

The Need for Policy Framework for Urban/Peri-Urban Agriculture in Ethiopia: A Reflection

Messay Mulugeta¹

Abstract

Following the fall of the Derg Government in May 1991, Ethiopia has witnessed a wide range of reforms in its policies and strategies. However, no attempt has been made yet to introduce a policy for urban/peri-urban agriculture (UPA) in the country. Therefore, this study was undertaken to assess the need of policy framework for UPA in Ethiopia. It attempts to bridge the gap in the limited research in this area and bring to light the necessity of policy for UPA so that it could play a crucial role in the much needed prospective fast economic growth in the country. The study particularly assesses the constructive impacts UPA can have on the livelihoods enhancement, environmental greening, waste recycling and job creation in urban areas. The paper is based principally on a desk review of the experiences and policy frameworks of other countries as well as a few primary and secondary data in the case of Ethiopia. Legislators, key experts and professionals, selected urban farmers and entrepreneurs, and urban planners were interviewed to supplement the data obtained through desk reviews. The synthesis of this study shows that it is imperative to formulate a policy framework and by-laws for UPA in Ethiopia so that the country can make the most out of the sector. Owing to its unique characteristics, UPA deserves distinctive proclamation, policy framework and by-laws. This is because UPA has persistent multidimensional pro-poor and environment- and health-oriented values in addition to its immediate importance in socio-economic development and revenue generation.

Keywords/phrases: urban/peri-urban agriculture, policy, Ethiopia

¹ Assistant Professor of Geography and Environmental Studies, Adama University

The Concept and General Synopsis of UPA

Urban/peri-urban agriculture (UPA) is an urban-based economic activity that comprises a variety of agriculture-related livelihood systems ranging from subsistence production and processing at the household level to more commercialized agriculture. The concept, feasibility, operability and spatiality of UPA confuse several academicians, policy designers and city administrators. It also provokes numerous argumentative questions that need to be addressed. Such questions, to be precise, are: What is urban agriculture? Does it have any role in the overall livelihood enhancement of the urbanites? How can it be practiced amidst the severe scarcity of land and water resources in urban areas? Aren't urban areas used for construction purposes rather than cultivation? What should be the land transaction and pricing approaches? Who is responsible for organizing and managing UPA? Who are urban/peri-urban farmers?

UPA is defined in different ways by different scholars (Gündel *et.al.* 2000, Smit *et.al.* 1996, Sawio and Spies 1999, Sawio 2004). However, the definition by Tinker (1994) is believed to be most appropriate for this paper. Tinker (1994) defines urban agriculture as the practice of food production within the city boundary or on the immediate periphery which includes the growing of food crops, fruits, trees, herbs, flowers, aromatic plants, firewood as well as the raising of animals including cattle, poultry, fish, bees and pigs. It is a labor intensive farming practice done only on a small area such as vacant plots, outdoors, gardens, parks, riversides, lakesides, balconies, rooftops, containers and road strips. However, medium and large scale commercial UPA enterprises/companies require reasonably large plots of land for production, packaging, fattening, apiary, sale and storage.

UPA is not a recent phenomenon. Archaeological findings have unraveled agricultural practices of urban settlements achieved by ancient urban-based civilizations for the production of food, feed and fodder, firewood, building materials, windbreak, medical plants and transportation in deferent parts of the world (Sawio 2004, Smit *et.al.* 1996, Tinker 1994, Falvey 1999, Teferee 2003).

Since the 1970s, UPA has been growing in the developing and developed world as a result of rapid urbanization, crippled domestic food distribution systems, wage cuts, soaring inflation, rising unemployment, increasing number of retirees, declining purchasing power, limited urban land-use regulations and the ever-increasing demands for fresh food in urban areas. To meet part of the food needs of urban dwellers, UPA is becoming a familiar and almost permanent feature both in the developed and developing countries. Spatially juxtaposed with other urban-based economic activities and resources, urban farming makes a vital contribution to the household economy of the urban residents (Falvey 1999,

Sawio 2004, Smit *et.al.* 1996, Tinker 1994, Messay 2010). It is supplying food to over 800 million urban dwellers worldwide. To be specific, it is the source of food for 40 percent of African and 50 percent of Latin American urban dwellers (UNDP 1996, Zezza and Tasciotti 2010). In/around large metropolitan areas like Accra, Addis Ababa, Adama, Beijing, Cairo, Cape Town, Kampala and Nairobi, it not only provides residents with safer, healthier and fresh food, but also keeps farmers in business and continuous physical exercises. Data from Addis Ababa City Administration Trade and Industry Bureau shows, for instance, that there are at least 11,716 registered households practicing UPA, producing over 211,101 quintals of cereals and 153,662 quintals of vegetables in Addis Ababa (2011/12 data).

UPA is practiced for a variety of reasons worldwide. A study by Maxwell (1994) in Kampala has identified at least two major categories of reasons for households to be engaged in UPA: commercial production and household food self-sufficiency. In Addis Ababa, too, the aforementioned households (See Table 1) practice UPA for household consumption and limited enterprises such as ELFORA Agro-Industries perform it for commercial purposes. UPA, therefore, contributes a lot in reducing the problems of urban household food insecurity by improving access to fresh and low-cost food produces. In addition, it plays crucial roles in urban greening, waste recycling, and micro-climatic regulation.

A number of sources (Smit *et.al.* 1996, Teferi 2003, Tacio 2007, Messay 2010) indicate that Children born to low-income farming families were found to be as healthy as those born to wealthy families and healthier than those from non-farming low-income families. At this point in time, therefore, UPA has come to be the cornerstone of many urban economies and sources of diet both for the urban poor and well-off community throughout the world.

Objectives of the Study

The principal objective of this study was to look into the necessity of policy framework for UPA in Ethiopian towns/cities with special emphasis to Addis Ababa and the environs. The study aimed to address the following specific objectives:

- promoting the integration of UPA into municipal sectoral strategies in Ethiopia
- stimulating urban administrators, legislators, planners and other stakeholders to critically contribute to the formal recognition of UPA as a legitimate activity; and

- creating awareness about the role of UPA in addressing urban food security, environmental greening, job creation, social integration and reutilization of urban wastes

Approach, Materials and Methods

This paper is based principally on a desk review. The writer briefly reviewed the legal and policy frameworks of various countries in order to understand their regulatory frameworks and compare them with the cases in Ethiopia. A range of related research findings, reports and consultancy papers in different counties were reviewed. Additional secondary data in Ethiopia were collected from Federal Democratic Republic of Ethiopia /FDRE/ Ministry of Agriculture /MoA/, Central Statistical Authority /CSA/, Addis Ababa City Administration /AACA/ Trade and Industrial Development Bureau /TIDB/, FDRE Ministry of Urban Development and Construction, and National Metrological Agency /NMA/.

Field observation and key informant interview were carried out to look into the viewpoints of heads of the purposively selected UPA companies, enterprises and associations; urban farmers and nurserypersons; legislators, executives, experts and urban planners; and a few non-farming urban households in major Ethiopian cities/towns: Addis Ababa, Adama, Bishoftu, Burayu, Galan, Holota and Sabata.

Peculiarities of UPA

The multiple peculiarities of UPA cannot be entirely elaborated at this juncture but may be mentioned briefly for the sake of comprehensiveness. UPA refers to a labor intensive agricultural practice performed on smaller areas within or in close proximity to urban areas. In the case of medium and large scale commercial farming, it is more technology-intensive and input-selective activity, emphasizing high-value vegetables and animals as compared to rural-based agriculture. Poultry, fishery, apiculture, pig farming, dairy farming and horticulture are some of the most operable kinds of UPA meant for own-consumption or for sale mostly in neighborhood markets. The diversity of UPA is one of its main attributes, as it can be adapted to a wide range of urban situations and to the needs of diverse stakeholders (<http://www.ruaf.org/node/513>, FAO 2007).

What the UPA has in common with and what sets it apart from rural-based agriculture are, in fact, varied and multiple. One is its propinquity to large settlements of people, thereby creating varied opportunities to the urbanites to access the freshest and low-cost foods. The others are its enormous job

opportunities, proximity to transportation services, wastewater recycling and re-use possibilities of other urban wastes.

The Role of UPA

UPA has a long established history in Asia and western countries. Now it is expanding rapidly in Africa and Latin America. For the past twenty or more years, urban agriculture has been expanding globally as a response to the market demands arising from rapid urbanization. It is perhaps expanding more rapidly than urban populations and associated economies in many developing countries. A growing recognition of the importance of UPA has taken place worldwide. It is becoming even more significant to keep pace with increases in demand for food. For this reason, it is increasingly being seen as an important component of urban development and urban environmental management (FAO 2007; Smit *et.al.* 1996, Tacio 2007).

The world is undergoing the largest wave of urban growth in history driven by multiple factors such as the economic growth of cities/towns, unbalanced spatial development and rural-urban migration. According to UNFPA, more than half of the world's population is living in towns/cities at present. Sub-Saharan Africa, with about 3.7 percent annual growth rate of urbanization, is leading the world in this aspect. The percentage of the world's urban population is projected to reach 54 percent by 2015 and 60 percent by 2030 according to United Nations, Department of Economic and Social Affairs /UNDESA/. The urban share is likely to rise from 44 percent to 56 percent in less developed countries by 2030 (UNFPA, 2007). The developing countries of Africa, Asia and Latin America will be home to some 75 percent of all urban dwellers in the world by 2030 (<http://www.ruaf.org/node/513>; UNDESA 2012, Dreshsel and Dongus 2009).

This rapid urban expansion in many countries has given birth to a large class of urban poor, particularly in developing countries such as Ethiopia. The World Bank estimates that one third of all urban residents are poor, which represents one quarter of the world's total poor at present (Baker 2008, FAO 2007). It also, no doubt, escalates urban pollution and complicates urban waste management. One of the foreseen challenges to the ever-growing urban poor is the issue of supplying them with nutritionally adequate and safe food in order to cope with the expected catastrophic urban livelihoods impoverishment.

UPA can be a viable source of income, jobs and freshest food for this rapidly growing urban poor. Particularly, for Sub-Saharan countries like Ethiopia, dented by poverty, rapid population growth and environmental degradation, UPA is an alternative source of employment, household incomes and food

security/sovereignty among many low-income urban dwellers (Sawio and Spies 1999, FAO 2007, Messay 2010).

For this reason, UPA is thought to be one of the panaceas for urban poverty. It has the capacity to improve the imminent urban poverty, unemployment, livelihoods insecurity and urban pollution. UPA provides a complementary strategy to reduce urban poverty and food insecurity and enhance urban environmental management. It plays an important role in enhancing urban food security amidst the skyrocketing costs of supplying and distributing food to urban areas from rural-based agriculture. In addition, UPA contributes to local economic development, poverty alleviation and social inclusion of the urban poor and women in particular, as well as to the greening of the city and the productive re-use of urban wastes (<http://www.ruaf.org/node/513>).

The contribution of UPA to food security and healthy nutrition is probably its most important characteristic. Food production in the city is in many cases a response of the urban poor to inadequate, unreliable and irregular access to food, and the lack of purchasing power. For instance, the USAID Urban Gardens Program for HIV-affected Women and Children in Ethiopia (established in September 2008) managed to address about 14,300 households and 44,491 orphans and vulnerable children in Ethiopia during September 2008 to September 2010. It targeted to ease the problems of low-income households and vulnerable children through UPA in different cities/towns in the country (USAID 2011).

Most cities in developing countries are not able to create sufficient (formal or informal) income opportunities for their rapidly growing population. This translates rightly into more livelihood crises as compared to a rural setting. The costs of supplying and distributing food from rural areas to the urban areas or to import food for the cities are rising continuously, and it is expected that urban food insecurity will keep increasing (Maxwell 1994, Smit *et.al.* 1996, Teferi 2003, Tacio 2007, Messay 2010, Zezza and Tasciotti 2010). Over the last five years, food prices in Addis Ababa, for example, are skyrocketing; upsetting and challenging most urban consumers.

UPA may improve both food intake (improved access to a cheap source of nutrition) and the quality of food. For instance, 60 percent of food consumed by low-income groups in Harare is assumed to be self-produced. In Kampala, children aged five years or less in low-income farming households were found to be significantly better-off nutritionally (less stunted) than their counterparts in non-farming households. Urban producers obtained 40 to 60 percent or more of their household food needs from their own urban garden. In Cagayan de Oro (chartered city in southern Philippines), urban farmers generally eat more vegetables than non-urban farmers of the same wealth class, and also more than

consumers from a higher wealth class who consume more meat (<http://www.ruaf.org/node/513>).

Global estimates indicate that 200 million urban residents produce food for the urban market, providing 15 to 20 percent of the world's food (Armar-Klemesu 2000 cited in FAO 2000). Commercial UPA production represents 34 percent of total meat production and 70 percent of egg production worldwide (FAO 2001). In Shanghai, 60 percent of the city's vegetables, 100 percent of the milk, 90 percent of the eggs, and 50 percent of the pork and poultry meat is produced within the city. Similarly, Dakar produces 60 percent of the national vegetable consumption whilst urban poultry production amounts to 65 percent of the national demand. In Mexico City, pigs and poultry are kept within the backyards of family homes. Producers keep an average of three pigs and 26 birds per household, but there are some individuals who manage up to 60 pigs, all kept within the family (FAO 2001). Even in the USA, many municipalities have explored UPA as a means to job creation, community development, environmental stewardship and improved food security. Many cities in the USA (such as Baltimore) consider UPA as a means to utilize under-used plots of land to improve food systems within their jurisdictions. The data from Addis Ababa City Administration Trade and Industry Bureau shows that city farmers in Addis Ababa provided about 170,618 quintals, 23,520 quintals, 100 quintals and 16,081 quintals of cereals, pulses, oilseeds and vegetables, respectively, to the urbanites in 2010/11 crop year.

This indicates that UPA to a large extent complements rural agriculture and increases the efficiency of the national food system. It is also one of the largest employers in most cities of the developing countries. Similarly, it is estimated that about a fifth to a third of families in some cities are engaged in urban farming earning their entire livelihoods from the sector. According to Addo (2010), in Maputo (capital city of Mozambique) about 30 percent of the land is being used for urban farming, while in Dar es Salaam (largest city of Tanzania) urban farming practice provided work for approximately 67 percent of the city's adult population in 1991, thus making it the second largest source of employment in Dar es Salaam. In Kathmandu (capital of Nepal) UPA enables about 37 percent of food producers to meet all their household vegetable needs. About 90 percent of Havana's (capital of Cuba) fresh produce comes from local urban farms (Addo 2010). In Addis Ababa, UPA sustains or supplements the livelihoods of about 82,012 (11,716 households with average family size of 7) individuals according to Addis Ababa City Administration, UPA Core Process Owner Bureau. Generally, this sector has grown into the basic source of livelihoods for millions of urbanites

in the world in addition to its enormous role in urban greening, revenue generation and waste recycling.

Besides the economic benefits for the urban/peri-urban agricultural producers, UPA stimulates the development of related micro-enterprises: the production and delivery of necessary agricultural inputs (such as pesticides, fertilizers and agricultural tools) and the processing, packaging and marketing of outputs as well as animal health services, bookkeeping and transportation. The services rendered by these enterprises may owe their existence in part or wholly to urban agriculture. Input production and delivery may include activities like the collection and composting of urban wastes, production of organic pesticides, manufacturing of tools, water delivery, purchase and distribution of chemical fertilizers.

Furthermore, UPA may function as an important strategy for social integration, physical exercises and education. UPA projects that involve disadvantaged groups such as orphans, disabled people, women, recent immigrants and elderly people have the capacity to integrate them more strongly into the urban network and provide them with a decent livelihood. The participants in the project may feel enriched by the possibility of working constructively, building their community, working together and in addition producing food and other products for consumption and for sale. In more developed cities, urban agriculture may be undertaken for the physical and/or psychological relaxation it provides, rather than for food production per se. Also, UPA may take on an important role in providing recreational opportunities for citizens (recreational routes, food buying and meals on the farm and visiting facilities) and in creating educational situations i.e. bringing youth in contact with animals and plants and teaching them about natural resources (<http://www.ruaf.org/node/513>, Sawio and Spies 1999, FAO 2007)

Moreover, UPA is a part of the urban ecological system and can play an important role in the urban environmental management system and micro-climatic regulation. It is clear that a growing city, such as Addis Ababa and Adama, produces more and more wastewater and organic wastes. For most cities the disposal of these wastes has become a serious problem. UPA can help to solve such problems by turning urban wastes into productive resources. Local or municipal initiatives can collect household waste and organic refuses from vegetable markets and agro-industries in order to produce compost or animal feed. Compost allows an urban farmer to use less chemical fertilizers, and by doing so they can prevent problems related to the contamination of groundwater. Wastewater may also be used for irrigation in case of lack of access to fresh water though it may lead to health and environmental problems without proper

guidance. In addition, compost-making initiatives can create employment opportunities and provide source of income for the urban poor.

UPA may also positively impact upon the greening and cleaning of the city by turning derelict open spaces into green zones and maintaining buffer and reserve zones free of housing. Degraded open spaces, riversides and vacant land are often used as informal waste dumpsites and squatter settlements in most developing cities (such as Addis Ababa) and are a source of health problems and crimes. When such zones are turned into productive green spaces, not only an unhealthy situation is cleared, but also the neighbors will passively or actively enjoy the green and healthy area. Such activities may also enhance community self-esteem in the neighborhood and stimulate other actions for improving the community's livelihood.

Typology and Spatiality of UPA

As an economic activity, UPA includes agricultural production and related processing and marketing activities within and/or nearby urban frontiers. It also involves marketing, inputs provision and pathogenic deliveries by specialized persons and enterprises. In urban agriculture, production and marketing tend to be more closely interrelated in terms of time and space than rural-based agriculture does owing to greater geographic proximity and quicker resource flows.

The types of products grown by UPA includes different types of crops (such as grains, root crops, vegetables, mushrooms and fruits), animals (poultry, rabbits, goats, sheep, cattle, pigs, bees and fish.) and non-food products (aromatic and medicinal herbs, ornamental plants and tree products). Often the more perishable, relatively high-valued and more productive vegetables and animal products and by-products are favored in UPA. These outputs are essential for the urbanites both for daily requirements and in case of hard times such as chronic and transitory food insecurity and food price inflation. However, production units in UPA tend to be more specialized than rural agricultural enterprises and exchanges take place across production units.

UPA may be operated in any spatial locations inside the cities (intra-urban) or in the peri-urban areas. It may be operated on the homestead (home-gardening) or on land away from the residence, on private land (owned or leased) or on public lands, specifically parks, conservation areas, roadsides, along streams and railways, and schoolyards. Uniquely, it can also be operated in outdoors, gardens, balconies, containers, and even on rooftops. However, specialized urban-based agricultural companies require convincingly larger plots of land for production,

sale, packing and loading/unloading. Such companies have a unique capability in wastelands upgrading, urban waste recycling and wastewater re-using.

Review of UPA Management and Policies/Strategies: Countries' Experiences

Land Access, Transaction and Pricing

The issue of land access, transaction and pricing attracted various government bodies, non-governmental organizations and the academia. Access to farmland by the urban farmers has been identified as a critical factor in the development and sustainability of UPA. In different countries, farmers access land through different land tenure regimes such as freehold, leasehold and customary landholding (Velez-Guerra 2004). In doing so, several countries have come to know that urban farmers and home-gardeners need assistance with regard to technical, organizational and marketing matters in order to make the best out of the sector. Municipalities are now giving priority to UPA farmers, access to farming land and the foundation and development of associations of UPA farmers.

They have also recognized the need to assure the importance of farming structures, procurement procedures and information services for effective distribution of the produce among the urbanites. This flourishing sector has been supported by appropriate policies, strategies and proclamations in many countries unlike Ethiopia. Several countries have come to recognize that a policy framework for UPA is a sine qua non to get the best out of it.

One core element of a successful urban farming policy is enabling the urban farmers (both individual smallholders and companies) to gain access to land for agricultural purposes. In practice, many different official and unofficial forms of temporary or permanent access to agricultural land exist in different countries. Smallholding farmers and gardeners may operate on vacant places along rivers/streams, 'wasteland', fringe areas of cities on informal and illegal bases. These holders may not make any payment to the municipality because of lack of legal grounds to enforce them to do so for lack of policy framework. This, undoubtedly, undermines the capacity of the farmers to practice agriculture in cities/towns which, in turn, hinders the capacity of the sector to play a significant role in any aspect. It is also simple to guess that as urbanization proceeds and land prices soar, city farmers struggle to gain and maintain access to land or are displaced into suburban or nearby rural areas.

Contrary to the case in Ethiopian municipalities, several other cities (Beijing, Cagayan de Oro, Cape Town, Kampala and Nairobi) have created a positive urban agriculture policy. This framework allows municipal staff to map different vacant

lands and to identify norms, regulations and main bottlenecks for the inclusion of urban agriculture into municipal planning policies and practices. For example, Dar es Salaam designated special land zones for agricultural uses through a participatory process, and revised municipal regulations in order to support urban farming. Moreover, the city encouraged vertical expansion in order to free up space for agriculture in built-up and expansion areas (Velez-Guerra 2004; <http://www.ruaf.org/node/513>; Sawio and Spies, 1999; FAO, 2007; Jacobi *et. al.* undated).

Although public awareness of farming activities in cities (such as Addis Ababa) is slowly increasing, agriculture is still in many cases not yet included in the urban planning. Urban planners tend to exclude agriculture from their terms of reference and as a consequence best and highly productive soils (such as suburbs in Adama, Addis Ababa, Burayu, Bishoftu and Sabata) are gradually becoming built-up areas, thereby losing the potential for food production forever. Some of the best examples may be *Woreda* 12 of Nifas Silk Lafto and Akaki-Kaliti sub cities in Addis Ababa where extremely fertile and productive areas have been converted to settlement areas.

Growing urban poverty and food insecurity, high costs of open space, challenges of solid waste management, and the need for recreational opportunities in the urban/peri-urban area should influence the thinking of planners and authorities in urban agricultural land access, transaction and pricing in Ethiopia. Concerned authorities and stakeholders should bear in mind that urban farmers are poverty fighters, waste reusers, landscape managers, waste recycling agents and providers of recreational services. Legalizing UPA, recognizing it as a formal urban economic sector, identifying tracts of land available for urban agriculture, and determining the spatiality of the sector are important steps in the creation of a facilitating and regulating policy framework in towns/cities. Such policy framework will be by far beneficial and more productive than the existing – neglecting or restricting – regulations laid on UPA in the country.

To this end, as briefly noted in Cabannes (2003), authorities and policy designers in Ethiopia should note that at least four groups of guiding principles are required for urban/peri-urban agricultural policymaking. These are (1) situation analysis, intra-municipal committee formulation and public consultation; (2) introduction of urban agriculture in municipal land use plans and municipal land use regulations; (3) bringing in land tenure, taxation guidelines and tariffs for the use of urban land and water for agricultural purposes; and (4) introduction of planning and management tools such as municipal land price registries and registration of land and space under cultivation.

Urban Land Scarcity, Competition and Conflict

A salient feature of a successful urban farming policy is its capacity to enable urban farmers to gain access to land for agricultural purposes at reasonable prices and free of any social conflict. This is especially important given the fact that the sector is practiced in urban areas where land is badly needed for various inherently urban-based economies and that the price of land is high and continuously soaring.

Various countries have employed different techniques to create conducive environment for the sector and to avoid wicked competitions and conflicts. For example, in Dar es Salaam, the municipality has designated special land zones for agriculture uses through a participatory process, and revised its regulations in order to create favorable environment for UPA. Moreover, the city encourages vertical expansion in order to free up space for agriculture in built-up and expansion areas (Jacobi *et. al.* undated).

Vélez-Guerra (2004) recommends that governments should hand over the governance of vacant public land to urban farmers' associations so that the informal means of land allocation can be integrated under statutory regimes. Farmers' associations should be autonomous in regulating land transfers, land use and environmental management and resolve land disputes on a facilitating framework. As part of the agreement between government and farmers' association, it can be negotiated that the municipality provides water supply, infrastructure maintenance and a local administrator. To target private urban land under a statutory regime, fiscal incentives could be used to encourage owners to temporarily put vacant spaces into agricultural use. Vélez-Guerra (2004) further suggests that assigning certain city areas to agricultural use can mitigate problems arising from land scarcity, competition and conflict which pose potential challenges to UPA. Similarly, urban UPA zones (i.e. greenbelts, dairy-belts and vegetable-belts) can be created through re-zoning customary lands into low-density agricultural uses.

According to Vélez-Guerra (2004), a usufruct agreement could be a favorable legal instrument for providing public land to urban farmers so as to take full advantage of the land through UPA. Usufruct is a right to use a property owned by another, normally for a limited time. It can be arranged in such a way that the usufruct holder has the full right to use the property but cannot transfer the property nor destroy it. The extent of usufruct is defined by agreement, and may be for, a stated term, covering only certain stated properties. It could be set to terminate if certain conditions are not met. It can be granted to several people to share jointly, and it can be given to one person for a period of time and to another after some stated event occurs.

Management and taxation of urban agriculture

In many cities, UPA are practiced in various locations, usually with little or no regulation. To reconcile the needs posed by urban growth with the need for activities of high economic and social value, UPA should be included in urban development plans and be regulated by municipalities. In most cases, the productive or potentially productive areas of a city that have not been paved over are not limited to communal farms and private gardens. Riverbanks and roadsides, parks, lands under high-voltage electrical towers that cannot be used for building purposes and those surrounding refuse dumps make up much of a municipality's territory.

Planning the use and exploitation of these spaces requires first assessing their potential through the use of appropriate management tools. Incentives for producers to invest are compromised by the lack of security concerning land tenure and the fear of eviction. Why erect terraces, improve and fertilize the soil, or build irrigation reservoirs if there are no guarantees by the government that benefits will be reaped from those investments? Taxation rules and legal policy frameworks are therefore necessary to provide security and incentives for producers.

Policy/Strategy and Administrative Structure Appraisal

Effective and efficient institutional and policy framework forms the basis for effective development of UPA. Several countries try to catalyze their urban/peri-urban agricultural sector via regional agreements and national strategies and legal frameworks. A case in point is a declaration signed in Dakar (March 2002) by seven mayors and city councilors from West Africa in support of the development of the sector. Likewise, five ministers from East and Southern Africa called for the promotion of a shared vision of urban/peri-urban agriculture in the Harare Declaration /29 August 2003/ (Drechsel and Dongus 2009).

Some countries are also working hard to promote their UPA farming through policy and legislative provisions. They formulate appropriate policies/strategies for the proper management, performance and funding of the sector so as to get the most out of it. A case in point is Uganda, a country where UPA is found to have been guided by appropriate policies/strategies. UPA in Kampala city, for instance, is a constituent sector of Kampala City Council under the Department of Production, Marketing and Environment. The City Council has now streamlined UPA through policy provisions and guidelines embodied in a number of UPA ordinances which were approved in May 2005. The department is comprised of

five sub-sectors such as Crop Production and Extension services, Animal Production and Extension Services, Fisheries and Aquaculture Production and Extension Services, Commercial Services, Trade and Cooperatives, and Environment and Natural Resources Management Services. The Department is guided by policy guidelines such as Plan for Modernization of Agriculture (PMA) and Urban Agriculture Ordinances and the National Environment Statute (NES) (www.cityfarmer.info.)

As a result, Uganda has turned out to be one of the countries getting the most out of the sector. Urban agriculture has become an integral part of Kampala's economy and an important livelihood strategy for the urban poor, especially women. Over 35 percent of the city's population practice some form of agriculture. For instance, they provide about 70 percent of poultry needs (Smit *et al.* 1996). Among the urban producers, 55 percent obtain 40 percent or more and 32 percent obtain 60 percent or more of their household food from their own urban garden (Mireri, Kyessi, Mushi and Atekyereza, Undated).

Similarly, Kenya is one of the most notable countries with suitable policy/strategy for UPA and well-organized governmental administrative offices and research centers charged with duties and responsibilities in relation to UPA. Despite the significant role of UPA, the sub-sector had over the years operated with little support in terms of policy, legal, and regulatory framework. In addition, the sub-sector had insufficient technical capacity to keep abreast with changing trends in technology. This situation has raised concerns regarding safety of the food, environmental pollution, and increasing number of conflicts over resources such as land and water. In a bid to mitigate these challenges and in order to spur further growth and sustain the development of the sub-sector, the government of Kenya developed the National UPA and Livestock Draft Policy in 2010. In addition to the national policy, the National Urban and Peri-urban Agriculture and Livestock Steering Committee (NUSC) were instituted to oversee the policy implementation. Other committees instituted include the UPA Coordinating Committee that is charged with the responsibility of handling technical matters; and the Municipal and Town Councils Agriculture and Livestock Committees (MCAL) that are mandated with responsibilities of managing UPA and Livestock programs and projects at the municipal and town council level. Non-governmental organizations (NGOs) through community based organizations (CBOs), and development partners have made a notable contribution towards the improvement of UPA in the country (Anonymous, 2010). As a result, UPA employs 29 percent of all urban households in Kenya. They make use of agro-technologies like greenhouse, drip irrigation, organic farming and to a less extent hydroponics. Studies indicate that up to 77 percent of UPA farmers in Kenya produce entirely

for their own consumption making the sub-sector an important source of food security.

Cuba is also another most notable country in making the best out of UPA through well-organized management and policy formulation. The government's first and most important step was to officially license unused space to be utilized for cultivation with the adoption of a law in 1994. The law makes it relatively easy for individuals or groups of people to gain access and usufruct ownership of land for UPA. Since then, Cuba has developed a comprehensive and detailed policy framework for urban agriculture. Existing rules and regulations governing the agriculture have been adapted and adjusted accordingly, and others were adopted specifically for the purpose of boosting UPA. These other laws also support public research and development of highly diversified organic production technologies and fertilizers; the provision of high quality seed and technical advice, information and education services; as well as the encouragement of on-site vending. As a result, organic urban farming makes very efficient use of whatever plot of land is available, thereby creating employment opportunity for many persons and providing fresh produce with zero transportation costs or emissions. Today, over 26,000 gardens (2,439 hectares) are available for UPA in Havana producing 25,000 tons of food annually. Generally, about 40 percent of households are involved in urban agriculture in the city (Kisner 2008).

Similarly, other countries like Ghana, China, Zimbabwe (Bulawayo), South Africa (Cape Town), Egypt are prominent countries with policy and legal frameworks for UPA. They have organized well-structured governmental administrative offices with clear duties and responsibilities regarding UPA. However, in most other countries (such as Ethiopia) UPA seems neglected and bereft of legal ground and appropriate standing in the administrative structure of the cities/towns. In Ethiopia, for instance, there is no office or individuals dealing with the issues of UPA in government administrative structure in almost all cities/towns except in the case of Addis Ababa City Administration. Even in this city, it is organized under Trade and Industrial Development Bureau though abundant individuals, associations, micro-enterprises and companies are engaged in the production and retailing of agricultural outputs within or on the outskirts of the city administration.

Marketing UPA Outputs

Inherently, the outputs of UPA such as dairy and poultry outputs, vegetables and flowers are perishable and market-oriented. UPA has minimal marketing costs owing to little or no need for packaging, storage and transportation of food. The

fact that it is practiced in or within the reach of high population density makes UPA so suitable for marketing. The outputs are not required to move long distances, unlike in the case of rural-based agriculture. The role of middlemen (retailers) and brokers is also minimal, which is assumed to be imperative for fair price. It needs only small vehicles, even handcart, to move the outputs from the site of production to salesroom where consumers or retailers can easily access the product. Occasionally, the transactions are carried out even on the farm or at the side of the farm creating an opportunity for the customers to buy the freshest of agricultural products just at the source. Besides, it can create an opportunity for the urbanite (particularly for the urban youth) to experience real agricultural sites for enjoyment, physical exercise and education.

Peculiar Challenges to UPA

UPA face specific challenges compared to those rural-based agricultural activities. The critical problems are scarcity of land and water resources. The competition for these decisive resources with other sectors also escalates the problem. Lack of recognition by city administrations, and societal neglect are also crucial challenges to urban and peri-urban agriculture.

UPA in the Ethiopian Context

UPA practitioners in Ethiopia are for the most part resource-poor, subsistence, and urban poor growing vegetables and raising animals within and/or around city boundaries in uncoordinated manner. The outputs are mostly meant for subsistence purposes, making the sector unable to play a significant role in poverty alleviation, urban greening and waste recycling endeavors. In the current Ethiopian situation, UPA has not yet been embedded in the urban planning and developmental strategies though various researchers (Teferi 2003, Messay 2010, Zenebe 2010) have recommended for it to be an integral part of the urban system. It has not yet fully engaged the jobless urban residents as laborers, and has not made use of typical urban resources (like organic wastes and urban wastewater) to the required extent. It has not yet addressed the needs of private companies to the extent they require. It also faces marketing and delivery challenges owing to lack of legal and policy frameworks. The competition for land with other urban functions is also detrimental.

Most of the individuals engaged in UPA in the briefly surveyed towns (Adama, Addis Ababa, Bishoftu, Burayu, Galan and Sabata) in Ethiopia are the previously rural farmers at fringe zones, long-term residents, females and the

youth. Though most of the farmers are found at lower and middle income levels, richer people and private enterprises were also found to have been engaged in the activity. Women constitute an important part of UPA farmers in these towns. For instance, the data from Urban Agriculture Core Process Owner Bureau /UACPOB/ of AACA indicates that over 40 percent of the overall UPA farmers in Addis Ababa are female-headed households. Similarly, female-headed households practicing home-gardening and poultry account for 60 percent and 50 percent, respectively, in Addis Ababa. This may be because UPA and related processing and selling activities, among others, may often be more easily combined with their household chores.

UPA in these towns has been managed, so far, haphazardly almost in every corner of cities/towns in uncoordinated way. Most individual urban farmers do not have legal license nor do they pay income taxes to the municipalities. Some practices (such as home-based dairy production and poultry) seem to pose health risks as wastes are found haphazardly spread out everywhere. In Addis Ababa and Adama, for instance, it is common to see livestock producers in residential or business areas. Agricultural wastes (such as straw, chaff, husks, discarded offal and other residues) are also disposed of along rivers, lakesides and public areas chaotically owing to lack of legal frameworks and by-laws for the sector.

Unlike the case in several cities in developing countries, an important part of urban agricultural production in Ethiopia is limited to self-consumption purposes. However, limited private companies (like MIDROC-Ethiopia) are engaged in the production of market-oriented UPA outputs in larger cities such as Addis Ababa, Adama and Bishoftu. They sell their products at the farm gate, in the same or other neighboring towns, in local shops and markets and to intermediaries and supermarkets. They mainly sell fresh products, but they also sell some processed and transformed (like yoghurt and butter) as well as cooked products on the streets. They also processed and packaged food stuffs for sale to one of the outlets mentioned above.

Market opportunities for urban horticulture are abundant in the ever growing regional and federal cities/towns, due to the increasing number of large fruit and vegetable collection centers and retailers. A number of existing and new input suppliers are also retailing vegetable seeds, fertilizers, pesticides as well as farming tools and implements. Consumers, vendors and wholesalers interviewed at retailing shops (such as Genesis Farm in Bishoftu and ELFORA Supermarket in Addis Ababa) unequivocally responded that the demand for the output of UPA is very high on account of its freshness and palatability.

In almost all the surveyed cities/towns of Ethiopia, the majority of urban farms are individual or family run. Group or co-operative farms and commercial

enterprises are few in number. The latter ones are engaged in farming at various scales ranging from micro- and small farms (the majority) to medium-sized and some large-scale enterprises. The technological level of the majority of the farmers is still rather low and environmentally unfriendly which needs to be enhanced and/or settled through appropriate strategies and legal frameworks. Particularly, the health risks the sector poses to the farmers and the environment should be reconciled through legal frameworks.

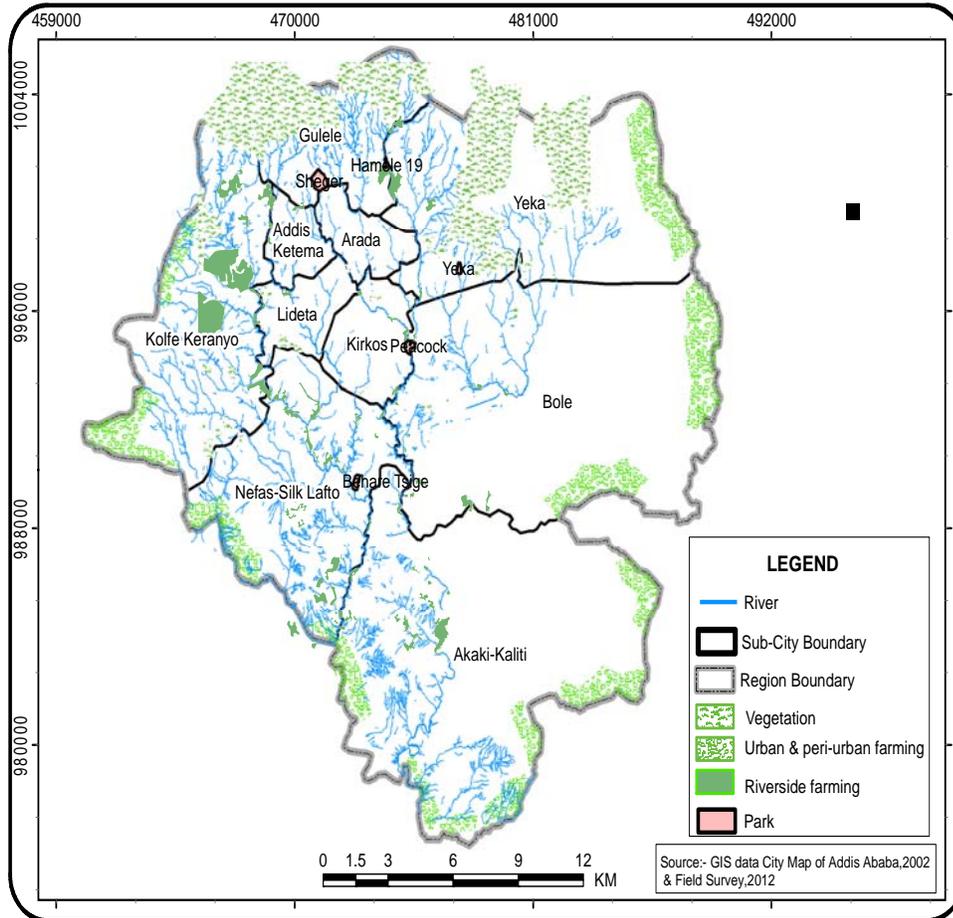


Figure 1: Spatial features of UPA in Addis Ababa

Table 1: Number of UPA practitioners in Addis Ababa City

UPA types	Male-headed	Female-headed	Total
Peri-urban on-plot farmers	2736	600	3336
On-plot vegetable producers	1378	678	2056
Home gardeners	1759	2639	4398
Mushroom producers	116	78	194
Dairy farmers	548	263	811
Poultry producers	232	232	464
Fatteners	132	225	357
Apiarian	100	0	100
Total	7001	4715	11716

Source: Addis Ababa City Administration, Trade and Industrial Development Bureau Urban Agriculture Extension Service Core Business Process (Data obtained on June 15, 2012)

The UPA farming systems in Ethiopian cities/towns are of three kinds: resource-poor subsistence on-plot peri-urban farming, resource-poor subsistence home-gardening and commercial companies/enterprise. Each has a variety of forms including urban livestock production, horticulture farming, agro-forestry and aquaculture.

Various studies in Ethiopia (Teferi 2003; Messay 2010; Zenebe 2010) indicate that tenure and limited access to land, lack of urban agriculture policy, inadequate research and extension services, by-law restrictions, input requirements and restrictive urban planning were the major challenges against the full exploitation of the potential of UPA production. Similarly, negative attitudes of some authorities towards the concept of the sector and scarcity of land and water have been identified as additional challenges to the sector. To make matters worse several municipalities, urban planners, residents, and even some intellectuals and consumers have developed biases against urban gardening mainly due to the potential hazards it poses to humans and the environment. Interviewed farmers in the briefly surveyed six towns also indicate the absence of policy and by-laws to be the critical challenge facing the sector.

Table 2: Major categories and peculiarities of UPA in Ethiopia

Farming systems	Producers and produces	Urban spatial dimensions
Resource-poor subsistence on-plot peri-urban farming	Typically (but not only) cereals, pulses and oilseeds are produced largely for household level consumption. Male-headed households are the major producers utilizing low-level technologies almost similar to the rural-based subsistence farming in the country	Practiced at fringe zones of the cities/towns. Reducing in size owing to intense competition from other urban-based and newly establishing businesses (such as real-estate developers and manufacturing industries) and squatters
Resource-poor subsistence home-gardening	Typically (but not only) vegetables, aquatic outputs, dairy and poultry products and fruits are produced largely (accounts for about 98% in Addis Ababa) for sale. The practitioners are mainly the urban poor women-headed households, utilizing low-level technologies.	Subsistence gardening in backyards, open areas along streams & drains, roadsides (for nursery) 'waste lands', lakesides and urban fringes are widely used.
Commercial companies/enterprises	Mostly vegetables, aquatic outputs, dairy and poultry products, flowers and fruits are produced mainly for sale. The producers mostly make use of improved technologies, enhanced inputs, trained manpower and better marketing linkages. Well-known companies such as MIDROC-Ethiopia and Genesis Farm Plc take part in this category of UPA	Unused plots, public open spaces, plots in public/private compounds, leaseholds, freeholds, and other open areas are used. Most of them are spatially located at urban fringes.

The other problem is that there are no established programs for the provision of extension package services to urban producers. So far the producers are by and large carrying out the production activities using their own knowledge and technical capacities. They also purchase inputs (such as fertilizers, selected seeds and pesticides) on their own usually from regular retail shops. Under these circumstances, they may buy inappropriate inputs, often the cheapest available, and apply them either inadequately or inappropriately to their farms. Ultimately, this will have either negative productivity and/or safety implications. Some irrigators were observed spraying untreated wastewater onto vegetables about to harvest; which may be dangerous for the consumers' health.

On the other hand, in those cities/towns located in dry and warmer land areas (such as Adama) where there are seasonal water shortages even under irrigated conditions, there is a production gap that exacerbates deficits in fresh produce supply both to the households and urban consumers. The interviewees revealed that prices of fresh produce are most likely to become very high under such conditions.

In an attempt to address such constraints, a policy and legal framework as well as a coordinated response from municipalities, community organizations and NGOs is necessary. Municipalities and concerned authorities should gear their efforts towards establishing more technically advanced, systematically structured, environmentally friendly and intensive agriculture in urban areas of Ethiopia.

Contributions of the Sector to Urban Livelihoods Enhancement, Urban Greening and Micro-climatic Regulation

According to Tacio (2007), quoted by Mougeot /a senior program specialist of the International Development Research Center in Ottawa/ 'Farming in the city is not a straightforward business... [It] requires much finer technological and organizational precision than rural agriculture because it must be more intensive, more tolerant of environmental stress, more responsive to market behavior, and more carefully monitored to protect public health'. This quotation reveals that urban agriculture is more capital and labor intensive, more market-oriented, more dangerous for health if not carefully managed, and more advantageous for environmental greening, recreational service provision and micro-climate regulation, unlike the rural-based farming practices. This is because it takes place in an area of cramped population, severe land scarcity, harsh environmental pollution and intense and enthusiastic recreational requirements.

UPA seems imperative in livelihoods enhancement, job creation, urban greening and micro-climatic adjustment in Ethiopia. It has the capacity to enable the urbanites to have access to fresh food items in closer proximity than the rural agriculture does. In Ethiopian context, this seems even more important as about 35.10 percent of the urbanites in the country are below the poverty line (MoFED 2008) requiring low-priced food items in close proximity.

The importance of UPA in recreational development, combating urban environmental pollution, waste recycling and urban greening is immense in Ethiopia. The sector has special importance in urban micro-climatic regulation for cities/towns. As argued in *urban heat island* principle, cities/towns are significantly warmer than their surrounding rural areas. Therefore, the ability of the crops/plants to regulate micro-climatic condition of an environment, developing intensive urban arable farming in every tiny and unoccupied corner benefits cities/towns a lot. It has particular importance for warmer Ethiopian towns located in the Rift Valley System such as Adama and Bishoftu. This could be done not only by planting seasonal crops but also by growing perennial trees and grasses in collaboration with municipal agendas and strategies. The other, often unrecognized, benefit of UPA is the greening of the cities/towns. Planting trees, and growing fruits and vegetables enhance the aesthetic value of the urban environments all year round. As such, the system can also act as a 'lung' for the cities in breathing and cleaning up the polluted air. A case in point is *Aba Gada Recreation Center* at the heart of the town of Adama and the efforts made by a limited number of small-scale commercial nurserypersons alongside major roads in Adama and Bishoftu towns.

The Place of UPA in Urban Administrative Structure in Ethiopia

There is no administrative structure charged with appropriate duties and responsibility in almost all cities/towns in Ethiopia. It is the agricultural bureaus at *woreda* level that tries to manage both rural and urban agriculture in the *woreda*. This, no doubt, seriously affects the development and proper functioning of the sector. The only exception is Addis Ababa where UPA has been organized as one of the six departments under Trade and Industrial Development Bureau (TIDB) of the city administration. In the official nomenclature of Urban Agriculture Extension Service Core Business Process (UAESCBP), this subdivision is organized to guide the overall process of the urban/peri-urban agriculture amidst the lack of policy and legal framework for the sector.

The attention given to UPA is found to be little in view of the existing large number of UPA farmers in the country. In Addis Ababa alone, the livelihood of over 11,716 households is associated with farming in the city. Moreover, there are

about 2722 individuals engaged in related micro-enterprise in Addis Ababa. The spatial coverage of UPA in Addis Ababa is estimated to be over 8300 hectares /of which about 300 hectares are under irrigation/ (Zenebe 2010, AACATIDB 2009). Hence, to institute the potential advantages of UPA in Ethiopia, an earnest effort should be made to place the sector in the appropriate administrative structure of the sector both at federal and regional as well as city administration levels. It is also recommendable to take the advantage of community structures such as producer and marketing co-operatives, and women and youth associations to promote urban horticulture in cities and towns in Ethiopia.

Policy Gaps and the Neglect

The Federal Democratic Republic of Ethiopia has developed a number of comprehensive policies, strategies and programs for accelerated and sustainable economic development since it assumed power in 1991. Such policies and strategies include the Agricultural Development Led-Industrialization (ADLI) Strategy, Rural Development Policy and Strategies (2003), the Sustainable Development Program to Reduce Poverty (SDPRP), the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), and the recent Growth and Transformation Plan (GTP). By implementing these productive policies, strategies and programs, remarkable progresses have been made in various sectors in the last two decades. However, this has not been reflected in the area of UPA to any extent. The reasons were, among others, lack of attention and action by policymakers, urban executive bodies and planners, lack of appropriate extension packages and production technologies, inappropriate land use policies, and biased health and environment dimensions concerning this sector.

Contrary to the appraised/assessed cases of different countries in the world, Ethiopia lacks policy frameworks for UPA despite the fact that the sector is a source of livelihoods and fresh food items for hundreds of thousands of urbanites in the country. It was not even addressed in the National Urban Development Policy of the Country (2005). Furthermore, no issues of UPA have been mentioned in the subsequent urban-oriented development-spurring documents such as Urban Development and Construction Component of PASDEP (2006), Urban Industrial Development Package (2006) and Urban Lands Lease Holding Proclamation (2011). Many urban farmers in the country, therefore, operate without formal recognition of their main livelihood activity and they lack the structural support of proper municipal policies and legislation. This indicates that the sector is absolutely neglected calling for urgent policy framework for UPA in Ethiopia.

The opinions of most investigated UPA practitioners in the surveyed towns indicate that the municipalities are belittling their contributions in the overall development of the towns. They also reported to have been suffering from absence of proclamations and by-laws regarding UPA. The municipalities always intimidate and consider them as illegitimate occupants of land that could have been used for other more revenue-generating businesses.

Regarding this, the words of one of the UPA company managers in Bishoftu seem worth stating:

I strongly feel that my company is contributing a lot in providing fresh vegetables to the residents in this town. We have also created a good number of jobs for the urban youth and women besides contributing to urban greening and waste recycling. However, we have got little attention from the municipality that is manifested in its failure to provide us with related by-laws and proclamations which, in turn, has resulted in inappropriate practices in the sector. For instance, we have been requested to pay a land lease tax approximating to the amount paid by other businesses such as real-estate and hotel development. I believe this emanates from lack of awareness about the enormous uses of UPA. I, therefore, would like to request the concerned government bodies to recognize UPA as a legitimate pro-poor urban-based business that has multiple advantages in socio-economic development and environmental protection.

Other respondents in Adama, Burayu, Holeta and Sabata also reveal views similar to the one quoted above. The UPA practitioners in Kaliti-Akaki and Nifas-Silk-Lafto Sub-cities of Addis Ababa, however, are slightly at ease with the way things have been done by AACA Urban Agriculture Extension Service Core Business Process. They recognize the office provision of agricultural extension services and infrequent trainings related to the overall practices of UPA. Yet they hold responsible the office for the lack of definite by-laws for the chaotic UPA practices in Addis Ababa.

The Call for Policy and Legal Frameworks for UPA in Ethiopia

The preceding discussions and findings justify the urgency of designing policy and legal frameworks for urban agriculture in Ethiopia in order to make the most out of the sector. Well-staffed and well-structured offices at all administrative levels of the cities/towns are necessary to effectively manage the sector to take full advantage of it. In doing so, no doubt, it will increase the overall benefit of the

sector especially in urban poverty reduction, job creation, waste recycling, greening, micro-climatic regulation and nutritional enhancement. The existing haphazard practices devoid of policy directives and legal framework related to this sector should be brought to an end soon.

Synthesis and Conclusions

This study has shed light on the overall situation and the necessity of policy and legal framework for UPA in Ethiopia. The discussions and findings indicated in this paper justify that the incorporation of UPA into the main economic strategies and municipal agendas of cities/towns in Ethiopia is imperative for various socio-economic and environmental purposes. UPA in Ethiopia should be guided by policy and legal frameworks so as to capitalize on it and exhaust the potential significance of the sector. It should be geared towards improving the livelihoods of the urban poor through job creation, technological advancement, environmental development and access to fresh and low-cost food items in close proximity. It should not be perceived as a marginal activity.

It should, by any means, be ensured that municipal councils are ready to change their views about the legal status of farming in urban areas. In the processes of policy formulation for the sector, low-incomers, female-headed households, micro-enterprises and companies should be considered and welcomed into the sector as each has its own role in promoting the sector for the benefit of the urbanites. It should be geared towards taking full advantages from established organizations, such as savings and credit groups, women's associations, youth forums and micro-enterprises.

Needless to say, the country today is one of the least urbanized nations of Africa, with only about 17 percent of its population living in urban areas (UN-HABITAT 2007). However, it is also witnessing one of the fastest rates of urban growth in the world. In keeping with this, favorable circumstances should be created for these ever-expanding urban areas regarding adequate food supply, sanitation and recreation centers. Policy and legal framework formulation for UPA is one of the panaceas in this regard. This is because the legal frameworks have the capacity to regulate land transfers, land-use and environmental management and resolve land disputes. The municipalities should have legal grounds to provide the sector with water and electricity, and thereby collect appropriate taxes. It should also designate certain city areas for agricultural use. Municipal planning offices should integrate public spaces for UPA for the poor into low-income housing developments and slum upgrading projects. Similarly,

urban agricultural belts can be created through re-zoning customary lands into low-density agricultural uses with the assurance that they will not be expropriated and converted into freeholds. A usufruct agreement could be a favorable legal instrument for providing public land to urban farmers.

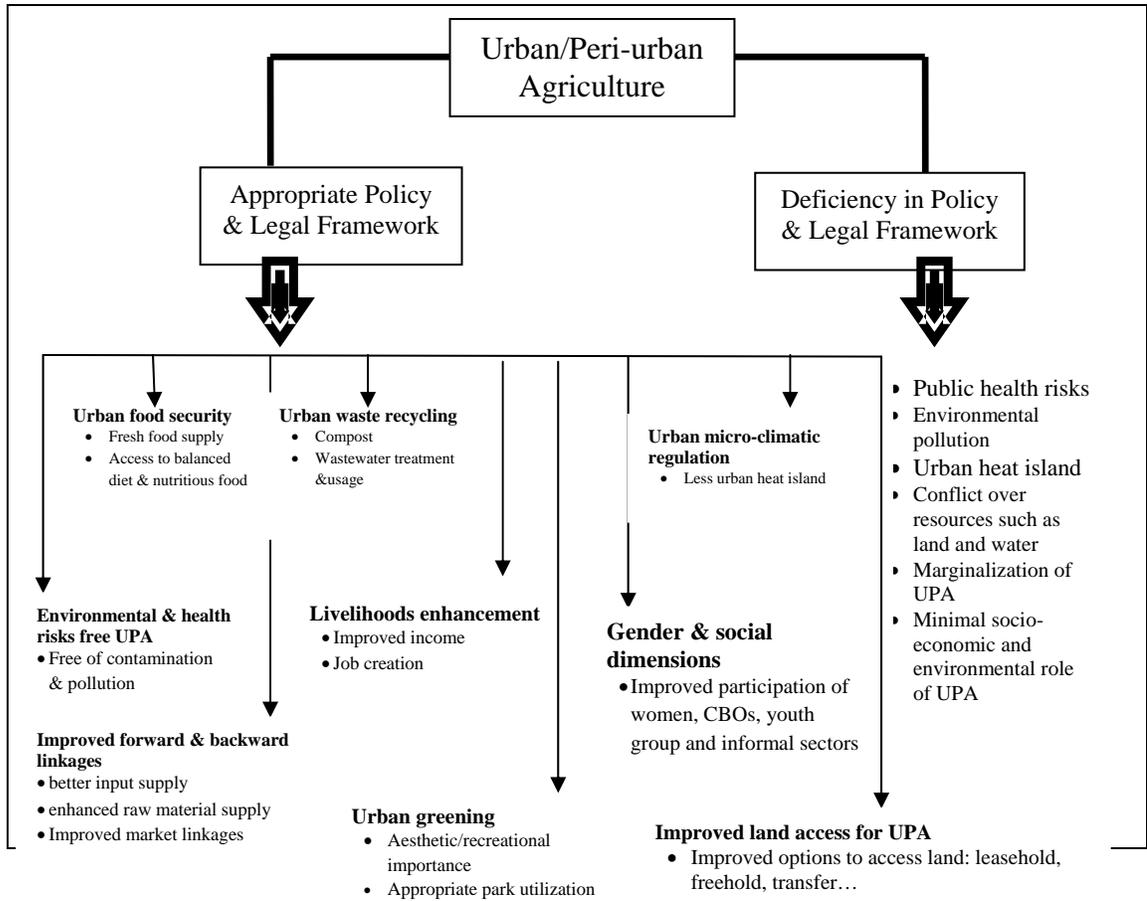


Figure 2: Visual presentation of the exigency of policy and legal framework for UPA

Source: Constructed based on literature review and empirical findings

The writer strongly urges that the soon-to-be UPA policy and legal framework for Ethiopian cities/towns should provide legitimate space for urban

farmers to be trained in waste management, wastewater handling and treatment, waste recycling, proper crop selection, marketing and storage, and adequate irrigation methods among other things. Technologies such as hydroponics, drip irrigation, bio-fertilization and zero tillage should be made use of so as to substantially reduce water loss, and health and environmental risks.

Recommended Key Policy Objectives Concerning UPA for Ethiopian Cities/Towns

Cognizant of the importance of UPA for multiple socio-economic and environmental factors and in view of the ever-increasing urban population in Ethiopia, the following recommendations have been put forward in order to improve UPA in Ethiopia.

First and foremost, UPA must be recognized as a legitimate urban economic activity. It should be integrated in sustainable urban development policies/strategies, food security/sovereignty improvement, public health enhancement, urban environmental protection, and housing programmes. In order to identify and remove unsubstantiated legal restriction against UPA, existing policies and by-laws concerning UPA need to be reviewed and adapted. In addition, legal ground for the integration of livestock development, crop production, agro-forestry and apiary in UPA should be put in place, and institutional homes for UPA in cities and towns across the country should be established. For these to be implemented effectively, issues of good governance, social and gender dimensions need to be embedded within UPA programmes and projects.

Secondly, the involvement of concerned individuals and organizations in UPA projects is paramount. To this end, commercial enterprises and companies should be encouraged to invest in UPA through various incentives such as tax free importation of machineries and inputs, lowering land lease prices and utility bills. NGOs and Community based organizations should also be encouraged to take part in the development of UPA. Similarly, individuals, co-operatives, micro-enterprises, and companies need to play their roles in the areas of marketing, recycling, retailing and distribution of UPA produces.

Besides, access to available open spaces, water, infrastructure, financial supply for UPA must be ensured. There also need to be an improved access to agricultural research, extension and credit services, system of input supply and output delivery. Through UPA enhancement, urban-rural household linkages and informal sector development must also be facilitated.

The necessary support should be provided for all involved in UPA. Most importantly, more market-oriented and entrepreneurial farming need to be strongly supported. Alongside this, training opportunities and advisory services for urban farmers must be created, especially in the areas of wastewater treatment, irrigation technologies, selection of seed/breed, livestock waste disposal, input supply, marketing, recycling and park administration. Through its development UPA, should also be able to support vulnerable community groups such as HIV/AIDS victims.

Last but not least, urban/peri-urban land use conflict resolution, and land transaction and fair pricing mechanisms must be put in place. Equally importantly, UPA should be in a position where it can play a key role in technology transfer.

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