	4
2	No	9	11
3	No answer	68	85
	Total	80	100

Source; author's survey; 2009

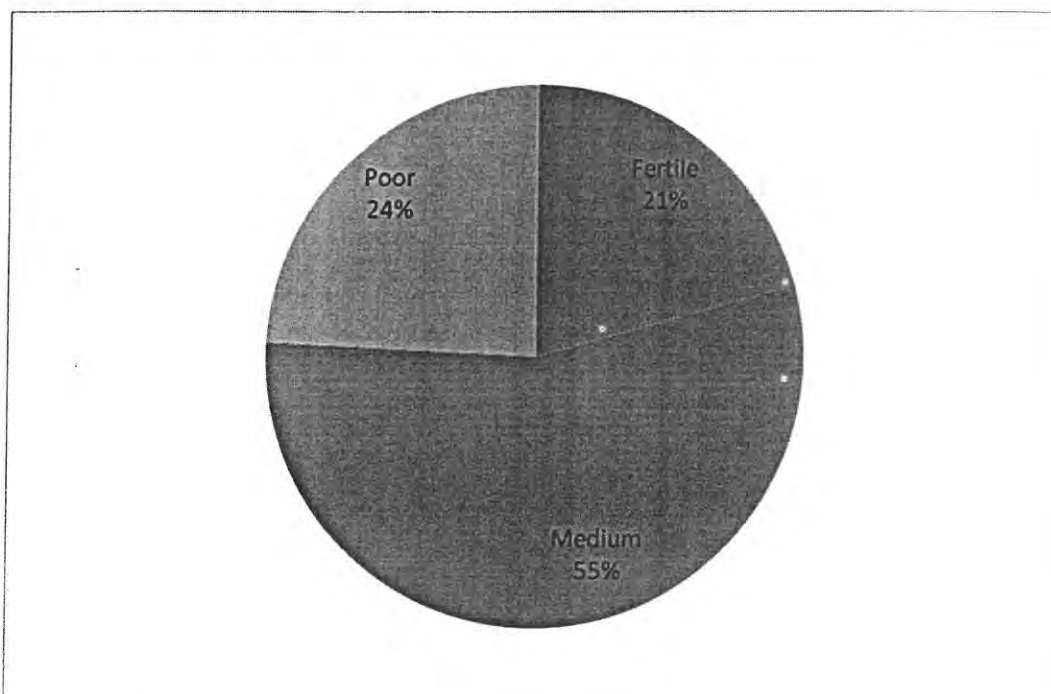
Although it has been argued that the urban farmers have used idle steep slopes along the rivers in to productive use, the land occupied by some of the cooperatives still has some potential for other important non agricultural urban activities, particularly road construction. A good example for this is, Makanisa, Goffa and Furi Sarris vegetable

producing cooperative. The cooperative is one of the cooperatives under the study. It is the biggest cooperative in the city in terms of number of its members and area it occupied. Until recently it had 150 ha. of land. But due to road construction undertaken near to their plot of land, they are forced to lose some portion of their land. Of course, they were compensated with money. But they needed government to give them another land to replace what they lost since the land is permanent capital. Unfortunately, their wish could not come to be true. Consequently, some members express their fear of eviction from their plots due to possibilities of request for their land by investors and government. This implies that, although urban agriculture is benefiting many urban farmers as well as non farming households, it has been given secondary priority by the government. It is the fear of most of the cooperatives to lose their land because quite a large portion of land occupied by them could also have been used for other urban purposes. The problem is aggravated as the value of land is highly increasing in the city of Addis Ababa.

In addition to the above problem, the land given to urban agriculture cooperatives from government is on temporary base until there is request for the land. From interviews conducted with some kebeles officials, it has been learned that as far as land tenure is concerned there is an agreement between government and the urban farmers on a temporary ownership of the land and the latter would leave the area when requested. This in some cases has deprived urban farmers their right of being considered as legitimate residents of the kebele. With low tenure security and questionable legality, it is difficult for the cooperatives be motivated to invest on the business and to think for the long term plan of farming.

In addition to land shortage vegetable cooperatives in particular are suffering from lack of soil fertility. The soil is becoming severely degraded over time. Respondents were asked whether they believe that their land is fertile or no. 55 % of respondents believe that the quality of the soil is medium, whereas 24 % of them reply that the soil is poor in its quality. The rest, i.e., 21 % believe that the soil is fertile. Their response is presented in the following pie chart.

Fig. 6.1; pie chart indicating percentage of sampled respondents based on their response to the quality of land



Source; author's survey, 2009

6.1.2 Constraints of Water

Water is very crucial for any farming activity, be it vegetable production or livestock rearing. Without water it is impossible to grow plants or raise animals. Urban farming cooperatives use water from different sources. The main sources of water for the cooperatives are tap water and river water as indicated in the following table.

Table 6.3; Source of water for urban farming cooperatives

No	Source of water	Frequency	Percentage
1	Tap water	48	60
2	Well	3	4
3	River	29	36
4	Spring	-	-
	Total	80	100

Source, own survey.20009

From the above table one can easily observe that the major sources of water for urban farming are tap water and river. They constitute 60 % and 36 % respectively. This is mainly because livestock producers raise animals in door and it is natural that they use tap water since it is accessible. At the same time vegetable cultivators cultivate alongside riverside so that they utilize river water for watering vegetables.

Unfortunately one of the major problems that cooperatives under the study are suffering from is water. However, the problems that vegetable producers and animal producing cooperatives face are contrary to each other. The former are suffering from excess of water where as the latter from shortage of water as indicated in the following table.

Table 6.4; Response of sampled respondents on their access to water for urban farming

No	Do you think there is enough water for your farming activity?	Frequency	Percentage
1	Yes	37	46
2	No	43	54
	Total	80	100

Source, author's survey, 2009

From questionnaire administered to respondents, it has been found out that 54% of them said that they have serious shortage of water for their urban farming. These are livestock producers. This is because they utilize tap water, and there is serious shortage of tap water in the city. The rest 46 % said that they are satisfied with the availability of water.

It is known that the cooperatives engaged in livestock production rear animals in shades (indoor) either rented from government or from individuals. Almost all of them use tap water for animal production. According to some livestock producers using tap water has two major problems in the study area. The first one is its cost. Even though in reality tap water is considered relatively cheap in Addis Ababa when compared to other countries, most urban farmers complain the bill of tap water is expensive.

The second and even more severe problem is scarcity of water. 54 % of respondents (table 6.4) reply that there exists serious shortage of water for urban agriculture. Actually shortage of water in Addis Ababa is not limited to urban agriculture only but it also includes other activities such as for residential, manufacturing activities. During focused group discussion with livestock producers it has been learned that most respondents did not get tap water every day. Most of them say they have access to tap water only two times a week and usually the water is accessible at night when everyone is asleep which is not convenient to fetch water.

However, shortage of water is not the problem of vegetable producing cooperatives. Rather the opposite is true. From interview conducted with leader of vegetable producing cooperatives it has been learned that, since they use river water throughout the year, they are not suffering from shortage of water. Conversely the problem is excessive of water during summer in the form of flooding.

6.1.3 Lack of Modern Agricultural Inputs

The other serious constraint that the cooperatives engaged in urban agriculture face is inaccessibility and cost of inputs such as improved seed, fertilizers, pesticides, forage, veterinary services, and equipments.

6.1.3.1 Shortage of Improved Seed

Owing to the advancement of science and technology it is possible to increase the productivity of agricultural products in many folds. There are different plant and animal species that are genetically modified in order to enhance productivity and to make them drought and diseases resistant, etc. However, most of the cooperatives could not have the access to enjoy the benefit of these fruits of science. 76 % of respondents said that they don't have access to best seed (table 6.5). They mention two main reasons as obstacles to the problem. 20 % of them reply that it is not available easily at the market. 36 % of respondents complain that it is expensive. The rest i.e. 44 % said both inaccessibility and higher price of improved seed are the main reasons to the problem to have access to best seed. See table 6.5.

Table 6.5; Responses of sampled respondents on the basis of their access to improved seed

No	Do you have access to best seed?	Frequency	Percentage
1	Yes	19	24
2	No	61	76
	Total	80	100
	If no, what is the reason?		
1	It is expensive	12	20
2	It is not easily available at the market	22	36
3	It is not easily available and expensive	27	44
	Total	61	100

Source; author's survey, 2009

Urban agriculture department of Nifas Silk- Lafto Sub-City once provided improved seed to urban farmers. But lately, it stopped to provide the best seed. The researcher tried to discuss with the head of the urban agriculture department of the sub-city to find out the reason why they discontinued from supplying the seed. According to her, it is the failure of agricultural research centre to supply the best seeds. The department used to receive these improved seeds from the agriculture research centre and distributed to urban farmers. But after a while, the research centre failed to supply the seeds. So did the urban agriculture department. She said that the problem is aggravated as it is found only at the market and only few farmers are aware of that it is found at market. What is worse is that it is very expensive. Because absence of such improved seeds, productivity of the cooperatives is too low to be profitable so as to continue in their farming activity.

6.1.3.2 Shortage of Forage

Forage is playing a very important role in livestock production. Livestock produce milk or beef only when they get the appropriate feed.

Urban farming cooperatives engaged in livestock production in the study area have serious problems in areas of forage. 65 % of respondents said that they do not have easy access to

forage. The first problem is that it is not available around the production place of the cooperatives. 46 % of respondents of those urban farmers who allege that they do not have easy access to forage complain that the price is expensive. Whereas 21 % believe that it is inaccessible. Others, i.e., 33% of respondents mention both unavailability and high price as the major reasons to the problem. See table 6.6.

Table 6.6; Response of sampled respondents on availability of forage

No	Do you get forage easily?	Frequency	Percentage
1	Yes	18	35
2	No	33	65
	Total	51	100
	If no, why?		
1	It is expensive	15	46
2	It is not easily available	7	21
3	It is expensive and not easily available	11	33
	Total	33	100

Source, own survey, 2009

From focused group discussion made with livestock producers, it has been found out that the problem aggravated because of the existing distance between farming place and where forage is put up for sale. As it is mentioned in the earlier section, the cooperatives are located at the periphery of the city, where as the forage is accessible down town. The distance between location of livestock rearing and the place where the forage is selling forced them to incur additional transport cost on top of the high price of the forage.

In order to save the cost of forage almost all cooperatives feed the cattle crop residue that could not satisfy the minimum requirement needed to feed the cattle. This in turn reduces the product that the cooperatives could get.

6.1.3.3 Shortage of veterinary service

One of the things that livestock producing cooperatives are in need of is veterinary service. Since most urban farmers could not have enough space to accommodate the livestock, they are congested in a very narrow place. This situation made livestock vulnerable to various communicable diseases. Furthermore people engage in urban farming do not have enough knowledge how to take care of the safety and health of cattle. This aggravates the health problem of the livestock. The situation makes veterinary service a must.

It is natural to think that living in the biggest city of the country contributes a lot to have access to veterinary service. But it is not without any problem. For instance, 57 % of respondents who are engaged in livestock production said that they do not get veterinary service adequately. Out of them 28 % said that it is expensive. This is because veterinary service is given by private doctors that demand higher price for treatment. 24 % of respondents complain that it is not available around. 48 % of them mention both of them i.e., higher price and inaccessibility of veterinary service as the major problem for not having adequate veterinary service. See table 6.7.

Table 6.7; Response of sampled respondents on availability of veterinary service

No	Do you get veterinary service adequately?	Frequency	Percentage
1	Yes	22	43
2	No	29	57
	Total	51	100
	If no, what are the constraints?		
1	It is expensive	8	28
2	It is not available	7	24
3	It is expensive and it is not easily available	14	48
	Total	29	100

Source, own survey, 2009

6.1.3.4 Lack of fertilizer

One of the fruits of science and technology in agriculture is fertilizer. Fertilizer improves the fertility of soil so that it is possible to produce many folds of yield. Thus it is natural that all cooperatives that produce vegetables use fertilizer for they are market-oriented.

However, the cooperatives are not without problem in having easy access to fertilizer. The major constraints in relation to fertilizer are lack of easy access and price of fertilizer. 76 % of vegetable producers don't get fertilizer adequately out of which, 27 % of them said that they bought fertilizer from market with high price. 32 % of vegetable producers said that it is not easily available at the market. This is may be because urban agriculture is not believed to exist in Addis Ababa in adequate amount. That is why merchants do not engage in the business. This leads to shortage of fertilizers. Shortage of fertilizer in the capital in turn contributes to higher price. That is why the majority (41 %) said that it is not easily available and thus is expensive. The following table shows the response of sampled respondents.

Table 6.8; Responses of sampled respondents on availability of fertilizer

No	Do you get fertilizer adequately?	Frequency	Percentage
1	Yes	7	24
2	No	22	76
	Total	29	100
	If no, what are the constraints?		
1	It is expensive	6	27
2	It is not easily available	7	32
3	It is expensive and not easily available	9	41
	Total	22	100

Source, own survey, 2009

6.2 Constraints of Government Institutions

In the context of the study institutions are referred as formal organizations of government that provide service to urban farmers. In Addis there are some institutions that are set up to assist urban farmers who are organized in associations, groups and cooperatives. These

institutions include urban agriculture office of government city of Addis Ababa, micro and small institutions, Cooperatives' Organization and Promotion Bureau, urban agriculture department of Nifas Silk-Lafto sub city, and urban agriculture unit of some kebeles.

These institutions working, in areas of urban agriculture, are established so as to provide information to farmers regarding availability of agricultural inputs, providing technical assistance on new technologies, farming techniques, giving training on urban farming, business skill, organizing farmers etc. However, in reality it is hardly possible to say that they are discharging their responsibilities accordingly.

There could be mentioned a lot of reasons for the failure of the institutions in fulfilling their duties. In this sub-section an attempt is made to point out the major areas in which institutions are found to be failing to carry out their tasks.

6.2.1 Absence of urban agriculture policy

A policy designed by government concerning any social, economic, political, and environmental issues has a lot of advantages in dealing with the problems and as a result to solve the problems. It is believed that one of the basic issues requiring policy agenda in Ethiopia is urban agriculture for its multifunctional benefits and its integration with various urban issues of the country.

However, there is no stated urban agriculture policy in the capital. This is mainly due to a common misconception that urban agriculture is not considered as such an important activity in urban centers and lack of understanding that urban agriculture is an integral part of the city. Because of such misconception among policy makers, professionals, politicians, authorities, urban agriculture policy cannot be reality to regulate the activities of urban farmers. Consequently, the absence of urban agriculture policy has created many problems.

The major constraints of urban farming in the city due to lack of policy issues about urban agriculture include less attention to the sector, limited working capital including human, financial, and physical capital for farming and over use and misuse of resources.

6.2.2. Less attention to urban agriculture

It is repeatedly mentioned that urban agriculture has numerous advantages especially to the poor in fighting poverty, creating job opportunity, supplying food, increasing income etc. Researches that are conducted on the benefits of urban agriculture confirmed that significant numbers of the poor are being benefited from the activity.

However, on the contrary, many officials from top to bottom are not aware of this fact. They really do not know how urban agriculture is important in the lives of the poor. It is a common misunderstanding that urban agriculture is not playing a significant role in the city, particularly of the poor.

This lack of awareness is manifested through giving less attention to urban agriculture in terms of low budget allocation, preparing no land for urban farming, employing very few sufficient man powers etc.

Of the improved master plan of Addis Ababa, about 15 % of the total area of the capital is allocated to agriculture. However, it is not applicable in reality. Whenever investors and even government request land, it is given to them, even though the land is already occupied by urban farmers. According to some respondents, they were told to immediately give back their land to the government at any time they are told to do so.

Most respondents believed that urban agriculture is forgotten by government. They were asked whether they believe that urban agriculture is recognized by the government. Out of the total respondents, only 30 % of them (table 6.9) answered yes. On the contrary, it is the belief of the majority (i.e. 70%) that agriculture is not given its right place by the government.

Table 6.9; Attitude of respondents towards government's recognition on urban agriculture

No	Do you think urban agriculture is recognized by government?	Frequency	Percentage
1	Yes	24	30
2	No	56	70
	Total	80	100

Source, own survey, 2009

Moreover, the respondents were asked further questions that are related to recognition (emphasis) given to urban agriculture by government. For instance, they were asked whether they have ever been assisted by any level of government, to rate the level of assistance they get from government. Their answers are provided by the following tables, i.e. table 6.10 and 6.11.

Table 6.10; Distribution of sampled respondents based on the assistance they get from government

No	Have you ever been assisted by any level of the government?	Frequency	Percentage
1	Yes	49	61
2	No	31	39
	Total	80	100

Source; Author's survey, 2009

As one can see from table 6.10, the majority (61 %) got assistance from the government. These respondents mentioned different sort of assistances they get from government institutions. Some said that they were given shades to produce livestock, some others said they used to receive agricultural inputs from urban agriculture department of the sub-city, some cooperatives were lucky enough to have access to credit from Addis Micro Finance Institution, some mentioned that they got advice, training, etc. from agricultural extension workers. Some replied that they were able to organize and certified as cooperatives with the

help of Cooperatives' Organization and Promotion Bureau. However, the rest (39%) do not get any form of assistance from any level of government; from city administration to local kebele administration.

In addition to asking whether they have ever got any assistance from any level of government administration, the respondents were asked to rate level of the assistance they get from any level of government. As can be seen from table 6.11, most of them (69 %) said that it is low. Whereas 27 % replied that the assistance is medium. Only four % of the respondents rated the assistance as high.

Table 6.11; Rating of government support by respondents

No	Rate of government's support	Frequency	Percentage
1	High	2	4
2	Medium	13	27
3	Low	34	69
	Total	49	100

Source; author's survey, 2009

Recently government is claiming that it is paying due attention to associations and cooperatives in its fight against poverty, and unemployment in urban centres of the country. Of course it is one of the common news and even programs that we listen to, watch and read every day through government's media to verify how government is committed to support MSE on every endeavour they strive to realize achievement. Because of such government's commitment, cooperatives engaged in other activities such as wood work, metal work, and constructions were frequently visited by higher officials of the city and Nifas-silk-Lafto sub-city administrations. This enables such cooperatives to get chance to talk to the decision makers pertaining to their problems so that it was possible to get some solutions.

However, it was not the case of urban agriculture cooperatives. Respondents were asked to respond to the question of whether they were ever visited by higher government officials.

The majority respondents' (95 %) answer was no. Out of the respondents who said that they were visited by higher officials, half of them were visited only once. See table 6.12.

Table 6.12; Response of sampled respondents whether they were visited by higher officials.

No	Have you ever visited by higher officials?	Frequency	Percentage
1	Yes	4	5
2	No	76	95
	Total	80	100
	If yes, how often have you been visited?		
1	Most of time	1	25
2	Some times	1	25
3	Once	2	50
	Total	4	100

Source, author's survey, 2009

From focused group discussion with members of the cooperatives, it is learned that they requested higher officials to visit them in order to discuss on the subject of urban agriculture and its constraints in the capital. But unfortunately, their wish could not come to be true. This implies urban agriculture was not given due attention by government officials.

6.2.3 Lack of Consistency on the Procedures Followed by different kebele Administrations

Nifas Silk-Lafto sub-city is divided in to ten kebele administrations. Although urban agriculture department of the sub-city is working to spread out urban agriculture in all of its kebele administrations, there are some inconsistencies in the procedures followed by these kebeles of the sub-city. From interview conducted with head of urban agriculture department of the sub-city, it has been learned that from the 10 kebeles found within the sub-city only two kebeles have hired agricultural extension workers (development agents) that help farmers improve productivity, introducing new technologies, giving basic training on different kinds of urban agriculture, follow up the activities of the urban farmers etc.

The rest kebeles do not have extension agents that assist urban farmers who are located in the kebeles. It can be said that most of the kebeles of the sub-city do not give any service to urban agriculture under their administration. In addition, it has been learned that only kebele 02 provided shades to livestock producers. Here, it should be noticed that the shades are not primarily constructed for livestock rearing. Instead, they were built for other purposes such as to be working place for wood, metal, building construction. Urban agriculture cooperatives were given the shades because they made the requests over and over again to the administration. Thus, the administration did so to be free from nagging of the cooperatives. The rest kebeles do not prepare any place for urban agriculture; do not employ agriculture extension workers, even some kebeles make animal rearing in their respective administrations illegal even though the sub city' urban agriculture department claim that it is committed to encourage urban agriculture in all of its kebeles.

6.2.4 Less attention to Extension Service

Extension service is very crucial for productivity of urban farmers since it help them in technology transfer and information dissemination in urban farming such as having access to latest technology, solve problems in areas of farming activities, provide them with technical advices etc. However, urban agriculture in the city is not lucky enough to enjoy the services adequately. Less attention to extension service is manifested by the following situations.

6.2.4.1 Failure to give adequate training to urban farmers

In the study area there exists urban agriculture department that is expected to promote urban agriculture in the sub city, to help farmers get training ,have access to improved seeds, farming techniques , technology transfer, etc. Under the supervision of the sub city's urban agriculture department, there are urban agriculture units in some kebeles. However it is hardly possible to say that they are doing their job appropriately.

For instance one of the very indispensable things that urban farmers are desperately in need of and at the same time the responsibilities required from the urban agriculture office is giving adequate and successive trainings to urban farmers about urban farming.

It is a common observable fact in the sub city that when people are organized to engage in any kind of urban farming activity, they are given training by agricultural extension agents in general agriculture in mass without taken in to consideration their field of specialization. Besides, the training is offered only for few days. Then the farmers are left to undertake their business. As indicated in the following table most farmers replied that they get training on urban farming. See table 6.13 below.

Table 6.13; Distribution of sampled respondents on their access to training

No	Have you ever got training on urban farming?	Frequency	Percentage
1	Yes	51	64
2	No	29	36
	Total	80	100
3	If yes, how often did you get?		
4	Only once	35	69
5	Few times	16	31
	Total	51	100

Source; author's survey, 2009

As the above table shows the majority respondents that account for 64 % of the total respondents got training whereas the rest 36 % of them did not. Agriculture requires up to date knowledge and skill with the advancement of science and technology in the sector. Thus, the concerned body is expected to give consecutive training to update the skill of those carryout urban farming. However, this is not happening in the study area. Even though the majority of respondents have taken training on urban agriculture, it is hardly possible to say that the training is enough. This is because among the respondents who have taken training, 69 % of them trained only once at the time when they began the business. The others (31 %) have taken the training few times.

6.2.4.2 Failure to follow up

Since most of individuals engaged in urban agriculture do not have enough agricultural knowledge and skill, they need continuous follow-up by extension workers. But they were not blessed enough to get the services from extension workers adequately as expected.

Respondents were asked whether they were ever visited by extension workers. Significant number (i.e. 46%) of respondents said they were never visited by extension workers. Whereas 54 % of the respondents reply that they were visited by extension workers. But the problem is that these development agents do not visit the urban agriculture cooperatives regularly. From the respondents who said that they have been visited by extension workers, 37 % of them respond that they were visited only once, and others said fewer times (49 %). And only 14 % of respondents said they were visited regularly. Table 6.14 presents their responses.

Table 6.14; Responses of sampled respondents whether they were visited by extension workers

No	Have you ever been visited by extension workers?	Frequency	Percentage
1	Yes	43	54
2	No	37	46
	Total	80	100
	If yes, how often does he/she visit you?		
1	Regularly	6	14
2	Few times	21	49
3	Only once	16	37
4	Others	-	-
	Total	43	100

Source, own survey, 2009

More over respondents were asked whether they believe that the assistance they get from extension workers is adequate. Only 16 % of them said that they are satisfied with the

assistance they get from extension workers. So, they said it is adequate. On the other hand, 86 % of them said that the assistance is not enough. See table 6.15.

Table 6.15; Distribution of respondents based on their answer to the assistance they get from extension workers.

No	Do you think the assistance that you got from the extension worker is enough?	Frequency	Percentage
1	Yes	7	16
2	No	36	84
	Total	43	100

Source; author's survey, 2009

From interviews conducted with some members of committees of some cooperatives, it is learned that most of time concerned staffs of the kebeles as well as of the sub-city assisted and follow up urban farmers only when they begin to engage in urban farming. Nevertheless, they failed to follow up their progress. This aggravates the problem urban farming cooperatives face because the challenges most of time appear after they start to engage in the assignment.

6.2.4.3 Shortage of extension workers

One of responsible factors for failure of urban agriculture department to offer training regularly to urban farmers and lack of follow-up of urban agriculture cooperatives is shortage of extension workers. From interview conducted with head of urban agriculture unit of the sub-city, it is observed that there are only four staffs in the department out of which two of them are agriculture experts i.e. one for crop production and the other livestock production. Furthermore, from the ten kebeles of the sub-city only two of them have development agents (agriculture extension workers). By any criteria, these are very few professionals that could not satisfy the demand of the ever increasing number of urban farming cooperatives in the sub- city. This fact shows that urban agriculture is not given its rightful place by the concerned body contrary to its multiple benefits to the poor.

The head of urban agriculture department of the sub-city said that the eight kebeles do not hire extension agents and do not prepare places to urban farming cooperatives because

urban agriculture was not given due attention so far. But now urban agriculture is considered as one of the six micro and small enterprises of the city that are given higher priorities, and thus, all of the kebele administrations will hire extension workers in the near future.

6.2.5 Constraints of credit service

It is unquestionable that money is very crucial in any business. That is why people try to get money from different sources so as to start as well as expand their business. One of the sources for money is credit service.

This fact is true of the cooperatives engaged in urban farming. Since most of individuals organized in cooperatives are poor, they are totally dependent on external financial sources for starting and/or expanding their farming activity. As table 6.16 shows 69 % of respondents borrowed money from different sources such as micro finance institutions, relatives, and individual creditors, etc. to either start business or expand urban agriculture. This implies that most of the cooperatives do not have their own initial capital to engage in the business. In other words, since most of them are poor, they are totally dependent on external source of money for their business.

Table 6.16; Distribution of sampled respondents on the basis of their attempt to borrow money

No	Did you borrow money for your business?	Frequency	Percentage
1	Yes	55	69
2	No	25	31
	Total	80	100

Source; Author's survey, 2009

However, it does not mean that the cooperatives are free of any problem in having access to credit. Particularly the problem is serious to get credit service from financial institutions. From the sampled respondents of the study it has been found that three- fourth (75 %) of

them said that they faced problem in receiving credit from financial institutions. They mentioned various reasons for this. About 32 % of respondents complain that the procedures followed by financial institutions are very complex. 22 % of respondents reply that high interest rate is the main obstacle for having access to credit. The same percentage i.e 22 % complain that both high interest rate and complex procedure of financial institutions are the main problems for having access to credit. See the following table.

Table 6.17; Percentage of respondents on the basis of problems they face in having credit.

No	Have you ever faced any problem in having access to credit?	Frequency	Percentage
1	Yes	60	75
2	No	12	15
3	Missing	8	10
	Total	80	100
	Reason for constraint of credit service	Frequency	Percentage
1	High interest rate	13	22
2	Strict/complex procedure	19	32
3	Late delivery	8	13
4	High interest rate and complex procedure	13	22
5	High interest rate and late delivery	4	7
6	complex procedure and late delivery	3	5
	Total	60	100

Source; author's survey, 2009

During the focused group discussion conducted with some members of vegetable producing cooperatives, this was confirmed by the participants who stressed that if they could at least get credit smoothly from financial institutions, they would invest during planting season with borrowed money, and repay from sales after harvest.

They further revealed that lack of easy access to credit has constrained them from upgrading their farming technology and improving their agricultural practices or from investing in higher yield farming systems, such as livestock and poultry.

Even though both rural and urban farmers need credit, what makes it more difficult to these urban farmers to obtain credit is the fact that potential creditors do not recognize urban agriculture as a vital business. This, as mentioned earlier, is due to lack of sufficient governmental recognition, tenure insecurity, lack of organized markets and lack of proper public awareness on the business of urban agriculture that have made the industry an uncertain activity for lending institutions.

6.2.6 Marketing Problems

Easy access to markets is essential in order to generate an income from selling vegetables and/or livestock products. Marketing is very crucial for both producers and customers. Without a good marketing system, the buying and selling of produce is difficult. There need to be smooth marketing channels at town level so that cooperatives have easy access to potential clients and the market.

It is undoubted that agricultural products have high demand in cities like Addis where urban population is increasing at alarming rate. It is this higher demand that motivate the cooperatives to engage in urban farming. That is why all cooperatives under the study are market oriented even though they use part of their agricultural products for home consumption.

Even though agricultural products have high demands, the cooperatives are facing multifaceted problems in areas of marketing of their products. The problems associated with marketing of agricultural products are inter-related. But for the sake of convenience the major problems are categorized as follows.

6.2.6.1 Absence of Market Place

Urban agriculture cooperatives require market place to demonstrate (display) and sell their products. It enables them to have direct contact with their potential customers. As a result the money coming from the trade of agricultural products directly goes to their pocket without going through other chains. What is more, the cooperatives are located at the outskirts of the city, which makes them far away from the centre where the market is easily accessible. The situation makes it a must for the cooperatives to have market place at the centre to demonstrate and directly sell their products.

Unfortunately, most of the cooperatives do not have their own market place. 70 % of sampled respondents said that they don't have market place (table 6.18). Thus, the cooperatives are forced to look for other alternatives. Out of those respondents who do not have their own shop, 79 % of them are forced to sell agricultural products to merchants with cheap price. Whereas 21 % of them said that consumers come at the farm gate and buy the products.

The rest 30 % have shop (table 6.18). Here, it is worth mentioning that, these individuals are members of Mekanisa, Goffa and Furi Sarris cooperative which is one of the oldest and the biggest cooperatives in the capital. Here, it is worth mentioning that the cooperative had 25 shops in the 25 highers of the city during Derge regime. Currently, the cooperative, together with other vegetable producing cooperatives, have rented houses where they distribute vegetable products to merchants.

Table 6.18; Distribution of sampled respondents on the basis of market place they have.

No	Do you have a place to sell your products?	Frequency	percentage
1	Yes	24	30
2	No	56	70
	Total	80	100
	If no, how do you sell your products?		
1	We sell to merchants	44	79
2	Clients come to us	12	21
	Total	56	100

Source; author's survey, 2009

6.2.6.2 Intervention of Brokers

This problem is a direct result of the aforementioned problem. Lack of access to market place left the cooperatives with no option. As discussed above since urban farmers do not have any mechanism to have direct contact with consumers, they were forced to sell the products with low price determined by merchants that did not even match with the labour of urban farmers.

This situation created favourable condition for middle men (brokers). These brokers made promises to urban farmers to help them sell the products with reasonable price which is assumed to be better than the price called by merchants. Making an agreement with those brokers made the cooperatives totally dependent on the middle men for the selling of the products. However, the result is not different. Even in some cases it was changed from bad to worse because the cooperatives are supposed to share the money to the brokers. This in turn reduces the income generated from selling agricultural products. As the following table shows, significant number (44 %) of respondents responded that they have been exploited by middle men. See table 6.19.

Table 6.19; Distribution of sampled respondents who are affected by middle men

No	Have you ever been exploited by middle men	Frequency	Percentage
1	Yes	35	44
2	No	45	56
	Total	80	100

Source; author's survey, 2009

From focused group discussion conducted with some of individuals who have been exploited by middle men, it has been learned that the brokers exploit urban farmers by distorting information on the price of agricultural products. For instance, one of the mechanisms they usually applied to exploit urban farmers is conspiracy with merchants against them. They first made deal with merchants in fixing the price of the products. Then, they told the farmers the price. Even they tried to convince them that it is maximum price

and they can't get better price than this wherever they go. Even though the farmers are dissatisfied with the price, they can't do anything. Since the products are perishable, and the producers have no any other option, they sell the products with the price set by the conspiracy of merchants and the brokers. On top of that the farmers are forced to share the money with the brokers as commission.

6.3.6.3 Seasonal Fluctuation in Demand of Agricultural Products

In Addis Ababa the demand of agricultural products is susceptible to seasonal variations. This is associated with the cultural and religious practice of consumers. It is well known that most inhabitants of the city are followers of Ethiopian Orthodox Church. According to the doctrine of the church Christians are supposed to refrain from eating livestock products during fasting periods which constitute considerable days of the year. This in turn reduces the demand for animal products. Because of low demand to livestock products, many urban farmers are in bankruptcy in time of fasting period. On the other hand, the demand of vegetable products is high at this time of fasting. This is because people who are fasting eat vegetable products, which is permitted during fasting periods, instead of livestock products. Conversely, the demand for vegetable products is lower during non fasting periods. This is because Christians are allowed to eat animal products at this time. Since most people were not eating animal products in fasting time, they try to compensate by eating the products much at this time. Thus, it increases the demand for livestock products. From discussion with livestock producers, it is learnt that they celebrated the holidays with great joy. On the other hand, the demand of vegetable products during non- fasting particularly during holidays is low. The following table shows the response of respondents.

Table 6.20; Distribution of sampled respondents based on their answer to seasonal fluctuations in demand of agricultural products.

No	Season	Vegetable Production	Livestock Production
1	Fasting period	High demand	Low demand
2	Non fasting period	Low demand	High demand
3	Holiday	Low demand	High demand

Source; author's survey, 2009

6.3 Internal Constraints of the Cooperatives

6.3.1 Weak culture of working together

Henry Ford (1863-1947), American industrialist, best known for his pioneering achievements in the automobile industry, once said “coming together is a beginning, keeping together is progress. Working together is success.” (Munroe, 2006). He is a good exemplar to provide evidence to the value of working together to achieve accomplishment in any business. Unfortunately this basic quality is not common in Ethiopia.

There is one saying in Ethiopia that confirms this truth. “Ethiopians have the culture of eating together.” This culture, however, could not be accompanied by the culture of working together. In these days the government is encouraging people to organize in associations and cooperatives. And for this purpose government makes promises to provide land, financial loan, technical supports, and other incentives for people who are willing to work in groups, associations, and cooperatives. In addition to the above benefits they would be free of many taxes except income tax.

Despite all the incentives, working in group is not found to be easy for people do not develop this very crucial character. It holds true of urban agriculture cooperatives. This is mainly due to the fact that many individuals wish to enjoy only the benefit at the expense of the sweat of few industrious individuals. Since urban agriculture needs group work, everyone is supposed to be present at working place and carry out his/her own role when it is his/her turn. Nonetheless, what is observed is that most of the members are not committed to fulfil their duty. They did not avail themselves to work places as required. They did not attend meetings to discuss about the issue of their cooperatives and other related affairs. This is perhaps due to the fact that all members are not equally convinced on the significance of working in cooperatives and to be fully committed to work hard. This is confirmed by one personnel of the kebele 01 administration of the sub-city who consulted people interested to engage in urban agriculture. He said that usually only few individuals are convinced on the idea of working in urban agriculture. And thus, they persuaded others to work together so that they can fulfil the minimum requirement to be certified as cooperatives. In order to attract their fellows, they tend to gave centre of attention on sweet

stories of the profit of urban agriculture, without telling the toil required to harvest the fruits. Nevertheless, after they began the job things became different from what they are guaranteed. Since they are not really convinced in their heart, but just do it to enjoy the promised blessing and to please their friends, they lacked the appetite to do their assignments. Another reason is the presence of another job. Since most of them do have their own job, they prefer to focus on their own career to the urban agriculture. This is because they believed that their assignment would be covered by others.

The researcher has visited the working places of the cooperatives engaged in animal husbandry regularly to assess whether members are really attending on the farm according to their schedule. Unfortunately, it was not possible to get most members of the cooperatives on the place on their timetable. Only few, especially daily labourers hired by the cooperatives, are available at the working place. According to the rules and regulation of the cooperatives every member is expected to be in attendance at the working place when it is his/her turn. However, most of members failed to do that. When discussed with the leaders why they did not discipline them according to their rules; they mentioned friendship and minimum requirement to be certified as cooperative as the main obstacles to take the measure. Of course, some cooperatives were courage enough to punish and even fire those irresponsible individuals.

6.3.2 Lack of Agricultural Skill

Agricultural products have high demand in the city that their supply could not be able to satisfy the needs of the dwellers of the capital. This shortage of agricultural products inspired many people to engage in the business in need of maximum profit. However, this could not happen to be true. Contrary to their anticipation, most of the cooperatives are not profitable.

This is, to some extent, due to lack of appropriate skill in urban agriculture and business. Most members of the cooperatives did not have enough skill in urban agriculture before engaged in the field. They took part in the activity with the assumption that agriculture is not as such difficult economic activity to engage in. However, it was wrong assumption.

Urban agriculture really requires adequate agricultural skill to be successful. Without skill it is impossible to achieve success in the field.

Before the cooperatives take on urban farming, their members are supposed to take training in different kinds of skills necessary to their profession. Accordingly, most of them were given training on agriculture, organization, accounting, and business skill. But the problem is that the training they took is not satisfactory to make them competent enough in the sector. This is because they were trained only once at the beginning, and it is for five or less days which are not enough to be successful in the business. And what is worse, some cooperatives did not take any kind of training in urban agriculture and other business skills. Agriculture requires successive trainings to adopt new farming techniques, modern technologies etc.

6.3.3 Extra Work

Even though the cooperatives are believed to be formed by unemployed, most of their members do have another job. This situation makes urban agriculture secondary significance to them. Since they focused on their own job, they do not give appropriate attention to urban agriculture which is done collectively with other individuals. During focused group discussion held with some members of the cooperatives, it has been learned that those members who have extra job might assume that other members may discharge the duty of doing the work for the sake of their own benefit. But unfortunately this is wrong speculation. This is because those members without extra job would be frustrated to do all of the tasks by themselves alone for they know that they would share the profits equally at the cost of their labour. Therefore, they also failed to accomplish their own job let alone to execute the assignment of other members. Of course some cooperatives tried to compensate the problem by employing daily labourers. But they are not having enough skill in doing the job. Furthermore, some of the daily labourers are not found to be loyal. Since they know that they are not properly monitored by their employers, most of the time members would come in the morning, they locked the door and spend their times another place. This fact is proved by the researcher's observation. The researcher has visited their working place so many times and he found that some of daily labourers were not present in working

place. These situations really affect the health and safety of livestock and consequently lower the product that is expected from them.

6.3.4 Leadership problem

One of the basic ingredients that cooperatives indeed require is leadership skill. According to Myles Munroe, leadership includes the competence to influence, inspire, unite, direct, encourage, motivate, induce, move, mobilize, and activate others to pursue a common goal or purpose while maintaining commitment, momentum, confidence and courage (Munroe, 2006). He further emphasizes that leadership is the organizing and coordinating of resources, energies and relationships in a productive context for an intended result (Munroe, 2006). From the definition of leadership, it can easily be understood that without leadership skill it is impossible to achieve the objectives that the groups are established.

Most of the cooperatives are in great problems because of absence of such leaders. From focused group discussion held with some members of the cooperatives, it was learned that most of time individuals are elected without taking into consideration their ability to organize, staff, coordinate, and lead members towards their common goals. On top of that since most members try to refrain from shouldering the responsibility of being leader, they tend to re-elect the same individuals repeatedly despite the fact that all members have equal rights to be elected. According to some respondents, members try to abstain from being leaders as the responsibility requires devotion and as a result demands the leader to spend a lot of time in the task. In addition most of time it leads into conflict with the majority members of the cooperatives since most of them are not willing to do their own duty properly. Furthermore, since most of members have another job, and becoming a leader in the cooperative would force them to spend a lot of their time and energy in the working place, they do not want to be leaders. This situation makes the success and survival of the cooperatives highly dependent on those leaders. In other words, the ability of leaders significantly determines the existence of the cooperatives.

Unlikely, the majority of cooperatives have serious leadership problem. Therefore, the lack of this important ingredient made the survival of some cooperatives at stake and even leads

to the termination of some other cooperatives. The researcher tries to discuss with some members of the cooperatives that are out of the business to point out the main reasons for cessation of urban farming. They mentioned lack of leadership skill as the major problem in one way or another.

One of the major reasons mentioned so many times by those ex-members regarding leadership problem is inconsistency in implementing their code of conduct. Their rule provides different means to punish those members who are not working according to what is expected from them. However, the rules are not put into action accordingly. Leaders apply the rules based on their relationship with their fellows. Those who are intimate friends are forgiven no matter what they violate the rules whereas those who are distant are punished according to the rules. This unequal treatment of individual members seriously affects the confidence members should develop towards their associations and as a result their commitment to shoulder their responsibilities.

The other serious problem mentioned during focused group discussion was corruption committed by leaders themselves. Leaders are responsible to control everything including finance, purchasing of inputs and income generated from selling of agricultural products. Even though leaders are expected to inform members about everything including financial situation of the cooperatives and to show their accounts every month to their respective kebeles, they usually did not do it. In fact, this is partly the responsibility of members themselves and kebele administrations. This is because they are supposed to check and follow up the activities of their leaders. However, members do not usually exercise their right to impose on leaders regarding what they are doing. In addition, most members do not attend regular meetings called by leaders. This situation paved the way for leaders to use of the cooperatives' money for themselves.

Moreover, kebele administrations are responsible to check and follow up movements of the cooperatives. For instance, one of the rules of the cooperatives is to avail their accounting system to kebeles. But, kebele administration did not take immediate measure when leaders of the cooperatives failed to follow the rules.

6.3.5 Drop out

In order to form cooperative, it is supposed to have at least 10 members. When the cooperatives start the business they fulfil minimum requirement. But after a while most individuals discontinue participating in the group due to many reasons, like dismissal from the cooperatives, failing to wait the fruits of the cooperatives, etc. This in turn affects the performance of the cooperatives. This is because the cooperatives do have financial constraints; most of them try to solve the problem by sharing the work turn by turn so that they save the cost that might be incurred for daily labourers. The drop out of members forces them to lose this asset. What is worse, being less than the minimum requirement means that the absence of those incentives they are enjoying from government i.e., free from other taxes than income tax, land, training and market linkage etc.

6.4 Environmental problems

6.4.1 Cultivation in polluted city environment

One of the most serious problems of urban farming in Addis that does not at all seem to be taken in to account by the producers themselves or other governmental and nongovernmental concerned bodies, is the use of highly polluted river water for irrigating the vegetable farm. Water bodies that pass in cities are nearly always prone to faecal pollution and contamination with different chemicals and heavy metals. And the uses of such water bodies for irrigating vegetable farms could be hazardous to the health of consumers.

Since the rivers that cross the city of Addis are the only water sources for these urban farmers, it is these water bodies that are always used for irrigating the vegetable farms. Although it requires further researcher to determine the level of the contamination, just by looking at them one can tell with confidence that the rivers are highly contaminated with both industrial and human waste. The rivers carry much of the waste water in the city as solid and liquid wastes are disposed to the rivers from factories, garages, commercials, residential and so on. For that reason it is such potential cause for a considerable health problem of the consumers and hence it deserves further scientific investigation.

The other possible cause of food contamination is that some of the farmers apply untreated domestic wastes to their farms with the intention of increasing production. Indeed composted organic solid, as well as treated household sewage contain nutrients that are beneficial to agricultural production and have always been used by farmers. However, all the informants said that a waste control mechanism of any sort by any centralized body has never been done for them on the domestic wastes they apply to their vegetable farms. Such an absence of any centralized waste control mechanism implies that some of the urban farmers can potentially make a discretionary use of inorganic and untreated organic wastes that are accessible to them.

6.4.2 Excessive use of Fertilizer

Use of unregulated and possibly excessive amount of agrochemical in the production of vegetables that are highly prone to contamination of chemicals is the other source of concern. All the respondents that cultivate vegetables use fertilizers (Urea and/or Dap) to different extents for the reason of increasing yield and at the same time to increase the fertility of the soil as it is so infertile and exhausted.

Since members of the cooperatives do not have enough knowledge about the amount of fertilizers (Urea and/ or Dap) that should be used every inch of land, they tend to apply excessive amount of fertilizer. Consequently, it affects the soil and the river.

CHAPTER SEVEN

7. CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

The purpose of this study was to provide empirical evidences on the major problems and constraints that urban agriculture cooperatives face in Addis Ababa city. Thus, the findings of the study reveal that the major constraints of the urban agriculture cooperatives are categorized as; physical, institutional, organizational, marketing, as well as environmental constraints.

The major urban agricultural production systems that the cooperatives are engaged in the city were identified. The majority of urban agriculture cooperatives in the sub-city are engaged in livestock production, i.e., dairy cow, fattening, and poultry production. They constitute 64 %. This is mainly because livestock production requires relatively little space as compared to that of vegetable production. As a result it is somewhat accessible to get the land and even to rent houses from individuals. At the same time the price of animal products is expensive. And it might attract them to choose livestock production.

Nifas Silk-Lafto sub-city is one of the expanding sub-cities of the metropolis owing to its location, i.e. it is found at the periphery of the city and bounded by Oromiya region. All of the cooperatives are located at the periphery of the sub-city. This is may be the price of land is relatively cheap and is accessible to urban agriculture. Some of cooperatives engaged in livestock production are given shades by the government, and others rent from private individuals. Even some are working on the land that they inherited from their parents. So, 51 % use the land belonging to government, 24% private rented land, and 21 % are working on their own land.

One of the basic problems that the cooperatives are suffering is shortage of space for urban farming. Particularly the shades allocated by government for livestock producers are too small to raise livestock for sale. It is difficult for the cooperatives to be profitable by raising

very few animals owing to lack of enough space. Because of this most of cooperatives require land to expand their business so as to be profitable and most of them applied to the concerned governmental body to give them additional land. But none of them were given what they asked for; either they were told to wait for or told to give up their hope. This is because the administration does not prepare land for urban farming in the city.

Water is the other problem affecting the performance of the cooperatives. Shortage of water is observed among livestock producers. As it is well known livestock producers use tap water which other people use for other purposes like drinking, washing and other industrial activities. As it is known, tap water is a very serious problem in the city. The shortage is also affecting cooperatives. Vegetable producers are affected by flood during summer, which is the main raining season of the city.

Lack of access to improved agricultural inputs is a very serious problem that the urban agriculture cooperatives are suffering. These fruits of sciences and technology include; improved seed for both vegetable and livestock producing cooperatives, forage, and veterinary service for livestock producers and fertilizer for vegetable producers. The main reasons for lack of access to the improved agricultural products are unavailability at the market and their high price. Since Addis Ababa is not considered as agricultural city, merchants are not encouraged to supply the products. Only very few merchants are engaged in selling agricultural inputs in the city. As a result, there is shortage of supply which in turn leads to higher price. Even though, vegetable producing cooperatives have weed problem, they do not use weed killer. Instead, they avoid the weed manually.

The majority of the respondents (70 %) believed that government does not give urban agriculture its rightful place. They affirm their claim by rating low level to the assistance they get from any governmental office; from sub-city administration to kebele administration (69 % of them give low rate to the assistance). In addition, the majority of respondents (95 %) complained that they were never visited by any governmental official unlike other cooperatives engaged in other businesses.

The majority of the respondents were trained about basic farming activities and business. But the majority (69 %) took the training only once (i.e., when they began the business). The other acute problem is that most of cooperatives were never followed up by extension workers. This is mainly related with shortage of agricultural extension workers. From urban agriculture Department of the sub-city, it is learned that there are only four individuals that are employed to work in the activity. And there are only two agricultural extension workers in the two kebeles that are supposed to help the cooperatives. The other eight kebeles do not have any extension worker.

Lack of easy access to credit from financial institutions is the other serious problem that create problem on the performance of the cooperatives. Most of the respondents said that their respective cooperatives tried to have access so as to expand their business. However, borrowing money was not found to be easy. They mentioned high interest rate, lack of collateral, complexity of procedures, and late delivery as the major obstacles to get credit from financial institutions.

The cooperatives are also constrained by their own organizational and administrative weaknesses. These constraints include; weak culture of working together that, to a great extent, has negatively affected the performance of the cooperatives, lack of true leadership skill which is very crucial in influencing members to achieve the goals for which the cooperatives are established, lack of adequate agricultural skill, drop out of members of the cooperatives which results in loss of assets of the cooperatives, existence of another job of most members of the cooperatives leading to less attention to urban farming etc.

Having access to the marketing of agricultural products is very crucial for any business. It is true of urban agriculture cooperatives. Since the cooperatives are market-oriented, they need a shop to sell their products. Nevertheless, all of the cooperatives except one do not have any place to sell to their potential clients. As a result, they are forced either to distribute to merchants with cheap price, or sell through brokers, or else, to wait consumers to come to them. Because of absence of marketing place, the cooperatives could not be profitable as expected, and most of them said they are leading subsistence life.

The demand for agricultural products is also fluctuating with seasonal variation. For instance, vegetable products are highly demanded during fasting period because most of followers of the Ethiopian Orthodox Church do not eat animal products. Conversely, the demand for them decreases during holidays since believers prefer to eat animal products to vegetable products. The opposite holds true of animal products. The demand for livestock products is high during holidays. This is mainly due to the fact that most of residences of the city are followers of EOC which command them to refrain from eating animal products during fasting period.

Vegetable producing cooperatives use river water. River water of the city is polluted with wastes released from factories, streets, and residences of the city. Though it requires further investigation, it is believed that vegetable products are contaminated with facel diseases and even may contain heavy metals such as lead.

7.2 Recommendations

It is true that urban agriculture is playing an important role in the lives of the poor in terms of food supply, employment opportunity, diversification of income etc. However the cooperatives engaged in urban farming are in great problem because of many inter related constraints that affect their survival in the business. From discussions of the results and the conclusion made, the following recommendations are forwarded so as to alleviate the problems.

- In order for the cooperatives to be fruitful and profitable, they have to work to somewhat large scale. This in turn requires land. Thus government is supposed to allocate land for those urban agriculture cooperatives that wish to expand their farming activities.
- Since Modern agricultural inputs such as improved seed of vegetable and animal products, fertilizer, insecticide, forage, as well as veterinary services are very crucial for the productivity and success of urban agriculture, the concerned bodies

are required to exert their maximum effort to facilitate the availability of those inputs at reasonable price.

- Since urban agriculture is playing a pivotal role in the socio economic activities of inhabitants of the capital and it is an integral part of the city, government should give it due attention and integrate it in to urban land use planning of the city.
- Less attention to urban agriculture is a result of lack of awareness of government officials, policy makers, and urban planners as well as local officials. Thus, Urban Agriculture Office of Addis Ababa City Government is required to raise awareness of the multifunctional benefits of urban agriculture to stakeholders.
- Similar to that of rural agriculture, urban farming requires the support of agriculture extension workers in terms of sharing knowledge, and skill, introducing new urban farming technology, follow up of the activities of the cooperatives, etc. Therefore, government is expected to give due attention to urban farming by employing adequate number of skilful extension workers to help urban farmers.
- Agricultural knowledge and skill is very crucial for the productivity of the activity. And most of members of the cooperatives do not have enough knowledge in the activity. Hence, the concerned bodies are supposed to give successive training for urban farmers regularly. Besides, the training should not be limited to urban agricultural skill only, but it should also include leadership, skill, business plan, entrepreneurship, and accounting.
- Because of failure of follow up by the urban agriculture department of the sub city to assess the activity of the cooperatives, most of cooperatives are not well known whether they are functional or not. Thus, it is better to follow up them regularly to know their state of condition and to take immediate action to solve their problems.

- Before the members are organized and get accredited, they should be known to each other in relation to their commitment to work, discipline, knowledge, and skill, work ethics, etc.
- Members of the cooperatives should be very careful in selecting leaders as they determine the fate of the cooperatives. Hence, members should consider the ability of the elected leaders to influence, motivate, encourage, members to achieve the common goal of the cooperatives. Besides, they should consider the character of the elected leaders, in terms of their ability to influence, coordinate, lead, and organize members. Besides, honesty, loyalty, trustworthy of leaders should be considered.
- Because of weak culture of working together, members are not equally committed to discharge their responsibilities. To avoid this problem leaders are supposed to apply all the rules and regulations without hesitation to those who fail to fulfil their obligations.
- The city administration should look urban agriculture cooperatives in the same eye with that of other cooperatives in terms of giving technical support, land, access to credit, visiting, etc. Visiting the cooperatives has a lot of advantages. For one thing, it gives cooperatives to air out their voice concerning their problems. For another thing, it enables the administration to identify the problems and thus to solve them.
- Every investment requires capital. Hence, the government has to facilitate the availability of credit service to the urban agriculture cooperatives.
- The high price of agricultural products observed recently in the capital was not skewed to urban farmers. The money rather went to middle men. This is because urban cooperatives do not have market place to sell their products. Hence, government is required to give them opportunity to meet directly with their customers by giving them shop at the centre of the city where the demand is high.

This has dual advantages; it reduces the price of agricultural products and at the same time the money directly goes to the pocket of the cooperatives.

- The cooperatives are also expected to search for market instead of waiting consumers to come to them or to sale to merchants with cheap price. For instance, cooperatives can create contact with cafes, restaurants etc, especially in time of low demand.

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Appendix 1 Questionnaire for individuals involved in urban agriculture

A. Demographic characteristics and general information of sample household

- | | | | | | |
|---|--|--|---|------------------------------|--|
| 1 | Illiterate | | 4 | 7-8 th Grade | |
| 2 | Able to read and write | | 5 | 9-12 th Grade | |
| 3 | 1 st -6 th Grade | | 6 | Above 12 th Grade | |

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1. Fattening
 2. Dairy cow rearing
 3. Bee production
 4. Poultry production
 5. Other (specify) _____
9. Quantity of Products produced annually by your cooperatives in quintal (for vegetable producers) _____
10. Number of livestock produced annually by your cooperative? _____
11. End use of vegetable products
1. Home consumption
 2. For sale
 3. Half for market and half for home consumption
 4. Majority for market and the rest for home consumption
 5. Other (specify) _____
12. End use of livestock products
1. For home consumption
 2. For sale
 3. Half for market and half for home consumption
 4. Majority for market and the rest for home consumption
 5. Other (specify) _____
13. For how many years have you been engaged in urban agriculture? _____

B. Questions related to Provision of Inputs

14. Where do you grow the vegetables?
1. In backyards
 2. In open space
 3. In urban fringe areas
 4. Roadsides
 5. River side
 6. Other (specify) _____
15. Where do you keep your livestock?
1. In backyard barn
 2. In rented houses
 3. In open space
 4. In peri-urban area
 5. Other (specify) _____
16. Plot size (in meter square) _____
17. What is the Quality of land (for vegetable producers)?
1. Fertile
 2. Medium
 3. Poor
 4. Others (specify) _____
18. Type of land tenure or plot ownership
1. own land
 2. Government land
 3. Rented from private individuals
 4. Borrowed from relatives
 5. Others (specify) _____

19. Do you face problems with the following to expand your farming? 1.Yes 2.No

	Yes	No
Buying of land		
Renting of land		
Borrowing of land		

20. Do you get adequate forage for your animals? 1. Yes 2.No

21. If no, what is the reason?

1. It is not easily available 2. It is expensive 3. Other (specify)

22. Is the forage you feed the animals balanced? 1. Yes 2. No

23. If your answer is no, mention the reasons? _____

24. Do you get veterinary services nearby? 1. Yes 2.No

25. If no, what do you think of the reason? _____

26. Do you have access to improved seed? 1. Yes 2.No

27. If yes, where do you get the seed from?

1. Extension agents 3.Relatives

2. Buy from market 4. Other (specify) _____

28. If no, what do you think is the reason?

1. It is not available at the market 2. It is expensive 3. Other (specify)

29. Do you use fertilizer for your farm? 1. Yes 2. No

30. If yes, where do you get the fertilizer?

1. From market 2. From relatives 3.From extension agents

4. Other (specify) _____

31. Do you get the fertilizer easily? 1. Yes 2. No

32. If your answer is no, what is the reason?

1. It is expensive 2. It is not easily available at the market

3. Other (specify) _____

33. Do you use weed killer? 1. Yes 2. No

34. What is the source of water for your job?

1. Well 2. River 3.Spring 4.Tap water 5. Other (specify)

C. Institutional Issues

35. Do you believe that urban farming is well recognized by the government? 1. Yes 2.No
36. Do you receive any assistance from the government? 1. Yes 2.No
37. If yes, what is the services/assistance offered for you by the government
-
38. How do you rate the assistance offered to your farming?
1. High 2.Medium 3.Low 4.Other (specify)
39. Have you ever got any training for your farming? 1. Yes 2. No
40. If your answer is yes, how many times did you get the training?
1. Only once 2. Few times 3. Many times 4. Other (specify)_____
41. Which organ did give you the training?
1. Agriculture extension worker 2.NGOs
3. Agriculture office 4.Other (specify) _____
42. Does the kebele administration assist you? 1. Yes 2.No
43. If your answer is yes, mention the assistance _____
44. Does urban agriculture department of the sub-city assist you? 1. Yes 2.No
45. If your answer is yes, mention the assistance _____
46. Did an extension agent visit your urban farming? 1. Yes 2.No
47. If yes, when did he visit you?
1. Regularly 2.Sometimes 3.Once 4. Other (specify)_____
47. Do you think the assistance of the agricultural extension worker is enough?
48. Does the city administration make visits to your place? 1. Yes 2.No
49. If yes, how often does it come?
1. Regularly 2.Sometimes 3.Once 4. Other (specify)_____
50. Are there by-laws, circulars, regulations and orders that the Sub-city and the
Keble administration has issued to regulate your operations? 1. Yes 2.No
51. If yes, specify them _____
52. What is your view on by-laws and regulations _____
53. Have you ever been in conflict with the city administration because of your urban
farming activity? 1. Yes 2.No
54. If your answer is yes, mention them _____

55. Have you ever asked the government to give you additional land? 1. Yes 2.No
56. If your answer is yes, what kind of response did you get?
1. We were given land 2. We were told to wait
3. We were told to give up the request 4. Other (specify) _____
57. If your answer is no, why did not ask you? _____
58. Do you receive credit for your farming practice? 1. Yes 2. No
59. What kind of agencies do you have access to get credit and saving services?
1. Banks 2. Micro credit institution 3. Individual creditors
4. Relatives 5. Others (Specify) _____
60. Have you ever faced any problem while wanting to borrow money from financial institutions? 1. Yes 2.No
61. If your answer is yes, indicate the constraints in obtaining credit from formal financial institutions.
1. High interest rate 3. The procedures followed by institutions is complex
2. Late delivery 4. Others (specify) _____
62. What kind of assistance do you want from government? _____

D. Marketing Issues

63. Do you have places to sell your product? 1. Yes 2. No
64. If no, why don't you have? _____
65. If no, how do you sell your products?
1. We sell to merchants 2. customers come at the farming gate
3. Others (specify) _____
66. Do you sell the product at any time without any problem? 1. Yes 2. NO
67. If no, Which Season do you sell the product at maximum and minimum?

Season	Max	Min
During Fasting		
During Holidays		
During Non Fasting Days		
Other (Specify)		

68. Do you have middle men between you and your customers? 1. Yes 2. No
69. If yes, did they create problem on you? 1. Yes 2.No

70. If yes, mention the problems _____

71. How do you see the price of your product?

1. Very good 2.Good 3.Not Good 4.Other (Specify) _____

72. What kind of problem do you see that affecting marketing of your products?

E. Environmental issues

73. What farming practices have you adopted to protect the environment?

74. Do you think the water that you use for urban farming is polluted?

1. Yes 2.No

74. . Do you use agrochemical for your farm?

1. Yes 2.No

75. If yes,

Type of agrochemical	Where do you get the chemical	Remark

76. How do you utilize the waste generated from your farm (for vegetable producers)?

1. Use it as fuel 2.Sale it 3.use it as fertilizer
4. Dispose as waste like other household waste 5.Others (specify) _____

77. How do you dispose of animal wastes (for livestock producers)?

1. Use it as fuel 2.Sale it 3.use it as fertilizer
4. Dispose as waste like other household waste 5.Others (specify) _____

78. Is there pest the problem? 1. Yes 2.No

79. Have your farm /animals caused health problem to your household or neighbourhood?

1. Yes 2.No

80. If yes, specify the problem _____

81. Which of the following environmental shocks have been experienced in the past 2 years?

1. Droughts, 2. Floods, 3. Pests, 4. Mudslides,
5. Diseases, 6. Others (specify) _____

82. Have your animal caused traffic accident? 1. Yes 2. No

83. If yes, specify the damage _____

84. Do find any difficulties with neighbours while you are doing your farming activities?

1. Yes 2. No

85. If yes, specify the problem _____

1. Noise 2. Pollution 3. Odour

4. Others (specify) _____

86. What are major problems to run urban agriculture? (Rank)

1	Lack of recognition		6	Conflict with neighbour/kebele/town administration	
2	Lack of trust		7	Shortage of labour	
3	Lack of common rules		8	Lack of land	
4	Lack of farm inputs		9	High water charge	
5	Lack of market for products		10	Others(specify)	

87. Do you have any comment on urban agriculture?

Appendix 2 Checklist for key informants

1. How is the extent of urban farming in this sub-city?
2. Which crops and livestock are commonly produced in this sub-city? Start with the most important one
3. What are the main uses of the vegetables and livestock? Start with the most important.
4. What problems do the urban farming cooperatives face in vegetable and livestock production in terms of provision of agricultural inputs?
5. What problems do the urban farming cooperatives face in vegetable and livestock production in terms of provision of technical assistance?
6. What problems do urban farming cooperatives face due to failures of institutions that are expected to assist them?
7. What problems do the urban farming cooperatives face in vegetable and livestock production in terms of finance?
8. What kind of problems urban farming cooperatives face in marketing of agricultural products?
9. What kind of environmental problems do you observe with the practice of agriculture in the city?
10. How do you rank the living conditions of the urban farming cooperatives in the sub-city? What things they don't have?
11. How do you evaluate the significance of urban farming as compared to alternative income generating opportunities?
12. What do you think are the major problems that urban farming cooperatives encounter? Start with the most important one

Appendix 2 Checklist for key informants

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Appendix 3 Checklist for sub-city's (kebele's) administration

1. What kind of relationship does your administration has with urban farming cooperatives?
2. What kind of assistance does your administration offer to urban farming cooperatives?
3. Do you follow up their activity? How do you follow them up?
4. Is there any by-law issued from your administration to govern the activity of urban farming cooperatives?
5. If yes, how do you implement the by-laws?
6. What are you doing to monitor whether the urban farmers are working in environmentally friendly way?
7. What do you think are the major problems that urban farming cooperatives are facing?
8. What kind of problem do you think are created by urban farming cooperatives themselves?
9. What do you think is the major weaknesses of your administration in its effort to help urban farming cooperatives?
10. What do you suggest to solve the major problems of urban farming cooperatives and to make them to be successful?

Appendix 4 Checklist for extension workers

1. What kind of relationship do you have with urban farming cooperatives?
2. What kind of assistance do you give to urban farming cooperatives?
3. Do you visit urban farming cooperatives? How often do you visit them?
4. Do you give them training? How often do you give them the training?
5. What do you think are the major problems that urban farming cooperatives face in provision of modern agricultural inputs?
6. What do you think are the major organizational problems of urban farming cooperatives?
7. What do you think are the major marketing problems that urban farming cooperatives face?
8. What kind of environmental problems do you observe with the practice of urban farming in the city?
9. What kind of weaknesses do you see from the institutions in which you are working?
10. What do you suggest to solve the major problems of urban farming cooperatives and to make them successful?

Appendix 5 Checklist for focused group discussion participants

1. How are you organized?
2. Which organ does help you to be organized in to cooperatives?
3. Where do you get the land you are working on? Do you think that the land is enough?
4. Where do you get the money for starting the business?
5. Where do you get agricultural inputs (forage, improved seed, fertilizer, veterinary service,)? Do you get them easily?
6. Have you made attempt to expand the land? What kind of attempt did you made?
7. Do you have rules and regulations that guide the activity of each member? Can I see them?
8. Do you think the rules are implemented to all members equally? If not what are the reasons?
9. What kind of problems do you observe from your leaders?
10. What kind of problems do you observe from members of the cooperatives?
11. Do you think the assistance you get form government is enough?
12. What kind of problems do you face in having access credit from financial institutions?
13. What would you do if you get credit from financial institutions?
14. What kind of problems do you see from institutions that are formed to assist you?
15. What kind of problems do you face in marketing of your products?
16. What do you suggest to solve your problems and to make you successful in your business?

Declaration

I declare that this thesis is my original work and has not been presented for a degree in any University. All the sources of material used for the thesis are duly acknowledge.

Name: Samuel nigatu

Signature: [Signature]

Date: 22-07-09

Place: [Signature] Addis Ababa

This thesis has been submitted for examination with my approval as a University advisor

Name: Ali Hassen

Signature: [Signature]

Date: 22-07-09

Place: Addis Ababa