



Urbanization: Market Opportunities

Ethiopia: Country Position Paper

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List of abbreviations

AAUA	Addis Ababa Urban Agriculture Office
ADLI	Agricultural Development-Led Industrialization
BDS	Business Development Service
BoH	Bureau of Health
BoCB	Bureau of Capacity Building
BoE	Bureau of Education
BoFED	Bureau of Finance and Economic Development
BoTI	Bureau of Trade and Industry
BoWUD	Bureau of Works and Urban Development
CSA	Central Statistical Agency
CSO	Civil Society Organization
DA	Development Agent
EIAR	Ethiopian Institute of Agricultural Research
EHNRI	Ethiopian health and Nutrition Research Institute
EPA	Environmental Protection Authority
ESE	Ethiopian Seed Enterprise
FGD	Focus Group Discussion
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
IBC	Institute of Biodiversity Conservation
HLI	Higher Learning Institutes
MoARD	Ministry of Agriculture and Rural Development
MSE	Micro and Small Enterprise
ORAMP	Office for the Revision of the Addis Ababa Master Plan
OVC	Orphans and Vulnerable Children
PASDEP	Plan for Accelerated & Sustainable Dev't to End Poverty
PLWHAs	People Living With Hiv/Aids
PRA	Participatory Rural Appraisal
TVET	Technical and Vocational Education and Training
UA	Urban Agriculture
UAD	Urban Agriculture Development
UAESCP	Urban Agriculture Extension Service Core Process
UPA	Urban and Peri-Urban Agriculture
USAID	United States of America International Development
WMA	Waste Management Agency

1. Introduction and Background Information

Ethiopia covers a landmass of about 1,104,300 sq km of which the land cover is 1 million sq km and water cover 104,300 sq km (CIA World Fact book, 2010). It has 18 major agro-ecological zones that comprise huge biodiversity and surface water resources, soil types, agro-climates as well as a wide range of altitudes ranging from -126 m in the Danakil Depression (Great Rift Valley) to 4620m at the peak of the northern mountains. This has resulted in the production of a wide range of crops and livestock species.

In 2010, CIA World Fact Book and the Ethiopian Central Statistical Agency (CSA, 2010) summarized the following facts about Ethiopia. The country has a total population of about 88,013,491 living in nine National Regional States and two Administrative City Councils (Annex Table 1). This level of population makes it second only to Nigeria in Sub-Saharan Africa. The total fertility rate is 6.07 children born/woman and the population growth rate is 3.2% (Annex Tables 2 & 3).

Ethiopian cities are also the fastest growing units in the country, adding 4.2 percent to the overall population per annum. The urban population in 2008 was 17% of the total population and the rate of urbanization is 4.3% annual rate of change. Life expectancy at birth is 55.8 years (total population), 53.28 years (male) and 58.39 (female). The birth rate is 43.34 births/1,000 population and the death rate is 11.29 deaths/1,000 population (Annex Tables 4 & 5). The number of people expected to live with HIV/AIDS is 980,000 of which the adult prevalence rate is 2.1%.

Agriculture is still the main stay of the economy contributing about 50% of the GDP, 85% of employment, 90% of the foreign currency earning, and 60% of the export (CSA, 2009). The real GDP growth rate lies between 8.7% and 11.6% from 2007 and 2009. The GDP per capita has also grown from USD 800.00 IN 2007 to USD 900.00 in 2009. The GDP by sector shows 43.5% from agriculture, 13.4% from industry and 43.1% from services. About 85% of the employment is generated by agriculture, 5% by industry and 10% by different services. The active labor force is estimated to be 37.9% of the total population and about 38.7% of the population is assumed to live below poverty line.

Given the huge challenges facing the country in relation to the above stated situations, it may not be surprising that poverty eradication is Ethiopia's main development goal. The government has developed a number of very comprehensive policies, strategies and programs for accelerated and sustainable economic development. Such policies and strategies include the Agricultural Development Led-Industrialization (ADLI) Strategy, the Sustainable Development Program to Reduce Poverty (SDPRP) and the Plan for Accelerated and Sustained Development to End Poverty (PASDEP).

By implementing these productive policies, strategies and programs, remarkable achievements have been obtained in the last 6-7 years in the agriculture sector particularly in the rural economies. However, this has not been reflected in the area of urban agriculture/horticulture to any great extent. The reasons were one of many including lack of consideration in research, lack of awareness by policy makers and urban planners, lack of appropriate extension packages and production technologies, inappropriate land use policies, and biased health and environment concerns.

Urbanization is occurring rapidly throughout Ethiopia, as populations are increasingly migrating from rural areas to major cities. Over the past decade, the country has experienced dramatic demographic changes, including increased rural-to-urban migration and a “youth bulge”. About 48% of the current population is under the age of 15 (adapted from USAID, 2010). Combining these trends with the already poor health statistics – including highly incongruent HIV prevalence rates (7.7% in urban areas versus 0.9% in rural), the situation seems quite disparate (USAID, 2010).

Such a situation led to widespread food insecurity, which is mainly the result of a lack of availability of food, lack of purchasing power, and inadequate access to employment opportunities. On the other hand, such a trend has resulted in a rising market demand, which paved the way for urban agriculture/horticulture to be emerged as a mechanism to reduce the level of poverty and provide adequate and regular access to food supplies.

As defined by the USAID Urban Gardening Program/DAI in Ethiopia (2010), urban agriculture/horticulture is a development strategy, employed to improve issues related to hunger, food security and health through the cultivation and distribution of food in and/or around towns and cities. Its benefits include provision of social safety nets for the urban poor, recycling of urban wastes, facilitation of social inclusion and contribution to urban greening.

At national level, urban horticulture, as part of the overall urban agriculture, has gradually gained the attention and action of policymakers. Urban agricultural activities are being recognized as an important source of food, nutrition and income for the urban poor. Through collaboration with local and international NGOs, the Ethiopian government is trying to ensure food security and livelihoods for the most vulnerable populations in such resource poor settings. Both the government and program beneficiaries make major shifts in behavior and policy to address the challenge through partnerships all the way through from the community to the national level. At community level, partnerships are formed with schools, local governmental agencies, and NGOs. The government is working at all levels to ensure the sustainability, productivity and safety of urban agriculture at large.

On the other hand, the importance of urban horticulture , although generally acknowledged by the government as stated above, is not yet equally well understood by stakeholders. For example, the cultivation of horticultural crops in the public and private open spaces of cities is common but has not yet attracted the research and extension attention it deserves. Still with others such as policy-makers and city planners, it has been and still is somewhat of an unknown or unacknowledged phenomenon. Despite its proven benefits to the poor, urban horticulture has been seriously under-estimated and still is considered by many as a temporary and part-time activity informally exercised by citizens.

Cognizant of these challenges and in view of the ever increasing population pressure and urbanization, this report tries to point out the trend of horticultural production, marketing, and utilization under urban settings in Ethiopia.

2. Present Status of Urban Growth and the Consequences for Horticultural Production to Supply Cities

2.1. The growth of towns/cities and the consequences in terms of horticultural supply and related issues

As in most Sub-Saharan African countries, more and more of the rapidly growing Ethiopian population is becoming concentrated in and around large towns/cities. The trend shows that as much as cities are expanded, so is the urban consumers demand for horticultural products.

As stated earlier, the country has an annual population growth of 3.2%, and an accelerated migration to urban centers of 6% or more per year (CSA, 2010). This rapid expansion of urbanization and growth of urban population has too often exceeded the capacity to provide essential services, such as adequate water, shelter, and, in particular, nutritious food.

This review mainly looks at Addis Ababa, the capital and biggest city in Ethiopia, where urban horticulture provides income, employment, and security for much more disadvantaged urban populations, but which is also quickly becoming endangered through urban expansion. Because of its rapid expansion, a lot of open spaces once serving as major horticultural farm lands are without regard lost for other purposes (housing, road infrastructure, etc.).

Addis Ababa was established in 1889. It has particularly grown explosively since the past 10 to 15 years. Its population in 2009 was 3,146,999 (CSA, 2010) and is approximated by UNEP (2010) to be 3,583,437 by the end of 2010. Of the population of 3, 146, 999 in 2009, about 1,510, 560 were males and 1,636, 439 females (CSA, 2010). The population was almost doubled in the last twenty years while the projected population growth points to 5.1 million in 2015 (UNEP, 2010). Over 97.7% of the population lives in the city while the remaining live in the peri-urban fringes with most of them growing various horticultural crops to the city.

Since the major rural migration in the mid 70s, especially more women, along with alarming number of orphans and primary and secondary school students, have migrated to the urban centers for a variety of reasons, including better job opportunities. Such huge influx was driven mainly by poverty and declining agricultural productivity in rural areas due to recurrent droughts, civil war, and the relatively improved income and employment opportunities in the urban areas. Although all large towns shared in this influx, Addis Ababa, as the national capital, was most affected.

The city has also shown extensive physical growth over the years. In 1984, the area of the city was only 224 km² and by 2009 it was estimated to be 530.14 km².(CSA, 2010).

Currently, nearly one-fourth (25%) of Ethiopia's urban population is living in Addis Ababa (Annex Table 6) and this has created a substantial pressure on the city's food security and urban services. In 2009, the population density in the city was 5535 persons/km² (Annex Table 7). This huge trend of urbanization led to unplanned settlement, illegal housing construction and uncontrolled settlements encroaching on protected vegetation cover and reserve lands as well as previous agricultural/horticultural plots in different corners of the city.

Urban horticulture contributes towards the alleviation of such crisis by providing increased opportunities for sustainable urbanization, economic empowerment, household food security, access to nutrition and conservation of the natural environment. Besides being both a long-term and short-term solution to the problem of ensuring adequate supply of food, urban horticulture is the answer to the need for nutritionally balanced food for the urban poor households.

According to the Office for the Revision of the Addis Ababa Master Plan report, there are a large number of households whose lives are associated with farming in Addis Ababa city, which directly support over 51,000 families (Gittleman, 2009). The total area covered by urban agricultural activities is 9,380 hectares (17.4% of the city) of which about 490 ha (0.9%) is used for vegetable production (UAESCP, 2010). Various studies also indicate that the urban poor households normally spend an estimated 60-65% of their income on food and food related items. Although Ethiopians relatively consume fewer vegetables because of their traditional grain and livestock product-oriented eating habits, the situation is gradually changing because of nutrition related trainings by different public institutions and NGOs. As a result, the demand and consumption of horticultural produce has almost increased by over 300% over the last ten years. For example, the average prices of tomatoes, onions, chilies and potatoes have increased from Birr 2.00, 3.50, 7.00, and 1.50 per kilogram in 2005 to Birr 7.50, 12.00, 25.00 and 6.50 in 2010 respectively (CSA, 2010).

While most urban horticulture production in Addis Ababa and other cities is carried out by individual families, there are also certain producer cooperatives that operate mainly along the major riverbanks in some of the cities/towns. Such groups normally take the advantage of natural waterfalls and small canals for irrigation to carry out intensive farming. While some of the produce is consumed by members of the cooperatives, most of it is destined for sale.

The rapid urbanization implies a growing demand for food that raises the problem of securing urban food and nutritional supplies. This demand includes frequently a large proportion of vegetables (i.e. leafy and fruit vegetables, root crops, etc.). Faced with high level of urban growth, the increased development of urban and peri-urban horticultural production, notably vegetables, plays a major role. Increasing vegetable production on farms may be obtained by increasing yields per unit area and/or increasing the cultivated surface areas. The later possibility, which should be the focus of future research, is an important issue in urban horticulture production where access to land becomes particularly difficult as there is a potential competition with other uses..

2.2. Horticultural Production in and around cities/towns

Urban horticulture production in Ethiopia takes place both in locations inside the cities (intra-urban) and in the peri-urban areas. The activities may also take place on private (owned or leased) or public lands (parks, railway and roadsides, riverbanks, floodplains, etc.), or semi-public land (hospital and schoolyards, office grounds, etc.) There are as well individual or family and group or cooperative farms.

Basically gardening or production of various horticultural crops in urban and peri-urban premises in Ethiopia is not something new; but a traditional practice and lifestyle. In almost every urban area across the country, homestead gardening is a widespread practice. The urban-based population is used to grow both rain-fed (e.g. maize, potatoes, pumpkins, and hot peppers) and irrigated crops such as vegetables, on plots adjacent to their houses. In and around main cities such as Addis Ababa, three types of horticultural producers are observed that practice either subsistence-oriented, semi-commercial or fully commercial urban farming.

While some medium income families tend to farm in their own backyards, those who do not have their own open spaces operate wherever they can find the land to do it. Normally urban horticulture production does not obstruct more appropriate urban land development. It rather uses small, idle, marginal, polluted, and vacant spaces. It is often found on lands unsuited to buildings and other uses.

Similar to many other African countries, there are two major forms of urban and peri-urban horticulture production systems in Ethiopia. The first type is what is commonly known micro-farming in and around the houses mainly for purposes of own or home consumption with occasional surplus sales to offset household expenses. The second type is basically a small-scale commercial horticulture production system that generates reasonably high income to the household or group/cooperatives and additional employment for other poor segments of the urban population.

The two other horticultural production systems are also practiced though the level of application varies from place to place depending on several factors including availability of space and water. These are the off-plot (on land away from the residence) and on-plot (on the homestead) systems, of which the off-plot production usually takes place along relatively wide open peripheral areas such as railway and roadsides, urban and peri-urban fringes, church and school premises, riverbanks, floodplains, steep slopes, and other undeveloped public and private spaces. The second fairly high-tech and well developed activity uses both vertical and horizontal spaces to its best advantage. Most of the production is intensive using simple to medium level technologies and is usually located where space and water are scarce.

Horticultural production may include different types of leafy and fruit vegetables, root and tuber crops, fruits, herbs and spices, ornamental plants, ornamental tree/shrub seedlings for landscape gardening, medicinal and other aromatic plants, mushrooms, etc.

Normally the people involved in horticulture production are the urban poor. Women constitute the largest part of the growers; perhaps because some of the activities such as processing and marketing of the produce can also be more easily combined with their other tasks in the household. Although most of the poor households are involved for their own subsistence, there are still some that are also involved fully in activities like marketing and input and service delivery.

2.3. Marketing and consumption trends of horticultural produce in cities/towns

Ethiopia is rapidly urbanizing and this will be an engine for horticultural market developments since the large majority of urban people depend primarily on purchased rather than homegrown fresh horticultural products. This offers additional opportunities for urban horticulture growers as marketing chains are also becoming more integrated in the cities/towns with the rise of new collection and distribution centers, greengrocers, supermarkets and convenience shops.

Producer households consume up to 45% of their produce as a supplement to basic diets and the balance is often marketed for cash (UAESCP, 2010). Surplus products are largely oriented to nearby urban markets. Peri-urban production is generally the major source of most of the fresh produce marketed and consumed in cities and towns. Peri-urban production is largely done on a relatively intensive commercial basis under irrigation and with high level of input use. Studies also show that the main market beneficiaries of urban horticulture are those grower families residing in peri-urban locations. Women are the main marketing agents and most of the peri-urban practitioners tend to be old inhabitants of the cities/towns (i.e. not recent migrants from rural areas). Other than the urban poor, an increasing number of medium income groups are also actively engaged nowadays in peri-urban horticulture production.

It is now clearly observed that urban and peri-urban horticulture is making a significant contribution to the daily food and nutrition requirements of urban dwellers. As stated by the Addis Ababa Urban Agriculture Office, about 30% of the total vegetable (i.e. including fruit and root vegetables) and 60-70% the leafy vegetable demand of the city is met by urban and peri-urban production.

As stated by Fairholm (1998), a community enjoys food security when all people, at all times, have access to nutritious, safe, personally acceptable and culturally appropriate foods, produced in ways that are environmentally sound and socially just. As several local and international NGOs are trying to merit this basic principle with HIV/AIDs victims, the contribution of urban horticulture towards food security and healthy nutrition is probably its most important asset. Various studies made in Ethiopia by international NGOs such as DAI/USAID, ENDA, FAO and WHO indicate that poor urban families involved in horticultural production eat more fresh vegetables than other families in the same income category and children in low-income vegetable producer households were found to be better-off nutritionally and less stunted than their non-producer counterparts.

However, apart from nutrition and health, horticultural production in such areas can save cash income to the growers that otherwise would be spent on food purchases. Depending on the income group, home-produced food enables families in Addis Ababa to save 10-20% of their income as well (UAESCP, 2010).

In urban horticulture, production and marketing is normally more interrelated in terms of time and space than for rural production. This can be attributed mainly to the relative geographic proximity of the production scheme to the actual consumer markets and to the relatively faster resource flow (inputs and produce transport) back to the farm.

The fresh produce is sold either to the actual consumers or intermediaries right at the farm gate or transported (by horse/donkey driven carts or small trucks) to nearby open markets, collection centers, greengrocers, and supermarkets. Over 99% of the horticultural produce is sold fresh, although some roots and tubers like potatoes and sweet potatoes are partly processed (i.e. boiled) and sold along urban streets.

A marked connection of horticultural consumption is also obvious with income levels, which determines the living conditions and often also reflects the level of education. For those with low income levels, fruits are regarded as clear luxury products whose demand can only increase to a very limited extent with a rise in income. Impulse buying for fruits has a far greater significance with such groups than in the high-income groups. The buying of fruits as a present also plays an important role in both income groups. Even in the low-income groups, it is customary to take fruits when visiting the sick and as a present for intimate friends and relatives.

Although preferences differ for the different types of vegetable crops, as seen as a whole, only limited quantity of vegetables (except chilies, onions, and tomatoes) is consumed in Ethiopia as compared to other African countries. This is not only to be attributed to limited availability and low purchasing power, but, to a considerable extent, also to traditional grain and livestock product-oriented nutritional habits. As the majority of the Ethiopian people follow the Orthodox Christian religion that do not normally allow eating animal products during the periods of fasting, including Wednesdays and Fridays, considerably more vegetables are consumed during such times.

2.4. Existing constraints regarding horticultural supply to cities/towns

Various studies made by government institutions and international NGOs such as FAO, GTZ, DAI/USAID and ENDA 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 potential of urban horticulture production. Others like negative attitudes by some authorities towards the concept of urban horticulture, and poor water, sanitation, and environmental conditions also present challenges when implementing the program especially within urban slums.

Still several municipalities, urban planners, residents, and even intellectuals and consumers have biases against urban gardening that mainly stems from concerns on its sanitation and safety practices both to humans and the environment. Such challenges and constraints are reflected more on urban slums than in peri-urban areas. This is so mainly due to the fact that peri-urban areas contain much more open spaces than the slums. Urban slums on the other hand contain numerous variations in terms of space availability, housing conditions, water and sanitation facilities, and population size.

In an attempt to address such constraints, a coordinated response is necessary and municipalities, community organizations and NGOs need to address several issues. Municipalities need to encourage the production of urban horticulture by zoning and designating public spaces across the cities. Given the fact that demand for gardening land exceeds the fresh produce supply, there is an obvious need to come up with strategies for making suitable spaces available. As stated earlier, one possible solution is designation of unused parcels of land across the urban environment. This again requires identification of such public spaces that might be available for this purpose.

The Office for the Revision of the Addis Ababa Master Plan (ORAMP) stated that about 13.82% of the city's total area (i.e. about 7,175 ha) is proposed as agricultural land for various farming activities including horticulture (ORAMP, 2006, cited in Nigussie, 2010). However, this cannot be taken for granted as it is not yet reflected in the Strategic Development Framework, Strategic Development Action Plans as well as Local Development Plans developed at the 10 sub-cities level which actually regulate land use (see Annex Table 8, Addis Ababa City Environmental Master Plan, 2009).

Urban horticulture could also be integrated into municipal compost programs, waste water recycling systems and sewage treatment programs. Community organizations could also play a central outreach and coordinating role. Official projects by local and international NGOs aimed at improving the practice are so far relatively rare; and so need to be intensified and integrated with the urban planning process.

Since the technologies required to address the various economical, ecological, social and environmental aspects demand diverse techniques and varied approaches, growers need to be properly trained and guided. For example, without proper guidance, the use of Wastewater may lead to health and environmental problems. Regular nutritional education and training is also particularly important as the ever increasing urbanization will necessitate balanced diets for proper health and functioning.

The other problem is that there are no established programmes for providing extension package services to urban producers. So far the producers are by and large doing the production activities using their own knowledge and technical capacities. They also purchase inputs (fertilizers, seeds, pesticides, etc.) on their own usually from regular retail shops. Under the circumstances, they may buy inappropriate inputs, often the least cost ones, and apply them either inadequately or inappropriately. Ultimately, this will have either negative productivity and safety implications or both.

On the other hand, in those cities/towns located in dryland areas where there are seasonal water shortages even under irrigated conditions (e.g. when the water sources are dried out), there is a production gap that exacerbates deficits in fresh produce supply both to the households and urban consumers. Prices of fresh produce are most likely to become very high under such conditions.

2.5. Existing opportunities for value-chain stakeholders regarding urban/peri-urban horticultural production

It is commonly stated that one of the greatest attributes of urban horticulture is its potential as a resource for urban poverty alleviation. Urban horticulture in Ethiopia is gradually becoming a very important economic activity that affects the lives of many poor inhabitants. Those engaged in it has already realized food, nutrition, and commercial benefits. For many families cultivating horticulture crops, the system provides the much-needed source of balanced diet and income. Under the present economic circumstances in Ethiopia, it can also be considered to provide one of the best potentials for employment generation. At the moment urban horticulture provides a significant proportion of informal employment especially for women and the youth.

The other, often unrecognized, benefit of urban horticulture is “greening” (landscape horticulture) of the cities/owns. Growing of ornamental trees and shrubs, fruits, vegetables, etc. enhances the aesthetic appearance of the urban environments. Irrigated crops such as vegetables provide the needed green environment throughout the year. As such, the system can also act as a lung of the cities in breathing and cleaning up the polluted air. Woodlots of ornamental trees/shrubs and fruit trees in urban areas also contribute to firewood and timber.

Market opportunities for urban horticulture are abundant in the ever growing regional and federal cities/towns, citing 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. To institute the potential advantages of urban horticulture in Ethiopia, effort should be made to use the advantage of well-organized community structures such as producer and marketing co-operatives, and women and youth associations to promote urban horticulture in cities and towns.

3. Present management of the impact of rapid urban growth at policy level: management of opportunities and constraints for supply chain stakeholders

3.1. National organization addressing the main issues

Urban agriculture/horticulture in principle needs to be supported with services like extension, inputs, research, credit, and market information among others. This is basically so because lack of technical know-how, poor production techniques, improper use and lack of training in proper application of agro chemicals contributes to low output and to some extent on the environmental degradation.

Historically urban agriculture in Ethiopia did not have a specific institutional base. Urban agriculture related activities were rarely and sporadically integrated in the overall urban planning and there was hardly any co-ordination between farmers, NGOs and city administrations.

Currently, however, the government of Ethiopia is playing a key role in the development of urban agriculture at large. In 1994, there was no stated policy regarding urban agriculture in Ethiopia. Now, however, in many large regional towns and cities, the municipal governments are gaining interest in urban farming; as part of their poverty-reduction programs, they encourage urban dwellers, especially the poor and formally unemployed, to raise-fast-return agriculture such as vegetable production. The city of Addis Ababa even has an Office of Urban Agriculture with major responsibilities that include:

- Design strategies for the production and supply of quality agricultural products and for the expansion of investment that enhances agricultural development in the city and implement same upon approval
- Facilitate the ways for the distribution of improved products of agricultural technology, selected seed and fertilizer, supervise the outcome thereof; give education and training as well as render professional support to farmers.
- Design ways of reforestation, prepare for the conservation and protection of forest resource.
- Issue and supervise professional licenses to individuals and enterprises that are engaged in agricultural activity.

The fact that the city of Addis Ababa is consciously aware of and actively supports the urban agriculture sector signifies important change. It is particularly important that the Office of Urban Agriculture issues and supervises professional licenses to individuals and enterprises that are engaged in various agricultural civilities including horticulture

It is, however, problematic that the Office of Urban Agriculture plays no role in discerning land use, which entirely in the hands of the city administrations. The way it is, it cannot do nothing against the city's rapid development. In order to ensure that agriculture is a sustainable sector of Addis Ababa's economy, this sort of office needs to be given a bigger role.

The Addis Ababa Urban Agriculture Office has undergone repeated structural changes since 1994. Prior to 2003, the office was institutionalized at a Bureau level under the Ministry of Agriculture and Rural Development (MoARD). Currently, it is moved and administered under the Addis Ababa City Administrative Trade and Industry Development Bureau (AACATIDB) as an Urban Agricultural Extension Service Core Process (UAESCP). UAESCP has two sections, one for Animals and Animal Products, and the other one for Plants and Plant Products. The Office is also said to suffer from lack of a clear policy and strategy framework, staff cut back, and structural changes that eliminated its previous autonomy.

Most of the other Regional State city administrations also have units within the Regional Bureaus of Agriculture as well as a counter part units at their municipal offices. These are supposed to serve as the lead agencies on the development of urban agriculture as well as clean and green cities. They are also mandated to facilitate communication and co-ordination among the various actors and/or stakeholders, guide in the process of policy formulation and action planning in urban agriculture, support local initiatives and stimulate documentation and exchange of experiences. Platforms of all the direct and indirect stakeholders are assumed to serve as the main mechanisms for diagnosis of the situation, prioritization, and development of workable solutions for technical problems and resource conflicts, action planning and monitoring that may arise along the process of the cities development endeavors.

3.2. Current national/municipal policies and practices for urban and peri-urban horticultural production

Given the huge challenges urbanization and population facing Ethiopia, it may not be surprising that poverty eradication is its main development goal. The reduction of hunger and poverty has been its central concern since 1991; and, to this effect, the main policy tool of the government is the Sustainable Development and Poverty Reduction Programme (SDPRP). SDPRP, which was launched in 2002, gave major emphasis to the agricultural sector, recognizing its central position in the country's livelihood, and its potential to generate surplus to fuel growth in other sectors. This has been developed in a participatory manner with national and international stakeholders under the auspices of the Ministry of Finance and Economic Development (MoFED). The final draft was shared again with line ministries and regional authorities, before being adopted by the Ethiopian parliament as a legal document guiding national development policy up until today.

The SDPRP's successor, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) builds on the strategic directions pursued under SDPRP but also includes a "focus on growth with particular emphasis on commercialization of agriculture, private sector development, and the scaling up of resources to achieve the MDGs". It has also articulated policy and institutional innovation in agriculture and rural development, rural-urban linkages, and pastoral development, and spatial dimensions of the growth strategy".

ADLI has the following major objectives:

- “Strengthening of human resource capacity and its effective utilization”;
- “Ensuring prudent allocation and use of existing land”;
- “Adoption of development path compatible with different agro-ecological zones”;
- “Specialization, diversification and commercialization of agricultural production”;
- “Integrating development activities with other sectors”;
- “Establishment of an effective agricultural marketing system”.

Its objective of specialization, diversification and commercialization of agricultural production implies a shift to higher-value crops, including horticultural crops, for marketing both in domestic and export markets. Recognizing the problem of Ethiopia’s dependence on food aid relief (10% annually, rising to 25% in drought years), the Government also promoted the National Food Security Programme which is based on three pillars: “increasing the availability of food through domestic (own) production; ensuring access to food for food deficit households; and, strengthening emergency response capabilities” (Government of Ethiopia, 2007, p. 32).

Never the less, it should be noted that these policies are currently focused on rural areas and do not have any specific provisions for Urban and Peri-Urban Agriculture/UPA. This situation may be changed though overtime.

As stated by USAID/DAI (2010), the key policy frameworks of UA in Ethiopia are:

- (1) The integration of agriculture in urban development policies
- (2) Removal of unsubstantiated legal restrictions
- (3) Integration of agriculture in urban development planning
- (4) Integration of UA in urban food security and health
- (5) Improved access to agricultural research, extension and credit services
- (6) Improved systems for input supply and product distribution
- (7) Creating awareness of health risks through UA
- (8) Integration of UA in environmental policy.

3.3. Universities/Research institutes dedicated to the topic of urban and peri-urban horticultural production

Since the presence of urban agriculture/horticulture in the urban environment affects the local economy, the natural environment, social relations, and household economic behavior, the practices are supposed to be guided by scientific research and extension work. As the problems associated are often complex and multifaceted, research towards the solutions equally needs to be holistic and multi-disciplinary.

In Ethiopia, the cultivation of horticultural crops in the public and private open spaces of urban and peri-urban areas is very common but has not yet attracted the research attention it deserves. That means it has been somewhat of an unknown or unacknowledged phenomenon equally to researchers as it was to policy-makers and city planners in general. Research institutes such as the Ethiopian Institute of Agricultural Research (EIAR), the Institute of Biodiversity Conservation and Research (IBCR), the Ethiopian

Health and Nutrition Research Institute (EHNRI) and several other Agricultural Universities and Colleges are doing a lot of horticulture related research activities but none of them are so far known to be active in the urban areas. Some attempts of research work have been made by post graduate students but these could not bring about holistic results as they were normally limited to very specific topic areas.

Agricultural research will need to address the problems of an increasingly diverse array of horticultural crops and give more attention to post-harvest storage and processing properties, as well as rural to urban markets. There is also plentiful opportunity and interest in research on appropriate technologies for food production and diverse distribution systems in cities.

While growers and community organizations employ alternative techniques, often it is research bodies that are more likely to possess the resources to experiment with a wide range of scientific methods and techniques. Identifying and dealing with potential risks not only offers critical support equally to producers and consumers in urban areas, but also helps to dispel biases against the practice of urban horticulture (Mougeot, 2000).

3.4. Role of value chain stakeholders in respect to the current rapid urban growth

Urban horticulture is a cross-sectoral issue that requires a multi-sectoral and multidisciplinary approach. It requires active participation of the direct stakeholders (farmers' groups, small enterprises involved in input delivery, processing and marketing) and indirect stakeholders (advisory services, credit services, city authorities, health departments, etc.) in the planning and implementation of policies and action programmes. Through a step-by-step process, the stakeholders may identify solutions through a process of participatory problem analysis, planning and implementation.

The roles of the stakeholders or actors of urban and peri-urban agriculture/horticulture in Ethiopia can be broadly classified into three as public, private and third (cooperatives and NGOs/CSOs; these largely actors involved in service delivery. The urban agriculture service delivery encompasses: input supply, research and development, policy support, business development, regulatory, marketing and processing, microfinance, licensing and investment permits, development (technological, infrastructural and financial) support, and training services. Forexample, in Addis Ababa, the public sector the major actors (stakeholders) of urban agriculture are the Addis Ababa Urban Agriculture Office (now transferred to the Addis Ababa Bureau of Trade and Industry from the Ministry of Agriculture), the Addis Ababa Micro and Small Enterprise Office (MSE) under the Addis Ababa Trade and Industry Bureau, the City Council of Addis Ababa, the Addis Ababa Bureau of Trade and Industry, the Addis Ababa Urban Planning and Information Institute, the Addis Ababa Bureau of Finance and Economic Development, the Addis Ababa Cooperative Organization and Promotion Process, the Addis Ababa Environmental Protection Office, the Addis Ababa Solid Waste Management Agency, the Addis Ababa Health Bureau, and the Ministry of Agriculture and Roural Development.

The private sector stakeholders (i.e. organizations, institutions and individuals) providing urban agriculture related services include: agricultural input suppliers, financial institutions (involved in the supply of financial services for urban horticulture producers), the private mushroom seed laboratory, the private and MSE livestock farms, animal feed suppliers, animal health service providers, milk processing firms, and AI technicians.

The third-sector encompasses producer marketing cooperatives, NGOs, and Civil Society Organizations (CSOs). There are several NGOs and CSOs that are involved in the livelihood promotion of the urban poor and marginalized groups in Addis Ababa (Annex Table 9). These organizations are currently engaged in urban agriculture, HIV/AIDs and reproductive health activities. The urban agriculture component focuses on the poor and marginalized groups, specifically PLWHAs, women, OVCs and youth. The areas covered by these organizations include – urban agriculture technology promotion, environmental management, direct support for PLWHAs, technology transfer, solid waste management, and business development. They also arrange/perform public awareness using exhibitions, developing manuals, and distribution of leaflets. Some of these NGOs are working to create urban agriculture platform to bring all actors together for learning and advocacy to promote urban agriculture.

3.5. Existing AD-HOC Committee bringing together stakeholders

Several public institutions and NGOs are working collaboratively with urban and peri-urban horticulture operators. With food security and household nutrition as a central issue, stakeholders come together to work in partnerships, networks, coalitions and policy organizations. Partnerships create greater resources and broader perspectives for programs; networks provide an opportunity for organizations to share information on a common issue while coalitions are formed to take an advocacy position. The regional and federal urban agriculture offices are normally bridging these roles providing the common ground for information sharing, advocacy and policy change.

3.6. Current donor assistance and on-going sponsored activities

The number of donor organizations or NGOs carrying out activities in urban and peri-urban areas is currently increasing in Ethiopia. Currently, there are about 12 active international NGOs actively working on the sector both in Addis Ababa and across the regional towns (Annex Table 9). In fact, the degree to which such donor organizations work in partnership with government institutions, private sectors, community organizations and the ultimate beneficiaries varies considerably.

Other than their financial and material support, the knowledge and experience transferred from such organizations is serving as valuable resource, which enabled the local experts to better understand the needs of urban dwellers, identify challenges to working in urban areas, and identify possible gaps in current urban interventions. The other strength of these organizations is primarily in their ability to work at grassroots level, spearhead or promote new production and market-chain strategies, provide training opportunities, inform policy makers or facilitate a community voice in policy

development. They also work in close partnership with local governments and community organizations to achieve mutual goals.

The implementation of urban agriculture (UA) by such NGOs stated under Annex Table 9 that UA has contributed for urban food security, increased income and nutrition of PLWHAs, Orphans and vulnerable children that are able to attend school. These NGOs are working either as direct implementers and/or funding implementing NGOs. In either case, NGOs are working in partnership with the public organization such as the city UA Office, health bureau, education, trade and industry, MSE, and so on through joint problem analysis, beneficiary selection, program planning and development, monitoring and evaluation. the absence of a comprehensive UA policy and strategy, poor perceptions in UA both by the urban dwellers and policy makers, access to water and land resources for gardening and shortage of technology and knowledge option are some of the challenges often mentioned by the NGOs to promote UA in Addis Ababa.

4. On-going strategy for national/regional coordination

4.1. Actions that should be taken at national and regional policy levels

- Integrate urban horticulture in policies on urban land use, on urban environmental management, on public health, and economic development
 - **Integration with Land Use Policy** - Access to land and water resources as well as security of user rights are crucial factors in the development of urban horticulture
 - **Integration with Food Security Policy** - cities can and should consciously pursue a greater degree of self-reliance in food and household nutrition
 - **Integration with Environmental Policy** - enhance the positive environmental impacts of urban agriculture and prevent negative effects on city environment.
 - **Integration with Health Policy** -Urban agriculture has an important role in improving the health and nutrition status of large groups of the urban population. If growers are not technically guided, it may also have some detrimental effects on the city environment and health
- **Develop strategic partnerships to address the poor irrigation water and sanitation conditions:**
 - Regional and federal urban agriculture offices in collaboration with municipal administrations should explore in depth the possibility of developing strong relationships with active NGOs (e.g. DAI/USAID, ENDA, etc.) currently implementing waste treatment and urban horticulture programs in Addis Ababa and regional city slums.
- **Carry out in depth baseline survey and research:**
 - Regional and federal urban agriculture offices should conduct baseline surveys in urban and peri-urban communities to collect in depth data on income and employment, space availability, food security, housing conditions and water and sanitation conditions.
- Integrate urban agriculture/horticulture production, marketing and processing in various sectoral policies and plans
- Integrate urban and peri-urban agriculture/horticulture into the agenda of national agricultural research, extension and educational (colleges & universities) programs

4.2. Contacts within regional networks

If not directly through the Urban Agriculture Office in Addis Ababa, the Ministry of Agriculture at large and institutes like the Ethiopian Institute of Agricultural Research (EIAR) are part of the various regional networks in this regard.

National governments in Eastern Africa, including Ethiopia, are adopting new approaches to enhance more sustainable urban food supply and distribution systems with support of local and international organizations, such as UN-HABITAT and FAO, the International Network of Resource Centers on Urban Agriculture and Food Security (RUAF) and local, national and international research institutes, such as the CGIAR-Urban Harvest, the African Studies Centre and Globalhort. For the purpose of facilitating regional cross-border trade in fresh produce, COMESA has also initiated the Green Pass, an SPS agreement that will govern trade in plant and animal products in a uniform manner throughout its member states. Improved coordination of the work between among these organizations is needed to enhance efficiency and help national governments to better respond to the challenges they face.

4.3. Attempts of regional coordination for urban and peri-urban horticultural production

Unfortunately, there is no known attempt made so far in the country for regional coordination of urban and peri-urban horticultural production beyond its own borders. Regional collaborations in horticultural research as in the case of regional/international institutions such as ASARECA, CIP, FAO, COMESA, ECA and UN-HABITAT are so far not materialized in this area. As this can play an important role in balancing and linking efforts at regional scale and can be exploited to stabilise supply of a diverse range of horticultural products across seasons, policy interventions are urgently needed to improve the functioning of the current horticultural supply chains.

4.4. Entities that should be in charge of a regional coordination

Various studies indicate that more than 40 cities around the world have benefited from FAO activities related to urban and peri-urban food security and agriculture. In doing so, it has worked closely with a variety of international organizations, non-governmental organizations and national and local authorities. That means through these projects, which are tailored to meet specific local development priorities, the Organization has gained a high level of experience and expertise in promoting urban horticulture. FAO is, therefore, proposed to be in-charge of the regional coordination.

5. Concluding Remarks

- A comprehensive urban agriculture policy and strategy that can address the present constraints of urban agriculture needs to be developed as a matter of greatest urgency in Ethiopia.
- Urban and peri-urban agriculture/horticulture needs to be integrated into the agenda of national agricultural research, extension and educational (colleges & universities) programs
- The development of sustainable peri-urban and urban agricultural production can help mitigate the risks of climate-related disasters in cities.
- There are clear signs in Ethiopia that urban horticulture production (gardening) significantly contributes to the producers' well-being. It enables them to satisfy part of their needs in food. It provides them with ready access to nutritious food which improves their health status. It enables them to save cash and earn income which then can be spent on other necessities.
- Systematic comparisons of cities/towns that analyze the impact of urban and peri-urban horticultural production on nutrition, income, employment, health, waste and other environmental management issues are needed.
- The existing policy on urban agriculture needs to be improved upon with the involvement of the Multi-stakeholder Forum. The policy should address amongst other things legal, land use, food security, environment, and health matters in greater depth. Research on various issues and problems affecting urban agriculture in the city will be encouraged.

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7. Annexes

Annex Table 1. Population living in nine National Regional States and two Administrative

City Councils, 2003-2010, Ethiopia

Year	Population	Rank	Percent Change	Date of Information
2003	66,557,553	18		July 2003 est.
2004	73,053,286	16	9.76 %	July 2005 est.
2005	73,053,286	16	0.00 %	July 2005 est.
2006	74,777,981	16	2.36 %	July 2006 est.
2007	76,511,887	16	2.32 %	July 2007 est.
2008	82,544,840	14	7.88 %	July 2008 est.
2009	85,237,338	14	3.26 %	July 2009 est.
2010	88,013,491	14	3.26 %	July 2010 est.

Source: [CIA World Factbook](#) -November 3, 2010

Annex Table 2. Total fertility rate, 2003-2010), Ethiopia

Year	Total fertility rate	Rank	Percent Change	Date of Information
2003	5.55	27		2003 est.
2004	5.33	29	-3.96 %	2004 est.
2005	5.33	28	0.00 %	2005 est.
2006	5.22	28	-2.06 %	2006 est.
2007	5.1	29	-2.30 %	2007 est.
2008	6.17	11	20.98 %	2008 est.
2009	6.12	11	-0.81 %	2009 est.
2010	6.07	8	-0.82 %	2010 est.

Source: [CIA World Factbook](#) -November 3, 2010

. Annex Table 3. The Population growth rate, 2008-2010, Ethiopia

Year	Population growth rate	Rank	Percent Change	Date of Information
2008	3.21	11		2008 est.
2009	3.21	9	0.00 %	2009 est.
2010	3.2	7	-0.31 %	2010 est.

Source: [CIA World Factbook](#) -November 3, 2010

Annex **Table 4.** Birth rate, 2003-2010, Ethiopia

Year	Birth rate	Rank	Percent Change	Date of Information
2003	39.81	25		2003 est.
2004	38.61	29	-3.01 %	2004 est.
2005	38.61	29	0.00 %	2005 est.
2006	37.98	29	-1.63 %	2006 est.
2007	37.39	31	-1.55 %	2007 est.
2008	43.97	9	17.60 %	2008 est.
2009	43.66	9	-0.71 %	2009 est.
2010	43.34	6	-0.73 %	2010 est.

Source: CIA World Factbook -November 3, 2010

Annex **Table 5.** Death rate, 2003-2010, Ethiopia

Year	Death rate	Rank	Percent Change	Date of Information
2003	20.17	12		2003 est.
2004	15.06	29	-25.33 %	2004 est.
2005	15.06	26	0.00 %	2005 est.
2006	14.86	27	-1.33 %	2006 est.
2007	14.67	28	-1.28 %	2007 est.
2008	11.83	41	-19.36 %	2008 est.
2009	11.55	42	-2.37 %	July 2009 est.
2010	11.29	39	-2.25 %	July 2010 est.

Source: CIA World Factbook -November 3, 2010

Annex Table 6. Trend of population growth in urban and rural areas of Ethiopia, 2005-2008

Regional State	Urban Growth ('000)				Rural Growth ('000)			
	2005	2006	2007	2008	2005	2006	2007	2008
Tigray	816	842.7	854	892	3471.7	3519	3595	3673
Afar	126	132	137	188.9	1206	1222.1	1263	1312
Amhara	2112.2	2195	2299	2408	15,101.8	16925	17,325	17,728
Oromiya	3370.04	3523	3691	3865	23030	23,613	23,788	24,202
Somale	621.2	735	768	804	3594	3,672	3756	3817.9
B. Gumuz	62	64	67	97.9	563	572.8	576	589
SNNP	1277	1338	1401	1545.7	13,496.8	13625	13,983	14,344
Gambella	47	49	51	77.9	200	204	208	229.03
Harari	99.3	122	127	131	74	76	78	84.02
Addis Ababa	2738.2	2973	3059	3147	0	0	0	0
Dire-Dawa	232.8	296	308	322	102	104	106	109.9
Total	11501.74	12269.7	12762	13479.4	60,839.3	63,532.9	64,678	66,088.85

Source: Central Statistical Agency of Ethiopia (2005 - 2008)

Annex Table 7. Trend of population growth in principal cities/towns of Ethiopia, 2005-2009

No.	Town/City	2005	2006	2007	2008	2009	Popn. Density (sq.km)
1	Addis Ababa	2,738,248	2,917,295	2,973,004	3,059,000	3,146,999	5,535.8
2	Dire-Dawa	281,750	293,173	306,499	342,827	347,789	-
3	Mekele	169,207	177,090	184,973	215,546	233,012	361.4
4	Gondor	194,773	204,001	206,987	213,673	218,464	746.1
5	Dessie	151,094	159,470	169,104	177,116	185,512	801.7
6	Bahir-Dar	167,261	175,185	183,489	220,344	232,558	1,089.6
7	Adama (Nazareth)	155,321	170,070	422,490	439,310	456,637	-
8	Jijiga	276,816	293,931	348,421	358,817	369,523	-
9	Hawassa	259,803	276,268	515,898	532,273	548,940	1,757.3
10	Gambella	38,994	41,867	43,409	44,953	45,553	-
	Total	4,433,267	4,708,350	5,354,274	5,603,859	5,784,987	-

Source: Central Statistical Agency of Ethiopia (2005 - 2009)

Annex Table 8. Addis Ababa City Environmental Land Use Pattern, area in hectare

No.	Su-City	River buffer	Forest	Urban Agriculture	Woodland	Existing Parks	Proposed Parks
1	Addis Ketema	38.87					
2	Arada	44.47				1.66	7.63
3	Akaki-Kaliti	1072.17	250.50	3283.88	1942.00		22.95
4	Bole	1309.50	464.36	1764.23	117.72	48.48	132.52
5	Gulele	256.94	1848.79		0.14	66.53	46.03
6	Kirkos	73.48				49.04	14.99
7	Kolfeea-Keranio	269.74	1562.81	29.74		10.70	42.68
8	Lideta	43.95					6.67
9	Nefasilk-Lafto	746.49	687.43	51.43	248.22	7.52	8.20
10	Yeka	341.43	4096.71			10.17	24.92
	Total	4197.04	8910.60	5129.28	2308.08	194.10	306.59

Source: Addis Ababa City Planning & Information Institute, 2009 (Adapted from DAI/USAID, 2010)

Annex Table 9 . List of NGOs/CSOs promoting urban agriculture in Addis Ababa

	Name of the organization	Working location within Addis Ababa (Sub-cities)
1	Environmental Development Action (ENDA)	In three subcities
2	ACDI/VOCA	
3	Land O'Lakes	Both in Addis Ababa and some regional towns
4	USAID Urban Gardens Program for HIV Affected Women and Children (DAI) - Donor	In eight sub-cities and some regional towns
5	Progress Integrated Community Development Association (PICDO)	In one sub-city
6	Mother and Children Multi-sectoral Development Association (MCMDO)	In one sub-city
7	Common Vision for Development Association (CVDA)	In one sub-city
8	Social Welfare Development Actions (SWDA)	In two sub-cities
9	Emmanuel Development Association (EDA)	In one sub-city
10	Hiwot HIV	
11	Hiwot Ethiopia	
12	Mekidem Ethiopia	
13	Plan Ethiopia	
14	Birhan Integrated Community Development Association (BICDA)	In two sub-cities
15	“Miraft Hulegab Yeketema Limat Mahiber “ (MHYLM)	In one sub-city
16	Bio-Economy Association	In one sub-city
17	L'sperance Children's Aid Organization	In one sub-city
18	Yetim Children's and Destitute Mothers Fund	In one sub-city
19	New Life Community	In one sub-city
20	Marfiya Children Center	In one sub-city
21	MAMA Humanitarian	
22	Biodi Food Association	In one sub-city
23	Women and Children Development Association (WCDA)	In two sub-city
24	Elshaday Integrated Children and Community Development	In one sub-city

Source: Addis Ababa Urban Agriculture Extension Process/Office, 2010 (Adapted from USAID/DAI Urban Gardens Program, 2010 – A consultant report on “Urban Agriculture Situation Analysis” , prepared for Addis Ababa City Administration)