INITIATIVE ON
Resilient Cities

Youth Participation in Urban Agriculture in Kenya

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Acronyms

AGF	Africa Guarantee Fund
APHRC	African Population & Health Research Centre
ASDSP	Agriculture Sector Development Support Programme
CBOs	Community-based organizations
CTA	Technical Centre for Agricultural and Rural Cooperation
CSA	Climate Smart Agriculture
CUSALF	Coast Urban Food Security, Agriculture and Livestock Forum
ENABLE	Empowering Novel Agribusiness-Led Employment Youth Kenya
FAO	Food and Agriculture Organization of the United Nations
FBOs	Faith-based organizations
FGD	Focus Group Discussion
FLAG	Food Liaison Advisory Group
FSPs	Financial Service Providers
GDP	Gross Domestic Product
HIC	Habitat International Coalition
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
KII	Key Informant Interview
KES	Kenya Shillings
NARIGP	National Agricultural and Rural Inclusive Growth Project
NEFSALF	Nairobi and Environs Food Security, Agriculture and Livestock Forum
NGO	Non-Governmental Organization
UPU	Urban and Peri-urban Agriculture
SDC	Swiss Agency for Development and Cooperation
WFP	World Food Programme

Executive Summary

Background

Despite the agricultural sector accounting for about one quarter of the Kenyan economy and employing over 60% of the total labor force, young people (18-34 years) are underrepresented with only 10% engaged in the sector. Whereas it has potential to generate income and absorb the high number of unemployed youths, the perception of agriculture as high-risk and unattractive tends to deter young people from engaging in the sector. The youth face barriers in access to; finance, production inputs and resources, markets, extension services and, training. In the face of urbanization, the issue of food insecurity and hunger associated with urbanization is more pronounced in the country. Kenya's population is already more urbanized with almost 1 in 3 (28%) already living in urban areas and a projection of 54% by 2030. Against this, IITA in conjunction with WorldVeg, and within the context of the One CGIAR initiative "Resilient Cities Through Sustainable Urban and Peri-urban Agri-food Systems," sought to better understand the landscape of urban and peri-urban (UPU) agriculture. The study focused on the domains: (i) Demographics and youth employment, (ii) Initiatives in UPU (iii) Production systems, (iv) Product marketing and value addition, (v) Access to financial services, (vi) Knowledge, information and technology and (vii) Policy, legal and regulatory environment for UPU.

Methodological note

This study was conducted between August and November 2022 and included a desktop review of documents, Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs). The documents reviewed were drawn from the relevant National Ministries and County departments. Under KIIs, stakeholders from the Agriculture, Trade and Environment sectors in the public and private sectors were targeted. In addition, leading non-state actors in urban agriculture space, including Mazingira Institute, RUAF, Nairobi and Environs Food Security, Agriculture and Livestock Forum (NEFSALF) and African Population & Health Research Centre (APHRC) were interviewed. Various youth FGDs were held to assess the various domains of youth involvement UPU and provided insights around production, marketing, access to finance and ICT.

Key findings of the study

Demographics and youth employment: Kenya has a population of over 47.6 million (2019 census) with the youth making up over 75% of the population and the median age being 19 years. Youth unemployment is thought to be as much as three times higher than the overall national. The unemployment problem is exacerbated by over 800,000 youth entering the job market each year, yet the economy is not generating the requisite opportunities to absorb them. The Agricultural Sector Transformation and Growth Strategy (2019–2029) considers youth a priority group as the country aims at transforming agricultural production into commercially oriented enterprises that ensure sustainable food, nutrition and incomes.

Initiatives in UPU: There are a number of programs being implemented to promote UPU, including: Urban food System Project (UFSP) by Mazingira Institute; ENABLE Youth Kenya Program by National Ministry of Agriculture; Healthy Food Africa /Food System Lab by APHRC and AgriFin Accelerate Program (AFA) by Mercy Corps. These have concentrated in low income settlements in urban areas. The past projects have led to achievements including: establishment of youth groups focused on UPU

especially in low income areas, establishment of production infrastructure to support UPU, training of youth in UPU, development of strong social networks and promoting use of technology in UPU. Thus, opportunities in the use of local partnerships with non-governmental organizations and government can deliver intended impacts. Also, mainstreaming normative values into projects to ensure representation along gender, age, region and income classes is desirable.

Production systems: The complexity of land ownership and land rights makes it difficult for the youth to access productive agricultural spaces. This problem is compounded by a lack of urban planning, where there are specific spaces allocated to UPU. Partnerships for releasing land for farming by the government, and institutions remains a viable option for increasing access to UPU. Also, increasing capacity for protected cultivation and zero-acreage farming is feasible in expanding urban farming spaces. In terms of enterprises, vegetable production is the most dominant enterprise by urban youth, with some diversification towards goat milk production, rabbit keeping and poultry. Many youths are farming without extension support, business planning and training on food safety.

Product marketing and value addition: Distribution of food products in urban areas is a promising entry point for urban youth given limited access to productive land and attitudes towards practicing primary agriculture. Yet, they there is lack of organized arrangements to support stable supply of food products. The youth farmers rely on *ad hoc* arrangements where they would look for buyers at the point of harvest. Urban youth can be supported to engage in the distribution through provision of capital, provision of adequate space for storage and linkages to both producers and consumers.

Access to financial services: Kenya has a number of financial models in agriculture but access to finance remains a key barrier of their engagement in the sector. Constraints manifest in different ways: lack of collateral, high interest rates, perceptions that youth are at high credit risk and, high creditworthiness assessment costs with agricultural SMEs given that deep sector information is often not readily available. Youth farmers have also limited financial capability associated with limited knowledge, skills, attitudes and practices that do not translate into sound financial decisions.

Knowledge, information and technology: There are low staffing levels in both public and private extension service providers resulting in a high extension staff to farmer ratio. The situation is worse in UPU since many county governments are yet to recognize and harness its potential. Majority of extension officers, who average 50 years, lack capacity to address UPU specific extension. This is compounded by inadequate institutional capacity to train extension providers and researchers in the area of UPU. While modern urban youth are skilled in ICT, the existing service has limited access to ICT hardware, e-extension as well as deployment of extension approaches and methods that are not youth friendly

Policy, legal and regulatory environment: The policy framing support youth in UPU remains broad and generic, and might therefore not speak directly to the specific challenges facing the urban youth. For instance, The Kenya Youth Development Policy (2019) proposes to support county governments to formulate county specific youth strategies, but this is yet to be realized. A number of county plans aspire to making land and water available, increased access to agricultural extension, enhancing food safety and defining environmental standards for urban agriculture. However, support is needed in formulation of specific operations plans and actions could benefit from experiences of other cities. Also, strengthening platforms such as Nairobi City County Urban Agriculture Promotion Advisory Board is encouraged.

Recommendations

1. The project design could tap into ongoing initiatives so that there is synergy with local partners who have experience working in the designated urban areas. The project can determine the entry point in terms of: geographical location, types of enterprise, nature of support and design of strategy.
2. Existing projects appear to target the youth, but other aspects of gender are not prominent. An attempt has been by Mazingira to establish Women`s Hub in UPU, but this initiative is not at scale. The project can mainstream normative values to ensure representation along gender, age and region.
3. Arising from the urban youth having little or no access to arable land, partnerships for releasing land by the National and County Government, Schools and Hospitals can increase access to land. The youth also require UPU infrastructure including: water, low-cost infrastructure, equipment and technology for sustainable abstraction. This should be coupled with building capacity to profitably practice new systems, such as vertical gardening and hydroponics.
4. Besides supporting vegetable production, there is need for support towards diversification of enterprises, including goat milk production, rabbit keeping and poultry, where youth interest is high.
5. Extension services need to be youth-centred by training a large mass of lead youth farmers to support extension services. There is also need to increase provision of extension by the private sector and non-state actors. APHRC`s model where local private partners supported by the County`s extension staff is a model that can be scaled up.
6. Promote innovative agricultural extension service provision. This may be through supporting institutions in extension curriculum review to meet emerging trends, technology and innovations. Strengthening the capacity of public tertiary institutions to offer continuous training on extension and help address shortage of extension service provision.
7. Distribution of food products in urban areas is a promising entry point for urban youth. Provision of capital, provision of adequate space for storage and linkages to both producers and consumers can increase youth participation in the downstream activities of UPU.
8. Financial service providers have some tailored products that urban youth farmers can take advantage of. However, the youth must be supported to build strong and cohesive farming groups that allow for group guarantees, such as collateral for the credit. The youth also need financial and business education, as well as entrepreneurship training and coaching in agribusiness.
9. Measures that support indirect financing models are encouraged. Such models allow for equipment financing and non-monetary grants. For instance, some youth groups received capital in the form of dairy goats which they would nurture and surrender calves to the next designated group.
10. There is need to address a range of overlapping policy and legal issues constraining the participation of youth in urban agriculture, including integrating food production in urban land use, raising of livestock, and city and zoning regulations that support UPU.
11. There is need for the formulation of specific operations plans and actions that could benefit from experiences of other cities, such as; enabling access to municipal and private land for agricultural production, prohibiting construction of impermeable surfaces on parts of the city with soils considered prime for agriculture and regulations to allow for rooftop gardening.
12. Policy mechanisms that bring together different actors and sectors through institutional frameworks are prerequisites for successful policy implementation. Thus, proposed and existing frameworks e.g. Nairobi City County Urban Agriculture Promotion Advisory Board can be strengthened.

Section 1: Introduction

1.1 Project Context

The agriculture sector plays an important role in Kenya`s economy for accounting for 22.4% of the overall Gross Domestic Product (GDP) in 2021[1]. The sector contributes to 65% of exports and employs approximately 60% of the total labor force[2]. Yet, the youth employment challenge remains outstanding as more than 70% of Kenya's population is below 30 years and the median age is 19 years[3]. Young people (aged 18-35 years)[4] are engaged in the agriculture and agri-food system through formal and informal wage work, unpaid family labor, self-employment, and cooperative membership and across all levels of the value chain.

The debate around the issue suggests that the youth are not attracted to agriculture and are leaving the sector. Primary data across multiple countries confirms that youth are not attracted to low-wage, low-value production, and instead prefer modernization, use of technology, and opportunities for "quick money" with relatively higher earnings. Youth decisions to engage in agriculture is also shaped by the environment, economic and political context, social norms and customs, the nature of the agri-food system, institutions, laws and regulations, parental and peer influence, media, previous experiences, and gender.

Agriculture presents opportunities for entrepreneurship, which would be ideal for employment creation, especially among the urban youth. The sector therefore has an essential role in reducing social inequality and poverty. Entrepreneurship within the agriculture sector, especially among the youth presents various challenges, which include: poor infrastructure, lack of access to finance, production inputs and resources, markets, extension services, and training. The youth also face barriers including parental discouragement of youths from pursuing careers in farming and a preference for the so-called white-collar professions that are thought to have higher economic returns and fewer risk factors. A growing body of knowledge suggests that putting in place supportive policies and programs that promote capacity building stakeholder investment, and creating innovative spaces in agriculture in a way that takes into account youth aspiration is essential for promoting youth participation in agriculture.

The issue of urban agriculture is even more critical in view of increasing food insecurity and hunger associated with urbanization. Kenya's population is already more urbanized with almost 1 in 3 (28%) already living in urban areas and a projection of 54% urban population by 2030[5]. Thus, the International Institute of Tropical Agriculture (IITA) in conjunction with WorldVeg, and within the context of the One CGIAR initiative "Resilient Cities Through Sustainable Urban and Peri-urban Agri-food Systems," sought to better understand the landscape of urban and peri-urban (UPU) agriculture.

The purpose of the study was to understand the landscape of UPU agriculture among the youth in Kenya. Providing economic opportunities for youth in agriculture is essential to securing the future of agriculture in Africa, addressing poverty, unemployment, and inequality. However, barriers limit youth participation in agriculture and the broader food system. The scoping study focused on the following domains: (i) Demographics and youth employment, (ii) Initiatives in UPU (iii) Production systems, (iv) Product marketing and value addition, (v) Access to financial services, (vi) Knowledge, information and technology and (vii) Policy, legal and regulatory environment for UPU.

1.2 Defining youth participation in urban agriculture

While the Constitution of Kenya Article 260 defines youth as "individuals in the Republic aged between 18 to 34 years", the policy recognizes different categories of the youth: male and female; educated and uneducated; formally trained and informally trained; rural and urban residents; in-school and out-of-school; adolescents and young adults;

[1] Republic of Kenya (2022) The Kenya Economic Survey. (KNBS) Kenya National Bureau of Statistics, Nairobi https://www.knbs.or.ke/wp-content/uploads/2022/05/2022-Economic-Survey1.pdf
[2] FAO Report (FAO), www.fao.org/rural-employment/work-areas/youth-employment/ica-programme/kenya/en/
[3] Republic of Kenya (2019) 2019 Kenya Population and Housing Census: Volume IV-Distribution of Population by Age and Sex, Nairobi: KNBS
[4] Youth are defined as persons in the age bracket 18-35 years http://kenyalaw.org/lex/actview.xql?actid=Const2010
[5] World Bank Statistics (2021) https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?name_desc=false

physically challenged and able-bodied; economically engaged or not; migrant and non-migrant; skilled, semi-skilled and unskilled; street and vagrant youth; youth in humanitarian settings. Recognizing this diversity in implementation of urban agriculture strategies is critical for inclusivity.

Understanding youth participation in UPU agriculture is key in policy and programmatic designs that promote the sector. Youth participation is the active engagement and influence of young people[6]. This is not only based on their passive presence or token roles in adult agencies, but also on quality, such as when people have a real effect on the process, influence a particular decision, or produce a favourable outcome. Therefore, youth participation in agriculture entails the engagement of youth through entrepreneurial activities, participation in value-chain activities, policy formulation, and advocacy in structures linked to the food system.

Urban agriculture consists of multifunctional activities, which include production, transportation, processing and sale of food as well as utilization and management of waste located within (intra-urban) or the fringe (peri-urban) of a town, a city or a metropolis[7]. Thus, urban agriculture represents a systemic approach to food. Similar to the food system (Donovan et al., 2011), urban agriculture concerns the production, processing, transportation, marketing and sale of food as well as consumer access and utilization, and the re-use and post-use management of wastes[8].

1.3 Methodological note

This study was conducted between 2022 and 2023 and included a desktop review of documents and key informant interviews as well as focus group discussions (FGDs). Further detail on how these methodologies were implemented follows below:

- Detailed document review: The documents reviewed included, relevant policy, strategy and documents from the National Ministries of Agriculture, Trade, Health and Environment. The report also benefited from selected county reports and strategies including County Integrated Development Plans, annual work plans and other food system related plans. A number of reports from FAO and other literature were also useful for the development of this report.
- Key Informant Interviews (KIIs): This approach targeted key stakeholders including technical personnel in the National and County Governments, drawn from the Agriculture, Trade and Environment sectors. In addition, leading non-state actors in urban agriculture space, including Mazingira Institute, RUAF, Nairobi and Environs Food Security, Agriculture and Livestock Forum (NEFSALF) and African Population & Health Research Centre (APHRC).
- Focus Group Discussions (FGDs): Various youth FGDs were held to assess the various domains of youth involvement in UPU and provided insights around production, marketing, access to finance and ICT. The respondents provided first-hand experiences that would shape the future of urban agriculture.

[6] Checkoway, B.(2011) What is youth participation? Children and Youth Services Review 33(2):340-345 DOI: 10.1016/j.childyouth.2010.09.017
[7] FAO (2007) Profitability and sustainability of urban and peri-urban agriculture Agricultural Management, Marketing and Finance Occasional Paper 19 https://www.fao.org/3/a1471e/a1471e.pdf
[8] J. Donovan, S. Franzel, M. Cunha, A. Gyau, D. Mithofer (2015) Guides for value chain development: A comparative review Journal of Agribusiness in Developing and Emerging Economies, 5 (1) (2015), pp. 2-23

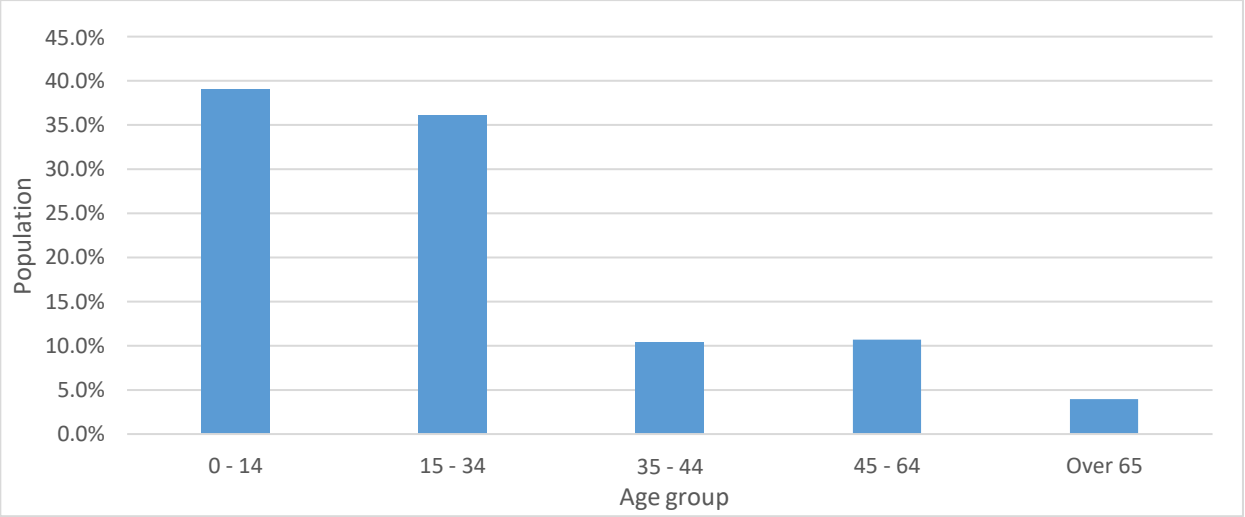
Section 2: Key findings and discussions

This section provides an overview of the key findings and is organised around the following domains: demographics and employment; challenges and opportunities around the themes of current initiative in urban agriculture, production, marketing and value addition, knowledge, information and technology, access to financial service and policy, legal, regulatory and institutional environment for youth involvement in urban agriculture.

2.1 Demographics and youth employment

Kenya has a population of over 47.6 million (2019 census) with females (50.5%) being slightly more than the males. With annual population growth rate of 2.5%, the country`s population will reach 66 million by 2030 and 91.5 million by 2050. The youth, aged ≤35 years, make up over 75% of the population with the median age being 19 years (Figure 1). Among the youth population, over 17 million persons are 15-35 years and account for 36% of the population.

Figure 1: Distribution of population in Kenya by age (2019)



Source: Republic of Kenya (2019)

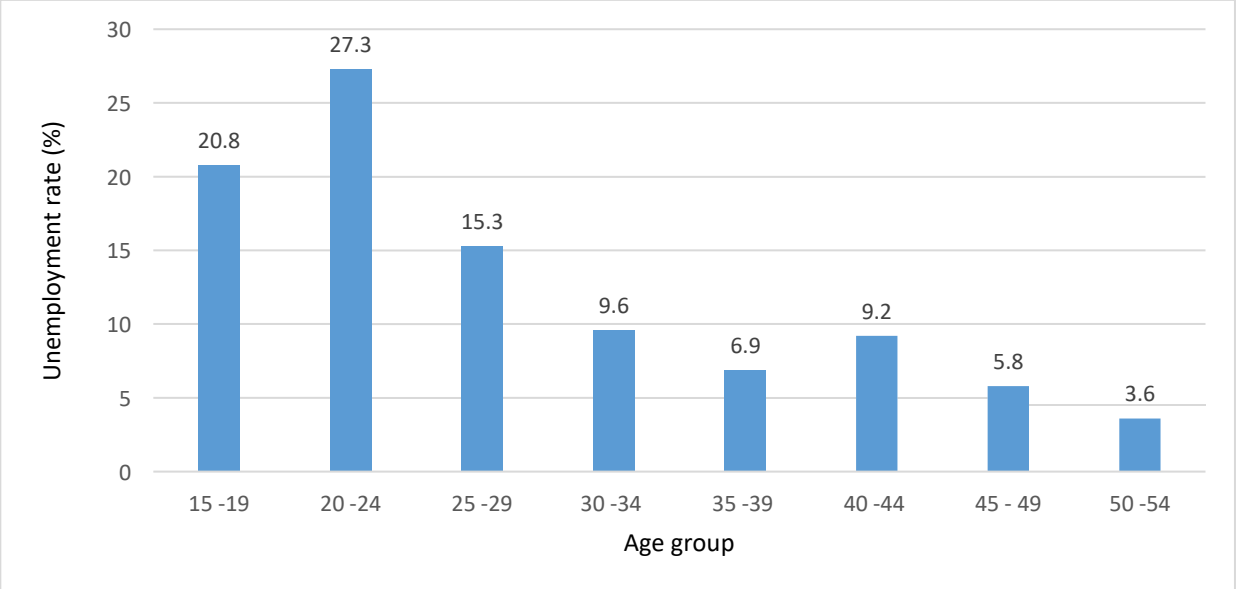
The agriculture sector is the largest source of employment at 53.8% followed by services (38.7%) and industry sector (7.4%)[9]. Whilst agriculture is key for the livelihoods in Kenya, it is largely composed of informal employment and self-employment, with formal employment making up just 10% sector[10]. Youth involvement in agriculture is largely informal and undocumented. A past study focusing of youths aged between 15 and 24 years (20% of the population) estimated that less than 5% of the sample engaged in agriculture[11]. Overall youth make up a smaller proportion of those employed in the sector.

Youth unemployment in Kenya is thought to be as much as three times higher than the overall national unemployment rate. By 2021, total unemployment rate was estimated at 5.7% with female unemployment higher (6.2%) than that of males (4.8%)[12]. By contrast, the share of youth not in education, employment or training as a

[9]World Bank (2022) https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=KE
[10] Escudero, V. & López Mourelo, E. (2013). Understanding the drivers of the youth labour market in Kenya. ILO Research Paper,8.: ILO.
[11] Population Pyramid and Shujaa Inc 2020/2021 Survey comprising over 2000 youth in the age group (20 - 24).
[12] https://data.worldbank.org/indicator/SL.TLF.CACT.ZS?locations=KE

proportion of the youth population was 19.7%. The female rates are persistently higher at 24.3% compared to their male counterparts (15%)[13]. The unemployment rate measured based on the strict definition of seeking work in the last four weeks was estimated at 12.3% in the First Quarter of 2021[14]. A breakdown by age revealed that in the same period, the youth aged 20-24 had a high unemployment rate of 27.3%, which is twice the national average (12.3%). In the ageset 15-34 years, over 1.9 million youth were considered unemployed.

Figure 1: Distribution of unemployment level by age group (2021)



Source: Republic of Kenya (2019)

The unemployment problem is exacerbated by 500,000 - 800,000 young Kenyans entering the job market each year, yet the economy is not generating the requisite employment opportunities to absorb them[15]. In addition, underemployment is a common phenomenon for young Kenyans. It is thought that most countries in Africa record significantly lower youth unemployment rates relative to the size of Kenya`s economy. In 2021, the economy created 926,100 new jobs of which, 172,000 were in the modern sector, while 753, 800 thousand were in the informal sector[16]. The creation of new jobs was mainly in the manufacturing, construction, wholesale and retail trade, hotels and restaurants and, transport and communications sectors. The growth of jobs in the agricultural sector were minimal with agriculture, forestry and fishing sectors growing by 5.2% in the 2020 – 2021 period.

In view of agriculture being the dominant sector in Kenya, the Agricultural Sector Transformation and Growth Strategy 2019–2029 considers youth a priority group as the country aims at transforming crop, livestock and fisheries production into commercially oriented enterprises that ensure sustainable food, nutrition and incomes. Particularly, The Kenya Youth Agribusiness Strategy 2018 – 2022, seeks to transform youth perception towards agribusiness; develop agribusiness skills, knowledge and information; and enhance access to inputs, technologies and finance. This transformation should lead to greater part'icipation of youth in agriculture.

2.2 Initiatives in urban and peri-urban agriculture

There is a growing interest in urban agriculture to address malnutrition as well as generate incomes especially in the face of high urban employment among the youth. The key youth-focused urban agriculture initiatives in Kenya are presented in Table 1.

Table 1: Summary of some youth-focused urban agriculture initiatives in Kenya

[13] https://data.worldbank.org/indicator/SL.UEM.NEET.MA.ZS?locations=KE
[14] https://www.knbs.or.ke/download/quarterly-labour-force-report-2021_quarter_1/
[15] Samuel Hall (2017) Youth Employment in Kenya https://www.britishcouncil.co.ke/sites/default/files/ng_kenya_youth_employment_in_kenya.pdf
[16] Republic of Kenya (2022) The Kenya Economic Survey. KNBS https://www.knbs.or.ke/wp-content/uploads/2022/05/2022-Economic-Survey1.pdf

	Name of initiative and implementer	Description	Period & Target group	Partners / donors
1	Urban food system project (UFSP) by Mazingira Institute	• Promotes urban systems through training, advocacy, inquiry • Has a platform of food system actors called NEFSALF (500 members) which supports UPU through mentorship and training? • Uses a food system perspective to support UPU	• Project ongoing • Targets all age groups but those with interest in UPU	• Rooftops Canada/Abri International • HIC • RUAF • APHRC • Lund University
2	Women`s Spaces Project by Mazingira Institute	• Promotes women`s access to land and productive resources • Ensure policies are gendered	• Period: 2019 – 2022 • Targets women interested in UPU	• Government of Canada through Global Affairs for Canada
3	ENABLE Youth Kenya Program by National Ministry of Agriculture	• Uses the incubator model to promote youth in agriculture • Targets to train 2000 Agripreneurs in 8 centres spread across the country • Key components; Enabling policy environment, incubation and financing youth agribusinesses • Project link: project	• Period: 2020 – 2025 • Targets youth aged 18-35 years • Should have a viable agribusiness idea that fits within priority value chains.	• African Development Bank • Government of Kenya
4	Healthy Food Africa / Food System Lab by APHRC	• Seeks to empower women and youth by providing avenues to participate in UPU • Project done: APHRC project	• Project ongoing • Targets mainly urban poor settlements	• European Union
5	AgriBiz project by Kenya Climate Innovation Center (KCIC) and partners	• Stimulate sustainable jobs for women and youth in the agricultural sector in Kenya • Project promotes access to finance and business development services through incubation • Project link: Agribiz project	• Project ongoing • Seeks to generate 17,000 jobs & 2,400 SMEs • Project has hubs in 8 regions of Kenya	• European Union, • Danida • FAO • AfDB • AGF
6	AgriFin Accelerate Program (AFA) by Mercy Corps'	• Support development and scaling up of digitally-enabled services for smallholder farmers across Kenya, Tanzania & Zambia.	• Period: 2018-2024 • AFA is intended to scale ICT services for one million farmers	• Mastercard foundation

		• Project link: Mercycorp project		
7	Vijabeez by CTA and Ustadi Foundation	• Create sustainable employment for the rural youth through engagement in agribusiness • Project link: Vijabeez project	• Supported business mentorship to over 163 youth groups in Kenya • Linked groups to the market	• IFAD
8	Green Innovation Centres for the Agriculture and Food Sector (GIC)	• Project aims to GIAE-Kenya aims to increase productivity and incomes of farmers and increase regional supply of foods. • Project link GIZ project	• Period: 2014 – 2023 • Supports farmers including youth in 6 counties • Over 180 young farmers in sweet potato and dairy value chains	• European Union • SDC
9	National Agricultural Value Chain Development Project (NAVCDP)	• Project aimed at increasing market participation and value addition • Project link World Bank project	• Period 2021 – 2027 • Targets 500,000 farmers in Kenya in 9 VCs across 26 counties	• World Bank

2.3.1 Key achievements and milestones

Different projects have different target outcomes and target groups. In light of the key projects indicated in Table 1, a number of achievements can be deduced:

Establishment of youth groups focused on urban farming especially in low income areas: Various projects have mobilized and registered urban farming youth groups. For instance, APHRC is currently supporting 21 Community Organized Groups (COGs), consisting of women and youth groups to implement the urban farming. The projects have enhanced the governance and leadership capacity of the urban farming groups. With over 100 groups in Nairobi City alone, these entities are now a primary mechanism for promoting urban farming. Future initiatives should be channeled through these groups for effective delivery (Box 1).

Box 1: Mixed urban farming in Huruma Town Youth Group, Nairobi

Huruma Town Youth Group (H-Town) is a group of 30 youths engaged in urban mixed farming of vegetables, goat milk production, indigenous chicken. The group was founded more than 10 years ago and has grown to be one of the most recognized urban youth farming groups in Nairobi. In a space of less than an eighth of an acre in Huruma, the farm houses over 37 goats and 200 birds, mostly chickens, doves, turkey and guinea fowl. The farm produces goat milk for the local community as well as yogurt for the middle and upper class consumers in Westlands, Nairobi. Their dairy farming enterprise began in 2014 when they acquired three dairy goats through a KES 150,000 (USD 1500) government grant. Through diligent farming, the goat herd has increased to 37 goats. The group leaders observe that demand for goat milk is very high with good profit margins. In a day, the group is able to sell up to 15 litres. Goats are suitable since they are resilient under the tough slum conditions and eat less food compared to cows. Demand for indigenous chicken and vegetables has been rising. The group has created some networks with buyers but the supply is low. The group reckons that lack of space, poor water supply, limited funding for purchase of stock and inputs, have hampered their growth. Nonetheless, the group`s success can be attributed a strong association and leadership,

linkages with other actors (such as Mazingira Institute, County Government), donor support and, mentorship. To advance UPU, the group is mentoring two other groups: True Heart and King Lion. They provide the groups with kid goats, seedlings, training and coaching. In the medium term, H-Town seeks to have a platform for UPU in Huruma and Mathare area to champion for the youth involvement in UPU.

Establishment of production infrastructure to support urban farming: Different projects are focused on improving basic infrastructure for farmers including access to water, simple irrigation systems, improving drainage and waste management systems, proving farming tools and implements. The initiatives provide micro gardening infrastructure including hanging containers, tubes, baskets, plastic bottles, boxes and barrels. At scale, UPU farmers are also provided with protected cultivation systems, such as greenhouses and net-houses. There is also growing support for zero-acreage farming through provision of rooftop farming systems and hydroponics. The support of zero acreage system is gaining support in view of diminished land sizes.

Training of youth urban agriculture: UPU training is most common feature among most programs. Mazingira Institute/NEFSALF program is a prime example of an impactful training course on UPU. This course seeks to develop knowledge, skills and attitudes of the farmers (including youth) towards the practice of UPU. By 2021, the network of trained farmers under NEFSALF was over 500 members. Within Mazingira there are youth hubs (e.g., one at Nairobi Primary School) to support them in agriculture. Also the institute has Women`s Hub for supporting women in UPU as well as the Practitioners` Hub to promote mentorship within the groups.

Development of strong social networks on UPU: The programs have led to the birth of multi-sectoral platforms and networks to support integration of knowledge and practice to advance food and nutrition security and sustainable food system and urban agriculture. The networks can be divided into three forms as shown in Table 2.

Table 2: Types of UPU networks Kenya

NGO led networks	Public-private sector collaboration	Individual or farmer-led networks or centres
• These are developed through NGOS and institutes • NEFSALF which is based in Nairobi, has over 500 members engaging in various UPU activities • CUSALF, based in Mombasa was created in Mombasa to support UPU especially in vegetables, poultry and fisheries mangroves	• These are developed through collaboration between public and private sector • The Nairobi Food Liaison Advisory Group (FLAG) brings together private and public sectors support decision and policy that will bring about sustainable food system planning	• Various individuals have established centres or networks for the youth • Huruma Town Youth Group Based in Huruma is providing support to two other groups (True Heart and King Lion) • Faizen gardens in Ruai is demo center.

Promoting use of technology in UPU: Integrating technology into agriculture can aid greater participation by the youth. For example, through the Mercy Corps' AFA Program established Digifarm. Digifarm is a platform that bundles end-to-end, farm-to-market services for smallholders on a digital platform that is complemented by in-person, on-farm contacts. Some of its services include online training, input vouchers, in-kind loans to purchase inputs, access to soil testing and customized information on agricultural best practices. In 2018, a digital marketplace called DigiSoko was introduced to connect registered farmers with major processors and wholesale buyers. Twiga Foods, an agri-tech company that connects farmers with buyers, is also revolutionizing the agriculture sector through

an online marketplace that makes it easy for farmers to get customers online. In 2021, it launched an e-commerce platform called Soko Yetu, which can be accessed both on the web and mobile, allowing vendors to access products from various suppliers including fresh produce. Despite a wide range of technologies available, there is low uptake by the youth engaged in UPU.

2.3.2 Summary of issues and opportunities in ongoing initiatives in UPU

The existing programs have supported development of UPU in Kenya. However, two key gaps are identified. First there is less synergy and collaboration among partners. Some actors in UPU space work independently leading to duplication of effort and activities. Second, a number of activities focus on the upstream interventions in production and concentrate less in marketing and value addition. Yet, the youth are more open to downstream activities that do not require farm work. Going forward the following opportunities are envisaged;

- The project design needs to tap into ongoing initiatives so that there is synergy with other partners. Through existing frameworks, the project can determine the entry point in terms of: geographical location, types of enterprise, nature of support and design of strategy.
- Use of local partnerships can deliver better impact. For each of the projects implemented, there has been a network of local non-governmental organizations (NGOs), community-based organizations (CBOs), and faith-based organizations (FBOs), youth groups and companies who have experience working in the designated urban areas. These are useful for establishing and scaling up any UPU efforts.
- The success of a project in part depends on partnership with both National and County governments. National government collaboration provides the policy and enabling environment for project implementation. In view of agriculture being largely devolved at the county level, partnerships with the local government can aid better implementation in terms of technical personnel, permissions and licenses, where applicable. The counties can also facilitate use of public land which is key for UPU.
- Existing projects appear to target the youth, but other aspects of gender are not prominent. An attempt has been by Mazingira to establish Women`s Hub for supporting women in UPU, but this initiative is not at scale. Moreover, field findings suggest that majority of youth groups are male. The project can mainstream normative values to ensure representation along gender, age, region and income class.

2.3 Production systems in urban and peri-urban agriculture

UPU largely remains an informal sector that is not well integrated in agricultural policies or urban planning. Thus, there is lack of reliable data on the extent of urban/peri-urban areas being used for farming, spatial distribution of such areas, types of crops and proximity to market places. In most urban Kenya, four production systems emerge namely: conventional, micro agriculture and livestock, protected cultivation and zero acreage.

2.3.1 Main production systems

Conventional agriculture: This is the most common form of agriculture among the urban youth. Most youths operate through groups located in low-income areas. These groups utilize open fields within dwelling areas and the size averages one eighth of an acre. Since these plots are public lands, the groups seek permission from the national or local authorities to use them. KIIs from lead youth farmers indicated that the process of clearance is complex, yet several public spaces are idle or poorly utilized. KIIs identified school and hospital lands as key to promoting UPU but the procedures for access are long. Some groups have informal agreements with schools where they practice agriculture while supporting agricultural clubs.

Photo: Open field for farming in Ruai area, Nairobi (September 2022)

At the peri urban areas, there are larger plot sizes owned by ancestral families or individuals. The farmers access them through private leasing. The size of land ranges between 0.5 – 3 acres and farmers access land though leasing. The cost of leasing is often out of reach to many youths. In some cases, leasing is almost free. For example, in Ruai, a group of 20 farmers have been allocated about one acre each where they practice their farming. They are allowed to farm without paying for the land but pay for the water they remove from a nearby river. The group is composed of middle-aged farmers with less than five farmers being youth.

KIIs from the field observed that thousands of parcels of land within and around the city lie idle for years. Existing policies or infrastructure does not offer an incentive for turning these plots into productive use. Availability of adequate and affordable water for irrigation remains a key challenge for UPU. Even within residential areas where the youth utilize small spaces, water remains a bottleneck to their productivity. Overall, policies to unlock public spaces remains a solution for improving UPU.

> "What if we properly utilized our public lands in the schools, hospitals estates, national government land, county land for the benefit of the youth? In some countries, county authorities provide allotments to individuals or groups interested in farming. Simple agreements with the holders of the parcels can free more land for cultivation" – Youth lead farmer in Nairobi (September, 2022)

Micro agriculture and livestock: Access to land is a chief constraint to the youth`s ability to to be productive participants in the agri-food system. As a result, micro gardening is a popular production system especially for own consumption. The technique employs a variety of containers including hanging containers, tubes, baskets, plastic bottles, boxes and tires. Most of these containers are low cost and recycled. KIIs with youth groups indicated that this type of practice was not popular among the youth as they lived in areas of very small land and with restrictions. Moreover, farming of this nature is mostly for subsistence use. A key intervention for increasing micro-gardening is to provide innovative bags or containers that retain water and soil quality but cost-effective. Also at household level, social behavior change campaigns can increase home gardening.

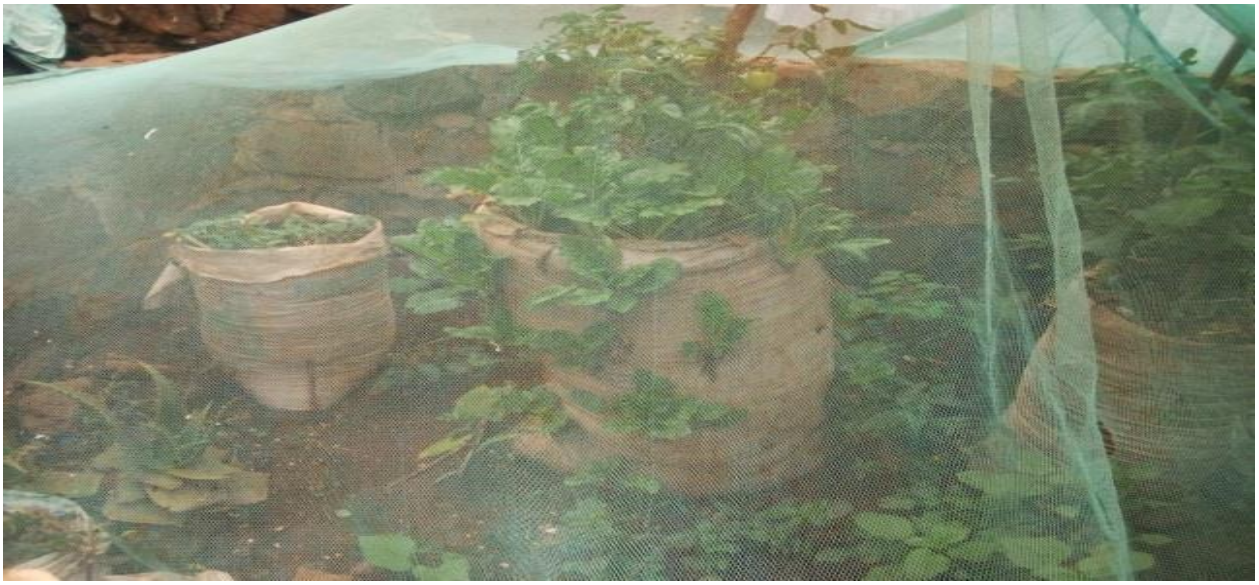


Photo: Micro garden in Ruai, Nairobi (September, 2022)

Micro-livestock, small spaces appear to be more favored by younger people than micro-gardening. Most youth that rear livestock for commercial reasons are in a group but may also individually keep small animals including rabbits and chicken. FGDs with youth opined that animal rearing is more profitable, easy to manage but more prone to failure due to disease outbreaks. Enhancing extension services in animal health and production is desirable if the production is to be profitable.

Protected cultivation: Greenhouses are the most dominant feature in this category in urban Kenya. Greenhouses are covered in plastic or combined with nets. KIIs revealed that the range of technologies and costs are from low-cost wooden or bamboo greenhouse frames to fully automated high-tech greenhouses. A key advantage of the system is that it is possible to grow crops year-round with increased productivity and efficiency in the use of soil, water, nutrients. A past study indicated that only 13% of the urban farmers in Nairobi utilized greenhouse production technology[17]. It`s use was influenced by availability of reliable supply of water as well affordability of the technology. FGDs with farmers revealed a high willingness to use the greenhouse systems if they were supported with training, access to water and finance.

Zero-acreage farming: This system refers to the production of food in buildings without using any additional land and may include open-air rooftop farming, rooftop greenhouses, indoor farming, hydroponics and aquaculture. Among these hydroponics is gaining ground among the urban youth. This system covers a range of methods used to grow agricultural crops without using soil. Instead of soil, substrates, are used to provide plant support and retain moisture. Irrigation is integrated within these media providing all the necessary nutrients for plant growth. Compared to traditional soil-based cultivation, hydroponic systems can take up 80% less space, and consume 70% less water[18]. These substrates weigh far less than soil-based, making it suitable for rooftop gardening. A prime example of hydroponics system is being implemented by WFP in Kibra in Nairobi (Box 2).

Box 2: Hydroponic farming in Kibra, Nairobi

Two programs by the World Food Program Innovation Accelerator and the Human Needs Project organization are implementing Hydroponics 2 Grow program to enhance access to healthy and affordable food to the low-income area of Kibra. At Olympic High School, on whose farm the H2Grow

[17] A study by FAO and JKUAT in 2017 on Developing Sustainable Food Systems for Urban Areas: Nairobi City County found that only 13% of the 314 producers used greenhouse technology

[18] Kalantari, F., Mohd Tahir, O., Mahmoudi Lahijani, A. & Kalantari, S. 2017. A review of vertical farming technology: A guide for implementation of building integrated agriculture in cities. Advanced Engineering Forum, 24(October), 76–91. https://doi.org/10.4028/www.scientific.net/aef.24.76

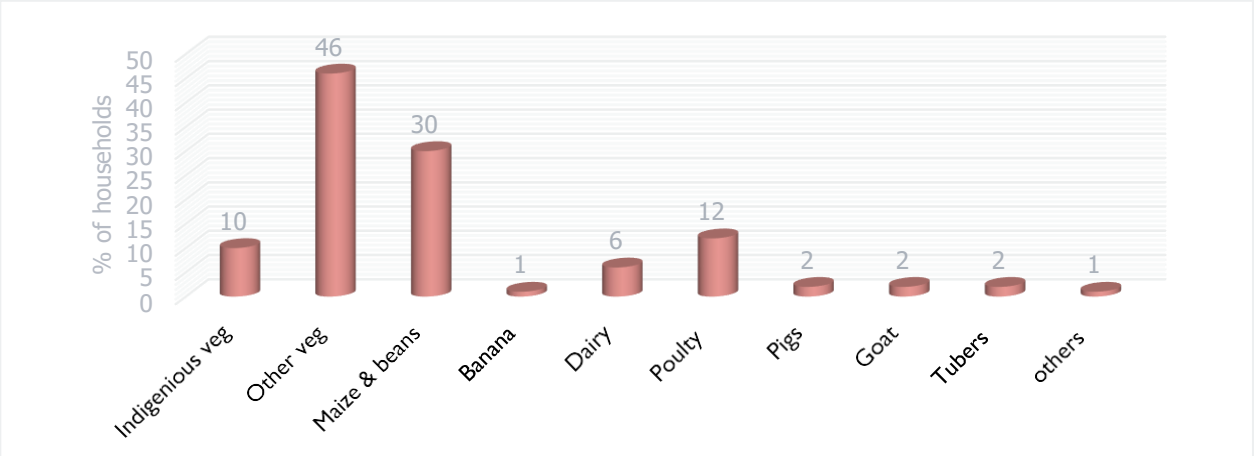
project farm has been set up, the program has rows of 4-layer hydroponic structures supporting Sukuma wiki (kales) and Spinach. This initiative uses locally adapted, low-tech, replicable and affordable materials to implement hydroponic farming. This innovative style of farming also allows for year-round food production that is affordable to the poor households. The program is creating a financially sustainable path to scale up hydroponic farming in urban food production through the use of asset-based loans. These loans are financed using a blend of private capital and grant funding. By using the asset-based loan model, WFP will mobilize private capital from impact investors, development banks, or individual investors.

In view of the growing demand for hydroponic farming there are other youth groups engaged in the system. These include Komb green group (Korogocho) and Esteem Eagles youth group (Tharaka Nithi). KeAWARD in partnership with voices4change, is implementing urban agriculture project sites with two groups namely Chamie (aquaponics system) and Campgreen (vertically stacked gardening). These groups were using soil-free cultivation techniques. To increase capacity for hydroponics, the Rain-forest Alliance has set up an incubation centre to educate the youth on new agricultural technologies they can adopt to enhance their livelihoods money. Through Future Farmers' Programme, they established a demonstration farm in Kirinyaga County used to show the youth how they can engage in hydroponics.

2.3.2 Key enterprises and scale

Vegetable and crop (including maize, beans and tubers) are the dominant farming systems. KIIs estimated that these systems accounted for about half of the enterprises in urban Kenya. Vegetable production was the most dominant enterprise among the urban farmers. While a high proportion of vegetable production appears to be positive on nutritional considerations, the contribution of African Indigenous Vegetables (AIVs) was relatively low (Figure 2). Most urban groups planted kales, spinach, tomato and onion compared with AIVs. The frequently mentioned AIVs were African night shade, amaranth and cowpeas. Overall, the youth farmers favoured exotic vegetables over AIVs on account of high demand and shorter season.

Figure 2: Agricultural Enterprises practiced in Nairobi City County



Source: JKUAT and FAO (2018)

Livestock production is growing in the urban areas. As shown in Figure 2, a past study found that poultry is the most preferred enterprise among farmers. Interviews with youth groups showed that poultry (mainly broilers and improved indigenous) was preferred by the youth due to low cost of production, space constraints and ready market. Rabbit farming is also growing as a complimentary source of food and income among the youth. The enterprise has several merits including rapid growth rate, low cost of feed, less labour, production of compost and growing demand for rabbit meat.

In recent years, established groups have diversified into dairy goat farming. For instance, the Huruma youth group have established dairy goat enterprise through the support by National Agricultural and Rural Inclusive Growth Project (NARIGP) and Agriculture Sector Development Support Programme (ASDSP). By August 2022, the group had 37 dairy goats from the Toggenburg, Saanen and Alpine breeds. Each groat produces in the range of 1.9 – 3.4 litres/day. These goats are preferred because they consume less food and are more resilient to diseases and poor environmental conditions in low-income urban areas. Also, since green matter is hard to get in urban areas and can't be stored for long, hay which is enjoyed by goats, is a good feeding alternative.

> "I keep my 30 goats in a small space, less than an eighth of an acre. The animals are cheap, cost-effective and the returns are great. Compared to cows, goats also eat significantly less and also take less water. With proper training in different goat breeds, feeding, pest management, and disease prevention and control, youths can be supported to start" – lead youth farmer, Nairobi

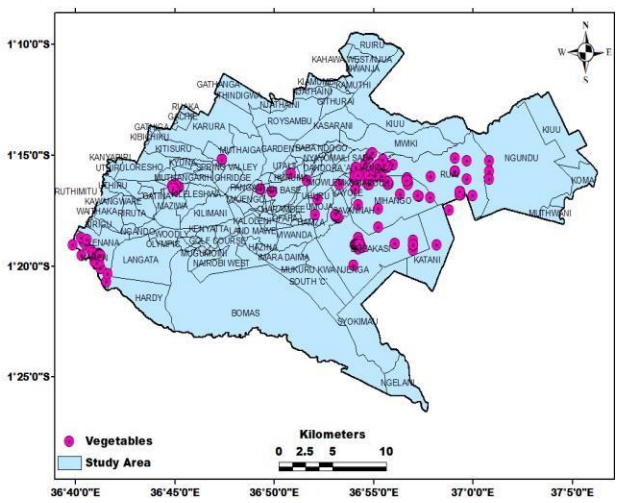
In view of the growing demand for milk which now retails at KES 200/ litre, there is need to support the youth to establish dairy goat enterprises. There is need for training on adaptability of goat breeds, feeding practices, pest management, disease prevention and control and value addition[19]. Using existing youth led model farms such as Toggfram (Mathare), Mash Farm (Kahawa West) and Mwihoko farm (Kiambu) can provide linkages and lessons for scale up. In addition, building the capacity of local extension and veterinary officers can enhance productivity. Creating awareness on dairy goat farming is potentially effective through youth activities, such as exhibitions and goat soccer tournaments.

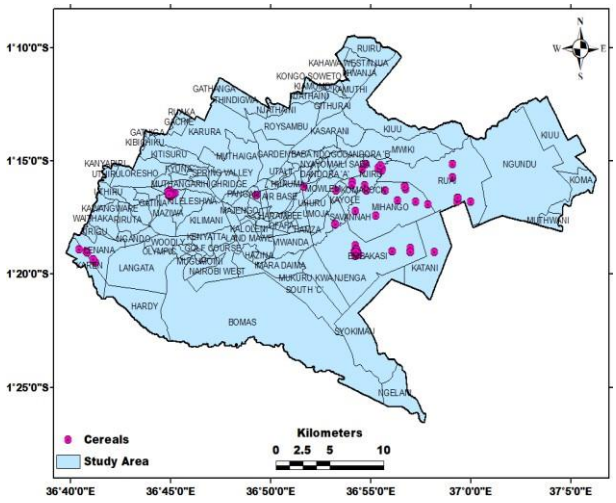
2.3.3 Spatial distribution of agricultural enterprises

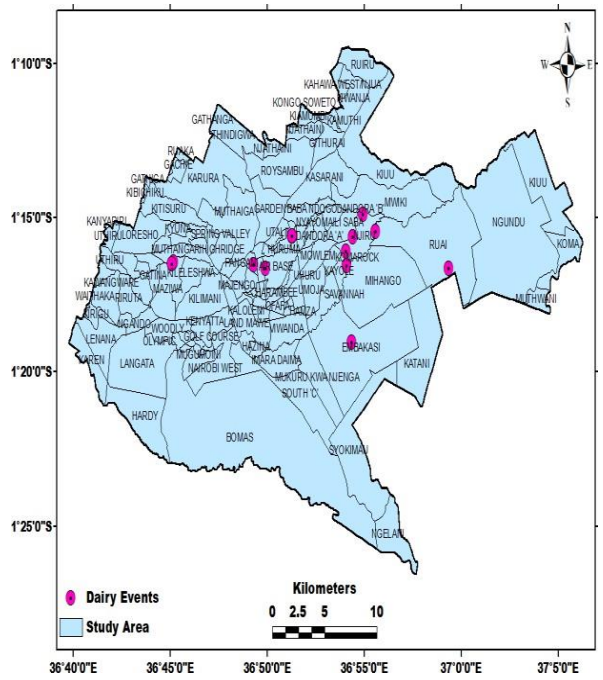
Urban farmers cultivate a wide range of crops. Farming is done everywhere in backyards, along roadsides, rivers and railways, in parks and industrial areas. The geo-spatial distribution of farming activities for different enterprises in Nairobi is presented in Figure 3. Vegetables are the most common enterprise, with a high concentration of producers being in Njiru, Karen, Ruai and Embakasi. Others are Kawangware and Pangani. In the peri-urban areas vegetables are produced in Ruiru, Limuru, Kikuyu and Ngong areas. Maize and beans are also popular in the city and are concentrated in Njiru, Embakasi and Ruai. Fruits which have a good potential are only grown in small pockets of Njiru, Ruai and Karen. Poultry, goats, rabbits were common in Mwiki, Ruai, Embakasi and Mathare.

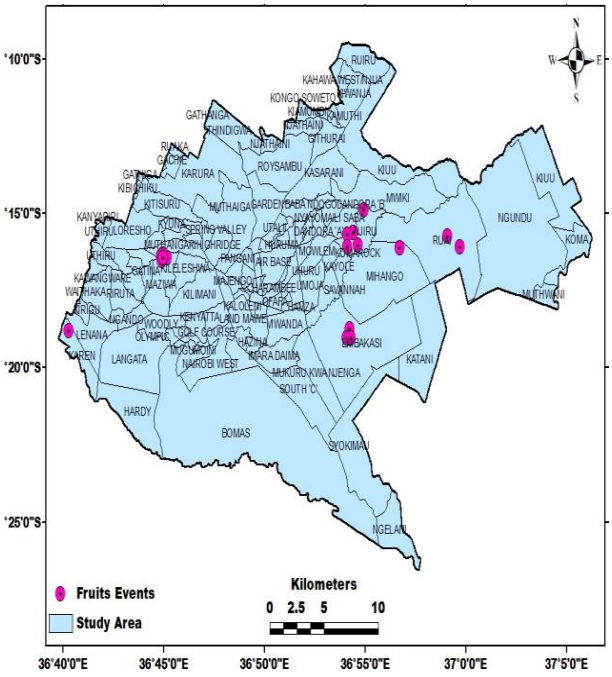
Figure 3: Geo spatial distribution of agricultural enterprises in Nairobi, Kenya

[19] Example of comprehensive dairy enterprise aspects are discussed here https://www.youtube.com/watch?v=MlCXIJyLvNs









Source: JKUAT and FAO (2018)

2.3.4 Summary of issues and opportunities in production

- The urban youth in Kenya have little or no access to cultivable land. With competing land use due to urbanization, housing and population growth, land available for UPU is expensive both for sale and rent. UPU is practiced on public land within the riparian sections along the rivers, along the road and railway lines where the land tenure arrangements are not protected by law or enforced in case of violation of rights.
- The complexity of land ownership and land rights makes it difficult for the youth to access productive agricultural spaces. This problem is compounded by a lack of urban planning, where there are specific spaces allocated to UPU. Partnerships for releasing land for farming by the National Government, County Government, schools and hospitals remains a viable option for increasing access to land.
- Vegetable production is the most dominant enterprise by urban youth. There is therefore need for policy support towards diversification of enterprises, particularly vegetables, to support nutrition and incomes. In

addition, policy actions focusing on enhancing goat production provision of breeds and feed sourcing arrangements from neighboring counties can support the production goat.

- Production is characterized by use of scarce land and water resources. The urban youth lack access to irrigation water and the equipment or technology for sustainable abstraction.
- Lack of capacity and technical know-how to profitably practice new UPU systems such as vertical gardening and hydroponics.
- Lack of sustainable local sources of soil-free nutrient growth medium/substrate and seeds/seedlings that can boost the production.
- The current extension services are not adequate and are not supporting many youths interested in UPU. There is an opportunity to train a large mass of lead youth farmers to support extension services.
- There is a sizeable number of youth groups practicing mixed farming in the Cities but lack required business planning support.
- There are concerns about safety of food produced in spaces that are perceived to be environmentally degraded. The existing urban farmers lack mechanisms for assuring safety of the produce.

2.4 Product marketing and value addition

Market access provides an opportunity for urban farmers to distribute their produce to consumers. UPU is located close to consumers with higher purchasing power compared to the rural population. Production within and around the cities can help to maintain steady supply of food as well as mitigate the transport and storage costs of getting food supplies from rural areas. On the other hand, value addition can provide additional sources of livelihoods for the urban youth. In the context of urban agriculture, there are two models for marketing of produce. First, it involves youth urban farmers producing the food in urban areas and selling it to consumers and second, procuring food from other producing regions and selling it to consumers.

2.4.1 Urban production and distribution

Urban youth groups produce vegetables such as cabbage, kales, night shade, onions, spider plant, spinach and cowpeas and sell to wholesalers or retailers in neighboring markets. Interviews with market traders in large wet markets in Nairobi namely: Githurai, Wakulima, and Kangemi indicated that rarely did they source products from urban farmers in Nairobi. The traders cited low volumes and quality concerns as reasons for not sourcing from urban producers. Majority of these farmers tended to sell their produce to small wholesalers or retailers from the neighbourhoods. A similar pattern was observed for milk products where farmers sold it directly to neighbours. This model allows for savings at various levels of the chain including transport, storage and distribution – resulting in a lower final retail price. Yet, field interviews revealed lack of organized arrangements to support stable supply of food products. The youth farmers relied on *ad hoc* arrangements, where they would look for buyers at the point of harvest. There were cases where the farmers were forced to sell products at lower prices to minimise post-harvest losses. Thus, linkages with formal market associations in Nairobi and other cities can help increase access. Also, aggregation among youth groups can harness enough output for collective marketing.

2.4.2 Specialized distribution systems

Distribution of food products in urban areas is a promising entry point for urban youth given limited access to productive land and attitudes towards practicing primary agriculture. In this model, food distributors have strong marketing arrangements with rural farmers and middlemen (Annex 2). Often, larger distributors have specialized in one to few products and have the capital and capacity to supply it in volumes. This model suffers a number of challenges including market failures, poorly developed urban food systems, lack of transparency in the market and high transportation costs. Yet, since food demand is relatively inelastic, the costs of inefficiency are passed to the consumer. Data on fresh fruits and vegetables collected in four markets in Nairobi indicated that six fruits and nine vegetable types were most dominant. Fruits and vegetables are sourced from various parts of the country and some from outside Kenya. The modes of transporting the produce are trucks, pickups, matatus (public transport) and carts. Field findings suggest that urban youth can be supported to engage in the distribution through provision of capital, provision of adequate space for storage and linkages to both producers and consumers.

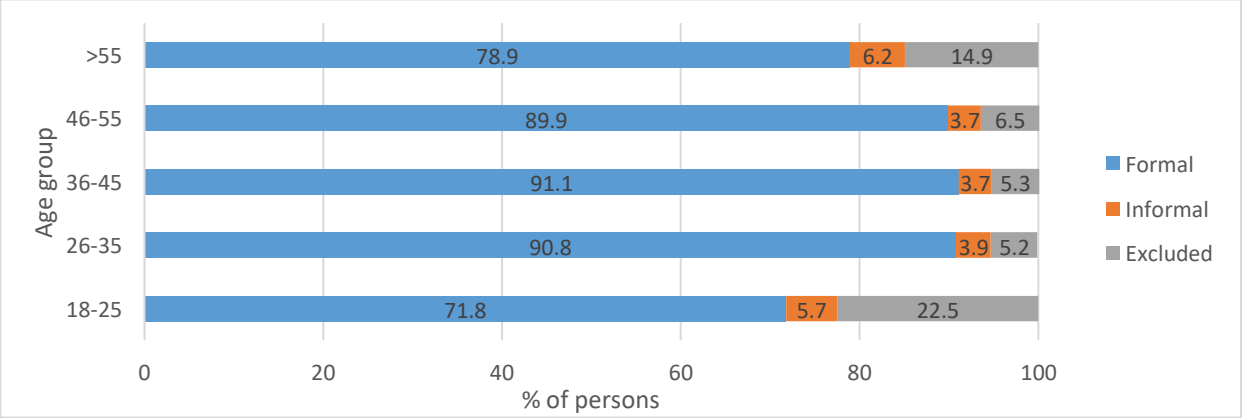
2.5 Access to financial services

Access to finance remains a key barrier of the youth engagement in the agriculture sector. Financial constraints manifest itself in many ways. For instance, few youths own land or physical assets that can be used as collateral that financial institutions seek. Also, loans from financial institutions often have interest rates in the range of 15 – 25% making capital prohibitively expensive. Banks also hold perceptions that youth are at high credit risk and often unable to pay the loans. This scenario is exacerbated by the fact that financial products are not tailored to meet the needs in the agricultural sector or youth farmers.

2.5.1 Status of youth access to agricultural finance

Kenya`s overall access to formal financial services and products has continued to grow from 26.7% in 2006 to 83.7% in 2021[20]. This growth is on account of financial technology and innovations in mobile money and mobile banking. Those who are thought to be excluded from accessing any form of financial services providers stood at 11.6% in 2021. Yet, the youth especially those aged 18-25 years remained most excluded at 22.5% of the population (Figure 4).

Figure 4: : Financial access in Kenya by age



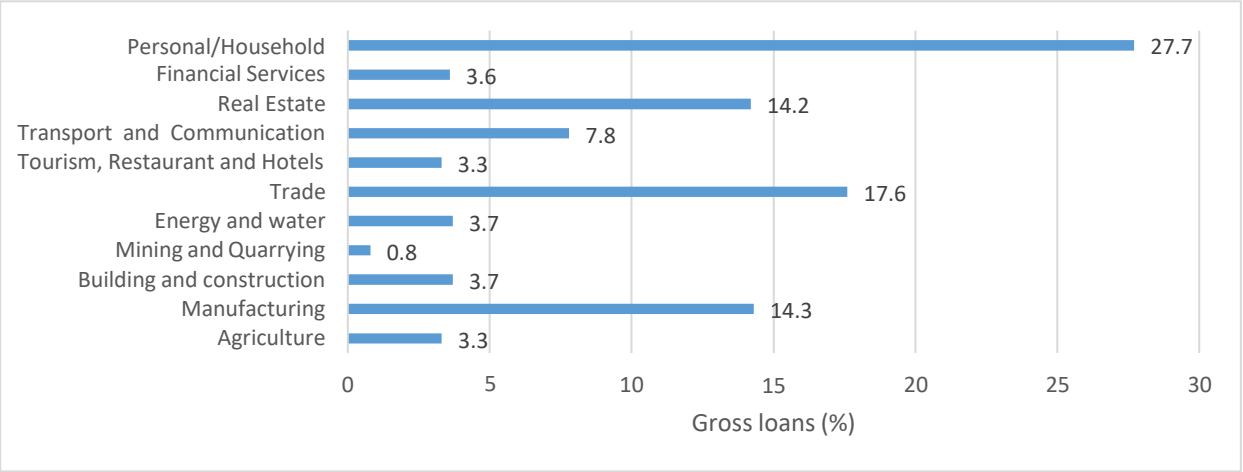
Source: FinAccess data (2021)

Lack of National Identification Card (ID), unemployment could explain the high exclusion rate. A further disaggregation by sex, revealed that higher access by males than female persons. On average, 85.9% males access formal finance compared to 81.4% of females. However, access through informal channels by females in 2021 stood at 6% compared with 3.2% among males. Often, women are more constrained in accessing formal finance due to lack of property rights, lower income, lower levels of education and lack of information. As such, many resort to informal sources of finance such as Rotating Savings and Credit Association (ROSCAs), shops, self-help groups etc.

In 2021, the largest proportion of the banking industry gross loans and advances were channeled to the Personal and Household, Trade, Manufacturing and Real Estate Sectors – accounting for 73.8% of gross loans in the period[21]. Despite agriculture being Kenya`s flagship sector, the advances accounted for 3.3% (KES 107 billion) of the total gross loans estimated at KES 3.26 trillion (Figure 5). This distribution reveals how grossly underfunded Kenya's agriculture sector is. The low supply is associated with inability of many poor households unable to meet the stringent requirements of banking institutions.

Figure 5: Sectoral Distribution of Gross Loans in 2021

[20] 2021 FINACCESS HOUSEHOLD SURVEY https://www.knbs.or.ke/wp-content/uploads/2021/12/2021-Finaccess-Household-Survey-Report.pdf
[21] https://www.centralbank.go.ke/uploads/banking_sector_annual_reports/2009197617_2021%20Annual%20Report.pdf



Source (CBK, 2022)

While the share of agricultural loans in the country remains low, the amount disbursed to the youth remains insignificant. KIIs with national government estimated that of the KES 107 billion supplied to the sector, less than 5 billion went to support the youth. The findings indicated that complex structural challenges affected youth borrowers.

> The youth accessed less than 5% of the agricultural loans issued by banking institutions in 2021 (KII estimates). Overall, agricultural credit accounted for 3.3% of all the gross loans issued by formal banking institutions in 2021 (CBK, 2022).

2.5.2 Models for financing agriculture

Provision of agricultural financial services depend on financial systems, target farmers, nature of funds. In Kenya, a number of financial models emerge:

Direct smallholder finance models: This is a model where financial institutions provide a range of financial services for agricultural SMEs. Smallholders can be served to varying amounts of credit depending on their growth level. Here financiers invest in understanding the farmer, establish a cap on the exposure to a single farmer and encourage group lending as a key mitigation factor. The financiers also seek to provide cash to the farmer during the lean season to lower the side selling risk. The model also depends on the farmers regularly depositing incomes into the accounts to demonstrate cash flow health of the enterprise.

Kilimo Biashara is a good example of the financing model. The product is operated by Equity Bank, the largest bank in Kenya. Equity Bank's approach to agricultural financing is based on direct smallholder lending with flexible terms such as pegging repayment to the crop production period/cycle, accepting, guarantors who are active account holders and group guarantees. In the past, the lending was integrated into a larger supply chain partnership and supported by a first loss guarantee provided by donors. The model reduced the cash amounts in farmer's hands by paying agro dealers out of their Kilimo Biashara credit directly. Another product offered in this segment is the Kilimo Maendeleo Loan which facilitates farmers in undertaking farm developments such as construction of farm houses, zero grazing yards and biogas plants. Overall, this model can work for youth farmers if the group farming model can be strengthened to act as security for receiving financial products.

Indirect lending through farmer groups or cooperatives: This is a wholesaler model based on a bank lending indirectly to smallholders through an aggregator organization, such as a farmer organization or cooperative. Therefore, therefore group members guarantee each other, reducing loan default and administration costs. Other critical factors include strength of management, length of history, and commercial orientation of the farmer organizations or cooperative through which the bank will lend. Access to these funds by the youth depend on their group organization and management.

Savings-account linked input finance: Financial institutions now encourage farmers or farmer groups to hold savings account as a part of the loan security package, and they can become the principal collateral to secure a loan. The model requires that farmers have strong savings incentives and bonuses for high savings balances over longer periods of time. This model tends to favour farmers with high cash flow and less for the youth who are financially constrained. FGDs suggested that youth groups were unable to save money on account of high cash flow constraints (Box 3)

Box 3: Reviving Frontline Minds Urban Youth Group in Huruma, Nairobi

The Frontline Minds consists of 15 youth in Huruma, who started the group as self help group. In 2017, they ventured into vegetable (kales and spinach) by utilizing idle spaces with their estate. Th group also started engaging in rearing of indigenous chicken. However, due to lack of suitable arrangement for the utilization of the public land, they stopped farming in 2020. This greatly hampered their chicken farming which they also discontinued. The enterprises was also affected by lack of a collective purpose to withstand cash flow challenges during COVID 19 period. Looking back, the group observes that lack of space, low working capital, lack of common vision and, poor infrastructure was responsible for the failure. In 2023, the group started rebuilding their enterprises and have now resumed chicken farming and started dog breeding. With financial support and space, the group can flourish again as there exists huge demand for products.

2.5.3 Summary of issues and opportunities in financing UPU

Challenges

Inappropriate financial products: There is a general understanding of urban youth`s financial ability leading to a mismatch of financial products that are expensive and require documentation such as collateral or guarantee that is beyond the ability of many youths. Youth in agriculture have seasonal income depending on their farm output and lack collateral, such as land or property. KIIs with banks revealed that loan requirements are near standard across the board and do not account for peculiarities in the agricultural sector.

Seasonality of agriculture: Agriculture is highly seasonal with long gestation periods. This means that cash flows are highly seasonal and irregular. From the financial provider`s end, irregular repayment schedules or savings make liquidity management more challenging and require costly investments in developing customized loan products in the sector, much less in urban areas where agriculture is not widely practiced.

Perceived systemic risks in agriculture: A rapid survey of most urban youth SMES revealed that they are not risk diversified. Most enterprises are concentrated in production of vegetables, rabbit keeping or goat farming in small scale. With the vagaries like drought, pests and diseases the production risk has a large impact on the profitability and repayment capacity of the borrowers. Also, the price risks affect the cash flows of the SMEs. KIIs in the financial observe that urban farmers do not have the capacity to uptake insurance products to help mitigate against the risks.

High transaction costs: Urban agriculture is characterized by production of heterogeneous products of varying quality. Formal financial institutions find it costly to have personnel handling small transactions. Financial institutions also face high creditworthiness assessment costs with agricultural SMEs given that deep sector information is often not readily available about different enterprises.

Limited financial capabilities: Youth farmers have limited financial capability associated with limited knowledge, skills, attitudes and practices that do not translate into sound financial decisions and appropriate use of financial service[22]. The youth have low awareness and experience with financial services. FGDs revealed that urban youth

[22] Defined by Center for Financial Inclusion at Accion, 2013

farmers sometimes perceive financial services as being neither accessible nor affordable. Lack of experience to manage agricultural enterprises can reinforce the perception of a high credit riskiness.

Opportunities

In view of the existing models and challenges associated with it, a number of opportunities arise. Financial service providers have some tailored products that urban youth farmers can take advantage of. However, the youth must be supported to build strong and cohesive farming groups that allow for group guarantees such as collateral for the credit. Building youth farmers can also be enhanced through savings, in the form of either savings accounts or youth savings groups. These savings behavior can be inculcated into the group financial management practices. The youth also need complementary education and training services, such as financial and business education, as well as entrepreneurship training and coaching in agribusinesses. Most financial products available are less keen on value added training and mentorship.

Measures that support indirect financing models are encouraged. Such models allow for equipment financing and non-monetary grants. For instance, some youth groups received capital in the form of dairy goats, which they would nurture and surrender calves to the next designated group. Such models increase accountability and sustainability.

Overall, there is renewed support for urban agriculture. Donors can ensure they support packages that address the needs of the youth, women and marginalized. In Nairobi, several youth groups have demonstrated good progress after receiving financial support from donor funding agencies. These donors can work with organizations, such as vocational centres, religious establishments, centres, sports clubs or youth-serving organizations to assure a more balanced reach. There is a need for more evaluation on the long-term impact of financial and non-financial services for young people.

2.6 Knowledge, information and technology

Information and communication technologies (ICTs) such as mobile phones and Internet-based digital tools are bringing a new potential to agricultural practices worldwide. These new tools and approaches can help address a number of challenges around food supply, weather pattern management, food losses, and access to agricultural information and extension. Leveraging these tools requires a new set of skills that most youth are eager to learn.

2.6.1 Access to knowledge and extension services

The extension program in Kenya is guided by the Kenya Agriculture Sector Extension Policy (KALEP) developed in 2022[23]. The policy was borne out of the need for a broader and effective agricultural extension policy framework that provides a coordinated and pluralistic approach and which acknowledges the significance of the extension and advisory services in respect of technology transfer, information sharing and skills development, particularly of smallholder producers across the sector. A key component of this policy is addressing national extension requirements, whilst providing a framework for addressing county specific priorities and challenges.

Kenya`s extension service has three main systems. The first is the government extension system focusing mainly on food crops. The government has implemented different extension approaches, including progressive or model farmer approach, integrated agricultural rural development approach, farm management, training and visit (T&V), attachment of officers to organizations, farming systems approaches and farmer field schools (FFS) [24]. The second type of extension system includes the commodity-based systems run by parastatals, outgrower companies, and farmer cooperatives. The commodity-based extension is prominent with industrial crops such as coffee and tea. These are implemented at the County Governments and support farmers at the sub-county and ward levels. A key gap here is that the ratio of extension staff to farmer has continued to widen and hence run the risk of being unable to meet the recommended ratio of 1:600 farmers by 2029 if something is not done. KIIs from the field suggested that areas such as Mathare or Kibra slums of Nairobi with an estimated 50,000 farmers, had no more than two

[23] See https://kilimo.go.ke/wp-content/uploads/2022/03/DRAFT-KASEP-POLICY-14.3.2022.pdf
[24] NALEP (2001) https://www.kenyamarkets.org/wp-content/uploads/2016/06/National-Agricultural-Sector-Extension-2012.pdf

government extension workers. It is noted that extension workers are more equipped to support rural systems and should be capacitated to address urban agriculture.

Given the challenges of the public extension system, a third type of extension service has emerged where the privatized agricultural extension services are provided by private companies, non-governmental organizations (NGOs), community-based organizations (CBOs), and faith-based organizations (FBOs). The model has two facets: commercial and non-commercial providers. Commercial extension initiatives provide services in highly profitable sectors. These are dominant in promoting seed, use of agrochemicals, providing artificial insemination (AI) and veterinary services. The providers often do these through stockists, field days and demonstrations. In the second category, many NGOs provide farmers with agricultural extension services. Majority of them have extension staff trained in relevant agricultural disciplines and are able to do this through donor support programs. Given the relative success of this model, there is now an emerging public–private model where private practitioners partner with the government extension personnel to deliver services. For instance, in Nyandarua, the International Fertilizer Development Center (IFDC) and partners are working with local extension officers to support the potato farmers with extension. In view of the success of the public–private model, AGRA has been working with counties in Kenya to deliver extension (Box 4).

Box 4: Sustainable Village Based Advisors Model by AGRA

The Alliance for a Green Revolution in Africa (AGRA) partnered with the Kiambu County government to deploy agricultural extension services through a village-based adviser (VBA) model. The model uses approaches that involve farmers themselves as agricultural advisers working with public or private extension organizations. AGRA worked with the Cereal Growers Association (CGA) to deliver training to over 115 VBAs through mother and baby demos. In turn, the VBAs reached 16,000 farmers in two years. CGA has established a trusted working relationship with the county government, agriculture departments as well as the value chain actors in the county. The VBA model establishes a strong linkage amongst farmers and farmer groups. These linkages enhance easy access to the farmers by value chain actors dealing with mechanization, post handling services and seed manufacturing actors. For sustainability, VBAs were able to earn commission through sale and transaction of products and services to the farmers. CGA partnered with private companies to provide seeds for the mother demo plots as well as small packs of seeds to farmers for practical lessons in their baby demo plots. VBAs were also able to facilitate contract farming where appropriate and aggregate demand for various commodities.

1.1.1.

2.6.2 Summary of issues and opportunities

- There are low staffing levels in both public and private extension service providers resulting in a high extension staff to farmer ratio. The situation is worse in UPU since many county governments are yet to recognise and harness its potential.
- There are low levels of specialized skills and scope of knowledge for extension delivery in UPU. Majority of extension officers, who average 50 years, lack capacity to address UPU specific extension. This is compounded by inadequate institutional capacity to train extension providers and researchers in the area of UPU. Moreover, there is low enrolment by the youth to agriculture related courses.
- The extension is also hampered by outdated or unserviceable infrastructure including buildings and offices, equipment, transport facilities and ICT, making it difficult to deliver UPU.
- While modern urban youth are skilled in ICT, the existing service has limited access to ICT hardware, software and skills for e-extension as well as deployment of agricultural extension approaches and methods that are not youth friendly.

In view of the challenges highlighted, a number of opportunities emerge including:

- Provide technical assistance and capacity building to the County Governments and private sector for effective extension, recruitment of extension officers for enhanced extension service delivery.
- Provide an enabling environment for provision of extension by the private sector and nonstate actors. APHRC`s model where local private partners supported by the County`s extension staff is a good model that can be scaled up. The county staff continuous mentoring to the groups as they set up the urban gardens and these serve as resource and learning centres for the community members.
- Promote innovative agricultural extension service provision. This may be through supporting institutions in extension curriculum review to meet emerging trends, technology and innovations.
- Strengthen capacity of public tertiary institutions to offer continuous training on extension.

2.7 Policy, legal and regulatory environment

A number of public policies and framework (such as zoning arrangements, urban agriculture strategy programs and laws) can impact on youth participation in urban agricultural activities. However, urban policy and planning has historically been largely focused on physical planning with limited influence on urban agriculture and food systems. One key reason why food has never been a prominent issue in the urban agenda is routed in the persistent dichotomy between rural-urban policy, where food is seen as part of the realm of agriculture, and therefore belonging to the rural policy. The view perpetuated a narrative that (i) Food policy is a non-urban strategy, therefore demeaning the potential of research in the role of cities as food system innovators, and (ii) The study of food provisioning is confined to rural areas missing the fact that the city is the space, place and scale where demand for food products is greatest.

This section analyzes Kenya's national policies related to urban agriculture, with a specific focus on youth participation. The analysis begins with an overview of global imperatives and initiatives in support of urban agriculture before delving into the national and local (municipal level) urban policies, relevant to the youth participation in urban agriculture. The objective is to provide insights into:

- Mapping of the key policies, legislative and administrative instruments at county, national and international levels that are relevant to integration of Nairobi Food System.
- The suitability of existing policy and regulatory framework including any conflicts in implementation of the identified policies.
- Relevant reforms and recommendations on enhancing policy environment for increased youth participation in urban agriculture.

Prior to conducting the analysis, research was conducted to obtain relevant policies, strategic plans and regulations regarding urban agriculture.

2.7.1 Global food policies

The recognition of cities' potential to deliver changes in the food system is reflected in the many global networks and collaborations that have been established. Some of the policy initiatives at the global level that are relevant to urban agriculture and by extension the participation of youth includes:

a) Sustainable Development Goals (SDGs) 2015 (SDG 2, 3 and 11)

Unlike the MDGs where food and nutrition issues were part of a larger goal, the SDGs provide a dedicated food-based goal (Goal 2), which seeks to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. In support of this goal (SDG 2), the United Nations endorsed the Second International Conference on Nutrition (ICN2) Framework for Action and declared 2016 to 2025 a decade of action on nutrition to reduce hunger and malnutrition. Additionally, SDG 11 aims to make cities and human settlements inclusive, safe, resilient and sustainable. In response to the SDG, a number of city networks have agreed upon targeting food security in urban areas.

b) Milan Urban Food Policy Pact (MUFPP) 2015

The Milan Urban Food Policy Pact (MUFPP) aims to support cities wishing to develop more sustainable urban food systems by fostering city to city cooperation and best practices exchange. The MUFPP was launched in late 2015 and has about 200 signatory cities. The pact commits to seek coherence between municipal food-related policies and programmes and relevant subnational, national, regional and international policies and processes and engage all sectors within the food system (including neighbouring authorities, technical and academic organizations, civil society, small scale producers, and the private sector) in the formulation, implementation and assessment of all food-related policies[25]. Specifically, the pact recommends the (i) promotion of social and economic equity for the poor and marginalized, especially with regard to their ability to afford food; (ii) promotion of urban and peri-urban food production and reduce and sustainably manage food waste; (iii) provide an enabling environment for a sustainable food system. Implementation of this pact would be at early stages in the cities that signed up – including Nairobi, which is the focus city of this analysis.

c) The 'New Urban Agenda' 2016

The new urban agenda was adopted by the UN Habitat III conference in October 2016 (Quito, Ecuador) and provides a roadmap to improve food security and nutrition, strengthening food systems planning, working across urban-rural divides and coordinating food policies with energy, water, health, transport and waste. Under this framework, there are explicit commitments on readdressing the way cities and human settlements are planned, designed, financed, developed, governed and managed. A number of policies have been initiated at global level emphasizing the need to make cities and human settlements inclusive, safe, resilient and sustainable. A review of these global level policies suggests that they broadly seek to achieve the following objectives:

- Enhancing equitable access (physical and economic) to healthy and affordable food and reduce hunger and dependency. This measure seeks to ensure that city residents can find the food they want close to where they live and that the food is affordable to them. These policies include among others measures to; generate income for urban poor and regulate prices and control quality of basic staples, fruits and vegetables, improve distribution and promote home and community gardening especially for low income groups.
- Promote sustainable food production, processing and distribution within the city region. These include: measures that facilitate access to land and land use security for city producers, measures to enhance the viability of small scale agricultural producers in the city region and measures to stimulate the processing and distribution of food processed within the city.
- Optimize the contribution of the urban food system to environmental sustainability, diversity and resilience. This includes measures for promoting sustainable ecofriendly agricultural production, processing and distribution methods in the city region, supporting decrease of GHG emissions related to food production, processing, consumption and food waste management in the city region and providing regulations and incentives to stimulate recovery and agricultural reuse of nutrients and irrigation water from organic wastes and organic waste water.

Overall, while the above goals are clearly relevant for youth participation in urban agriculture, there is lack of clarity on how the global networks are integrated locally, which actors are involved and the activities and impacts of the networks on the urban food systems in Kenya.

2.7.2 Local urban food policies, laws and programs

In Nairobi – especially in poor neighborhoods have over decades practiced crop and livestock farming, but for decades they were doing so illegally. Nairobi City Council staunchly opposed farming in the city, believing it that it was a threat to public health and land rights. Nairobi County Council's bye laws classified keeping any animal or poultry which cause a nuisance to any resident in the neighborhood as an offence and this position was supported by Section 144 (c) of the Local Government Act. However, with the devolution of Agriculture, the Nairobi County Government created a Department of Agriculture, Livestock, Fisheries, Forestry and Natural Resources; previously no institutional structures or mandate for supporting agriculture existed at the city level. Additionally, the right to

[25] MUFPP (2015) Milan Urban Food Policy Pact. Milan Expo Feeding the Planet, Energy for Life 15 October 2015. Available at: http://www.milanurbanfoodpolicypact.org/wp-content/uploads/2016/06/Milan-Urban-Food-Policy-Pact-EN.pdf

food is enshrined in the constitution (adopted in 2010), which includes measures that the state must undertake to realize this right. A number of local policies relevant to youth participation in urban agriculture include:

Policies

a) Nairobi City County Urban and Peri-Urban Agriculture, Livestock and Fisheries (UPALF) Policy

The policy formulated in 2015, aims at promoting and regulating a sustainable UPALF sector development to improve incomes, food security, create employment and reduce poverty to enhance living standards, with a focus on land use, public health and environment. The policy recognizes that the UPALF sector's development has previously been constrained by a weak policy, legal and regulatory framework, which have resulted to environmental pollution; inappropriate crop and livestock production technologies; inadequate market infrastructure and information; compromised food safety and compromised ecosystem integrity due to land use changes. The policy underscores the crucial role the sector can play in improving the livelihoods of the urban poor and the importance of public-private sector partnerships in accelerating growth in the sector. It is also notable that interventions proposed in the policy will need to be supported by an appropriate legal framework for its successful implementation.

b) Kenya Youth Agribusiness Strategy (2018 -2022)

The strategy seeks to provide new opportunities for youth in agriculture and its value chains address challenges that hinder youth from participating effectively in the sector. The Strategy was developed in response to the realization that youth matters in the agricultural sector development were not addressed in government policies such as the National Youth Policy (NYP 2006, revised 2019).

The document identified key strategic issues which include: negative perception to agricultural activities; large population of youth with inadequate skills, knowledge and information; limited participation of youth in agricultural innovations, research, technology development and utilization; access to land for agribusiness; inadequate access to financial services; unfavourable policies to support youth in agri-preneurship; low levels of value addition; and negative impacts of climate change and weak environmental governance among other cross cutting issues challenges. The strategy identifies interventions to redress many of the aforementioned challenges. However, the actions are largely framed from a generic perspective, and might therefore not relate to some of the specific challenges facing the urban unit (including the lack of access to appropriate technologies such as hydroponics, inability of urban youth to negotiate for private or public land, lack of appropriate extension model that can work well for the urban youth). This is despite the strategy underscoring the challenges of high rural-urban migration among the youth.

c) Kenya National Youth Development Policy 2019

Seeks to address the many challenges that face the youth providing a framework through which youth matters are handled. It seeks to address pressure from the high youth population growth, inadequate and appropriate skills, unclear and uncoordinated youth policies and programs, resource constraints and low status given to youth. However, the policy and legal framework does not address youth in agriculture issues. As part of its implementation, KNYP (2019) also promises to support county governments in developing county specific youth strategies for implementing the Kenya Youth Development Policy (2019). However, this aspiration has not been realized.

The policy aligns with African Youth Charter[26], which requires that every State Party is required to develop a comprehensive and coherent Youth Development Policy. The Constitution of Kenya (2010) also makes various provisions for the youth. For instance, Article 55, requires the State to take measures, including affirmative action programs, to ensure that the youth have access to relevant education and training; opportunities to associate, be represented and participate in political, social, economic and other spheres of life; and to access productive engagement including employment and entrepreneurship.

[26] https://au.int/sites/default/files/treaties/7789-treaty-0033_-_african_youth_charter_e.pdf

d) Kenya Kwanza Manifesto (2022-2027)

The current Government recognizes the agricultural sector as crucial in contributing to food and nutrition security. Its main mantra is to employ bottom-up economics, which proposes to invest the limited available capital where it will create the most jobs – at the bottom of the pyramid. The manifesto commitments to invest Sh500b over the next five years in smallholder agriculture and the informal sector. This commitment is critical for interventions suitable for the youth participation in agriculture.

e) The Urban Areas and Cities Act No. 13 of 2011

The Urban Areas and Cities Act No. 13 of 2011 provides for integrated development planning of urban areas and cities (Section 36(1) (f)); the development of a framework for regulated urban agriculture (Section 40(1)); and the control of land use, land sub-division, land development and zoning.

Laws and regulation

a) The Nairobi City County Urban Agriculture Promotion and Regulation Act, 2015

This is an Act of the County Assembly of Nairobi City to provide for the promotion of urban agriculture within the Nairobi City County; to provide the necessary regulatory framework for the practice of agriculture in the county; to establish the Nairobi City County Urban Agriculture Promotion Advisory Board and for connected purposes.

Although the Act does not outline specific measures to be taken in order to promote urban agriculture, it is a preliminary step that calls for the Executive Committee Member of the Advisory Board to prepare a strategic plan for future agricultural programs in accordance with section 36 (1) (f) and 40 (i) of the National Urban areas and Cities Act. It also ensures that the issue of urban agriculture is included in the county's deliberations regarding urban planning, food policy, and market infrastructure.

According to the Act, urban agriculture may be carried out by means of structures that support agricultural activity, including toolsheds, greenhouses, livestock structures, fish structures, storage facilities such as silos and hay barns, produce stands, and instructional space. The ACT requires that the county government through the CECM, establishes measures to promote best practices and regulate production, processing, marketing, grading, storage, collection, transportation on and warehousing of crop and livestock products and inputs including organic waste within the County. Some of the measures envisaged in the ACT include: training and capacity building of farmers in various areas (including sustainable commercial livestock farming, animal health, disease and pest management practices, biogas and organic compost and manure production) and identifying areas for the expansion or deepening of agricultural activities in the County. Access to land is one of the key factors constraining the participation of youth in urban agriculture.

b) The County Government Act, of 2012

The County Government Act, 0f 2012, Section 103 provides for facilitating the development of a well-balanced system of settlements and ensuring productive use of scarce land, water and other resources for economic, social, ecological and other functions across a county; and maintain a viable system of green and open spaces for a functioning ecosystem.

c) The Land Control Act (Cap 302)

The Land Control Act (Cap 302) provides for controlling transaction of agricultural land. However, the minimum agricultural land that can be transacted is about one acre. In addition, the Act directs that any agricultural land in municipalities or townships must be so declared by the Minister for Lands in the Kenya Gazette. These provisions are unsupportive of UPU since smaller land parcels than these exist where intensive UPU activities are practiced.

d) The Local Government Act (Cap. 265):

The Local Government Act (Cap. 265): Local Authorities in Kenya have the power to lease, transfer or allocate land for temporary use (Section 144). Using some of these Acts, Nairobi City Council has used these powers to enact bylaws that prohibit cultivation on public streets and keeping livestock that create a nuisance. Section 155 (b) of the same Act, however, allows for agricultural and livestock undertakings and provision of services to them. In doing this, it refers to the Animal Diseases Act regarding prevention of outbreak and spread of diseases. Section 155 (c)

also provides for the planting of famine relief crops by persons to support themselves in any part of the country where there is likely to be shortage of foodstuffs.

2.7.3 Summary of domestic policies relevant to youth participation in urban agriculture

The reviewed policies recognize on one part that UPU holds great potential to improve food access and overall food security and nutrition conditions, especially among the youth, who form the bulk of the population in these areas. The review has also shown that:

i. While the UPU 's development has been constrained by weak policies, inadequate legal and regulatory framework, more recently the policy, legal and regulatory landscape has greatly changed in the recent past with enactment of a number of relevant laws and policies. However, the mere presence of such policies will not provide sufficient indications on its actual implementation, results and impacts. It will therefore be important to also assess if the policies and action plans are actually implemented by the city and other engaged stakeholders and have programmatic budgets allocated to them.

ii. The reviewed policies have identified a range of overlapping issues constraining the participation of youth in urban agriculture (such as negative perception to agricultural activities; large population of youth with inadequate skills and information; limited access to land for agribusiness and inadequate access to financial service). However, there are concerns that their framing remains broad and generic, and might therefore not speak directly to the specific challenges facing the urban youth.

iii. The Kenya Youth Development Policy (2019 proposes to support county governments to formulate county specific youth strategies, but this aspiration has yet to be realized.

iv. The existing policies have a demonstrable level of alignment with the Constitution and coherencies with other national policy imperatives and other legal frameworks. However, there are still some notable or potential areas of conflict. In order to address bottlenecks presented by planning policies, and the Urban areas and Cities Act of 2011 propose a review of the integrated development plans – which are expected to include food issues. While the National Spatial plan has been developed which recognizes agriculture as an urban land use, the physical planning and the Public Health Acts still present challenges to urban food production. Land in the city region was previously classified as commercial or industrial and while it is possible to transfer use to agricultural – the process is very slow. Similarly, the Public Health Act still consider some agricultural activities – particularly raising of livestock as presenting a 'nuisance'. In that regard, public health officers can halt certain agricultural activities (e.g. piggery, stables etc.) on the basis that they are a public nuisance or that animal waste or compost would contaminate water sources. In addition, while planning policies have been adapted to recognize urban agriculture, specific action such as spatial plans for the city and zoning regulations are lacking. In addition, the planning regulations may still not be open to innovative models of food production and distribution within city areas.

v. There are clear intentions to support urban farmers through making land and water available, capacity building of farmers through increased access to agricultural extension, protection of food safety, public health and the environment by defining environmental standards for urban agriculture. There is also a policy intention to improve the agroecology of the city by better nutrient cycling, through re-using organic wastes in urban and rural agriculture enactment of procedures to monitor positive and negative effects of urban agriculture with regard to (social, economic and environmental conditions). Such an integrated approach is critical for realizing sustainable urban food systems.

vi. The review has also identified that most of the policies in Nairobi are at early stages of implementation. Consequently, the formulation of specific operations plans and actions could benefit from experiences of other cities, such as:

- The cities of Toronto, Kampala and Cape Town have enabled access to municipal and private land for agricultural production.
- Marin County, neighboring San Francisco (USA) prohibited construction of impermeable surfaces on parts of the city with soils considered prime for agriculture.
- The cities of Kampala and Seattle adapted their building regulations to allow for rooftop gardening. In addition, the city of Tilburg in the Netherlands provides incentives to promote green roofs at residential

and non-residential buildings. Similarly, the city of Minneapolis supports affordable long-term leases on various types of land and roof tops.

- The city of Minneapolis is expanding city sponsored small business financing opportunities for agricultural producers in the city region.
- A number of cities (e.g. Amsterdam and Paris) have adopted procurement norms that give preference to buying food from small farmers in the city region.

vii. Policy mechanisms that that bring together different actors and sectors through institutional frameworks are prerequisites for successful policy implementation. In this regard, the existing legislation (NCCUAPR ACT of 2015), has established the Nairobi City County Urban Agriculture Promotion Advisory Board to enable coordination of the various actors in the food system. This is crucial in ensuring that there is a formal or informal structure that is responsible for advisory and decision-making regarding the formulation and implementation of the relevant policies in the sector. It is important to assess the functioning and effectiveness of the coordination body in terms of; meeting frequency, human and financial resources to make sure that the coordination body/mechanism functions and whether the mechanism actually results in concrete collaboration initiatives.

Section 3: Summary of findings and recommendations

3.1 Key findings

In view of agriculture being the dominant sector in Kenya, various policies seek to transform youth perception towards agribusiness; develop agribusiness skills, knowledge and information; and enhance access to enhance access to inputs, technologies and finance. This transformation should lead to greater participation of youth in agriculture. The purpose of the study was to understand the landscape of UPU agriculture among the youth in Kenya. The following are the key findings:

Initiatives in UPU

1. There is a number of programs are being implemented to promote UPU including: Urban food system project (UFSP) by Mazingira Institute; ENABLE Youth Kenya Program by National Ministry of Agriculture; Healthy Food Africa / Food System Lab by APHRC and AgriFin Accelerate Program (AFA) by Mercy Corps'. These have concentrated in low income settlements in urban areas.
2. Despite the many programs in UPU, there is less synergy and collaboration among partners leading to duplication of effort and activities. Most activities focus on the upstream interventions in production and concentrate less in marketing and value addition – where youth have a high interest.

Production

3. The complexity of land ownership and land rights makes it difficult for the youth to access productive agricultural spaces. This problem is compounded by a lack of urban planning, where there are specific spaces allocated to UPU. Partnerships for releasing land for farming by the National Government, County Government, schools and hospitals remains a viable option for increasing access to land
4. Vegetable production is the most dominant enterprise by urban youth. There is therefore need for policy support towards diversification of enterprises, including goat milk production, rabbit keeping and poultry where youth interest is high.
5. Lack of capacity and technical know-how to profitably practice new UPU systems such as vertical gardening and hydroponics.
6. The current extension services are not adequate and are not supporting many youths interested in UPU. There is an opportunity to train a large mass of lead youth farmers to support extension services. There is also a sizeable number of youth groups practicing mixed farming in the cities but lack required business planning support.
7. There are concerns about safety of food produced in spaces that are perceived to be environmentally degraded. The existing urban youth farmers lack mechanisms for assuring safety of the produce.

Product marketing and value addition

8. Urban youth depend on wholesalers or retailers in neighboring markets. Yet, field interviews revealed lack of organized arrangements to support stable supply of food products. The youth farmers relied on *ad hoc* arrangements where they would look for buyers at the point of harvest.
9. Distribution of food products in urban areas is a promising entry point for urban youth given limited access to productive land and attitudes towards practicing primary agriculture. Urban youth can be supported to engage in the distribution through provision of capital, provision of adequate space for storage and linkages to both producers and consumers.

Access to financial services

10. Kenya has a number of financial models in agriculture: direct smallholder finance models (direct provision of services to agricultural SMEs); Kilimo Biashara (based on direct smallholder lending with terms such as pegging

repayment to the crop production cycle; Indirect lending through farmer groups (wholesaler model based on lending through an aggregator organization); and savings-account linked input finance (using savings as the principal collateral to secure a loan).

11. While the share of agricultural loans in the country remains low, the amount disbursed to the youth remains insignificant. Youth face challenges in access to finance:
    - Urban youth`s financial ability leading to a mismatch of financial products that are expensive and require documentation such as collateral or guarantee that is beyond the ability of many youths.
    - Most urban youth SMES revealed not risk diversified as they are concentrated in production of vegetables, rabbit keeping or goat farming at a very small scale.
    - Urban agriculture is characterized by production of heterogeneous products of varying quality. Formal financial institutions find it costly to have personnel handling small transactions. The institutions also face high creditworthiness assessment costs with agricultural SMEs given that deep sector information is often not readily available about different enterprises.
    - Youth farmers have limited financial capability associated with limited knowledge, skills, attitudes and practices that do not translate into sound financial decisions.

Knowledge, information and technology

12. There are low staffing levels in both public and private extension service providers resulting in a high extension staff to farmer ratio. The situation is worse in UPU since many county governments are yet to recognise and harness its potential.
13. There are low levels of specialized skills and scope of knowledge for extension delivery in UPU. Majority of extension officers, who average 50 years, lack capacity to address UPU specific extension. This is compounded by inadequate institutional capacity to train extension providers and researchers in the area of UPU.
14. The extension is also hampered by outdated or unserviceable infrastructure including buildings and offices, equipment, transport facilities and ICT, making it difficult to deliver UPU.
15. While modern urban youth are skilled in ICT, the existing service has limited access to ICT hardware, software and skills for e-extension as well as deployment of agricultural extension approaches and methods that are not youth friendly.

Policy, legal and regulatory environment

16. The reviewed policies have identified a range of overlapping issues constraining the participation of youth in urban agriculture. However, there are concerns that the framing remains broad and generic, and might therefore not speak directly to the specific challenges facing the urban youth.
17. The Kenya Youth Development Policy (2019) proposes to support counties governments to formulate county specific youth strategies, but this aspiration has not been realized.
18. The existing policies have a demonstrable level of alignment with the Constitution and other national policy imperatives and other legal frameworks. However, there are still some notable areas of conflict e.g. integrating food production in urban land use, raising of livestock and, city and zoning regulations that support UPU.
19. There are clear intentions to support urban farmers through making land and water available, capacity building of farmers through increased access to agricultural extension, protection of food safety, public health and the environment by defining environmental standards for urban agriculture. Such an integrated approach is critical for realizing sustainable urban food systems.
20. The review has also identified that most of the policies in Nairobi are at early stages of implementation. Consequently, the formulation of specific operations plans and actions could benefit from experiences of other cities, such as; enabling access to municipal and private land for agricultural production, prohibiting construction of impermeable surfaces on parts of the city with soils considered prime for agriculture and regulations to allow for rooftop gardening.
21. Policy mechanisms that that bring together different actors and sectors through institutional frameworks are prerequisites for successful policy implementation. In this regard, the existing

legislation (NCCUAPR ACT of 2015), has established the Nairobi City County Urban Agriculture Promotion Advisory Board to enable coordination of the various actors in the food system. It is important to assess the functioning and effectiveness of the coordination body for supporting UPU.

3.2 Recommendations

1. The project design needs to tap into ongoing initiatives so that there is synergy with other partners. Through existing frameworks, the project can determine the entry point in terms of: geographical location, types of enterprise, nature of support and design of strategy.
2. Use of local partnerships can deliver better impact. For each of the projects implemented, there has been a network of local non-governmental organizations who have experience working in the designated urban areas. These are useful for establishing and scaling up any UPU efforts.
3. Existing projects appear to target the youth, but other aspects of gender are not prominent. An attempt has been by Mazingira to establish Women`s Hub for supporting women in UPU, but this initiative is not at scale. Moreover, field findings suggest that majority of youth groups are male. The project can mainstream normative values to ensure representation along gender, age, region
4. Arising from the urban youth in Kenya having little or no access to cultivable land. Partnerships for releasing land for farming by the National Government, County Government, schools and hospitals remains a viable option for increasing access to land.
5. Besides supporting vegetable production, there is need for support towards diversification of enterprises, including goat milk production, rabbit keeping and poultry where youth interest is high.
6. The urban youth require UPU infrastructure including: water, low-cost infrastructure, equipment or technology for sustainable abstraction.
7. There is need to build capacity and technical know-how to profitably practice new UPU systems such as vertical gardening and hydroponics.
8. Extension services need to be youth centre by training a large mass of lead youth farmers to support extension services. These youths can be trained on business planning, agribusiness, and food quality.
9. Distribution of food products in urban areas is a promising entry point for urban youth given limited access to productive land and attitudes towards practicing primary agriculture. Provision of capital, provision of adequate space for storage and linkages to both producers and consumers can increase youth participation in the downstream activities of UPU.
10. Financial service providers have some tailored products that urban youth farmers can take advantage of. However, the youth must be supported to build strong and cohesive farming groups that allow for group guarantees such as collateral for the credit. Building youth farmers can also be enhanced through savings, in the form of either savings accounts or youth savings groups. The youth also need complementary education and training services, such as financial and business education, as well as entrepreneurship training and coaching in agribusinesses. Most financial products available are less keen on value added training and mentorship.
11. Measures that support indirect financing models are encouraged. Such models allow for equipment financing and non-monetary grants. For instance, some youth groups received capital inform of dairy goats which they would nurture and surrender calves to the next designated group. Such models increase accountability and sustainability.
12. Provide an enabling environment for provision of extension by the private sector and non-state actors. APHRC`s model where local private partners supported by the County`s extension staff is a good model that can be scaled up. The county staff continuous mentoring to the groups as they set up the urban gardens and these serve as resource and learning centres for the community members
13. Promote innovative agricultural extension service provision. This may be through supporting institutions in extension curriculum review to meet emerging trends, technology and innovations. Strengthening the capacity of public tertiary institutions to offer continuous training on extension van help address shortage of extension service provision.
14. There is need address a range of overlapping policy and legal issues constraining the participation of youth in urban agriculture including integrating food production in urban land use, raising of livestock and, city and zoning regulations that support UPU.

15. There is need for the formulation of specific operations plans and actions could benefit from experiences of other cities, such as: enabling access to municipal and private land for agricultural production, prohibiting construction of impermeable surfaces on parts of the city with soils considered prime for agriculture and regulations to allow for rooftop gardening
16. Policy mechanisms that that bring together different actors and sectors through institutional frameworks are prerequisites for successful policy implementation. Thus, proposed and existing frameworks e.g. Nairobi City County Urban Agriculture Promotion Advisory Board can be strengthened.

Annexes

Annex 1: List of selected farmer demonstration/ network centres in the Nairobi region

	Name of group or farmer	Location	Description
1	Kayole Mtaa Safi Initiative	Kayole, Nairobi	• Has two gardens nurturing a variety of plants and youth are able to see vegetables • Provides agricultural raining and provision seeds, seedlings and gardening products • Supported 4 youth to undertake hydroponics course
2	Huruma town youth group in Huruma , Nairobi	Huruma, Nairobi	• Goat rearing project designed to bridge the gap of goat milk supply • practise garden in a sack technique farm produce is sold locally to the community
3	Kithekani farm	Machakos	• Family farm engaging in paw paws (600 trees); French beans and mangoes
4	Timothy Wafula`s demonstration farm	Embakasi, , Nairobi	• Training centre on planting various crops and ways of increasing yields • Offers weekly training sessions on soil analysis, pest control and general crop husbandry
5	Hillside Organic Garden (HOG)	Kabete, Kiambu	• HOG is a permaculture home garden where we carryout training and practice to people who want to start

1.3. Annex 2: Source, routes and distance covered to Nairobi for the different products

Produce type	Routes from different sources to Nairobi				
	1	2	3	4	5
Avocados	Nandi-Githurai (360km)	Kisii-Githurai (320km)	Muranga-Githurai (86km)		
Mango	Hola-Wakulima (357 km)	Meru-Wakulima (271km)	Embu-Wakulima (130km)	West Pokot-Githurai (478km)	Magadi-Wakulima (112km)
Pawpaw	Chuka-Wakulima (170km)	Tigania-Wakulima (293km)	Iganga-Wakulima (428km)		
Ripe banana	Mikinduri-Wakulima (260km)	Tharaka Nithi-Wakulima (285)	Kutus-Wakulima (121km)		
Water melon	Masinga Dam-Kangemi (151km)	Ishiara-Embu-Kangemi (130km)	Mbubuni-Kangemi (100km)		
Amaranth	Kisii-Githurai (320km)	Mwiki-Githurai (6km)	Sabasaba-Githurai (79km)	Kinare-Githurai (52km)	Muranga-Githurai (86km)
Cabbage	Muranga-Githurai (86km)	Kagio-Githurai (108km)	Limuru-Githurai (41km)	Nyandarua-Githurai (86km)	Narok-Githurai (142km)
Kales	Sabasaba-Githurai (79km)	Kinare-Githurai (52km)	Muranga-Githurai (86km)		
Night shade	Kisii-Githurai (320km)	Mwiki-Githurai (6km)			
Onions	Tanzania-Githurai/Korogocho (310km)	Nyeri-Githurai/Korogocho (151km)	Bungoma-Githurai/Korogocho (380km)	Kisii-Korogocho (326km)	Isiolo-Korogocho (273km)
Spider plant	Kisii-Githurai (320km)	Mwiki-Githurai (6km)			
Spinach	Sabasaba-Githurai(79km)	Kinare-Githurai (52km)	Muranga-Githurai (86km)		

Tomatoes	Mwea- Kutus-Githurai/ (102km)	Pangani-Githurai (15km)	Wakulima-Githurai (17.5km)	Kagio-Githurai (108km)	Loitoktok-Githurai// Kangemi (221km)

Source: JKUAT and FAO (2018)

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