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## Abstract

This paper examines the attitudes and behaviors of rural youth in Kenya towards sustainable agricultural practices. Given the critical role of agriculture in Kenya's economy and the significance of the youth demographic, understanding these attitudes and behaviours is of paramount importance. By analysing existing research, this paper identifies the key factors influencing the adoption of sustainable agricultural practices among rural youth in Kenya and highlight the potential barriers and enablers that can facilitate their engagement in sustainable farming methods. The successful engagement of youth in sustainable agriculture in Kenya requires a multifaceted approach that addresses the numerous obstacles they face while capitalizing on their unique potential and interests. Given their position at the intersection of agricultural heritage and technological modernity, strategies aimed at youth engagement must be comprehensive, culturally sensitive, and forward-thinking.

**Keywords:** *Sustainable Agricultural Practices, Rural Youth, Attitudes and Behaviours, Kenya*

## 1. Introduction

Sustainable agricultural practices refer to farming methods that aim to maintain or increase productivity, while minimizing the negative environmental impacts and promoting economic viability (Food and Agriculture Organization, 2021). These practices, which include methods such as crop rotation, organic farming, and the efficient use of water and fertilizers, have become increasingly significant as a response to the challenges of climate change, population growth, and food security (Kenya Agricultural & Livestock Research Organization, 2017). The imperative of sustainable agricultural practices is increasingly recognized as critical for the future of food security and environmental conservation. With the global population projected to reach nearly 10 billion by 2050, the pressure on agriculture to produce more food while minimizing environmental impacts is greater than ever (World Bank, 2019). As the agricultural sector evolves to meet these demands, it is essential to understand the attitudes and behaviours of those who will shape its future; the youth.

In the last decade, the global community has taken a more significant interest in sustainable farming. The adoption of these methods could drastically reduce farming's environmental impact,

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thus helping mitigate climate change and ensuring long-term food security. However, these changes largely rely on the willingness of the younger generation - the future farmers - to embrace these more sustainable and often more complex farming practices. Studies in developed countries have shown that young farmers, although not a homogenous group, generally demonstrate a positive attitude towards sustainability. They exhibit a greater readiness to adopt new technologies and are more open to innovative practices than their older counterparts are. This readiness seems to stem from a mix of environmental awareness, economic considerations, and a desire for social approval and acceptance. In countries like the United States, Canada, and parts of Europe, there is a rising interest in organic farming and permaculture among the rural youth. They are aware of their role in promoting biodiversity, reducing water usage, and minimizing the use of synthetic fertilizers and pesticides. Further, youth are keen to adopt practices such as precision agriculture, which relies on digital technology and data to make farming more efficient and less wasteful.

African countries, given their considerable agricultural potential and the centrality of agriculture to their economies, have received substantial attention in these conversations (Bello, Abdulai & Manyong, 2017). However, in these nations, like elsewhere around the world, a significant gap exists between the understanding of sustainable practices and their actual implementation on the ground. A vital factor influencing this gap is the attitudes and behaviors of the rural youth, who form a substantial proportion of the agricultural workforce (LaRue, Schmitz, Inwood, 2019). The perception that agriculture is a non-lucrative, labor-intensive profession has been identified as a significant deterrent for young people's interest in the field (Sumberg et al., 2021). A study conducted by the Food and Agriculture Organization (FAO) indicated that most African youth view agriculture as a career of the last resort, one that is tied with poverty (FAO, 2021). Yet, an increasing number of young people are recognizing the potential of agriculture as a sustainable means of livelihood when integrated with modern technology and sustainable practices. Many are willing to engage with these practices, provided they are assured of technical, financial, and infrastructural support (Bezu *et al.*, 2021).

The behaviors of rural youth towards sustainable agricultural practices are influenced by various factors. Access to resources, education, training, and the socioeconomic and cultural contexts significantly shape the youth's behavior (Proctor & Lucchesi, 2020). With limited access to land, capital, and technology, many young farmers resort to traditional, and often unsustainable, farming methods (FAO, 2021). However, there is evidence to suggest that when adequately equipped and educated about sustainable practices, the youth show increased adoption of these methods, demonstrating both adaptability and innovation (Kahane et al., 2020). Furthermore, in African countries, certain gender dynamics may also influence sustainable agriculture practices. For example, in many societies, young women may have less access to education, resources, and decision-making opportunities compared to their male counterparts (FAO, 2019). Consequently, the engagement of young women in sustainable agricultural practices may be less than that of young men, despite their significant role in agricultural production. This calls for a gender-responsive approach to promoting sustainable agriculture among the youth.

In Kenya, where a substantial portion of the rural population is engaged in farming, and the median age is quite young, the attitudes and behaviours of rural youth towards sustainable agriculture are of vital importance (IFAD, 2019). Not only does the future of the country's agricultural sector lie in their hands, but also the capacity to address many of the broader environmental and economic challenges the country faces. Kenya, a predominantly agrarian country, faces significant agricultural challenges, including periodic drought, soil degradation, and pest infestation (Wangui,

2020). These problems are further exacerbated by climate change, with rural communities being particularly vulnerable due to their heavy reliance on rain-fed agriculture (Kanyama-Phiri, Wellard & Snapp, 2017). With over 60% of the country's workforce engaged in farming activities, the significance of sustainable agricultural practices becomes even more evident. Among this farming population, the role of youth is pivotal.

Rural youth, typically defined as those aged 15 to 24 years, represent a substantial portion of Kenya's population. Despite facing numerous challenges, including limited access to land, credit, and agricultural training, rural youth embody a transformative potential for agricultural sustainability in Kenya. With the right resources and incentives, they can become the driving force behind the adoption of sustainable agricultural practices, contributing to increased productivity, improved food security, and reduced environmental degradation. However, understanding the extent to which rural youth in Kenya engage with sustainable agricultural practices requires a comprehensive examination of their attitudes and behaviours. The inclination of youth towards sustainable farming methods, their awareness and perceptions of these practices, and the behaviours they exhibit in relation to agricultural sustainability form the crux of this investigation.

This study provides a comprehensive understanding of the attitudes and behaviours of rural youth towards sustainable agricultural practices in Kenya. By doing so, informs policy, intervention design, and stakeholder actions aimed at empowering youth to play a more active role in sustainable agricultural development. Through the lens of youth, this study explores the untapped potential, opportunities, and challenges in promoting sustainable agricultural practices in Kenya's rural communities.

## 2. Sustainable Agricultural Practices

Sustainable agricultural practices (SAPs) offer a promising pathway towards mitigating environmental degradation while boosting agricultural productivity, particularly in countries like Kenya where agriculture forms the backbone of the economy (Pretty, 2018). However, the adoption and successful implementation of these practices hinge on various socio-economic and cultural factors (Knowler & Bradshaw, 2017). Understanding these determinants is especially pertinent when examining the attitudes and behaviours of rural youth in Kenya, a group with a critical role to play in the future of sustainable agriculture (White, 2020).

A significant barrier to the adoption of SAPs among Kenyan rural youth is limited access to land and other resources (Njuki et al., 2019). Traditional land tenure systems in Kenya often favour older, male members of the community, creating a significant impediment for young people who wish to adopt sustainable farming practices (Moseley & Gray, 2018). Research also points to limited access to credit and financial services, often due to a lack of collateral and perceived high-risk nature of farming among youth, as an additional challenge (Wambugu et al., 2019). Furthermore, the lack of adequate knowledge and skills about SAPs among rural youth can hinder their adoption (Kahiluoto et al., 2021). This calls for a stronger focus on agricultural education and training that specifically targets young farmers and emphasizes the importance and methods of sustainable farming (Prokopy et al., 2018). Despite these challenges, rural youth in Kenya have shown a positive attitude towards sustainable agriculture, acknowledging its potential to increase productivity and adapt to climate change (Moseley & Gray, 2018). Studies have also shown that young farmers are more likely to adopt innovative and sustainable farming techniques when they perceive them as economically beneficial (Kassie et al., 2020). Moreover, digital technology is reshaping the landscape of agriculture, with evidence showing that Kenyan rural youth are

receptive to using mobile technology for agricultural purposes (Aker, 2019). Leveraging this trend could help disseminate knowledge about SAPs and encourage their adoption among young farmers.

A shift towards sustainable agricultural practices has become increasingly critical. These practices, defined by their ability to meet the needs of the present without compromising the ability of future generations to meet their own needs, encompass a range of approaches (Ampaire, Jassogne, & Divine, 2018). This includes agroecology, conservation agriculture, organic farming, agroforestry, and more, all designed to promote environmental health, economic profitability, and social and economic equity. Despite the seeming urgency and the known benefits, the adoption of sustainable practices in Kenya is still in its infancy, often hindered by a multitude of barriers. These barriers range from a lack of awareness or understanding of sustainable practices, to more systemic issues such as limited access to credit, insufficient land tenure rights, and inadequate agricultural extension services (Valbuena, Gicheru, Erenstein, & O. Tui, 2020). Yet, amid these challenges, there is a beacon of hope - the rural youth. This demographic, often marginalized in discussions of agricultural development, has shown a growing interest in sustainable agriculture. With their inherent curiosity, eagerness to learn, and openness to new technology, the youth have the potential to drive a paradigm shift towards sustainable farming practices in Kenya.

However, understanding the attitudes and behaviours of the rural youth towards sustainable agriculture is essential to leverage this potential. This understanding forms a cornerstone for the development of tailored policies, interventions, and support systems that can encourage and empower these young individuals to become stewards of sustainable agriculture. Youth perspectives on sustainable farming are shaped by various factors, including their educational background, access to information and training, perceptions of agriculture as a livelihood, and the observed impacts of current farming practices on their environment and communities. They may view sustainable agriculture as a means of enhancing food security, protecting their environment, improving economic stability, or bolstering community resilience.

### **3. Rural Youth Engagement in Agriculture**

Engagement of rural youth in agriculture is a critical component of agricultural development, food security, and broader rural development in Kenya. Despite the significance of this topic, it has been insufficiently explored in academic literature. Current research suggests that numerous challenges and opportunities shape the attitudes and behaviors of rural youth towards agriculture. Agriculture in Kenya is predominantly small-scale, accounting for 75% of the total agricultural output and 70% of marketed agricultural products (World Bank, 2020). It also employs a large portion of the country's population, with over 60% of Kenya's workforce engaged in farming activities. However, youth participation in this sector is relatively low. This can be attributed to several interrelated factors, including lack of access to land, credit, and markets, limited agricultural training and education, as well as socio-cultural perceptions about farming (Brooks et al., 2020).

The issue of land access is particularly salient. Land ownership in Kenya is highly skewed and largely inaccessible to the youth due to cultural norms, which favor older generations and men (Deininger & Castagnini, 2019). Consequently, many young people lack the necessary land to engage in farming. Limited access to credit and financial services also represents a significant barrier. Farming is often perceived as a high-risk venture, particularly for the youth, and this leads to difficulties in securing financial services (Wambugu et al., 2019). This challenge is amplified

by the fact that most youth lack tangible collateral that they could use to secure loans. Moreover, the perception of agriculture among Kenyan youth plays a key role in their level of engagement. Many youth perceive farming as a last resort, associated with hardship and poverty (Tadele & Gella, 2020). This is compounded by the lack of knowledge and skills in modern and sustainable agricultural practices.

Rural youth engagement in agriculture in Kenya has emerged as a significant area of interest in contemporary agricultural studies and policy development, given its potential impact on the future of food security, rural livelihoods, and sustainable development (FAO, 2020). The agricultural sector in Kenya is the dominant employer, providing livelihoods to about 60% of the population, mostly in rural areas (World Bank, 2019). However, despite this potential source of employment, youth engagement in agriculture is not as high as might be expected. Youth, defined as individuals between 15 to 35 years in the Kenyan context, have been showing a decline in interest in farming due to various challenges and perceptions associated with agriculture (Sumberg et al., 2020).

One key factor affecting youth engagement in agriculture is the perception of farming as an occupation of last resort, often associated with poverty and low social status (Leavy & Hossain, 2021). The view of agriculture as a less desirable career choice compared to urban-based jobs can deter youth from actively participating in the sector. The narrative of 'farming as failure' can, therefore, be a critical deterrent to youth engagement (Tadele & Gella, 2020). Another challenge facing rural youth engagement in agriculture in Kenya is access to productive resources, particularly land. Traditional land tenure systems often marginalize youth, leaving them with little or no land to cultivate (White et al., 2020). This difficulty is compounded by a lack of access to credit and investment capital, hampering youths' ability to invest in modern, productive, and sustainable farming practices (Sumberg et al., 2020).

The issue of skills and capacity building is also a major determinant of youth engagement in agriculture. The agricultural training provided in many parts of Kenya has been found to be inadequate, outdated, and not in line with the contemporary demands of the agricultural sector (Prokopy et al., 2018). Without the proper skills and knowledge, youth may find it difficult to successfully engage in agricultural activities, particularly in terms of implementing modern, sustainable agricultural practices. While there are considerable challenges to rural youth engagement in agriculture in Kenya, there are also numerous opportunities. A multi-pronged approach that addresses issues of perception, access to resources, skills development, and the integration of technology could go a long way in boosting youth engagement in agriculture, contributing to rural development and national food security.

#### **4. Attitudes and Behaviours towards Sustainable Agricultural Practices**

Understanding the attitudes and behaviours towards Sustainable Agricultural Practices (SAPs) in Kenya is critical for promoting their adoption and success, especially among the rural youth, a demographic that holds considerable potential for shaping the future of the agricultural sector (White, 2020). Research has indicated a generally positive attitude among Kenyan farmers towards SAPs, with recognition of their potential benefits for productivity and environmental sustainability (Pretty, 2018). However, such attitudes do not always translate into corresponding behaviours due to various socio-economic barriers. This disconnect represents a significant challenge in advancing sustainable agriculture in Kenya.

Notably, research by Njuki et al., (2019) highlights that limited access to land is a considerable barrier for youth, particularly in rural areas, hindering their ability to apply sustainable farming

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practices. This constraint is closely tied to traditional land tenure systems that often favor older, male members of the community, consequently marginalizing the youth (Moseley & Gray, 2018). Such structural barriers impede the shift of positive attitudes into tangible behaviours towards SAPs.

Lack of sufficient knowledge and skills is another factor that impacts behaviour towards SAPs among rural youth (Kahiluoto et al., 2021). Despite demonstrating a willingness to engage in sustainable farming, the youth often lack the required technical know-how, underscoring the need for targeted agricultural training and education that emphasize sustainable farming practices (Prokopy et al., 2018). Evidence indicates that when Kenyan youth perceive SAPs as economically beneficial, they are more likely to adopt them (Kassie et al., 2020). This economic motivation underpins the importance of demonstrating the profitability of SAPs as part of efforts to encourage behavioural change.

In addition, the role of digital technology cannot be overlooked in influencing behaviours towards SAPs. Aker (2019) argues that Kenyan rural youth demonstrate a high receptivity towards mobile technology for agricultural purposes. The proliferation of mobile technology presents an opportunity for disseminating knowledge on SAPs and driving their adoption among young farmers.

## 5. Factors Influencing Youth Attitudes and Behaviours

Youth attitudes and behaviours in Kenya are shaped by a complex interplay of economic, socio-cultural, educational, and technological factors. Understanding these influences can inform policies and interventions aimed at fostering positive attitudes and behaviours among Kenyan youth, particularly in the realm of sustainable agricultural practices.

Economic factors undoubtedly play a significant role in shaping youth attitudes and behaviours. High levels of youth unemployment in Kenya, estimated at around 26% according to the World Bank (2019), can lead to feelings of frustration, marginalization, and disillusionment. Omondi and Ryan (2020) suggest that the lack of job opportunities contributes to risky behaviours among youth, such as involvement in illicit activities.

Moreover, socio-cultural norms and values significantly influence youth attitudes and behaviours. The intergenerational divide, where youth perspectives often conflict with traditional norms and expectations, can lead to clashes and misunderstandings (Riechers et al., 2020). Research has highlighted how parental influence, peer pressure, and social expectations shape youth behaviours, including their participation in community activities (Mugambiwa & Shava, 2018).

Education is another key determinant of youth attitudes and behaviours. Access to quality education, particularly on issues such as health, civic engagement, and sustainable development, can have a profound influence on youth attitudes (UNESCO, 2015). However, education access and quality remain significant issues in rural areas of Kenya, affecting the development of informed attitudes and behaviours (Odhiambo, 2019).

Furthermore, the advent of digital technologies and social media also significantly impacts youth behaviours and attitudes. With around 83% of Kenyan youth having access to the internet (Communications Authority of Kenya, 2021), their exposure to global ideas and trends is increasing. This exposure can influence their attitudes towards various issues, including politics, social norms, and environmental concerns (Mureithi, 2020).

## 6. Impacts of Sustainable Agricultural Practices on Rural Youth

The impacts of sustainable agricultural practices (SAPs) on rural youth in Kenya can be viewed through several lenses, including socio-economic development, environmental stewardship, and gender dynamics. Although these impacts are complex and multifaceted, overall, research suggests that SAPs can play a transformative role in improving the livelihoods of rural youth and fostering sustainable development (FAO, 2021).

Firstly, SAPs can contribute to socio-economic development among rural youth. Studies have shown that when successfully implemented, these practices can lead to increased crop yields and diversified income sources (Moseley & Gray, 2018). Moreover, the adoption of SAPs can promote entrepreneurship among young farmers, providing them with the skills and confidence needed to innovate and take calculated risks (World Bank, 2021). This not only boosts their economic well-being but also fosters a sense of autonomy and independence, important elements in youth development.

SAPs also encourage environmental stewardship. Through the adoption of SAPs, rural youth gain an understanding of the importance of preserving the environment and the role they can play in mitigating climate change (Pretty, 2018). This often leads to a shift in mindset, fostering a deeper appreciation for the environment and empowering rural youth to become environmental stewards in their communities (FAO, 2019). This empowerment can have positive ripple effects, as young farmers who adopt and promote SAPs can influence others in their community to do the same (Prokopy et al., 2018).

Gender dynamics is another important dimension to consider. While traditionally, agricultural activities have been dominated by older males, SAPs present an opportunity to challenge and shift these gender norms (Njuki et al., 2019). Involving young women in SAPs can promote gender equality and contribute to their empowerment, which is crucial for sustainable development (World Bank, 2020).

Despite these positive impacts, the adoption and scaling of SAPs among rural youth in Kenya face challenges. These include limited access to land, credit, and agricultural training, as well as perceptions about farming being a less desirable career path compared to urban jobs (FAO, 2021). Policies and interventions that address these challenges can help maximise the positive impacts of SAPs on rural youth.

## 7. Recommendations for Enhancing Youth Engagement

The successful engagement of youth in sustainable agriculture in Kenya requires a multifaceted approach that addresses the numerous obstacles they face while capitalizing on their unique potential and interests. Given their position at the intersection of agricultural heritage and technological modernity, strategies aimed at youth engagement must be comprehensive, culturally sensitive, and forward-thinking.

A key recommendation is the reform of land tenure systems to better accommodate young farmers. Land ownership often represents a significant barrier for young people wanting to engage in agriculture, with customary systems typically favouring older generations (Mathieu, 2006). Therefore, innovative approaches to land tenure and usage, such as land leasing and sharecropping arrangements, need to be considered to enhance youth access to agricultural land (IFAD, 2019).



Secondly, enhancing access to credit and financial services is vital. Traditional financial institutions often view agriculture as a high-risk sector and are reluctant to offer services, especially to young people without collateral (Odoemenem & Obinne, 2019). Microfinance initiatives and youth-focused credit schemes, such as those proposed by the Youth Enterprise Development Fund in Kenya, can alleviate these financial barriers and stimulate entrepreneurial endeavours in sustainable agriculture (Wambugu et al., 2019).

Agricultural education should also be enhanced to foster an environment conducive to learning and innovation. There is a need to integrate sustainable agricultural practices into the agricultural curriculum of schools and colleges (Prokopy et al., 2018). Additionally, extension services should be restructured to better cater to the needs of young farmers, focusing on practical skills, technology usage, and business management (Kiptot & Franzel, 2020).

Lastly, digital technology holds significant promise for youth engagement in agriculture. Kenya has seen a rise in the use of mobile technology in agriculture, with applications offering a range of services from weather forecasts to market prices (Aker, 2019). Ensuring rural youth have access to such technology and the training to use it effectively can greatly enhance their participation in sustainable farming.

Fostering youth engagement in sustainable agriculture in Kenya necessitates an understanding of their unique circumstances and aspirations. By addressing land access, financial barriers, education, and digital inclusion, there is significant potential to promote sustainable agriculture practices among Kenya's rural youth.

## 8. Conclusion

The exploration of sustainable agricultural practices (SAPs) among rural youth in Kenya offers a nuanced understanding of the opportunities and challenges present in the pursuit of sustainable agriculture. The youth, despite their inherent potential, face a myriad of barriers that impede their transition towards sustainable farming. These obstacles range from land and credit access constraints to gaps in knowledge and training about SAPs. The generally positive attitudes exhibited by the rural youth towards SAPs reveal an untapped potential that could be harnessed to expedite the transition towards sustainable farming in Kenya. Their acceptance of innovative technologies and openness to novel agricultural methods signify that they can be instrumental in the adoption and propagation of SAPs, given the appropriate resources and support.

Moreover, their eagerness to employ digital technology in agricultural practices indicates a new direction for policy interventions aimed at boosting SAP adoption. Digital tools can be instrumental in providing agricultural training, extending credit services, and facilitating access to farming resources, thus potentially overcoming some of the existing challenges.

To truly unlock the potential of rural youth in driving sustainable agriculture in Kenya, targeted efforts are required from multiple stakeholders, including policy makers, non-governmental organizations, and educational institutions. Policies should aim to ensure the youth's access to land and financial resources, and education systems should incorporate comprehensive training on SAPs in their curriculum. Digital technology can also be effectively used as a tool to reach out to the youth and engage them in sustainable farming.

The rural youth in Kenya, with their capacity for innovation and change, represent a significant hope for the future of sustainable agriculture. By creating an enabling environment and

empowering them with the necessary skills and resources, we can catalyse the much-needed transformation in Kenya's agricultural landscape.

This study also underlines the need for further research to continuously monitor and evaluate the progress of rural youth in adopting SAPs. This will enable stakeholders to make informed decisions and continually refine their strategies for promoting sustainable agriculture among Kenya's rural youth. Thus, through a collective and concerted effort, we can nurture a generation of young farmers capable of leading the way towards a more sustainable and resilient agricultural future in Kenya.

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