

Should Urban Safety Nets promote urban agriculture for the poor to improve their food and nutrition security? A case study of urban agriculture settings in Kolfe Keraniyo and Nifas Silk lafeto sub-cities, Addis Ababa, Ethiopia



A Research Project Submitted to Van Hall Larenstein University of Applied Sciences in Partial Fulfilment of the requirement for Degree of Master of Development (MoD)

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Dedication

To my ever-supportive and encouraging mother, Dr. Sintayehu Kassaye for his continuous support and encouragement. For the rest of my family: thank you, guys, for your support particularly when I came close to giving up. This is for you!

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List of Acronyms and Abbreviations

AACA	Addis Ababa City Administration
FAO	Food and Agricultural Organisation
FCS	Food Consumption Score
FGD	Focused Group Discussion
FNS	Food and Nutrition Security
FUJCFSA	Federal Urban Job Creation and Food Security Agency
FUJCFSP	Federal Urban Job Creation and Food Security Program
MUHOs	Ministry of Urban Development and Housing
PSNP	Productive Safety Net program
UN-habitat	United Nation Human Settlement program
UPSNP	Urban Productive Safety Net Program
WB	World Bank
WHO	World Health Organisation

Definition of Key Terms

‘Ekub’	An association established by a small group to provide substantial rotating funding for members in order to improve their lives and living conditions.
Ider’	An association established among neighbours or workers to raise funds for emergencies, such as death within these groups and their families.
Sub-city	Second Administration division of Ethiopia.
Wereda	Third level administrative division of Ethiopia.

Abstract

The main aim/objective of this research is to understand the opportunities for Ethiopia's Urban Productive Safety Net Program (UPSNP) to promote Urban Agriculture (UA) as an activity to improve food and nutrition security outcomes for the urban poor. The study was done in two sub-cities of Addis Ababa, the capital city of Ethiopia, Kolfe Keraniyo and Nifas Silk lafeto (woreda 2 & 5). Both quantitative and qualitative data collection methods were used in the study. In total three Focus Group Discussions were done and a total of 45 households purposively sampled were administered a semi-structured questionnaire. The study used the Food Consumption Score to measure households' food consumption, their main sources and the main food groups consumed.

In order to answer the main research question 'What is the potential of urban agriculture when promoted through the Urban Productive Safety Net Programme to improve food and nutrition security of the poor in Addis Ababa,' the study tried to answer the following sub research questions: the impact on food and nutrition security of the urban poor (non UPSNP beneficiaries) currently involved in urban agriculture and those that benefit from the UPSNP and are involved in informal urban agriculture; Current challenges faced by those involved in urban agriculture; How do important stakeholders and actors in the Urban Productive Safety Net Programme think about the potential of urban agriculture as part of the UPSNP, and What are the requirements and approaches for the UPSNP to promote urban agriculture amongst UPSNP beneficiaries in ways that increase their food and nutrition security?.

The findings show the importance to include UA in the UPSNP program and its potential to contribute to improved food security. The study found that a considerable number of UPSNP clients is informally practising UA. Major institutional actors such as the World Bank and Ethiopia's Federal Urban Job Creation and Food Security Program agency do however not support the idea to promote UA through the UPSNP. UA is not considered in the UPSNP Programme Implementation Manual (PIM).

The study shows that UPSNP clients engaged in informal UA have better FCS scores than UPSNP clients not being engaged in UA. Poor households not being UPSNP clients but engaged in UA have higher FCS compared to poor households not engaged in UA. UA results in improved food availability at the household level with the major share of production consumed by the household.

Critical challenges for UPSNP households to have the ability to engage in UA include; limited access to land, lack clean water for production of crops, lack of technical support from the agricultural extension and seasonal pests and disease in addition to floods.

This research recommends Ethiopia's newly established UPSNP programme to include UA as one of the labour-intensive works in those areas where there are critical challenges to pursue UA successfully.

CHAPTER ONE: INTRODUCTION

This research is focused on understanding the potential contribution of Urban Agriculture (UA) to improved food and nutrition security of the urban poorest of the poor in the Addis Ababa City Administration (AACAA). The poorest of the poor are the clients of Ethiopia's Urban Productive Safety Net Programme (UPSNP) which was established in 2015. The study purposively selected poor households (not being UPSNP beneficiaries) with purposively selected very poor urban households being targeted by the UPSNP with one group of UPSNP beneficiaries involved in informal agriculture and another group in other livelihood strategies. This, to compare the different groups and learn lessons.

The Ministry of Urban Development and Housing (MUDH) commissioned this research to address the knowledge gap on UPSNP and to gain insight in the potential contribution of urban agriculture towards food security among the poorest of the poor in 2 selected sub-cities of the wider Addis Ababa City Administration (AACAA).

The thesis involved a desk study including a literature review, definition of key concepts and the development of an appropriate conceptual framework followed by fieldwork.

1.1 Background

Addis Ababa is located in the central part of Ethiopia having an average altitude or elevation of around 2355m above sea level covering a total land area of 527 km² (Climatemps, 2012; cited in Andenet, 2015)

The Central Statistics Agency (CSA) of Ethiopia has estimated that Ethiopia's overall urban population has reached 18.7 million and will continue to grow at the rate of 5.2% per year; this is double the growth rate of Ethiopia's population (estimated to be 2.6% annually). The very rapid growth in the size of Ethiopia's urban population results in various challenges that have negative impact on efforts ensure food security for the country's urban poor.

Various studies indicate that climate change will pose a serious threat for developing countries like Ethiopia where most people depend on rain-fed agriculture. Most of Ethiopia's food security programs, in particular, the Productive Safety Net Programme (PSNP), developed by the Ethiopian Government and its international development partners have an exclusive rural focus (EFDRE, 2016). The Urban Productive Safety Net Programme presents a shift towards including the urban poorest of the poor in such programmes with the aim to reduce poverty and vulnerability among the urban poor under the poverty line over a period of 10 years.

Ethiopia's policy of Agricultural Development Led-Industrialization (ADLI) views the development of agriculture as an essential vehicle for industrialisation by providing raw materials, a market base, surplus labour and capital accumulation (MOFED, 2002). The strategy is to enhance agricultural sector productivity through modern technology to supply farmers with inputs (seed, fertiliser and chemicals), technical support (demonstration of input uses and agronomic practices) and training.

In 2015 the Government of Ethiopia developed the Urban Food Security Strategy (UFSS) to ensure food security for the urban poorest of the poor. This policy resulted in the establishment of the 10-year Urban Job Creation and Food Security Program (UJCFP). The objective of the UJCFP is to alleviate urban food insecurity and tackle the increasing level of vulnerability by supporting over 4.7 million urban poor living in 972 cities and towns across Ethiopia. This is expected to be achieved over the 10-

year period through gradually rolling-out the programme in different phases starting with the country's cities having a population of over 100,000 people. The Urban Productive Safety Net Program, is the first of its kind to provide social protection at-scale in Ethiopia's urban centres (UPSNP PIM, 2016).

1.2 Research problem

The challenge of the urban poorest of the poor is multi-dimensional and interrelated. The urban population includes different people groups experiencing a number of challenges including widespread poverty, poor food security and lack of livelihood diversification strategies. Many of the urban poorest of the poor are rural-urban migrants.

The Federal Republic of Ethiopia and its international partners implemented one of the largest Productive Safety Net Programmes in Africa to address food insecurity in Ethiopia's chronically food insecure areas. So far, the UPSNP has had a strong focus on rural areas, but more recently there is increased attention for Ethiopia's urban poor. The sharp increase in urban populations and widespread poverty is making chronic/acute food and nutrition insecurity a critical challenge.

Large programmes like the UPSNP focus exclusively on Ethiopia's chronically food insecure in the rural areas but with Ethiopia experiencing an unprecedented increase in its urban populations, and a strong increase in the number of the urban poorest of the poor; attention is given to address the challenge of their food and nutrition security.

The UPSNP focuses on the urban 's food and nutrition insecure by providing resource transfers by employment generation schemes in which UPSNP beneficiaries are engaged. The UPSNP does however not consider urban agriculture as a potential employment generation scheme as a potential approach to improve food and nutrition security.

The potential of urban agriculture, therefore, does not receive the attention it may deserve. Ethiopia's Ministry of Urban Development and Housing (MUDHo) has expressed interest in knowing more about the potential contribution of urban agriculture to improving the food and nutrition security of the urban poorest of the poor who are under the UPSNP. This research is in line with that interest.

1.3 Research objectives

For Ethiopia's Ministry of Urban Development and Housing (MUDHo) to get a better understanding of the potential contribution of urban agriculture and best ways to promote this as part of Ethiopia's emerging Urban Productive Safety Net Programme (UPSNP), to improve food and nutrition security amongst UPSNP beneficiaries in Addis Ababa.

1.4 Main Research questions

The main research question is: 'What is the potential of urban agriculture when promoted through the Urban Productive Safety Net Programme to improve food and nutrition security of the poor in Addis Ababa?

1.5 Sub Research Questions

To answer the main research questions, the following sub-research questions need to be answered:

1. What is the impact on food and nutrition security of the urban poor (non UPSNP beneficiaries) currently involved in urban agriculture and those that benefit from the UPSNP and are involved in informal urban agriculture or in other livelihood strategies?
2. What are the current challenges faced by the poor (non UPSNP beneficiaries) involved in urban agriculture and UPSNP beneficiaries involved in informal urban agriculture in Addis Ababa?
3. How do important stakeholders and actors in the Urban Productive Safety Net Programme, such as the World Bank and FAO, think about the potential of urban agriculture as part of the UPSNP?
4. What are the requirements and approaches for the UPSNP to promote urban agriculture amongst UPSNP beneficiaries in ways that increase their food and nutrition security?

CHAPTER TWO: LITERATURE REVIEW

Through literature research, this study will review and describe the concepts central to this research: food security and its dimensions; households; urban agriculture, and; the contribution of urban agriculture on improving food and nutrition insecurity in urban contexts.

The literature review guides the research to explore new issues which are relevant in the debate on addressing food insecurity of the urban's poorest of poor in Addis Ababa City Administration.

2.1 The Concept of Food and Nutrition Security

Food Security

Food Security, according to World Food Summit (FAO, 1996) is defined as 'food security exists when all people have physical, social and economic access to adequate, safe and nutritious foods to cater for their dietary needs and food preferences for active and healthy life.'

Food security is achieved if adequate food (quantity, quality, safety, socio-cultural acceptability) is always available and accessible for, and satisfactorily utilised, by all individuals to live a healthy and happy life (FAO, 1996). The four dimensions of food security are food availability, accessibility, utilisation and stability and are introduced below.

Food Availability

This refers to the handiness of food either through own production or from the market, and this can sometimes be seen to mean food supplies (Klennert *et al.*, 2009).

Food Accessibility

This refers to the households having enough resources and the ability to have economic access to food and its dependent on many factors including physical social and policy. (Klennert *et al.*, 2009).

Utilization

This represents how the members of the households make use of the micro-nutrients that exist within the diets and also, it involves the food preparation and prevailing sanitary conditions, health care and potable water. (Klennert *et al.*, 2009)

Stability

This represents the time frame over which all the above pillars are met and sustained for the period, and it is often rare to achieve this (Frankenberg, 1998).

Household food security

Households are considered food secure provided they can have an all year round food access that meets their nutritional and dietary requirements to function actively and live healthily. Food aid to households is quite often unable to meet their nutritional and dietary needs, and these groups are considered food insecure (FAO, 2010, as cited by Abdul – Salaam Alhassan 2014).

2.2 Urban Agriculture

Urban Agriculture is an aspect of agriculture that involves the rearing of animals and production of perishable produce like leafy greens, garden eggs at vacant land spaces within households, municipalities, and within towns and cities. (FAO, 2014). It is considered an enterprise within the urban centres where animal and plant products are produced and processed for household

consumption and for the markets (World Bank, 2013). It can be practised in gardens, rooftops, empty public land, cellars or field plots by urban residents from various backgrounds and has a variation in scale ranging from subsistence, micro-scale to larger commercial productions and this has an enormous contribution to food for the urban areas (World Bank, 2013).

For the lack of inadequate white-collar jobs with the urban centres of Sub-Saharan Africa, this enterprise is a potential livelihood for the teeming unemployed to engage in for their livelihoods so that, their families income and food needs could be catered for. (World Bank, 2013). There is evidence of a shift from largely being informal employment to a formalised one as Governments are considering its significance to food security in some parts of sub-Saharan Africa (SSA) by establishing Directorates for Urban Agriculture. (ibid).

It has been an aged old practice within the SSA. However, the early 1970s saw a scaling up in numbers of those involved largely occasioned by the rising urban poverty, food prices or food shortages (Foeken 2006). Production within the urban centres are often on a small scale due to inadequate spaces and increasing for other infrastructural development needs. (Lohrberg *et al.*, 2016).

Who are Urban Farmers in Addis Ababa?

According to Axumite (1994), it is the urban poor within Addis Ababa that is largely engaged in the practice of UA. Individuals who are not engaged in formal employment or have meagre salaries tend to engage in vegetable production to secure their family's food needs (Duressa, 2007).

The Benefit of Urban Agriculture

It provides an opportunity for people to form cooperatives and engage in community gardening and urban farms (Brown, 2013). Individual participation in UA helps to overcome barriers of ethnicity, age and class and inculcating in them pride of high self-esteem (Mogk & et al. (2010) as cited by Brown, 2013).

Urban agriculture provides important and many contributions to the health of communities. Accessibility to minimally-processed nutritious food gets improved as backyard gardeners prepare these foods for their families. Community gardeners donate food to local food banks or charitable institutions and entrepreneurial farmers distribute local farmers' markets, food stores and restaurants (ibid)

Enhancing the sustainability of a city is another frequently mentioned benefit of urban agriculture. With production, cities can sustain themselves better.

Meanwhile, decreasing transportation distance can reduce greenhouse gas emission.

Furthermore, because of recycling waste and wastewater, fewer urban resources are demanded by urban agricultural activities (De Zeeuw et al., 2011; Lovell, 2010; Smit et al., 2001). Additional, biodiversity is also a contribution of urban agriculture (Smit et al., 2001 as cited Soderholm, 2015)

The importance of urban agriculture are many and gardens often built on previously unused lots, increases the beauty and value of the neighbourhood. It brings about recreational opportunities for those involved. Urban food production also means that healthy, fresh produce is readily available to city dwellers (Wortman, 2013).

Urban agriculture can provide fuelwood for urban residents and reduce environmental pollution and temperatures for a healthy environment. Urban agriculture can contribute to inclusive green growth,

clean and resilient environments and offer recreation opportunities to provide the better living environment (World Bank,2012; as cited in Andenet Gebrekidan, 2015).

Urban agriculture can also help cities to become more resilient to climate change by maintaining green open spaces and by enhancing vegetative cover. (Word Bank ,2012;as cited in Andenet Gebrekidan,2015) Productive re-use of urban organic wastes reduces methane emissions from landfills, reduces the public cost of waste management, reduce environmental and health problems (especially in areas where there are a shortage of waste management services) and urban organic waste provides nutrients to the soil (World Bank, 2012; as cited in Andenet Gebrekidan, 2015).

The Benefit of Urban Agriculture to Food and Nutritional Security

The rapid growth of the urban population and the low nutrition level of the urban poor and the rising cost of food has raised the importance to look at the potential of urban agriculture. In most developi and developed countries urban agriculture has come to be seen as one of the strategies to address the urban food security challenge; this is because urban agriculture can provide a substantial contribution to food security and enhance the nutritional level of the urban poor (FAO, 2014).

Urban agriculture brings about food security to individuals and communities. Growing food in urban or peri-urban as alternative way of addressing poverty and its related issues by reducing hunger, improving access to fresh, healthy, wholesome foods, improving nutrition and supporting the quality of environmental conditions that affect health (Brown, 2013). It fosters n appreciation of agriculture for urban citizens who often don't otherwise see a direct connection to where food comes from thus encouraging a better understanding and appreciation of healthy eating from farm to fork (Brown, 2013).

Regarding food supply, urban farming benefits the household directly through self-consumption (household level). This concerns both the quantity and the quality of the consumed food. When part of the produce is sold, others in town benefit as well, mainly when the product is sold below the market price (town level). (Foeken & Malongo, 2004). Often, (a small) part of the produce is given away to neighbours or relatives (neighbourhood level). Income generation at the household level can be direct, i.e. when (part of) the produce is sold, and indirectly, i.e. through saving on food costs ('fungible income'). At the town level, many people can benefit directly from farming activities there, for example, through undertaking paid labour on urban farms, by selling inputs, transporting produce, and buying and selling produce. These people may pay taxes and market fees, thereby benefiting the municipality as well. Employment creation at household level concerns the labour carried out by the members of the household (Foeken & Malongo, 2004).

Soderholm (2015) also stated that food security tends to be a major motivation to promote urban agriculture, it is an essential source of food food source for lower-income earners (Smit et al., 2001). During wartime and natural disaster, urban agriculture can enhance the availability of food (De Zeeuw, Veenhuizen, & Dubbeling, 2011). Moreover, urban agriculture can provides the products that unsuitable for rural agriculture, especially perishables, due to the proximity to urban consumers (Smit et al., 2001). Furthermore, the accessibility of fresh, healthy, and affordable food also can be increased by urban agriculture (De Zeeuw et al., 2011 as cited in (Soderholm, 2015).

The Benefit of Urban Agriculture to Food and Nutritional Security in Addis Ababa

According to Axumit G/Egiabger's investigation urban agriculture has a long tradition in Ethiopia and in some cases has been regarded an 'ultimate' survival strategy (Axumit G/Egiabger's,1994: p104). According to Gene & et al. (2006) UA proves to be an activity that can make a huge contribution towards securing and/or supplementing food needs of urban inhabitants, particularly in Addis Ababa.

Some of the benefits of UA in Addis Ababa have been reported to include that it: provides a means of livelihood, enhances nutrition, provides a source of energy supply, provides savings on food purchases, acts as a coping mechanisms in hard and difficult times and contributes to balancing the ecosystem of the city. All these benefits are shortly discussed below.

Means of Livelihood

The sector continues to be a means of livelihood to several households in Addis Ababa by providing formal employment to 50, 000 and above people engaged in agriculture activities within the city of Addis Ababa. (Gete & et.al,2006).

Enhance Nutrition

The production of fresh vegetables, cereals, dairy products etc., within the city enhance nutrition at households' level – the 11 vegetable cooperatives within the city cover up to 7.13% of the city's overall vegetable demand and small-scale dairy farms cover up to 80% of the city's milk supply (Ibid).

Source of Energy Supply

Woodlands/biomass around Addis Ababa is a source of energy (as fuelwood) to the majority of households within the city, supplying upto10% of the total energy demand of the city, which is 2.4 million cubic meters (PSPC, 2003).

Saving on Food Purchase

The substantial expense of the poor people in developing countries is generally on food (RUAF) thus growing/producing one's food provides saving on food purchase. Households involved in vegetable production in their backyard revealed that 75% of their vegetable produce is consumed in-house saving them the amount they would have spent on purchasing vegetable (Gardening et al., 2011).

Coping Mechanism during Difficult Times

Urban agriculture, particularly vegetable gardening such as Cabbage, traditionally is taken as a coping mechanism during food crisis/shortage. Rearing dairy cows at the household level are also taken to supplement income, e.g. pensioners.

Balancing the Ecosystem of the City

The vegetation cover of the city is estimated to be 7,900 ha. (14.6% of the total areas) moreover, securing the vegetation within the city means enhancing the environment of the city by controlling pollution, run-offs, soil erosion, and maintaining the ecosystem and biodiversity at large.

2.2.1 Challenges of Urban Agriculture

The challenges of Urban Agriculture vary from one country to the other, but the common challenges of Urban Agriculture as stated in (Lin, Philpott and Jha, 2015) are stated as follow:

Space Availability

Increased urbanisation will lead to greater competition for space in cities making it difficult to practising UA.

Water Availability and Use

Rainwater or grey water (is untreated wastewater resulting from lavatory wash basins, laundry and bathing) can be used for garden irrigation, and it is cheaper and at all times more availability than portable water-based irrigation. Those involved in UA gardens must be aware of the potential pathologies and heavy metal contaminants that can cause human and environmental health problems (Lin, Philpott and Jha, 2015).

Other Challenges

Additionally, Duzi found that a key challenge to practising UA is the threat of local water source or underground water contamination due to the uncontrolled use of fertilisers and pesticides, and poor

environmental conditions of land (such as practising UA on steep slopes) can further deplete soil quality (Duží *et al.*, 2014).

UA and horticultural practices require: 1) access to land; 2) water for irrigation; 3) labour; 4) capital; 5) material inputs; 6) seeds; 7) pesticides and herbicides, and; 8) fertiliser.

According to Baumgartner and Belevi (2001), the crucial elements for low-income city dwellers to become involved in urban agriculture are access to land followed by the availability of irrigation water.

2.2.2 Challenges of Urban Agriculture in Ethiopia

Different studies have identified challenges faced by people practising urban agriculture. Kebede has identified some key challenges for those involved in UA in Ethiopia (Kebbede, 2011). His main findings are presented below.

Tenure Insecurity

Farmers' most common concern is the fear of losing the land they cultivate at any moment without warning or notice. According to the constitution of the Federal Democratic Republic of Ethiopia land is a public good, and it can be taken away by the state or the municipality for residential or other urban uses (Kebbede, 2011).

High Prices for Inputs

The increasingly high cost of improved seeds and fertilisers is a critical challenge experienced by the farmers. Rural farmers have access to government-subsidised inputs, but urban farmers do not (Kebbede, 2011).

Shortage of Irrigation Water and Contaminations of Irrigation water

The quality of irrigation water, particularly during the dry season, is also a major concern. Wastewater and chemicals dumped or leached from nearby industrial sites pollute the rivers and streams used for irrigating the fields (Kebbede, 2011).

Lack of Good Quality Farm Equipment

Farmers complain that Chinese-made farm tools are not sharp enough and break quickly. They yearn for the reliable Asmara-made tools they were accustomed to working with before the 1997-98 war with neighbouring Eritrea (Kebbede, 2011).

Crop Losses from Pests/Diseases

Farmers also complain about crop losses caused by diseases. The most common pest was nematode which attacks cabbage, cauliflower, and kale. The pest causes the root system to swell and eventually die. There is no known remedy to this problem, but farmers have tried different measures to minimise the incidence of the pest (Kebbede, 2011).

Pollution

Because untreated effluents discharged from industries pollute the Little Akaki River, there are some health concerns related with the consumption of vegetables grown using the Akaki River water. The farmers are worried that they might lose their source of livelihood if the public stops purchasing their produce due to health concerns (Kebbede, 2011).

Night-Time Theft

This is a problem for 1 out of 5 farmers. Roadside farms (such as those by the city's slaughterhouse) are especially susceptible to theft. Farms located far from the homestead are also prone to theft (Kebbede, 2011).

2.3 Other Concepts and Terms

Food Consumption Score

The frequency-weighted diet score or 'Food Consumption Score' is a proxy indicator for measuring food consumption and is calculated using the frequency of consumption of different food groups consumed by a household over a seven-day period before the survey (WFP, 2008). The FCS also records the main source of the food (for example, purchase, barter or own production. Annexe 1 presents the FCS data collection sheets.

To calculate the FCS the Calculation steps had to be done:

- I. Using standard VAM 7-day food frequency data (see section 9.1), group all the food items into specific food group .
- II. Sum all the consumption frequencies⁴ of food items of the same group, and recode the value of each group above seven as seven.
- III. Multiply each value obtained for each food group by its weight and create new weighted food group scores.
- IV. Add the weighed food group scores, thus creating the food consumption score (FCS).
- V. Using the appropriate thresholds to recode the variable food consumption score, from a continuous variable to a categorical variable

2.4 Conceptual Framework & Operationalisation of Key Concepts

The Sustainable Livelihoods Framework

This research adopted the Sustainable Livelihoods Framework as the overall conceptual framework to study the impact of UA on the urban poor's food and nutrition security.

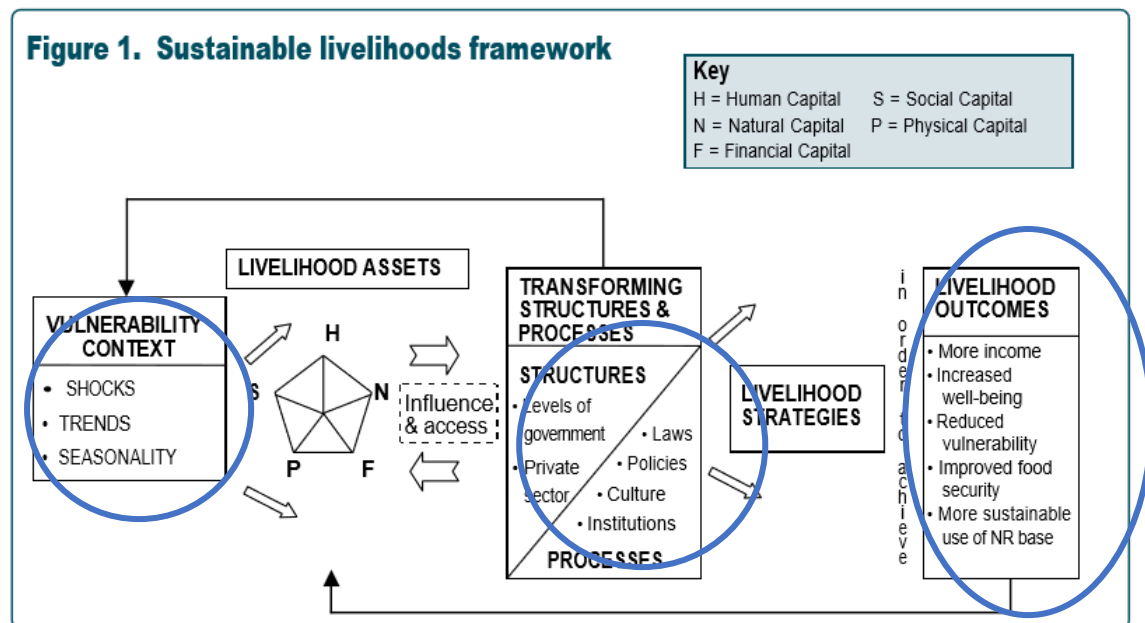


Figure 1. Adopted from DFID (1999) Sustainable Livelihood Framework

The SLF provides overview on main factors that affect people's livelihoods, and typical relationships between these and provides insights into important issues, their influences and processes with emphasis on the interactions of the various factors that affect livelihoods.

a. Vulnerability Context

It refers to the external environment in which the people live and have little or no control over and it has an impact on their assets and what options they have in pursuit of their livelihoods. These include shocks, trends and seasonality (Dfid, 1999).

b. Livelihood Assets

This represents the five core asset categories which include, Human, Social, Natural, Physical and Financial Assets upon which livelihoods are built around (Dfid, 1999.)

c. Transforming Structures and Processes

These are the institutions, organisations, policies and legislation that exist within the environment to shape livelihoods (Dfid, 1999).

d. Livelihood strategies

This denotes the combination of activities and choices that people make/undertake to achieve their livelihood goals (Dfid, 1999).

e. Livelihood Outcomes

This represents the results or output of the livelihood strategies. (Dfid, 1999)

The SLF is very important to this study because, I sought to understand what outcomes the people derive from their livelihood strategies, i.e. being on UPSNP and/or engaging in UA and this couldn't be done in isolation but in context where I can understand their vulnerabilities and what structures exist within their environment to help or impede their efforts at reducing their vulnerabilities and building productive assets.

The SLF was used to answer my sub-research question with a particular focus on the livelihood outcomes (food security) by using the Food Consumption Score and FGD with the three respondents.

The study looks at three different groups of people to study the impact of UA on people's food and nutrition security:

- A group of 15 poor households in Kolfe Keraniyo involved in formal Urban Agriculture;
- A group of 15 very poor households under the Urban Productive Safety Net Programme (UPSNP) in Nifas Silk Lafeto and involved in informal UA, and;
- A group of 15 very poor households under the UPSNP in Nifas Silk Lafeto but not involved in UA.

2.5 Ethiopia's Urban Food Security Strategy: The Urban Productive Safety Net Program

Ethiopia's Urban Food Security Strategy has been developed within the framework of Ethiopia's National Policy and Strategy on Disaster Risk Management with the Ministry of Urban Development and Housing (MUDHo) taking a key role in design and implementation.

The strategy aims to reduce poverty and vulnerability among the urban poor living below the poverty line over a period of 10 years. The UPSNP is the first urban instrument of the government to implement this strategy (UPSNP, 2016).

In urban areas, poverty, food insecurity and vulnerability have been accumulating over time and have never been addressed systematically until the design of UPSNP. Accordingly, in the first phase of five-year UPSNP (2016-2020) the programme focuses on 11 cities: one each from 9 regional states and the two city administrations.

The UPSNP will scale up to a national Urban Job Creation and Food Security Programs which is designed to support over 4.7 million urban poor living in 972 cities and towns. Within the Safety Net component, both Conditional, as well as Unconditional cash transfers, are used to reach different target groups (UPSNP, 2016).

Conditional Cash Transfers

The conditional transfers will target non-disabled persons in households eligible for program support. This group constitutes an estimated 84 per cent of total program beneficiaries. Beneficiaries have to participate in Public Work: solid waste management, urban greenery activities, watershed management, and infrastructure activities around UPSNP beneficiaries' residence areas.

Unconditional Cash Transfers

Unconditional transfers will target persons who for various reasons are unable to perform work. For example, the chronically ill, the elderly, people with disabilities, and the urban destitute (UPSNP, 2016). This group constitutes an estimated 16 per cent of program beneficiaries.

CHAPTER THREE: METHODOLOGY

This chapter presents the research methodology. Section 3.1 introduces the study area followed by a research strategy in section 3.2. Section 3.3 introduces and discusses the data collection. The study sample is discussed in 3.4. Data analysis is presented in 3.5 followed by ethical considerations in 3.6; the limitations of the study and its findings are discussed in 3.7.

3.1 The Study Area

Addis Ababa, the capital city of Ethiopia, was founded in 1886 by Menelik II. The city is only 122 years old. Addis Ababa is in the geographic centre of Ethiopia, at an altitude of around 2.400 meters above sea level. Refer to figure 3. (BOFE, 2010; as cited by Andenet 2015).

By 2004 the city covered an area of around 290 square km with an estimated population of 4 million (UN-Habitat, 2007). In Addis Ababa, the population is growing rapidly with a 2.8 per cent annual growth rate (CSA,2007).The rapid growth of Addis Ababa population is becoming a great challenge and the process of urbanization in Addis Ababa is accompanied by high levels of urban poverty, urban unemployment and growing food insecurity amongst the urban poor.

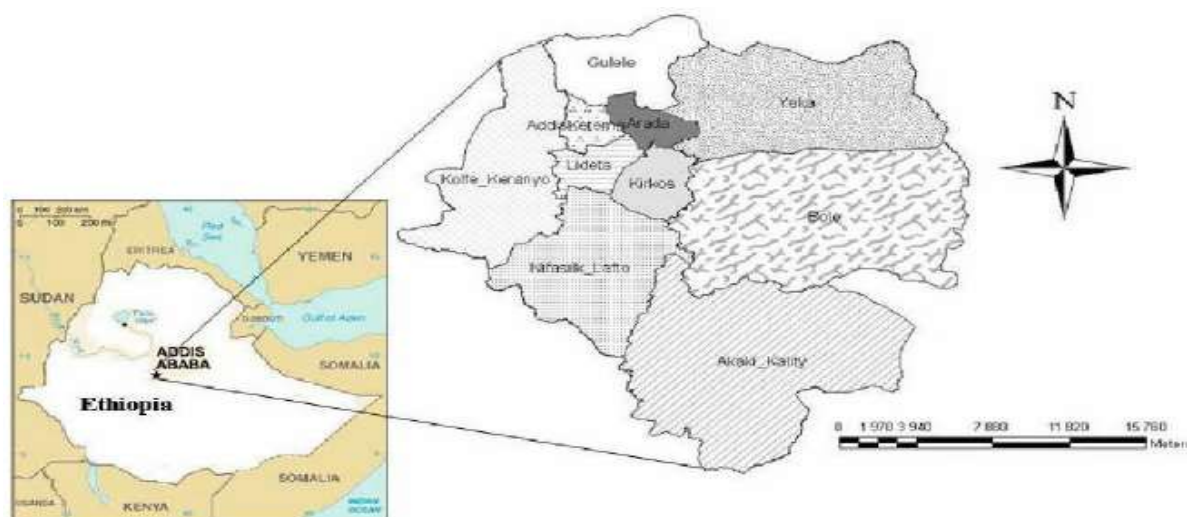


Figure 2. Source google map: Study area (Addis Ababa Map)

The urban setting in Kolfe Keraniyo and Nifas Silk Lafeto sub-cities, part of the Addis Ababa City Administration, are the focus of this research. The study looked at urban poor (not UPSNP beneficiaries) involved in UA in Kolfe Keraniyo as well as to the poorest of the poor (UPSNP beneficiaries) in Nifas Silk Lafeto.

Addis Ababa was chosen as the UPSNP is covering 11 cities in Ethiopia with Addis having the largest share of UPSNP beneficiaries: 74% of the total UPSNP caseload. The two sub-cities within Addis were chosen based on of the Addis Abba poverty index; they are poorest of poor sub-cities, and the majority of its citizens are rural-urban migrants. The two sub-cities are representative of a wider set of sub-cities having a considerable number of rural-urban migrants.

By looking at the two sub-cities of Kolfe Keraniyo and Nifas Silk Lafeto, as part of the wider Addis Ababa City Administration, the findings of this research is representative in providing important indications regarding the contribution of UA to the food and nutrition security of UPSNP participants.

3.2 Research Strategy

Use of Qualitative and Quantitative Approaches

This research used both qualitative and quantitative approaches in data collection.

Regarding qualitative data collection, the study employed Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) to identify the challenges and opportunities associated with urban agriculture and its contribution to improved FNS.

Regarding quantitative research methods, the study employed a Food and Nutrition Security measure using the Food Consumption Score to measure and compare household food consumption of poor urban households involved in formal UA with the poorest of the poor being UPSNP beneficiaries part of whom are already practising informal UA. Comparing the urban poor (on UPSNP participants) involved in UA with UPSNP beneficiaries involved in informal UA will help to understand the critical challenges faced by those involved in UA and the unique challenges faced by the UPSNP involved in informal UA. By comparing the UPSNP beneficiaries involved in UA with those having a different livelihood strategy allows for attributing the impact of informal UA to food and nutrition security as compared to those UPSNP households not involved in UA.

Secondary and Primary Data Collection

Secondary data collection was done through desk study research: searching for journals and articles at VHL, through the internet and at the Addis Ababa University Kenny library.

Primary data collection involved KII, FGDs and structured observation in the selected sub-cities of Addis Ababa covering poor households involved in UA and very poor households covered by the UPSNP.

Primary data collection was used to generate first-hand in-depth knowledge from the perspectives of respondents and understanding and perceptions from other stakeholders on the role and the contribution of urban agriculture to FNS within the framework of Ethiopia's Urban Productive Safety Net Program.

3.3 Data Collection

Data were collected through the following approaches for each of the four sub-research questions.

1. Impact of Food and Nutrition Security

The main data collection instruments involved:

- Food Consumption Score (FCS) of 15 poor households involved in urban agriculture;
- FCS of 15 households benefitting from UPSNP and practising UA informally, and;
- FCS of 15 households under UPSNP and not practising UA, and;
- Three FGD conducted with a group size of 5-7 people each. FGD participants were selected based on their involvement in UA (non UPSNP participants) and on their active participation in UPSNP since its beginnings. The local UPSNP experts assisted in identifying the UPSNP households. Three FGDs were conducted to study the impact of UA on FNS of non UPSNP beneficiaries involved in formal UA vis-à-vis UPSNP beneficiaries involved in informal UA and to study the contribution of

UA to improved FNS by comparing UPSNP households involved in informal UA and UPSNP households not involved in it.

The FCS is a proxy indicator to measure food consumption and is a choice of instrument for, amongst others, the World Food Programme and the Integrated Food Security Classification. The FCS collects info on the consumption of a number of food groups over a 7 day period including the main source of the foods consumed (e.g. local purchase, barter, own production). So, not only does the FCS provides a reading of food consumption but it also shows the diversity of food groups being consumed providing a measure of dietary diversity and nutrition.

Photo 1. Focused Group Discussion with the beneficiary of UPSNP



Source: Author 2018

2. Current Challenges in Urban Agriculture

The main data collection instruments involved:

Three Focus Group Discussions conducted with a group-size of 5-7 participants. FGD participant were selected on the base of their involvement in an UA association (urban poor not being UPSNP beneficiaries) and UPSNP beneficiaries practising UA informally;

- Key Informant Interviews based on a topic list and semi-structured interview; KIIs were done with the FAO Officer responsible for Livelihood expert, and;
- Direct observations by the researcher to observe the respondents in their local context including visits to the gardens to allow a better understanding by the researcher about their vulnerability context and the opportunities and challenges faced by the respondents.

3. Perspectives on UA to be Promoted by the UPSNP

The primary data collection instrument involved:

- Key Informant Interviews with the World Bank and the Federal Urban Job Creation and Food Security Agency (FUJCFSA) to get their understanding and perspectives regarding the potential of UA and its promotion by Ethiopia's UPSNP.

4. Requirements and Approaches for UPSNP to Promote UA for improvement FNS

The main data collection instrument involved:

- Three key informants were interviewed: one from the FUJCFSA, a World Bank Specialist/Coordinator of the Urban Productive Safety Net Program, and a FAO Livelihood Officer. The topics included the impact of UPSNP program on Food and Nutrition Security of those practising of UA, the potential for Urban Agriculture in the research study area in Addis Ababa, and potential approaches for promoting UA as part of the PW component of the UPSNP.

To obtain the required reliable and valid information the key informant interviews were conducted through semi-structured interview questionnaires. The selection of the key informants was done by the researcher by purposively selecting the FUJCFSA Head of Office and the specialists and coordinators of the UPSNP program partners (World Bank and FAO).

3.4 Study Sample

This research used a purposive sampling of the urban poor involved in UA and the UPSNP beneficiaries. Purposive sampling is a sampling method not based on random selection (Laws, 2013).

Since the research is a case study and time for the research was limited the researcher decided to sample purposively in order to involve in the FCS questioner and FGD households, having an established track record in UA (the urban poor not being UPSNP beneficiaries) and to sample UPSNP households being serious on their involvement in informal UPSNP or on non-UA based livelihood activities.

3.5 Data analysis

The primary data collected from the different sources were analysed by quantitative and qualitative techniques guided by the conceptual research framework and sub-research questions.

The frameworks used are the SLF and the food security dimensions (food availability, access and utilisation). The qualitative data, coming out of FGDs and KIIs, were transcribed and categorised to identify key issues and perceptions. Excel and SPSS were used to analyse the quantitative data, in particular, the FCSs.

3.6 Ethical Consideration

This research uses quotes from respondents to illustrate key research findings but does not name the respondent for considerations of the respondents' privacy.

The researcher, upon introducing herself to the FGS, KIIS and household interviews, clearly explained the notion of confidentiality and her respect thereof. This helped the respondent to be open and to provide information to the researcher.

3.7 Limitations of the Study

The study was done in two sub-cities of Addis Ababa and involved a relatively small number of households. Findings, therefore, may not be fully representative for UA in urban settings of Addis Ababa at large, nor for the other ten cities in which UPSNP is currently being implemented. Findings of this case study do however provide valuable pointers for the role of UA and its potential in promoting FNS of UPSNP beneficiaries.

KIIs were not easy to do due to Ethiopia's current political changes and changes in the AACA itself. The researcher, therefore, ensured to spend some time with household respondents to build rapport

and some trust before explaining the purpose of the research and collection of data. The researcher highlighted the confidentiality of the findings and use of it in recommendations.

CHAPTER FOUR: FINDINGS

This chapter presents the findings to the main research question: should Ethiopia's Urban Safety Net Program promote urban agriculture?'.

Section 4.1 presents the socio-demographic characteristics of the three groups of respondents: the urban poor involved in UA and the UPSNP beneficiaries including those involved in informal UA and those not involved in it. Section 4.2 describes the main components of the SLF for each of the three groups in a short and pointy way.

The chapter continues to present the findings to each of the sub-research questions. Section 4.3 presents the findings to sub-research question one: 'What is the impact on food and nutrition security of the urban poor currently involved in urban agriculture and those that benefit from the urban safety net programme'. Section 4.4 answers the second sub-research question: 'What are the current challenges faced by those involved in urban agriculture in Addis Ababa?' Section 4.5: How do key stakeholders in the Urban Productive Safety Net Programme think about the potential of urban agriculture?'

The final section, section 4.6 provides the answer to: 'What are the requirements and approaches for the Urban Safety Net Programme to promote urban agriculture amongst the UPSNP beneficiary's poor in ways that increase their food and nutrition security?'.

4.1 Socio-demographic Characteristic of Respondents Included in the Study

This section presents the most important socio-demographic characteristics of the respondents; for the poor who are practising UA as their main livelihood strategy and for the poor under the UPSNP involved in informal UA and the UPSNP participants not included in UA as a livelihood strategy.

In total 45 household heads participated in the study, out of these 22 were men and 23 women allowing for a gender balance. Table 1 describes the sex of the respondent for the three groups; table 2 presents the educational level of the respondent and Table 3 describes the marital status of the respondents.

As shown in table 1, for each of the three different groups, 15 respondents were sampled. Out of the 15 poor households involved in UA (Kolfe Keraniyo), 12 were male and three (3) females. Out of the 15 UPSNP, households involved in informal UA 8 were male and seven females. For the 15 UPSNP not involved in UA 2 were male and 13 were female. The selection made for Poor involved in UA is based on there period of staying in practicing UA or involving in the UA association FGD and UPSNP.

Table 1. What is your sex? Cross tabulation of the 45 sample households).

		Sample Household Respondents			Total
		Kolfe Keraniyo poor practicing UA	Nifas Silk lafeto		
			poor under UPSNP practicing informal UA (wereda2)	Poor Under UPSNP not practicing UA(Woreda5)	
what is your sex?	male	12	8	2	22
	female	3	7	13	23
Total		15	15	15	45

Table 2 shows that the age range is from 22-56 years; the average age of the 45 household heads is 37.9 years. The UPSNP implementation manual requires that all participant on the conditional cash transfer program to be 18 and above and less than 60 years old. The UPSNP sample households meet that criteria.

The family size of the 45 sampled households ranges from 3 to a maximum of 12 members. The average size of the households is 5.4 members.

Table 2. Descriptive statistics of the 45 sample households.

	N	Minimum	Maximum	Mean	Std. Deviation
What is your age?	45	22.	56	37.9	8.77
what is your no of family	45	3	12	5.4	2.13
Valid N (listwise)	45				

Table 3 presents info on the educational status of the sample households. There is a distinct difference between poor households involved in UA and the UPSNP households: literacy levels amongst the urban poor are much higher as compared to UPSNP households. Almost half of the UPSNP households are illiterate, with roughly the other half having had access to primary education.

Table 3. What is your educational status? Cross tabulation of the 45 sample households.

		FCS Respondent			Total
		Kolfe Keraniyo poor practising UA	Nifas Silk lafeto		
			poor under UPSNP practising informal UA (wereda2)	Poor Under UPSNP not practising UA (Woreda5)	
What is your educational status?	Illiterate	1	6	8	15
	Primary	9	7	6	22
	Secondary	5	0	1	6
	Diploma	0	2	0	2
Total		15	15	15	45

As can be seen from table 4, the majority of the respondent (75,6%) are married, some are divorced (15,6%) and the remainder widowed (8,9%).

Table 4. What is your marital status? Cross-tabulation of the 45 sample households.

		FCS Respondent			Total
		Kolfe Keraniyo poor practising UA	Nifas Silk lafeto		
			poor under UPSNP practising informal UA(wereda2)	Poor Under UPSNP not practising UA (Woreda5)	
What is your marital status?	married	10	11	13	34
	divorced	3	2	2	7
	widowed	2	2	0	4
Total		15	15	15	45

Summary Findings

The socio-demographics indicate that there is fair involvement of both men and women in the research, though, in contrast to the urban poor involved UA the majority of the UPSNP respondents are women (20 women as compared to 10 men).

The average age of the sampled households is 37.9 years (range 22-56 years) and average household size 5,4 (range 3 to 12 members). Educational status of the urban poor involved in UA is much higher as compared to the sampled UPSNP beneficiary households. Amongst the poor involved in UA, the majority are men as compared to the UPSNP households where the ratio is almost 50-50.

The marital status of most households is married although the number of divorced and widowed households is significant: a total of 11 out of the 50 households or 24.4%.

4.2 Key Aspects of Households Livelihoods

4.2.1 The General Description of UPSNP Households

Focus Group Discussions, informal discussions with households and direct observation yielded valuable insights into people's livelihoods and livelihood strategies.

The vulnerability context of the UPSNP beneficiaries involved in informal UA as compared to those not involved in UA is not substantially different. This is not a surprise because the selection criteria for UPSNP beneficiary households are strict and these criteria are central to people's vulnerability context.

The identification of the chronically poor urban households as UPSNP beneficiaries is based on Ethiopia's poverty index result (2011). The aim of the UPSNP is for such very poor households to at least smooth their food consumption.

The livelihood assets for the UPSNP involved in informal UA and those not involved in UA are also not substantially different. Both groups' livelihood assets are characterised by having very low natural capital, physical capital. Both groups receive institutional support to address their vulnerabilities through the government of Ethiopia's UPSNP.

4.2.2 Comparing Sustainable Livelihood Framework for the Three Groups

The following section presents the SLF of the three groups separately:

A. The SLF UPSNP HHs practising UA informally

Vulnerability context:

- *Trends*: Chronic poverty and being faced with increased prices of food and other goods in the market, and with an increase in house rent.
- *Shocks*: Death, divorce (recorded by some members).
- *Seasonality*: Casual labour opportunities.

Livelihood Asset

- *Natural Capital*: They have temporary access to land and river water ;

- *Financial Capital:* They have monthly income from public work being as part of UPSNP beneficiary and income from practising UA informally;
- *Physical capital:* Rented house;
- *Social Capital:* They work as a group, Participating in the collection of money at the time of the death of a family member' Ider'and ' Ekub' traditional saving;
- *Human Capital:* They have 40 % illiterate, and 60% of them are primary and above education label but they all are non- skilled labour.

Policy and Institutions

- The FDRE drafted the new Urban Food and Security Strategy in 2015 and based on that strategy the Urban Productive Safety Net Program was launched in 2016 to support the urban poorest of the poor.

Livelihood strategy

- The Urban Productive Safety Net Program is the main component of their livelihood strategy; it provides employment for which they receive resource transfers and practicing UA informally.

Livelihood outcomes

- A better household food consumption due to their production of vegetables and an increase in income through the sale of vegetables from their gardens.
- Households also improve on their social capital as they are able, through making some income, to improve on their social capital by participating in different social activities.

B. The livelihood strategy of poor UPSNP HHs not practising UA

Vulnerability context:

- Trends: chronic poverty, steady increase in prices for food, non-food items and house rent.
- Shocks: Death, divorce (recorded by some members)
- Seasonality: casual labour opportunities.

Livelihood Asset:

- *Natural Capital:* They don't have land
- *Financial Capital:* They have monthly income from public work being as part of UPSNP beneficiary
- *Physical capital:* Rented house;
- *Social Capital:* They work as a group in the public work provided by the UPSNP;
- *Human Capital:* They have 53 % illiterate, and 47 % of them are primary and above education label but they all are non- skilled labour.

policy and institution:

- The FDRE produced urban food security strategy in 2015 and based on the strategy the Urban Productive Safety Net Program (UPSNP) to support Poorest of the Poor.

Livelihood strategy:

- As beneficiaries of the Urban Productive Safety Net Program their main livelihood strategy is providing labour in exchange for UPSNP resource transfers.

Livelihood outcomes:

- They can pay for the continued increase in rent, their social capital getting improved due to their involvement in the UPSNP public work group.

C. The livelihood strategy of urban poor practising UA as a livelihood**Vulnerability context**

- Trends: Chronic and consistent poverty.
- Shocks: Vegetable crops damaged by floods especially when practising UA further down the catchment areas.
- Seasonality: Rains that allow for UA during the rainy season, casual labour opportunities and Crop diseases.

Livelihood Assets:

- *Natural Capital:* They had Access to land but not controlled by them, they have water source from the river and recycling water from the households.
- *Financial Capital:* They have income from practising UA
- *Physical capital:* Rented house; farming equipments
- *Social Capital:* They work as a group, Participating in the collection of money for the time the death of the family member ' Ider'and ' Ekub' traditional saving;
- *Human Capital:* They have seventeen percent illiterates, and 83% of them are primary and secondary education label, but they all are trained skilled labour on UA and related skills by the Sub-city agriculture experts.

Policy and institutions:

- The Federal Government of Ethiopia and the Addis Ababa City Administration through the Ministry of Agriculture and Natural Resources have a strategy to promote and support UA.

Livelihood strategy:

- They organise themselves in groups and request land for UA from the sub-city; they engage in practising UA as the livelihood strategy to escape from chronic poverty and poorly paid non-skilled labour.

Livelihood outcomes:

- A better household food consumption due to their UA activities with income for the sale of UA produce.
- They have developed networks with others to engage in UA and are pro-active members of local institutions such as the 'Ider'and 'Equip.'

Summary Findings

The urban poor practising UA as a livelihood strategy has a good household food consumption, more income and improved social capital as compared to UPSNP households who are not involving UA.

UPSNP households involved in informal urban agriculture have a better asset base and a more productive livelihood strategy as compared to UPSNP beneficiaries not involved in UA. UPSNP households involved in UA also mentioned having good security situation food security. As the respondent during the focused group discussion said that *‘our involvement in UA has made it easy for us to include vegetables in our diets; and sell some for income to meet our obligation with’ Ider’ and ‘Eqube’*.

The UPSNP beneficiaries not involved in urban agriculture have a poorer asset base and more marginal livelihood strategies resulting in poorer livelihood outcomes. These households also face increased prices for food and non-food items as well as an increase in house rent which they find increasingly hard to afford.

4.3 Impact on Food and Nutrition Security

This section answers the sub-research question: ‘What is the impact on food and nutrition security of the urban poor practising UA and UPSNP beneficiaries?’ It answers this question by looking at and comparing the three different household groups (urban poor involved in UA, UPSNP poor involved in UA and UPSNP poor not involved in UA).

4.3.1 FCS Scores and Dietary Diversity

For each of the three groups the Food Consumption Scores were recorded and analysed following the criteria and guidelines as suggested by the WFP (2008).

This study adopted the cut-off points as recommended by the WFP for classifying people as ‘poor’, ‘borderline’ and ‘acceptable’ regarding their food consumption. Apart from administering the FCS to the in total 45 households, three FGDs were done to explore further issues related to food consumption.

Unfortunately, UPSNP has not undertaken a baseline of the food consumption of UPSNP beneficiaries which means that the FCS findings could not be used to look at changes in the food consumption of UPSNP beneficiaries. So, the use of the findings was limited to comparing differences in household food consumption between the three main groups.

A. FCS of poor UPSNP HHS practising UA informally

FCS outcomes

Based on the information provided in table 5 below the food and nutrition consumption of Nifas Silk lafeto sub-city (Wereda 5) peoples under UPSNP and practising UA informally. Data were collected using the FCS data collection instrument with scores being calculated for each household. Of the 15 people/households FCS respondents thirteen had an ‘acceptable’ score and only two were found to be ‘borderline’ regarding their food consumption. This means that around 87% of the UPSNP beneficiaries who are practising UA informally demonstrated acceptable food consumption levels.

Table 5 provides data on dietary diversification of the poor HHS practising UA informally. It shows they consume a variety of different food groups including vegetables/leaves. Households mentioned that they consume vegetables grown in their gardens.

Table 5. Food Consumption Score of the urban poor involved in UA (Nifas Silk lafeto, Wereda 5)

Clu star	FCS	Mean number of days (out of seven) food group consumed by households									Classification based on the cluster description
		Stapl es	Puls es	Meat	Milk products	Milk in Tea	Vegetable oil	Vegetable leave	Fruits	Sweet or Sugar	
1	35	7	4	0	0	0	7	3	0	3	Borderline
2	35	7	5	0	0	0	6	2	0	2	
3	37	7	5	0	0	0	7	1	0	7	
4	37	7	5	0	0	0	7	1	0	7	Acceptable
5	39	7	5	0	0	0	7	3	0	7	
6	39.5	7	7	0	0	0	7	0	0	2	
7	40	7	6	0	0	0	7	1	0	7	
8	40.5	7	7	0	0	0	7	1	0	2	
9	40.5	7	7	0	0	0	7	1	0	2	
10	41	7	6	0	0	0	7	2	0	7	
11	41	7	6	0	0	0	7	1	1	7	
12	42.5	7	7	0	0	0	7	2	0	4	
13	44	7	6	1	0	0	7	0	1	7	
14	52	7	7	1	3	0	7	3	3	7	
15	60	7	6	0	3	7	7	7	2	7	

During FGD the participants mentioned that their access to food changed because of the benefits they got through the UPSNP. Because of this support, they were able to start producing and consuming vegetables.:

'We are practising UA informally, but it helps us to be able to eat varieties of vegetable from our own produce which is much cheaper than buying from the market. We also sell our vegetables to the surrounding households and generate income and save it in the name of the members.'

photo 2 When Informal production of vegetable divided among the members in Nifas Silk lafeto area / Wereda 5/



Source: field work, 2018

B. FCS of poor UPSNP HHs not practising UA

FCS Outcomes

From the finding below table 6 in Nifas Silk lafeto sub city/Wereda2/, among the respondent 11 respondents that were interviewed and were classified under the category 'acceptable'.

Table 6. Food Consumption Score UPSNP beneficiaries involved in UA (Nifas Silk lafeto area, Wereda 2)

Cluster	FCS	Mean number of days food group consumed by cluster									Classification based on the cluster description
		staples	Pulses	meat	Milk products	Milk in Tea	Vegetable oil	Vegetable leave	Fruits		
1	24	7	2	0	0	0	1	0	1	7	Borderline
2	30	7	3	0	0	0	7	0	1	7	
3	30	7	3	0	0	0	7	0	0	7	
4	30	7	3	0	0	0	7	0	0	7	
5	30	7	3	0	0	0	7	0	0	7	
6	32	7	4	0	0	0	7	0	0	5	
7	33	7	4	0	0	0	7	0	0	7	
8	33	7	4	0	0	0	7	0	0	7	
9	35	5	5	0	1	0	6	0	0	6	
10	35	7	5	0	0	0	6	0	0	6	

11	36	7	5	0	0	0	7	0	1	2	
12	39	7	6	0	0	0	7	0	0	7	
13	39	7	6	0	0	0	7	1	0	7	
14	45	7	6	0	1	0	7	1	1	7	
15	48	6	7	2	0	0	7	0	0	7	

During the FGD, the majority of participants mentioned that accessing vegetable and fruits is very difficult because the money they get from UPSNP public work is not enough to do so. Beneficiaries said they are trying to get additional income source, but it was not easy. One of the participants of the FGD stated:

‘We are trying to get another job to get more income, but it is difficult for us. we spend half of the day on public work and during the rest of the day finding a job is not easy because most of the labour /non-skilled / are started early in the morning.’

In the group discussion, the UPSNP beneficiary was asked if they are engaging in other income-generating activities other than participating in public work which is provided by the government. They mentioned that they have engaged in the different activities such casual labour, injera baking, cloth washing, and some were begging as a source of income.

Photo 3. Interview on the FCS of the household of Nifas Silk lafeto sub-city (werda 2)



Source: Author 2018

To sum up during the Focused Group Discussion with the two groups under the UPSNP (poor under UPSNP practising UA informally and UPSNP participants not involved in UA), the researcher raised the question how they spend the money they get from the conditional cash transfer program of UPSNP. Most of the participants replied that the program helped them in improving several aspects of their live:

Income: through UPSNP a slight increase in income which used for house rent and they save 20% of the money which leads to changing their habit of saving.

Socially: The conditional cash transfer they receive through participating in public works change their social status in the society because they have access to a permanent source of income and can, therefore, participate in the traditional saving systems “Eqube”.

Psychologically: The beneficiaries through the cash transfers are enabled to participate in the social gathering and traditional ways of helping each other which called “Idir” which lead to increase self-esteem and satisfaction among the beneficiaries.

Food Security: According to UPSNP respondents not involved in UA, the household consumption of food is not changed’ due to the constant increase in house rent and food prices; One participant was explaining:

‘The landlords think the government is giving us a lot of money and the house rent is increased since we are under the UPSNP’ the respondent also mentioned that ‘the landlords call us ‘government children.’ We don’t want to be homeless. Therefore, we add the money asked by the landlord; then the money will not be enough even to buy the staple food injera. Working every day change our social status in the society’.

The above problem is also common with the UPSNP beneficiaries who are practising UA, but their household food consumption has changed due to the vegetables they get from informal UA practice.

These insights regarding the impact of the UPSNP on the beneficiaries were shared during the Key Informant Interview with the World Bank. The World bank person replied food security and saving. Therefore beneficiaries have got the food access due the income they generate through public work and their children’s enrollment to schools has improved as well as their ability to buy fixed assets like household furniture; they have developed the habit of saving and they save 20% of their income from public work; they become socially respected people because of the society perception that they got a fixed income, therefore, they are including traditional saving which is called ‘Equip’.

The key informant also stated the objective of the UPSNP was for the cash transfer to improve UPSNP beneficiary’s food security and saving; the beneficiaries spend the money also on social issues and housing improvement.

C. FCS of urban poor practising UA as a livelihood

FCS Outcomes

The third group interviewed are poor households practising UA as their livelihood and are not involving UPSNP. 11 out of 15 respondents are in acceptable classification, and only 4 have borderline food consumption score (see table 7). And their seven days of food consumption varied during the time of the interview, and 4 out of 15 interviews are in the borderline classification.

From table 7, one can see the food groups consumed are more diverse as compared to the UPSNP households the urban poor involved in UA have high vegetable consumption, and some for them also

consume fruits. For some meat and milk also, are part of their dietary due to the increase in their income from selling their agricultural production. All households mentioned that they consume the vegetable and fruits they produce in their agriculture field.

Table 7. Food Consumption Score UPSNP Households involved in UA (Kolfe Keraniyo, Woreda).

Cluster	FCS	Mean number of days (out of seven) food group consumed by cluster									Classification based on the cluster description
		Staples	Pulses	Meat	Milk product	Milk in Tea	Vegetable oil	Vegetable leave	Fruits	Sweet or Sugar	
1	31	7	3	0	2	0	7	3	0	7	Borderline
2	32	7	2	0	0	0	7	5	0	7	
3	33	7	3	0	0	0	7	1	1	7	
4	34	7	3	0	0	0	7	4	0	7	
5	40	7	6	0	0	0	7	1	0	7	Acceptable
6	44	7	7	0	0	0	7	2	0	7	
7	46	7	7	0	0	0	7	2	1	7	
8	46	7	7	0	0	0	7	4	0	7	
9	46	7	7	0	0	0	7	3	1	7	
10	47	7	7		1	0	7	1		7	
11	51	7	7	1	7	0	7	2	1	4	
12	56.5	7	7	2	7	0	7	2	1	7	
13	57.5	7	7	1	3	0	7	3	0	0	
14	59	7	7	2	1	0	0	5	0	7	
15	59	7	7	1	3	0	7	1	3	7	

From the FGD it showed that the reason they have a variety of food was their engagement in UA. Most of what is produced goes to household consumption and the surplus is sold in the nearby market serving as a source of income for the household.

During the group discussion with the poor practising UA, most of the participants expressed that UA positively contributed to:

Food Security: Majority if their production goes to their household consumption, they use the vegetable production such as kale, carrot, spinach for the home consumption which improved their food insecurity in the household.

Income: The surplus production of crops is sold to nearby local markets contributing to their income. These crops include vegetables and “Enset” (false banana).

Socially: Practicing UA as a group increase their social interaction with different members of the group and the meeting for social gathering and helping each other through the traditional way which is “Eqube” and “Ider.”

In the focus group discussion, the urban agriculturalist was asked if there is another income source they have other than urban agriculture. They mentioned that they engaged in different income generating activities such as casual labour, non-skilled jobs and they also get support from relatives.

photo 4 UA area practice in Kolfe Keraniyo sub city



Source: Author 2018

Summary Findings

It is observed that, of all three groups, none of them were classified under the “poor” category but on the “borderline” and “acceptable”. However, the two set of groups (those on UPSNP and practices UA and those who are not on UPSNP but engages in UA) have a similar consumption pattern of food groups which include meat, milk and eggs with those on UA and UPSNP having vegetables as part of their diet and therefore recorded higher scores than the rest.

4.3.2 Comparison between Groups

Comparison of the FCS between urban poor and UPSNP beneficiaries involved in UA

Table 8 presents the comparison between the poor involved in UA and the UPSNP beneficiaries involved in UA. Food consumption amongst the households is acceptable to 13 out of 15 UPSNP and 11 out of 15 non PSNP households. This means that receiving resource transfers under the UPSNP and being involved in UA results in good food consumption scores when compared to the urban poor involved in UA.

This is an interesting finding as UPSNP beneficiaries are amongst the poorest of the poor but that their food consumption can be compared to less poor urban people involved in formal UA.

Table 8 FCGS of urban poor (wereda 2 of Nifas Silk Lafeto sub city) and UPSNP participants (wereda 5).

Food Consumption Group	Nifas Silk lafeto sub city under UPSNP.	
	Number of Respondents	
	Non UPSNP (Wereda 5)	UPSNP (Wereda 2)
Poor	-	-
Borderline	4	2
Acceptable	11	13

Comparison Food Consumption Score (FCS) between UPSNP beneficiaries involved in UA and those not involved in UA

As can be seen from table 9 there is a marked difference between food consumption comparing UPSNP beneficiaries involved UA with those who are not. For those involved in UA 13 out of 15 households have an 'acceptable' food consumption as compared to only 4 out of 15 for those not involved in UA!

Table 9. FCS of PSNP households involved in UA and those who are not.

Food Consumption Group	Mekanisa lafeto sub city under UPSNP.	
	Number of Respondents	
	Involved in UA (wereda 2)	Not involved in UA (wereda 5)
Poor	-	-
Borderline	2	11
Acceptable	13	4

Source: Author 2018

During the Focus Group Discussion with the two groups under the UPSNP the researcher raised the question how the conditional cash transfers, by participating in the UPSNP, helped them regarding their food security. The UPSNP involved in UA see a clear link with receiving transfers and being involved in UA as contributing to improved food security.

The link between resource transfers and their contribution to improved food security for those not involved in UA was much clear. According to one UPSNP respondent not involved in UA the household food consumption is not improving due to the constant increase in house rent and food prices:

'The landlords think that the government is giving us a lot of money and they are increasing the house rent since we are under the UPSNP! The landlords call us 'government children.' Since we can't afford to be

homeless, we add the money asked by the landlord, but that means that it will not be enough even to buy the stable food injera’.

The above problem is also common with the UPSNP beneficiaries who are practising UA, but their household food consumption has improved due to the vegetables they get from informal UA practices and the sale of their produce in local markets.

These insights regarding the impact of the UPSNP on the beneficiaries was shared during the key informant interview with the World Bank. The World Bank person replied that UPSNP beneficiaries’ access to food is guaranteed through the UPSNP cash transfers. The World Bank person added that the cash transfer is not only aimed to improve the UPSNP beneficiary’s food security but that also allows saving and spending money on housing and house improved as well as participation in social activities.

During the FGD with the UPSNP beneficiaries they were asked what other benefits, besides food security, they gained from their participation in the UPSNP. Most of the participants replied that the program helped them in improving several aspects of their live:

- **Financially:** through UPSNP a slight increase in income was experienced but which increased expenditure on house rent and food items.
- **Socially:** The conditional cash transfer they receive through participating in public works change their social status in the society because they have access to a permanent source of income and can therefore participate in the traditional saving systems ‘Equp’; most households are able to make some savings and for some up to around 20% of the resource transfer value.
- **Psychologically:** The beneficiaries through the cash transfers are enabled to participate in the social gathering and traditional ways of helping each other which called “Idir” which lead to increase self-esteem and satisfaction among the beneficiaries.

Summary Findings

Not one of the 45 households were found to have ‘poor’ food consumption (a FCS score under 21). For the urban poor involved in UA and the UPSNP involved in UA, the far majority of households were found to have an ‘acceptable’ food consumption

The impact on food and nutrition security of the urban poor and the UPSNP involved in UA appears to be significant particularly through home-consumption of the produced vegetables and the income they make by selling the surplus in local markets.

The UPSNP beneficiaries not involved in urban agriculture report a significantly lower food consumption score with a majority of the households having a ‘borderline’ food consumption. The impact of the UPSNP resource transfers on food security is limited particularly so as the cost of housing are up and food items are getting more expensive.

4.4 Current challenges faced by those involved in urban agriculture

This section answers the second sub-research question: ‘What are the current challenges faced by the poor (non UPSNP beneficiaries) involved in urban agriculture and UPSNP beneficiaries involved in informal urban agriculture in Addis Ababa?’

To answer this second sub-research question the researcher used Key Informant Interviews, making use of a semi-structured interview, and Focus Group Discussions with practising UA.

4.4.1 Challenges Experienced by Urban poor involved in UA

Findings of the key informant interview found that there are some key challenges faced by the group of urban poor involved in formal UA. The key challenges, presented in order of decreasing importance, are:

- **Lack of water:** except for cultivation along the river-side areas, year-round horticulture production is limited by water availability and its quality. Beneficiaries mentioned that use of the quality of recycled water they use for cultivation during the dry season has a negative impact on their health. in the FGD they said most of them sick their eyes and skin disease. Though the water is approved by the authority its safe for use to the cultivation of vegetable and fruits and does not harm to human health.
- **Water pollution:** According to a study done by the Addis Ababa City Administration's Office of Urban Agriculture (AACA 2017) river water in the city, in particular at the lower parts of the city's catchment areas being the outskirts of Addis Ababa city, is heavily polluted by industries as well as contaminated by domestic solid and liquid waste. A majority of horticultural crop production is conducted along side the river using river water for irrigation.
- **Pest and diseases:** Occurrence of crop pests and diseases affects the production and productivity of the horticultural crops.
- **Seasonal floods:** Particular at the lower catchment areas of the city crops are damaged following small river floods following heavy rains.
- **Lack of technical support:** Those involved in urban agriculture lack technical support from the Urban Agricultural Expert such as expert advice on how to do different fruits cultivation, how to produce more with quality.
- **Land ownership:** There is the interest of conflict between the people practising urban agriculture and the Addis Ababa City Environmental Protection Authority on which land to use for UA. In the words of one of the participants of the FGD:
'We are organized and given the land by the sub-city and start working on our plantation, and then Addis Ababa City Environmental Protection Authority came and stopped us. We were forced to stop our production for some time and with the effort of the sub-city administration, we could able to continue our work. Still, ownership of land is a big constrain on practising UA.'
- **Theft:** The farmers face a challenge of stealing of their produce and that of their tools because the gardens are not enclosed.

4.4.2 Challenges Experienced by UPSNP HHs Involved in UA

The key challenges faced by the practitioners of UA are (in order of decreasing importance):

- **Land ownership:** Land is a major challenge to those practising UA especially because they have no ownership over it and the sub-city administration does not permit them to own land. As it's stated by the one of the respondent in the FGD: '
'we are using the public land by the river side and the land we suppose to clean and prepare for greenery in our area, we don't have assigned open land to do our production.'

- **Access to agricultural inputs:** The respondents stated they have a shortage and accessibility of seeds since UA has no recognition by the government and therefore they do not receive assistance by the city's Office of Urban Agriculture (OUA). They manage by asking some contribution from the members which is not continuing and sustainable for their production in the future.
- **Farm tools:** The respondents stated that it was difficult for them to find good quality farm tools and that they did not get support in this from the OUA. A respondent from the FGD stated :
'We don't have our own tools to use we used the some of tools from UPSNP and we used some of the cash from the UPSNP transfers to buy tools at local markets.'
- **Water for irrigation:** The respondent during FGD explained they are using river water during the raining season and that there is no other source of water to cultivate and this affects the sustainability of their production. One man who practicing UA informally explained;
'Our effort to get out of poverty and help ourselves in producing different kinds of vegetables is not supported by anyone. Yes the UPSNP helps us to work every day and get income but the money coming to us is not enough. We work, we clean the area and we bought seeds from the money of our food and produced the vegetables ... we need support from the government to maximize our efforts.'

Summary findings

Those involved in urban agriculture experience some challenges and the key challenges are different when comparing the poor involved in urban agriculture and the UPSNP households involved in UA. For the urban poor engaged in formal urban agriculture, the three most important challenges (in order of decreasing importance) are; water for year-round cultivation, pollution of river water and crop pests and diseases. For the UPSNP beneficiaries are (also in order of decreasing importance): land ownership or control over land, accessing agricultural inputs and acquiring tools.

This means that for promoting UA for UPSNP beneficiaries the issue of access to and control over land for their gardens is of key importance followed by having access to tools and inputs for UA. And if these are solved UPSNP households are likely to face other key challenges in line with those currently involved in formal UA; challenges having to do with availability of good quality water and pests and disease management.

4.5 Understanding /Perception of key Actors on promoting UA through UPSNP

This section provides an answer to the third sub-research question: 'How do important stakeholders and actors in the Urban Productive Safety Net Programme, such as the World Bank and FAO, think about the potential of urban agriculture as part of the UPSNP?'.

Key informant interviews were held with representatives of three agencies. As part of these interviews the researcher shared her findings of working with the three sample groups to allow for in-depth discussions.

Federal Urban Job Creation and Food Security Agency (FUJCFSA)

The FUJCFSA representative stated that for UPSNP to promote UA as an employment generation scheme is against the UPSNP program implementation manual. The UPSNP does not consider the involvement of its beneficiary target groups to involve themselves in horticultural farming and crop production nor UA as an income generating activity. UPSNP would therefore not create favourable conditions for beneficiaries to involve themselves in UA.

According to the FUJCFSA representative promoting UA as part of the UPSNP would create two sources of income for beneficiaries from the same public resource and this would create inequality amongst UPSNP beneficiaries.

The FUJCFSA representative did mention that the agency would be open to undertaking site visits to study the situation of UPSNP beneficiaries involved in informal UA and to see if there should be a form of support.

World Bank

The key informant interview with the World Bank staff revealed that the World Bank's opinion is that UPSNP design does not allow including other income generating activities because the public works people are involved in are limited to road cleaning, cleaning out ditches and work on greenery work as work for receiving conditional cash transfers. The World Bank person did mention that PSNP beneficiaries could involve themselves in work to create favourable condition for urban agriculture for those people will participate in urban agriculture after their graduation from the program.

Another important point mentioned by the World Bank is that 'double payment' among those who are doing public work activities and practice urban agriculture will create inequality amongst UPSNP beneficiaries. The World Bank person did mention that he believed that UA as the sector has an important role to play in contributing to the food and nutrition security of the city's poor.

FAO

The key informant from FAO stated since the main objective of the UPSNP is improving the food security of its beneficiaries UPSNP should consider urban agriculture. FAO is of the opinion that UPSNP should look at possibilities to integrate urban agriculture activities with UPSNP implementation modalities before beneficiaries' graduation from the program. FAO suggests that UPSNP should create options for UA and adapt the UPSNP's Programme Implementation Manual to make it more conducive for promoting UA thereby reducing UPSNP design contradiction and beneficiaries grievances.

Summary findings

All three of the key informants acknowledge the benefits of UA in contributing to food security among UPSNP beneficiaries. However, both the FUJCFSA and the World Bank strongly disagree in promoting UA as part of the UPSNP before graduation stating that inequality amongst beneficiaries would create conflict. The FAO person strongly supports the promotion of UA as integral part of the safety net program because it could act as a graduation pathway out of the UPSNP.

Since the FAO official strongly supports the idea of UA FAO could act as a window of opportunity for debate to promote opportunities for UA through the UPSNP. An important aspect in this discussion is how to avoid inequality and reduce the potential for conflict amongst PSNP beneficiaries.

4.6 Requirements and approaches to promote UA through UPSNP

This section answers the fourth and last sub-research question: ‘What are the requirements and approaches for the UPSNP to promote urban agriculture amongst UPSNP beneficiaries in ways that increase their food and nutrition security?’.

Federal Urban Job Creation and Food Security Agency (FUJCFSA)

The representative from FUJCFSA mentioned that they could accept and witness the informal practice of urban agriculture/horticulture by the beneficiaries of the UPSNP.

Asking about requirements and approaches to include UA in UPSNP the government official mentioned again that practising UA formally would be against the UPSNP PIM because it creates dual payments or benefits from a public resource. And also that it would discriminate between beneficiaries with those involved in informal agriculture benefitting from their production. After graduation involved in UA would be no problem.

Seeing the importance and potential contribution of urban agriculture the FUJCFSA official said that it would need a profound assessment of the existing situation and that the potential of UA should be further explored including options, for implementing UA related activities as part of UPSNP, in such a way that it would discriminate and raise tensions and potential conflict.

The World Bank

When asked what needs to be done to include urban agriculture as an integral part of the UPSNP some suggestions were made.

It would need a review on the practice of urban agriculture by UPSNP beneficiaries which could lead to re-designing the UPSNP PIM. One consideration here could be that those involved in horticultural production before UPSNP graduation from the program should provide institutions supporting elders, orphans and disadvantaged groups with vegetables.

Since land for gardening is a limited resource in urban areas, especially in densely populated cities like Addis Ababa, the potential for UA is limited. The government should decide on what land is available for UA.

Apart from this the World Bank person mentioned that UPSNP beneficiaries could be engaged in UA activities, as other UPSNP beneficiaries are engaging themselves in other income-generating activities outside the public works programme.

FAO

The FAO key informant is of the opinion that whatever needs to be done to promote urban agriculture amongst the poor as part of the urban safety net programme should be done. Since the main objective of urban productive safety net program is improving the food security of the beneficiaries and urban agriculture should also play an important role in improving food security.

According to FAO, it should be possible to integrate urban agriculture activities within the UPSNP framework and well before beneficiaries’ graduation. This could be done by setting options and carefully drafting the implementation guideline to reduce UPSNP design contradiction and beneficiaries grievances.

Summary Findings

As such all three institutions acknowledge the potential contribution UA as part of the UPSNP in contributing to improved food security. FUJCFSA and the World Bank strictly adhere to the programme implementation manual being concerned about discriminations amongst UPSNP beneficiaries and the potential for conflict.

FAO is very supportive of the idea to promote UA as an integral element of the UPSNP and to set up a constructive dialogue between the three agencies based on the current practice of informal UA by UPSNP beneficiaries is essential.

CHAPTER FIVE: DISCUSSION

This section discusses the results of the findings with the related literature.

5.1 discusses the findings of this study on the impact of urban agriculture on the food and nutrition security vis-a-vis the existing literature. Section 5.2 discusses the challenges faced by those in UA vis-à-vis the literature. Section 5.3 discusses the challenges faced by those involved in UA and 5.4 the requirement and approaches to promoting UA through UPSNP, all of this by reflecting on the findings of this research with the existing literature.

5.1 Impact on Food and Nutrition Security on the Urban Poor & UPSNP Beneficiaries

This study found that the poorest of the poor amongst the urban population can successfully engage in urban agriculture. This means that, in line with Arroyo-Rodriguez and Germain's finding that involvement of the poor in urban agriculture offers the opportunity for people to come together to create productive urban green spaces, in forms such as community gardens, urban farms, and edible landscaping (Arroyo-Rodriguez and Germain, 2012).

This study also found that involvement in UA by UPSNP beneficiaries provided opportunities to engage in small saving and loan associations such as in the 'Idir' and 'Equip'. Participation in these saving and loan associations give UPSNP beneficiaries social respect and have boosted their self-esteem since they can make contributions at social gatherings. These findings are also in line with Arroyo-Rodriguez and Germain (2012) who found involvement of the urban poor in urban agriculture enhances community engagement and inclusiveness in urban neighbourhoods.

This study found that, in line with Arroyo-Rodriguez and Germain, that involvement of the urban poor Can help people overcome various personal or cultural obstacles, such as age, ethnicity, class or gender, while instilling environmental pride around them. (Arroyo-Rodriguez and Germain.

This research found that the urban poor (not being UPSNP beneficiaries) and the UPSNP practising UA both have an acceptable food consumption score as opposed to the UPSNP beneficiaries not involved in urban agriculture. This finding is in line with FAO's finding (FAO, 2010) that involvement in urban agricultural production is generally geared towards consumption within the household. The food security benefits of engaging in urban agriculture materialize mostly through direct availability of nutritious food.

This study also found that the urban households engaged in farming activities tend to consume a wider range of food groups; they have a more diversified diet as compare to UPSNP households not involved in urban agriculture. The FAO study found that higher consumption of vegetables, fruits and meat products translates into an overall higher intake of energy (FAO, 2010).

This study also found that the involvement of UPSNP beneficiaries in urban agriculture not only improved food consumption but also enable household to sell surplus production at local markets. This finding is supported by the 2017 annual report of AACA which found that the involved in the urban

agriculture sell surplus production to the nearest market increasing their income. The AAUA yearly report also found that both food availability and food access of those involved in urban agriculture was better as compared with communities do not engage in urban agriculture (AACA,2017).

With regard to the improvement of food consumption in UPSNP households this study found that there is a significant difference between households involved in UA and those who were not. It is interesting to note that food consumption amongst UPSNP households not involved in urban agriculture is significantly poorer as compared to UPSNP households involved in urban agriculture. A very interesting finding of this study is that the food consumption of the PSNP households not involved in urban agriculture is suffering at the expense of higher rents and costs of living. So far no research has been done amongst Ethiopia's UPSNP households on this.

5.2 Current Challenges Faced by Those Involved in UA

Kebede (2011) has observed that the main challenges of people involved in UA in Addis Ababa are tenured insecurity, high price insecurity, shortage of irrigation water, lack of good quality farm equipment, crop losses from pests. Diseases, pollution of water, and night theft.

All of these challenges are confirmed by this study. However, this study found that the priority of the key challenges is different for the urban poor involved in formal UA as compared to the UPSNP beneficiaries involved in informal UA. For the urban poor involved in formal urban agriculture, as mentioned in chapter 4, the three most important challenges (in order of decreasing importance) are water for year-round cultivation; pollution of river water, and; crop pests and diseases. For the UPSNP beneficiaries the key challenges are (in order of decreasing importance): land ownership or control over land; accessing agricultural inputs, and; acquiring tools. So, for the promoting UA for UPSNP beneficiaries, the issue of access to and control over land for their gardens is of key importance followed by having access to tools and inputs for UA. And if these are addressed the UPSNP households are likely to face other key challenges in line with those currently involved in formal UA.

Lack of access to land is thus a major challenge to the viability of urban agriculture, in particular for the poorest of the poor as highlighted by the findings of this study. Urban growth intensifies competition for land among industrial, commercial, residential and agricultural uses. A study by Kebede showed that for those involved in urban affordable micro-credit and financing would support more capital investment to improve their production system and lack of access to appropriate training and extension services (Kebede,2011).

Another key challenge also identified by this study is the dependence on water for production of vegetables. The UPSNP participants involved in UA have realised that poor quality water from rivers poses a problem which compromises the quality of their products. A study by AACA Urban Agriculture Office also identifies this problem. (AACA,2017).

The study found that UPSNP beneficiaries involved in UA face the challenge to acquire good quality inputs including tools and seeds. This challenge highlights the finding by the World Bank that urban agriculture is performed under specific conditions that require technologies and organizational and marketing models different from those used in the rural agricultural context (World Bank, 2013).

5.3 Understanding & Perception of Key Actors Promoting UA through the UPSNP

All three of the key informants acknowledge the benefits of UA in contributing to food security among UPSNP beneficiaries. However, both the FUJCFSA and the World Bank strongly disagree in promoting UA as part of the UPSNP before graduation stating that inequality amongst beneficiaries would create conflict. The FAO person strongly supports the promotion of UA as an integral part of the safety net program because it could act as a graduation pathway out of the UPSNP.

Since the FAO official strongly supports the idea of UA FAO could act as a window of opportunity for debate to promote opportunities for UA through the UPSNP. An important aspect in this discussion is how to avoid inequality and reduce the potential for conflict amongst UPSNP beneficiaries.

Though different research affirms that urban households that are involved in urban farming or gardening have better and more diverse diet and consume more vegetables than non-farming households of the same wealth class and these households are in most cases more food secure than households that are not practicing urban agriculture; In addition to this producing one's own food provides benefits for the urban farmers in monetary saving and in freeing up cash for other household expenses, such as water, medicines, rent, schooling and clothing (Marielle et al, 2013 cited in andenet, 2015) .

The main actors of the UPSNP strongly recommended going according to the Program implementation manual which describes urban agriculture as a source of income which is not in line with the idea of public work.

5.4 Requirement and Approaches to Promote UA through the UPSNP

As such all three institutions acknowledge the potential contribution of urban contribution as part of the UPSNP in contributing to improved food security. FUJCFSA and the World Bank strictly adhere to the programme implementation manual being concerned about discriminations amongst UPSNP beneficiaries and the potential for conflict.

FAO is very supportive of the idea to promote UA as an integral element of the UPSNP and to set up a constructive dialogue between the three agencies based on the current practice of informal UA by UPSNP beneficiaries is essential.

Even though the world bank is not supporting the UA to be a part of the UPSNP program, the respondent explained in order to include UA in the UPSNP, the first most important requirement needed is to revise the program to avoid inequality among the beneficiaries .secondly its known that urban areas lack land for practising UA, therefore, Government need to provide Land for UA use since there is a limited land; as is stated in the findings, UA could be used as another source of income for the UPSNP beneficiaries other than public work but not be included as an apart of the SafetyNet program.

The above finding also supported by (Agriculture and Case, 2003) to practice UA in the city naturally, the land is a critical asset for urban agriculture, and its availability, accessibility and suitability are of particular concern to urban farmers. City governments may facilitate access of urban producers to available urban open spaces in various ways. Below we present some measures taken by different cities in the South to enhance access of (mainly poor) urban producers to land and improve their security of

land. Land can be accessible and available for the beneficiaries Integration of urban agriculture in urban land use planning and zoning making an inventory of the available vacant open land within the city, Including space for individual or community gardens in new public housing projects and slum upgrading schemes, Temporal lease of vacant municipal land(Agriculture and Case, 2003).

The second Key informant Form the findings the agency was replying including UA in the UPSNP need more further study and need deep looking at the situation, the agency witness that peoples involving in UPSNP , in public work specially greenery are practising UA and this should not be ignored therefore the agency stated what requirement needed to include UA in the UPSNP , It need deep assessment of the existing situation , the constraints , the opportunity and the method how to integrated UA in the SafetyNet program similarly to the revision of the program can be second option .

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CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions and the recommendations of this research.

6.1 Conclusion

The main research questions this study aimed to address was: “should Ethiopia’s Urban Safety Net Program promote urban agriculture?”. The main research questions can be answered through the four sub-research questions.

The Impact on Food and Nutrition Security of UA by the Urban Poor

Not one of the 45 households were found to have ‘poor’ food consumption (an FCS score under 21). For the urban poor involved in UA and the UPSNP involved in UA, the far majority of households were found to have an ‘acceptable’ food consumption

The impact on food and nutrition security of the urban poor and the UPSNP involved in UA appears to be significant particularly through home-consumption of the produced vegetables and the income they make by selling the surplus in local markets.

The UPSNP beneficiaries not involved in urban agriculture report a significantly lower food consumption score with a majority of the households having a ‘borderline’ food consumption. The impact of the UPSNP resource transfers on food security is limited particularly so as cost of housing are up and food items are getting more expensive.

Current Challenges of Involvement in UA

Those involved in urban agriculture experience some challenges and the key challenges are different when comparing the poor involved in urban agriculture and the UPSNP households involved in UA. For the urban poor engaged in formal urban agriculture, the three most important challenges (in order of decreasing importance) are; water for year-round cultivation, pollution of river water and crop pests and diseases. For the UPSNP beneficiaries are (also in order of decreasing importance): land ownership or control over land, accessing agricultural inputs and acquiring tools.

This means that for promoting UA for UPSNP beneficiaries the issue of access to and control over land for their gardens is of key importance followed by having access to tools and inputs for UA. And if these are solved UPSNP households are likely to face other key challenges in line with those currently involved in formal UA; challenges having to do with availability of good quality water and pests and disease management.

Stakeholders Thoughts on the Potential of Urban Agriculture as part of the UPSNP

All three of the key informants acknowledge the benefits of UA in contributing to food security among UPSNP beneficiaries. However, both the FUJCFSA and the World Bank strongly disagree in promoting UA as part of the UPSNP before graduation stating that inequality amongst beneficiaries would create conflict. The FAO person strongly supports the promotion of UA as integral part of the safety net program because it could act as a graduation pathway out of the UPSNP.

Since the FAO official strongly supports the idea of UA FAO could act as a window of opportunity for debate to promote opportunities for UA through the UPSNP. An important aspect in this discussion is how to avoid inequality and reduce the potential for conflict amongst PSNP beneficiaries.

[Requirements and Approaches for the UPSNP to Promote Urban Agriculture.](#)

As such all three institutions acknowledge the potential contribution UA as part of the UPSNP in contributing to improved food security. FUJCFSA and the World Bank strictly adhere to the programme implementation manual being concerned about discriminations amongst UPSNP beneficiaries and the potential for conflict.

FAO is very supportive of the idea to promote UA as an integral element of the UPSNP and to set up a constructive dialogue between the three agencies based on the current practice of informal UA by UPSNP beneficiaries is essential

Therefore, one can conclude that, practising UA among the people who are poorest of the poor directly improves their food consumption and changes their food insecurity in the household. And this is so, because most of the produce goes for the household consumption and the surplus is a source of income for the household so the agency should consider UA to promote in the UPSNP before graduation from Safety Net program and make further inquiry on how to include UA in the UPSNP.

6.2 Recommendation

Based on the findings of this research the following recommendations can be made.

For MUDHo and FUJCFSA

FUJCFSA as the main government agency in the UPSNP, is required to consider the revision of the UPSNP Programme Implementation Manual to include the formalisation of UA as an alternative intervention based on the findings to help improve the food and nutrition security of the people.

FUJCFSA should liaise with the main donor (WB) and other interested groups to consider the practice of UA by beneficiaries of UPSNP who potentially can benefit from UA to improve on their food and nutrition security.

There should be financial incentives from the government to those who are practicing UA informally under UPSNP because it has shown to have potential for improving food and nutrition security and may, if planned well, boost food availability amongst the poorest in the city. The researcher recommends that, the ministry should look for partners, including the technical expertise of FAO, to support those UPSNP beneficiaries with UA where potential exists.

The FUJCFSA and MUDHo in collaboration with the Addis Ababa City Administration should help facilitate access of the poor vegetable producers to use available unused open government and or state lands marked for future infrastructural development but not yet in use. Likewise they should consider setting aside land along side rivers, unsuitable for construction, apart for UA use. The City Administration can use community mapping, GIS and participatory mapping in order to identify potential areas for UA.

The agency with the collaboration of AACA and Environmental Protection Agency should organize the poor participating in the UA and to grant UPSNP beneficiaries to access the clean and safe water for irrigation, such as in the Mikililand area of Addis Ababa, using recycling water.

The most powerful and practical way the Sub-city can support urban agriculture is through the inclusion of regulations on UA in its the area bylaws. Each sub city should develop its own official area plan for UA meaning that urban agriculture can be officially be supported and encouraged in line with the law and the commitment of respective government technical offices.

For World Bank

The main donor WB and FUJCFSA should discuss the existing situation of UA practice by UPSNP beneficiary by developing different options and preparing implementation guidelines to promote UA as part of the UPSNP design and accounting for feelings of discrimination between UPSNP beneficiaries and potential conflict this may arise.

The World Bank should consider reviewing the current Program Implementation Plan based on the lessons of the first phase of the project for the next phase to include Urban Agriculture in the UPSNP. In its review it should pay attention to current informal UA practices by PSNP beneficiaries.

For FAO

As FAO is supporting the practice of UA to secure Food and Nutrient of the poor, it needs to assist the agency through technical and experts toward how to include the UA in UPSNP and financial support for the further development of practising UA.

THESIS RESEARCH REFLECTION

I. Introduction

The reflection of my research project done in Addis Ababa sub-city's, Ethiopia. The main research objective is to get a better understanding of the potential contribution of urban agriculture, as part of Ethiopia's emerging Urban Productive Safety Net Programme (UPSNP), to improve food and nutrition security among poorest of poor in Addis Ababa. The research is conducted in two purposively selected sub-cities in Addis Ababa, Ethiopia. During the process of the study my experience explained as the following:

The objective of the study was to get a better understanding of the potential contribution of urban agriculture, as part of Ethiopia's emerging Urban Productive Safety Net Programme(UPSNP), to improve food and nutrition security among poorest of poor in Addis Ababa and to give Recommendation for Ethiopian's Ministry of Urban Development and Housing (MUDHo).

II. Selection of the Research Topic

The Research Project is for the partial fulfilment of the requirement for Degree of Master of Development (MoD) to Van Hall Larenstein University of Applied Sciences.

During the topic selection period, I ask my organisation, what organisational problem need to be studied. And it was difficult to agree, my organisation need to cover the wider area for exploring and with me, the time and resource I have was not able to do as much my organisation interest, with the discussion I able to convince to narrow the scope of my study. The research was conducted using different methods including desk research, key informants' interview, focused group discussion and observation.

II. Conducting the Research

Steps of the Research	Activities	My role	The relevance of the activity	Challenges	Solution
Research design	<u>Desk research</u> Before going into the field, I did desk study toward the research topic and further investigate related research questions	Searching information on differently related literature and writing up. Preparing research proposal	This activity helped me to be familiarized with the concept of food security, Safety Net program, UA which made how to proceed with the research	I had various documents to read in limited time and to come up with relevant information which enable me to formulate sub-questions which could help to collect accurate information and answer the main question.	By dividing my time based on the topic, I search and get information.
	<u>Conceptual frame and research plan</u> The activity was defining concepts to understand the main question and combine sub-questions and verify whether they are responding to the main question.	By doing desk study to adopted the appropriate conceptual frame work w answer the main which helps to answer the sub research questions	*I have appreciated that I should not generalize and focus on the specific issue(s) and try to find out whether my results /findings are answering my research question(s) *Doing the research proposal very well has a big impact on the later stage of the research, during data collection and writing up of the research report	*Finding exact sub research question and appropriate conceptual frame work to answer my sub research question was difficult.	By seeking advice from my advisor, I could able to see and formulate the appropriate conceptual framework and sub-research questions.

Steps of the Research	Activities	My role	The Relevance of the activity	Challenges	Solution
Field research	<u>Interview</u> 3 KIIs were conducted with the main actors of UPSNP.	I was the interviewer, leading of the FGD and filling up FCS of the participants and took pictures of the area I have been conducting	*Finding I enjoyed most this part because it is the principal part of the success of the research. It showed what kind of challenges a researcher can face during conducting the interview and also how to overcome those challenges.	*Collecting a data was one of difficult experience I had in the process of the research, with the current situation of Ethiopia (Political) all my key informant was busy with meetings, doing the interview makes it difficult.	By going sever times and able to make an appointment with the key infom
	<u>FGD</u> 3FGD with the -group of 5-7 were conducted to find their vulnerability context and their beneficiaries from practising UA and being beneficiaries of UPSNP		*it helps to know how to handle the unintended situation during the research.	* Doing FGD in the first session was challenging because the FGD participant thinks I am government representative. and all they were explaining their problem and not answering the question	*The first FGD I able to stop and explain again my objective of the doing the research and able to mange to group to clear why I am doing FGD and able to do the discussion. ants.

	<u>FCS</u> 45 FCS score were taken from the three groups of respondents Observation: vulnerability context & practice of UA.				
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	<u>Processing</u> Every day I went for the data I got through KIs, FGD, were recorded and FCS were transcribed and put into excel format	My role was to listen to the recordings of the day and try to capture the information and put it in written form	It helped me to capture accurately all information given by the respondent.	The challenging part was arranging the answers and information into sub-research questions.	
	<u>Analysis</u> After gathering all the information, writing the findings and discussion, conclusion and recommendation	I was theming up all the information and put them in the sub-research question and writing up.	This part enabled me to realise that how to write findings and related review literature with the results and write an analysis	I had a challenge of putting in the correct language. Relating the data with the review related literature was another challenge I faced	With strong and persistence direction from my advisor and by re-reading asking my fellow students and referring other researches.

In general, I got the experience and exposure of doing the research, how to handle the unintended situation, how to convince and negotiate with superiors or peoples, how to arrange and organize information, how to extract the information, how to write a report and develop my writing skill. It further develops me to work as a development worker and teach me how to deal with people as a development expert.

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Annex 1. Food Consumption Score.

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Household questionnaire

I. General Information

Name _____ Sex _____ Age _____

Marital status _____ Educational status 1. non formal education ____ 2.

Primary school ____ 3. Secondary school ____ 4. Diploma ____ 5 degree ____ 6. Others ____

Number of family _____

Location _____

II. Food consumption score/FCS/:

I would like to ask you about the different foods that your household members have eaten in the past 7 days. Can you please tell me how many days in the past seven days your household has been eaten these foods (for each food , ask what the primary source of each food as well as second main source of food if there is)

#	Food item	# days eaten in the past week (0-7 days)	Source of food (see codes below)	
			Primary	Secondary
1	Injera or Maize			
2	Bread /wheat			
3	Rice,			
4	Tubers			
5	Groundnuts and pulses/shero/			
6	Fish (eaten as main food)			
7	Fish powder (used for flavour only)			
8	Red meat (sheep /goat /beef)			
9	White meat (poultry)			
10	Vegetable oil, fats			
11	Eggs			
12	Milk and dairy products (main food)			
13	Milk in tea in small amounts			
14	Vegetables (including leaves)			
15	Fruits			
16	Sweets, sugar, honey			

Food source codes

- | |
|--|
| 1. Purchase =1 Own production =2 Traded goods /services, barter =3 Borrowed =4
2. Received as gift =5 Food aid =6 Others (specify) =7 |
|--|

Source; Adopted from FAO Food Consumption Score

Annex 2. Topic List FGDs for Urban Poor practising Urban Agriculture.

1. Vegetable producers'/ association _____
2. Address: City _____ Sub city _____ woreda _____ site _____
3. Number of association members: male _____ female _____ Total _____
4. Command area _____ land availability (Own, communal, delivered by municipal for temporary use, leased, other specify) _____
5. Major vegetable produced _____

6. Source of irrigation water _____ Irrigation water status _
7. Type and source of input used for vegetable growing ?
8. Is there any support from UA and NGOs?
9. if so what types of support?
10. Does urban agriculture serve to your household as a source of income?
11. What is another source of income /available loan/ for you to improve the production from farming?
12. What are the major problems and possible solutions related to the source of water for practicing urban agriculture?
13. What are the major challenges you faced in the past five years in conducting urban agriculture?

14. What are the coping mechanisms conducted to overcome challenges?

Annex 3. Topic list FGDs for UPSNP Households Practicing or Not-Practicing Urban Agriculture.

1. Vegetable producers'/ association _____
2. Address: City _____ Sub city _____ woreda _____ site _____
3. Number of association members: male _____ female _____ Total _____
4. what is the problem you face in the past years in _____
5. As you are under the UPSNP, how do spent money you got through public work?
6. Are there any livelihood improvements in your family, in terms food and feeding habit, house rent, school fee, health expense, buying clothes and house furniture, and other specify?
7. Do you have other source of income other than the money from the UPSNP?
8. What are the challenges you face during practising UA (who practice Urban agriculture informally and are not)?
9. If not why are you not working or creating another source of income?

Annex 4. Topic list Key Informant Interviews.

Name _____

Position _____

Name of the organization _____

Date _____

QS 1 .What is the impact on food and nutrition security of the poor currently involved in urban agriculture and those that benefit from the urban safety net programme? (for Main actors of the FUJCFSA and UA program in Addis Ababa)

Key informant interview -Topic list

1. What is the impact of the UPSNP on food/nutrition security of the poor?
2. How do the poorest of the poor under the urban safety net program spend their money?
Are there any livelihood improvements in in the family, in terms food and feeding habit, house rent, school fee, health expense, buying clothes and house furniture, and other specify?
3. What are the contribution of urban SafetyNet program for food availability, accessibility, utilization and suitability.
4. From the feedback from the respondent they said other source of income is bagging around churches and mosques. As one of the aim is to eradicate the bagging of peoples on the street, what has been done to create awareness to ward dependence and culture of work)

Qs 3. How do key actors in the Urban Productive Safety Net Programme think about the potential of urban agriculture? (for FUJCFSA and World Bank representative)

- 1.Is there urban agriculture practice in sub- city which are under productive safety net program Addis Ababa?
2. Do you have any idea if urban agriculture should be promoted as part of the UPSNP to improve food/nutrient security of the UPSNP beneficiaries?
- 3.Are the actors of UPSNP aware of the potential agriculture in achievement of FNS?
- 4.Is there any effort made so far to incorporate UA in UPSNP?
- 5.What is the existing blue print for implementing urban agriculture to improve food access among urban poor? Are there ideas to include the promotion of urban agriculture as part of the UPSNP to promote food. Nutrition security of UPSNP beneficiaries? Why, why not? Do you see potential for?
- 6.What would be the challenges to incorporate urban agriculture in the actual/existing SafetyNet program?

Qs 4. What are the requirements and approaches for the urban safety net programme to promote urban agriculture amongst the poor in ways that increase their food and nutrition security? (for WB, FUJCFSA and AACA)

- 1.Can or should urban ag be promoted as an element of the UPSNP to improve food/nutrient security of UPSNP clients? Why, why not? Or for particular groups. What is needed to do urban agriculture to be included in the urban safety net program?
- 2.What is needed or required to make urban agriculture as promoted by UPSNP work? For whom / what particular groups within UPSNP.
- 3.What approaches would USPNN adopted to increase House hold food consumption through Urban Agriculture?
- 4.What systems could be deployed in order to make urban agriculture to be effective and efficient for UPSNP beneficiaries?
5. What are the existing situation Such as availability of Land, Finance and Technique support in order to include Urban Agriculture in the Urban Safety Net program?