

The Role of Non Governmental Organizations (NGOs) in Promoting the Development of Urban Agriculture: The case of Addis Ababa City



By

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Acronyms

AAU: Addis Ababa University

CBO: Community Based Organization

CSA: Central Statistics Authority

CSO: Civil Society Organization

CRDA: Christian Relief Development Association

DAI/USAID: Development Alternative, Inc. / United States Agency for International Development

ENDA: Environmental Development Action

FAO: Food and Agriculture Organization

HAPCO: HIV/ AIDS Prevention and Control Office

IPM: Integrated Pest Management

IGA: Income Generating Activity

MDG: Millennium Development Goals

NGO: Non Governmental Organization

OVC: Orphan and Vulnerable Children

ORAAMP: Office for the Revision of the Addis Ababa Master Plan

PICDO: Progress Integrated Community Development Organization

PLWHA: Person Living With HIV/AIDS

RUAF: International Network of Resource Centers on Urban Agriculture and Food Security

SNNPRS: Southern National Nationality People Regional State

UA: Urban Agriculture

UNDP: United Nation Development Program

UPA: Urban and Peri-urban Agriculture

Abstract

Like in other countries, non-governmental and civil society actors are visible on the overall institutional landscape of Ethiopian society. Currently there are more than 2000 NGO/CSO operating in Ethiopia. Specifically in Addis Ababa city more than 200 NGO/CSO engaged in different developmental activities among which 24 NGO have been implementing Urban Agriculture (UA) in different levels. The objective of the research was to assess NGOs efforts for promoting the development of UA in Addis Ababa. The research focused on two NGOs engaged in UA, namely ENDA Ethiopia (Environmental Developmental Action) and Progress Integrated Community Development Organization (PICDO) International and Local NGOs respectively. Both qualitative and quantitative data were collected; Quantitative data were collected using a structured questionnaire, designed specifically for the study. For structured survey 69(41 from ENDA) & (25from PICDO) project participants who were engaged in UA activity were selected from a sample frame created by stratified random sample. The sample should be broadly representative of project participants from the two NGOs. Qualitative data were collected from primary source through, interview, observation and case study.

UA program being undertaken by the NGOs target the most vulnerable groups in the society including, PLWHA, OVCs, OVCs and women- headed households. These socially marginalized households engage in food production relaying on very small plots of land, marginal and vacant open places and using different kits.

The sponsorship of urban gardening projects by these NGOs create employment for 36.7% sample respondents and improve household food supply for the entire project participants. The research revealed that gardening be done with virtually no economic resources, using locally available planting materials, green manures, 97% of the project participant used compost for their soil fertility, by composting biodegradable household wastes. 100% of the sample respondents used integrated pest management (IPM) for controlling pest and diseases using biological means.

Another important result of the study was the fact that 13.6% of the respondents their major water source was 'used water' and 15.2 % of house hold mainly using barrel, sacks and tire for producing vegetables.

The research findings shows that NGOs role for the promotion of UA has been quiet indispensable with regard to creating employment, income increase and livelihoods diversification of the target groups (PLWHA) in particular, and as a city in Addis Ababa in general.

Chapter1

Introduction

1.1. Background

Urban Agriculture (UA), practiced by about 800 million people globally, has contributed significantly to food security and food safety and it creates 150 million Jobs (Smit and UNDP, 1996). The practice has sustained livelihood of the urban and peri-urban low income dwellers in developing countries for many years. In recent years, UA is getting new momentum and advocacy by national and international bodies for its importance in the sustainability of cities and urban societies the role it plays on social, economical and environmental sustainability of a city both in the developing and developed nations (Petts 2005, cited in RUAF 2007). Despite its significance and long history, urban agriculture receives significantly lesser recognition by authorities in the developing countries, for example, in Africa than the developed world. Most recently, there is increasing need to sustainably manage urban farming in developing nations (FAO 2007).

UA has a multidimensional function its role includes economic, social, and environmental and many more, according to Network of Resource Centers on Urban Agriculture (RUAF 2007);

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 segments of the population. Next to food security, urban agriculture contributes to local economic development, poverty alleviation 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.

In Ethiopia, like many developing countries, the high concentration of population in the urban areas, coupled with drought, famine, and war, has put enormous pressure on food system both urban and rural areas(Axumite 1994). The majority of immigrants coming to the cities from the

rural poor which is often plagued by drought and famine; thus they contribute to the growing low income population, which lack access to adequate food or the financial means to buy it.

In order to achieve the first goal of MDGs, it is broadly assumed that NGOs have important roles. Since the 1970s, it has been noted how there are more non-governmental organizations than ever before trying to fill in the gaps that governments either will not, or cannot. Since the mid-1970s, the NGO sector in both developed and developing countries have experienced exponential growth (Suharko 2007). It is now estimated that over 15 percent of total overseas development aid is channeled through NGOs (Shah 2005). NGOs have been engaged in relief, emergency or longer-term development work or the mixture of all three.

Addis Ababa, the economic and political capital of Ethiopia, hosting 30 percent of urban population and one of the fastest growing cities of the continent (UN-HABITAT 2008). According to CSA (2007) the population of Addis Ababa is more than 2.7 million. UA has played significant role in food security and generating household income. Urban agriculture is a traditional practice in Ethiopia, and the urban-based population is used to keeping cattle, sheep, and chickens, or growing rain-fed crops such as maize and vegetables, on the plots adjacent to their houses (Zenebe 2010).

The city is heavily dependent on urban farming, but urban policy makers fail to give due attention to urban agriculture during urban planning policy reforms. According to the Office for the Revision of the Addis Ababa Master Plan (ORAAMP 2000, cited in Tewedros 2009) report, there are a large number of households whose livelihoods are associated with farming in Addis Ababa city, and the sector directly support over 51,000 families and indirectly have an influence on the lives of other segments of the urban society.

1.2. Statement of the problem

In Ethiopia, NGOs came into the picture mainly in the mid 1980s when the country faced severe drought -induced famine threaten the life of many Ethiopians. During the 1984-85 famine NGO activities mainly focuses on relief provision. Their intervention saves the life of millions of Ethiopians. Since early 1990s many NGOs involved in long-term developmental activities (Dejene 2004). According to Addis Ababa City Trade and Industry Bureau, Urban Agriculture Extension Service Core Process (2008), there are only 12 NGOs they have made agreement with

the bureau to implement urban agriculture. But in Addis Ababa, there are more than 217 local and international NGOs which have been implementing different projects (Dessalegn et al. 2008).

The annual cost of the project allocated to execute urban agriculture by this 12 NGOs in 2006 alone was Birr 3,235,900 the total project fund allocated for 2006-2010 is birr 13,547,375. Major types of urban agriculture which are undertaken by the NGO's are dairy, poultry, vegetable production, cereal crops, bee keeping. The project directly assisted more than 12,000 city inhabitants (Addis Ababa City Trade and Industry Bureau 2010).

Urban populations are growing fast because of natural growth and rapid migration to the cities as people escape rural poverty, land degradation, famine, war, and declining agricultural productivity (Zenebe 2010). Feeding urban populations adequately is a major problem in developing countries. Rural areas do not produce enough food to feed both rural and urban people and food importation is constrained by lack of sufficient foreign exchange (Sawio1994).

According to Gittleman (2009), ...'*Ethiopia does not have sufficient technological and financial means of transporting and storing fresh produce over long distances, so most, if not all, of the produce sold in the city must come from nearby*'. Food grown within the city makes up a tremendous amount of the city's supply, keeping prices low with its abundance. An increase in price leaves many families dangerously without access to nutritious food and severely food insecure. NGOs that have initiated urban agriculture projects that involve disadvantaged groups such as orphans, people with disabilities, women, recent immigrants without jobs, or elderly people, with the aim to integrate them more strongly into the urban network and to provide them with a decent livelihood.

UA by its special features requires different mode of application and methods. According to Mougeot(1994)

Farming in the city is not a straightforward business. UA requires much finer technological and organizational precision than rural agriculture because it must be more intensive, more tolerant of environmental stress, more responsive to market behavior, and more carefully monitored to protect public health. Where little land is available, technologies must be adapted for the poorer

urban households to make more efficient use of household spaces: backyards, rooftops, basements, windowsills, and indoor containers.

Urban producers may lack expertise regarding specific aspects of urban agriculture (i.e. specific production or processing techniques). NGOs could provide support for the development of appropriate technologies for food production and processing and provide methodological support in diagnosis, monitoring, and training. NGOs or community-based organizations could also play a crucial role in linking urban producers with governmental authorities or research institutes. NGOs could often help finance and implement projects that are defined as a result of multi-stakeholder processes.

NGOs at the community level are in the front line in providing assistance in the acquisition of basic needs and amenities; in identifying issues, raising awareness, and providing information to grassroots communities; and articulating the communities' problems and needs; strengthen community capacity, organize dialogue and act as public advocates¹ with governments and regional and international bodies (Peace Corps (ICE) 2002, Reeni S. and Thanikachalam V. 2003).

My research focused on two NGOs one international and one local NGO who are engaged in UA in Addis Ababa; urban agriculture provides income, employment, and security for disadvantaged populations, (including female-headed households with children, HIV/AIDS affected and infected households, young unemployed people, elderly people without a pension, etc.). These socially excluded people are migrants from rural areas. The organizations are ENDA Ethiopia (Environmental Developmental Action) and Progress Integrated Community Development Organization (PICDO) international and local respectively.

The contribution of NGOs on the promotion and development of urban agriculture not well recognized and many literatures also recognized the role of NGOs in the other developmental activities rather the role of NGOs in UA. This study tried to assess the role of NGOs in promoting and developing UA in the City of Addis Ababa.

¹ Based on the new Charity and Society Proclamation no. 621/2009 advocacy activity only permitted for "Ethiopian Charities". "Ethiopian Resident Charities and Foreign Charities" not allowed to do so.

1.3. Research question

1. What kind of strategies NGOs should be developed to enhance and promote urban agriculture?
2. What are the challenges and opportunities that NGOs face to carry out urban agriculture?
3. What types of lessons observed?

1.4. Objective of the study

1.4.1 General objective:

- To assess the contribution of Non Governmental Organizations (NGOs) in Promoting the Development of Urban Agriculture in Addis Ababa City.

1.4.2 Specific objective;

- To identify ENDA's and PICDO's intervention strategies and mechanisms to implement urban agriculture
- To Assess ENDA's and PICDO's contribution on households livelihood diversification by implementing UA
- To identify major constraints and opportunities of urban agriculture
- To identify the lessens achieved by the intervention of ENDA and PICDO

1.5 Significance of the study

The research will improve our knowledge about the role that the sector plays in promoting urban farming in particular and improving the livelihoods of the society in general. The study will enhance policy makers and urban planners will give due attention the importance of urban agricultures and the role of NGOs. The study looks at the extent of NGOs contribution on urban agriculture in Addis Ababa and its contribution on urban farmers' livelihoods.

Urban agriculture may function as an important strategy for poverty alleviation and social integration. UA can contribute substantially to the MDGs, particularly in reducing urban poverty and hunger (MDG 1) and ensuring environmental sustainability (MDG 7). Urban populations are growing fast because of natural growth and rapid migration to the cities as people escape rural

poverty, land degradation, famine, and landlessness. Feeding urban populations adequately is a major problem in developing countries like Ethiopia.

This study will enhance for further study about the role of NGOs in urban farming and their roles application and methods to implement UA. The overall role of this study is mainly for academic purpose to full fill academic requirement.

1.6 Scope and limitation

The role of NGOs is so broad including many aspects but the scope of this study only focuses on the contribution of NGOs in enhancing and promoting UA in Addis Ababa. UA also endeavors include varieties of activities such as the cultivation of crops, vegetables, fruits, flowers, forestry and livestock rearing including cattle for beef and dairy products, sheep, poultry, bees etc. However, the study focuses only on the activities of NGOs that have been undertaking interventions on development of urban gardening.

Due to resource and time constraints the research addressed mainly two NGOs. As a result the research finding may not be generalized for all NGOs working on UA in Addis Ababa. Some other limitations of the work include lack of research findings specifically urban agriculture and NGOs; and problems of measurement and the difficulty to quantify some variables.

1.7 Organization of the paper

This research paper has seven chapters. The first chapter deals with the introduction part, which comprises the overview of urban agriculture and the role of NGOs, statement of the problem, research question and objective, significance of the study and scope and limitations of the paper. The second chapter is concerned with the review of related literature where the concept of NGO; definition and classification, NGOs growth and development in Ethiopia; the concept of UA benefits and limitations of UA; the extent of UA in Addis Ababa; the chapter includes UA and NGOs the role of NGOs in enhancing and promoting UA in Addis Ababa. Chapter three deals with methodology; overview of Addis Ababa and the target NGOs, sampling methods and selection criteria of respondents, data collection instrument and data analysis. Chapter four looks the demographic characteristics sample respondents and benefits of UA. Chapter five looks UA activity, methods application techniques and encountered problems. Chapter six describes the

main findings of the research focusing up on type of material provisions, opinions and response of sample respondents, view of sample NGOs and office of Agriculture. Chapter seven provides on the summary and conclusion of the paper. Recommendations also provided on the basis of research findings.

Chapter 2

Literature review

2.1 The Role of Non Governmental Organizations (NGOs)

Rising to the occasion are many organizations, formed with the objective of helping those in misery. These organizations concentrate on one or more areas like, poverty alleviation, rural development, gender equality, literacy, health services, social development, human rights, and environmental protection, etc... Many of these organizations have interacted with governments to achieve their objectives. Different means and methods are adopted to realize their goals. These organizations are basically not associated with the government, but are self motivated groups and are broadly termed as Non Governmental Organizations (NGOs) (Reeni & Thanikachalam 2003).

Non-Governmental Organization the World Bank for example, defines NGOs as *‘private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development’* (WB 1995). In wider usage, the term NGO can be applied to any non-profit organization which is independent from government.

The role of NGOs very diverse and addresses many aspects. According to Heintz (2006) NGOs enable citizens to work together voluntarily to promote social values and civic goals. NGOs promote local initiative and problem-solving. Through their work in a broad array of fields - environment, health, poverty alleviation, and culture & the arts, education, etc... NGOs reflect the diversity of society itself.

NGOs provide various basic public services to the poor. It is argued that especially in countries where government lack public services, NGOs play a significant role in the direct provision of social and economic services. NGOs motivate citizens in all aspects of society to act, rather than depend on state power and beneficence .The role of NGOs is often critical, in years of drought or famine; the non-governmental organizations have been pivotal role in providing food to those most marginalized (Peace Corps ICE 2002).

NGOs involved in human development by empowering citizens and promoting change at the 'grass roots', NGOs both represent and advance the pluralism and diversity that are characteristic of vibrant and successful modern societies. According to Dessalegn (2002) the voluntary sector (NGO, CSO) '*...it is often seen as the most important instrument for promoting sustained political reform, responsible governance, and pluralism*'. NGOs enable all voices to be heard when individuals form a group with others who have similar values and interests. NGOs often aim to promote understanding between citizens and the state. NGOs contribute to a civil society by providing a means for expressing and actively addressing the varied and complex needs of society.

In general, NGOs emerge and play the roles as service providers. NGOs have developed various strategies to influence the process of public policy making and to control the implementation of development programs or projects (Suharko 2007).

Some documents more describes the diverse role of NGOs, stated that;

Why are NGOs important? The short answer: NGOs increase "social capital" by providing people with opportunities to build trust in each other and the capacity to work together toward common goals. In recent years the presence and number of NGOs has grown. However, the influence and importance of NGOs differ depending on the national context in which they operate. (Peace Corps (ICE) 2002).

.2.1.1 NGO in Ethiopia

Ethiopia, a long history of associational life. Traditional society organizations are *idder*, *mahbier senbete*, *iqub*, etc. But their roles in development activities were not realized. Traditional voluntary humanitarian practice in Ethiopian society is a common phenomena, the burden of catering for the needy and disadvantaged was the responsibility of the extended family, the religious institutions, indigenous social organization. This is a traditional non-governmental method of voluntary action (Kassahun, 1994a: 3; CRDA, 1998:4, cited in Kassahun 2002).

The voluntary sector in Ethiopia has an old history but the formal associational life going back in effect to the last years of the Imperial regime. When the Ethiopian Civil Code containing the law of associations meant to govern all voluntary organizations was issued in 1960, there were hardly

any active organizations that may be described as NGOs or CSOs in the proper sense of the word. By the latter part of the 1960s, there were a small number of professional associations registered with the Ministry of Interior, which was then the regulating body, but these were mainly concerned with the basic interests of their members and professions and did not play any significant role in development or other public issues (Dessalegn et al. 2008).

NGOs first started to appear in Ethiopia in the 1960's and these were mostly of European origin. In the 1970's more NGOs emerged especially in response first to the 1973/74 famine and later on to the 1983/84 famine. The number of NGOs continued to grow after the overthrow of the military regime (Derg) in 1991. However, their activities were principally limited to relief and rehabilitation before they became more development oriented (CRDA 2006).

After the Dawn fall of the Derg especially in mid 1990 the numbers of CSOs in general and NGOs in particular showed tremendous increases. In the beginning of 1990 there were 250 CSOs and NGOs in this country in 2007 this figure raised more than 2000 (Dessalegn et al. 2008).

According to Dejene (2004) in Ethiopia, NGOs have contributed to the countries socio-economic development and welfare in many different ways. More than 270 local and international NGOs have reached up to 15% of the total population. They run about 576 projects with a running cost and investment outlays amounting to 2.5 billion Birr.

NGOs in Ethiopia have built up valid development experience, especially in working with poor categories of people such as the landless, cattle less, widows and orphans, in ways that are complementary to state and private sector activity (Belshaw and Coyle 2001).

The new proclamation, Charities and Societies proclamation No.621/2009 allowed the establishment of three types of Charities and Societies in Ethiopia,

1. Ethiopian Charities or Ethiopian Societies shall mean those Charities or Societies that are formed under the laws of Ethiopia, all of whose members are Ethiopians, generate income from Ethiopia and wholly controlled by Ethiopians. However, they may be deemed as Ethiopian Charities or Ethiopian Societies if they use not more than ten percent of their funds which is received from foreign sources.

2. Ethiopian Resident Charities or Ethiopian Resident Societies shall mean those Charities or Societies are formed under the laws of Ethiopia and which consist of members who reside in Ethiopia and who receive more than 10% of their funds from foreign source.
3. Foreign Charities shall mean those Charities that are formed under the laws of foreign countries or which consist of members who are foreign nationals or are controlled by foreign nationals or receive funds from foreign source.

The relationship between government and NGOs is very complex. A number of resources show that the national as well as local government acknowledges the positive impact and value of NGO activities (MoFED, 2006; Thomas and Taylor, 2000; Edwards and Hulme, 1996, cited in Schmied 2010). However, at the same time, there is some disagreement between government and NGOs (primarily due to political reasons) especially the issue of advocacy on right issue; it assumed that the responsibility of the government. But Ethiopia highly dependent on foreign aid according to the World Bank (2007), aid flows are equivalent to about eight percent of the country's GDP, and in 2008, external assistance covers one-third of the country's national budget (Dessalegn et al. 2008) .

2.2. Urban agriculture (Definition)

Urban agriculture is a recent phenomenon as compared to rural farming. Different authors described urban agriculture in various ways on the basis of location or time of agricultural activities. In short, UA can be defined as the growing of plants and the raising of animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, processing and marketing of products(van Veenhuizen and Danso2007).

Although authors differ in defining urban agriculture, the following key features characterize the activity. (1) Urban agriculture involves crops and livestock production, but it may also include agro-forestry and fuel production. (2) Urban agriculture is practiced both within the urban boundary and its periphery. van Veenhuizen and Danso(2007) defined UA as the growing of plants and the raising of animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, processing and marketing of products.

The choice of what to produce and how to produce it is determined by the culture, traditions, market, water supply, and rainfall, and climate, exposure to sun, soil condition, plot size and distance from home. Family and individual resources, land availability and location are critical determinants of the type of urban agriculture practiced. UNDP (1996) defines urban agriculture as an industry that produces, processes and markets food and fuel, largely in response to daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and recycling natural resources and urban wastes, to yield a diversity of crops and livestock. Urban agriculture is divided into five broadly defined farming systems: aquaculture, horticulture, animal husbandry, agro-forestry and other urban farming activity.

Boland (2008) further explained UA; UA covers a whole range of production systems, methods techniques and socio-economic aspects. The diversity of the products can be divided in to Vegetable horticulture, animal husbandry, fuel and food forestry, including agro forestry, aquaculture, including fish production.

2.2.1 Why is urban agriculture important?

The rapid urbanization that is taking place goes together with a rapid increase in urban poverty and urban food insecurity. By 2020 the developing countries of Africa, Asia, and Latin America will be home to some 75% of all urban dwellers, and to eight of the anticipated nine mega-cities with populations in excess of 20 million. It is expected that by 2020, 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 (RUAF2007).

The development of UA is strongly influenced by the dynamics of the urban social, economic, political, ecological and spatial systems with which it is connected. UA adapts to new economic and spatial conditions. Consequently, there is a great variety in UFSs, people involved and their relations. These systems adapt to the continuously changing local conditions of the city where UA takes on new functions. A major function of UA is and will always be food supply and income generation in the cities, but increasingly, UA also plays a role in environmental, landscape and biodiversity management and in providing recreational services, among others.

This flexibility and multi-functionality of UA will likely determine its sustainability in the long-term (van Veenhuizen and Danso2007).

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. Next to food security, urban agriculture contributes to local economic development, poverty alleviation 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 2007). UA enhance the situation of the urban population in different ways;

1. Food security and nutrition

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. Most cities in developing countries are not able to generate sufficient (formal or informal) income opportunities for the rapidly growing population. The World Bank 2000 (cited in RUAF2007) estimates that approximately 50% of the poor live in urban areas (25% in 1988). In urban settings, lack of income translates more directly into lack of food than in a rural setting (cash is needed). The costs of supplying and distributing food from rural areas to the urban areas or to import food for the cities are rising continuously, and it is expected that urban food insecurity will increase.

2. Economic potential

Urban farming can also be a good source of income for the urban poor, if it is especially practiced as a formal sector. However, (Bryld 2003, cited in RUAF 2007) 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 (2007) 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. The report also confirmed ‘...in Addis Ababa, above-normal profits are earned by even the smallest-scale backyard producers with very low capital’ (Staal 1997, cited in RUAF 2007).

3. Social advantage

UA may function as an important strategy for poverty alleviation and social integration of disadvantaged groups (e.g. HIV/AIDS-affected households, disabled people, female-headed households with children, elderly people without pensions, jobless youth), with the aim to integrate them more strongly into the urban network, provide them with a decent livelihood, and prevent social problems such as drugs and crime (van Veenhuizen and Danso2007).

4. Contributions to urban ecology

Urban agriculture is part of the urban ecological system and can play an important role in the urban environmental management system. Firstly, a growing city will produce more and more wastewater and organic wastes. For most cities the disposal of wastes has become a serious problem. Urban agriculture can help to solve such problems by turning urban wastes into a productive resource (RUAF 2007).

2.2.2. Constraints of urban agriculture

Despite the advantages of urban agriculture mentioned above, it has some limitations worth noticing. UA may also have negative effects if certain associated risks are not considered and proper Preventive and guiding measures not taken. The main risks are;

A. Health risks

The main health risks associated with UA can be grouped into the following categories (Birley and Lock, 2000 cited in FAO 2007):

- *Contamination of crops with pathogenic organisms* caused by irrigation that uses water from polluted streams, or inadequately treated wastewater, or to the unhygienic handling of the fresh products during transport, processing and marketing;
- *Human diseases* transferred from disease vectors attracted by agricultural activity such as breeding of mosquitoes; plague, lime and tick-borne diseases

- *Contamination of crops and/or drinking water by residues of agrochemicals (fertilizers, pesticides, fungicides);*
- *Contamination of crops by heavy metals from contaminated soils, air or water caused by heavy traffic and industry;*
- *Transmission of diseases from domestic animals to people (zoonosis)*
- *Occupational health risks, for example, through improper handling of agrochemicals and untreated wastewater in food production and food-processing industries.*

B. Negative environmental impacts

UA may contaminate local water sources if large amounts of chemical fertilizers and pesticides are used. Also, the excessive use of nitrate-rich manure, such as chicken or pig manure can contaminate groundwater. In particular, wastewater discharge from intensive poultry farms can carry heavy loads of micro-organisms and may contaminate drinking water supplies. Further, under certain situations, inappropriate farming practices may lead to reduction of vegetation and siltation of water bodies (Bowyer-Bower, T. & Drakakis-Smith, D. 1996, cited in FAO2007).

2.2.3 UA in Addis Ababa

Urban agriculture provides a complementary strategy to reduce urban poverty and food insecurity and enhance urban environmental management especially in many developing countries (RUAF 2007). The case is true in Addis Ababa. However, its contribution towards urban food security or livelihoods has never clearly been recognized, simply because urban agriculture practices are largely assumed a replacement for rural agricultural activities. As a result, the sector has not received the support it deserves. Urban expansion in Addis Ababa without proper attention on urban farming affects the expansion of urban agriculture; Gittleman (2009) stated that,

The city of Addis Ababa, Ethiopia, is rapidly changing from one of traditional agricultural communities to one that is competitive in the global economic market. It is building in only a couple of years what most cities took decades to develop, and it is displacing thousands of people as it does so, many of whom are farmers. This is causing a major crisis in urban food insecurity,

homelessness, and poverty. With a reassessment of the government's current plans for urbanization, urban agriculture as the potential to be Ethiopia's key means of achieving food sovereignty, food security, and economic wellbeing, and it thus deserves the attention of policy-makers.

UA is a traditional practice in Ethiopia. The urban-based population is used to keeping cattle, sheep, and chickens, or growing rain fed crops such as maize and vegetables, on the plots adjacent to their houses. This production is mainly for household consumption, with a small proportion for sale. Thus, although its overall contribution to the urban economy might be limited, UA makes a considerable contribution toward satisfying the basic needs of the urban population (Axumite 1994).

According to the Office for the Revision of the Addis Ababa Master Plan report(2000, cited in Tewodros2007), there are a large number of households whose lives are associated with farming in Addis Ababa city, and directly support over 51,000 families and indirectly have an influence on the lives of other parts of the urban environment. The total area covered by urban agricultural activities is 9,380 hectares (17.4% of the city) of which about 490 ha (0.9%) is used for vegetable production (Addis Ababa UA office, 2010, cited in Zenebe 2010). Urban Agriculture bolster a more equitable urban food system in Addis Ababa, but it also acts as a lucrative source of income. Given that agriculture is a traditional skill and provides Ethiopia with a more than half of its GDP and 80% of its employment, many city residents came from a family or place where they participated in farming. In 1994, about 50% of the selected households had an estimated monthly income greater than that of 70% of the employed population in Addis Ababa, not including vegetables consumed by the households themselves or cooperative investment allocations (Gittleman 2009).

Some research findings show that UA play crucial role for the supply of fresh vegetables to Addis Ababa residents. From three agriculture producers association, the Mekanissa, Furi, and Saris Producers' Cooperative provides a significant proportion of the supply of fresh vegetables to Addis Ababa. For example, in 1983, it was estimated that the cooperative provided about 63% of the Swiss chard, 17% of the carrots, about 14% of the beetroots, and 6% of the cabbages supplied to the Addis Ababa market (Axumite1994).

Some previous data shows that the extent UA in Addis Ababa, food production and area of land has experienced a net increase over time, plot sizes have decreased enormously. A survey of household consumption of vegetables in Addis Ababa in 1983 showed that 17% of the 1,352 surveyed households produced their own vegetables ((Hormann and Shawel 1985, Cited in Axumite 1994), and that the area under cultivation in all income categories was usually less than 25 m².

The same study shows that, the percentage of farmers growing vegetables as opposed to just raising livestock has increased substantially. While 17% of the surveyed households in 1983 produced vegetables, almost entirely for subsistence. According to Gittleman (2009) in 2006 eleven marketing service cooperatives of urban farmers produced almost 12,000 tons of vegetables for the city market. Irrigated vegetable farming in Addis Ababa is now partly in the formal sector, as opposed to livestock rearing, which is still mostly informal.

There are many reasons why urban dwellers go into agriculture but declining purchasing power for many urban workers is an important contributing factor. Furthermore, urban agriculture is potentially lucrative. Many of urban farmers are migrants from rural areas who already possess agricultural skills. Consequently, they choose the informal sector activity in which they have the most experience (Mensah 2003).

2.2.4 NGO and UA

NGOs are usually primary facilitators of UA. NGOs often perceive themselves as pioneers and playing crucial roles developing innovations in the field. Along with community based organizations, NGOs have the closest relationship with, and are most supportive of urban farmers, especially the poorest and most marginalized. NGOs can serve as links between farmers and the market, credit agencies, research institutions and government, they assist through a number of means: empowerment; technical assistance, extension and training; access to land, credit, inputs and organizing market information (UNDP 1996).

The International Development Research Centre (IDRC) became the first major international agency to recognize the importance of urban food production. In 1983, the urban section of IDRC under *Yue-man Yeung* funded a study of six urban centers in Kenya to be carried out by

the *Mazingira* Institute of Nairobi. Additional studies and scholars have been supported over the last decade until the weight of reports and awareness of problems with urban food security has at last brought the issue to the forefront of IDRC's agenda (Tinker1994).

Many nongovernmental development organizations are already active in UA, particularly in Latin America, and others are reviewing their rural agricultural record and available expertise in preparation for taking on UA development (van der Blik 1992, cited in Mougeot 1994).

The wider spectrum of NGOs involvement in UA is focusing on gender sensitive urban agriculture activities which help to conduct research on urban agriculture from a gender perspective and scope out the capacity of strengthening gender analysis in urban agriculture. Since women in Ethiopia and other African countries are viewed as responsible for providing food needs for children, husbands and relatives (Kanji 1995, cited in Hasna 1998).

The innovations of new ideas introducing adaptable and appropriate technology NGOs play a crucial role by introducing multi-disciplinary, comprehensive education and training programme men and women urban farmers which would be benefited in promoting systematic or integrated urban farming and generate micro projects(Hasna 1998).

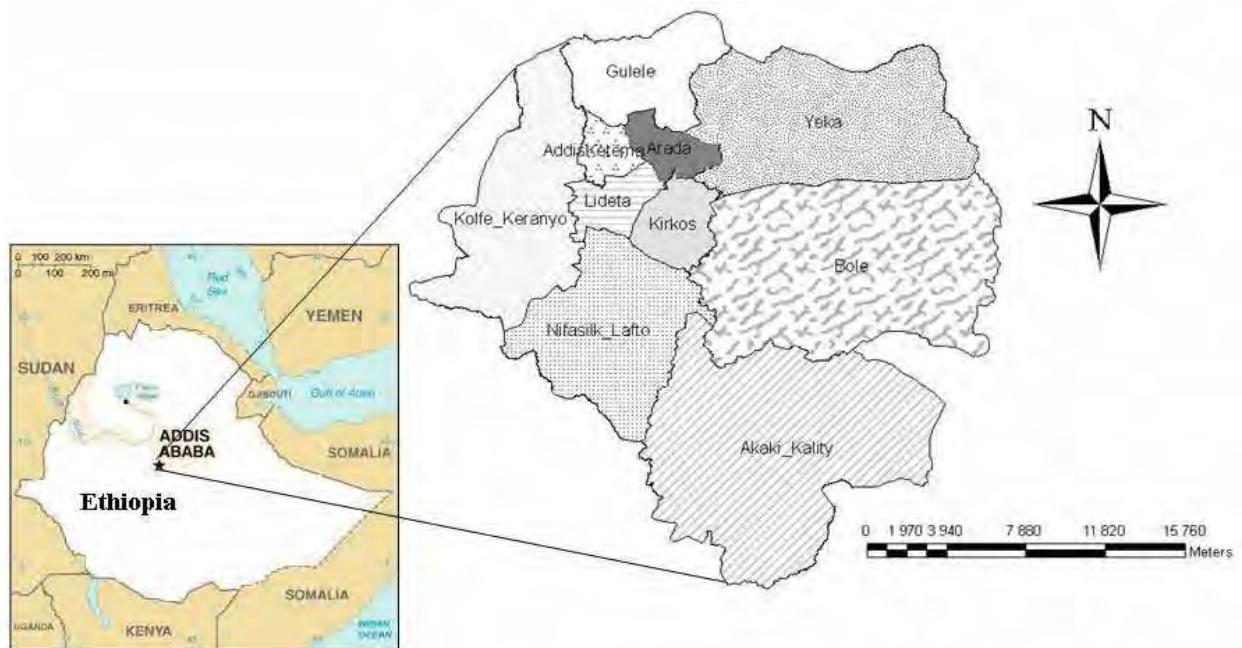
Likewise in Ethiopia the multiple roles NGOs undertaken in enhancing and promoting of UA are the introduction of adaptable and appropriate technology. The USAID/ Ethiopia Urban Gardens Program since its inception 2008 has reached more than 15,000 orphans and vulnerable children and 5,000 households through the creation of school and community Gardens, using water saving technology including trickle and drip technologies, Promoted fruit trees and poultry. USAID Urban Gardens Program is operational in six cities: Adama, Addis Ababa, Hawassa, Bahirdar, Dessie and Gondar (Dereje and Ness 2009).

The role of NGOs in enhancing and promoting UA, it's beyond their financial and material support, the knowledge and experience transferred from such organizations is serving as valuable resource. The other important role of NGOs is primarily in their ability to work at grassroots level, spearhead or promote new production and market chain strategies, provide training opportunities, inform policy makers or facilitate a community voice in policy development. They also work in close partnership with local governments and community organizations to achieve mutual goals (Zenebe 2010).

Chapter 3 Methodology

3.1 Description of study Area: Addis Ababa City

Figure: 3.1 Map of Addis Ababa City



Source: Addis Ababa City Council, 2006. Adapted from Tewodros, 2007.

The study was carried out in Addis Ababa, the capital city of Ethiopia and the commercial and industrial center of the country, is located in the Central Ethiopian highlands. It is an autonomous administrative city that comprises 10 Sub –cities namely, Addis Ketema, Akaki-Qality, Arada, Bole, Gulele, Kirkos, Kolfe-Keranio, Lideta, Nifasilk Lafto, and Yeka sub-cities.

Addis Ababa has particularly grown fast since the past 10 to 15 years. The population of Addis Ababa in 2007 was 2.7 million (CSA, 2009). Over 97.7% of the population lives in the city while the remaining live in the peri-urban fringes. The high rate of rural urban migration accounts for about 40 % of the growth. Coupled with rapid natural population growth, Addis Ababa is one of the fast growing cites in Africa, posing critical challenges, including high rate of unemployment,

housing shortage, lack of access to health service, education, information and favorable market and environmental deterioration (UN- HABITAT 2008, Degefa 2010).

3.2 General overview of case study NGOs; ENDA and PICDO

My study focused on two NGOs who are engaged in UA in Addis Ababa, namely; Environmental Development Action-Ethiopia (ENDA Ethiopia) and Progress Integrated Community Development Organization (PICDO) international and local NGO respectively.

Environmental Development Action –Ethiopia (ENDA Ethiopia) is a branch of ENDA Third World (ENDA TW) the first south based International Non- Governmental Organization rooted in Dakar, Senegal. ENDA TW has been working in 14 countries in Africa, Asia and Latin America. ENDA TW focuses on environment and sustainable development. ENDA-Ethiopia operates in Ethiopia since 1995 under the theme of “living healthy in clean and green city”. The aim to enhance the quality of life in poorer neighborhoods through improved nutrition, cleaner environment, employment creation, and increased involvement of city residents in managing their affairs. The program overall objective is to improve the livelihoods of the urban poor through the promotion and intensifying of Bio-intensive Gardening (BIG) (ENDA project terminal report 2010).

ENDA-Ethiopia implemented the second phase of its urban agriculture project in Addis Ababa, since February 2006 to July 2010 focusing on *households infected and affected* by HIV/AIDS. The project is implemented in three sub-cities of Addis Ababa namely, Lideta, Yeka, Akaki-Kality. The programme aims to contribute towards;

- Notable improvement in Nutrition and health situation of urban poor households infected and affected HIV/AIDS by intensifying the practice of UA in the program areas
- Increased basic income the urban poor households infected and affected by HIV/AIDS

Thematic areas of the organization are UA, under UA integrated waste management, women and environment and UA (poultry production, urban gardening, and sheep fattening different training related to UA). Target groups of the organization are HIV infected and affected segments of the society and destitute women. There are 300 HH and two associations are directly benefited from the projects. The project aims, to enhance nutrition status of HIV positive, improve household

income, conserve natural resources and improve urban sanitation (ENDA Project Terminal Report 2010).

Progress integrated Community Development Organization (PICDO), it is an indigenous NGO which was established in 2002 by two individuals who have been experienced in developmental activity in different NGOs.

Major thematic area of the organization are Environmental Protection and UA, HIV/AIDS prevention and control, care and support for people living with HIV/AIDS and other integrated community development activities. Focusing on UA major activity which has been undertaken by the organization are vegetable production, sheep rearing, poultry production, tree seedling cultivation and distributions. Target groups of the organization are Orphan and Vulnerable children (OVC), and Person Living with HIV/AIDS (PLWHA). There are 740 OVC and 300 PLWHA who are direct beneficiaries and more than 94,000 surrounding communities in the project areas are indirect beneficiaries. The project is situated in Addis Ababa Yeka Sub City. Currently the organization has been implementing 3rd phase with project title “*Urban Gardening Program for HIV/AIDS Affected Women and Children 2009-2013*” by the support of DAI/USAID (Personal Communication with the staff of PICDO and PICDO project progress report 2010).

3.3 Sampling

Major target groups for this study were project participants who are engaged in UA activity through the assistance of the two NGOs under study. NGOs staffs and Urban Agriculture Office experts were also target groups of the research. Two NGOs were selected purposively with the assistance of Addis Ababa City Agriculture Office, one international and one local NGO. Subsequently, sample size of project participants from the selected two NGOs were selected using appropriate sampling techniques.

3.3.1 Study site and NGOs selection

The study was carried out in Addis Ababa City, which accounted 30 % of the total urban population in the country. NGOs are widely assumed that they are engaged in rural development,

social welfare and other similar activities. NGO's role in promoting and enhancing UA is not so far well studied and the research will initiate for further study.

3.3.2 Target sample size selection

For the structured survey, 69 project participants were selected from the sample. The sampling frame was created based on the data obtained from the two NGOs (ENDA and PICDO). First the study population was listed and then stratified based on participants' duration of stay in the project; A minimum of three years and more stay in the project and current participation in the project were the two issues considered in selecting the participants in the study.

A total of 339, project participants, out of which 219 from ENDA and 120 from PICDO, were selected based on the sampling frame. Since ENDA project area was in three sub-cities (Yeka, Akakai-Kality and Lideta) equivalent sample size were selected. Considering time and resource 20% sample size randomly drew from eligible population i.e. 44 from ENDA (22 from Akakai-Kality, 12 from Yeaka and 10 from Lideta Sub-Cities) and 25 from PICDO² that constitute total 69. Out of the 69³ sample project participants 44(64%) are from ENDA and 25(37%) from PICDO. The sample should be broadly representative of project participants from the two NGOs (Table 3.1).

3.3.3 Data collection

Both primary and secondary data have been generated in this study towards the achievement of intended objectives. The primary data collected using both quantitative and qualitative methods.

Quantitative data were collected using a structured questionnaire, designed specifically for the study. The survey questionnaire contained both open-and close-ended questions (Appendix 1) which were used to collect data and information addressing all the research objectives. The questionnaire was pre-tested in order to evaluate the compatibility of the questionnaire with the objective of the study and modifications were made based on the lesson gained.

The questionnaire covered different topics to capture relevant information about the socio-economic characteristics of project participant, types of agricultural practices, sources of income,

² PICDO has been working only in Yeka Sub-City

³ The actual figure used for analysis was 66 (3 missing cases from ENDA)

income gained from UA, and, types of vegetables produced and livestock reared, use of agricultural inputs, type of service provided by NGOs and challenges while practicing urban agriculture. UA project participants were interviewed to collect both quantitative and qualitative information.

In order to achieve the objectives of the study and to supplement and strengthen the quantitative data, qualitative data were also collected. The following research methods were used for qualitative data:

Semi Structured Interview: for collecting the qualitative data, semi- structured questionnaire were prepared focusing on NGOs and UA office (Appendix 3).

NGOs staff were interviewed focusing on type of activities undertaken by NGOs, type of material and technical support provided for project participant, extent of UA, major achievements, constraints and challenges and their specific roles in enhancing and promoting UA in their respected NGOs.

Interview with Addis Ababa Office of Agriculture personnel; interview were focused on the role of the government to enhance and promote UA, the extent of UA in Addis Ababa and their relation with NGOs, policy issue and challenge and opportunity was the major issue.

Observation: The method was used to observe the activity which is undertaken by the project participants, type of vegetable grown, use of appropriate technologies, etc. This helps to observe and collect basic data.

Case Studies and Stories: These were meant to understand the real history/profile of selected project participants. Such data expected to show the benefit of UA and its challenges; support provided by NGOs and it gives good lesson interims of project impact. The research had case studies of 2 project participants/beneficiaries from two NGOs.

Table 3.1. Sampling of the study survey participants

Name of NGO	Sample frame	Sample distribution by Sub city			
		Akaki Kality	Yeka	Lideta	Total
ENDA	219	22	12	10	44
PICDO	120		25		25
Total	339	22	37	10	69

Source: ENDA& PICDO project report, 2010

3.4 Method of analysis

Quantitative data were entered and processed using the Statistical Package for Social Science (SPSS). The responses were edited before analysis. Descriptive statistics were used to analyze data leading to the identification of technical information. The quantitative data is presented in frequency and percentage distribution tables.

The qualitative data after being collected were edited and organized based on the need the research required. There was a systematic and intensive data analysis often sentence by sentence or phrase by phrase of field notes, interviews and other documentation in order to identify common themes and categories that ran through the research.

Chapter 4

Respondents demographic and socio -economic characteristics

4.1 Introduction

To understand the demographic and socio-economic background of the sample respondents is necessary for the overall discussion of detail activities. As it is known, that the majority of the sample respondents are PLWHA and economically poor. In order to understand the socioeconomic background of the urban farmer, the study tried to collect the basic information of the sample respondents, age, sex, educational status, income and employments, place of origin etc. The sample respondents were requested to answer questions pertaining to the above demographic and socio economic determinants.

4.2 Demographic profiles

Age is the determinant factor for activities like UA. Majority (81.8%) of the project participants belongs to the age category 20-30 and 31-40. Nearly 40 % are even less than 30 years. On the other hand, the proportion of the project participants above the age of 60 years comprises of only 3%. Between the age group 50 -60 years comprises of 6.1%. Hence, it is good to say that most of the participants belong to the working age groups. There is no big age variation between the beneficiaries of the two NGOs but it is only the above 60 age group which makes a little variation from PICDO.

As regards to the distribution of respondents by sex, the great majority (90.9%) are female beneficiaries. Many studies and findings also conform that, women represent an important portion of urban farmers since they tend to have most of the responsibility for feeding the households, while men tend to seek other urban employment. The other reason of the higher proportion of women in the sample size is due to the nature of the project in both ENDA and PICDO which mainly run gender focused projects, especial emphasizing on women. The finding further indicates that both in ENDA and PICDO, the percentage of female participants is almost equal 90.2% and 92%, respectively.

Out of the total sample respondents 59.1% are married. The proportion of widowed household heads takes the second position (24.2%) followed by divorced (9.1%) and single household heads (7.6%). It is also important to note that the proportion of widowed are nearly one fourth of the sample respondents; The possible reason is that project participant are PLWHA.

The proportion of respondents with household size of 4-5 persons is relatively higher (45.5 %) followed by sample respondents with household size of 2-3 persons (21.2%). The proportions of households with household size of 6 – 7 persons were (19.7%). It is interesting to note that the great majority of the households (66.7%) have household sizes are five and less than five person. One fifth of the sample family size is two to three persons. It is obvious that nearly 25 % of the sample respondents were widowed and more than 80 percent of the respondents were less than 40 years.

Table4. 1. Age, sex, marital status and family size of respondent households

Variable	ENDA		PICDO		Overall total	
Age Category	Frequency	Percent	Frequency	Percent	Frequency	Percent
20-30	15	36.6	11	44	26	39.4
31-40	20	48.8	8	32	28	42.4
41-50	4	9.8	2	8	6	9.1
51-60	2	4.9	2	8	4	6.1
Above 60	0	0	2	8	2	3
Total	41	100	25	100	66	100
Sex						
Male	4	9.8	2	8	6	9.1
Female	37	90.2	23	92	60	90.9
Total	41	100	25	100	66	100
Marital Status						
Single	2	4.9	3	12	5	7.6
Married	28	68.3	11	44	39	59.1
Divorced	3	7.3	3	12	6	9.1
Widowed	8	19.5	8	32	16	24.2
Total	41	100	25	100	66	100
Family Size						
2-3	9	22	5	20	14	21.2
4-5	18	43.9	12	48	30	45.5
6-7	8	19.5	5	20	13	19.7
8+	6	14.6	3	12	9	13.6
Total	41	100	25	100	66	100

Source: Field survey, 2011.

4.3 Education and occupation of the respondents

People with all kinds of educational backgrounds practiced urban agriculture. The educational level of the sample respondents, as can be seen from the Table, 15.2% were those who had never been to school while 10.6% of them can only read and write. The majority of respondents 27.3% were attended junior secondary education (7-8 grade). 25 % of respondents attained secondary education (9-12 grade). The overall educational attainments of the respondents revealed that more than 50 % of them attained junior and secondary education. Very few 4.5% of the respondents were attained above grade 12. The data shows that there is no big difference in educational attainment between the two NGOs, ENDA and PICDO, only those who attained college education were from PICDO. NGOs are benefiting people with low, middle and high level of education. It is also important to note that UA is practiced by people with different educational levels ranging from the illiterate ones to those who attended college level.

As summarized in Table 4.3 100% of sample respondents practiced UA alongside other employment, the majority of respondents engaged in multiple and triple activities. UA is not their primary occupation in terms of income and volume of job. Casual work or daily laborer and government/private employee (salaried job) accounted 48.5 % and 25.8 % sample respondents occupation, respectively. Due to this, there were no significant differences between ENDA and PICDO sample participants. Pity trade was only practiced by 22% of ENDA's sample respondents. 16.7% of sample respondents were created their own job. Sample respondent have engaged in various activities because of diversifying their income sources. One activity does not satisfy the need of the sample respondents. Nearly 50% sample respondents engaged casual work/daily laborer, such type of job that is characterized by undesirable instability and insecurity. The data shows that the casual workers represent a large number of the urban poor, NGOs play a crucial role by promoting UA to assist needy households.

Table 4.2. Educational characteristics of sample respondents

Education status	ENDA		PICDO		Overall total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Illiterate	7	17.1	3	12	10	15.2
Read and write	4	9.7	4	16	8	12.1
primary education (4-6)	5	12.2	4	16	9	13.6
Junior secondary(7-8)	12	29.3	7	28	19	28.8
Secondary education(9-12)	13	31.7	4	16	17	25.8
college			3	12	3	4.5
Total	41	100	25	100	66	100

Source: Field survey, 2011.

Table 4.3. Occupational characteristics of sample respondents (Multiple responses)

Types of occupation	ENDA		PICDO		Overall total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
UA	41	100	25	100	66	100
Casual work	20	48.8	12	48	32	48.5
Salaried job	12	29.2	5	20	17	25.8
Self employed	8	19.5	3	12	11	16.7
Petty trade	9	22			9	13.6

Source: Field survey, 2011.

4.4 Place of origin and reason of migration

The practice of urban agriculture is related to factors which include migration. Therefore, an attempt has been made to investigate the region of birth and migration status of the respondents. As presented in Table 4.4 the overwhelming majority (53 %) of the interviewed sample respondents were migrants while the remaining 47% were non-migrants. The sample respondents of PICDO predominately migrants (60%) as compared to ENDA(48.8%). The fact that UA is their major means of survival because they lack stability and employment. Several studies of UA have shown that most urban farmers are migrants (Sanya1 1984; Rakodi 1988; Freeman 1991; cited in Sawio 1994) and the results are consistent with these findings.

Regarding place of origin, the majority of the sample respondents came from Amhara Region (54.3%), and followed by South regions of the country (SNNPRS) which accounts 17.1%. Sample respondents come from Oromia and Tigray both constitute 8.6%. Displaced from Eritrea and other regions comprised 11.4 of sample respondents. UA by the support of NGOs addresses the need of displaced and migrant persons.

Regarding the pushing factor to leave from their home place; nearly 50% of the sample respondents left their home region and came to Addis Ababa to find work. 22.9% left to join relatives, 5.7% due to the separation of Eritrea from Ethiopia. 22.9% reported different reason including because of early marriage, in search of educational opportunity etc. Lack of job and income are the major factor for the sample respondents coming to Addis Ababa. As we understand from the results UA create employment and income for livelihoods.

Table 4.4. Migration status, place of region and reason of migration

Variable	ENDA		PICDO		Overall total	
Migration status (N66)	Frequency	Percent	Frequency	Percent	Frequency	Percent
Migrant	20	48.8	15	60	35	53
Non Migrant	21	51.2	10	40	31	47
Total	41	100	25	100	66	100
Place of Region (N35)						
Amhara	9	45	10	66	19	54.3
SNNPRS	4	20	3	20	7	20
Oromia	2	10	1	6.7	3	8.6
Tigray	1	5	1	6.7	2	5.7
Other	4	20			4	11.4
Total	20	100	15	100	35	100
Reason of migration(N35)						
To find job	10	50	7	46.6	17	48.5
Join relatives	4	20	4	26.7	8	22.9
Displacement	2	10			2	5.7
Others	4	20	4	26.7	8	22.9
total	20	100	15	100	35	100

Source: Field survey, 2011.

4.5 Major income source

The result shows that monthly salary /daily wage is the major source of income for 45.5% of the respondents. This is followed by UA, which is the major source of income for 36.4% of the respondents. Only 13.6% of the respondent's major income came from pity trade activity. 4.5% of the respondents depend from remittance.

Table 4.5 Major types of income source

Major income source	ENDA		PICDO		Overall total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Monthly salary/daily wage	16	39	14	56	30	45
UA	16	39	8	32	24	36.4
Pity Trade	8	19.5	1	4	9	13.6
Remittance	1	2.5	2	8	3	4.5
Total	41	100	25	100	41	100

Source: Field survey, 2011.

4.6. Reason and experience of sample respondents conducting on UA

4.6.1 Duration of participation

Concerning duration of participants 40.9% of the respondents have been participated in the project since 2007(4 years). 19.6% of the respondents have been participated in the UA project for the last three years⁴. 18.2 % of the participants have been engaged in UA project for five years. Only 20% of the respondents have been participated for the period of six years. The data shows that PICDO participants have been participated 3-6 years whereas the ENDA project participants, participated in the project for 3-5 years. There is no big difference focusing on duration of participation in the projects. The high and low duration of stay in the project influenced the socioeconomic condition of the project participants. More than 60% of the project participants have been participated between 3-4 years.

4.6.2 Reason of participation in UA

There are various reasons why people engaged in urban agriculture and these were influenced by one's economic status. Data gathered (Table 4.6) reveals that the majority (71.2%) of the respondents engaged in UA because it is generating income and producing fresh products for home consumption. Nearly one third (28.8 %) of the respondents produce fresh product for home consumption which is the major factor motivating the respondents participating in UA. Since the majority of the project participants are PLWHA, they are well aware of the nutritional benefits of UA.

⁴ Three years the minimum criteria for sample size selection

4. 6.3 Previous experience on UA

Understanding the sample respondent's previous experience is necessary to assess the contribution of NGOs. 86.4 % of the sample respondents had no any experience regarding UA. Only 13.6% of sample respondents had some experience. The result shows how NGOs enhance UA by motivating and assisting the project participants, previously has no or limited experience.

Table 4.6 Duration, reason and experience of sample respondents regarding UA

Variable	ENDA(N 41)		PICDO(N 25)		Over all total(N66)	
Duration of participation	Frequency	Percent	Frequency	Percent	Frequency	Percent
3 years(2008)	13	31.7			13	19.7
4 years (2007)	24	58.5	3	12	27	41
5Years (2006)	4	9.8	9	36	13	19.7
6years (2005)			7	28	7	10.6
7 years (2004)			6	24	6	9
Total	41	100	25	100	66	100
Reason of participation in UA						
Income & food	29	70.7	18	72	47	71.2
Food consumption	12	29.3	7	28	19	28.8
Total	41	100	25	100	66	100
Previous Experience on UA						
Have you ever been engaged in UA before?						
1.yes	5	12.2	4	16	9	13.6
2.No	36	87.8	21	84	57	86.4
Total	41	100	25	100	66	100

Source: Field survey, 2011.

4.7 Summary

The study demonstrated that women constitute the largest proportion (more than 90%) in both NGOs. Although UA was not a primary occupation and major income source. Project participant's decision to participate in UA activity was led by the need to feed themselves and their families. UA used as a means of survival and coping mechanism for migrants and low-income urban households.

The sample respondents came from diverse social back grounds in their education, illiterate ones to post secondary and their place of origin, migrants as well as established ones. More than 85%

of the respondents had no any previous experience about UA; this shows that how the sample NGOs plays an important role to create employment and livelihoods diversification.

Chapter 5

Practices and constraints of UA

5.1 Introduction

Increasingly, NGOs are recognized as important players in the formulation, design and application of developmental projects (Peace Corps ICE. 2002). Even though different NGOs involved in developmental projects in other sectors, as different studies shows that the number of NGOs in the area of UA are few in numbers due to the low attitude/esteem of UA by the government and the society.

In order to identify the stated role NGOs play in UA, this chapter has tried to see the type of UA activity practiced by the sample respondents including the magnitude, methods and application and use of new technologies. Moreover, constraints that are observed in the process are also discussed in this chapter.

5.2 Types of UA and main products

5.2.1 Types of UA activities

The sample respondents have been engaged in vegetable production, sheep rearing and poultry production (chicken). Table 5.1 shows that the entire (100 %) respondents have been undertaking vegetable production, while 54.5% (71.6% ENDA & 28% PICDO) were benefited from poultry production. There was big gap between ENDA and PICDO project beneficiaries engaged on poultry production. All the sample respondents who were engaged in poultry production were highly emphasized the benefits gained from poultry in terms of food and income generation. Sheep rearing were practiced by 24.2% of the sample respondents, the benefits and sustainability of sheep rearing was not lucrative especially in the case of ENDA. All the sample respondents mentioned that sheep distribution by the NGOs does not meet their interest. They indicted that types of sheep were not good for fattening purpose and they sold them immediately after being received from the NGOs. According to the sample respondents, the purchasing of sheep was undertaken without the full participation of the project participants, the type of breed was not

good for fattening activity; The importance of participation in each level of project stages a key role for the sustainability and success of the project.

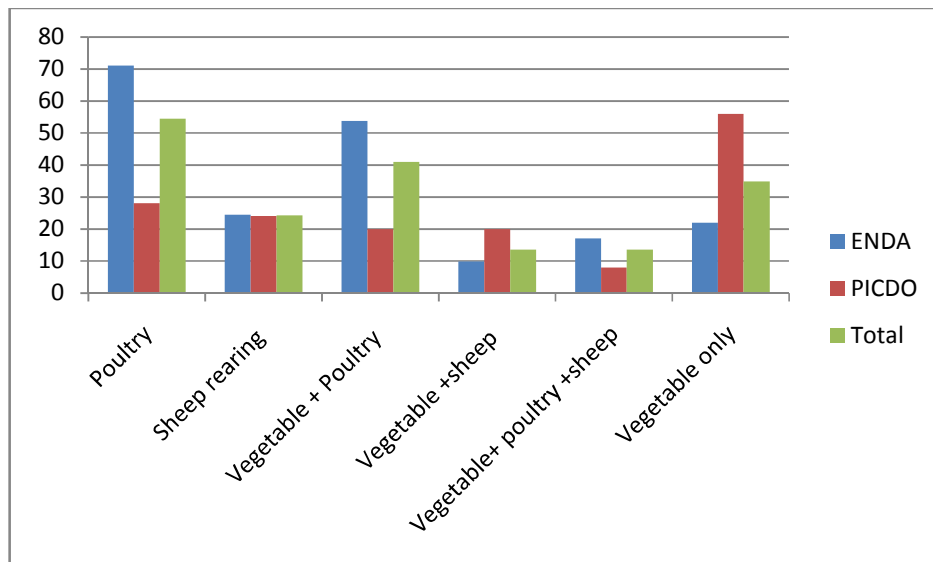
In the case of PICDO sheep rearing was successful and the sample respondents were happy. The major reason was the full participation of project participants in the selecting and purchasing of sheep. All sheep purchase considering the will of the participants. The type of activity engaged by the sample project participant varies between the two NGOs. 53.7% of the sample respondent from ENDA were engaged in both vegetable and poultry production. Similarly, 17% of the respondents were participated in all activities, vegetable, poultry and sheep fattening. In the case of PICDO, only 8% of sample project participants were engaged in all activities, vegetable, poultry and sheep rearing. Engagements in multiple activities were believed to improve the household income and food supply. The capacity of NGOs was the major factor especially for the provision of sheep and chickens. ENDA is an international NGO relatively has better capacity.

Accordingly, 41% of the respondents engaged in poultry and vegetable production, followed by 34.8% of the respondents engaged only vegetable production. 13.6% of the sample respondents participated in activities, vegetable, poultry production and sheep rearing. Some of the project participants (13.6%) were engaged in vegetable production and sheep rearing.

5.2.2 Types of vegetables produced

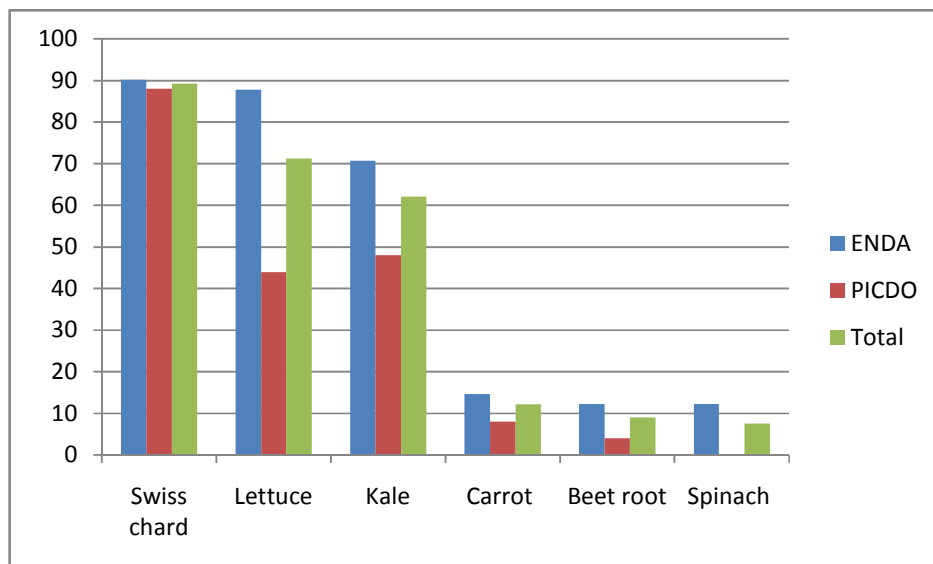
Usually small vegetable gardener especially women produced short cycle vegetables in order to meet household food and generate incomes (van Veenhuizen and Danso 2007). From Figure 5.1 one can see that 89.3% and 71.2% of vegetables grown by the sample respondents were short cycle vegetables which include Swiss chard and Lettuce respectively. These vegetables help to harvest more than twice a month, it enables generating more income and food. Kale is the third important vegetables grown by 62.1% of the respondents. Carrot and beet root cultivated by 12.1% and 9% of the samples. The other interesting point was the introduction of spinach by ENDA. Since the project target of ENDA is PLWHA, 12.2% of sample respondents of ENDA project participants were cultivated spinach in their garden; because spinach contains high nutritional value than other vegetables. The result revealed that NGOs have introduced new type of vegetable and also working to change the food habits of project participants.

Figure 5.1.Types of UA activities



Source: Field survey, 2011.

Figure 5.2 Major types of vegetable production



Source: Field survey, 2011.

5.3 Urban gardening inputs and technologies applied

All project participants are economically very poor and have no access to sufficient land for urban gardening. Since 53% of the sample respondents are migrants, the problem of land is evident. Hence, they practiced gardening on small patches of homestead land, vacant lots, roadsides or edges of a field, and/or used barrel, sacks and tires.

It was generally found that urban gardening activities are commonly practiced in the backyards of urban residents. 65.2% of the respondents grow vegetables in their backyards, and the situation is almost the same between the beneficiaries of two NGOs. It is interesting to note that 15.2 % of sample respondents have been producing by using different materials like sack, barrel, tire, and plastic bag; this clearly shows that home gardening production system which help the poor can easily be entered. PICDO distributed used barrel for project participants (Figure 5.3) and also established community garden for special group of the project participants, specifically for those who have no back yard and who were involved in firewood collection and selling activities (Figure 6.2). 7.6% (2.3 %ENDA & 16% PICDO) of the sample produced vegetable in communal garden. 7.6 % and 4.5% of respondents produced vegetables in open public space and river side respectively. River side gardening especially in the case of Lideta sub- city was used as waste dumps. Urban vegetable grower converted the area into community garden.

A variety of vegetables were produced by the sample respondents in both ENDA and PICDO. The common type of vegetables are Swiss chard, lettuce, kale, carrot are the most common (Figure 5.2). Urban agriculture can play an important role in the urban environmental management system, for most cites the disposal of wastes has become serious problem (RUAF 2007). The result shows that how UA contribute to urban ecology, by converting urban wastes in to a productive resource. Urban Gardening is done with virtually no economic resources, using locally available planting materials, and green manures. 97% of the project participants used compost for their soil fertility, by composting biodegradable household wastes. This plays the role of cleaning cities and promotes organic vegetable production. 100% of the sample respondents used integrated pest management (IPM) for controlling pest and diseases using biological means like red pepper, tobacco, garlic, onion and a mixture of both. Urban gardening activities undertaken by the support of sample NGOs are environmentally sound and eco-friendly.

Using tap water especially for vegetable growing is common to the extent that 45% of the sample rely on water use from this source. Watering vegetables from communal water point and river/stream accounts 19.6% and 15.2% respectively. Interesting point to note is that is 13.6 % of the sample respondent's depend on waste water for growing vegetables. All sample respondents have the knowledge on how to reuse waste water. The knowledge and experience transferred from NGOs is serving as valuable resource, for the sustainability of projects. The participant's education and age are determinant factors for acquiring the knowledge and practices, more than 80% of the sample respondents are literate and the same % of the sample respondents are less than 40 years of age.

Regarding livestock production the sample respondents were engaged in poultry production (chicken) and sheep rearing. 13.6 % of respondents participated both in poultry production and sheep rearing. 100% of the sample respondents reported that they mainly raise chickens for egg production. ENDA supplied chicken cage for all poultry production participants. Both ENDA and PICDO sample project participants dispose animal waste for improving their soil. Vegetable gardens also provide fodder for household animals.

Table 5.1. UA activities, techniques and input application

Variable	ENDA(N41)		PICDO(N25)		Overall total	
Method of application	Frequency	Percent	Frequency	Percent	Frequency	Percent
Land use						
Back yard	27	65.9	16	64	43	65.1
Open space	2	4.9	3	12	5	7.6
River side	3	7.4			3	4.5
Sack, barrel tire, bag	8	19.5	2	8	10	15.2
Community garden	1	2.3	4	16	5	7.6
Total	41	100	25	100	66	100
Water source						
Tap water (owned)	25	61	12	48	37	56.1
Communal water point	6	14.6	8	32	14	21.2
River /stream	5	12.2	2	8	7	10.6
Waste water	5	12.2	3	12	8	12.1
Total	41	100	25	100	66	100
Soil care						
Compost	41	100	23	92	64	97
Plant protection						
IPM	41	100	25	100	66	100

Source: Field survey, 2011.



Figure 5.3. Swiss chard planted on barrel supplied by PICDO (left), and Swiss chard planted on sacks Yeka Sub-city (right).

5.4 Challenges of urban agriculture

Identify the barriers of UA is quite indispensable for the development of UA. One of the major roles of NGOs is introducing appropriate and adaptable technologies in order to improve production and productivity by identifying barriers of production and productivity.

5.4.1 Challenges related to vegetable production

Some of the sample respondents faced different challenges in undertaking UA. The sample respondents were requested to rank the major challenges that hinder the productivity of vegetables and livestock. They mentioned aspects like land, water, storage, pest and disease, extension service, transportation, labour and personal conflict with others. Focusing on vegetable growers, the sample respondents mentioned problems like, shortage of water, land, seed/seedlings which were ranked highest. The first ranked problems by the 48.5 % of the sample respondents was water (41.5% ENDA & 60% of PICDO). Water for ENDA sample respondents was the second major problem, whereas for PICDO project participants it was the major problem. The scarcity of tap water was evidently in short supply for the majority of PICDO project participants residing in the vicinity of Intoto. Land was the second ranked

problem which was identified by 42% of sample respondents, while shortage of seed and seedlings ranked third by 25 of sample respondents. The least ranked factors mentioned by 12.1% of sample respondents were related to conflict and storage problems. They also mentioned their role to tackle the problem. Based on the knowledge acquired through trainings, they tried to solve water problem by using reused water. For solving the problems of land they have used barrel, sack, tire and plastic bag for growing vegetables.

5.4.2 Challenges related to livestock production

Sample respondents have mentioned different factors that affect the productivity of sheep and chicken; some of the factors are lack of veterinary services and animal health care, shortage of feed, shelter, labour and confrontation with wild animals. As summarized in Table 5.3, the highest ranked factors mentioned by 44.2 % of the sample respondents were animal diseases. Sample respondents for both NGOs, chicken health were their primary concern. The second ranked problem identified by 34.9 % of the sample respondents was the unavailability of animal feed. Hence ENDA until July 2010 (the time of project termination) used to provide feed for project participant. For 18.6 % of project participants, the high cost of animal feed and animal shelter/ house was equally their third prior concern. The issue of labour was the least ranked factor, only 16.3% of sample respondents magnify the problem. In the case of PICDO some sample respondents were magnified the problem of wild animals. Since the PICDO project area situated in yeka Sub-City near to Intoto Mountain, participant were forced to confront such type of problem (wild animals attack). During interview session, I raised question regarding the role of ENDA/PICDO to solve the problem. The sample respondents replied that both ENDA and PICDO have conducted different trainings that help to acquire basic knowledge about managing poultry and sheep including the problem related to diseases. They were highly magnifying the unavailability of veterinary services especially when it comes to chicken. In the case of PICDO sample respondents confirmed that veterinary service has been provided by PICDO. In the case of ENDA animal feed were provided for the project participants until the project termination (July 2010), since the project target are very poor and PLWHA it may be sound to provide such type of service but majority of the sample respondents need to resume the service otherwise they were mentioned that it will be difficult to manage by themselves.

Table 5.2. Major problems and challenges identified by sample respondents (most ranked)

Variable	ENDA(N41)		PICDO(N25)		Over all Total	
Major Problems encountered in vegetable	Frequency	Percent	Frequency	Percent	Frequency	Percent
Land	20	48.8	8	32	28	42.4
water	17	41.5	16	64	33	50
Lack of seed/seedlings	10	24.4	7	28	17	25.8
Pest and diseases	8	19.5	5	20	13	21.2
Lack of technical support	3	7.3	5	20	8	13.6
Others	5	12.2	3	12	8	12.1
Major problem encountered in livestock production	N(32)		N(11)		(N43)	
Animal disease	14	43.8	5	45.5	19	44.2
Shortage of feed	10	31.3	5	45.5	15	34.9
High cost of feed	5	15.6	3	27.3	8	18.6
Housing/ shelter	4	12.5	4	36.4	8	18.6
Labour	5	15.6	2	18.2	7	16.3
Lack of veterinary service	6	18.8			6	14
Others	5	15.6	3	27.3	8	18.6

Source: Field survey, 2011.

5.5 Summary

The study revealed that 100% of the sample respondents participated in vegetable production. The major vegetables produced by the sample respondents were lettuce and Swiss chard. The other activity which requires much better attention was poultry production. Most of the respondents show higher interest in involving in this activity as its relatively small land requirements and lucrative benefits.

Challenges related to water and land was the major issue and it was highly emphasized by the sample respondents. The sample respondents used different materials for planting vegetables to solve the problem of land. Some of the respondents used recycled water for watering their gardens, and consequently this activity created a positive contribution in cleaning their vicinity. 100% of the sample respondents used compost for their garden, this helps to reduce the cost of fertilizer, improve the environment and cleaning their surroundings. The other interesting issue in this chapter is the use of integrated pest management (IPM). In order to control the infestation of pest and diseases 100% of the sample respondents used IPM. All the sample respondents have the knowledge to prepare and apply botanical pest control method (IPM).

Chapter 6

The benefits, respondent's opinion and NGOs view on UA

6.1 Introduction

Food is the most fundamental necessities for the existence of all human beings. The urban poor are the most affected in nutritional deficiencies, according to Lamba (1993) '*Most of the urban population in Ethiopia consists of the poor who cannot afford to buy high-valued food stuffs*'. The urban gardening activities sponsored by NGOs aims to improve the nutritional status of PLWHA. In order to examine whether the stated aim is achieved or not, it is very important to examine the responses and opinions of the sample respondents, target NGOs as well as the city urban agriculture office.

In this chapter, the support provided by NGOs, income gained from UA, the NGO's view on their methods of implementation, extent and policy dimension and the role and function of Addis Ababa Urban Agriculture Office has been thoroughly discussed.

6.2 Benefit gained from UA

In the previous discussion it was found that UA was not the major income source for nearly two-third of sample respondents. There are many indications that UA contributes to producers' well-being in several ways, including nutrition, health, cash saving, and income generation. Even though the income is mainly generated from the direct sales of surpluses urban farmer also save on household expenditures by growing their own food, which can be substantial. According to Zenebe (2010) poor people generally spend a sizeable part of their income (50–70 percent) on food and food related items.

Sample respondents were asked about all the sources of income and income gained from urban agriculture. In the case of income gained from UA, data collection was based on rough estimates and 'snap-shot' approaches. But income varies greatly between seasons as well as market prices, changes over the year. The large amount of harvest made by the urban farmers is used for home consumption. According to Moustier (2001 cited in van Veenhuizen and Danso2007) actual figures on farmers '*...incomes are difficult to estimate because of the diversity of farmers*

profiles, their unwillingness to give data on income, seasonality of crops, continuous harvesting and scattered plots'. The same is true which was found in the field. In fact, the objective of the study is not mainly focusing on the income gained from UA rather to see the role NGOs play to promote UA. Income calculated for this study was only income gained from sell of vegetables and poultry production mainly egg⁵. Sheep fattening participants from ENDA were interviewed about the benefit gained from the activity. The sheep which were distributed did not meet their interest and hence sold immediately after they received. However the money gained from sell of sheep were used as a resource base. Among the sample respondents, 28.6% have used their entire product for home consumption. The program is targeting the most vulnerable groups in the society including, OVCs, HIV/AIDS affected women, OVCs and women headed households. It was generally found that all are well aware about the nutritional benefits of UA than income gained from sell of agricultural products.

The Mean monthly cash income from UA is Birr 155. The mean income of ENDA's participants was 167.75 while the mean income of PICDO's participants was 137 Birr. The variation may be due to the result of income from poultry production. 70.7% of ENDA and 36 % of PICDO sample respondents were engaged in poultry production (Table 4.6). High range of income variation was seen among the sample respondents in that the minimum is 15 and maximum 500 Birr. The mean monthly income of the respondents from all sources was 470.9 birr.

The major expense for UA activities is the cost of water for those who used tap water (45%). In the case of ENDA, until the project terminated in July 2010, the sample respondents were received animal feed from ENDA. Cost of feed for chicken was another expense that the sample respondents utilized. The mean monthly expenses of sample respondent were 53.6 Birr. There is also high variation in the expenses of UA activities where by the minimum is 10 and maximum is 250 Birr.

⁵ Excluding the income gained from sheep fattening and rearing (in both ENDA and PICDO)

Table 6.1 Monthly incomes and expense of UA and income from non UA

Variables	Monthly Income from all source	Monthly income from UA	Monthly expense for UA activity	Net income from UA
ENDA				
Mean	480.38	213.46	53.58	167.75
Standard Deviation	276.50	157.44	73.02	113.70
Minimum	120	56.25	10	16
Maximum	1200 ⁶	750	250	500
PICDO				
Mean	454.35	193.63	41.42	137.18
Standard Deviation	255.28	170.83	24.10	121
Minimum	80	40	15	15
Maximum	1300	630	85	400
Total				
Mean	470.87	205.81	51.34	155.52
Standard Deviation	267.16	161.52	66.64	116.80
Minimum	80	40	10	15
Maximum	1300	750	250	500

Source: Field survey, 2011.

6. 3 Types of support provided and the beneficiary's responses

6.3.1 Type of support provided

Different materials and services were rendered by the NGOs aiming to capacitating project participants to achieve the intended objective (Table 6.2). The materials and trainings were provided based on the need which the sample respondents engaged. 100% of the sample respondents have taken vegetable production and management trainings. 56% of (75.6% ENDA & 28% PICDO) the sample respondents were attended poultry production training. In a similar development 22.7% of the sample respondents acquired basic knowledge focusing on sheep fattening and rearing. All sample respondents who have participated in livestock (sheep and poultry) activity got training before and during implementation.

Different agricultural materials and tools⁷ were provided by ENDA and PICDO. 100% of sample respondents received basic agricultural tools, seed/seedlings which are necessary for conducting urban gardens. 54.5 % of (70.7 % ENDA and 28 % PICDO) sample respondents received

⁶ Maximum income and expenditures are outliers it is extreme values

⁷ Both ENDA and PICDO provided the following agricultural tools for all sample project participant watering cane, digging hoe, shovel,

chicken. Integrating urban garden with poultry production improves the availability of household food and income. Project participants were also highly magnified the lucrative benefits of poultry production. The data shows that ENDA addressed 70.7% of the sample respondents through poultry production, whereas PICDO addressed only 28% of the sample project participants. PICDO were provided land⁸ for 16% of PICDO's sample respondents. The degree and intensity of material support and provision directly influenced the activity of UA and the benefit gained. Sheep and chicken provided by ENDA and PICDO 3 sheep and 5 chickens, and 4 sheep and 6 chickens for each sample respondents engaged in livestock activity, respectively.

6.3.2 The response of sample respondents

The sample respondent's response regarding material support which was made by the ENDA & PICDO, was very positive. Table 6.1 shows that 98.5% of sample respondents were satisfied by the support provided by ENDA & PICDO. Material support based on the activity the project participant engaged/ participated in.



Figure 6.1. ENDA assisted Tired Poultry and vegetable production Association

⁸ PICDO has established demonstration site near Intoto Vicinity, Yeka Sub- City. The land was given to PICDO by the government for using demonstration and nursery site. The demonstration site serves as a learning venue for project participants and community members residing in the project area. In addition to this PICDO provided some portion of land to the project participants for those who have no back yard in their respective places.

Table 6.2 Types of support provided by NGOs (multiple responses)

	ENDA(N41)		PICDO(N25)		Overall total	
Type of support	Frequency	Percent	Frequency	Percent	Frequency	Percent
Trainings						
Vegetable production & Management	41	100	25	100	66	100
Poultry production & management	31	75.6	7	28	38	57.6
Sheep production & management	11	26.8	5	20	15	22.7
Nutrition & Meal Planning	41	100	18	72	59	89.4
Saving & Credit	3	7.3	4	16	7	10.6
Material Provision						
Agricultural tools	41	100	25	100	66	100
sheep	10	24.4	6	24	16	24.2
Chicken	29	70.7	7	28	36	54.5
Chicken Cage	29	70.7			22	33.3
Seed/seedling provision	41	100	25	100	66	100
land			5	20	5	7.8

Source: Field survey, 2011.

Table 6.3 Perception of sample respondents about service delivery

	ENDA		PICDO		Overall total	
Are you satisfied?	Frequency	percent	Frequency	percent	Frequency	percent
Yes	41	100	24	96	65	98.5
No			1	4	1	1.5
Total	41	100	25	100	66	100

Source: Field survey, 2011.

6. 4 Monitoring of activities by the NGOs

Frequent monitoring and assistance is vital for the successful achievements of the intended objective. Since 86.4% of the sample respondents were new for UA activities, it is practiced in a very dynamic environment and with multiple stakeholder interactions. The target farmers of this project need special care and assistance (the majority of them are PLWHA). As indicated in Table 6.3 the respondents were asked how often ENDA/ PICDO monitor their activity, 42% (ENDA 56%, PICDO 42%) of the sample respondents responded once in every fortnight, 18.2% every month and 15.2% irregularly. 22% of the ENDA's sample respondent's activities were monitored once in week while 28% of PICDO's sample respondents said their activity was not frequently visited.

This suggests that ENDA has been frequently monitored the activity of project participants and addressed more than 50% of their participant once in a week. More than a quarter of PICDO's sample project participant did not get on timely assistance.

Table 6.4 Frequency of monitoring of activities

	ENDA(N41)		PICDO(N25)		Over all Total	
Activity monitoring	Frequency	Percent	Frequency	Percent	Frequency	Percent
Once in a week	9	22			9	13.6
Every fortnight	23	56	5	20	28	42.4
Every month	4	9.8	8	32	12	18.2
Rarely			7	28	7	10.6
Irregularly	5	12.2	5	20	10	15.2
Total	41	100	25	100	66	100

Source: Field survey, 2011.

6.5 Participant's view, change on overall socio-economic situation

The study has attempted to examine how the condition of sample respondent involvements of UA and any significant change on their socio-economic circumstances. Sample respondents asked whether the socio-economic condition changed since they participated in UA. As Table 6.5, 98.5% (100% ENDA & 96%PICDO) sample respondents said their overall condition had been changed in terms of economic and psychosocial setting. Only 1.5% of the sample respondent from PICDO said that there is no change observed in their economic and social life.

In order to understand and critically examine the real situation of project participants the two case studies depicted in Box 1 and 2 give some insight.

Box 6.1

A Case study PICDO project participant

A women aged 40, one of PICDO's project participant. She is a divorced women and a mother of 3. She is living in Yeka Sub-City Kebele 03/04. The women she recounted her story.

"I came to Addis Ababa 20 years ago in 1980 from North Shewa, to find job. The reality of Addis Ababa was much different from what I had imagined, it was not possible to find a job and I got married to someone. My husband works as a daily laborer, our main source of income was what he can make. Due to economic problem, it was not possible to live together with my husband and I decided to separate from him. I had no one to look after me; I worry about the future, especially for my three daughters. Thanks to PICDO things become changed. My means of livelihood was collecting and selling fire wood. My living quarter is nearby PICDO office and I have got a chance to participate in UA since 2006. At the beginning I took training regarding management, application and how to conduct vegetable garden by using barrel, sacks and similar materials. After I started my vegetable productions in PICDO's demonstration site, which was not only a farming place but also a good field school for me. I learned a lot of things like, compost preparation, seed bed preparation, planting, transplanting, and harvesting all types of vegetable production techniques.

Currently I have been participating in sheep rearing and vegetable production; I received 3 sheep at the beginning and now I have 6 sheep remaining after I sold 5 and earn more than 2000 Birr. Vegetable is our main dish and I earn also money from the sale of surplus product. Now, all my family members have the knowledge to conduct vegetable farming".

Box 6. 2

A case study ENDA project participant and contact gardener

She is 32 years old divorced women and a mother of a daughter. She is living in Akakai-kality, kebele 05/06. The woman is one of the contact gardeners of ENDA.

“I was living in a desperate life after I realized HIV+. I was born and grew up here in Addis Ababa and I was living with my parents after I got divorced with my husband. Very fortunately, I happened to be a beneficiary of the urban gardening program brought by ENDA. When they started to teach us about gardening, I had some reservation and asked myself how it is possible that such type of person like me could be able to produce vegetable and become productive. After successive training, I started to grow vegetables (lettuce and Swiss chard) in my family backyard. After some months of planting, we started to eat the matured vegetables. This encouraged me and all my family and they started to assist me to produce more types of vegetables including pepper and tomato. Immediately after I started this activity, I became a contact gardener and started to assist and supervise 25 project users residing in my vicinity. As a contact gardener I was involved partner selection, assist and enhance partner to participate in the program. After I successfully conducted my vegetable garden I received 5chicken and 3 sheep.

Before I joined the gardening program, I was always thinking about my health condition. Thanks to ENDA, now not only assisting myself but also I have been helping more than 25 urban gardeners about their activity, and health. The income gained from UA encouraged me to produce more. Currently I have 5000 birr in my bank account and I am very happy. Now I feel that I am healthy and productive citizen. I don't have word to praise ENDA; simply ENDA is always in my heart throughout my life. I have acquired life time skills and will continue my UA activity unfortunately ENDA now terminated its project in our area. If it is possible, it is good to monitor and encourage some of the participants in the future”.

As it is indicated from the two cases, we understand that UA sponsored by NGOs create employment, improved income, create access on food and nutrition and diversify the livelihoods

of the target participants. Urban gardening activity also improved the psychosocial development, of PLWHA and enhances social inclusion and mitigates HIV/AIDS of the target beneficiaries in the study NGOs.

ENDA's strategy selecting contact gardeners from the beneficiaries for monitoring and assisting project participants play a key role for empowering project participants/beneficiaries and maintain the enthusiasm and energy of the project participants.

Table 6.5 Changes in socio- economic condition of the sample respondents

Socio-economic Condition	ENDA(N41)		PICDO(N25)		Overall Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Improved	41	100	24	96	65	98.5
No change			1	4	1	1.5
Worsened						
Total	41	100	25	100	66	100

Source: Field survey, 2011.

6.6 NGOs activities, major achievements and challenges

A useful supplementary study to complement the sample respondents was a series of interviews conducted with staff and executives of NGOs (ENDA & PICDO) and Addis Ababa Urban Agriculture office. A semi- structured questionnaire (checklist) was used which sought qualitative data (Annex 3).

In enhancing and promoting UA, ENDA Ethiopia is a pioneer organization, to promote and enhance UA. Since 1995, ENDA has been working in Addis Ababa focusing on UA and environments.

ENDA's strategy mainly focuses on awareness rising about UA through different trainings, media, experience sharing with in Addis Ababa and other towns. Some specific accomplishments are 180 peer educators trained to sensitize and demonstrate the benefits of UA among CBOs like *Iddr*,⁹ youth and women association. Assist Tired HIV/AIDS association through the construction of vegetable producing centers.

⁹ Self help association for social and economic insurance at the time of member's and /or dependents death.

PICDO, the name indicates involving in different community development activity focusing on UA and environmental protection for the past 8 years. The organization is situated in Yeka Sub-City. Currently PICDO has been assisting PLWHA, OVC and destitute families, through UA and IGA.

PICDO advocates urban gardening as a sustainable strategy for improving food security and incomes. PICDO believed that community involvement is crucial for the sustainability of home gardening activities, and the project developed an outreach service for schools, surrounding communities and different government offices by providing technical and material support. PICDO provided seed/seedlings and multipurpose seedlings; the organization established their own garden to meet the need of the community. The demonstration site serves as a learning venue for the surrounding community about UA. The demonstrations site also serves as a community garden for landless poor women who were engaged in collecting and selling firewood (Figure 6.2).

Poor people often have the remarkable ability to make a living from even the very little they have but this ability alone may not be sufficient for the actual development of their livelihoods. ENDA provided trainings to motivate individuals on a number of practical topics: poultry production, sheep rearing, vegetable production and management, nutrition and meal planning other business trainings. All trainings conducted are before and between activities undertaken. Some specific training like nutrition and meal planning was mainly aimed at improving the nutritional status of PLWHA and their families. ENDA's some specific achievements on UA was improved nutrition and income for about 226 (90% female) HIV/AIDS infected and affected household by establishing their own gardens. 45 households were provided with 3 sheep, each for fattening and sale accompanied with trainings and training manuals (all sample household sold immediately after they received) and feed for one fattening cycle (3 month). Eighty six household received 5 chickens with training, chicken nest cage, and feed.

PICDO similarly with ENDA conducted different trainings related to production, management and nutrition of UA including environmental protection and waste management. Some specific achievements of PICDO are 250 households were established their own garden. 40 household benefited through sheep rearing and each households received four sheep and 20 households received 6 chickens. Moreover all activity and provision were accompanied with trainings. In

order to address the service to the surrounding community, PICDO conducted school garden and planted perennial fruits and indigenous trees in 5 schools. PICDO provided tree seedlings for four government organizations to enhance environmental awareness among the public. In addition to seeds and seedlings, different materials were also distributed specifically for school gardens, such as water tankers, drip kits for effective and appropriate water use.

Absence of a comprehensive UA policy and strategy, poor perceptions in UA both by the urban dwellers and policy makers, access to water and land resources for gardening and shortage of technology and knowledge options are some of the challenges often mentioned by the NGOs to promote UA in Addis Ababa. In order to deal with those problems, both ENDA and PICDO provide different trainings and introduced appropriate and cost-effective methods of gardening like reuse of waste water and cultivation in sacks, tires, barrels, etc... Both ENDA and PICDO have good working relationships with governments in such a way that training, beneficiary selection was conducted by the participation of government offices in different levels.

ENDA's peculiarities in the promotion of UA are; attaching UA with PLWHA, complete package provision for all activities and day to day follow up and monitoring, especially through contact gardeners. Contact gardeners are those who are selected from project beneficiaries and provided with extra technical trainings to closely monitor and provide support within their respective Sub-City for fellow project participants. UA is very dynamic and requires day to day assistance and follow up, the strategy of reaching the needy, enhance and empower gardeners and easy access for timely removal of constraints and corrective action.

To enhance and promote UA, PICDO develops integrated UA activity with other community development programs. The establishment of demonstration sites and creating awareness among the community and promoting urban gardens in the schools and other public institutions play a crucial role for the sustainability of UA (Personal communication with the staff of PICDO).

In regard to government attitude to UA, Addis Ababa office of UA and other government institutions are supportive to assist UA projects. However there is no government interest like rural agriculture. The major problem regarding UA is lack of legal framework on UA and the low level of attitude by the urban dwellers and government.

Key achievements of ENDA: ENDA is a pioneer in the promotion and enhancement of UA in Addis Ababa and as a result many NGOs are involved in the sector currently. Moreover, improved knowledge on change in food habits, improved household income, and engagement in new business on food preparation as anew means of income are some of the major achievements of ENDA's UA activity.

PICDO achieved tangible success through UA; project target, acquired technical knowledge on UA like compost preparation, IPM etc... and promoting UA in schools, government offices and around the community members residing 3 kebeles of Yeka-Sub city. Lateral diffusion/ spillover effect many non project target grow vegetables in their backyards. Waste management introduced by PICDO contributes the efforts being to protect the environment. The income of target project participants improved and diversified their means of livelihoods.

Based on the lesson learned from the past ENDA scaling up UA interims of area and volume, beginning 2011 ENDA extend its activity in 5 sub cities of Addis Ababa previously not addressed by the organization. ENDA identified new way of intervention to enhance and extend UA activity in the gardens of condominium building. The promotion of UA in the Condominium gardens is one of the good strategies addressing many communities at a time. PICDO has been implemented a 5 year program (2008-2012) from which the project area was 3 kebele of Yeka Sub City but now they have a plan to amend the project and address the whole Keble of Yeka Sub-City.

The demonstration site established by PICDO was one of the best examples how NGOs promote and enhance UA. The site is serving to project participants and other community members as a learning venue focusing on vegetable production and management, seed bed preparation and nursery managements, compost preparation water use and similar urban agriculture activities.



Figure 6.2. PICDO's project target women watering seedlings in communal garden (left), and USAID assisted PICDO demonstration and nursery site (right).

6.7 Policy dimension and the role of Addis Ababa city UA Office

In Addis Ababa there is no policy frame work regarding UA but the city of Addis Ababa has an Urban Agriculture core process which is under Addis Ababa Trade and Industry Bureau. Some of the responsibilities of the Urban Agriculture Core Process include:

- Design strategies for the production and supply of quality agricultural products and for the expansion of investment that enhances agricultural development in the city and implement same upon approval.
- Facilitate the ways for the distribution of improved products of agricultural technology, selected seed and fertilizer, supervise the outcome; give education and training as well as render professional support to farmers. Provide veterinary service and artificial insemination.

Even though the Addis Ababa Agriculture office provides different services, formal extension services are very limited especially for small holder's urban producers. This may hinder UA activities especially for those who are not participated in different NGOs.

Major UPA activities are dairy farming, poultry production, and sheep and ox fattening, vegetable production. Currently the office trying to introduce mushroom production among the

communities. According to the office of Addis Ababa UA (2010), there are 15082 households currently engaged in UA (not included NGOs supported households).

Relationships with NGOs, facilitate and provide technical support, appraise projects, monitor and evaluate their programs. There are 12 NGOs officially made agreement with the bureau, but many NGOs working in UA in Addis Ababa integrate with other program. There is no specific data regarding the number of NGOs involved in UA and the amount of budget allocated to UA.

NGOs play a crucial role in promoting and enhancing UA through capacity building, provision of material and financial support, introduction of new and adaptable technologies and address the need of most marginalized segments of the society. Their intervention create awareness among the city dwellers especially in some sub city like Yeka and Akakai- Kality home gardening is normal phenomena in many households. The office of UA highly appreciates the effort exerted by NGOs to enhance and promote UA, but the problem of integration in some NGOs is difficult to know how many NGOs working on UA.

The Study NGOs mentioned about the issue of UA policy, accordingly *'...there is no stated policy regarding UA because of the absence of such policy frame work the activity and promotion of UA has not well organized'* but they are highly appreciated the effort of Addis Ababa office of Agriculture to assist them in different aspects to enhance and promote their effort (personal communication with ENDA, and PICDO staffs).

The government plays a key role in the success of urban agriculture. Urbanization in most countries has historically pushed all forms of agriculture out of the city and into rural areas, considering it too dirty for the wealth and glory of the city. Land use regulations today still follow that same valorization, despite prevailing evidence that producing food within cities today would solve many looming problems (Gittleman 2009).

The issue of UA policy was well recognized by the NGOs and Government. The policy formulation has been undertaken by a team of experts which consist of Addis Ababa UA office and NGOs. It will be expected to become functional in the new future. The policy will answer the problems of UA (personal communication with Addis Ababa office of Agriculture expert).

6.8 Summary

The benefit of UA is exhibited in different ways. As the study revealed, urban agriculture play a key role in household survival, supplements daily food expenditures by saving money to buy other basic items, and creates job for jobless. 98.5 % of the sample respondents confirmed that their socio-economic condition was improved because of their participation in UA. NGOs play an important role in diversifying the food habit of the participants. According to Axumite(1994) *‘Ethiopians consume limited amount of vegetables not only because of their the high cost and limited availability, but also traditional food habit’*.

The effort of these NGOs to promote UA has got recognition and well acknowledged by the city UA office. The future plan adapted by both ENDA and PICDO to scaling up these activity in different Sub- City of Addis Ababa will enhance UA in the city.

The absence of a comprehensive UA policy constrained the effort exerted by NGOs. The initiative taken by ENDA to establish an ad-hoc committee for preparing a draft policy may address the stated problem.

Chapter 7

Conclusion and recommendations

7.1 Conclusion

The number of NGOs/CSOs carrying out activities in urban and peri-urban areas is currently increasing in Addis Ababa. Currently, there are about 24 local and international NGOs working on the sector in Addis Ababa (Annex 1). In fact, the degree to which the organizations work in partnership with government institutions, community organizations and the ultimate beneficiaries varies considerably.

The purpose of this study was to assess the role of NGOs in promoting the development of urban agriculture in Addis Ababa City. The study focused on two NGOs which are engaged in UA. These two NGOs are Environmental Development Action (ENDA) and Progress Integrated Community Development Organization (PICDO), international and local NGOs respectively. The study was used quantitative and qualitative data. The quantitative data was generated by using the structured questionnaire targeted on the project beneficiaries from the two NGOs. The quantitative data was focused on the demographic and socio economic situation of target respondents/beneficiaries, method and application of UA, benefit gained type of service provision by NGOs, challenges and opportunity.

To supplement and strengthen the quantitative data, qualitative data were also collected. The qualitative data was focused on the felling, insight and experiences about the sample respondent's needs and problems, activities undertaken by NGOs, type of material and technical support provided; major achievements and challenges, the role of Addis Ababa City Urban Agriculture Office and its relation to NGOs and policy issue was the major areas examined. In order to collect these information individual interviews, observation and case study was applied.

In Ethiopia, urban agriculture is not a primary livelihood 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 practiced because of shortage of income and unemployment in the urban centers (Lamba 1993).

UA program undertaken by the NGOs is targeting the most vulnerable groups in the society including, PLWHA, OVCs, OVCs and women headed households. These socially marginalized households have engaged in food production become productive by using very small plots of land, marginal and vacant open spaces and using different kits.

The sponsorship of urban gardening projects by non-governmental organizations (NGOs) creates employment and improves household food (nutrition). Home gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis. 100% of the participants responded that they used to eat vegetable at least three days per week. All project participants are economically very poor and have no access to sufficient land for urban gardening but they practiced gardening on small patches of homestead land, vacant lots, roadsides or edges of a field, and/or used barrel, sacks and tires. The provision of different trainings, and technical advice encouraged project participants to practice organic farming and boost productivity and income.

Gardening has been done with virtually no economic resources, using locally available planting materials, green manures, 98% of the project participant used compost for their soil fertility and 100% of them used integrated pest management (IPM) for the sake of controlling pest and diseases by using different botanical means like red pepper, tobacco, garlic, soap and a mixture of both.

The demonstration site established by PICDO is one of the best examples how NGOs promote and enhance UA. The site is serving for project participants and other community members to learn vegetable production and management, seed bed preparation mulching, and nursery managements, compost preparation water use and etc... The promotion of UA in the condominium gardens by ENDA is one of the good strategies to address many communities at a time.

NGOs improved sanitation through UA and this manifests biodegradable household wastes kept for composting to fertilize gardens. This plays a considerable role in cleaning cities and promoting organic vegetable production. Project participants and their family members acquired skills on vegetable gardening and creating exposure to other urban communities regarding vegetable growing techniques. The role of NGOs in enhancing and promoting UA is quiet

indispensable, other than the provision of material and financial support, the knowledge and experience transferred from such organizations is serving as valuable resource, which enabled project participants to better understand modern gardening, identify challenges and develop possible solution.

The other strength of these organizations is primarily in their ability to work at grassroots level, spearhead or promote new production and provide training opportunities, inform policy makers or facilitate a community voice in policy development.

Beneficiaries expressed that the benefits from the gardens are significant in terms of generation of food for the household consumption and income to invest on the other household needs. Despite the income gained from urban gardening, very small and mean income of the participant 155.52 Birr, but UA was the major source of income for 36.4% of the sample household.

The problem of sustainability and dependency syndrome exhibit in some project participants of ENDA and PICDO. The participants highly rely on the assistance of NGOs, agricultural inputs and tools were provided by the NGOs. Some of sample participants especially participants from ENDA wish to resume the provision of seeds and animal feed¹⁰. Some of the participants believed that sustainability of their garden depend on the continuation of NGOs assistance. Failure may result due to lack of extension service especially lack of seeds/ seedlings. There were some sign that few participants abandoned their gardens because of project subsidies terminated. The project participant has the skill and knowledge and they are highly interested to grow vegetables and highly magnify the benefit gained from UA. Poultry production both in ENDA and PICDO is a promising sector that needs more attention from the NGOs. The study revealed that there is high demand from the beneficiaries. It is more profitable combined with vegetable gardening.

However there were problems in terms of access to water and land for sample households. The study revealed that the inadequacy of water the major bottleneck for the promotion and enhancing of UA among urban gardener.

¹⁰ Due to the phasing out of the project the activity of ENDA is already terminated.

Lack of effective networking among NGOs fails to share good practices with different NGOs working on UA. Formal agricultural extension services in urban agriculture are extremely limited by the government but farmers do assist one another with ideas to increase urban Garden. This is clearly observed in Yeka Sub- City near Bela vicinity where many community members started their garden learned from their neighbors. The method ENDA adopted to assist and monitor project participants through contact gardener is one of the good lessons for the expansion and promotion of UA and empowering project participants. The activity which has been implemented by these NGOs makes a difference in the lives of many poor people.

NGOs are working in partnership with the public organization such as the city UA Office, HAPCO, etc. but due to the absence of a comprehensive UA policy and strategy, poor perceptions in UA both by the urban dwellers and policy makers, limited access to water and land resources for gardening and lack of appropriate technology are some of the challenges often mentioned by the NGOs to promote UA in Addis Ababa.

UA has multiple functions, including products or things of value to households or to the general urban public. Formally, accepting UA as urban land use and integrated in urban development and land use plans is a crucial step towards effective regulation and facilitation of UA development. For the sustainable development of the city creating an enabling UA policy deserves the attention of policy makers (Gittleman 2007).

7.2 Recommendations

The study revealed that some important point needs future attention by the NGOs and the concerned stakeholders. The research suggests the following points as a recommendation. The recommendation may help for the promotion and enhancement of UA;

- Home gardening has a special role for enhancing and promoting UA. To enhance the productivity and economic viability of UA, frequent and continuous training; technical advice and material support should be the prior concern.
- The demonstration of appropriate technologies undertaken by NGOs play a crucial role to address the problem of land and water. Scaling up of this activity enhance low income urban residents to engaged in UA activity.

- Land is a very important resource for UA and its availability, accessibility and suitability are of particular concern to urban farmers. The city governments of Addis Ababa should facilitate access of farming land to urban farmers by demarcation of zones for urban agriculture and integrating with the newly social housing project 'Condominium Housing' etc...
- Integrate poultry production with gardens will enhance the beneficiaries motivation and improve the nutritional requirement and income of the household.
- The study found that NGOs have had major roles in terms of the promotion of UA; networks provide an opportunity for organizations to share information and good practices. Establishments of network need greater priority among NGOs involved in UA.
- To minimize dependency syndrome and project sustainability, continuous awareness rising session among project participants and concerned stakeholders need to be given attention.
- At present, there is no stated policy regarding UA in Ethiopia. As a result, a lot of problems exhibited in the area of land, extension, water, and etc... In order to minimize these problems and address the problem of UA, a comprehensive urban agriculture policy and strategy is quite indispensable to solve the existing problem.
- Supporting the establishment and strengthening of urban farmers association may help to minimize the problem of land and water.
- Urban farming systems need to be adapted to specific urban conditions such as confined space, closeness to community, creates awareness etc... The new strategy developed by ENDA to introduce community garden among condominium residents creates a very versatile condition to enhance community members to engaged urban farming.

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Appendix 1. List of NGOs Promoting UA in Addis Ababa

No	Name of Organization
1	Environmental Development Action(ENDA)
2	ACDI/VOCA
3	Land O' Lakes
4	USAID Urban Garden Program (Donor)
5	PICDO
6	Mother and Children Multi-sectoral Development Association (MCMDO)
7	Common Vision for Development Association (CVDA)
8	Social Welfare Development Action (SWDA)
9	Emmanuel Development Actions (EDA)
10	Hiwot HIV
11	Hiwot Ethiopia
12	Mekidem Ethiopia
13	Paln Ethiopia
14	Birahn Integrated Community Development Association (BICDA)
15	<i>Miraf Hulegab Yeketema Limat Mahiber” (MHYLM)</i>
16	Bio- economy Association
17	L'sperance Children's Aid Organization
18	Yetem Children's and Destitute Mothers Fund
19	New life Community
20	Marfiya Children Center
21	MAMA Humanitarian
22	Biodi Food Association
23	Women and Children Development Association (WCDA)
24	Elshady Integrated Children and Community Development

Source: Adapted from DAI/USAID Urban Gardens Program, 2010.

Appendix 2 Survey Questionnaire

Study on the Role of Non Governmental Organizations (NGOs) in Enhancing and Promoting Urban Agriculture: The case of Addis Ababa City.

This is a Questionnaire prepared to gather data aimed at examining the role of NGOs in enhancing and promoting urban agriculture. The information you give us could help to know NGOs role in urban agriculture and to identify their effort to disseminate new and adaptable techniques that promote urban agriculture. The ultimate objective of collecting the information is solely for academic purpose. Thank you very much in advance for your cooperation. Your information is very confidential; it will not be transmitted for anybody.

Name of Interviewer: _____

Name of NGO the interviewee affiliated: _____ Code Number _____

Date: _____

Part One: Demographic and personal details

1. Sex of interviewee 1. Male 2. Female

2. Age of interviewee _____

3. Marital Status

1. Single 2. Married 3. Divorced 4. Widowed 5. Separated

6. Other, specify _____

4. Family Size :Male, _____ Female, _____ Total _____

5. Religion

1. Orthodox 2. Protestant 3. Muslim 4. Others, specify _____

6. Ethnicity

1. Oromo 2. Amhara 3. Tigrie 4. Gurage 5. Others, specify _____

7. Educational attainment

1. Illiterate 2. Read and write 3. Primary education (1-6) 4. Junior Secondary (7- 8)

5. Secondary Education (9-12) 6. College 7. Other specify _____

8. Where were you born? Region _____ Zone _____ Woreda _____

9. If you born out of Addis Ababa, why did you leave your home place?

1. Drought / famine 2. To find work 3. Divorce 4. Join relatives 5. Education

6. Other (Specify)

10. What was your means of livelihood?

1. informal/ daliy labouer 2. Street seller 3. Skilled worker/ self employed 4. Employee

5. Agriculture 6. Other (specify) _____

12. Current occupation

No	Type of occupation	1.Yes 2.No	If more than one Put in accordance to the degree of your engagement 1 st , 2 nd , 3 rd ...
1	Farmer (engaged in UA)		
2	Informal/ daily laborer		
3	Petty seller/trader		
4	Self employed		
5	Government/private employee		
6	Other (specify)		

13. What is your family major source of income?

1. Income from UA activities 2. Monthly salary/ daily wage 3. Income from pity trade
4. Remittance 5. Other specify _____

14. How much do you earn in a month from all your sources of income? _____

15. How much do you earn in a month from your urban agriculture activity? Is it enough for the entire family? _____

17. How much money do you spend for your UA activity in a month? _____

18. Would you tell us the balance did you get? _____

Part II NGOs and Urban Agriculture

1. How do you know ENDA/PICDO? _____

2. When did you start urban agriculture through ENDA/PICDO support? _____

3. What was the pushing factor to start urban agriculture? _____

4. Why do you engaged in UA? Circle possible answer if more than one

1. Generating income 2. To produce fresh product for home consumption
3. Other (specify) _____

5. In what activity are you engaged? Circle possible answer if more than one

1. Vegetable production 2. Sheep rearing and fattening 3. Poultry production
4. Other specify _____

6. Have you ever been engaged in UA before? 1. yes 2. No

7. If yes when and where? _____

8. If yes Q7 what are the differences compare to in your current activity? _____

9. What type of support do you get from ENDA/ PICDO?

1. Credit facility 2. Food aid 3. Sheep 4.chicken provision
5. Material provision (agricultural tools) 6. Land 7. Training

8. Seed/Seedling provision 9. Other specify _____

10. Are you satisfied by the organization support?

1. yes 2. No

11 If yes, in what respect? _____

12. If no why? _____

A. Vegetables

13. Do you plant vegetables? 1. Yes 2.no

14. If yes Q14, where do you plant the vegetables? 1. back yards 2. Open space 3. Roadside

4. Riverside 5. Other specify _____

15. How did you access the land?

1. Provided by government/ Kebele 2. Provided by ENDA/ PICDO 3. Rented

4. Other (specify) _____

16. Would you tell us the plot size currently used for UA? Is it enough for your

Vegetable production? _____

17. If Q17 No, how do you overcome the problem? _____

18. What types of vegetables did you produce often?

No	Type of vegetables	Put in order in accordance of the volume activity (1, 2, 3...)	Use of vegetables			Amount of produced During your harvesting time, Estimated in KG or local measurement	Average monthly income from each type of vegetables
			Home Consu.	Sale	other		
1	Cabbage						
2	Lettuce						
3.	Swiss chard						
4.	Kale						
5.	Carrot						
6.	Beetroot						
7	Others						

19 For how many months in a year have you been engaged to produce vegetables? _____

20 Is there adequate water resource for your cultivation? 1. Yes 2. No

21. If yes Q. 21, where do you get from? _____

1. Tap water (your own) 2. Communal water point 3. River/stream 4. Other (specified) _____

22. If No Q. 22 how do you overcome the problem? _____

23. Where do you get the seed/ seedlings?

1. From ENDA/PICDO 2. Agriculture office 3. Friends/ relatives 4. Market

5. Other (specify) _____

24. Do you get enough seed / seedlings? 1. Yes 2. NO

25. If No Q25, what type of measure you did to solve the problem? _____

26. What kind of mechanisms you applied to maintain soil fertility? _____

27. Do you apply compost/manure in your plot 1. Yes 2. No

28 If yes Q28, how do you know the preparation and application of compost?

1. Learn from friends/neighbor 2. Learn from ENDA/PICDO 3. Agriculture office

4. Other (specify) _____

29. How do you tackle the problem of disease and pest? _____

30. What type of challenges did you face linked to your vegetable production?

No.	List of challenges regarding vegetable production	Put in order to the magnitude of the problem 1 st , 2 nd , 3 rd ... (mark only for encountered problems)	Measures taken
1	seed / seedlings		
2	Fertilizer		
3	Extension service		
4	water		
5	Land		
6	Lack of market		
7	storage		
8	transportation		
9	Pest and disease		
10	Labor		
11	conflict		
12	Other(specify)		

32. What was the role of PICDO/ENDA to solve the problem? _____

B. Livestock

33. Do you rear livestock? 1. Yes 2. No

34. If yes what types of livestock do you rearing?

No.	List of livestock		Qunt.	Product type (fattening/rearing)	Use of livestock			Monthly/quarterly/biannually (depend on the nature of activity) income on average from each type of livestock (state income period)
					Home Cons.	sale	other	
1	Sheep							
2	Goat							
3	Cattle	Cow						
		Ox (fattening)						
4	Chicken			Egg				
				meat				
5	Other							

35 Where do you keep your animals? _____

36 How do you feed your animals?

1. Grazing in open area 2. Stall feeding 3. Other (specify) _____

37. Where do you get the feed? _____

38. Do you get enough feed for your animals? 1. Yes 2. No

39. If No Q. 38 how do you fill the gap? _____

40. How do you dispose animal waste? _____

41. What type of challenges did you face while in rearing livestock?

No	Problems regarding for rearing livestock	Put in order to the magnitude of the problem 1 st , 2 nd , 3 rd (Mark only for encountered problems)	Measures taken
1.	Lack of veterinary service		
2.	Shortage of animal feed		

3.	Disease		
4	Confrontations with wild animals		
5	Labour		
6	Lack of market		
7	Lack of cage and brooder for chicken		
8	Shelter for cattle		
9	High Cost of animal feed		
10	Other specify		

42. What was the role of PICDO/ENDA to solve the problem? _____

43. Have you taken agricultural training before you start UA? 1. Yes 2. No

44. If yes Q. 24. Mention the type of training you took?

1. Vegetable production and management 2. Sheep production and management

3. Poultry production and management 4. Nutrition and meal planning 5. Other (specify)

45. Usually how often ENDA/PICDO they monitor your activity?

1. Every day 2. Once in a week 3. Every fortnight 4. Every month

5. Rarely 6. Irregularly

46 Have conditions of your living improved or worsened since you participated in this project?

1. Improved 2. Worsened 3. No change

47. If Q46 improved how? _____

48. If Q46 Worsened why? _____

49. Who helps when you need labour in your UA activity ?

1. Family members 2. Neighbors 3. Use daily laborers 4. Others specify _____

50. Where do usually you go to get help when you need assistance regarding UA activity?

1. ENDA/PICDO 2. Kebele 3. Agriculture Office

4. Other specify _____

51 What is your general opinion about UA? _____

52. What is your opinion about ENDA/PICDO? _____

Appendix3. Checklist for Agriculture office

1. What are your organization roles and responsibilities regarding to UA?
2. What services is your organization presently offering for urban farmers?
3. How is the extent of UA in Addis Ababa?
4. How many urban residents currently engaged in UA?
5. Which type of UA activity commonly practiced in the city?
6. How is your organization working relationships with NGOs?
7. How many NGOs currently involved in UA?
8. Would you tell us the total amount of fund allocated by these NGOs?
9. What are the strong points NGOs achieved while conducting UA?
10. What kind of limitations have you been observed in NGOs UA activity?
11. What kind of benefits the project participant in particular and urban residents in general have been acquired through NGOs intervention?
12. How do you evaluate the contribution of NGOs in enhancing and Promoting UA?
13. Is there a policy frame work specifically in UA?
14. What are the major challenges observed in conducting UA?
15. What is your short term and long term plans for developing your services?

Checklist for NGOs staffs

1. Would you tell us the general overview of your organization?
2. How do you describe your roles in promoting and enhancing UA?
3. What was the pushing factor to involve in UA?
4. Your organization has been solely implementing UA or involving in other developmental activity?
5. How is the extent of urban farming in Addis Ababa? If it is possible compare to other African cities

6. Which type of UA activity commonly practiced in the city?
7. How do you select the project participant?
8. How many project participants currently participated in your organization?
9. What type of programs and services did your organization currently offering for urban farmers (project target)?
- 10.What are the major opportunities did you get?
- 11.What is/are your peculiarity/ies/ with other NGOs regarding to UA application, management, programs etc..?
- 12.What type of problems do the urban farmers commonly face?
- 13.How is your relationship with government offices in different levels?
- 14.How is the government attitude and support towards NGOs especially for those who engage UA?
- 15.What are the major challenges did you face while implementing UA?
- 16.Is there a policy framework regarding UA?
- 17.What are the major achievements you accomplished while conducting UA?
- 18.Do you have a net work with other similar NGOs? If yes, please tell us the benefit gained regarding the expansion and promoting of UA
- 19.Do you have a future plan to promote and enhance UA?

Declaration

I, the undersigned, declare that this thesis is my original and real work that has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Declared by

Candidate

Confirmed by

Advisor