



EMPOWERING YOUTH AND TRANSFORMING INNOVATIONS IN AGRICULTURE: CHALLENGES, STRATEGIES AND SOLUTION.



Empowering Youth and Transforming Innovations in Agriculture: Challenges, Strategies and Solution.

Key Highlights

Empowering youth innovations in Kenya's agriculture sector is essential, as agriculture is the backbone of the country's economy. Recently, youth-led innovations have begun transforming the agricultural sector, addressing critical issues like food security, market access, and climate resilience. Notable aspects of youth-led innovations include the use of digital platforms for market linkages, climate-smart practices, and innovative financing solutions. However, these innovations face numerous challenges, underscoring the critical need for comprehensive policy interventions. This policy brief presents strategies to empower youth innovation in agriculture and how to mitigate these challenges as we celebrate the International Youth Day 2024. The key highlights include:

1. Limited access to finances significantly hinders youth innovation in agriculture.

Only 21% of youth have access to formal financial services, which restricts their ability to invest in agricultural innovations. Financial support is crucial for implementing youth-led innovations. When financially supported, youth can establish new agribusinesses, creating employment opportunities and driving further innovations in the sector.

2. Agriculture is often perceived by youth as outdated and labor-intensive, deterring their participation.

This negative perception is fueled by minimal youth involvement and the portrayal of agriculture as providing low-income and limited economic opportunities. Addressing these perceptions through enhanced agricultural education, hands-on experiences, and linking youth to business partners can motivate youth interest and engagement in agriculture.

3. In Kenya, youth often lack vital information and education on modern agricultural practices and available opportunities, hindering their ability to innovate.

Traditional knowledge transfer in rural areas excludes modern techniques, leaving gaps in skills and industry understanding. Poor dissemination of success stories, limited access to financial information, and a lack of mentorship further restrict youth involvement. Addressing these informational gaps is crucial for empowering the youth and transforming Kenya's agricultural sector.

4. Limited land access severely restricts youth participation in agriculture. Inheritance is the main way to acquire land, posing a barrier.

In situations where land is available for purchase, it is often very expensive and beyond the financial capability of the majority of youth. Despite Kenya's 2010 Constitution's emphasis on land reforms, customary and statutory laws still limit youth access. Secure, affordable land allows youth to innovate, plan long-term, and invest in technology, driving agricultural modernization and boosting food security.



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Introduction

The agricultural sector contributes 24 percent to the national Gross Domestic Product (GDP), accounts for 60 percent of export earnings, 18 percent of formal employment, and approximately 60 percent of informal employment (MoALF, 2013). Despite this, only 10 percent of youth are directly participating in the agricultural sector out of the 70% of the total youth population (Kenya Youth Agribusiness Strategy (2017–2021)). However, in recent years, Kenya has seen a surge in youth-led innovations that are transforming the country's agricultural landscape. With a youthful population brimming with talent and innovative ideas, the agricultural sector is witnessing a wave of youth-driven advancements. These innovations are revolutionizing traditional farming practices and addressing critical issues such as food security, market access, and climate change resilience. One of the key areas where youth are making an impact is

initiative in Kenya that connects farmers to urban consumers through a mobile app, eliminating middle-men and reducing food waste **(Others see table 1)**.

Table 1: Agricultural Related Innovations

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Category	Name of Innovation	Activity
Productivity	DigiCow	DigiCow is a record-keeping app for dairy farmers that enables them to increase their profits through data-driven decision-making.
	Farmers Pride	Farmers Pride is an agricultural innovation that combines a franchise model, technology, and village youth agents to bridge inputs, services, and information gaps among rural smallholder farmers.
	Precision Agriculture development	Precision Agriculture for Development is a technological advancement reaching farmers with personalized agricultural advice through mobile phones.
	SunCulture	SunCulture develops and offers solar-powered smart irrigation systems.
	Digital Green	Digital Green is an innovation that uses a video-enabled approach to reach large numbers of smallholder farmers with agricultural extension advisory services in an adaptable, scalable, and cost-effective way.
Market Linkage	M-Shamba	It is a digital extension platform that uses interactive voice response services to transfer technologies to smallholder farmers.
	TruTrade Africa	It uses cloud-based mobile and online applications to provide smallholder farmers with a reliable route to market and fair prices for their produce.

Category	Name of Innovation	Activity
Financial inclusion	Tulaa	Tulaa is an innovation that uses mobile technology and artificial intelligence to provide smallholder farmers with quality agricultural inputs on credit and broker the sale of their crop at harvest time.
	ACRE Africa	ACRE Africa is a technological advancement which links farmers to crop, livestock, and index insurance products to shield them against unpredictable weather conditions
	Agri-Wallet	Agri-Wallet, which provides mobile cash transfers for agri-buyers and farmers
	Arifu	Arifu is a personal learning tool you can chat with on any mobile device to learn new skills and access opportunities.

**Source: Kenya Climate Smart Agriculture Project (KCSAP) (2022)[
<https://www.kcsap.go.ke/data>**

While these youth-led innovations hold immense potential, they also face challenges in terms of financial support to implement their innovations, inadequate infrastructure, and regulatory hurdles.

Youth financial inclusion in Kenya is a complex and multifaceted challenge that significantly hinders youth innovation in agriculture. Formal financial service providers often perceive lending to youth as risky due to weak financial capacity, lack of collateral, poor saving culture, minimal financial track records, and education systems that do not equip them with financial literacy. Recent research shows that only 21% of the youth had access to formal prudential and non-prudential financial services and products, which illustrates the low level of financial access among the youth (KIPPRA 2022 report). With just over one in five youths able to access formal financial services, the majority are excluded from the financial ecosystem, limiting their ability to invest in agricultural innovations, start businesses, and scale their operations.

In the budgetary allocation for the financial year 2023/24, the national government allocated a total of Ksh 49.9 billion for Agricultural Transformation and Inclusive Growth. The breakdown includes Ksh 4.5 billion for the Fertilizer Subsidy Programme, Ksh 1.4 billion for the Small Scale Irrigation and Value Addition Project, Ksh 2.1 billion for the Kenya Cereal Enhancement Programme, Ksh 2.7 billion for the National Agricultural and Rural Inclusivity Project, Ksh 8.6 billion for the National Agricultural Value Chain Development Project (NAVCDP), Ksh 2.8 billion for the Emergency Locusts Response, Ksh 1.5 billion for the Climate Smart Agricultural Productivity Project, Ksh 1.3 billion for the Enhance Resilience for Food Production and Nutrition Security Programme, Ksh 8.1 billion for Blue Economy Priority Projects, Ksh 7.5 billion for Improving Livestock Production, Ksh 350 million for the Development of the Leather Industry Park, Ksh 1.2 billion for the Processing and Registration of Title Deeds, and Ksh 893 million for the Digitization and Construction of Land Registries. Despite this extensive allocation, it is evident that there was no specific budgetary provision for youth in agriculture, highlighting a significant policy gap.

Without adequate funding, these youth innovators face significant hurdles that hinder their ability to transform their ideas into tangible solutions. The inability to access financial resources not only stifles the growth of their businesses but also limits the potential for job creation and economic development. Financial support is crucial for the successful implementation of youth-led innovations in agriculture. When financially supported, youth innovations can lead to the establishment of new agribusinesses, which in turn create employment opportunities for other youths. Shamba Pride, a youth-led organization that solves the supply chain between input manufacturers, agri-retailers, and farmers through online and offline commerce platforms, has managed to register 60,000 farmers and 2,700 agri-retailers. This ripple effect can motivate more youth to engage in the agricultural sector, driving further innovation and addressing critical issues such as food insecurity. The agricultural sector in Kenya holds the highest potential for reducing youth unemployment. As the sector continues to evolve, it is imperative to involve the youth in the agricultural sector actively



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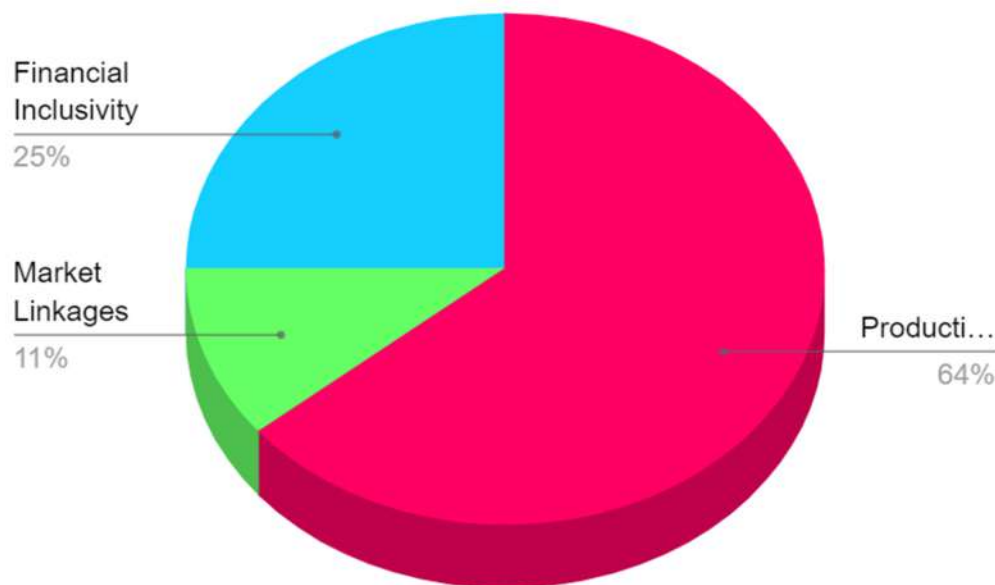
Youth innovation in Agriculture

Many Kenyan youths are driving agricultural innovations with their creativity and forward-thinking approaches, which can potentially revolutionize the sector. However, various factors still limit broader engagement. Encouraging youth participation in agriculture requires recognizing and harnessing their innovative spirit, providing opportunities to explore new technologies, and developing modern practices that can make farming more appealing and viable as a career choice.

The pie chart below illustrates the different youth-led innovations in the various agricultural value chains.

Figure 1: Number of Youth Innovation in Agriculture.

Pie Chart



Source: Kenya Climate Smart Agriculture Project (KCSAP) (2022)[<https://www.kcsap.go.ke/data>]

It is evident that the youth have the potential to transform the agricultural sector; thus, it is imperative for the relevant stakeholders to provide a supportive environment for the youth to come up with more innovative solutions.

Some of the thematic issues to address when it comes to addressing the empowerment of youth innovations in agriculture include:

Access to finance

The youth have brilliant ideas and innovations that can take the agricultural sector to the next level and solve significant challenges in the sector. However, they have limited access to financial services that can help them implement their innovative ideas and come up with viable startups. Agriculture is often considered risky by financiers due to its high vulnerability to external shocks, including extreme weather events, pest and disease outbreaks and seasonality.

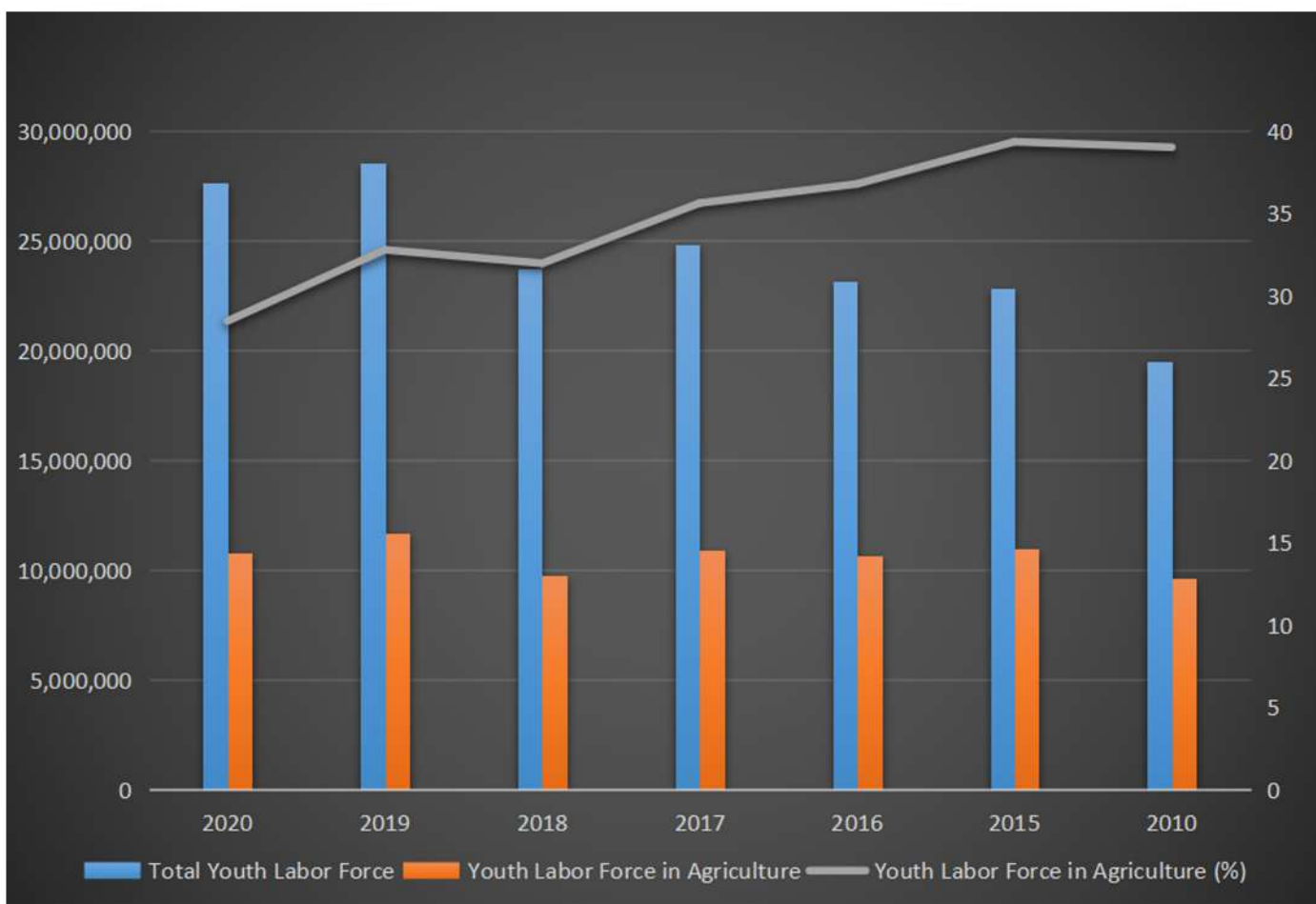
A UNDP report, 23% of youth aged 18-25 in developing countries, including Kenya, are excluded from financial services, with few financial service providers specifically targeting this demographic. This exclusion is particularly pronounced in the agricultural sector, where there is limited flexibility of bank loan products, which significantly hinders the involvement of youths. Traditional loan offerings often come with rigid repayment schedules and fixed interest rates that fail to account for the unpredictable nature of agricultural activities, such as fluctuating market prices and varied climatic conditions. These inflexible terms make it difficult for the youth to manage their cash flow and repay loans, discouraging them from seeking financing to grow their agricultural ventures.

Moreover, the youth also have limited skills that are needed to develop proposals and the techniques to pitch their innovative ideas to potential banking facilities and investors in a manner that highlights their value and potential return on investment. Without these skills, their ability to access the necessary financial resources to bring their agricultural innovation to fruition is inhibited.

Perception towards agriculture

Agriculture in Kenya is often perceived as an outdated sector by the youth, which is meant for the older generation. This belief stems from traditional agricultural practices that seem labor-intensive and unprofitable in the modern economy. This negative attitude towards this sector is fueled by several factors. One reason is the minimal involvement of youth in agricultural activities, leading to a lack of understanding of the sector's potential for improving their living standards (see Graph 1).

The elimination of agriculture as an examinable subject in primary schools and the reduction of agricultural classes for secondary school students. The ripple effects can be felt at the tertiary level, where the number of students enrolling in agricultural courses declined from 24,221 in 2017 to 18,165 in 2018 (KNBS 2018). This neglect is influencing youth cohorts to avoid it, taking away the opportunity to use youth's energy and innovative ideas to stimulate agricultural transformation and revitalize Kenya's agricultural system. Additionally, the portrayal of agricultural-related activities as difficult and meant for the older generation may discourage youth from participating in agriculture. Furthermore, the perception that agriculture provides only low-income and limited economic opportunities can also contribute to negative perceptions. It is important for policymakers to address these negative perceptions and create strategies to motivate youth's interest in agriculture. This can be done by enhancing agricultural education, providing hands-on experience, and linking youth to business partners through innovations. Thus, there is need to harness opportunities in agribusiness entrepreneurship and innovations along the value chains to improve the sectors image, increase productivity and returns to investment and provide new ' employment opportunities to attract more youth.



Source: KNBS 2020, ILOSTAT 2020, Kenya Labor Force Participation Report, 2018.



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Access to information and data

A number of youths in Kenya have limited access to crucial information that can help them not only actively participate in agriculture but also come up with more innovative solutions in this sector. Youth have limited knowledge of the existing gaps and opportunities in agriculture, which is often available through educational institutions, where they provide a structured approach to learning about modern agricultural practices and industry needs. This lack of awareness hinders their ability to identify opportunities where they can innovate and adopt new technologies that could enhance productivity and efficiency in the sector.

The Food and Agriculture Organization emphasizes that poor education, particularly in rural areas, restricts youth from acquiring essential agricultural skills (FAO, 2014). In many rural areas, agricultural knowledge and farming know-how are traditionally passed down from parents to children. However, this method of knowledge transfer often lacks the inclusion of modern techniques and innovative practices, leading to a gap in the youth's ability to develop and implement new agricultural solutions. The absence of formal agricultural education and training programs means that many youths do not receive comprehensive instruction in advanced farming methods, sustainability practices, or agribusiness management. Additionally, the potential of agriculture to significantly improve their living standards is often overlooked due to inadequate dissemination of success stories and data that highlight the sector's profitability and growth prospects.

Furthermore, information on where and how to access financial services, such as loans, grants, and investment opportunities, remains scarce. This financial illiteracy limits youth's ability to secure the necessary funding to implement and scale their innovative ideas. Lastly, limited exposure to mentors and role models is another significant barrier that hinders the empowerment of youth in agriculture. It also limits their exposure to diverse perspectives and innovative ideas that could significantly enhance their participation in agriculture. Thus, addressing these informational gaps is essential to unlocking the innovation potential of the youth in transforming Kenya's agricultural landscape.

Access to land

Limited access to land severely impedes the active participation of youth in the agricultural value chain. In a report done by the Heifer International in 2021, it was discovered that 59% of the youth who are keen on pursuing agricultural endeavors often encounter difficulties in securing land, compelling them to seek livelihoods in other sectors of the economy (KIPPR,2022). A report by FAO (2010) revealed that inheritance is still the most common system to obtain land in most developing countries as the control and accessibility of crucial agribusiness assets, such as land, pose a challenge for the youth due to the high cost involved.

Despite the progressive provisions in the 2010 Constitution of Kenya, which emphasize human rights and specifically address land reforms, challenges persist, especially in relation to customary and statutory laws across various regions and communities in Kenya, in ensuring youth's access to land as a resource for sustainable agriculture. When the youth have secure and affordable access to land, they can experiment with new farming techniques, crop varieties, and sustainable practices without the fear of displacement or financial instability. This stability encourages investment in technology and infrastructure, fostering an environment where innovative ideas can thrive. With land security, youth are more likely to engage in long-term planning, adopt advanced agricultural technologies, and contribute to increased productivity and food security, ultimately driving the transformation and modernization of the agricultural sector.



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RECOMMENDATIONS:

I.

The National Government, in partnership with County Governments, Development Partners, the Private Sector, Public Benefits Organizations (PBOs), and other stakeholders, ring-fence budgetary allocation specifically targeting youth in agriculture, distinct from the general agricultural budget. This allocation will ensure resources are directed explicitly towards initiatives that support youth innovations in agriculture. To streamline the distribution of these funds, it is important to operationalize the Agriculture Sector Working Group. This group can oversee the allocation process to ensure funds reach youth at the local level.

II.

To address the hesitation among youth in taking loans to finance their innovative ventures, it is recommended that financial institutions consider implementing incentives specifically targeted at first-time borrowers, such as offering lower interest rates and flexible repayment terms. Such incentives will encourage youth entrepreneurs to access the necessary capital for their innovations.

III.

To empower youth innovations in agriculture, it is essential to establish comprehensive training programs within educational institutions and the Agriculture Sector Working groups. These programs can focus on critical areas such as financial literacy, proposal development, and pitching techniques, which are vital for securing funding from financial institutions that require well-articulated business plans before granting loans. The trainings can also emphasize the potential of the agricultural sector to significantly contribute to Kenya's economy and GDP while simultaneously improving the living standards of the youth. By highlighting agriculture's role in economic growth, these programs can motivate youth people to view agriculture as a viable and lucrative career option. Moreover, incorporating mentorship is another key component of these training programs. Experienced mentors from the agricultural sector can provide invaluable insights and share success stories, demonstrating the tangible benefits and opportunities within agriculture. Such mentorship will not only inspire the youth but also provide them with practical advice and guidance to navigate the complexities of the sector.

IV.

The Ministry of land to initiate land policy reforms to make land access easier for youth innovation in agriculture to overcome barriers related to land ownership. One potential approach is to consider policies that involve the allocation of unused arable land to young individuals who are interested in pursuing smart agriculture.



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