

UNIVERSITEIT GENT
FACULTEIT POLITIEKE EN SOCIALE WETENSCHAPPEN

**URBAN AGRICULTURE AS A STRATEGY FOR POVERTY
REDUCTION IN UGANDA**

The case of Lira Municipality

Wetenschappelijke verhandeling

aantal woorden: 24912

Eva De Leever

MASTERPROEF MANAMA CONFLICT AND DEVELOPMENT

PROMOTOR: PROF. DR. Koen Vlassenroot

COMMISSARIS: PROF. DR. Anne Walraet

COMMISSARIS: Els Lecoutere

ACADEMIEJAAR 2009 - 2010



Inzagerecht in de masterproef (*)

Ondergetekende,

geeft hierbij toelating / geen toelating (**) aan derden, niet-
behorend tot de examencommissie, om zijn/haar (**) proefschrift
in te zien.

Datum en handtekening

.....

.....

Deze toelating geeft aan derden tevens het recht om delen uit de
scriptie/ masterproef te reproduceren of te citeren, uiteraard mits
correcte bronvermelding.

**(*) Deze ondertekende toelating wordt in zoveel exemplaren opgemaakt als het
aantal exemplaren van de scriptie/masterproef die moet worden ingediend.
Het blad moet ingebonden worden samen met de scriptie onmiddellijk na de
kaft.**

() schrappen wat niet past**

Abstract

Poverty, food insecurity and malnutrition are progressively shifting from rural to urban areas. Urban agriculture (UA) is being recognized as one of the strategies to improve the quality of urban life. This study focuses on the impact of UA to poverty reduction in Uganda, with emphasis on the case of Lira Municipality, a town in the north central region of Uganda. In Kampala, the capital of Uganda, UA has acquired a legal status with the implementation of 5 Ordinances, but elsewhere in the Uganda, it is still being regarded as an illegal activity, since colonial laws have not yet been replaced by new bye-laws to regulate and control the urban farming activities. In order to give a clear picture of the role of UA in the reduction of poverty, some case studies are written out from fieldwork in the Municipality of Lira. The outcomes of this research indicate that UA is a viable intervention strategy for the urban population to earn extra income and save on their food expenditure by growing their own food. The research revealed that UA is an important strategy, not only for the urban poor, but for a wide range of income level households, since formal employment is often not satisfactory enough. Although the local governments are shifting from a restrictive policy to a policy of tolerance, it is needed to revise the old laws and support the urban farmers in a sustainable way, in order to tackle the hardships of the every day urban life.

"Local governments should show a clear commitment to the development of urban agriculture, mobilizing existing local resources, integrating urban agriculture in the municipal structure, expanding it nationwide, and allotting funds from the municipal budgets for carrying out urban agriculture activities."

–Quito Declaration, signed by 40 cities. Quito, Ecuador. April 2000–

Words of thanks

Some words of thanks are in order. This thesis would not have been made without the help and support of many. First of all I would like to thank the University of Ghent for granting me the opportunity to do this fieldwork in Uganda in the interest of my thesis research. In particular I think of my promoter, Koen Vlassenroot, who has been enthusiastic about the choice of this topic from the beginning and guided me through the progress of this thesis. Second, a special thanks to my contacts in Kampala is appropriate. Marjolein Moreaux and Luc Vanhoorickx offered me a place to sleep where I could feel at home and thereby made the adaptation more comfortable. In Kampala, interviews have been conducted in Kampala with several NGO staff and government officials. All of these people have been of major importance for this work. Third, my local guest family, Roselyn Akiiki Emuna and Moses Okello, in Lira Municipality deserve special thanks for giving me sleeping accommodation and hearth warming friendship. In doubtful moments, they were the ones to give me advice and the right support. Further, special thanks goes to the NGO Send a Cow for giving me the opportunity to join interesting trainings and to meet fantastic extension staff. Several Government extension staff guided and assisted me during interviews with urban farmers, who all deserve big thanks. Of course, I would like to thank the urban farmers, who have always been very open to answer all my questions. Other people who made my stay in Lira Municipality are Jennifer Oyuru, Daniel Ekwang and Ben Ocan, who relieved the harder times with magnificent joyful moments and intense friendship. Fourth, I would like to thank Maarten Lambrechts for over reading this thesis with a lot of interest. At last, I would like to express my biggest gratitude towards my lovely mother, my sister, my grandparents and wonderful friends, for supporting me to undertake this fieldtrip and encouraging me during the writing of this thesis.

Dutch summary

‘Stad’ en ‘landbouw’ zijn twee begrippen die vaak niet meteen met elkaar geassocieerd worden. Doch versmelten ze zich tot ‘stadslandbouw’, een term die vele dimensies in zich draagt en belangrijke voordelen met zich meebrengt voor de uitdagingen waar stedelijke gebieden vandaag de dag voor staan. Armoede, voedsel onzekerheid en ondervoeding verschuiven immers steeds meer van rurale naar stedelijke gebieden. Vooral in ontwikkelingslanden is deze verschuiving treffend en wordt er gezocht naar adequate strategieën om deze trend tegen te gaan. Om de stad leefbaar te houden wordt stadslandbouw steeds vaker beschouwd als een belangrijke maatregel en krijgt het een plaats op de internationale agenda, waarbij reeds een aantal Declaraties werden ondertekend door verschillende landen.

Stadslandbouw is een dynamisch concept en kent vele definities. De FAO (voedsel en landbouwagentschap van de Verenigde Naties) definieert¹ het concept als volgt (vrije vertaling): “(...) *een industrie die voedsel en brandstoffen produceert, verwerkt en verhandelt, grotendeels als antwoord op de dagelijkse vraag van consumenten in een dorp, stad of metropolis, op land en water verspreid over urbane en peri-urbane gebieden, waarbij intensieve productiemethodes worden toegepast, natuurlijke hulpbronnen en stedelijk afval gebruikt en hergebruikt worden om een diversiteit aan gewassen en vee voort te brengen*”. Het begrip houdt verscheidene dimensies in zoals locatie, schaal, economische activiteiten, marktgerichtheid, technologie en productiesystemen, gaande van overlevingslandbouw tot volledig gecommercialiseerde landbouw. Eén van de meest beduidende kenmerken is dat stadslandbouw geïntegreerd is in de lokale stadseconomie en –ecologie en dus opereert ze in een geheel andere context dan rurale landbouw. Wereldwijd zijn 800 miljoen mensen betrokken bij stadslandbouw (Smit et al, 1996).

Stadslandbouw is een belangrijke (overlevings)strategie van de stedelijke inwoners, aangezien het een belangrijke bron van voedsel en (indirecte) inkomsten verschaft. Naast andere opportuniteiten, zoals haar bijdrage tot een divers dieet, sociale inclusie van gemarginaliseerde groepen, productief gebruik van braakliggende gronden, opwaardering van achtergestelde wijken, stedelijke begroening, verbetering van stedelijk milieu, enzovoort, speelt stadslandbouw een grote rol in armoedevermindering, waar deze studie een licht op werpt. Om meer inzicht te verwerven in de thematiek werd een veldonderzoek van twee maanden ondernomen naar Oeganda, waarbij primaire en secundaire data werden vergaard in

¹¹ Deze definitie is gebaseerd op het werk van Luc Mougeot (1999)

Kampala en Lira Municipality. De onderzoeksvraag luidt: *‘In welke mate is stedelijke landbouw een middel voor armoedebestrijding in Oeganda, meer bepaald in Lira Municipality?’*. Lira Municipality werd als onderzoeksgebied gekozen door haar ligging, bedrijvigheid en stedelijke ontwikkeling. De oproer die de noordelijke regio jarenlang teisterde, bracht immers een toevloed van mensen voort die voor bescherming vestigden in de stedelijke gebieden. Bijgevolg is Lira één van de grootste stedelijke gebieden in Oeganda, met een bevolkingspercentage dat leeft onder de armoedegrens (\$1) van 20%, tegenover het nationaal stedelijke armoede percentage van 14%.

In Oeganda groeit de stedelijke bevolking jaarlijks aan met 5.1%. Dit heeft verstrekkende gevolgen voor de ontwikkeling van de Oegandese steden. Als deze snel toenemende verstedelijkingstrend ongecontroleerd zijn gang gaat, zullen ze immers gebukt gaan onder overbevolking, informele nederzettingen en sloppenwijken, tekort aan huisvesting, werkloosheid, milieudegradatie, vervuiling en stedelijke armoede. Kampala, de hoofdstad van Oeganda, is echter de eerste stad in Sub-Sahara Afrika die stadswetten ontwikkelde om stadslandbouw te reguleren. In 2005 werden 5 ordinanties goedgekeurd die ervoor zorgen dat stadsboeren een vergunning krijgen voor hun activiteiten. Meer dan 35% van de inwoners van Kampala is immers geëngageerd in stadslandbouw. Gewassen worden verbouwd en vee gekweekt voor de eigen voedselvoorziening (en meestal door vrouwen), al wordt er ook een deel verkocht of weggegeven. De studie wijst verder uit dat niet alleen individuele huishoudens actief zijn in de stadslandbouw, maar ook instituties zoals scholen. Bovendien zijn de stadslandbouwers niet enkel stedelijke armen, maar doen ook mensen naast hun job in de formele sector aan landbouw in de stad.

Naast de verscheidene voordelen, voor het individu als voor de gehele gemeenschap, sluit deze studie de ogen niet voor de nadelen en uitdagingen die verbonden zijn aan stadslandbouw in Oeganda. Competitief landgebruik, beperkte landrechten (vooral voor vrouwen) en geringe steun aan de stadsboeren zijn enkele uitdagingen die dringend de nodige aandacht verdienen. De legale status van stadslandbouw in Kampala, dat met de invoering van de ordinanties werd bekrachtigd, blijkt bovendien niet zo ondersteunend als op het eerste zicht lijkt aangezien er nogal wat restricties worden opgelegd. Daarenboven blijkt dat verdere popularisatie en sensibilisatie nodig is. Vervolgens stelt deze studie vast dat het nationale politieke kader tekortschiet in de integratie van stadslandbouw in beleidsplannen zoals de Uganda Food and Nutrition Policy (UFNP). Het sinds dit jaar ingevoerde NDP (National Development Programme) hoopt Oeganda op weg te zetten naar een midden-inkomen land en het bevolkingspercentage dat onder de armoedegrens (\$1) leeft, te reduceren van 31% tot 25%. Doch, na een blik te hebben geworpen op het plan, werd vastgesteld dat stadslandbouw

niet expliciet als één van de mogelijke strategieën vermeld wordt. Het NAADS (National Agricultural Advisory Services) programma richt sinds kort zijn aandacht ook op stedelijke gebieden, maar problemen zoals corruptie, slechte uitbesteding van financiële middelen en gebrek aan personeel, vertragen het proces. Op die manier komt hulp niet terecht bij diegenen die ze het meest nodig hebben.

In Lira Municipality is het meest directe belang van stadslandbouw de voedselvoorziening. Daarnaast biedt het voor velen ook een bron van inkomsten, niet alleen voor de stadsboeren zelf, maar ook voor ingehuurde arbeiders. Bovendien zijn de leveranciers van inputs, handelaren in eindproducten en dienstverlenende bedrijven ook betrokken actoren. Vooral voor mensen met lage inkomens is stadslandbouw een manier om te overleven. In de woorden van een inwoner van Lira Municipality: *“It helps to supplement the food and brings in some income to reduce the misfortunes of life”* (Okiri, personal communication, 28/04/2010). Uit de beschreven case studies blijkt dat stadslandbouw een goed middel is om stedelijke armoede te verlichten. Er wordt echter vastgesteld dat de lokale overheid het nog steeds niet als een legale activiteit erkent. Tot op de dag van vandaag zijn koloniale wetten van kracht die beperkingen opleggen. Doch moet gezegd worden dat het restrictieve beleid plaats maakt voor een gedoogbeleid aangezien de regels massaal worden genegeerd (zoals het verbouwen van hoge gewassen) en de overheid zelden optreedt. Dit laatste kan te wijten zijn aan het gebrek aan mensen en middelen voor effectieve controle en omdat gezagsdragers zelf ook de regels overtreden. Echter, als Lira Municipality de status van stad wil verwerven -een doelstelling voor 2015- is het belangrijk dat stadslandbouw plaats krijgt in het lokale beleid en de stedelijke ontwikkelingsplannen. Bovendien is het belangrijk dat aan de uitdagingen waarmee stadsboeren te kampen krijgen, zoals gebrek aan ondersteunend personeel en inputs, zwervend vee dat gewassen vernielt, ongedierte en ziektes (planten en dieren), etc., de nodige interventies worden toegewezen. Bovenal verdienen stadsboeren adequate ondersteuning voor hun activiteiten, aangezien zij op een beduidende manier bijdragen aan de economische en ecologische ontwikkeling van de Municipality.

Uit deze studie blijkt dus dat landbouw voor veel, vooral armere, stadsbewoners een overlevingsmiddel is in Oeganda. Het veldonderzoek toont immers aan dat stadslandbouw een grote rol speelt in de verlichting van stedelijke armoede aangezien veel stadsboeren een op zijn minst redelijk inkomen weten te realiseren uit hun landbouwactiviteiten. Echter, om de sector verder te ontwikkelen is het belangrijk dat stedelijke bestuursorganen en betrokken actoren de voedselstrategieën van de stedelijke bevolking ten volle begrijpen en ondersteunen. Erkenning van stadslandbouw en priorisering in de nationale en lokale budgetten en ontwikkelingsprogramma's is cruciaal. Vooral lokale overheden spelen een

belangrijke rol. Om te beginnen moet de sector gelegaliseerd worden. Tegelijkertijd moeten er maatregelen (zoals eenvoudige micro-leningen, vormingen rond duurzame en organische landbouw, het beschikbaar stellen van gronden aan de allerarmsten, etc.) komen om de stadslandbouw ten goede te laten komen aan de beoefenaars, alsook aan de stedelijke leefomgeving waar stadslandbouw invloed op heeft. Deze studie besluit dat stadslandbouw toekomst heeft. Stadslandbouw biedt niet alleen kansen op vlak van armoedebestrijding, maar eveneens op gebied van voedselzekerheid, tewerkstelling, leefbaarheid, gezondheid, milieubescherming, etc.

Table of contents

Abstract	3
Word of thanks	5
Dutch summary	6
List of abbreviations	13
Introduction	14
Methodology	17
Limitations of the study	19
 1. The concept of Urban Agriculture (UA)	 20
1.1. A dynamic concept	20
<i>1.1.1. Definitions</i>	20
<i>1.1.2. Comparison between rural and urban agriculture</i>	22
<i>1.1.3. Intra- and peri-urban agriculture</i>	24
<i>1.1.4. Classifications of urban farming systems</i>	25
<i>1.1.5. Dimensions of UA</i>	27
1.2. UA in a global perspective	31
<i>1.2.1. City dynamics: urbanization, urban poverty and urban food insecurity</i>	31
<i>1.2.2. UA worldwide</i>	34
1.3. Opportunities of UA	35
<i>1.3.1. The importance of UA for enhancement of urban food security</i>	35
<i>1.3.2. Contribution of UA to the reduction of urban poverty</i>	36
<i>1.3.3. Other opportunities</i>	37
1.4. Risks and challenges	39
 2. UA in Uganda	 40
2.1. Context	40
<i>2.1.1. Urbanization in Uganda</i>	40
<i>2.1.2. Urban development</i>	41
<i>2.1.3. Urban poverty</i>	42
<i>2.1.4. Agriculture in Uganda</i>	43
2.2. Evolution of UA in Uganda	45
2.3. Organizations and institutions involved	46
2.4. Relating UA to the existing policies	46
<i>2.4.1. The 5 Kampala Urban Agriculture Ordinances</i>	47

2.4.2. <i>PEAP-NDP</i>	48
2.4.3. <i>PMA – NAADS</i>	49
2.4.4. <i>Other policies</i>	50
2.5. Access to land for UA	51
2.6. Dimensions of UA	51
2.6.1. <i>Types of actors involved</i>	52
2.6.2. <i>Types of location</i>	53
2.6.3. <i>Types of products</i>	54
2.6.4. <i>Types of economic activities</i>	55
2.6.5. <i>Product destination and degree of market orientation</i>	55
2.6.6. <i>Scale and technology used</i>	55
2.7. Opportunities of UA	56
2.8. Risks and challenges of UA	57
2.9. The role of local governments and Municipal authorities	58
3. UA: the case of Lira Municipality	60
3.1. Characteristics of the study area	60
3.1.1. <i>Location</i>	60
3.1.2. <i>The inconvenient past of Lango sub-region</i>	60
3.1.3. <i>Climate and soils</i>	61
3.1.4. <i>Urbanization</i>	62
3.1.5. <i>Urban poverty</i>	64
3.2. Policy framework for UA	64
3.2.1. <i>Bye-laws and regulations on UA?</i>	64
3.2.2. <i>The NAADS Programme</i>	65
3.3. Dimensions of UA	67
3.3.1. <i>Growth trend of UA</i>	67
3.3.2. <i>Types of actors involved</i>	67
3.3.3. <i>Types of location</i>	69
3.3.4. <i>Types of products</i>	71
3.3.5. <i>Types of economic activities</i>	72
3.3.6. <i>Product destination and degree of market orientation</i>	72
3.3.7. <i>Scale and technology used</i>	73
3.4. Opportunities of UA	73
3.4.1. <i>Contribution of UA to urban poverty reduction: case studies</i>	73
3.4.2. <i>Other opportunities</i>	83
3.5. Risks and challenges of UA	84

3.6. The way forward	88
4. Recommendations	90
Conclusion	94
Primary data	96
Secondary data	101
Annexes	110
Boxes	
Box 1: Agriculture in rural and urban situations	23
Box 2: Differences between urban and peri-urban agriculture	25
Box 3: Urban farming systems according to Hoekstra (2008)	26
Box 4: Constraints and challenges according to the KCC	58
Figures	
Figure 1: Main types of urban farming (and their policy dimensions)	27
Figure 2: Different dimensions of UA	28
Figure 3: In 37 (out of 70) developing countries, over 40% of the population is estimated to be food insecure	33
Figure 4: Actors of UA	52
Figure 5: Lira as part of the Urban Growth Corridor in Uganda	63
Tables	
Table 1: The world urbanization prospect	32
Table 2: Percentage of income spent on food by low-income residents in selected cities	36
Table 3: Contribution of UA production to urban employment	37
Table 4: Urbanization in Uganda between 1969 and 2002	40
Table 5: Urban population of Uganda (%) between 2000 and 2050	41
Table 6: Top agricultural production Uganda by quantity	44
Table 7: Total population of the Municipality	62
Table 8: Division statistics of Lira Municipality	63
Table 9: Poverty data on Lira District and Lira Municipality	64
Maps	
Map 1: Location of Lira	60

List of abbreviations

CBO	Community Based Organization
FAO	Food and Agricultural Organization
GoU	Government of Uganda
IDP	Internally Displaced People
KCC	Kampala City Council
LMC	Lira Municipal Council
NAADS	National Agricultural Advisory Services
NDP	National Development Programme
PEAP	Poverty Eradication Action Plan
PMA	Plan for Modernization of Agriculture
RUAF	Resource centre on Urban Agriculture and Food Security
UA	Urban Agriculture
UBOS	Uganda Bureau of Statistics
UN-HABITAT	United Nations Human Settlements Programme
UPA	Urban and Peri-urban Agriculture
WFP	World Food Programme

Introduction

With poverty, food insecurity and malnutrition progressively shifting from rural to urban areas, interest in alternative strategies to improve urban livelihoods is reviving. Urban agriculture (UA) seems to be one of those strategies and is increasingly on the international agenda as part of a comprehensive solution to the challenges that go hand in hand with urban growth. The United Nations predicts that over the next 25 years nearly all population growth will be in the cities of the developing world. At current rates, 60% of the world's total population will live in cities by 2030 (UN-HABITAT, 2008). As cities expand, so do the food needs of urban households. Moreover, the urbanization process goes hand in hand with increasing urban poverty, growing food insecurity, unemployment and malnutrition.

Although agriculture is usually perceived as only a rural activity, it can also contribute to urban livelihoods (IFPRI, 2002). UA has been discovered to be a viable intervention strategy for the urban poor to earn extra income and save on their food expenditure by growing their own food. On a world scale, it is estimated that 15-20% of the food is produced in urban areas (Armar-Klemesu, 2000). Moreover, UA is a major component of the urban food system by providing the diversity needed to ensure dietary quality, which is an important aspect of food security (Mougeot, 2006). Furthermore, agriculture within the city can make productive use of urban open spaces, treating and/or recovering urban solid and liquid wastes and managing fresh water resources more effectively. UA is thus integrated into the urban economic and ecological system and thereby differs from rural agriculture.

Smit et al (1996) estimated that 800 million people are engaged in UA worldwide. Of these, 200 million are considered to be market producers, employing 150 million people full time. Since then, urban poverty and the number of households involved in some kind of urban agriculture have considerably increased. In Kampala, the capital of Uganda, more than 35% of the households are engaged in UA (Maxwell & Zziwa, 1992). If we look at the population figures for Uganda, it is currently estimated to be 33.4 million people (CIA, 2010), having increased from 24.2 million in 2002 at an average annual growth rate of 3.2%. According to the 2002 Census by the Uganda Bureau of Statistics (UBOS), 12.3% of the population lives in the urban areas while 87.7% is still living in the rural areas (UBOS, 2002). Although the urbanization level is still low, the 5.1% urban population growth rate is very high and has far-reaching implications on the future development prospects of Uganda. If the urbanization trend goes on uncontrolled, Uganda's urban centres will increasingly suffer from overcrowding, slums and informal settlements, housing shortage, urban poverty,

unemployment, inadequate urban infrastructural services and escalating environmental degradation and pollution.

Though the role of agriculture as a backbone of the economy is a well known feature in Uganda, the significance of UA as a livelihood for the urban population has been underestimated for too long (Azuba, 2007). However, the capital Kampala became the first city in Sub-Saharan Africa to develop city laws for UA which were passed in 2005. Despite those efforts, most of the government programmes like the Poverty Eradication Action Plan (PEAP), the recently implemented National Development Programme (NDP), together with the Plan for Modernization of Agriculture (PMA) sector approach for Uganda have the rural areas as the main target areas (Environmental Alert, 2006). Since recently the National Agricultural Advisory Services (NAADS) programmes also shifted attention to urban areas, but problems like lack of extension staff, misallocation of funds and corruption -almost on a daily basis reported in the local news papers- are slowing down the process.

Divided into four chapters, this thesis takes a closer look on the presence, challenges and opportunities of UA in Uganda and highlights the importance of UA as a tool for poverty reduction. Though UA has been increasingly recognized and supported in Kampala, Mougeot (2006) argues that it is too often seen by other municipalities as a problem to be eradicated rather than as a part of the solution for making the city and its environment more sustainable. Hence, with a case study on Lira Municipality, I want to examine in which way UA occurs, why people engage in agriculture within the Municipal boundaries, which challenges and opportunities urban farmers face and how the Municipality is supporting UA. Above all, the most important question to be explored is: *'In which way is UA a strategy for poverty reduction in the area?'*.

Chapter one explains the concept of UA as a dynamic one and explores its different dimensions and classifications. Thereby, a broader context is sketched in which UA takes place nowadays. Global emerging phenomena like urbanization, urban poverty and food insecurity are discussed which all have an influence on the presence of UA. Further, we will get a view on how UA is being practiced worldwide –with a focus on developing countries- and how it appears on the international agenda nowadays. Moreover, some major opportunities of UA will be clarified, by which poverty reduction will be emphasized. This chapter is mostly derived from literature study.

Chapter two takes a look on Uganda where UA has become a real, complex and dynamic feature of the urban landscape and socioeconomic reality. First, concepts like urbanization,

urban poverty and food insecurity will be explained in the Ugandan context. Further, the evolution of UA, as well as the way in which UA is integrated in the present policy framework and development programmes are examined in this chapter. Next, an answer will be sought to the following questions: ‘What are the UA systems currently found Uganda?’, ‘How and where is UA practised?’, ‘What are the potentials and challenges regarding UA?’, ‘How can it contribute to the reduction of poverty?’ and finally, ‘What is the role of local governments in the support of UA?’. This chapter derives data from the existing literature and research on UA in Uganda, as well as from own interviews with actors involved.

Chapter three examines the situation of UA in the Municipality of Lira. Data was collected during fieldwork between March and May 2010. This chapter has more or less the same structure as chapter two, which makes it easier to compare the situation of UA in Lira Municipality with the one in Kampala City. Thereby, to verify the presence of UA and demonstrate linkages between UA and poverty reduction in the area of research, some case studies are given as well as citations from the respondents.

In **chapter four** some important recommendations are defined. After all, the formal acceptance of UA as urban land use, integrated in urban development and land use plans, as well as creating a favourable policy environment, are all crucial steps towards effective regulation and facilitation of UA development.

Methodology

To achieve the study objectives, I opted to do fieldwork in order to immerse myself in the study subject and explore the matter on the ground. Fieldwork was done between March and May 2010. Two weeks were spent in the capital of Uganda Kampala, in order to meet urban officials and NGO staff and to observe how urban farming is practised in the capital. The Katende Harambe Rural-Urban Training Centre was visited to observe and learn from innovative low-cost agricultural practices. The fieldwork continued in Lira Municipality, the main study area, where I stayed with a local guest family for more than one month to experience the local culture and daily habits as much as possible. Staying in Lira Municipality also gave me the opportunity to have informal talks with local people, from whom the findings are used as additional information to complete the results.

The study drew on both primary and secondary data sources. Collection of secondary data was achieved by exploring the **existing literature** (in Makerere University) and **additional documents** given by urban officials or NGO staff in Kampala and Lira Municipality. The methodology adopted for collecting primary data involved semi-structured face-to-face interviews, key informant interviews and one focus group discussion. Observation and participation (I attended a workshop in Lira from the NGO Send a Cow in organic agriculture) were other useful methods to gather information, as well as photography.

A **semi-structured face-to-face interview** was used to obtain detailed information from 35 randomly selected urban farmers about how and why they are engaged in farming. Though the focus was set on income and poverty reduction effects from UA, several people were interviewed, irrespective of their socio economic status. In this way, differences could be observed between different levels of society. Besides the more focused questions on their farming and other income generating activities, the farmers were free to express their views, experiences, opinions, attitudes and reactions about their urban farming and other activities. The farmers were visited at their home side in order to observe their agricultural activities and living conditions directly, with guidance of (Government) extension staff. Interviews were conducted in all the four Divisions of Lira Municipality (Central Division, Adyel Division, Ojwina Division and Railways Division).

The **key informant interviews** were conducted to ascertain the key informants' experiences, opinions, attitudes, reactions to trends and developments as well as their knowledge about UA in Lira Municipality. The respondents included agricultural extension staff (Agriculture

Officer and NAADS coordinator) and technocrats (Mayor, Assistant Town Clerks, Community Development Officer, Production and Marketing Officer, Environmental Officer and Physical Planner). Extension staffs were interviewed because of their role in providing farmers with integrated and technical information for making decisions on production, marketing and consumption, as well as information to help farmers manage their lives successfully, cope with everyday problems and realize opportunities. Technocrats were interviewed because of the role they play in issues related to urban planning and management, health, environment production, as well as marketing and community development.

One **focus group discussion** was later conducted with 11 participants (3 male and 8 female). The aim of the focus group discussion was to obtain information on urban farming issues to the individual or the community at large and to brainstorm on adequate solutions to the expressed challenges. Further, an exercise of drawing their own compound was conducted in order to get an idea of the compound's composition, including their farming activities.



Picture 1: FGD with farmers in Ireda West, Central Division, Lira Municipality (De Leever, 13/05/2010)



Picture 2: Urban farmers, drawing their compounds (De Leever, 13/05/2010)

Photographs of agricultural activities within town were taken as well as of the respondents farming activities, compounds and living conditions. The importance of photography is that it provides evidence of the existing situation and it helps to remember the respondents and their activities more in detail when the fieldwork finished.

Though being aware that the Sustainable Livelihood Framework (SLF) could be a useful method to analyse the impact of UA on people's livelihoods, it was opted to process and structure the gathered information in a personal way, according to the different dimensions of UA, framed by Mougeot (1999). In order to expose the impact of UA on poverty reduction in Lira, some case studies are written out, replenished by citations and findings of the persons interviewed. A list of the persons I have interviewed is attached at the end of this work.

Limitations of the study

Some limitations to conduct the study must be clarified:

- First of all, due too the short period of time to undertake the fieldwork in the study area, only a limited number of people could be interviewed.
- Then, because there was no database of urban farmers and little organizations working with this target group in the Municipality, I was thrown on my own resources to get in contact with urban farmers, as well as to find people to assist me in my research. However, most of the time the latter was not a problem at all.
- Language and communication problems were other obstacles since many of the respondents lacked sufficient knowledge of English to communicate. Most of the times, I could rely on the person who assisted me for translating, but unintentionally this goes hand in hand with a loss of information.
- As the focus was set on the contribution of UA to the reduction of poverty, the urban farmers were asked about the income they get from their farming activities and other income generating activities. This was one of the most striking difficulties, because of the sensitive nature of the question. It is thereby very difficult to get a complete picture of the situation of the farming households since their non-agricultural activities and other sources of income are rarely totally shared.
- I also have to acknowledge financial limitations which made it impossible to prolong my stay.

Further, I acknowledge that the presented data and outcomes of this study do not represent the whole of Lira Municipality. The number of interviews conducted is too low to judge the overall presence and impact of UA to poverty reduction in the study area. Nevertheless, based on the interviews conducted and other data consulted, I would say that the findings and conclusions are quite representative.

1. The concept of Urban Agriculture (UA)

‘UA is the true realization of the statement that ‘necessity is the mother of invention’’

(Redwood, 2008, p.1)

1.1. A dynamic concept

Although UA has always existed (Redwood, 2008), it has been officially recognized by the 15th FAO Committee on Agriculture (COAG) meeting in Rome (1999), and subsequently by the World Food Summit (2002) and the UN High Level Task Force on the Global Food Crisis (2008), as a strategy to alleviate urban food insecurity and build cities that are more resilient to crisis (FAO, 2009, p.3). UA has thus now been adopted by several UN agencies, while the concept was originally used by scholars and the media (Mougeot, 2000).

The concept of UA is a dynamic one and includes a variety of production systems, ranging from subsistence production and processing at household level to fully commercialized agriculture (van Veenhuizen, 2006). Some characterizations of UA are its closeness to markets, high competition for land, limited space, use of urban resources such as organic solid wastes and wastewater, low degree of farmer organisation and high degree of specialisation. Thereby, UA takes place under a range of policy environments that can be prohibitive or supportive to its existence and development (Dubbeling & Merzthal, cited in van Veenhuizen, 2006). This chapter will explore the diverse characterizations of UA more in detail. It must be clear that a focus is set on UA in developing countries.

1.1.1. Definitions

Most definitions often specify the location (urban, and sometimes intra-urban or peri-urban sites) and activities (such as the production of vegetables and fruits, aquaculture and animal husbandry, or the horticultural production of trees and ornamental plants) (Mukwaya, 2007, p.47). Other definitions also indicate the stages of production (growth and harvesting, or processing, marketing, and distribution), and purpose (such as production for own consumption or production for sale to others).

Luc Mougeot (1999) insists that UA definitions should include the significant factor that makes UA to be urban, which is that it is integrated into the local urban economic and ecological system. Furthermore he stresses that a common agreed concept is necessary,

because policy and technology interventions need first and foremost to identify meaningful differences and gradations if they want to assess and intervene with appropriate means for promotion and/or management of urban agriculture. With his revision of the concept, he ends up with the following definition:

“Urban agriculture is located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, and grows or raises, processes and distributes a diversity of food and non-food products, (re-)uses largely human and material resources, products and services found in and around that urban area, and in turn supplies human and material resources, products and services largely to that urban area” (p.10)

Based on the work of Luc Mougeot, The UN Development Programme (UNDP, 1996, p.3) analogously defines UA as:

“an industry that produces and markets food and fuel, largely in response to the daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and reusing natural resources and urban wastes, to yield a diversity of crops and livestock”

Modern planning and design initiatives prefer the definition of CAST², Council on Agriculture, Science and Technology, because it includes aspects of environmental health, remediation, and recreation and fits within the current scope of sustainable design:

“Urban agriculture is a complex system encompassing a spectrum of interests, from a traditional core of activities associated with the production, processing, marketing, distribution, and consumption, to a multiplicity of other benefits and services that are less widely acknowledged and documented. These include recreation and leisure; economic vitality and business entrepreneurship, individual health and well-being; community health and well being; landscape beautification; and environmental restoration and remediation.” (Butler et al, 2002)

², (CAST) is an international consortium of scientific and professional societies based in Ames Iowa, America, that compiles and communicates credible science-based information to policy makers, media, private sector and the public. More information on <http://www.cast-science.org/>

1.1.2. Comparison between rural and urban agriculture

Several researchers have tried to clearly distinguish rural agriculture from UA. However, they have gradually come to recognize that there is no clear border between urban and rural areas and that it is more realistic to think in terms of a continuum of rural and urban features (van Veenhuizen & Danso, 2007, p.10). Nevertheless, UA systems operate in a very different context than rural systems, argues Mark Redwood (2008), since UA includes important issues of a social nature (land markets, rural to urban migration) and is not only associated with natural science (agronomy, pollution, water and soil quality). Moustier (1998) makes the comparison between rural and urban agriculture clear by defining UA as “*agriculture that is carried out within or on the outskirts of a city where a non-agricultural use of local resources is real option; rural agriculture is found in areas where this option is not an issue*”.

Despite their different contexts, Wilfried Baudoin, a retired FAO expert, argues that “*Urban agriculture doesn’t conflict with traditional rural-based farming. Given the state of the roads, transporting highly perishable produce like leafy vegetables into the cities quite often just isn’t an option*” (FAONewsroom, 2007). Above all, UA complements rural agriculture and increases the efficiency of national food systems to a large extent since it provides products that rural agriculture cannot supply easily (for example, perishable products, products that require rapid delivery upon harvest) (van Veenhuizen & Danso, 2007).

Emphasized by Mougeot (1999) before, one of the striking features of UA that distinguishes itself from rural agriculture is that it is integrated into the urban economic and ecological system. In this way urban residents are used as labourers, typical urban resources are used (such as organic waste which is used as compost and urban wastewater for irrigation) and there are direct links with urban consumers. On the other hand, UA has direct impacts on the urban ecology (positive as well as negative). Furthermore UA competes for land with other urban functions and it is influenced by urban policies and plans. We can conclude that UA is part of the urban food system, or as RUAF (2010) puts it: “*It is not a relict of the past that will fade away (urban agriculture increases when the city grows) nor brought to the city by rural immigrants that will loose their rural habits over time. It is an integral part of the urban system*”

Differences between urban and rural agriculture are thus not negligible. Figure 3 on the next page shows frequently encountered differences between UPA and rural agriculture, which have important consequences for the design of policies and supportive programmes.

Box 1: Agriculture in rural and urban situations

	Rural agriculture	Urban and peri-agriculture (UPA)
Farm types	Conventional; farms consisting of interdependent subunits	Unconventional; partly mobile; partly without soil; more specialized independent units acting in cluster/chains
Livelihood	Farming is a primary livelihood; farmers engaged full-time	Farming is often a secondary livelihood; farmers often work on a part-time basis only
Farmer type	Usually 'born farmers'; Strong traditional knowledge	Some are 'beginners': urban citizens engaging in agriculture by necessity or by choice (entrepreneurs); others are recent migrants with weak traditional knowledge
Products	Mainly staple crops; cattle, sheep	Perishable products, especially green vegetables, dairy products, poultry and pigs, mushrooms, ornamental plants, herbs, fish etc.
Cropping calendar	Seasonal periods	Year-round growing of crops (Irrigated)
Production factors	Low land price; lower costs of labour; high costs of commercial inputs; variable cost of water	High land price, land scarcity; higher costs of labour; lower costs of commercial inputs; high cost of clean water; availability of low-cost organic wastes and wastewater
Farmer organization	Often already in place and more easy to accomplish since farmers share same social background	Often lacking and more difficult to accomplish since farmers are dispersed and are from greatly varied social backgrounds
Social context	Community; most families engaged in farming and share a common social background; more homogeneous; relatively stable; few external stakeholders; farmers are more organized	Urban farmers often undertake activities outside their own neighbourhood. The percentage of households engaged in farming in a neighbourhood is highly variable. Urban farmers vary in socio-cultural backgrounds.
Environmental context	Relatively stable; land and water resources rarely polluted	Highly dynamic environment with strong fluctuations; many external stakeholders with different interests and contrasting views on UA; farmers are hardly organized Fragile; often polluted land and water resources
Availability of research and extension services	More likely (although declining)	Hardly available, but individuals may gain direct access to libraries, research organizations, market information, etc.
Availability of credit services	More likely (although possibly for larger farmers and mainly men)	Hardly available, but credit services for the informal sector are available and might assist farmers too, including women
Market	Distant markets; marketing through chain; low degree of local processing	Closeness to markets; direct marketing to customers possible; higher degree of local processing (including street foods)
Land security	Relatively high	Insecure; often informal use of public land; competitive land uses

Source: De Zeeuw, 2004 in van Veenhuizen, 2007, p.11

Box 1 above includes some other important differences. For example, agriculture within the urban or peri-urban areas is often a secondary livelihood, while in the rural areas it can be seen as a primary livelihood. Moreover, land scarcity within the urban or peri-urban areas often occurs, as well as insecurity of land because there is a high competitiveness of land uses, while in rural areas this is less the case.

1.1.3. Intra- and peri-urban agriculture

UA can be subdivided in intra-urban and peri-urban agriculture:

Intra-urban agriculture takes place within the inner city (van Veenhuizen & Danso, 2007, p.5). Most cities and towns have vacant and under-utilized land areas that are or can be used for UA. These areas include places not suited for building (along streams, close to airports, etc.), public or private lands not being used (lands waiting for construction) that can have a temporary use, community lands and household areas. Moreover, intra-urban agriculture tends to be more small-scale and more subsistence-oriented than peri-urban agriculture, although exceptions can often be found.

Peri-urban agriculture takes place in the urban periphery. Peri-urbanity has recently developed as a trend in African countries and as a coping mechanism of survival (Locatelli & Nugent, 2009, p.7). Theodore Trefon defines the concept of ‘peri-urban’ as “*densely populated*” areas, governed by ‘*hybrid structures*’ of power and characterized by mixed economies’ (Trefon, cited in Locatelli & Nugent, 2009, p.17-18). There is a strong dependence on the peri-urban space, especially for production and trade, as well as for new housing settlements, which puts considerable pressure on land tenure systems. Demographic pressure is intense in these areas because of the dynamics of rural migration and ex-urbanization. In the words of Trefon: ‘*Haphazard urbanization is taking place but without what is commonly understood to be urban planning*’ (Trefon, cited in Locatelli & Nugent, 2009, p.17). According to the same author is this complex combination of factors and actors exacerbating rivalry and conflict on space and resources. Thereby, he defines peri-urban space as ‘*an arena where competing claims are constantly re-negotiated*’ (Trefon, cited in Locatelli & Nugent, 2009, p.18). Another phenomenon mentioned by Trefon (2003, cited in Locatelli & Nugent, 2009, p.20) is ‘rurbanization’, which means the tendency of city dwellers occupying agricultural space in urban hinterlands, as well as increased rural-type activities within the cities.

In peri-urban agriculture, many types of agriculture may be distinguished, but it is often dominated by irrigated vegetable production (van Veenhuizen & Danso, 2007, p.5). Moreover, farm enterprises located in the fringe of the city are mostly larger than those in the city centres and more strongly market-oriented. Other differences between agriculture in the urban and peri-urban area can be found in Box 2 on the next page.

Box 2: Differences between urban and peri-urban agriculture

Characteristics of "urban" and "urban agriculture"	Characteristics of "peri-urban" and "peri-urban agriculture"
attitudes differ between urban and peri-urban dwellers	peri-urban production is economically dependent on the city
different kind of people, often women	lower population density than urban
different activities, often small scale subsistence	more land/space available
concept of "urban" varies a lot cross-nationally	PU area has more natural resources
UA is part time job	PUA is a full time job
UA technology is different from PUA due to smaller plot sizes and different motivation for agriculture	PUA technology is different from UA, due to larger plot sizes and more commercialised agriculture
knowledge of urban farmers is different	knowledge of PU farmers is different
urbanised	land under threat of urbanisation
more infrastructure/construction	less infrastructure/construction
more services (banks, schools, medical centres etc.)	fewer services (banks, schools, medical centres, etc.)
different land use than in peri-urban areas, smaller areas cultivated, more subsistence production	different land use than in urban areas larger areas cultivated
lower availability of natural resources	higher availability of natural resources
differences in policies/incentives/disincentives, institutional responsibilities (urban)	differences in policies/incentives/disincentives institutional responsibilities (urban/rural)
easy access to markets	less access to markets
poor air quality	better air quality
high cost of labour and land	lower cost of labour and land
primarily subsistence production	Primarily market oriented production
management strategies different from PUA, mostly small scale agriculture	management strategies different from UA, medium to large scale agriculture
small-scale, scattered and low-value crops produced in cities	Intensive, market-oriented, high value crops
practised by poor urban dwellers for subsistence	practised by groups and individuals with ready access to capital markets
UA can never become UPA again, but expand when zones of "urban blight" evolve	UPA can become UA with accelerating urbanisation

Source: FAO, 2001, p. 14

1.1.4. Classifications of urban farming systems

To fully understand the concept of UA, some classifications and dimensions must be clarified. Several UA researchers have developed their own approach which led to a large variety of definitions and subdivisions of local farming systems. Van Veenhuizen & Danso (2007, p.15) argue that a consistent typology and research approach is lacking. Also Mougeot (2000) has critique and argues that most authors define UA in general terms only and seldom use their findings to refine the UA concept, refine typologies or analyse how this concept is related to urban development. One reason for the lack of a consistent research and typology is that UPA is relatively new and its study aims are diverse (van Veenhuizen & Danso, 2007, p.15). Also,

the diversity in farming conditions within the urban setting and the high dynamism in UA makes it difficult to characterize and compare urban farming systems.

Femke Hoekstra (2008) argues that UA is too often being regarded as a homogeneous type of activity. She distinguishes a variation of urban farming systems, whereby she stresses that other UA systems might need to be distinguished as an additional category in order to be able to identify adequate support measures for their development. According to her, the following are the major categories:

Box 3: Urban farming systems according to Hoekstra (2008)

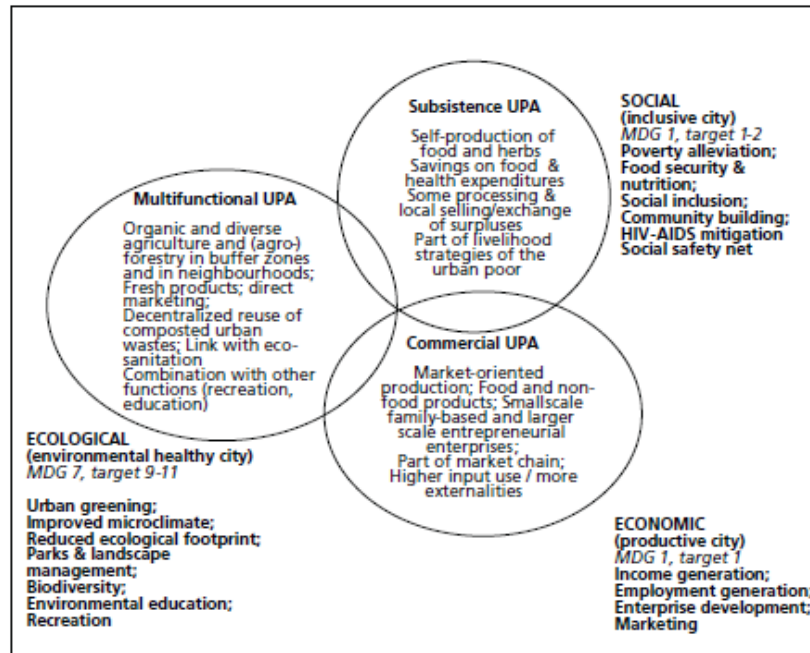
- Micro-farming in and around the house/homestead
- Community, school and institutional gardens
- Small-scale (semi-) commercial horticulture
- Small-scale (semi-) commercial livestock
- Large-scale agro-enterprises
- Urban aquaculture
- Urban forestry
- Multifunctional farms

Source: Hoekstra, 2008, www.RUAF.org

Smit and Bailkey (2006) distinguish between what they call community-based UA from other proactive forms of UA such as subsistence farming by individuals for themselves and their families; entrepreneurial, market-oriented UA, often consisting of privately-owned, profit making businesses; and leisure or recreational gardening. Community-based UA is then seen as producing food, and other services as a shared activity focused on building communities.

Cabannes (2005) and Dubbeling (2004) distinguish multifunctional, subsistence and commercial UPA, as framed in Figure 1 on the next page.

Figure 1: Main types of urban farming (and their policy dimensions)



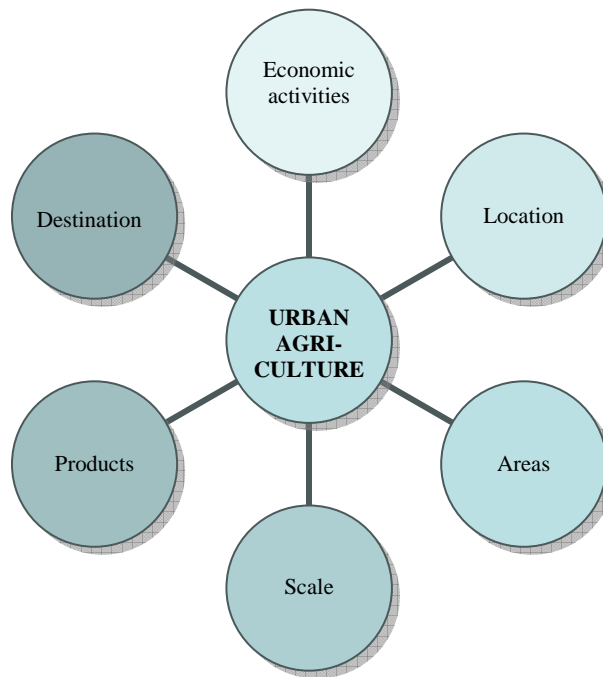
Source: Cabannes, 2005; Dubbeling, 2004; in van Veenhuizen & Danso, 2007, p.24

Different classifications thus exist according to a variation of determinants. However, one needs to consider that an overlap of different systems is possible. Schiere (2001, cited in van Veenhuizen & Danso, 2007, p.20) argues that farming in and around urban areas occurs in varying forms and has various functions. Therefore, he stresses the importance of establishing criteria that are locally relevant for characterizing locally relevant farming systems. He continues by saying that perceptions and occurrence differ between stakeholders (owners, neighbours, consumers, disciplinary trained officials, governments) and according to context (urban fringes vs. inner cities, cities in arid vs. wet zones, etc.).

1.1.5. Dimensions

According to Mougeot (1999, p.5), further specification of UA is possible by looking at the following dimensions: types of economic activities, food/non-food categories of products and subcategories, intra-urban and peri-urban character of location, types of areas where it is practised, types of production systems, product destination and production scale. He frames them in Figure 2 on the next page. To complete this dimensions, the types of actors involved in UA will further be discussed.

Figure 2: Different dimensions of UA



Source: Mougeot, 1999, p.5

Location and areas

The location where the activity is carried out is an important dimension of UA, since this determines constraints and opportunities such as degree of land access, the land tenure situation, costs and time related to travelling to and from the production site, closeness to markets and risks (e.g. theft, contamination by traffic and industry) (van Veenhuizen & Danso, 2007, p.15-16). As seen earlier (see sub-chapter 1.1.2.1.), a distinction can be made between intra- and peri-urban agricultural areas. Further, activities may take place on the homestead (on-plot) or on land away from the residence (off-plot), which influences the possibilities of combining agricultural tasks with non-agricultural tasks (Waters-Bayer, 2000). Other distinctions can be made if we look at the land-based classifications. Dubbeling (2004) distinguishes between UA on private land (owned, leased), public land (parks, conservation areas, along roads, streams and railways), and semi-public land (on yards of schools, hospitals, prisons, etc.).

Economic activities

UA includes agricultural production activities, related processing and marketing activities as well as generation of inputs (e.g. compost) and delivery of services (e.g. animal health services) by specialized micro-enterprises or NGOs, etc. (Mougeot, 1999, p.5). Production, processing and marketing tend to be more interrelated in time and space compared to rural

agriculture, thanks to greater geographic proximity and quicker resource flow. By this, in the urban context, a supply system is created within immediate reach of a consumption market.

Products

The choice what to produce and how, is determined by a variety of social, economic and physical determinants (van Veenhuizen & Danso, 2007, p.16). In most cities the predominant crops grown in UPA are often a result of specific urban and peri-urban diets and food consumption patterns, which are influenced by culture, climate, soil conditions, socio-economic circumstances, proportion of expatriate market and political economy. The same applies to urban livestock, in addition to the influence of religion and the climate. Food production may include different types of crops (grains, root crops, vegetables, mushrooms, fruits) and/or animals (poultry, rabbits, goats, sheep, cattle, pigs, guinea pigs, fish, earthworms, bees, etc.) or combinations of them. Often, the more perishable and high-valued vegetables and animal products and by-products are favoured. Non-food products include aromatic and medicinal herbs, ornamental plants, tree products (seed, wood, fuel, etc.) and tree seedlings.

Destination/degree of market orientation

In most cities in developing countries, an important part of UA production is for self consumption, with traded surpluses (RUAF, 2010). However, the importance of market-oriented UA, both in volume and economic value, should not be underestimated. In general, fresh products are sold, but some are processed for own use, cooked and sold on the streets, or processed and packaged for sale to local farmers' markets or supermarkets.

According to Nugent (2000), UPA consists of two 'disparate and possibly segregated' subsectors: commercial horticulture and the livestock industry (mainly located in the peri-urban areas), and scattered subsistence production. Both types have a positive effect on food security (Armar-Klemesu, 2000). However, according to van Veenhuizen and Danso (2007) the distinction between subsistence and commercial UA is not as different as Nugent states, as many mixed types can be found in small-scale enterprises producing partly for the market and partly for home consumption -which is even the most common farming type in many cities. Even if farming is undertaken on a somewhat larger or fully commercial scale, the urban households often combine farming activities with other urban occupations, generating off-farm income. Or as Prain (2006) explains, agricultural production in urban areas is rarely the only livelihood activity of a household.

Scale and technology used

In the city, we may encounter individual or family farms, group or cooperative farms and commercial enterprises at various scales ranging from micro- and small farms (the majority) to medium-sized and some large-scale enterprises (RUAF, 2010). According to Mougeot (1999) the technological level of most UA enterprises in developing countries is still low, mainly because of the often restrictive urban policies on agriculture in the past decades and the low level of attention to UA by agricultural research, extension and credit organization. However, he adds that once UPA is acknowledged and supported, however, the overall tendency is towards more technically advanced and intensive agricultural systems.

Types of actors involved

Maxwell (1995) claims that UA is no longer a coping mechanism by the urban poor to ensure the availability of food but that it became a viable economic activity undertaken by people of different levels of economic status. Even lower and mid-level government officials and school teachers are involved, as well as richer people who seek a good investment for their capital (RUAF, 2010). It thus contributes significantly to the broad economy and benefits all city dwellers.

Several authors (Moustier and Danso, 2006, Maxwell, 1995) distinguish four categories of UPA practitioners. The first category is the commercial farmer, who produces almost entirely for the urban market. The second category produces food for household consumption, whereby much of them are households in the peri-urban areas who continued much of their traditional businesses. The third category are those who practice UPA as a secondary form of employment as well as a source of food. The last category consists of very low income women, often recently widowed or abandoned by their husbands, who have limited economic options.

With the concepts, dimensions, and classifications of UA being explained, we now have a clear view on its dynamics. This will be useful to understand its presence in relation to global phenomenon like urbanization, urban poverty and food insecurity, which will be explained in the next sub-chapter.

1.2. UA in a global perspective

This chapter briefly discusses a number of important global trends and challenges regarding cities, food and the urban poor. Further, we will see how UA is being carried out worldwide as an important coping mechanism to those emerging trends.

1.2.1. City dynamics: urbanization, urban poverty and urban food insecurity

Urbanization

We live in an era of rapid urbanization. The number of people around the world living in cities is increasing steadily and there is general consensus that urban populations will continue to grow rapidly. In 2008, for the first time, more than half of the world's population lived in urban areas. *'No matter the path of economic development a country has chosen, urbanization remains an inevitable outcome of this effort across the world'*, says UN-HABITAT's report, 'State of the World Cities 2010/2011: Bridging the Urban Divide' (UN-HABITAT, 2010). According to figures released in the same report, 70% of the world population will live in urban areas by 2030.

If we look at Table 1 on the next page, we can observe that the urbanization rates differ a lot between one region and another. Today, 50.6% of the world population is urban. In the more developed regions the percentage of people living in urban areas reaches 75%, compared to 45.3% in the less developed regions. UN estimates for 2050 predict that 86% of the population in the more developed countries and 67% of the population in Third World countries will be urban. In 2050 the world population is expected to be 9.2 billion and the population of urban areas probably around 6.4 billion. Moreover, 10% of the entire urban world population will be living in megacities of 10 million inhabitants or more (Koonings & Kruijt, 2009, p.8).

Table 1: The world urbanization prospect

Region	Tipping point before 2010 (year)	2010 urban (%)	Tipping point after 2010 (year)	2050 urban (%)
World		50.6		70
MORE DEVELOPED REGIONS	before 1950	75		86
Europe	before 1950	72.6		83.8
Eastern Europe	1963	68.8		80
Northern Europe	before 1950	84.4		90.7
Southern Europe	1960	67.5		81.2
Western Europe	before 1950	77		86.5
LESS DEVELOPED REGIONS		45.3	2020	67
Africa		40	2030	61.8
Sub-Saharan Africa		37.3	2032	60.5
Eastern Africa		23.7		47.6
Northern Africa	2005	52		72
Southern Africa	1993	58.8		77.6
Western Africa		44.6	2020	68
Asia		42.5	2023	66.2
Eastern Asia		48.5	2013	74.1
South-central Asia		32.2	2040	57.2
South-eastern Asia		48.2	2013	73.3
Western Asia	1980	66.3		79.3
Latin America and the Caribbean	1962	79.4		88.7
Central America	1965	71.7		83.3
Rest of the World				
South America	1960	83.7		91.4
Northern America	before 1950	82.1		90.2
Oceania	before 1950	70.6		76.4

Source: UNDESA – World Urbanization Prospect, in UN-HABITAT, 2010, p.2

Urban poverty

The urbanization process will affect the global pattern of world poverty, informality and exclusion, which will definitely acquire an urban face (Koonings & Kruijt, 2009, p.5). Jacques Diouf, Director-General FAO, argues that “*urban poverty tends to be fuelled by people migrating towards the cities in an attempt to escape the deprivations associated with rural livelihoods. Partly due to the rural decline, the world is urbanizing at a fast pace and it will not be long before a greater part of developing country populations is living in large cities. Therefore, urban food security and its related problems should also be placed high on the agenda in the years to come*” (FAO, 2006).

The total number of urban poor (those living on less than US\$1 a day) in developing countries is estimated at 1.2 billion (UN/ESA, 2009). Poverty in the fringe of cities and people being pushed into confined spaces inside cities has led to a situation where one in six people on the planet is living in a slum (UN-HABITAT, 2003), for which Davis (2006) uses the term ‘Planet of slums’. Sub-Saharan African countries have the world’s highest rates of urban

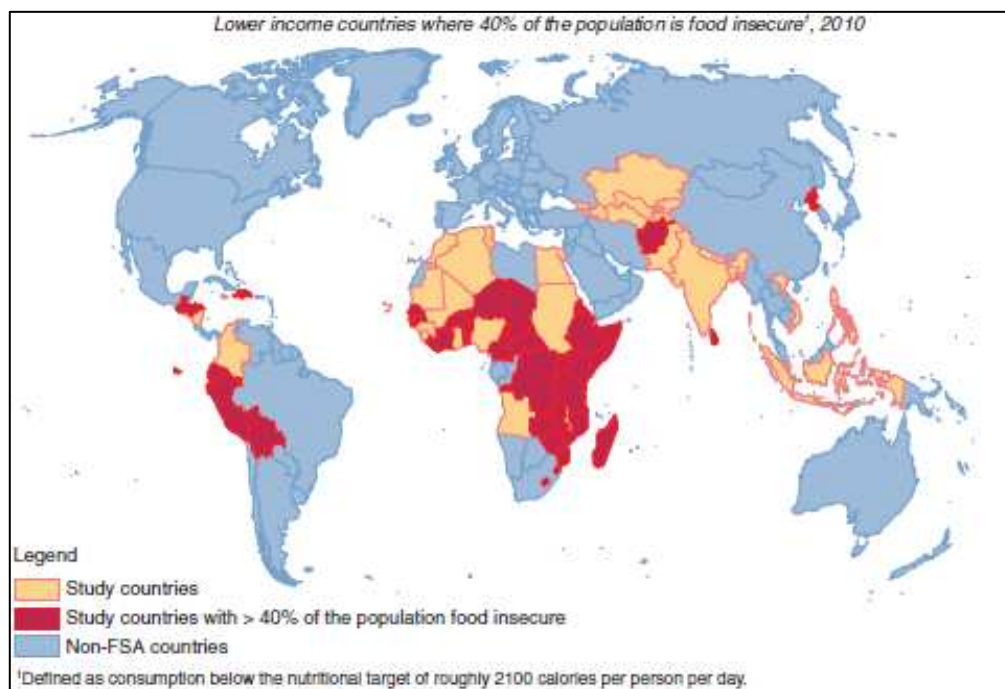
growth and the highest level of urban poverty. The slum population in these countries doubled in the period 1990 to 2005, when it reached 200 million (UN-HABITAT, 2006).

Food insecurity

Increasing urban poverty goes hand in hand with growing food insecurity and malnutrition in the cities (de Zeeuw & Dubbeling, 2009). Unlike in rural areas, problems of food insecurity in urban areas are strongly related to inadequate purchasing power of the urban poor, which limits their access to adequate quantities of nutritious food. In some cities, households spend more than 80% of their gross income on food; food that is often insufficient in neither quantity nor quality (Mougeot, 2006).

Food-insecure people are defined as those consuming less than the nutritional target of 2,100 calories per day per person (USDA, 2010). Their number in the developing countries is estimated at 882 million in 2010. The number of food-insecure people at the aggregate level will not improve much over the next decade, declining by only 1%. While there will be notable improvements in Asia and Latin America, the situation in Sub-Saharan Africa is projected to deteriorate after 2010.

Figure 3: In 37 (out of 70) developing countries, over 40% of the population is estimated to be food insecure



Source: USDA, 2010, p.3

If we look at the effects of the recent financial/economic crisis and the rising food, fuel and energy prices, we can say that it has affected the poor in all areas of developing countries. Yet, de Zeeuw and Dubbeling (2009) observe that it has had a disproportionately large effect on the urban poor. Between 2007 and 2009, the number of people with chronic food insecurity has risen by 100 million, of which the major part are the urban poor (FAO, 2009). Maxwell et al (2009) argue that with growing urban populations more urban consumers are exposed to the fluctuations in the world market prices.

According to USDA (2009), poverty and hunger are still regarded by many as a largely rural problem. However, if poverty in the cities is not explicitly addressed and food not given the needed attention in urban planning, the Millennium Development Goals (MDGs) will not be achieved. According to the FAO (2010) can this only be done within a comprehensive perspective linking cities to rural areas. The FAO's Strategic Framework 2000-2015 and corresponding Medium Term Plans therefore identified Food for the Cities as a priority area for inter-disciplinary action.

Having sketched some important challenges of the worldwide urban context nowadays, the next chapter will take a look at the presence of UA worldwide. Anyhow, many urban poor have since long been practising UA as a livelihood and survival strategy and their number has even increased, as a response to high food prices and disrupted food supplies (FAO, 2009).

1.2.2. UA worldwide

Smit et al (1996) estimated that 800 million people worldwide were involved in UA of which 200 million are market producers, employing 150 million people full-time. According to the same source, 80% of families in Libreville (Gabon), 68% of urban dwellers in six Tanzanian cities, 45% in Lusaka (Zambia), 37% in Maputo (Mozambique), 36% in Ouagadougou (Burkina Faso) and 35% in Yaoundé (Cameroon) are involved in UA. Studies show that as much as 40% of the population in African cities and up to 50% in Latin American cities are involved in UPA (IFPRI, 2002, p.3). Denninger et al. (1998) estimate that nearly 25 out of the 65 million people living in urban areas of Eritrea, Ethiopia, Kenya, Tanzania, Uganda and Zambia currently obtain part of their food from UA and that, by 2020, at least 35-40 million urban residents will depend on UA to feed themselves.

The extent of UA varies widely depending on land availability and legal restrictions (IFPRI, 2002, p.3). However, there is a growing awareness of the need for city and local authorities to play a proactive and coordinating role in alleviating urban food insecurity, as confirmed by

various declarations³ (de Zeeuw & Dubbeling, 2009). A growing number of cities have thus removed existing unnecessary legal restrictions on UA and installed facilitating and guiding policies. The FAO, under its ongoing Food for the Cities programme, is also helping a number of cities to support UA so that they can increasingly contribute to the job of feeding themselves (FAONewsroom, 2007).

1.3. Opportunities of UA

In this section, some important opportunities of UA will be clarified. Since poverty is a key determinant of food insecurity (FAO, 2006, p.17), we will first examine the importance of UA for the enhancement of urban food security, before we will discuss its impact on poverty reduction. Other opportunities will further be explained.

1.3.1. The importance of UA for the enhancement of urban food security

Food insecurity affects people who cannot access adequate food (e.g. because of poverty) irrespective of food availability. According to the FAO (2009) urban households are involved in UA generally more food secure and benefit from a more diverse diet. *‘Production of food by poor urban households can supply 20-60% of their total food consumption’*, argue de Zeeuw and Dubbeling (2009). With 15-20% of the world’s food being produced in the urban areas (Armar-Klemesu, 2000), UA can significantly benefit poor households’ food security.

The UN Comprehensive Framework for Action of the High Level Task Force on the Global Food Crisis (UN, 2008) explicitly recommends that *“interventions should also include support to increasing food production in urban areas”* (p11) and *“A paradigm shift in design and urban planning is needed that aims at: (...) Reducing the distance for transporting food by encouraging local food production, where feasible, within city boundaries and especially in immediate surroundings. Without sacrificing core principles to observe public health standards, this includes removing barriers and providing incentives for urban and peri-urban agriculture, as well as improved management of water resources in urban areas”* (p15).

³ A list of City Declarations on urban food security and UA can be found on <http://www.ruaf.org/node/2132>

1.3.2. Contribution of UA to the reduction of urban poverty

As we have seen in chapter 1.2.1, the number of urban poor as well as urban food insecure people is rising. If we look at the proportion of income that city dwellers spend on food in Table 2, we can argue that there's a need to find more reasonable sources of food. UA can be seen as one of the strategies to supplement food at the household level and to counteract the worst effects of poverty.

Table 2: Percentage of income spent on food by low-income residents in selected cities

City	Income spent on food (%)
Bangkok (Thailand)	60
La Florida (Chile)	50
Nairobi (Kenya)	40–60
Dar es Salaam (Tanzania)	85
Kinshasa (Congo)	60
Bamako (Mali)	32–64
Urban USA	9–15

Source: Akinbamijo et al, 2002, cited in Redwood, 2008, p.6

However, the effectiveness of UA is not limited to poverty reduction at the household level, since it also creates economic employment. After all, not only family members of farming households are set to work to produce goods, but numerous other people are involved and employed in the farming, marketing and processing activities. It must be noted that UA activities generally form part of the informal economy and are usually not included in official statistics (Mukwaya, 2007, p.56). It is thus very difficult to determine the contribution of UA towards the overall city economy as well as to determine the prices of the output, because much is sold in informal markets. Table 3 on the next page shows data on employment generated in UA in a number of cities.

Table 3: Contribution of UA production to urban employment

CITY	URBAN PRODUCERS
Accra, Ghana (Sonou, 2001; Amar-Klimesu & Maxwell, 2000)	13.6% of all households in 16 city areas are farming among them 700 market farmers (1997)
Dakar, Senegal (Mbaye & Moustier, 2000)	3000 family vegetable farms (14000 jobs) of which 1250 fully commercial (9000 jobs); 250 poultry units (1998)
Dar es Salaam, Tanzania (Sawio 1998)	15–20% of all families in 2 city areas have a home garden; urban agriculture forms at least 60% of the informal sector and was the second largest urban employer (20%) in 1997
Kumasi, Ghana (Dreschel et al., 2000; Poynte & Fielding, 2000)	1470 registered farms and 30,000 unregistered farmers; 500 cattle owners; 100 registered poultry farms (+ 200 unregistered)
Kampala, Uganda (International Potato Centre, 2007)	35% of the households are engaged in urban agriculture
Nairobi, Kenya (Foeken & Mwangi, 2000)	150 000 households (30% of population); Agriculture provided (in 1993) the highest self-employment earnings among small-scale enterprises
Cienfuegos, Cuba (Socorro, 2003)	In the period between 1995-2003 17,000 jobs were generated; 1.17 % of city GDP
Governador Valladares, Brazil (Lovo & Soares, 2003)	45 % of population practices some form of urban agriculture
Habana, Cuba (Gonzalez & Murphy, 2000)	117, 000 direct and 26, 000 indirect jobs in urban agriculture
Lima, Peru (IPC, 2007)	20% of the population of Lurigancho-Chosica District of Lima is involved full-time or part-time in agriculture
Shanghai, China (Yi-Zhang & Zhang, 2000)	2.7 million farmers (31.8% of all workers) 2% of city GDP
Beijing, China Liu, 2004	Peri-urban agriculture is absorbing high amounts of migrant labour (between 500,000 and 1 million people)
Manilla, Philippines (IPC, 2007)	120,000 low-income households in the Manila region- depend economically on local jasmine production (including jasmine farmers, garland makers, garland sellers)

Source: compiled by RUAF Foundation (in de Zeeuw & Dubbeling, 2009)

Poor households involved in UPA thus benefit economically from their production activities by saving on food expenditure –these savings can be used for other livelihood essentials like water, medicines, rent, schooling and clothing-, sales of surplus crop and livestock production, and in addition from production and sales of processed products (like meals, jams, etc.) and agricultural inputs (e.g. production of compost or animal feed from collected organic waste) (de Zeeuw & Dubbeling, 2009).

Sabine Gündel (2006) argues that “*Urban and peri-urban food production, particularly of root and tuber crops, bananas, fruit trees, vegetables, and small-scale livestock contribute to improved food security and income generation. It provides a safety net for the poor, who do not have access to credit or other forms of savings.*” Thereby, she mentions the contribution of UA to Millennium Development Goal 1, namely ‘Eradication of extreme poverty and hunger’.

1.3.3. Other opportunities

In addition to food security, poverty reduction and employment, there are several other benefits of UA for individuals and the community as a whole. The following list represents the most important ones, though other opportunities might of course be possible.

- UA contributes to diversity in the diet and reduces the urban trend of eating more processed, high-sodium foods (Maxwell and Zziwa, 1992)
- UA can play a role in the social inclusion of marginalized groups (the aged without a pension, unemployed youth, people with disabilities, people affected by HIV-AIDS, female headed households, those affected by war or disasters etc.) by providing them an opportunity to feed their families and raise an income, their self-management and entrepreneurial capacities are enhanced, which means more inclusion in the society (de Zeeuw & Dubbeling, 2009).
- UA provides recreational services, maintain landscapes and biodiversity and create better living conditions in the cities (van Veenhuizen & Danso, 2007, p.1).
- Agriculture within the city can make productive use of urban open spaces, treating and/or recovering urban solid and liquid wastes and managing fresh water resources more effectively (Mougeot, 2006).
- UA reduces the cost and ecological footprint of food since locally-produced food involves fewer intermediaries and less transport, cold storage, processing and packaging (FAO, 2008, p.24).
- The cultural role of UA deserves attention as well (de Zeeuw & Dubbeling, 2009). Large parts of the current urban population are not born in the city where they live. Each of these migrant groups has its own preferences, which are not always available in the local market or, if available, at unaffordable prices. Therefore, migrant groups often grow their familiar food in their urban and peri-urban gardens or plots in an attempt to maintain their own food culture and identity.
- According to de Zeeuw and Dubbeling (2009), involvement in UA also leads to better mitigation of diseases (better nutrition, home-grown medicinal plants), more physical exercise, less dependency on gifts and food aid and enhanced self-esteem.

We have already discussed Millennium Development Goal (MDG) 1 in relation to UA in chapter 1.3.3. However, UA can also contribute to the following MDGs (Gündel, 2006): *‘Promote gender equality and empower women’* (MDG 3) since UA might be a good strategy for women because they tend to be more marginalized in urban areas and have less access to formal income generating activities than men; *‘Combat HIV/AIDS, malaria, and other diseases’* (MDG 6) since improved practices and awareness in UA, especially in urban livestock keeping and waste management, could contribute significantly to the reduction of several diseases; *‘Ensure environmental sustainability’* (MDG 7) since improved UA practices can help to improve the environmental sustainability of deprived areas.

1.4. Risks and challenges

Alongside the opportunities mentioned above, we can't close our eyes for some concerns and challenges related to UA. The safety of production is one of them (de Zeeuw & Dubbeling, 2009). Especially in the case of crop/animal production that takes place close to busy roads, or industrial areas, there's the risk of soils, water and production being contaminated with heavy metals. Further, if urban wastewater is used for irrigation, there's the danger of diseases from pathogens. Moreover, if animals are raised close to people in combination with poor sanitation, diseases can be transferred by the animals. The health risks of UA depend of course on the type of agriculture, the sanity and ecological conditions in its location and the way agriculture is practised. UA may also have negative impacts on the urban environment. Soil erosion may occur and, if high amounts of fertilizers and pesticides are used over an extended period, ground water may be polluted with residues of agrochemicals. Adequate management of the risks described above is thus necessary, for example through education of farmers and consumers and adequate zoning of the farming activities.

Margaret Azuba (2007, p.9) sees population growth as one of the main challenges of UA, since this has led to encroachment on wetlands, green parks and road reserves. She also adds lack of extension services and low levels of maintenance to the list of challenges. Some other challenges, identified by Maria Kaweesa (2005) are the following: psychosocial hazard such as thefts, odours, noise, inadequate support from the municipal and city councils for material and financial resources, lack of a clear policy on UA, competing land use for city gaps, inadequate knowledge and access to information.

Having discussed the concept of UA, its dynamics, classifications, presence, opportunities and challenges at world scale –with emphasis on developing countries-, the following chapter will take a look at the situation of UA in Uganda.

2. UA in Uganda

2.1. Context

2.1.1. Urbanization in Uganda

Urbanization in Uganda is extremely low (12,2%) compared to its neighbours Kenya and Tanzania, which had 20% and 22% of their population living in urban areas in 2002 respectively (Nabukhonzo, 2007, p.2). However, the urban⁴ population in Uganda is growing rapidly at 5.1%, compared to the national growth of 3.4% (UBOS, 2002). This is due to a range of economic, political, social, cultural and environmental factors (Byamugisha et al, 2008). Rural to urban migration is by far the most significant cause of the urban expansion (Lwasa, n.d.). The Uganda Human Development Report (2007) attributes the high population growth rate to a high fertility rate, low prevalence of family planning methods, young marriage age for women (17 years of age on average) and the high influx of refugees. Also the remarkable economic growth and political stability over the last decade have led to the expansion of existing urban centres, in particular Kampala, and the growth of hundreds of small trading centres in the countryside, particularly along highways and major road junctions (Nabukhonzo, 2007, p.5). The 2002 Census (see Table 5) indicated that nearly 3 million people were living in urban areas, compared to almost 650,000 in 1969.

Table 4: Urbanization in Uganda between 1969 and 2002

Index	1969	1980	1991	2002
Number of towns	58	96	150	74 ⁴
Urban population	634,952	938,287	1,889,622	2,921,981
Proportion urban %	6.6	7.4	11.3	12.2
Urban growth rate %	8.17	3.93	6.35	3.73
% in capital city	53.9	47.9	41.0	40.7
% in 20 largest towns	87.4	80.4	74.4	76.6

Source: UBOS, 2002

⁴ The meaning of the term 'urban areas' needs to be clarified because in Uganda it changed over time. The 2002 Census defined urban areas as gazetted cities, municipalities and town councils according to the Local Government Act 2000, while the earlier censuses included ungazetted trading centres with more than 1000 people as part of the urban population (UBOS 2005).

Table 5 below shows that 13.3% of the Ugandan population nowadays lives in urban areas and it is projected that by 2030 Uganda's urban population will have doubled to account for over 30% of total population. With its population growth rate standing at 3.4% per year, Uganda has the 3rd highest growing populations in the world (UBOS, 2002).

Table 5: Urban population of Uganda (%) between 2000 and 2050

Year	Percentage urban
2000	12.1
2005	12.5
2009	13.1
2010	13.3
2015	14.4
2020	15.9
2025	18.0
2030	20.6
2035	23.4
2040	26.5
2045	29.9
2050	33.5

Source: UN/ESA, 2009

Uganda has not developed an urbanization policy, although it has a newly created Ministry for Lands, Housing and Urban Development (Nabukhonzo, 2007). Urban change is a reality and a continuous process in Uganda, influenced by local and global trends, thus creating continued pressure on infrastructure and other services as well as environmental conditions in urban areas. If the present rate of urban population growth continues, it will result in the growth of squatter settlements and slums. The urbanization process thus needs urgent attention.

2.1.2. Urban development

The State of Uganda Population Report (Nabukhonzo, 2007, p.2) explains the urban development of Uganda in a historical point of view. In the 1960s, Uganda had a deliberate policy on industrialization at regional level with the aim of developing urban areas, creating employment opportunities to absorb the immigrants from rural areas and empower them economically. However, according to the same report, most of these urban centres developed without proper planning. Anyhow, the legal instrument in place at that time (and up until today) is the Town and Country Planning Act of 1964, which provides planning standards for built-up spaces in urban areas and land uses. The Act emphasizes the need for development to

precede planning in urban areas. Following the decentralization policy of 1993, the Government also decentralized the planning authorities. This had an impact on planning for the urban lands because landlords could subdivide their land without giving due consideration for urban-based infrastructure and services like water pipelines, power lines, access roads, and underground communication cables. The report sees this as the root causes for haphazard growth of urban areas, affecting orderly urban development. Urban development was further affected by the land tenure system reforms, the report continues, which reduced the power of Urban Councils to develop urban land. Initially, urban land was entrusted to the Urban Councils, and they had power to secure land, plan and develop it, but land reform and the enactment of the Land Act of 1998 entrusted the land to the people. Any development on urban land necessitates compensating the bonafide occupants yet urban authorities are financially constrained to provide for urban-based infrastructure and amenities. The report concludes that this has resulted in the growth of squatter settlements and slums.

2.1.3. Urban poverty

Poverty is a complex, multi-dimensional phenomenon. The poor people in the Uganda Participatory Poverty Assessment (1999) define poverty as more than just the lack of incomes (Uganda, 2001). It also includes the lack of means to satisfy basic, social needs, as well as feeling powerlessness to break out of the cycle of poverty, insecurity of person and property. According to 2006 statistics, 31% of the population lives below the poverty line (under \$1) (UNDP, 2010a).

Between 1990 and 2007 Uganda's Human Development Index (HDI) rose by 1.59% annually from 0.392 to 0.514 today, which gives the country a rank of 157 out of 182 countries with data (UNDP, 2009). Poverty levels in the urban areas have remained the same over the two survey years at 14% (2002 and 2006), with an increase in the absolute number of the poor from 0.5 million to 0.6 million (Emwanu et al, 2007). The Northern Region still has the highest urban poverty rate, while the Eastern Region has the lowest urban poverty rate (15.9%). In Kampala the poverty rate is 5%. The poverty gap shows a consistent picture. The North has the highest poverty gap (13%) while Kampala has the lowest poverty gap (1.1%). When the Gini coefficient was considered, the Central Region (with or without Kampala) had the highest inequality figures. The lowest inequality is observed in Western Region.

If we look at the urban unemployment rates, the 2002 census showed that the urban rate of 5.4% was more than two times the rural one of 2%. The majority of the urban population was employed as service workers (34%) (Nabukhonzo, 2007). The rapid urbanization has thus

manifested into a rapid increase in social inequality, urban poverty, food insecurity and malnutrition. Kiguli (2005) estimated that 12.2% of the population in Kampala city depended on subsistence, lived below the poverty line, and over half of their income was spent on food and other basic necessities. Moreover, the percentage of undernourished people deserves attention, with 15% of the total population being undernourished (2004-2006) (CountryStat Uganda, 2010).

Byamuhanza & Fried (personal communication, 30/03/2010) argue that the world food crisis in 2008 caused rising food prices in Uganda and people being less able to buy food. Since Uganda has a lot of imported products in the supermarkets –which need a lot of transport-, prices are rising even more with the rise of fuel prices nowadays. In order to cope with these external shocks, Ugandans are changing their food patterns, they say.

As lack of food increases and life for the urban dwellers becomes more complex, we can already imagine UA being one of the alternative survival strategies. Starting from chapter 2.2., we will discuss the evolution, presence, opportunities and challenges of UA in Uganda. First we will take a look on characteristics of agriculture, being the backbone of the economy in Uganda.

2.1.4. Agriculture in Uganda

Agriculture contributes over 90% of Uganda's exports earnings and provides employment to about 80% of the population. However, the agricultural sector has been continuously declining. The structural adjustments that the National Resistance Movement (NRM) government decided to carry out -with advice from the World Bank and the International Monetary Fund (IMF)- in 1987, resulted in selling most of the government-owned enterprises to the private sector (Assimwe, 2010). Consequently, the development of the country was left in the hands of the private sector. These adjustments also saw the collapse of cooperatives which were a big source of support to the agricultural sector through provision of the funds to farmers from the cooperative bank, provision of extension workers, farm equipment and effective marketing of farm produce.

Its contribution to the country's Gross Domestic Product is said to have declined from 56% in the 1990s to 15% in 2009. According to the 2002 census results, 78% of Ugandans depend on agriculture for a livelihood and the agricultural population annual growth rate (1998-2008) is

2.85% (CountrySTAT Uganda, 2010). Table 6 below shows Uganda's top agricultural production by quantity.

Table 6: Top agricultural production Uganda by quantity

Rank	Commodity	Production (Int \$1000)	Production (MT)	
1	Plantains	1535646	9231000	
2	Cassava	321099	4456000	
3	Sweet potatoes	261475	2602000	
4	Sugar cane	41540	(F) 2350000	
5	Maize	128569	1262000	
6	Cow milk, whole, fresh	195465	(Fc) 735000	
7	Millet	110469	732000	
8	Potatoes	83490	650000	
9	Bananas	87643	(F) 615000	
10	Sorghum	47689	456000	
11	Beans, dry	170560	435000	
12	Vegetables fresh nes	74121	(F) 395000	
13	Sunflower seed	44467	190000	
14	Soybeans	36554	176000	
15	Coffee, green	137350	175346	
16	Sesame seed	146135	168000	
17	Groundnuts, with shell	72920	165000	
18	Rice, paddy	31972	162000	[]: Official data
19	Onions, dry	27090	(F) 147000	F : FAO estimate
20	Pigeon peas	39627	89000	Fc: Calculated data

Source: FAOStat, 2007

Despite its unimpressive performance for the last years, the importance of agriculture for the country may not be underestimated. Quoting the NDP (2010, p.77):

“Agriculture remains important because it provides the basis for growth in other sectors such as manufacturing and services. (...) However, if greater investments were made in agriculture and the sector grew at 5.9 percent per year to 2015, the national poverty rate would be reduced by an additional 8.6 percentage points thereby reducing head count poverty to 17.9 percent of the population and the absolute number of poor people to 6.9 million. Therefore, investing more in agriculture to achieve higher sector growth rates is the surest way of effectively reducing poverty.”

In March 2010, the GoU signed the Comprehensive Africa Agriculture Development Programme (CAADP) being part of the New Partnership for Africa's Development (NEPAD) (Kanyegirire, 2010). CAADP is based on two major principles: the pursuit of a 6% average annual growth rate –compared to the current 2.6%- at the national level in the agricultural sector, and the allocation of 10% of national budgets to agriculture. The total budget for agriculture in 2010/2011 was 310 billion USh⁵, compared to 223 billion USh in 2008/2009.

2.2. Evolution of UA

UA in Uganda emerged strongly as a survival strategy to fill the gap that was created by the death of the formal economy in the 1970s and early 80s followed by economic breakdowns (Mukwaya, 2007, p.49). The period was characterized by massive loss of jobs as a result of the structural adjustment programmes leaving the urban community desperate for survival. Moreover, the turbulent history of Uganda encouraged self-reliance. During the dictatorial rule of Idi Amin (1971-1979) and the civil war in the 1980s, inhabitants of Kampala and other urban centres increasingly relied on subsistence food production (Maxwell, 1994). Against this background, UA remains a good survival option for the urban dwellers.

UA has persisted in Kampala since the 19th century despite the fact that it only became legal in 2005 (Azuba & McCans, 2006). This was largely precipitated by the fact that the creation of Kampala Municipality was superimposed on the cultural and agricultural traditions of Buganda kingdom and thus the continued practice of UA. In most urban areas, however, the expansion of urban boundaries into the surrounding rural communities has engulfed communities where agriculture is traditionally the dominant activity (Mukwaya, 2007, p.49). Today, as urbanization accelerates in the country, UA has evolved into a livelihood strategy for different levels of the population and with various purposes, as we will further examine in Chapter 2.5.

⁵ USh = Uganda Shillings: 1000USh = 0.36 Euro

2.3. Organizations and institutions involved⁶

Few NGOs are working on UA (Kaweesa, personal communication, 01/04/2010). However, several organizations are doing great efforts for the development of UA. Confirmed by the citation above, the Edible Landscape Project (project of KCC) brings positive change. It made urban planning staff and the KCC administration begin to realize the possibility of integrating agricultural land uses in a planned neighbourhood (MaxMillan, 2007). The Sustainable Neighbourhoods in Focus (SNF) is one of the few projects of the KCC working on waste management. People are supported to reuse their waste (e.g. from banana peelings), by composting it and use it as manure to grow vegetables (Nyambere, personal communication, 31/03/2010). Through better garbage management, they want to contribute to better living conditions and the reduction of poverty. The Kampala Integrated Environmental Planning and Management Project (KIEMP) –one of the projects of the Belgian Technical Cooperation (BTC) in collaboration with KCC- also supports greening at the parish level and UA at the household level (Keulens, personal communication, 26/03/2010). The National Organic Agricultural Movement of Uganda (NOGAMU) supports urban farmers in organic agriculture in Kampala and elsewhere, by supporting and training them. “*We teach urban farmers to use whatever space they have*”, tells Annet Barongi a staff member of NOGAMU (Barongi, personal communication, 01/04/2010). Urban Harvest, Environmental Alert and Makerere University are other institutions contributing to national and international research and development of UA. The Kampala Urban Food Security, Agriculture and Livestock Coordinating Committee, or KUFSALCC was formed in 2004 and unites the NGOs (Send a Cow among others) and (research) organizations involved in promoting UA. KUFSALCC has become a voice for urban farmers across the capital district. Moreover, members of KUFSALCC have played a crucial role in educating and lobbying municipal authorities about the need to reform the city’s existing farming regulations (Conway, 2006). However, interest in UA grows, since other NGOs -like Save the Children (Byamuhanza & Fried, personal communication, 30/03/2010)- want to integrate UA in their future programmes.

2.4. Relating UA to the existing policies

UA has become a real, complex and dynamic feature of the urban landscape and socioeconomic reality in Uganda (Nuwagaba 2004). Although UA has had no legal status in

⁶ It needs to be noted that only a selection is given. There are other organizations and institutions involved as well, though the ones being described play a major role.

Uganda for a long time, many urban planners and national policy makers have recently recognized its central role in the wider urban economy (Nabukhonzonzo, 2007, p.49). However, its significance in addressing poverty had been undermined in terms of legislation and financing in national plans (Environmental Alert, 2006, p.3).

Ssemwanga (2007) signals the following: *“Despite its widespread evidence, UA is misconstrued as a disorganized and pervasive activity for the urban poor with no supporting policy for promotion and extension of services to the multitude of urban farmers”*. The urban development and management policy is unified by national laws. However, while in Kampala bye-laws have been implemented to guide UA, in other Municipalities prohibitive bye-laws are still enforced. It should be noted that Kampala became the first city in sub-Saharan Africa to develop city laws for UA. This section questions the place of UA in the current policy frameworks.

2.4.1. The 5 Kampala Urban Agriculture Ordinances⁷

Although UA in Kampala has been practiced in the city since the 1890s, it only became legal in 2005, when a set of 5 Ordinances to regulate and control UPA activities in Kampala city were approved. Before, post-independence bye-laws existed: The Kampala City Registration and Control of Dogs Ordinance (1964) (which emphasized the control of rabies), The Kampala City Maintenance of Law and Order Ordinance (1964) (which emphasized the control of roaming livestock and proper disposal of carcasses) and The Public Health Act (1964) (which emphasized the growing of trees and ornamental plants in the city) (State Nabukhonzonzo, 2007, p.50). In 1994, an UA sector was created within the City Council’s department of Production and Marketing to support, promote and guide communities in UA and ensure household food security and nutrition. In 2003, the different laws/ordinances were carefully reviewed, and by 2005 they were finally approved.

The Ordinances oblige any urban farmer involved in UA to have permission from KCC and any urban farmer involved in commercial UA to have a licence from KCC. The Ordinances prohibit UA to be undertaken in the following places⁸: along road reserves, in wetlands, on green belts, in city parks, on abandoned landfills and toxic areas, in an area less than ten feet away from an open drainage channel or any other area that the council may specify. Moreover, use of untreated human waste for agricultural purposes is not allowed. Further,

⁷ The 5 Kampala ordinances on UA are framed in Annex I, p.110

⁸ This information is retrieved from the popularized Ordinances by Environmental Alert, see Annex II, p.111

pollution of the environment by using agro-chemicals and waste from industries, petrol stations, workshops, vehicles and other polluting activities are not allowed in the city. The failure to abide these restrictions will result into a fine not exceeding 40,000US\$ or imprisonment not exceeding six months, or both, or an equivalent term of community service.

Rutt and van Beeck (2007) argue that *“the legal status of both urban agriculture and recycling practices creates more stability on the surface, but this legislation is not as enabling as it may seem at first glance. New permit requirements outlined in the Urban Agriculture Ordinances may, ironically restrict rather than stimulate innovation by creating barriers that previously did not exist.”* Therefore, they conclude that *“policies (...) must be carefully and thoughtfully constructed to ensure maximum gains for the society as a whole”*.

However, since its legalization, UA has been steadily encouraged by municipal authorities. Mulyowa (1996, cited in Azuba, 2007), for example, studied the growth trends of UA in Entebbe Municipality and how UA has encroached on and overlapped with the urban land use patterns. His study pushed urban planners to realize the importance of urban farming activities and thus it was included in the 1993 structure plan as one of the land use patterns in Entebbe Municipality.

2.4.2. PEAP – NDP

The recently implemented National Development Plan (NDP) (2010-2015), which replaces the Poverty Eradication Action Plan (PEAP) (1997-2009), will guide the country's development plans over the next five years. It aims to reduce the percentage of people living below the poverty line from 31% to 25% by ‘Transforming the Ugandan society from a peasant to a modern and prosperous middle class within 30 years’, as to the slogan of the plan (Uganda, 2010). Regarding the inclusion of UA in the PEAP, Environmental Alert (2006, p.9) concluded the following: *“The PEAP priorities and strategic approaches do not include UA. The contextual analysis that was used to inform the PEAP did not assess the livelihood strategies of the urban poor thus limiting any inclusion of UA in the plan.”* Will there be some progress with the NDP? By raising farm productivity, increasing the share of agricultural production that is marketed, and creating on-farm and off-farm employment, it aims to contribute to increasing incomes of the poor. Maria Kawempe, Senior Programme Officer of Food Security and Empowerment of Environmental Alert, argues that *“the NDP has something on UA, more than the PEAP, but UA within the Agricultural framework is a challenge”* (Kawempe, personal communication, 01/04/2010).

2.4.3. PMA – NAADS

In 2000 the GoU launched the Plan for Modernization of Agriculture (PMA). It is a holistic, strategic framework for eradicating poverty through multi-sectional interventions enabling the people to improve their livelihoods in a sustainable manner (Uganda, 2000). It is aimed at transforming subsistence farmers into market oriented commercial producers. Moreover, it is an outcome-focused set of principles upon which intra and inter-sectoral policies and investment plans can be developed at both the central and local government levels. The PMA was part of the GoU's broader strategy of poverty eradication, the PEAP. However, the PMA has also the rural areas as the main target areas (Environmental Alert, 2006).

However, one of the components of the PMA, namely the National Agricultural Advisory Services (NAADS), was created in 2001 as a Ugandan government agency to improve rural livelihoods by increasing agricultural productivity and profitability, which is one of the seven pillars of the PMA. The programme has of recently shifted attention to urban areas. *"We have been pushing NAADS by sharing materials to convince them that UA is a livelihood strategy, but despite these efforts all the support remains focused to rural areas"*, claims Maria Kawempe from Environmental Alert (Kawempe, personal communication, 01/04/2010). Prof. Sabati from the Makerere University confirmed the focus of NAADS on rural areas (Sabati, personal communication, 22/03/2010). On the other side, Aggrey Kyomugunzi, Livestock Production Assistant of NAADS, stresses that support in Kampala concentrates on the peri-urban area (Kyomugunzi, personal communication, 29/03/2010).

For the NAADS programme, public funds are provided by the local governments to farmer groups and agricultural advisory services are delivered. Though, consulting the newspapers, one will regularly find topics about the misallocation of the funds and corruption acts. A recent article in the Daily Monitor, one of the Uganda's leading newspapers, headed *'Why NAADS' activities have been suspended yet again'* (Daily Monitor, 2010, July 21), confirms its poor implementation. The article states it is unknown how many districts will suffer the NAADS funding suspension due to inappropriate accountability. *'But we know for certain that the President is suspecting foul play in the activities of this national anti-poverty initiative into which every year Shs120b is sunk'*, claims the article. Moreover, according to the article, questions are raised about the selection of farmers to be granted support, since many think that they are selected according to their political affiliation other than their farming skills. In the words of the article: *'When the president visits their farms during his NAADS and PFA supervision and makes a donation to the farmer (...), many interpret the gestures as a tactic to woo voters and campaigners for the ruling NRM in future elections'*.

What originally started as an agricultural development initiative is thus now increasingly being viewed as an initiative with a political agenda involved.

2.4.4. Other policies

Uganda Food and Nutrition Policy (UFNP)

UA can also make an entry point into the all inclusive UFNP that was formulated in July 2003 within the context of the overall national development objective as spelt out in the PEAP. Considering the guiding principles of the UFNP, Environmental Alert (2006) observes that there are no specific interventions designed to address the factors causing nutritional vulnerability among the urban poor.

National Cattle Breeding Policy

The National Cattle Breeding Policy of Uganda also provides guidelines to farmers, companies, researchers, extension workers and civic leaders on suitable breeds for various agro-ecological zones including intensive dairy production in peri-urban areas, alternative breeding programs, sustainable use of indigenous genetic resources and the use of modern breeding technologies, but not much of this policy framework has been implemented in urban areas (Mukwaya, 2007, p.49).

National Land Use Policy (NLUP)

Environmental Alert (2006) observes that the NLUP generally recognizes UA. However, this policy also identifies limitations in the land use planning that need to be addressed in order to ensure sustainable utilization of natural resources for social economic development. However, the remaining challenge is the incorporation of its implementation into the national budget priorities.

Having sketched the most important existing policies related to UA, we can fear that the urban poor will stay marginalized, since UA gains limited support in the current policy frameworks.

2.5. Access to land for UA

“Although urban agriculture offers easy access to services on markets, gaining access to land to grow food and rear animals is a challenge for the urban poor.”

(Kiguli et al, 2003)

Azuba (2007, p.12) argues that land for farming is accessed through informal means. The many different ways are: squatting (46%), borrowing (34%), inheriting (11%), renting (5%) and co-owning with spouses (4%) (Nuwagaba et al, 2003). Although access to land is a fundamental asset, it is not obvious for some groups of the society since the majority of the poor women who depend on land for their livelihood, are either landless or have limited and insecure rights to land (Kiguli et al, 2004).

Land in Kampala is held and administered in a complex web of management regimes, which restricts access and ownership (Kiguli et al, 2003). The British administrators introduced a system of land tenure in 1900, under which land was divided into *mailo* (from the English word mile) as private land belonging to the Ganda King and chiefs and public (crown) land owned by Queen of England. Most urban poor settlements and activities are on *mailo*, a form of freehold where individuals control access, irrespective of their capacity to develop the land. The majority of the poor gain their access to land as customary tenants on privately owned land in peri-urban areas, a form of land tenure unique to Buganda⁹, known as *bibanja* (plots) on mailoland.

A study by Environmental Alert (2006) in Mbale, Lira, Mbarara and Entebbe found that land for UA was commonly accessed under the following tenure arrangements: leasehold (36.2%), public and municipal agreements (33.9%), tenancy/renting (14.2%), customary/family land (8.6%), temporary/borrowing (8.6%) and *mailo* (2.4%).

2.6. Dimensions of UA

This section mainly presents data on Kampala, since most of the existing literature and research are focused on Kampala. Though, a recent study (Environmental Alert, 2006) on the

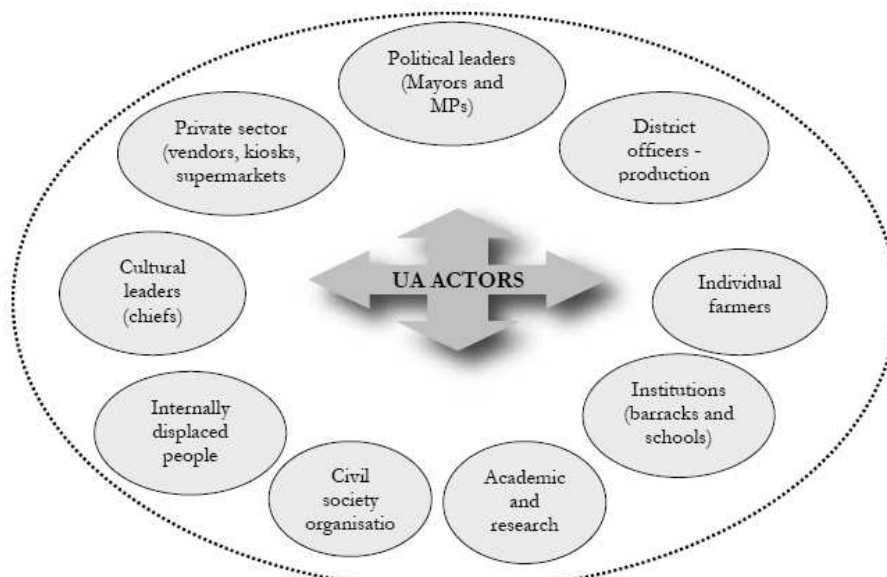
⁹ Buganda is a subnational kingdom within Uganda (Wikipedia, 2010a). It is a constitutional monarchy with a large degree of autonomy from the Ugandan state, although tensions between the kingdom and the Ugandan government continue to be a defining feature of Ugandan politics.

magnitude and contribution of UA activities to urban people's livelihoods in Mbale, Lira, Mbarara and Entebbe, showed that UA exists in all the Municipalities and that it is an important livelihood strategy for different categories of people. Data from this research will also be given.

2.6.1. Types of actors involved

Large parts of the people involved in UA in Uganda are the urban poor. In Kampala, more than 30% of the households are engaged in UA. Moreover, women and children are primarily involved, since men prefer quick income generating projects (Kiguli et al, 2003). These urban women, who constitute for 75% (Muwanga, 2001) of all the practitioners involved, come from low-income households and do not have access to sufficient money to guarantee access to food for the persons for whom they are responsible for feeding, either because of insufficient total household income or because women lack control over the way in which household income is allocated (Maxwell, 1994). Maxwell (1995) and Muwanga (2001) observed that the following actors have a long standing history of practising UA: individual farmers, schools and Government institutions such as Police barracks. Even people in the formal sector engage in UA (Kawempe, personal communication, 01/04/2010). The study by Environmental Alert (2006) however, added technical staff, political leaders, cultural leaders and the private sector to the list.

Figure 4: Actors of UA



Source: Mukwaya, 2007, p.51

The figure on the previous page also includes Internally Displaced People (IDPs)¹⁰. In times of IDP camps, many IDPs were involved in UA. In Gulu district, Action Against Hunger, started a micro-gardening project in two IDP camps in 2004 (Radice, 2005). Small gardens were constructed near the beneficiaries' households, using local materials, whereby the households' food insecurity was addressed. One of the innovative methods used was farming in bags (picture 3 and 4 below).



Picture 3 and 4: Farming in bags (De Leever, Katende Harambe Rural-Urban Training Centre, Kampala, 28/03/2010)

Although many of the more than 1.8 million IDPs in Uganda have now returned to their home areas, a report from the Internal Displacement Monitoring Centre (IDMC) (IDMC, 2009a) states: *“By the end of 2009, 235,000 IDPs remained in camps and a further 200,000 in transit sites. A disproportionate number of these IDPs were elderly, disabled and sick people, including people living with HIV/AIDS”*. That being said, it is thus important that UA continues to get attention and support for people remaining in IDP camps, since it appears to be of major importance to tackle food insecurity.

2.6.2. Types of location

“Agriculture in Kampala is practised mainly in valley slums where the poor live in informal settlements.” (Kiguli et al, 2003)

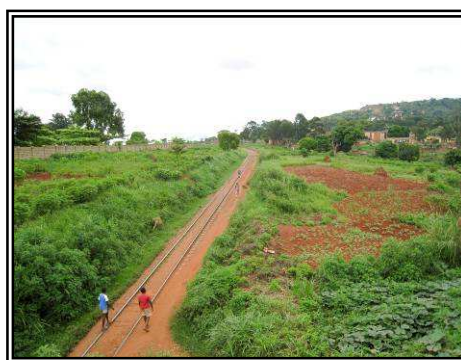
Much of the agriculture in Uganda is practised in informal settlements where low-income earners can be found, but significant land areas under UA in middle to high income suburbs

¹⁰ The more than 20 years during conflict in Northern Uganda, defined by violence and attacks by LRA (Lord's Resistance Army) rebels –under leadership of Joseph Kony-, led to massive displacements of more than 1.8 million people (IDMC, 2009a).

cannot be underestimated. In Kampala about 50% of the land is underdeveloped and mainly utilized for UPA (Kiguli et al, 2004). UPA is mainly carried out around homes, on private and public land and places that are unsuitable for development e.g. road side verges, banks of drainage channels, wetlands, etc. (Environmental Alert, 2005). All the wetlands are in the hands of the GoU and it is thus not permitted to cultivate in these areas. However, with corruption being a well-known feature in Uganda, people sometimes pay officials to be able to cultivate (Mbawo, personal communication, 28/03/2010). Also cultivating near transport networks, railways, electricity and water lines is prohibited and even risky, as Margaret Azuba (cited in MacMillan, 2007) argues: *“People run the risk of having their crops slashed by KCC enforcement officers if they farm in prohibited areas, such as beneath power lines or along road verges”*.



Picture 5: Agriculture within Kampala City boundaries (De Leever, 25/03/2010)



Picture 6: Plots along the railway (no longer in use) (De Leever, Kampala, 25/03/2010)

The study by Environmental Alert (2006) revealed that short term crops (beans, cabbage, leafy vegetables and tomatoes) were commonly grown in the core of the four Municipalities (Mbale, Lira, Mbarara and Entebbe) while long term crops (cassava, sweet potatoes and sunflower) were mostly grown in the peri-urban zones. Moreover, UA in and around homesteads represented 82.3%, off-plot gardens (but still within the Municipal boundaries) 17.3%, Municipal land 6.8%, public land 4.1% and academic institutions 2.1%.

2.6.3. Types of products

In Kampala, staple crops (cassava, sweet potatoes, beans, maize, bananas and cocoyams) predominate, although leafy vegetables and mushrooms are increasingly being grown (Maxwell, 1995). Predominant livestock are chicken (for eggs and meat) and dairy cattle, but pig-keeping and fish-farming are also increasing. Moreover, some paddy rice fields can be observed in the swampy areas. Azuba (2007) found out that the main trees commonly grown

in urban areas include fruit trees, leguminous trees, medicinal trees, woodlots for commercial purposes and ornamental trees. To give some specific figures: 80% of the urban farmers are involved in crop production, 12.6% in poultry, 5.8% in dairy cattle, 1.9% in rabbit keeping, 10% in goat keeping and 1% in other production enterprises like fish and pig farming (Kaweesa, 2005, p.6). Generally speaking, most of these products and enterprises can be found in other Municipalities of Uganda as well, although it must be noted that types of products depend on local conditions (soil, rain, etc.).

2.6.4. Types of economic activities

50% of urban households in Kampala supplement their incomes through UPA (Environmental Alert, 2006). Dan Maxwell (1994) argues the following: *‘With the exception of a small group of commercially-oriented farmers, UA in Kampala represents a form of semi-proletarianism, or relying on a measure of cash income (labour market participation or petty trading) as well as on home production for direct consumption’*. The study by Environmental Alert (2006) established that 56,3% of farmers recycle organic waste for livestock feeds, compost and other purposes, which can be seen as another economic activity.

2.6.5. Product destination and degree of market orientation

Since the most common type of farming system in Kampala –and other urban areas in Uganda- is subsistence mixed farming, the majority of urban agricultural produce is for home consumption, while a small proportion is intended for sale (Kiguli et al, 2003).

Some figures on the consumption of UA produce in Uganda: 40% of the food consumed in Kampala is produced within city boundaries (Maxwell, 1995); 70% of all the food consumed in Mbale Municipality, 60% in Mbarara Municipality and 60% in Lira Municipality come from urban farming (Environmental Alert, 2006); 70% of poultry products, 45% of vegetables and 91% of mushrooms consumed in Kampala are produced by urban farmers (Muwanga, 2001).

2.6.6. Scale and technology used

Most farmers are small-scale farmers or mid-scale farmers, since they mainly practice subsistence farming. In Kampala, more than 30% of the households are engaged in UA from whom 83% have backyard gardens (less than 1 acre), 10% have between 1-3 acres, 5% have

more than 5 acres and 2% are institutions (Kaweesa, 2005). In Mbale, Lira, Mbarara and Entebbe, households commonly practised UA on land ranging from 0.25 acres to 2 acres, although there were some exceptional cases of more than 4 acres (Environmental Alert, 2006).

2.7. Opportunities of UA

“UA has several advantages in Kampala. It increases urban food security, produce from rural areas is expensive and less fresh, and it creates sources of income. UA also reduces open space maintenance costs to local government.”

Mayor Christopher Iga, Kampala, Uganda (cited in Mougeot, 2006)

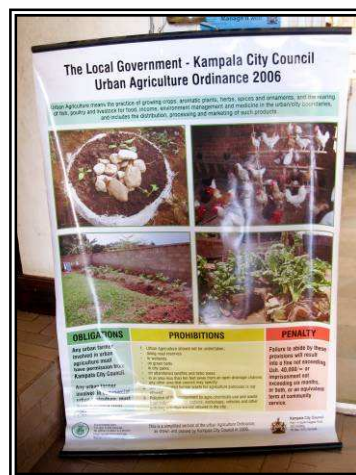
The economic, social, ecological and even cultural importance of UA in developing countries has well been described in chapter 1.3. However, in the case of Uganda, some important opportunities need to be highlighted again.

UA contributes to reducing poverty particularly among the urban poor in several ways including food security, cash saving, income generation and creation of job opportunities (Kaweesa, 2005). Thereby, UA plays an important role in mitigating the effects of hunger and malnutrition. Moreover, if waste management is linked to urban farming, Mougeot (2006) argues that we can speak of a ‘triple-win’ situation: the urban environment gets cleaned up, health hazards are reduced and agricultural production is increased. UA can also be of social importance, since the practice of UA facilitates the social inclusion of marginalized populations. Described in chapter 2.5.1., women are the predominant practitioners of UA in Uganda but often lack access to land and have limited and insecure rights to land. Thereby, UA can enhance women’s emancipation as well as support social networks, since women have formed associations (Kiguli et al, 2004). Moreover, people can create social networks by making mutually beneficial reuse of organic waste in urban farming when involving neighbours, family and friends. Living close to each other in an urban area, people might share their produces with others, which strengthens the social networks as well. The cultural role of UA can be understood in the following sense: some people are rearing livestock to be able to pay the dowry (which includes many cows). That being said, we can conclude that UA creates better living conditions in the urban areas for individuals or the community/city as a whole.

2.7. Risks and challenges of UA

Having discussed the policy framework regarding UA in chapter 2.3, it's clear that UA is not yet fully integrated in the existing policies (Kaweesa, personal communication, 01/04/2010). Placid Nyambere, project coordinator of SNF, sees financial problems and bad timing –with the upcoming elections politicians might have other priorities- as one of the reasons why it has not been prioritized (Nyambere, personal communication, 31/03/2010). Prof. Sabati from the Makerere University confirmed that budget is lacking to support UA (Sabati, personal communication, 22/03/2010).

Moreover, the Ordinances look supportive at first glance, but include a lot of restrictions where to urban farmers must abide. Maria Kawempe claims that *“The National Policy framework should have a section in the Agriculture Policy to address UA. Not a separate policy for UPA but a section integrated in the Agriculture Policy. After all, it's all agriculture. Planners should plan UA within Development plans. Zoning –which enterprises in the core and which ones in the (peri-)urban areas- is thereby very important”* (Kawempe, personal communication, 01/04/2010). *“Popularization of the Ordinances is another challenge”*, she adds. That's why Environmental Alert made an effort to popularize the Ordinances by making attractive posters (see Picture 7 on the next page and Annex III) to inform the practitioners.



Picture 7: Environmental Alert's effort to popularize the Ordinances (De Leeuw, 01/04/2010)

If we think about modern cities today, agriculture and urban development can go hand in hand by innovative ways like rooftop farming, vertical farms, etc. Though in the case of Uganda, planners have generally not considered UA to be consistent with a modern city

environment (Hooton et al, n.d.). “*With the urban population growing in an alarming way, UA will have to be developed in an innovative way*”, argues Placid Nyambere, project coordinator of SNF (Nyambere, personal communication, 31/03/2010). Below, constraints and challenges of UA according to the KCC are listed.

Box 4: Constraints and challenges according to the KCC

1. lack of full recognition and prioritization of the sector by decision makers and technocrats because of the negative attitude created by former laws which prohibited farming in the city and lack of awareness of the new urban agriculture ordinances
2. competing land uses which sideline and tend to eliminate agriculture due to urban sprawl
3. inadequate agriculture information management system
4. inadequate baseline data on farming and agro-processing activities in the city
5. lack of funds and resources for direct support to model farmers to serve as method and result demonstrations for attraction of potential adapters
6. lack of a training, demonstration and resource centre for urban agriculture
7. inadequate fish handling infrastructure in markets such as concrete slabs, sheds, cold rooms/chill rooms and high cost of ice for maintaining the quality of fish
8. much of urban agriculture remains on subsistence level due to lack of resources to practice commercial agriculture
9. The increasingly reducing supply of fish from capture fisheries while aquaculture production is still at a low level.

Source: Ssembalirwa, 2008, KCC

It is thus clear that the KCC is aware of many challenges and constraints. Yet, the development of UA depends on how these are being addressed. Recognition, however, is a crucial first step in the right direction.

2.9. The role of local governments and Municipal authorities

Azuba (2007, p.12) argues that local governments and their agencies are the most important policy influences on the viability of urban farming. Through the Local Government Act of 1997, local governments have been mandated to take decisions and develop their areas of jurisdiction (Mukwaya, 2007, p.49). They are responsible for determining where an activity can take place through zoning; which resources are available and in which condition; provision of informational services and orderly marketing arrangements; and provision of a secure legal and economic environment (Van den Berg, 1997, cited in Azuba, 2007, p.12).

However, many urban managers and planners think of cities more in terms of housing, transport, commercial activities and industry rather than in terms of UA, which generates comparatively low yields (Girardet, 1992, cited in Azuba, 2007).

The efficacy of the decentralization programme, which started in the early 1990s, can be questioned in this contest. The NDP (Uganda, 2010, p.363) alarms that there is *“inadequate human capacity in Local Governments to undertake the devolved functions especially at the sub-county level”*. Moreover, according to the NDP (Uganda, 2010, p.363) there are *“Institutional and structural challenges which limit service delivery capacity”*. The African Peer Review Mechanism report on Uganda (APRM, 2008) identified more issues: *“Besides their lack of financial autonomy and their dependence on central government funding, local councils have faced enormous problems especially with the proliferation of districts, now numbering 80. (...) The many districts have also become a bureaucratic chain of corruption, as nepotism and corrupt procurement and tender processes have become the norm and so undermine service delivery”* (p.115-116).

Since local governments are responsible and thus play a crucial role in the development of UA by promoting, regulating and zoning, it is important that the challenges described are tackled and material as well as financial resources are provided in the right way. In the next chapter we will take a closer look at the presence, challenges and opportunities of UA in Lira Municipality. Finally, we will see whether Lira Municipality can disprove some of the challenges described regarding local governments.

3. UA: the case of Lira Municipality¹¹

3.1. Characteristics of the study area

This sub-chapter describes some major characteristics of the study area. Lira Municipality is being described by its location, climatic conditions, types of soils, as well as by the past insurgency in the region, which had an influence on its urban development up to now. It must be noted that Lira Municipality is known as the bedrock of opposition politics (Ongeng & Amoru, 2010) and has high corruption occurrence (Ogavu, personal communication, 26/03/2010). Since 1994, an NRM (National Resistance Movement; the President's party) candidate has never won in the Municipality.

3.1.1. Location

Map 1: Location of Lira



Source: BBC, n.d.

Lira is a town in the north-central region of Uganda and is among the largest urban centers in the country. It is the main municipal, administrative and commercial centre of Lira District (Wikipedia, 2010b). Lira was the main metropolitan center of the no longer functioning Lango District (which corresponds geographically with the current Lango sub-region). Since decentralization started in Uganda, the number of districts almost rises by every minute¹². Until 2005, Lira district comprised six counties: Erute, Dokolo, Kyoga, Otuke, Moroto and Lira Municipality (Lira, 2010). Today, Lira is left with only 3 counties: Erute North, Erute South and Lira Municipality. The Municipality has four Municipal Divisions: Central Division, Railway Division, Ojwina Division and Adyel Division. Like other Ugandan districts, Lira District is named after its 'chief town', Lira town (Wikipedia, 2010c). The major ethnic group is the Lango.

3.1.2. The inconvenient past of Lango¹³ sub-region

The cruel, more than 20 year during war in Northern Uganda deserves attention, since it marked the Lango area for a long time and influenced the development of Lira Municipality.

¹¹ Maps of Lira Municipality can be found in Annex III (p.112) and IV (p.113)

¹² It must be noted that a recent map of Lira District could not be found because of this reason.

¹³ Lango sub-region includes the districts of Amolatar, Apac, Dokolo, Oyam, Otuke and Lira.

The Lord's Resistance Army (LRA) insurgency ravaged northern Districts like Gulu, Kitgum and Pader -just north of the Lira district border- while Lira District stayed rather 'untouched' for a long time (Wikipedia, 2010c). Yet, the increased violence in 2002 resulted in massive population displacement within Lira District. A large influx of the population relocated to urban areas for protection. Lira Municipality thus gave shelter to a great number of Internally Displaced People (IDP) (DED, 2009). This caused Lira Municipality to be among the largest urban areas in Uganda in 2002.

About 61 IDP camps were situated in Lango sub-area (IDMC, 2009b). The original camp population in 2005 was 466,000 IDPs. As of March 2008, all 61 IDP camps had been closed officially. However, all IDPs have by now left the camps in the town centre, but many are settling together with rural-urban migrants in the peri-urban areas in unplanned, semi-permanent housing without sufficient water supply and waste services in place (DED, 2009). Moreover, people who have now returned back to their home villages, where there is no surveyed land and no titles, were confronted with people -some of whom are also IDPs- who are using their land now (Adoko & Levine, 2005). There is thus a great potential for land disputes and land conflicts: over land ownership¹⁴, over land borders or over land being sold to third parties by those who do not own the land.

3.1.3. Climate and soils

On the official website of Lira District (Lira, 2010), we can find the following information about its climate:

"The continental climate of Lira District is modified by the swamp area surrounding the southern part of the district. The rainfall in the district is bio modal with one peak during April- May and the other in August-October. The average annual rainfall in the district varies between 1200-1600mm decreasing northwards. The average minimum and maximum temperatures are 22.5 °C and 25.5 °C, respectively. An absolute maximum temperature hardly beyond 36 °C, and the absolute minimum hardly falls below 13 °C. The Equatorial Trough which brings rainfall passes over the district. The south easterly

¹⁴ 90% of land in Lango Region is customary land (Ocan, personal communication, 09/04/2010). Adoko & Levine (2005, p.15) define this type of ownership as: "Customary ownership simply means that someone owns the land, not because they have any documents or papers to prove it, but just because their community accepts that the person owns it, either because it belonged to their father and grandfather, because they bought it (probably from someone who received it from his father in turn), or (when the population was lower!) because they were the first to settle in an unoccupied place." Since the 1998 Land Act these local arrangements have full legal force. Further, it must be noted that in Lango tradition, women are not able to own land (Ocan, personal communication, 09/04/2010).

which also brings rains to the district passes over Lira. Land and sea breezes are common in the district. Wind run is low (1-4m/sec) during the rainy season and moderate (4-8m/sec) during the dry season.”

According to the District Agriculture Officer are the soils generally fertile and as far as Lira district is concerned, they are sandy and sandy loam soils (Arungi, personal communication, 13/05/2010). In very small areas one can also find clay soils. The Municipality of Lira has thereby quite some areas of wetland.

3.1.4. Urbanization

“The population is overshooting”

(Oraya, personal communication, 04/05/2010)

Lira Municipality is ranked among the fastest growing municipalities in Uganda and is currently pushing for a city status (target for 2015) (Ongeng & Amoru, 2010; Amoro, personal communication, 14/04/2010). While in the past the town was only comprised of a few major roads and reached up to 3km from the core, today, the boundaries lay at 5km from the centre and they will even expand up to 7km from the core (Amoro, personal communication, 14/04/2010).

Between 1991 and 2002, Lira had a high growth rate of 10.1% (Mukwaya, 2004). This rate is partly attributed to the insecurity at that time, which resulted into a large influx of the population relocating to urban areas for protection. Gulu and Lira Municipalities were among the largest urban areas in Uganda in 2002. Table 7 below shows that daytime population is significant in the Municipality, being 200% of the total population. This is due to the diligence since Lira is a very busy town.

Table 7: Total population of the Municipality

	1980	1991	2002	2006	2007	2008	2010	2013	2020
Census	9122	27538	81790						
Census projection (3.5% annually)			81790	93856	97141	100541	114714	119411	151924
Census projection (12.3% annually)			81790	130083	146083	164051	232337	293007	659988
Daytime population (200%)	18244	55076	163580	260165	292166	328102	422018	586013	1319975

Source: Lira Municipality Profile, obtained at the LMC (14/04/2010)

Table 8 below gives detailed figures on the population of the four Divisions in Lira Municipality.

Table 8: Division statistics of Lira Municipality

Division	Area (Km ²)	Parishes (2002 census)	Villages (2002 census)	Population (updated 2009)		
				Male	Female	Total
Adyel	8.75	7	19	19111	19274	38385
Central	10.88	5	14	10486	11746	22232
Ojwina	7.95	5	17	18432	18392	36824
Railways		4	9	3142	3096	6238
TOTAL	27.58	21	59	51171	52508	103679

Source: Lira Municipality Profile, obtained at the LMC (14/04/2010)

Lira Municipality falls within what Mukwaya (2004) describes as ‘the urban growth corridor’ (see Figure 5 below). The colonial infrastructure development, especially with the construction of the Kenya – Uganda railway, contributed to the growth of these urban centres.

Figure 5: Lira as part of the Urban Growth Corridor in Uganda



Source: Mukwaya, 2004, p.2

3.1.5. Urban poverty

According to the official Lira district website (Lira, 2010) income levels in Lira District are still low, with an average per capita income of 170,000Ush per annum and households below the relative poverty line at 53%. 33% are living in hardcore (absolute) poverty. Household poverty is one of the reasons in the Municipality for the high school drop-out rates (30% in primary education and 15% in secondary school)¹⁵. Table 9 shows that 20% of the inhabitants in Lira Municipality are living below the poverty line.

Table 9: Poverty data on Lira District and Lira Municipality

	Individual Headcount Index % inds. below Poverty Line	(std. error)	Poverty Gap Index % of Pov. Line	(std. error)	Poverty Inequality	(std. error)	Estimated No. of poor individuals	(std. error)	No. of individual s from 2002 Census
LIRA DISTRICT	20	2.34	6	0.76	41	1.91	31274	3612	154361
LIRA M. COUNTY	20	2.34	6	0.76	41	1.91	3427	396	16913
- Ojwina	22	3.38	6	1.11	37	2.31	1394	215	6361
- Railways	36	5.33	11	2.12	31	2.17	373	55	1030
- Adyel	17	3.06	5	0.94	41	2.50	915	167	5472
- Central	19	2.58	5	0.85	45	2.89	755	104	4050

Source: UBOS, 2007, p.92

3.2. Policy framework for UA

3.2.1. Bye-laws and regulations on UA?

“We have so many laws, but enforcement is a problem” (Ogwal, personal communication, 10/05/2010). Peter Arungi, District Agriculture Officer, explained the situation: *“There is not yet a very clear policy regarding UA, but it’s in the making. In principle it is accepted. They are not opposed to UA, but the kinds of enterprises are limited, especially in crops like tall crops, in a security point of view (thieves) and breeding grounds for vectors (mosquitoes).”* Dennis Oraya, blames the lack of bye-laws on the Production Department: *“Bye-laws should be there, but the Production Department has not been very active in the urban area”* (Oraya, personal communication, 04/05/2010).

¹⁵ Data derived from the Municipality Profile, obtained at the LMC.

UA is thus not permitted by any laws or regulations in the Municipality. Only old laws like the Town and Country Planning Act (1964) and the Public Health Act (1964) are still in force, which formulate some restrictions in case of keeping animals or growing tall crops, since they can have negative influences on the health of people. Further, they only allow greening activities and the possession of dogs and cats in the urban centres. Though, farming in all its forms has persisted because enforcing the law seems quite hard. Given the poverty level of the Municipality before, we can imagine that authorities have to compromise with the survival methods of the poor and so people are more or less able to carry out farming activities within the Municipality. Harassments and the slashing down of crops have never taken place (Arungi, personal communication, 12/04/2010). Government officers only advice and ask people to stop it (Oraya, personal communication, 04/05/2010). It can thus be argued that the restrictive laws have been replaced by policy of tolerance.

Peter Arungi claims that there's a need for implementation of bye-laws on UA (Arungi, personal communication, 13/05/2010): *“Especially for growing tall crops, like bananas. If somebody wants to grow about four, five, six, ten, fifteen, hundred plants on his compound, and the contribution is greening, it gives him food, it gives him the income, why shouldn't we support it? I don't know exactly why those laws are not there, why we can't grow maize around here. Everything we do must be regulated because we should not just do whatever we think is right. The laws and the regulations should be compatible friendly for both people who are practicing UA as well as for other people who are not practicing UA, since they also benefit from UA because the source of food. They go to the market and they'll find food.”*

Bye-laws do exist regarding wetlands (Ogwal, personal communication, 10/05/2010). People are not allowed to cultivate in those places since these are hold in trust by the local government. Yet, if observed by government officials that the farming practices are carried out in a sustainable way, while protecting the environment, in some cases a permit can be achieved to continue the agricultural activities.

3.2.2. The NAADS Programme

Muno Kopango, Assistant Community Development Officer of Adyel Division, argues that *“in the issue of NAADS the government (initially) thought that the rural areas have the biggest amount of poor people. But after 6 years of experience in the rural areas, they found out that the urban poor are worse off than the rural poor. Because at least in the rural areas, a poor person may afford free firewood, they access free water, but when it comes to urban*

areas, they found out that the most urban poor people they don't even have the capacity of accessing free water, free firewood and even any other necessities. Wherever you are going, you still need to have some money in the pocket. If you don't have any of these you cannot release yourself from those kinds of problems. So now they have thought about that and they have at least started the NAADS Programme in the Municipality which is a good initiative." (Kopango, personal communication, 03/05/2010). However, a problem mentioned by Muno is the following: *"Trying to sensitize the community to form groups is a problem, because they are not used to it. The people are used to their individual work, but uniting people to be in the same group and to do some work in a group, is difficult. However, there are others who do have a lot of interest to benefit from the NAADS Programme as a group"*.

The NAADS Programme supports farmer groups and guides them in the selection of enterprises. Peter Arungi explained: *"We have just (since 2009) enrolled NAADS into the urban area and we are in the process of working together with farmers to select in which enterprises they can engage in the urban area and definitely we are advising them to take those enterprises in the animal and crop sector. It must be enterprises with, high value and high demand, and thereby not contravening the current regulations prohibiting growing of tall crops in the urban area."* (Arungi, personal communication, 13/05/2010). When asking him about the kind of people who are targeted, he said: *"Essentially NAADS is a pro-poor programme. The target is basically the poor farmer constrained by small resources. A special emphasize is on women, youth and people with disabilities but who can do something in agricultural production -let's says somebody who is lame but can raise poultry. Those are the kind of people we are targeting but we don't completely exclude others"*. However, a staff member of the FAO in Lira sub-office argues that awareness is a challenge, since people are not fully aware of the NAADS Programme (Ongol, personal communication, 03/05/2010)

Mismanagement and corruption of the NAADS Programme have already been mentioned in chapter 2.4.3. Lira District has not been spared from these regretful acts. In April 2010, President Museveni ordered a comprehensive audit to see how the money that has been injected in the area (9.1b US\$ in the last eight years), has been used (Okino & Oketch, 2010). After all, Museveni received complaints over the selection of NAADS beneficiaries. Most of them had to do with anomalies during the implementation of phase one, as the programme did not reach the target beneficiaries. Complainants argue that the people benefitting from the programme are those who have something instead of the poor. However, in the next financial year, the Government would ensure that such problems are halted.

3.3. Dimensions of UA

Given the limitations of the study before, it was not always easy to get a total view of the magnitude and dimensions of UA in Lira Municipality. However, it can be argued that the following findings are quite representative for the whole area.

3.3.1. Growth trend of UA

Margaret Azuba (2007, p.32) describes the main influences by which the growth trend of UA in Lira Municipality can be explained: prompting political stability of the area, people to leave the rural areas for security in the urban centres, economic crisis due to the SAPs country wide coupled with inflation and finally, Municipal boundary expansion. However, Peter Arungi argues that land for agriculture within the urban will reduce: *“As the Municipality grows and gets the city status, more structures will be put in place and therefore people will claim land, which people at the moment are using to grow crops.”* (Arungi, personal communication, 13/05/2010)

3.3.2. Types of actors involved

Organizations and institutions involved

Besides the Local government which provides advisory services through extension workers with the NAADS Programme, few local and international NGOs are giving support to urban farmers (by providing inputs or educational services). Some of the organizations involved are Send a Cow (Ngabisa, personal communication, 07/04/2010), Lango Organic Farming Promotion, Heifer International, UWESO UK Trust Programme (Ocan, personal communication, 09/04/2010), Action against Hunger and German Agro Action. Others have their main focus on rural or peri-urban areas like LEAD (Livelihoods and Enterprises for Agricultural Development) (Lokong, personal communication, 20/04/2010) and the FAO (Ongol, personal communication, 03/05/2010), which are both implementing Farmer Field Schools. The World Food Programme (WFP) of the United Nations is planning to develop warehouses in the urban areas for marketing purposes (Arungi, personal communication, 12/04/2010; Ssempijja, 2010). *“We used to rely on import, but now we see that it’s better to make use of the local production. For the last 20 years farmers were displaced and many were given food. Now we are moving away from free food distribution. We encourage farmers to produce food themselves”*, tells Mike Okello, Senior Programme Assistant of WFP in Lira sub-office (Okello, personal communication, 12/04/2010). The Warehouse Receipt System

(WRS) will allow farmers to keep their produce in the warehouses to wait for attractive prices (Ssempijja, 2010). The produce will be valued by the warehouse managers and farmers will be provided with receipts worth their grain value. Under its Purchase for Progress (P4P) programme, WFP links small-holder farmer groups to quality grain markets. In areas where soil has been destroyed, like former IDP camps, WFP established tree nurseries within the Environment Sustainable Programme (Okello, personal communication, 12/04/2010). All these interventions of the UN agencies can be linked to the 'Northern Uganda Early Recovery Project', a new project aimed at hastening recovery and development in Northern Uganda after 20 years of insurgency (UNDP, 2010b).

Practitioners of UA

Women play generally a bigger role in UA than men (see chapter 2.6.1). This is also the case in Lira Municipality. Few men are engaged in poultry and zero-grazing, though both sexes are involved in UA, argues Peter Arungi (Arungi, personal communication, 12/04/2010). Other people involved are input-suppliers. These are business men who sell basic inputs like seeds, chemicals, tools, etc. People who cultivate and market directly themselves constitute for 60%, while others sell their produces through vendors (40%). IDPs are no longer involved, since they have gone back. However, *"when they were in the camps, there was pressure on land. Their coping mechanism was selling their labour on farm in peri-urban areas, doing activities for others, instead of for themselves"*, continued Arungi. The study by Environmental Alert (2006) explains that people were engaged in agriculture in the camps as well. In the case of Lango Cultural Centre which was converted into an IDP camp during times of insecurity in Northern Uganda, people learnt to work together and started a communal tree nursery among other things (Environmental Alert, 2006). In case study 6 we will see how the land at the Lango Cultural Centre is being cultivated nowadays.

The kind of people involved, according Peter Arungi, are *"(ok, whatever we are calling poor people or the middle class) it is people who want to add a supplement to their income or people who are purely deriving their livelihood from growing these agricultural crops. They don't have another side job, but they are concentrated on production, because they are very confident of the market which is provided by the Municipality."* (Arungi, personal communication, 13/05/2010).



Picture 8: Children selling mangoes near their homes at the price of 100USh for 4 mangoes (De Leever, 10/05/2010)

As mentioned before (chapter 2.6.1), individual farmers, schools and government institutions such as Police barracks, have a longstanding history of practising UA in Uganda. Also officers and political leaders are engaged in UA. In Lira Municipality we can find those actors as well. Moreover, youth are involved (Owano, personal communication, 12/04/2010). They sell mangoes in front of their home or help their family members with farming, especially during holidays.

3.3.3. Types of location

Much farming is practised in Adyel Division, because there is a big river/stream while other divisions are quite dry (Owano, personal communication, 12/04/2010). However, during fieldwork, farming practices could be observed in all the four divisions. According to the Lira District Environmental Officer, Jozeph Ogwal, most agricultural activities are pushed in marginalized areas like wetlands and road reserves because of population pressure (Ogwal, personal communication, 10/05/2010). Although it's illegal to cultivate in the wetlands, about 80% of the wetlands is in use for agriculture. When asked about possible sanctions if people do cultivate in the wetlands, Ogwal says: *"Laws are there, but enforcement is a problem and thus nothing much is being done against it. Though, one day it will be a problem for those people"*.

Most agricultural activities are carried out in and around homesteads (see pictures 9 and 10 on the next page) like backyard gardens or kitchen gardens. Every little space is utilized for UA. Some people also have off-plot gardens, away from the households, but still within the Municipal boundaries. Dennis Oraya, NAADS coordinator of Railway Division and Assistant Agriculture Officer of the Municipality, identified that about 70% of the farmers within the Municipality own land, while others are renting.



Picture 9 and 10: Every minimal space is used for UA (De Leever, April 2010)

Public land like recreational land (stadium, airfield, football fields) in the Municipality is not allowed for farming practices (Owano, personal communication, 12/04/2010). Semi-public land, on the other hand, like schools and prisons, often have some land where the students or the prisoners work on. Below, the case of the prison in Lira Municipality.

Case study 1: Uganda Government Prison Lira

(Felex Muchago, personal communication 12/05/2010)



Picture 11 and 12 : The prison's plot, next to the homes where the prison officers live with their families (De Leever, 15/05/2010)

The Uganda Government Prison of Lira is located in the centre of the Municipality and has 5 acres of land, surrounding the prison. Things being grown are grains, spinach, 'sukuma wiki', tomatoes, egg plants, watermelon, papaya, dodo, 'nakati' and cabbages. With an average of 500 prisoners (they are all on demand; if sentenced they will be transferred to Kampala), the prison has a lot of mouths to feed. *"With our own produces we can supplement the food from the GoU and offer the prisoners a balanced diet"*, says Felex Muchago (28), Depute Officer in charge. *"Even I and other staff enjoy it to get part of the yields"*, he adds. The officers select about 10 prisoners -who can be trusted not to escape- to cultivate the land three times in a week. *"By letting them cultivate the land, we*

encourage the prisoners to become productive. They learn farming skills so they can cultivate after their release and get an income from it. Those who work on the land, enjoy it". Some challenges mentioned are lack of money to buy seeds (sometimes the officers need to use their own money for it), cows from within town destroying the crops, goats feeding themselves on greens at night and people stealing produces (e.g. egg plants along the road). Moreover, people fear prisoners and there is only one employee to take the prisoners to cultivate.

3.3.4. Types of products

Since the Municipality only allows the growing of short crops, most of the respondents grow the following crops: cabbages, 'sukuma wiki', 'malakwan', pumpkin, tomatoes, onions, carrots, egg plants, groundnuts, simsim (sesame), yams or sweet potatoes. A variety of beans could be observed: regular beans, green grams, cow peas and pigeon peas. Because maize, cassava and millet are tall crops and not allowed to grow in the urban area, people grow them most of the time in the peri-urban area on a larger scale. However, one can regularly find small pieces of land within the Municipality with these crops. In the swamps, sugarcane as well as rice (both paddy and upland) (see picture 16 on the next page) were noticed, since these crops need a lot of water. Moreover, fruits being grown include (matooke) bananas, mangoes, avocados, citrus fruits, jack fruit and pineapples. Besides the crop sector, a lot of people are engaged in the keeping of livestock. Cows (mostly zero-grazing; see picture 14), poultry (both for eating and egg production), pigs, goats or ducks were often kept on a small scale. Also fish farming (see picture 13) was noticed as one of the enterprises. Other people being interviewed were engaged in ornamental tree, plant and flower production (see picture 15 on the next page).



Picture 13: Fish pound
(De Leevers, 26/04/2010)



Picture 14: cow in a zero-grazing unit
(De Leevers, 22/04/2010)



Picture 15: ornamental tree, plant and flower production (De Leevers, 22/04/2010)



Picture 16: Rice field in Railways Division (De Leevers, 06/05/2010)

3.3.5. Types of economic activities

Production and marketing of UA produces (vegetables, fruits, pigs, goats, chicken, ducks, cows, fish, eggs, milk etc.) in Lira Municipality have a big impact on the local economy, since many people are involved (family, friends, hired labor forces, vendors, input suppliers, agro-processors, etc.) and thereby given employment. Different types of economic activities could be observed, from the production, to the marketing and processing level. One of the respondents had dove cages (see case study 2) by which doves are reared, mostly by the children of the household, and they are sold as well. Another person prepared her own bran to feed her livestock, since bran from the market is expensive. One woman brewed ‘waragi’¹⁶, this is a typical Ugandan domestic distilled alcoholic beverage. It is mainly made from cassava flour and sugarcane molasses. Another respondent, living in the peri-urban area, was also engaged in bee-keeping.

3.3.6. Product destination and degree of market orientation

The most common type of UA in Lira Municipality is subsistence UA. When asking the respondents about the percentage of food that is consumed and the percentage for sale, most of them answered that the biggest part of the produces is for self consumption, with surpluses being traded. Others answered ‘50%-50%’, while a smaller part sells the biggest part of their produces on the market in town, in local shops or at the own compounds’ gate, personally or through vendors. Peter Arungi argues that a lot of what is on the market comes from outside the Municipality, even from outside the District –eggs mainly come from Kampala (Arungi,

¹⁶ Waragi is very popular among low income earners. Sadly enough, it is not that harmless like many think. Waragi has turned into a lethal poison that blinds and kills off its devotees, since chemicals are often mixed with it. It also damages the environment because people who are brewing waragi, often throw the waste into the rivers (Abul, personal communication, 20/04/2010).

personal communication, 13/05/2010). However, he says that it depends on the commodity: *“For example, matooke bananas, you will find that about 90% comes from outside Lira District. Moreover, looking at things like carrots, onions, more than 80% comes from outside the District. Cassava, sweet potatoes, beans, maize and simsim are crops that are almost 100% coming from within Lira District because there are many people who produce them. As far as the Municipality concerned, I would say the mainly agricultural crops, like onions, tomatoes, carrots and local vegetables come from within the Municipality.”*

3.3.7. Scale and technology used

Since statistics are a problem in Lira Municipality –as well as in the whole country- it was hard to get figures on the percentage of land under UA. However, Peter Arungi made a gentleman’s guess: *“I would say maybe about ten to fifteen percent of the land within the urban area is under agriculture.”* (Arungi, personal communication, 13/05/2010). As confirmed by many urban officials, land for agriculture in Lira Municipality is scarce and people just have small amounts of land. Discussed in chapter 2.6.6, the study of Environmental Alert (2006) indicates that land for UA in Mbale, Lira, Mbarara and Entebbe, ranges from 0.25 acres to 2 acres, although there were some exceptions of more than 4 acres. Derived from my own interviews with urban farmers, land ranged between 0.25 acres and 3 acres. One small-scale farmer owned 20 acres, divided in 3 plots. It must be clear that this is an exceptional case. From focus group discussion it was discovered that a lot of people have more land in the villages (FGD, 13/05/2010). The amount of acres ranged from 3 acres to 20 acres or more. The technological level was rather discovered as low, since people are using traditional and ordinary tools (mostly hoes). Innovative ways of farming could not be observed during the fieldwork.

3.4. Opportunities of UA

3.4.1. UA related to poverty reduction: case studies

The link between UA and poverty reduction has well been explained in the previous chapters. UA plays a significant role in poverty alleviation in different parts of the world, as well as in Uganda, especially in the case of Kampala where more than 30% of the inhabitants are engaged in UA. By writing out some case studies, the relation between UA and poverty reduction in Lira Municipality will be exposed. One case study is taken over from a study by

Environmental Alert (2006) because it gives a clear view on the amount of money that can be saved if one grows his own food within the Municipality. Other case studies are derived from own fieldwork. In total, 35 urban farmers were interviewed, of whom 18 were women and 17 were men. The ages ranged between 17 and 77 years old. With exception of one farmer being part of a farmer group, the others were individual farmers. The selection of cases has been made on the base of the variation of people (age, gender and status), enterprises and locations, whereby it is aimed to represent UA in all its dimensions.

Case study 2: The Hidden Treasure of UA in Lira Municipality

Mr. Otema Moses is a student of Amugu Technical School in Lira Municipality. He lives with his sister on a small piece of land. Moses rents a room in Lumumba Zone in the Peri-urban area of Lira Municipality. Mr. Otema admired the vacant land owned by his landlord of about 1 acre. He requested for permission to temporarily use some of it for farming purposes. The landlord allowed him to use less than $\frac{1}{4}$ acre of that land around his home. Mr. Otema currently grows pumpkins, okra, beans, 'Malakwang', cassava, mangoes and maintains the existing wood trees. Moses says that he has benefited from UA because it has reduced his household food costs, keeps the landlord's compound clean, and also earns income from selling some of the produce. Moses gave an estimate of yields from the UA enterprises during the previous season as:

Beans 100kgx 600USh	= 60,000USh
Leafy veggies 800 bundles x 100USh	= 8,000USh
Cassava 144kg x 60USh	= 8,640USh
Mangoes 2000 fruits x 50USh	= 100,000USh
Total	= 176,640USh

Otema saves approximately 176,000USh¹⁷ per season (approximately 30,000USh per month) by consuming food from his garden. His major challenge however, is to share the time he has, between maintaining his gardens and studies, since some seasons require a lot of garden time.

Source: Environmental Alert, 2006, p.9

¹⁷ It must be noticed that costs of inputs should be deducted –as well as time spend on his farming activities- to get an honest view on the total amount of money saved.

Case study 3: Michael Obura, Jinja Camp Village – Ojwina Division,
(Obura, personal communication, 26/04/2010)



Picture 17: Piggery at the back and dove cages at the side of Michaels' home
(De Leever, 26/04/2010)



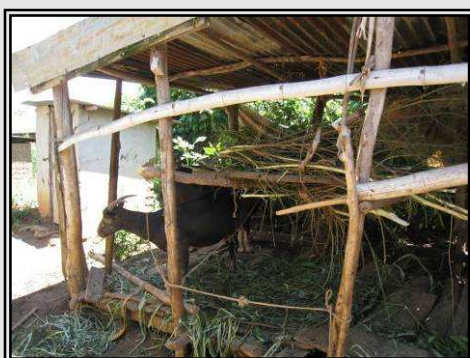
Picture 18: Piggery (De Leever, 26/04/2010)

Michael Obura is 49 years old and has a big household. Together with his wife and 8 children, he has 11 other family members to take care of. Built out of wood and aluminium plates, he started a piggery last year, with 28 pigs currently (sometimes he has up to 40 pigs; each pig can produce more than 10 pigs in one year). His children brought him to the idea to start the piggery because they got worried about insufficient income. After all, 10 children of the family are going to school, from which 3 are going to University (8 million USh/year) and 7 to Secondary School (700,000USh/year). Two girls are not going to school, because they help him with the piggery and get trained in tailoring. *“Selling the pigs (a big one between 150,000USh and 200,000USh, a piglet between 60,000USh and 70,000USh) help me with paying the school fees, which at times is a struggle to pay them at once. Moreover, I’m happy about the piggery because everybody from the household is involved; it’s a real family business”*, says Michael. Everyday he spends 1 hour in the morning and 1 hour in the evening on cleaning and feeding the pigs. During holidays he gets some help from his children. Besides his piggery, he has some timber trees, an average of 20 chicken, and maize and beans on a small scale. All of these, with exception from the timber trees, are used for home consumption. Sometimes the pigs are consumed too, but most of them are for commercial purposes. He owns more land in the village, where he bought some 10 acres 12 years ago. Locally made cages for doves are hanging at the side of his house (see picture 17). Doves make their nests inside the cages from which they reproduce (up to about 50 doves can be reared). The doves are consumed, as well as also sold for money. Other income he gets from being a proprietor of two schools, from which he earns 1 million USh per month. His wife has a school in Central Division and earns

700,000USh monthly. Further, they own two properties, one is a police station and one is a shop, from which they get monthly rent (750,000USh + 400,000USh = 1,150,000USh). Though it looks like he's earning quite a lot of money, there are some challenges where he needs to cope with. Feeds (maize bran) are expensive. He pays 20,000USh for 100kg, but with 28 pigs consuming this amount in three days, it is a big cost. Also treatments for the pigs are expensive. He wishes one day he could get some support and improve his activities. In his words: *"If money would be there, I would build a house with a roof and tunnels, because the piggery is too small and has not the required standards. It's obliged to have a good house for the pigs and the environment needs to be clean –sometimes government officials come and check-, otherwise it might smell and affect the neighbours. That's why I had to sell over 30 cows, because of complains by the neighbours. If the government would support me, I could improve a lot. I'm planning to plant more trees and use waste from the pigs for compost."*

Case study 4: Tom Owiny – Ireda West, Central Division

(Owiny, personal communication, 24/04/2010)



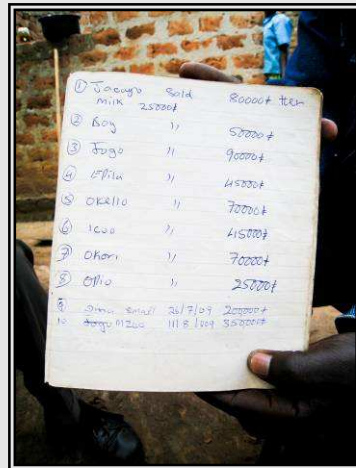
Picture 19: His 2 goats in their pen
(De Leever, 24/04/2010)



Picture 20: His 1 acre plot with maize, matooke bananas, pineapple and sugarcane at the back (in the swamp) (De Leever, 24/04/2010)

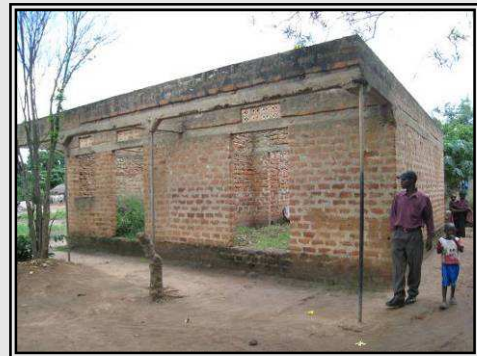
Tom Owiny is 45 years old and fully engaged in farming after he got out of capital to continue his job as a shop keeper. Having 6 children, of whom 2 are going to school and 1 is disabled, his wife takes care of the household and helps him in the garden (with weeding). His primary source of income comes from selling sugarcane, about 50,000USh per year. Though in case of lack of income, he also sells other crops (maize or matooke bananas). In 2002 he received 2 goats from the NGO Send a Cow. Since then, he sold 15 of the offspring. Showing me his notebook (picture 21) with the list of goats he sold up to now

at what price -at an average of 350,000US\$ each-, it supplies his income from selling the sugarcane. With his income, he's building their future house of stone (picture 22). The major challenges mentioned by Tom are lack of money to buy feeds for the goats and, like he says, *'If I had more money, I would use the land in a more profitable way'*. However, the milk he gets from his goats can supply their food consumption, as well as the pineapples he grows are used for self consumption.



Goat No	Goat Name	Weight (kg)	Price (US\$)
1	Goat	25000	80000
2	Goat	11	50000
3	Goat	11	90000
4	Goat	11	145000
5	Goat	11	70000
6	Goat	11	115000
7	Goat	11	70000
8	Goat	11	25000
9	Goat	11	25000
10	Goat	11	25000

Picture 21: His notebook with a list of goats sold (De Leeve, 24/04/2010)



Picture 22: His future house in progress (De Leeve, 24/04/2010)

Case study 5: Alex Lochoro - Senior Quarters, Central Division

(Lochoro, personal communication, 23/04/2010)



Picture 23: A. O. working (packaging seedlings) on his plot (De Leeve, 23/04/2010)



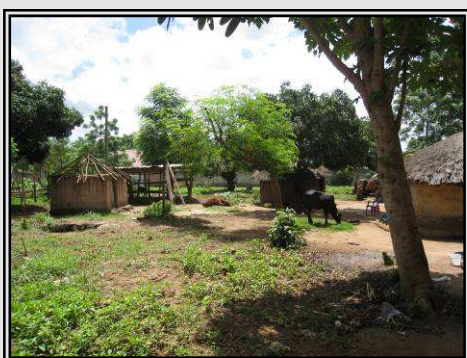
Picture 24: seedlings ready for sale (De Leeve, 23/04/2010)

Alex Lochoro is seventeen years old and spends most of his time on his ½ acre plot in Senior Quarters, Central Division. He takes care of his 3 brothers, since his parents separated. After his father died, his mother went back to the village, so he is thrown on his

own resources to earn some income to survive and take care of his brothers. He started growing and selling seedlings in 2008, but was obliged to interrupt his cultivation when they needed to go back to the village because of his father sickness. The income he gets from selling the seedlings is about 200,000US\$ monthly. He listed the kind of seedlings he's selling with the price for one piece respectively: neem tree = 500US\$; flowers = 500US\$; oranges, guavas and mangoes = 3,000US\$; pines = 400US\$ and mentioned that oranges are his best sale. *"With the little money I get from it, I can take care of my well being and pay the school fees of my brothers. During holidays, my brothers help me with cultivation"*, said Alex. At his home side -a one hour ride with his bicycle from the plot- he has some 150 mango, eucalyptus (used for timber) and orange trees (seedlings). He also grows some orange and mango trees at his home, from which he uses the produces for home consumption. He is happy about the location of his plot, because it's near town and thus proximity to the market where he can get enough customers. Some challenges mentioned by Alex are the following: lack of tree varieties because he's lacking capital to buy more; lack of money to pay people to help him; lack of support and thus struggling on his own. Further, the seedlings and trees need a lot of water, which is not easy in dry season.

Case study 6: Eveline Elot – Ojamah, Adyel Division

(Elot, personal communication, 14/05/2010)



Picture 25: Cows grazing at the compound (De Leever, 14/05/2010)



Picture 26: Eveline, in front of her garden and the zero-grazing cow unit (De Leever, 14/05/2010)

Eveline Elot is 52 years old, takes care of her 3 children and 2 grandchildren and has always been engaged in farming. Her husband died a long time ago. In her garden, about 300m² in size, she grows maize, beans and pumpkin. In Amito, 4km away, she has 2 more

acres where she grows maize, cassava, beans and mangoes. Her garden produces 1 full basin of maize per year and 1 full basin of beans per year, which she uses for self-consumption. In 2001 she received 1 cow from Heifer International and nowadays she's keeping five of them, all in a zero-grazing unit. 2 ducks are also running on her compound. Since 2001 she sold 3 bulls (females need to be given to other people in the Heifer project) at the price of 350,000US\$ each. Every day she sells 3 cups of milk from the cows in front of her house at 400US\$ per cup. Calculated, this means 438,000US\$ per annum. Although they are consumed as well, she sells an average of 7 ducks per year, which brings in 35,000US\$ per year. More income comes from selling mangoes, cassava (80,000US\$ per year), beans (90,000US\$ per year) and maize (1 sack = 45,000US\$). Since 3 other houses on the compound are in the hands of Eveline, she gets rent: 150,000US\$ on a monthly basis. Of the household, three children are going to school wherefore school fees (100,000US\$ per year per child) need to be paid. Her farming activities help her to pay them. The only challenge she shared was that people sometimes complain about the cows, since they are often roaming around (and destroying other people's crops).

Case study 7: Dennis Odit – Lango Cultural Centre, Central Division

(Odit, personal communication, 13/05/2010)



Picture 27: The Lango Cultural Centre, surrounded by cultivated land (De Leever, 13/05/2010)



Picture 28: The plot of Dennis and his family at the side of the grandstand (De Leever, 15/05/2010)

The Lango Cultural Centre has already been mentioned in chapter 3.3.2 because IDPs were cultivating on the land during the insecurity in Northern Uganda, when the centre was converted into an IDP camp. Dennis Odit, 17 years old, has been living on the land with his family since 2002, and is one of the persons who is nowadays cultivating the land, since it is no longer an IDP camp since 2007. The total land surface of the Cultural Centre is 10

acres and it is being cultivated by 4 families. The cultural leader, the Lango Paramount Chief, divided the land (not evenly) and selected a few people to cultivate it. Dennis' mother was one of them and acquired 1 acre of land. Maize, cassava, beans, sweet potatoes are crops they grow. Moreover, his family rears 50 chickens. Further, they own more than 10 acres in the village (in Apala), which are being cultivated by his father. Dennis explains that half of the produces are consumed while the surplus is being traded. Sweet potatoes, for example, are sold on the market in town or along the road side. Dried maize seeds are sold as well. Dennis grew up in the village where he learnt his farming skills. During holidays he spends about 4 hours per day on farming at the Cultural Centre or in the village, where he helps his father. To sustain his family he also does some technical work (mostly woodwork, because that's what he's studying) to sustain his family and to help paying the school fees, since all the four children within the household are going to school. Challenges regarding his farming practices include pests and diseases which are often affecting the crops and the chickens. Moreover, chicken feed is expensive. Nevertheless, Dennis explains the positive impacts of the farming practices: *"By growing our own food, we can save a lot of money because food on the main market is expensive. It is also cheap, because we are using family labour. Cultivated land around the Cultural Centre thereby makes it look nicer"*.

Case study 8: Suzan Etik – Kakoge Village, Ojwina Division

(Etik, personal communication, 27/04/2010)



Picture 29: Cassava growing at the road side of the compound. Branches are surrounding the crops to prevent animals to destroy them (De Leeve, 27/04/2010)



Picture 30: A small piece of land within the compound is used to grow maize (De Leeve, 27/04/2010)

Suzan Etik is 42 years old and lives with her 5 children on a compound, together with other

people. Her husband spends most of his time in the village, while she is struggling to earn some money to take care of the children. Maize, beans, cassava, groundnuts and simsim are crops she usually grows on small pieces of land surrounding the compound. Although most of the produces are for self-consumption, she manages to sell part of it and thereby earns between 100,000US\$ and 200,000US\$ per annum. Since about 7 years she is also engaged in pig keeping, with 7 pigs at the moment. Selling the pigs gives her some more money: 80,000US\$-90,000US\$ when selling a big one and 25,000US\$-30,000US\$ when selling a piglet. Other income generating activities are the brewing of ‘waragi’, a local alcoholic beverage, which supplements the income with 30,000US\$-40,000US\$ per month. Since she owns the houses on the compound, she gets some rent from the other people living there. The difficulties she shared were lack of money, especially to pay the school fees for 3 children who are going to school (600,000US\$/year per person), expensive maize bran, lack of support and above all, it’s hard for her to take care for the children on her own.



Picture 31: Suzan in front of her self made piggery (De Leever, 27/04/2010)



Picture 32: Waste from brewing ‘waragi’ (De Leever, 27/04/2010)

Case study 9: Rosaline Apili - Kichope, Ojwina Division

(Apili, personal communication, 11/05/2010)

Rosaline Apili is 70 years old and lives together with her 54 year old daughter. She’s retired and gives the following reason why she is engaged in UA: *“I didn’t want to be idle; UA keeps me busy. Above all, it gives me financial support because I have a little pension”*. She grows some vegetables in her backyard garden, but rents 1 acre (150,000US\$ per year), a few metres distance from her house. She sells the produces (vegetables and potatoes) in the market in town and supplies a hotel once a week with her fresh produces. The total amount of money she earns is 200,000US\$ per season (about 0.3-0.5 million US\$ per year). Moreover, she’s cultivating land in the village, about 10 acres. Health is one of the

obstacles, she argued, since her hands got broken. Other difficulties she mentioned are expensive hired labour forces, bad weather conditions, roaming livestock and the unfavourable area, since the place is too swampy to grow vegetables.

Findings

The case studies above identified that UA is practised by a wide range of actors, irrespective of age, gender and income level (though it must be said that the latter was hard to define). Moreover, UA is practised in different locations, from backyards to semi-public land, and includes different enterprises, from vegetables to zero-grazing cows and horticulture. The practitioners are mainly engaged in UA because of economic reasons since UA supplements their income. The case studies demonstrate that by engaging in UA, the urban farmers can earn a quite reasonable income. We must understand that the UA activities of the respondents also contribute to indirect income, which means that by consuming their own produces they can save on food expenditure and thus use their income for other purposes (in a lot of cases to pay the high school fees). However, the case studies showed that the amount of produces being traded may not be underestimated as well.

The extent to which poor families used the economic opportunities of UA presented by the case studies, demonstrate that UA provides an important livelihood diversification strategy in a country with relatively few formal sector opportunities. Paul Okomo, the Town Clerk of Lira Municipality, argues that most people engage in UA to supplement their incomes because *“formal employment is not adequate enough, so people search for self-employment. UA is one of the alternatives. Even those who are employed (like teachers) engage in UA because their salaries are relatively low.”* (Okomo, personal communication, 14/04/2010).

The magnitude of the contribution of UA towards poverty reduction is however hard to measure. The District Agricultural Officer, Peter Arungi gives his opinion: *“When we look at UA and its contribution towards poverty reduction among the population which is staying in the Municipality, we find that the contribution is significant but not very big because not a very big percentage of people is involved in agricultural production. We find people either in the working class, in various sectors, in government offices, in non-governmental offices, in the business, in the commercial sector, marketing commodities, and few are in the industrial sector. But instead they provide market for the little agricultural products coming from UA.*

So I would say, as far as its contribution to the eradication of poverty, UA may be helping about ten to fifteen percent of people who stay in the urban area.” (Arungi, personal communication, 13/05/2010). The Head of Production and Marketing of the Municipality, Charles Owano, similarly argues that the impact of UA is “not big as such; it just supplements in the reduction of poverty as a whole. The contribution is very small because they don’t use modernised systems. If they would change their minds and work with NAADS, they could make bigger profits” (Owano, personal communication, 12/04/2010).

We can conclude that UA was considerably observed as a household strategy during the fieldwork. Even though the impact of UA to poverty reduction is significant, but not very big according to the officers cited above, it should be promoted and supported as much as possible since people will keep on engaging in UA.

3.4.2. Other opportunities

The main opportunities of UA mentioned by the respondents –by urban farmers as well as by officials- are income (supplement), employment, food security and nutrition. *‘People need food, fresh vegetables and fruits, which could be adequately addressed by UA’*, argues the District Environmental Officer, Joseph Ogwal (Ogwal, personal communication, 10/05/2010). Another opportunity has been identified during the focus group discussion, when one of the farmers said that produces are being exchanged between neighbours. UA thus contributes to the strengthening of social networks.

Some officials mentioned that UA makes the environment healthier (for example by fruit trees) and it is a good thing to beautify the homestead and the Municipality (Arungi, personal communication, 12/04/2010; Okomo, personal communication, 14/04/2010). Peter Arungi explains the importance of urban greening: *“When you look at the issue we are facing the whole world now about climate change, global warming, and the rest of it, and Lira Municipality being a growing Municipality, which causes more and more emissions because we now have certain factories in place which produce a lot of emissions. We also have more vehicles than we used to have and there are many other things happening so we need to clean our atmosphere and environment. I think the best cleaners are trees. So there is need for us to put more trees in place.”* (Arungi, personal communication, 13/05/2010). The District Environmental Officer argues that *“if UA would recycle the Municipal waste, it could have a positive impact on the environment. While decomposing the waste into manure, which vegetable growers can use, the environment can be benefited”* (Ogwal, personal

communication, 10/05/2010). Peter Arungi explained that there are efforts towards that since the Municipality benefited from Worldbank funds to implement a waste recycling plan in Aler, 7km away from town¹⁸. The district gave the Municipality six acres of land to work out the plan, which means that waste is recycled and manure is made at that place. Farmers can buy the manure from there. Arungi is positive about the project: *“I think it will help particularly the agricultural farmers in the urban area, if they can buy the waste and use it because manure is not very nutritive for a very long time, so you need big quantity. The rubbish collection within the Municipality has also improved tremendously. If you see our market, it is not as dirty as it used to be.”* (Arungi, personal communication, 13/05/2010)

3.5. Risks and challenges of UA

A major challenge identified by the officers interviewed is lack of land for UA. The urban farmers themselves often shared the following challenges: lack of capital, lack of inputs and support, unfavourable climatic conditions and pests and diseases. Below, some challenges and risks of UA are further explained.

Lack of money

Lack of capital is a big challenge, since it is one of the reasons why people diversify their income generating activities and engage in UA. When asking the District Agriculture Officer if there are any (micro) finance initiatives in the Municipality to support the farmers, he answered: *“There are microfinance institutions, but the problem with these is that the loans are not very compatible with agricultural production. In the sense that they’ll give you a loan today and they want you to start repaying it in a week time. In agricultural production this is not possible.”* (Arungi, personal communication, 13/05/2010)

Lack of inputs

Many of the respondents stated that they lack basic farm inputs to be able to carry out various UA activities. Expensive feeds (like maize bran) were often mentioned as a challenge. Dennis Oraya regrets that there is no centre of inputs (e.g. Victoria Seeds Limited) located in Lira, because now there are middlemen who make big profits (Oraya, personal communication, 04/05/2010).

¹⁸ The Lira Compost project can be watched in a video on YouTube: <http://www.youtube.com/watch?v=rE3PAsQQIBw&feature=related> (Hagermann, personal communication, 15/05/2010)

Lack of staff and support

“If NAADS was not there, I would be wasting my talent”

Dennis Oraya, NAADS coordinator Railway Division

(Oraya, personal communication, 04/05/2010)

Peter Arungi stresses that staffing is a big problem: *“Our community is purely an agricultural community, so you’ll find that in a sub-county, for example, about eight thousand households are all looking at one extension worker and that is impossible to manage. And the same happens at the division level. Right now the Municipality has only one extension worker who has been send to coordinate NAADS in Railway division. But in the other divisions, we called some of our staffs from the sub-counties to help coordinate NAADS because NAADS is so important in the provision of advisory services.”* He further expresses displeasure about the GoU: *“At the moment the government has not yet taken a clear stand on how many extension workers a district should have. (...) Now there is the idea that all the extension workers must be converted into NAADS extension workers but there are other services which are not being provided under NAADS, particularly when it comes to regulations, quality assurance, pest and disease control, etc. If you remove all the staff and convert them into NAADS workers, who would be managing those?”* (Arungi, personal communication, 13/05/2010).

The lack of support, which was a frequently mentioned challenge by the urban farmers, can thus be explained by the lack of staff. The lack of bye-laws and regulations on UA has already been explained in chapter 3.2.1.

Climate

Unfriendly climatic trends like prolonged lack of rain and severe sunshine were frequently mentioned by the urban farmers during the interviews. The weather has been unfavourable in the last few years and seasons are not predictable anymore.

Pests and diseases

The outbreak of the pests is another challenge where a lot of farmers need to cope with. *“For us, we have the knowledge to provide but we are not armed with chemicals, pesticides and tools. Beyond offering advice, it is beyond our capacity to provide tools to farmers freely”*, argues Peter Arungi in an article on the internet (Kasita, 2008).

Gender

Gender issues regarding UA have been explained by some officers (Owano, personal communication, 12/04/2010; Abul, personal communication, 20/04/2010). Gender roles are not well divided since women are more engaged in UA. Disputes occur in households about the usage of the income. The men want a bigger part and pick the money away from the women, which leads to domestic violence.

Attitude

Dennis Oraya, NAADS coordinator in Railway Division mentioned the dependency syndrome: *“The insurgency caused people to be reluctant to farming since they are used to get free things. They are spoiled by the WFP. Their attitude needs to change because they should produce their own food, buy their own seeds, fertilisers and other inputs.”* (Oraya, personal communication, 04/05/2010). The Production and Marketing Officer, Charles Owano, comments that *“people are not thinking about what they could do tomorrow. Entrepreneurship and innovation skills are low.”* (Owano, personal communication, 12/04/2010).

Price fluctuations

Mentioned by Peter Arungi and some urban farmers during the focus group discussion, price fluctuations are another challenge. Arungi gave the following example: *“The price of tomatoes, for example, around this time is always very high, but when it comes to July, August, September, it will plunder tremendously, because many people will be in the market. Right now the tomatoes are growing. Our agriculture is rain fed. The rains have come and people have planted and transplanted. So soon a number of people will be selling tomatoes on the market. A basin which is now sold for 30,000US\$ will be going for 4,000US\$ or 5,000US\$ within the next three weeks.”* (Arungi, personal communication, 13/05/2010)

Population expansion & city expansion

“We want to become a city, but farming is slowing down the process of becoming a city”, argues the Production and Marketing Officer (Owano, personal communication, 12/04/2010). One of the urban farmers interviewed, noticed that *“population influx (from the village to town) and population expansion affected UA. Space is getting smaller and smaller. People transfer their goats or cows out of town or sell them”* (Abura, personal communication, 26/04/2010). Peter Arungi also mentioned some negative outcomes of the urban expansion: *“Because of city expansion, rural people come to the urban centre. They will have to cope and sell their land. It causes a displacement of poor family households in the peri-urban*

areas¹⁹. City expansion causes destruction and a call for compensation. City expansion limits areas for UA” (Arungi, personal communication, 12/04/2010). Participants of the focus group discussion complained about Municipal development plans (like road construction), because these they distort and disorganise their agricultural activities. After all, the plans are never shared with the community and people who are affected are not even compensated, they say.

Roaming livestock

Roaming livestock was also identified as one of the major challenges experienced by both the farmers and the Municipal authorities. Since livestock feeds are expensive, farmers leave their livestock to graze freely in the neighbourhood. However, roaming livestock in public spaces or near roads might cause accidents. Moreover, they often destroy other people’s crops and thereby cause complains between neighbours. To tackle this problem, farmers should confine their animals, but this can only be enforced by implementing new laws which regulate and control the livestock production activities.



Picture 33: Roaming livestock in Lira Municipality (De Leeve, 04-05/2010)

¹⁹ We can speak of ‘peri-urban’ starting from 3km out of town (Arungi, personal communication, 12/04/2010)

Investors

“People are selling land to investors. For example in Railway Division, the Tanzanian company Mount Mero which produces oil from sunflower and simsim (sesame), is pushing people back to the villages. Also hotels are coming up and occupy land.”, explains Charles Owano (Owano, personal communication, 12/04/2010).

Theft

During the focus group discussion, several people mentioned thieves who steal livestock (goats, cows, chickens, etc.) as a challenge. Other urban farmers also complained about their crops (especially maize during the season) being removed by people who like free things.

Human diseases

The high morbidity rate was mentioned by one officer as something that affects UA as well: *“When people are sick, for example because of AIDS²⁰, they need to spend their money on medicines. It affects their UA activities because they often don’t have the time, the power and the money to take care of their farming practices.”* (Okiri, personal communication, 16/04/2010).

3.6. The way forward

‘Although being an important livelihood strategy, people should diversify their economic enterprises instead of relying on UA as a livelihood’

(Ogwal, personal communication, 10/05/2010)

Though being aware of some challenges of UA, the study clarified that it brings in many positive values in Lira Municipality, to the individual or the community as a whole, especially in the reduction of urban poverty. Yet, UA has not been fully supported in the Municipality up to now. It is important that local government authorities start calling attention to the livelihood strategies of the urban poor, whereby UA plays an important role.

The Mayor of Lira expressed that they, as Municipal councils, have been complaining that UA should be allowed (Owiny, Personal communication, 27/04/2010). This happened after they visited the Vice-President in Kampala, who was practising UA on his compound and was

²⁰ The HIV prevalence of the Municipality is 14.7% (Data derived from the Municipality Profile, obtained at the LMC)

advocating for UA. However, despite the interest of local officers towards UA, old colonial laws have not yet been replaced by regulative laws. Though, since people are breaking the law by growing tall crops without reactions from the government officers, it can be argued that restrictive policies are transformed into policies of tolerance. Nevertheless, it is important that bye-laws are implemented to fully regulate and control the UA activities.

One officer in Lira Municipality stressed that it is better to diversify the income generating activities than to rely on UA as a livelihood (see citation above). Other employment (formal or informal) besides UA brings more financial security. However, the urban poor are often obliged to rely on UA as a single income source because access to formal employment is a challenge. UA is a survival strategy for those people. Diversification for the urban poor is thereby not easy, for example because people are used to farming and didn't learn other skills, or in the case of women, their focus is mostly on household and family related activities which impede them from taking up (other) income generating opportunities. It is thus crucial that the urban farmers receive adequate assistance and inputs to improve and sustain their farming practices.

The Production and Marketing Officer mentioned tourist farming and community based tourism as possible ways to support UA in Lira Municipality (Owano, personal communication, 12/04/2010). He also proposed the following interventions: *“Change the market into a modern market by informing stakeholders on market news on a weekly basis, for example a computer system that compares the prices and products with the world market. Also value should be added to products (e.g. maize into flour, soya beans into millet, etc.) because advanced products get better prices. Moreover, UA should be adopted in a modernized way. With NAADS we are educating farmers and practising skills. NAADS made a big change in the minds of the farmers. Since then, farmers grouped themselves into cooperatives to buy and sell produces. We thereby try to adopt methods from other countries. Organizing visits for farmers to learn from other farmers (in other parts of the country) would be a good idea. After all, he is positive about the prospects: “In about two years we will have better farming than now”. We can only hope that these suggestions and prospects become reality, in a Municipality where many people are engaged in UA for their livelihood. Above all, it is important that solutions are being sought with long term perspectives. In the next chapter, some important recommendations are described.*

4. Recommendations

The recommendations below are drawn upon the findings and discussions from the previous chapters. Although subdivided according to different stakeholders (central/local government and development agencies), the recommendations are directed to all the relevant actors. It must be stressed that the local governments bear primary responsibility, since they are the most important policy influences on the viability of UA.

Central government and local authorities:

- There is need for sensitisation and education of officials at different levels on the existence, magnitude and significance of UA in order to disprove misconceptions about it. Above all, central government and the municipalities need to understand the different food security and financial security strategies of different categories of people and take concrete steps towards the development of UA as an essential and valuable part of the urban life. In an effort to legitimize UA practices, urban authorities need to realize that UA is not only practiced by the urban poor or the most recent migrants to urban areas, but by a cross section of the urban population.
- Opportunities that arise from the current supportive policy framework in Kampala City, where bye-laws now allow for certain kinds of farm production in certain zones, should be captured by other urban areas in the country. Urban laws and regulations in other municipalities need to be revised so that they are compatible with people's survival options. Once implemented, all the actors involved should be sensitised to overcome obscurities. In Kampala, further sensitisation of the Ordinances is necessary.
- Zoning is an important element in the policy change. Areas should be demarcated where UA activities can be practised in order to prevent people from encroaching on public spaces. Government should promote utilisation of idle land, waste water resources, waste recycling and land restoration for agriculture. UA should thus be promoted as an interim land use system in public housing areas or be incorporated as a way to make open urban spaces more productive.
- Crucially, UA should be fully integrated into the ongoing national and municipal development and agricultural programmes (PMA, NAADS, NDP, etc.) as one of the mitigation strategies to poverty reduction and improved household food security.
- The Government should consider introducing vocational training to improve the skills of the urban poor, specifically in issues regarding high value-added activities such as the livestock industry, food marketing and post harvest technologies. These should

not only empower the urban poor, but should create more job opportunities and improve product availability at local level. This strategy could reduce the need to import food products and thereby saving much-required foreign exchange and increasing the availability of fresh and nutritious food at household level.

- Technical staff in UA should be educated in appropriate technologies that are suitable for urban areas.
- UA should be viewed as a lever to problems such as waste management and nutrient cycling, soil conservation and water management.
- Policy makers should consider UA projects that can create jobs in urban areas without jeopardizing natural resources or competing with urban planning.
- The government should make efforts to improve the NAADS programme in the urban areas, since corruption, misallocation of funds and lack of staff are regretful facts that slow down the process. The implementation of work plans, as well as the organisation of audits on a regularly basis, are necessary to ensure and control that funds are spent well. Moreover, the GoU should make a clear point on how many NAADS workers a District or Municipality should have. With already a lack of agricultural officers, not all of them may be converted into NAADS workers. Each Division should at least have one NAADS extension worker as well as one Agriculture assistant.
- Governments should promote technologies that require simple inputs in terms of energy and labour. Innovative forms of UA like farming in bags, rooftop farming, vertical farming, etc. need to be promoted.
- There is a need to increase support to urban farmers in form of subsidized farm inputs to facilitate increased agricultural production. Each Municipality should have a centre of inputs within the Municipality so that urban farmers have easy access to inputs. Thereby, it can be overcome that middlemen take big profits.

International donors and development agencies (UN agencies, NGOs, CBOs, etc.):

- Pro-poor poverty reduction programmes should target producers who use UA as a source of income. Organizing capacity building exercises, as well as encouraging poor urban farmers to establish cooperative groups, are crucial to help them to better manage, distribute and market their agricultural produce. The urban farmers need guidance to become commercially oriented. In this way more locally produced food can enter the market in urban Uganda.
- Sensitisation of UA practitioners about the potential dangers and challenges related to UA and how to overcome them.

- Micro-finance initiatives should be established to support urban farmers and transform UA from the informal to the formal sector. Micro loans should be compatible to the agricultural production.
- Since UA contributes to diversity in the diet, it should be integrated in nutritional programmes that target mothers and children, since they are often vulnerable to food insecurity and malnutrition. In this way, UA contributes to the reduction of several diseases as well.
- UA needs to be integrated in development programmes related to gender. Since women tend to be more marginalized in urban areas and have less access to formal income generating activities than men, UA can be a good strategy to empower them.
- UA should be integrated in community development schemes, since UA can play a role in the social inclusion of marginalized groups (the aged without a pension, unemployed youth, people with disabilities, people affected by HIV-AIDS, female headed households, those affected by war or disasters etc.).
- UA and urban greening initiatives should be integrated in development projects to upgrade deprived areas, like slums.
- Facilitation of innovative options in UA is needed to handle problems like waste. This could include the establishment of collection points for organic waste and a distribution system to deliver the waste to farmers who can reuse it in compost or livestock feed.
- Sensitisation of urban practitioners about low cost agricultural production technologies that are environmentally friendly in urban areas. Education in organic farming is thereby an important step in the right direction. With minimal use of pesticides, farmers should learn how to prevent and overcome pests and diseases that affect their farming activities.
- Farmers should get education on how to carry out their practises in a way that the environment is not damaged. There is enormous potential for reducing risks to public health by educating and empowering urban producers, as opposed to ignoring or harassing them. Farmers can reduce environmental risks and gain financially by making appropriate choices about what crops to grow.
- Sensitisation of urban dwellers about proper waste management.
- Development of appropriate water harvesting technologies to support household domestic consumption and irrigation enterprises.
- Sensitisation of urban farmers about disaster preparedness, given the fact that climate change is a well-present global feature.

- Promotion of community-based urban farms or tourist farms since tourism can make a significant contribution to local economies.
- Facilitating the establishment of multi-stakeholder platforms on UA and food security are crucial for the development of UA.

Researchers

- Finally, there is need for further studies and research on UA in the country on the magnitude (size of operation, growth trends, space utilization, tenure arrangements, production systems, types of infrastructure facilities and services provided etc.), gender, youth, poverty/welfare, public health, institutional and environmental implications, opportunities and challenges.

Derived from the study findings, the list of recommendations tried to be comprehensive as much as possible. Yet, other recommendations can of course be made. Anyhow, it is important that solutions and interventions are sought with long-term perspectives. Moreover, it should be done in a participatory way, whereby the central government, international agencies, Municipal Officers, NGOs, CBOs, the private sector, etc., as well as the urban farmers, are involved.

Conclusion

This study has put a light on the concept of UA, which has been an emerging strategy since poverty, food insecurity and malnutrition are progressively shifting from rural to urban areas all over the world. By describing the concept of UA as a dynamic one, we have been able to understand its various dimensions like types of location, economic activities, actors, products and production systems, ranging from subsistence to fully commercialized agriculture. The study has focused on the role of UA to poverty reduction in Uganda, and in Lira Municipality in particular, and identified UA as a viable intervention strategy for the urban poor.

The contribution of UA to poverty reduction in Uganda has been clarified in many ways. By growing their own food, the urban dwellers can earn extra income and save on their food expenditure. However, the effectiveness of UA is not limited to poverty reduction at the household level, since it also creates economic employment. After all, not only family members of farming households are set to work to produce goods, but numerous other people are involved and employed in the farming, marketing and processing activities. Moreover, the study revealed that in addition to food security, poverty reduction and employment, there are several other benefits of UA for individuals and the community as a whole. After all, UA also contributes to diversity in the diet, plays a role in the social inclusion of marginalized groups, maintains landscapes and biodiversity, recovers urban waste, etc. Overall, it can be said that UA creates better living conditions in the cities. Thereby it can contribute to the realization of several Millennium Development Goals (MDGs).

The fieldwork in the Municipality of Lira revealed that people are engaged in UA mainly because of economic reasons. The case studies have demonstrated that by engaging in UA, the urban farmers can earn a quite reasonable income by selling part of the produces and are able to supplement their food in a significant way. We must understand that the UA activities of the respondents also contribute to indirect income, which means that by consuming their own produces they can save on food expenditure and thus use their income for other purposes. However, the case studies showed that the amount of produces being traded may not be underestimated. A wide range of actors was also identified during the fieldwork, irrespective of age, gender or income level, since also people with formal employment are engaged in UA. Moreover, people cultivate in different locations, from backyards to semi-public land, and includes different enterprises, from vegetables to zero-grazing cows and horticulture.

However, given the widespread presence of UA and its contribution towards poverty reduction in Lira Municipality, the current restrictive laws, which ban UA in a large extent and give it an illegal status, have thus exceeded and seem to be misplaced. Though, since people are breaking the law by growing tall crops without reactions from the government officers, it can be argued that restrictive policies are transformed into policies of tolerance. Nevertheless, it is important that bye-laws are implemented to fully regulate and control the UA activities. After all, the study clarified that it brings in many positive values in Lira Municipality, to the individual or the community as a whole. Yet, the respondents explained many challenges as well like roaming livestock that destroy the crops, unfavourable climatic conditions, lack of inputs, theft, price fluctuations and above all, lack of support. Since local governments are responsible and thus play a crucial role in the development of UA, these challenges need urgent attention.

Although UA has gained significant support over the last decades, whereby Kampala implemented some ordinances to regulate and control certain activities, UA has been undermined in terms of integration and prioritising into national policies and programmes. Since recently, the National Agricultural Advisory Services (NAADS) programme also shifted attention to urban areas, but sadly enough, it is subjected to a lot of challenges like lack of extension workers, corruption and misallocation of funds, which are slowing down the process. To further develop UA in the country, it is needed that central and local government authorities change their attitude towards UA and fully integrate it into the ongoing national and municipal development and agricultural programmes (PMA, NAADS, NDP, etc.) as one of the mitigation strategies to poverty reduction and improved household food security. Urban laws and regulations need to be revised in the Municipalities so that they are compatible with people's survival options. Opportunities that arise from the current supportive policy framework in Kampala City, should be captured by other urban areas in the country. Above all, in an effort to legitimize UA practices, urban authorities need to realize that UA is not only practiced by the urban poor but by a cross section of the urban population.

UA has a future and will continue to be an important element as urban change –with rapid urban growth and rising urban poverty- is a reality and a continuous process in Uganda. The formal acceptance of UA as urban land use, integrated in urban development and land use plans as well as creating a favourable policy environment, are thus crucial steps towards the sustainable development of UA. Above all, central government and the municipalities need to understand the different food security and financial security strategies of different categories of people and take concrete steps towards the development of UA as an essential and valuable part of the urban life

Primary data

Before giving the list of persons interviewed, it must be noted that to guarantee the security of the informants, names of urban farmers, urban or district officials, local and national NGO staff are encoded, which implies that the names mentioned in this list do not necessarily correspond with the real names of the persons interviewed.

Personal communication

Kampala

- **Barongi, Annet** (01/04/2010). Personal communication. Kampala: NOGAMU. (duration: 20min, handwritten notes)
- **Byamuhanza, Dez & Fried, Lorin** (30/03/2010). Personal communication. Kampala: Save The Children. (duration: 25min, handwritten notes)
- **Kawempe, Maria** (01/04/2010). Personal communication. Kampala: Environmental Alert. (duration: 40min, handwritten notes)
- **Keulens, Els** (26/03/2010). Personal communication. Kampala: KIEMP. (duration: 15min, handwritten notes)
- **Kyomugunzi, Aggrey** (29/03/2010). Personal communication. Kampala: NAADS. (duration: 30min, handwritten notes)
- **Mbawo, Henry** (28/03/2010). Personal communication. Kampala: Katende Harambe Rural Urban Training Centre. (duration: 2hrs, handwritten notes)
- **Nyambere, Placid** (31/03/2010). Personal communication. Kampala: SNF. (duration: 30min, handwritten notes)
- **Ogavu, Max** (26/03/2010). Personal communication. Kampala: VECO. (duration: 25min, handwritten notes)
- **Sabati, Daniel** (22/03/2010). Personal communication. Kampala: Makerere University, Faculty of Agriculture, Department of Crop Science. (duration: 40min, handwritten notes)

Lira Municipality

Urban official, NGO staff, extension staff...

- **Abul, Alan** (20/04/2010). Personal communication: Lira Municipality: Senior Assistant Town Clerk Ojwina Division (duration: 35min, handwritten notes)
- **Amoro, Geoffrey** (14/04/2010). Personal communication: Lira Municipality: Physical Planner LMC (20min, handwritten notes)
- **Arungi, Peter** (12/04/2010). Personal communication. Lira Municipality: District Agriculture Officer (30min, handwritten notes)
- **Arungi, Peter** (13/05/2010). Personal communication. Lira Municipality: District Agriculture Officer (40min, recorded on tape)
- **Hagemann, Ralf** (15/05/2010). Personal communication: Lira Municipality: DED (duration: 15min, handwritten notes)
- **Kopango, Muno** (03/05/2010). Personal communication: Lira Municipality: Assistant Community Development Officer Adyel Division (duration: 15min, recorded on tape)
- **Lokong, Boniface** (20/04/2010). Personal communication: Lira Municipality: LEAD (duration: 30min, handwritten notes)
- **Ngabisa, Timothy** (07/04/2010). Personal communication. Lira Municipality: Send a Cow (duration: 20min, handwritten notes)
- **Ocan, Tom** (09/04/2010). Personal communication. Lira Municipality: UWESO (35min, handwritten notes)
- **Ogwal, Jozeph** (10/05/2010). Personal communication. Lira Municipality: District Environmental Officer (duration: 30min, handwritten notes)
- **Okello, Mike** (12/04/2010). Personal communication: Lira Municipality: WFP (duration: 25min, handwritten notes)
- **Okiri, Emanuel** (16/04/2010). Personal communication: Lira Municipality: Assistant Town Clerk Adyel Division (duration: 25min, handwritten notes)
- **Okomo, Paul** (14/04/2010). Personal communication: Lira Municipality: Town Clerk LMC (30min, handwritten notes)
- **Omal, Anthony** (07/04/2010). Personal communication: Lira Municipality: NAADS Veterinary Officer Central Division (20min, handwritten notes)
- **Ongol, David** (03/05/2010). Personal communication: Lira Municipality: FAO (duration: 25min, handwritten notes)

- **Oraya, Dennis** (04/05/2010). Personal communication. Lira Municipality: NAADS coordinator Railway Division, Assistant Agriculture Officer LMC. (duration: , handwritten notes)
- **Owano, Charles** (12/04/2010). Personal communication. Lira Municipality: Production and Marketing Officer LMC (35min, handwritten notes)
- **Owiny, Mozes** (27/04/2010). Personal communication. Lira Municipality: Mayor LMC (30min, handwritten notes)

Urban farmers

- **Acuma, Rose** (28/04/2010). Personal communication. Lira Municipality, Kirombe East, Adyel Division (duration: 20min, handwritten notes)
- **Akello, Sofia** (11/05/2010). Personal communication. Lira Municipality, Kichope, Ojwina Division (duration: 20min, handwritten notes)
- **Aloro, Molly** (11/05/2010). Personal communication. Lira Municipality, Junior Quarters, Adyel Division (duration: 25min, handwritten notes)
- **Alul, Johny** (27/04/2010). Personal communication. Lira Municipality, Kakoge Village, Ojwina Division (duration: 20min, handwritten notes)
- **Amenya, Lucy** (13/05/2010). Personal communication. Lira Municipality, Central Division (duration: 30min, handwritten notes)
- **Amito, Franca** (14/05/2010). Personal communication. Lira Municipality, Ojamah, Adyel Division (duration: 20min, handwritten notes)
- **Amolo, Jenifer** (11/05/2010). Personal communication. Lira Municipality, Junior Quarters, Adyel Division (duration: 30min, handwritten notes)
- **Amongi, Betty** (13/05/2010). Personal communication. Lira Municipality, Senior Quarters, Central Division (duration: 20min, handwritten notes)
- **Apili, Rosaline** (11/05/2010). Personal communication. Lira Municipality, Kichope, Ojwina Division (duration: 25min, handwritten notes)
- **Apio, Rose** (14/05/2010). Personal communication. Lira Municipality, Ojamah, Adyel Division (duration: 25min, handwritten notes)
- **Auma, Patricia & Otim Odil, Patrick** (03/05/2010). Personal communication. Lira Municipality, Ojwina Division (duration: 40min, handwritten notes)
- **Elot, Eveline** (14/05/2010). Personal communication. Lira Municipality, Ojamah, Adyel Division (duration: 20min, handwritten notes)
- **Etik, Suzan** (27/04/2010). Personal communication. Lira Municipality, Kakoge Village, Ojwina Division (duration: 20min, handwritten notes)

- **Fauling, Dilish** (11/05/2010). Personal communication. Lira Municipality, Kichope, Ojwina Division (duration: 20min, recorded on tape)
- **Kikaeu, Francis** (26/04/2010). Personal communication. Lira Municipality, Kichope Village, Ojwina Division (duration: 20min, handwritten notes)
- **Lochoro, Alex** (23/04/2010). Personal communication. Lira Municipality, Senior Quarters, Central Division (duration: 20min, handwritten notes)
- **Muchago, Felex** (12/05/2010). Personal communication. Lira Municipality, Uganda Government Prison Lira, Adyel Division (duration: 35min, handwritten notes)
- **Obura, Michael** (26/04/2010). Personal communication. Lira Municipality, Jinja Camp Village, Ojwina Division (duration: 40min, handwritten notes)
- **Ocen, Teddy** (22/04/2010). Personal communication. Lira Municipality, Ireda, Central Division (duration: 20min, handwritten notes)
- **Ocuma, Max** (11/05/2010). Personal communication. Lira Municipality, Kichope, Ojwina Division (duration: 20min, handwritten notes)
- **Odit, Dennis** (13.05.2010). Personal communication. Lira Municipality, Central Division (duration: 30min, handwritten notes)
- **Odongo, Bosco** (26/04/2010). Personal communication. Lira Municipality, Ober Kampala Village, Ojwina Division (duration: 25min, handwritten notes)
- **Odongo, Joe** (23/04/2010). Personal communication. Lira Municipality, Bazaar East, Central Division (duration: 20min, handwritten notes)
- **Odur, Tom** (26/04/2010). Personal communication. Lira Municipality, Kichope Village, Ojwina Division (duration: 20min, handwritten notes)
- **Ojok, Sylvia** (22/04/2010). Personal communication. Lira Municipality, Ireda West, Central Division (duration: 25min, handwritten notes)
- **Ojur, Franco** (28/04/2010). Personal communication. Lira Municipality, Kirombe East, Adyel Division (duration: 20min, handwritten notes)
- **Okello, Molly** (11/05/2010). Personal communication. Lira Municipality, Kichope, Ojwina Division (duration: 20min, handwritten notes)
- **Okello Opori, Ben** (21/04/2010). Personal communication. Adyangopiro, Amuca Parish (duration: 35min, handwritten notes)
- **Okiri, Jane** (28/04/2010). Personal communication. Lira Municipality, Starch Factory, Adyel Division (duration: 15min, handwritten notes)
- **Olet, Lily** (23/04/2010). Personal communication. Lira Municipality, Senior Quarters, Central Division (duration: 25min, handwritten notes)
- **Omara, Charles** (03/05/2010). Personal communication. Lira Municipality, Starch Factory, Adyel Division (duration: 20min, handwritten notes)

- **Ongol, William** (27/04/2010). Personal communication. Lira Municipality, Kakoge Village, Ojwina Division (duration: 20min, handwritten notes)
- **Opio, John Charles** (28/04/2010). Personal communication. Lira Municipality, Starch Factory, Adyel Division (duration: 30min, handwritten notes)
- **Owiny, Tom** (22/04/2010). Personal communication. Lira Municipality, Ireda West, Central Division (duration: 25min, handwritten notes)
- **Tumwebaze, Daniel** (22/04/2010). Personal communication. Barapwo Parish (duration: 20min, handwritten notes)

Focus Group Discussion with urban farmers:

- **Akello, Hozannah** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Anyati, Rebecca** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Apao, Evaline** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Epik, Peter** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Odongo, Mwamin** (13/05/2010). Group discussion. Lira Municipality Ireda West – Central Division. (duration: 1,5hrs, handwritten notes)
- **Ojok, Sylvia** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Omara, Milly** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Omor, Myriam** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Otwili, Lamex** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Otwili, Maliam** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)
- **Owiny, Tom** (13/05/2010). Group discussion. Lira Municipality, Ireda West, Central Division. (duration: 1,5hrs, handwritten notes)

Secondary data

Adoko, J., Levine, S. (2005, June) *A Land Market for Poverty Eradication? A case study of the impact of Uganda's Land Acts on policy hopes for development and poverty eradication.* Kampala, Uganda: Land and Equity Movement in Uganda (LEMU)

APRM (2008, May). *APRM Country Review Report No. 7. Republic of Uganda.* Retrieved, July 21, 2010, from <http://www.aprmtanzania.org/docs/Uganda%20CRR.pdf>

Armar-Klemesu, M. (2000). *Urban Agriculture and Food Security, Nutrition, and Health.* In: Bakker et al. (eds), *Growing Cities, Growing Food*, Faldafing: DSE, pp 99- 117

Assiimwe, D. (2010, 4 May). *Government now plans to intervene in the economy.* AllAfrica. Retrieved, July 20, 2010, from <http://allafrica.com/stories/201005041005.html>

Azuba, S. M., McCans, S. (2006, October). *Effecting policy change and implementation in urban agriculture, Kampala, Uganda.* UA Magazine 16, RUAF

Azuba, S. M. (2007, March). *Urban agriculture in Uganda: A rapid appraisal of the chracterization, opportunities and challenges that would influence policy formulation.* Final report. Uganda: Environmental Alert

BBC (n.d.). *Map of Uganda – Lira.* Retrieved July 18, 2010, from http://newsimg.bbc.co.uk/media/images/39895000/gif/_39895554_uganda_lira_map203.gif

Butler, L. & Moronek D.M. (2002, May). *Urban and Agriculture Communities: Opportunities for Common Ground.* Council for Agricultural Science and Technology. Ames Iowa: CAST

Byamugisha, H. M., Ikoja-Odongo, R., Nasinyama, G. W., Lwasa, S. (2008). *Information seeking and use among urban farmers in Kampala District, Uganda.* Vol 1, No 3, Agricultural Information Worldwide. Retrieved on July 13, from <http://journals.sfu.ca/iaald/index.php/aginfo/article/viewFile/30/31>

Cabannes, Y. (2005). *Public financing and investments for urban agriculture.* World Urban Forum: IPES/ ETC/IDRC

CIA (2010). *The World Factbook 2010*. Washington, DC: Central Intelligence Agency (CIA). Retrieved July 14, 2010, from: <https://www.cia.gov/library/publications/the-world-factbook/index.html>

Conway, K. (2006, April). *Growing better cities. Urban agriculture for sustainable development. From the ground up: Urban agriculture reforms take root*. Canada: IDRC Retrieved July 26, 2010, from http://www.idrc.ca/uploads/user-S/11456426301UA_2_Kampala.pdf

CountryStat Uganda (2010). *Key Indicators*. Retrieved July 14, 2010, from <http://countrystat.org/uga/cont/pages/page/indicators/en>

Daily Monitor (2010, July 21). *Why Naads' activities have been suspended yet again*. Retrieved July 22, 2010, from <http://www.monitor.co.ug/Magazines/Farming/-/689860/961504/-/xdt1jr/-/index.html>

Davis, M. (2006). *Planet of slums*. London/New York: Verso

DED (2009, August). *RUWASS – Lira*, DED. Retrieved July 27, 2010, from http://uganda.ded.de/cipp/ded/custom/pub/content,lang,2/oid,13598/ticket,g_u_e_s_t/~RUWASS_-_Lira.html

Denninger, M. & Egero, B. & Lee-Smith, D. (1998). *Urban food production: a survival strategy of urban households*. Report of a Workshop on East & Southern Africa. RELMA Workshop Series 1. Mazingira Institute, Nairobi: Regional Land Management Unit (RELMA)

de Zeeuw, H., Dubbeling, M. (2009). *Cities, Food and Agriculture: Challenges and The Way Forward*. Discussion paper for the Technical Consultation “Agriculture, Food and Cities”, organized by FAO-Food for the Cities (FAO-FCIT) and RUAF Foundation (24-25 September, 2009, Rome). Leusden. The Netherlands.. Retrieved July 19, 2010, from http://www.ruaf.org/sites/default/files/FAO-RUAF%20workshop%20paper%20Cities%20Food%20and%20Agriculture%20final%20version%20_2_.pdf

Dubbeling, M. (2004). *Optimizing use of vacant space for urban agriculture through participatory planning processes*. Paper presented at Workshop on IDRC-Supported Initiatives on Urban Agriculture and Food Security, Ryerson University, Toronto

Dubbeling, M., de Zeeuw, H. (2006). *Interactive policy formulation for sustainable urban agriculture development*. Urban Agriculture Magazine, no. 16. Formulating effective policies on urban agriculture. Leusden, The Netherlands: RUAF

Dubbeling, M., G. Merzthal, (2006). *Sustaining urban agriculture requires the involvement of multiple stakeholders*. In: van Veenhuizen (2006). *Cities farming for future, Urban Agriculture for green and productive cities*. p 20-51. Leusden, The Netherlands: RUAF/IDRC/IIRP

Emwanu, T., Okwi, P. O., Hoogeveen, J. G., Kristjanson, P., Henninger, N. (2007). *Nature, Distribution and Evolution of Poverty and Inequality in Uganda. 1992-2002*. Uganda: Uganda Bureau of Statistics (UBOS) and International Livestock Research Institute (ILRI)

Environmental Alert (2006). *Ending urban poverty through urban agriculture*. Uganda: Environmental Alert.

FAO (2001, July). *Urban and Peri-urban agriculture. A briefing guide for the successful implementation of Urban and Peri-urban Agriculture in Developing Countries and Countries of Transition*. Rome: FAO

FAO (2006). *The state of food insecurity in the world (SOFI) – 2006*. FAO, Rome. Retrieved July 19, from <http://www.fao.org/righttofood/kc/downloads/v1/docs/SOFI2006.pdf>

FAO (2008, October 3). *Urban agriculture for sustainable poverty alleviation and food security*. Final Draft. Retrieved July 23, 2010, from http://www.fao.org/fileadmin/templates/FCIT/PDF/UPA_-WBpaper-Final_Draft-3_October_2008-FG-WOB.pdf

FAO (2009). *Food for the cities. Brochure*. Retrieved July, 13 from <ftp://ftp.fao.org/docrep/fao/012/ak824e/ak824e00.pdf>

FAONewsroom (2007, February 1). *Urban farming against hunger. Safe, fresh food for city dwellers*. Retrieved July, 12th from <http://www.fao.org/newsroom/en/news/2007/1000484/index.html>

Gündel, S. (2006). *A synthesis of urban and peri-urban agricultural research commissioned by the RNRRS Programme*. Final Report. RNRRS

Hoekstra, F. (2008, January 28). *Urban agriculture types: production systems*. Leusden, The Netherlands: RUAF. Retrieved July 8, 2010, from <http://www.ruaf.org/index.php?q=node/1589>

Hooton, N. et al (n.d.). *Process and Partnership for pro-poor policy change. Learning lessons from the kampala urban agriculture policy process*. ILRI, ODI, Urban Harvest, KUFSALCC, PPPPPC. Retrieved July 24, 2010 from <http://www.pppppc.org/content/files/documents/Kampala%20report%20final%20WEB.pdf>

IDMC (2009a, December 31). *Uganda*. Retrieved July 23, 2010, from [http://www.internal-displacement.org/8025708F004BE3B1/\(httpInfoFiles\)/53CEC0C12790B77FC12577250064E6B8/\\$file/GO2009_Uganda.pdf](http://www.internal-displacement.org/8025708F004BE3B1/(httpInfoFiles)/53CEC0C12790B77FC12577250064E6B8/$file/GO2009_Uganda.pdf)

IDMC (2009b, August). *Map. Internal displacement in Uganda*. Retrieved July 28, 2010, from [http://www.internal-displacement.org/8025708F004BE3B1/\(httpInfoFiles\)/E9B52B9419076DD4C1257618003164E7/\\$file/Uganda-IDMC-map-August-2009.gif](http://www.internal-displacement.org/8025708F004BE3B1/(httpInfoFiles)/E9B52B9419076DD4C1257618003164E7/$file/Uganda-IDMC-map-August-2009.gif)

IFPRI (2002). *Living in the City. Challenges and Options for the Urban Poor*. <http://info.worldbank.org/etools/docs/library/110136/urban.pdf>

Kanyegirire, A. (2010, March 31). *Uganda signs CAADP Compact*. NEPAD. Retrieved July 20, 2010, from http://www.nepad.org/News/sector_id/6/lang/en/news/94

Kasita (2008). <http://www.newvision.co.ug/D/8/220/634905>

Kaweesa, M. (2005). *Five years of implementing an urban food security and nutrition project. Makindye Division, Kampala District*. Uganda: Environmental Alert

- Kiguli, J., Kiguli, L. N.** (2004, May). *Gender and access to land for urban agriculture in Kampala, Uganda*. UA Magazine No.12, Leusden, The Netherlands: RUAF
- Kiguli, L. N., Nuwagaba, A., Mwesigwa, D., Kiguli, J.** (2003, December). *Access to land for urban agriculture in Kampala*, UA Magazine No.12, Leusden, The Netherlands: RUAF
- Kiguli, J.** (2005). *Contribution of Urban agriculture to food security in Uganda*. Paper presented at the African Local Government Action Forum (ALGAF). UA Magazine No. 12, Leusden, The Netherlands: RUAF, Ottawa, Canada: IDRC
- Koonings, K., Kruijt, D.** (2009). *Megacities: The politics of urban exclusion and violence in the global south*. London/New York: Zed Books
- Lira** (2010). *Lira District*. Retrieved July 26, 2010, from <http://lira.go.ug>
- Locatelli, F., Nugent, P.** (2009). *African cities: competing claims on urban spaces*. Leiden, The Netherlands: Koninklijke Brill NV
- Lwasa, S.** (n.d.). *Urban Expansion Processes of Kampala in Uganda: Perspectives on contrasts with cities of developed countries*. Panel Contribution to the PERN Cyberseminar on Urban Spatial Expansion. Retrieved July 19, 2010, from http://www.populationenvironmentresearch.org/papers/Lwasa_contribution.pdf
- MacMillan, N.** (2007, August). *Designing the Edible Urban Landscape*. IDRC. Retrieved July 26, 2010, from http://www.idrc.ca/uploads/user-S/11873770181Neale_McGill_FINAL.pdf
- Maxwell, D., Zziwa, S.** (1992). *Urban agriculture in Africa: the case of Kampala.*, Nairobi, Kenya: ACTS Press
- Maxwell, D.** (1994). *Internal struggles over resources. External struggles for survival: Urban women and subsistence household production*. Paper presented at the Association for African Studies, 3–6 November 1994, Toronto, Canada
- Maxwell, D.** (1995). *Labour, land, food and farming: a household analysis of urban agriculture in Kampala, Uganda*. PhD dissertation. University of Wisconsin: Madison

Mougeot, L. (1999). *Urban Agriculture: Definition, Presence, Potentials and Risks, and Policy Challenges*. Paper presented to the international Workshop “Growing Cities, Growing Food”, October 11-15, 1999, Havana: Cuba

Mougeot, L. (2006). *in_focus: Growing better cities: Urban agriculture for sustainable development*. Ottawa: International Development Research Centre (IDRC)

Moustier, P. (1998). *La complémentarité entre agriculture urbaine et agriculture rurale*. In: Olanrewaju B Smith (ed.). *Agriculture urbaine en Afrique de l’Ouest: une contribution à la sécurité alimentaire et à l’assainissement des villes*. Wageningen: CTA/Ottawa: IDRC

Moustier, P., Danso, G. (2006). *Local economic development and marketing of urban produced food*. In: van Veenhuizen R. (2006). *Cities farming for the future: urban agriculture for green and productive cities*. IIRR, IDRC, RUAF, 7, 173-208

Mukwaya, I. (2004). Paper for the International Conference on Globalism and Urban Change. Chicago, 22nd – 24th July 2004. In: *State of Uganda Population Report 2007. Planned Urbanization for Uganda’s Growing Population*. Uganda: UNFPA, p.4. Retrieved July 16, 2010, from <http://www.popsec.org/documents/State%20of%20Uganda%20Population%20Report%202007.pdf>

Mukwaya, I. (2007). *State of Uganda Population Report 2007. Planned Urbanization for Uganda’s Growing Population*. Uganda: UNFPA, p.47-60. Retrieved July 20, 2010, from <http://www.popsec.org/documents/State%20of%20Uganda%20Population%20Report%202007.pdf>

Muwanga, J. (2001). *Informal food markets, household food provisioning and consumption pattern among the urban poor*. A study of Nakawa Division, Kampala City. MA Thesis. Kampala Uganda: Makerere University

Nabukhonzo, P. (2007). *State of Uganda Population Report 2007. Planned Urbanization for Uganda’s Growing Population*. Uganda: UNFPA, p.47-60. Retrieved July 20, 2010, from <http://www.popsec.org/documents/State%20of%20Uganda%20Population%20Report%202007.pdf>

Nuwagaba, A., Kyamanywa, C., Kiguli, J., Atukunda, G., Mwesigwa, D. (2003). *Report on improving the urban poor’s access to land for urban agriculture*. IDRC/MISR/MDP

- Nugent, R.** (2000). *The Impact of Urban Agriculture on the Household and Local Economies*. In Bakker et al. (eds), *Growing Cities, Growing Food*. Feldafing: DSE, 67- 97
- Ongeng & Amoru, P.** (2010, July 2). *Akena to 'be his own man' in Lira*. Daily Monitor. Retrieved July 27, 2010, from <http://www.monitor.co.ug/SpecialReports/Elections/-/859108/950556/-/item/0/-/n9hanh/-/index.html>,
- Okino, P., Oketch, B.** (2010, April 4). *Museveni orders for Lira NAADS audit*. The New Vision. Retrieved July 27, 2010, from <http://www.newvision.co.ug/D/8/16/715122>
- Prain, G .** (2006). *Participatory technology development for sustainable intensification of urban agriculture*. In R. van Veenhuizen. 2006. *Cities farming for the future: urban agriculture for green and productive cities*. Leusden, The Netherlands: RUAF/IDRC/IIRR
- Radice, H. W.** (2005, November). *Farming in bags: micro-gardening in northern Uganda*. Issue 26, p.3, Action Against Hunger, USA. Retrieved, July 23, 2010, from <http://fex.enonline.net/26/farming.aspx>
- Redwood, M.** (2008). *Agriculture in Urban Planning, generating Livelihoods and Foods Security*. Earthscan/IDRC
- RUAF** (2010). *What is urban agriculture?* Retrieved July 12, 2010, from <http://www.ruaf.org/node/512>
- Rutt, R. L., van Beeck, S.** (2007, December). *Cleaning, greening and feeding cities; Local initiatives in recycling waste for urban agriculture in Kampala, Uganda*. UA-Magazine 19, RUAF
- Ssembalirwa, E.** (2008, December). *Urban agriculture in Kampala City, Uganda*. Uganda: KCC
- Ssempijja, D.** (2010, July 7). *WFP installs Grain Preservation Gear*. The New Vision. Retrieved July 28, 2010, from <http://allafrica.com/stories/201007080051.html>
- Smit, J. Ratta, A., Nasr, J.** (1996). *Urban agriculture: food, jobs and sustainable cities*. Publication Series for Habitat II, Vol. I. New York: United Nations Development Programme (UNDP)

Smit, J., Bailkey, M . (2006). *Urban agriculture and the building of communities*. In R. van Veenhuizen (ed). 2006. Cities farming for the future: urban agriculture for green and productive cities. Leusden, The Netherlands: RUAF /IDRC/IIRR

Mukwaya, I. (2007). *State of Uganda Population Report 2007: Planned Urbanization for Uganda's Growing Population*. UNFPA

UBOS (2002). *Uganda Population & Housing Census: Main Report*. Kampala: Uganda Bureau of Statistics (UBOS)

Uganda (2000). *Plan for Modernization of Agriculture (PMA): Eradicating Poverty in Uganda*. Kampala, Uganda: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) & Ministry of Finance Planning and Economic Development (MFPED)

Uganda (2001, January). *Uganda Participatory Poverty Assessment Report*. Kampala, Uganda: Ministry of Finance, Planning and Economic Development (MFPED)

Uganda (2010). *National Development Plan*. Retrieved, July 21, 2010, from <http://www.npa.ug/docs/finalndp.pdf>

Uganda Human Development Report (2007). Retrieved July 15, 2010 from <http://hdr.undp.org/en/reports/nationalreports/africa/uganda/Uganda%20National%20Human%20Development%20Report%202007.pdf>

UNDP (1996). *Urban Agriculture: Food, Jobs and Sustainable Cities*. United Nations Development Program, Publication Series for Habitat II, Volume One. UNDP, New York, USA.

UNDP (2009). *Human Development Report Uganda*. Retrieved July, 17, 2010, from http://hdrstats.undp.org/en/countries/country_fact_sheets/cty_fs_UGA.html

UNDP (2010a). *MDGs in Uganda*. Retrieved July 18, 2010, from <http://www.undp.or.ug/mdgs/25>

UNDP (2010b, April 23). *UNDP, WFP, WHO Launch Recovery Project in post conflict Northern Uganda*. UNDP. Retrieved July 28, 2010, from <http://www.undp.or.ug/news/152>

UN/ESA (2009). *World Urbanization Prospects: The 2009 Revision*. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. Retrieved July 14, 2010, from <http://esa.un.org/wup2009/unup/p2k0data.asp>

UN-HABITAT (2008). *Meeting the Urban Challenges*. UN-HABITAT Donors meeting, Seville, 15-16 October 2008. Retrieved July 7, 2010, from http://www.unhabitat.org/downloads/docs/5883_42389_Meeting%20the%20Urban%20Challenges.pdf

UN-HABITAT (2010). *State of the World's Cities 2010/2011: Bridging the Urban Divide*. Brochure. Retrieved July 14, 2010, from <http://www.unhabitat.org/documents/SOWC10/R7.pdf>

USDA (2009, June). *Food Security Assessment 2008-2009*. Retrieved July 18, from <http://www.ers.usda.gov/Publications/GFA20/GFA20.pdf>

USDA (2010, July). *Food Security Assessment 2010-20*. Retrieved July 18, from <http://www.ers.usda.gov/Publications/GFA21/GFA21.pdf>

Van Veenhuizen, R. (2006). *Cities farming for the future. Urban Agriculture for green and productive cities*. IIRR, IDRC, RUAF

Van Veenhuizen, R., Danso, G. (2007). *Profitability and sustainability of urban and peri-urban agriculture*. Agricultural Management, Marketing and Finance Occasional Paper, 19, Rome: FAO

Waters-Bayer, A . (2000). *Living with livestock in town*. Urban Agriculture Magazine, no 1 June 2000. Maiden Issue. Leusden, The Netherlands: RUAF

Wikipedia (2010a). *Buganda*. Retrieved July 22, 2010, from <http://en.wikipedia.org/wiki/Buganda><http://en.wikipedia.org/wiki/Buganda>

Wikipedia (2010b). *Lira, Uganda*. Retrieved July 21, 2010, from http://en.wikipedia.org/wiki/Lira,_Uganda

Wikipedia (2010c). *Lira District*. Retrieved July 21, 2010, from http://en.wikipedia.org/wiki/Lira_District

Annexes

Annex I : The Kampala 5 Ordinances on UA

The Local Governments (Kampala City Council) (Urban Agriculture) Ordinance, 2006

This Ordinance addresses general issues surrounding growing crops and keeping livestock within the jurisdiction of Kampala City Council. Anyone engaging in UA must obtain a permit and license from Council. The UA Ordinance regulates where urban agriculture activities may take place within the City; what is permissible with regards to the use of pesticides, herbicides, and fungicides; and regulations for the processing of food and beverages.

The Local Governments (Kampala City Council) (Livestock & Companion Animal) Ordinance, 2006

Livestock keeping is a part of urban agriculture. Keeping animals in the City creates more risks to health than in the countryside because animals, and their wastes, are in close proximity to many people. This ordinance governs the keeping of all animals that are kept for food production and income as well as animals that are kept as companions. It aims to keep things clean and well organized with animals within the City.

The Local Governments (Kampala City Council) (Meat) Ordinance, 2006

The slaughtering of animals, transport, processing and marketing of meat in urban areas are related to urban agriculture. Meat and meat products are highly perishable as a form of food and need careful handling to protect people's health. The Kampala City Council will, therefore, document and regulate slaughterhouses and butchers within the jurisdiction of the City Council of Kampala as well as transporters of meat, both artisanal and industrial, to the benefit of residents and the city population in general.

The Local Governments (Kampala City Council) (Milk) Ordinance, 2006

The sale of milk and milk products are related to urban agriculture. Milk is a highly perishable form of food and needs careful handling to protect people's health. This Ordinance will, therefore, regulate permits and licenses for dairies, establish standards for milk and milk products, and prevent the spread of disease to the benefit of residents and the city population in general.

The Local Governments (Kampala City Council) (Fish) Ordinance, 2006

The farming, capture, handling, processing and marketing of fish in urban areas are part of urban agriculture. Fish are a highly perishable form of food and require careful handling to protect people's health. This Ordinance will, therefore, regulate anyone dealing with fish and fish products as a business (e.g., fish farmer, fisher-man, fish monger, or transporter). This will be accomplished through the issue of permits and licenses, the enforcement of standards for fish processing and selling premises, and regulations for fish drying and packaging.

Source: Environmental Alert, 2006, p.11-12

Annex II: Popularization of the Urban Agriculture Ordinances in Kampala by Environmental Alert

The Local Government - Kampala City Council Urban Agriculture Ordinance 2006

Urban Agriculture means the practice of growing crops, aromatic plants, herbs, spices and ornaments, and the rearing of fish, poultry and livestock for food, income, environment management and medicine in the urban/city boundaries, and includes the distribution, processing and marketing of such products.



OBLIGATIONS	PROHIBITIONS	PENALTY
<p>Any urban farmer involved in urban agriculture must have permission from Kampala City Council.</p> <p>Any urban farmer involved in commercial urban agriculture, must have a licence from KCC.</p>	<ol style="list-style-type: none"> Urban Agriculture should not be undertaken; <ul style="list-style-type: none"> along road reserves In wetlands on green belts In city parks on abandoned landfills and toxic areas In area less than ten feet away from an open drainage channel. any other area that council may specify Use of untreated human waste for agriculture purposes is not allowed Pollution of the environment by agro-chemicals use and waste from industries, petrol stations, workshops, vehicles and other polluting activities are not allowed in the city. 	<ul style="list-style-type: none"> Failure to abide by these provisions will result into a fine not exceeding Ush. 40,000/= or Imprisonment not exceeding six months, or both, or an equivalent term of community service.



Environmental Alert,
P. O. Box 11259 Kampala,
Tel: 256-41-510547 or 510 215,
Email: envalert@envalert.org
Website: www.envalert.org.

This is a simplified version of the urban Agriculture Ordinance as drawn and passed by Kampala City Council in 2006.



Plot 1-4 Apollo Kagawa Road
KCC Building
PO Box: 7010, Kampala.

Source: <http://www.envalert.org/docs/UrbanAgricultureA2.pdf>

LEGEND

- New Municipal Boundary
- - - Old Municipal Boundary
- Division
- Ward
- LC

PERI - URBAN INFRASTRUCTURE PROJECT

MINISTRY OF LOCAL GOVERNMENT

WALDAP ENGINEERING INC.

MUTENGA BATUMBYA CONSULTING ENGINEER

Title: LIRA ADMINISTRATIVE BOUNDARIES

Fig No: 1

Date: 29/03/1997

112

[illegible]

113