



UNLOCKING THE POTENTIAL OF EDUCATION AND SKILLS FOR SUPPORTING YOUTH EMPLOYMENT IN KENYA

**African Technology Policy Studies Network (ATPS)
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The African Technology Policy Studies Network (ATPS) is a transdisciplinary network of researchers, policymakers, private sector actors and the civil society promoting the generation, dissemination, use and mastery of Science, Technology and Innovations (STI) for African development, environmental sustainability and global inclusion. In collaboration with like-minded institutions, ATPS provides platforms for regional and international research and knowledge sharing in order to build Africa’s capabilities in STI policy research, policymaking and implementation for sustainable development.



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About the Project

This project was launched amid Africa’s burgeoning youth population, offering immense potential for productivity and inclusive economic growth. However, a significant portion of this demographic faces unemployment challenges exacerbated by the COVID-19 pandemic, necessitating sustainable solutions through effective policy interventions and institutional strengthening. Focusing on Ethiopia, Ghana, Kenya, Nigeria, Rwanda, Senegal, Uganda, and Zimbabwe, the initiative reviews Science, Technology, and Innovation (STI) policies to understand the current landscape, identify successes and failures, and provide evidence-based insights for decision-making in critical sectors for youth employment and wealth creation. Aligned with continental strategies such as the Agenda 2063 and initiatives such as the Mastercard Foundation’s Young Africa Works Strategy and the Afreximbank’s campaign for young people’s participation in the implementation of the African Continental Free Trade Area (AfCFTA) and youth mainstreaming in policy engagements and cross-regional dialogues among others, the project aims to inform policymaking and foster stronger linkages among stakeholders to address youth unemployment, skills development, and entrepreneurship. Through rigorous research and stakeholder engagements, the project is catalyzing evidence-based policy discussions and contributing to the formulation of effective strategies for job creation and youth empowerment across Africa.

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The African Technology Policy Studies Network (ATPS) is a transdisciplinary network of researchers, policymakers, private sector actors and civil society promoting the generation, dissemination, use and mastery of Science, Technology and Innovations (STI) for African development, environmental sustainability and global inclusion. ATPS has over 5,000 members and 3000 stakeholders in over 51 countries in 5 continents with institutional partnerships worldwide. We implement our programs through members in national chapters established in 30 countries (27 in Africa and 3 Diaspora chapters in Australia, the United States of America, and the United Kingdom). In collaboration with like-minded institutions, ATPS provides platforms for regional and international research and knowledge sharing in order to build Africa's capabilities in STI policy research, policymaking and implementation for sustainable development.

Acknowledgement

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Key Messages

- The Kenyan government acknowledges the pivotal role of Science, Technology, and Innovation (STI) in both driving economic growth and cultivating the essential human resources needed for the shift towards a knowledge-driven economy. Consequently, it has implemented a series of policies aimed at promoting STI development, along with establishing institutions, plans, and programs within key sectors. These initiatives not only foster youth employment but also contribute significantly to job creation and bolstering economic growth.
- Previous policies and frameworks, including those within the STI sector and Vision 2030, have yielded remarkable achievements in Kenya's STI landscape. These initiatives have not only propelled the nation toward its goals of technological advancement and long-term development but have also played a significant role in job creation and fostering youth employment. The heightened focus on STI has led to the cultivation of a dynamic ecosystem that nurtures young innovators and paves the way for startup ventures. Moreover, the prioritization of Science, Technology, Engineering, and Mathematics (STEM) education has equipped young individuals with pertinent skills, positioning them for success in an ever-evolving job market. However, despite these advancements, there remains a pressing need to address the skills development gap and expand opportunities further for the youth.
- In Kenya's STI landscape, both youth and women possess a range of strengths and weaknesses that impact job creation and youth employment. The youth bring valuable technological acumen to the table, introducing fresh perspectives and innovative ideas into the field. However, their limited experience, networks, and resources may hinder their progress in this regard. In contrast, women contribute diverse perspectives, resilience, and

collaborative skills to the STI sector. Nevertheless, they contend with gender inequality, underrepresentation in leadership roles, and the challenges of balancing work and societal expectations, which can affect their involvement in job creation and youth employment. Recognizing these advantages and disadvantages is vital for fostering an inclusive and supportive STI landscape that can harness the potential of youth and women. Kenya can maximize their contributions by providing equal opportunities, mentorship, resources, and supportive policies, thereby driving all-inclusive innovation, entrepreneurship, and sustainable development throughout the country.

- Kenya has made significant strides in acknowledging competencies and skills through the implementation of the Recognition for Prior Learning (RPL) Policy framework, which has a direct impact on job creation and youth employment. This achievement is further strengthened by the government's commitment to establishing a platform for recognizing and certifying a substantial portion of its population, primarily the youth. Many of these young individuals have acquired a diverse set of competencies through their experiences and have made substantial contributions to the country's economy, particularly within the informal sector known as "Jua Kali." The policy not only acknowledges their skills but also provides young people in the informal sector with opportunities to access formal education and training institutions, should they choose to enhance their skills, which further supports job creation and youth employment.

1. Introduction

The Kenyan government places a strong emphasis on Science, Technology, and Innovations (STI) to drive job creation and youth employment opportunities. Kenya's Vision 2030, a long-term development plan, aims to transform the country into a newly industrialized, middle-income nation, offering a high quality of life to all citizens in a clean and secure environment (Government of Kenya [GoK], 2008). Vision 2030 prioritizes the application of STI to boost productivity and employability among youth. Consequently, the government is actively implementing the STI policy framework to acquire, disseminate, and apply relevant STI knowledge across all sectors of the economy. Key sectors, including agriculture, energy, industry and enterprise development, digital economy, and healthcare, are heavily influenced by STI and technological innovation, with a specific focus on enhancing skills development, youth employment, and entrepreneurship in Kenya.

To achieve these goals, key stakeholders such as government ministries, departments, and agencies (MDAs), research institutions, the private sector, non-governmental organizations (NGOs), civil society organizations (CSOs), and media entities collaborate extensively. Together, they work toward the overarching objective of creating sustainable job opportunities and fostering entrepreneurship, particularly among the youth and marginalized communities.

2. Rationale for STI application in Youth Employment

STI play a pivotal role in Kenya's industrialization, economic growth, and the long-term sustainable development of the nation. Kenya's ability to excel in the global marketplace is intricately linked to its capacity to foster and effectively manage STI, particularly in the application of cutting-edge technologies across various industries and sectors (GoK, 2021). This is particularly significant in the context of empowering youth through job creation and employment opportunities. On the international front, Sustainable Development Goal 9, as outlined in the United Nations Sustainable Development Goals, underscores the imperative of amplifying investments in science and technology. This investment aims to harness the potential of innovation to tackle not only economic challenges but also environmental concerns.

Furthermore, Kenya aligns with the principles of the African Union's Agenda 2063, wherein a commitment to promoting Science, Technology, Research, and Innovation stands out. This commitment serves the dual purpose of enhancing the human capital of the nation's youth, igniting innovation-driven entrepreneurship, and ultimately paving the way for the creation of more job opportunities, particularly aimed at the youth demographic. In essence, STI holds the potential to be Kenya's transformative catalyst, unlocking a multitude of employment avenues for its youth, all while upholding the nation's international commitments and obligations.

3. Methodology

This policy brief was developed from a comprehensive study that delved into STI policies, institutions, stakeholder mapping, and an analysis of youth employment within the realm of technological innovation, skill enhancement, and entrepreneurship development. The study was conducted across seven Sub-Saharan African (SSA) countries, namely Ethiopia, Ghana, **Kenya**, Nigeria, Rwanda, Senegal, and Uganda. The study adopted a mixed-methods approach, which enabled the collection of both qualitative and quantitative data. The data-gathering process commenced with thorough desk studies of existing literature and secondary data. Subsequently, key informant interviews (KIIs) were conducted, involving 20 carefully selected respondents, to obtain primary data that encompassed both qualitative and quantitative aspects. To further enrich the dataset and cross-verify information obtained through other methods, focus group discussions (FGD) were carried out. The study engaged participants from a diverse range of stakeholder categories, including government officials and policymakers, representatives from the private sector and industry, members of civil society and non-governmental organizations (NGOs), researchers, development partners, and individuals from the media. Special attention was given to ensuring inclusivity and gender balance in the selection of respondents, with a particular focus on representing the voices of youth and other marginalized groups.

4. Major Findings

This section highlights the key policies, programmes, and institutions, opportunities, and challenges that Kenya faces in supporting youth employment.

4.1 STI Policies and Programmes Contributing to Youth Employment in Kenya

Kenya has made significant strides in recent years toward developing technological innovations in order to increase employability, entrepreneurialism, and job creation. Kenya's STI Policy and Vision 2030 have made significant efforts to engage young people and align strategies with their goals in education, training, industry, and innovation. The emphasis in education and training has been on promoting STEM education, improving technical and vocational training, and encouraging entrepreneurship. This approach recognises the significance of providing young Kenyans with the skills and knowledge required to thrive in a rapidly changing global economy.

By emphasising these areas, the policies recognise and reflect the aspirations of young people seeking relevant and practical education, as well as opportunities for self-employment and innovation. Furthermore, the strategies implemented in industry and innovation reflect young people's aspirations. The creation of incubation centers, innovation hubs, and funding mechanisms in Kenya has significantly boosted the number of entrepreneurs and innovators in the country. For instance, over the past decade, the number of startups in Kenya has more than doubled, with approximately 600 active startups currently operating in various sectors, including technology, agriculture, and healthcare. Additionally, the availability of funding and support from organizations such as the Kenya National Innovation Agency (KeNIA) has played a pivotal role. KeNIA alone has supported over 300 startups with funding and mentorship, contributing to the

growth of entrepreneurship and innovation in Kenya. Moreover, innovation hubs like the iHub in Nairobi have incubated and mentored thousands of young entrepreneurs, fostering a culture of innovation and problem-solving. These figures highlight the tangible impact of these initiatives in promoting entrepreneurship and innovation in Kenya.

Collaboration and partnerships among industry, academia, and young innovators do increase their potential and contribute to the overall growth of the country's industrial and innovative sectors. Collectively, these efforts in education, training, industry, and innovation affirm young people's engagement and demonstrate a commitment to realising their dreams within the context of STI policies and Kenya's Vision 2030. The STI Act of 2013 being the legal framework that facilitates the promotion, coordination, and regulation of the process of ST&I has contributed to laying the groundwork for Kenya to capitalize on STEM skills to help address the ticking time bomb of high youth unemployment. Investment in R&D is up to 0.78% of the country's GDP thereby paving the way for innovation development in Kenya.

STEM enrolment in Kenya's institutes of higher learning has been increasing in recent years. In 2018, there were 127,000 students enrolled in STEM programs at Kenyan universities and colleges, up from 97,000 in 2014. This represents an increase of 30% over four years (UNESCO, 2021). The high enrolment could be attributed to the increased funding that has been allocated to the Ministry of Education. Again, in the 2022/23 financial year budget, the Ministry of Education got an enormous budget of KES 544.4 billion. From the hefty budget, 121.9 billion which was 22.4% of the total budget allocated to the ministry was dedicated to research and development for the youth through programs such as Youth Employment and Vocational Training, capitation of Technical Vocational Education and Training (TVET) students, TVETs and Entrepreneurship etc.¹

¹ <https://kenyanwallstreet.com/the-allocations-and-efficiency-in-spending-on-education-has-been-increased-to-improve-outcomes-as-a-result-access-to-education-at-all-levels-has-improved-remarkably-as-evidenced-by-increased-enrolme/>

The integration of effective STI related policies, substantial R&D investments, and the promotion of STEM education are key drivers of youth employment and employability in Kenya. This comprehensive approach underscores the critical role of ST&I in addressing the issue of youth unemployment while simultaneously fostering economic growth and sustainable development. Table 1 highlights key STI-related policies and programs that support youth skill development and employment. The STI system in Kenya includes several components that are important in addressing issues concerning youth and employment.

The business sector, encompassing multinational corporations and local enterprises, drives STI development in Kenya by fostering research, innovation, and technology adoption, thereby contributing to youth employability and job creation, particularly within the thriving MSMEs, start-ups, and entrepreneurial ecosystem. Kenya's education and research systems are critical for providing young people with the necessary skills. Universities, TVET institutions, national research centres, private training centres, national Research and Education Networks, and informal training and apprenticeship programmes, are all part of this system. Universities and TVET institutions provide academic and technical education, while research centres contribute to the creation and dissemination of knowledge. Private training facilities and informal programmes offer additional opportunities for skill development. Collaboration and synergy between these educational entities have been critical in ensuring that the skills taught in the institutions are aligned with the demands of the job market, thereby increasing the employability of young people.

The universities and TVET institutions equip young people with academic and technical skills, making them better prepared for a wide range of career opportunities. National research centres contribute to knowledge creation, fostering innovation and entrepreneurship, which in turn leads to job creation. Private training centres and informal programmes provide specialized training that enhances

specific skills, addressing specific job market needs. The synergy between these entities ensures that the skills acquired are in line with industry requirements, making young people more employable and contributing to reduced youth unemployment.

Finally, Kenya's STI sector is overseen by the Ministry of Education through its agencies including the National Commission for Science, Technology, and Innovation (NACOSTI), the National Research Fund (NRF), and the Kenya National Innovation Agency (KENIA). The Ministry of Education sets policy, while NACOSTI and the NRF fund and provide oversight for research and innovation initiatives in the country. KENIA is dedicated to fostering innovation and assisting young entrepreneurs. Effective governance and coordination among these entities are critical for creating an enabling environment that encourages young people to participate and improves their employability prospects in the STI sector.

4.2 STI Institutional Frameworks Supporting Youth Employment in Kenya

Several institutions have been established in Kenya to improve youth employability, entrepreneurship, and job creation. NACOSTI is mandated to regulate and assure quality in the research and STI sector and advise the Government in matters related thereto. The Agency has been instrumental in offering scholarships extended to young people, especially women for higher skills in STEM. For instance, in 2021 NACOSTI awarded 2,031 scholarships to Kenyan youth and women. Of these, 1,415 (70%) were awarded to women and 616 (30%) were awarded to men². The Agency's work is complemented by the NRF which facilitates research for the advancement of STI through research and innovation funding and KENIA which coordinates, promotes, and regulates the National Innovation System promoting entrepreneurship and innovation across all economic sectors. The scholarships from these agencies not only provide financial support for students pursuing higher education in ST&I related fields but

² <https://www.nacosti.go.ke>

also equip them with specialized skills highly sought after in the job market, enabling access to quality education. These scholarships often require recipients to actively engage in research projects and innovative initiatives, fostering a culture of hands-on exploration and innovation. This approach not only prepares students as job seekers but empowers them to become job creators through their research contributions. Together, they have ensured that youth programs aligned with national priority sectors are funded in collaboration with line agencies. The National Youth Service (NYS) has also been at the forefront of skilling youth and providing employment opportunities where they can apply the gained skills. Since its inception in 1964, NYS has managed to train over a million youth and employed over 300,000 (GoK, 2019). However, since the new administration took office in 2022, efforts have been made to increase the intake from 10,000 to 20,000 youths annually³. This will have a compounding effect that will result in an increased number of youths being employed. Additionally, the Kenya Private Sector Alliance (KEPSA), the umbrella body for private institutions in the country has actively been engaging the government, development partners, and other relevant stakeholders on appropriate policy issues that favour innovation and economic development. It has also developed programs that have supported youth-led ventures by establishing business hubs across the country to accelerate innovative ideas to scale. Table 2 highlights some key institutions that support youth skill development and employment in Kenya.

4.3 Challenges and Opportunities for Youth Employment in Kenya

Kenya's youth unemployment crisis is exacerbated by a widespread lack of skills among this demographic group. Approximately 500,000 to 800,000 youths are estimated to enter the Kenyan job market each year. A 2015 World Bank report on unemployment in Kenya highlighted the need for the country to generate 900,000 new jobs annually between 2015 and 2025 to accommodate the substantial

³ <https://www.the-star.co.ke/news/realtime/2023-03-03-ruto-to-double-nys-recruits-from-next-year/>

influx of youth job seekers. Unfortunately, according to the Kenya Social Protection and Job Programmes Public Expenditure Review in 2018, the nation had not kept pace with job creation relative to the number of new entrants into the labour market. The review disclosed that only 826,600 jobs were established yearly from 2013 to 2017, falling short of the goal of generating 6.5 million jobs during that period, as outlined in the Third Medium Term Plan of 2018. Furthermore, over 80% of the newly created jobs were found in the informal sector, indicating that despite relatively robust economic growth, the creation of high-quality employment opportunities lagged (Onsomu et al., 2022). Most of the young job seekers are ill-equipped to meet the demands of the modern job market due to a lack of access to quality education and training programmes. The education system frequently fails to provide practical, job-related skills, leaving graduates with theoretical knowledge but little practical experience. This misalignment between acquired skills and those required by employers creates a significant barrier to youth employment. Furthermore, the rapid pace of technological advancement necessitates ongoing upskilling, which many young people find difficult to achieve due to limited resources and opportunities. As a result, the youth's lack of skills significantly limits their employability, perpetuating Kenya's cycle of unemployment and economic stagnation.

Despite the numerous successes such as promotion of innovation, alignment with Vision 2030, improved access to finance for youths and skills development that STI Act 2013 and related programmes such as *Uwezo* Fund and Youth Development Fund have had since their inception, they have also had their fair share of challenges. For instance, the government has struggled to recoup loan losses, which have resulted in high default rates. This could be attributed to recipients of the loan, such as *Uwezo* Fund, believing it was free money that they were not required to repay. The application process has also been perceived as onerous for applicants, limiting the interest of the demographic targeted for the loans. Inadequate support and

training services have also been a problem for recipients, as the fund has not provided young entrepreneurs with adequate assistance in developing the knowledge and skills required to run and expand their businesses. Furthermore, long periods of unemployment among the youth have been attributed to a mismatch between academic programs and labour market needs (Munene, 2021).

Despite the presence of institutional frameworks supporting youth employment in Kenya, they have been marred by some challenges that have hindered their efficiency. For instance, many young innovators are unaware of Kenya Industrial Property Institute (KIPI) existence. An Agency whose mandate is to implement and oversee intellectual property rights related to industrial property in the country. Their mandate revolves around the protection, promotion, and administration of industrial property rights, including patents, trademarks, industrial designs, and utility models. KIPI has failed to pronounce itself by creating awareness of what it does and being in Nairobi alone limits reach by people living in other regions far from the capital city. Although we now live in a digitally savvy world, getting appropriate feedback from the Agency has remained to be a challenge, and this has made it difficult for young people to benefit from their services.

The combination of limited job market capacity and a rapidly growing youth population creates intense competition for scarce employment positions. The informal sector, where a large proportion of the youth work, frequently lacks job security, fair wages, and access to social benefits. Furthermore, the formal job market favours experienced candidates over entry-level candidates, denying many young people the opportunity to gain valuable work experience. Systemic factors such as nepotism and corruption in the hiring process also limit youth opportunities. The lack of adequate mentorship programmes and support networks also impedes career advancements among the youth. This finding was consistent with sentiments from youth voices in the Youth Employment Kenya report (Citi Foundation,

2021). As a result, the lack of opportunities exacerbates Kenya's youth unemployment crisis, impeding both individual and national economic development.

In Kenya, the alignment between labour market trends and the demand for skills has emerged as a prominent challenge in crafting effective policy and program development. The evolving dynamics of the job market, driven by technological advancements and shifting economic landscapes, underscore the need for a responsive and forward-thinking approach. However, a gap persists in harnessing data and insights to inform these crucial decisions. As a key informant on this matter aptly noted, "Our policies often feel like they are playing catch-up with the job market. We have a wealth of untapped potential in our workforce, but without an accurate map of where the labour market is headed, we risk leaving our youth ill-prepared for emerging opportunities." This challenge stems from a lack of comprehensive and real-time labour market intelligence. Without a clear understanding of which skills are in demand, where they are needed, and how they are evolving, policy formulation and program development can easily become misaligned with the present and future needs of the job market. However, in recognizing this challenge lies a remarkable opportunity. Kenya can leverage technology and data analytics to bridge this information gap, allowing policymakers to make informed decisions that cater to the ever-changing job market landscape. By forging partnerships between the public and private sectors, research institutions, and civil society, Kenya can build a robust labour market intelligence system. This system would provide timely data on skill demand, job trends, and emerging industries, ultimately guiding policies and programs to equip the youth with the skills they need to thrive in a rapidly evolving job market.

4.4 Best Practices and Impacts of unlocking education and skills for youth employment in Kenya

Kenya has made a strong start in recognizing competencies and skills by implementing the Recognition of Prior Learning (RPL) Policy framework

(2021) as a result of the implementation of the Kenya National Qualifications Act No. 22 of 2014. The government's commitment to providing a platform for the recognition and certification of a large segment of its population, primarily youth, who have acquired various competencies through experience and have significantly contributed to the country's economy through the informal sector, colloquially known as Jua kali. Due to a lack of appropriate qualifications, this group of people has been disadvantaged in obtaining decent jobs, migrating to other regions, and pursuing further education despite possessing the necessary competencies. The RPL will help such people obtain formal qualifications that match their knowledge and skills, allowing them to find work, improve their labour mobility, and promote lifelong learning, social inclusion, and self-esteem. Kenya has also attempted to reverse gender disparities by promoting economic empowerment programs that promote gender equity. For example, the Kenya Commercial Bank (KCB) has created a 5-year program called Female-Led and Made Enterprises (FLME) that aims to fan the flame of their vision and empower them to break the glass ceiling. Among the services provided by KCB to women are tailored financing, asset acquisition, trade facilitation, and business scaling. If taken up by other private-sector stakeholders, such an intervention has the potential to change the fortunes of women, thereby creating additional employment opportunities for women and youth in the country.

Kenya's emphasis on TVET and STEM courses serves as a best practice that can be emulated across Africa. By promoting TVET and STEM education, young people are equipped with relevant and practical skills that are in high demand in today's job market. This approach not only enhances youth employability but also fosters entrepreneurship and job creation, as individuals are empowered to start their own businesses and contribute to economic growth. Also, the Digital Masterplan (2022-2032) exemplifies best practices that are highly relevant for young people. The Policy focuses on leveraging technology to drive economic growth and development. By

prioritizing digital innovation and infrastructure, Kenya is creating an enabling environment for youth engagement and entrepreneurship in the digital sector. Emulating this approach can unlock the potential of young people, as they are at the forefront of embracing digital technologies and can contribute significantly to job creation and economic transformation.

The KENIA's work in producing the Kenya Innovation Outlook can be duplicated across African countries. The Innovation Outlook Strategy (2022) demystifies the innovation system, by defining who the system is made up of and their roles. Secondly, it outlines the challenges facing the system, thirdly and most importantly it gives a set of actionable recommendations. The strategy will be beneficial to young people in a variety of ways. First, it provides an integrated framework for effective innovation governance. Surveillance tool for detecting strategic investment and economic growth opportunities; A framework for learning and feedback that identifies innovation potential, gaps, and obstacles. A tool for profiling Kenya's finest innovation practices, particularly those in the informal sector, which is sometimes disregarded by more broad global frameworks, as well as a step toward boosting Kenya's position in regional and global STI dialogues and funding mobilization. KENIA's initiatives include encouraging innovation and assisting young entrepreneurs. It allows young people to identify areas of potential growth and build innovative solutions by giving a comprehensive view of the innovation landscape, including new trends and possibilities. This strategy promotes youth-led entrepreneurship, fosters an innovative culture, and contributes to job creation and economic development.

Partnership-based initiatives have been very instrumental in bringing together expertise, resources, and networks to create significant impacts on rural youth. The partnership between TechnoServe, and Mastercard Foundation in Kenya led to the development of the Strengthening Rural Youth Development through Enterprise (STRYDE) programme. The programme recognizes the importance

of agriculture in Kenya's economy and its potential for sustainable employment and income generation. STRYDE focuses on equipping young individuals with crucial entrepreneurship and life skills, harnessing their energy and innovation to drive economic growth. TechnoServe and Mastercard Foundation aim to make agricultural employment more attractive and empower rural youth to seize economic opportunities, fostering their active participation and financial independence. These partnerships can tap into the untapped potential and create a pathway for rural youth to thrive.

Numerous opportunities emerge that Kenyan youth can seize to enhance their employment. For instance, the rapid growth of the digital economy presents a significant opportunity for increasing employment prospects among Kenyan youth, especially given the widespread lack of required skills for traditional jobs. The digital economy includes a wide range of industries, including information technology, e-commerce, digital marketing, software development, and remote work, all of which are often more accessible to young people with little formal education or specialised training. The proliferation of mobile technology and the high rate of internet connectivity have significantly reduced the barriers to entry into the digital space, allowing the youth to leverage their creativity, resourcefulness, and innate digital fluency. Furthermore, the digital economy provides a variety of flexible work arrangements, such as freelancing and remote work, which can allow young people to gain valuable experience, develop new skills, and establish a professional network. To fully realise the potential of the digital economy, investment in digital literacy programmes, vocational training, and youth-focused entrepreneurship initiatives is critical. Kenya can empower its young population with accessible employment avenues by capitalising on the growth of the digital economy, fostering economic growth, and lowering youth unemployment rates.

The expansion of Kenya's informal sector presents a potential opportunity to increase employment opportunities for the youth.

The informal sector includes a wide range of activities, such as street vending, small-scale agriculture, and microenterprises, which frequently have low entry barriers and few formal qualifications. This flexibility enables young people who may lack the necessary skills or experience for formal employment to engage in economic activities and earn money. Through the elimination of intermediaries and direct interaction with customers, the informal sector has the potential to offer better wages to the youth. By eliminating middlemen, young entrepreneurs can keep a larger portion of their earnings. Furthermore, the informal sector has the advantage of being more resilient during economic downturns, thereby providing some degree of protection and job security for the youth.

Table 1: A summary of key STI Policies, their roles and impact on skills development and youth employment in Kenya

STI Policies and Programmes	Roles in skills development and youth employment	Impact on skills development and youth employment	Remarks
<p>Vision 2030</p>	<ul style="list-style-type: none"> - Aims to create employment opportunities for young people through various strategies such as the expansion of the informal sector, the promotion of entrepreneurship and innovation, and the creation of employment opportunities in emerging sectors such as ICT, tourism, and manufacturing. 	<ul style="list-style-type: none"> - Prioritized investment in education and skills development, increasing the number of tertiary education institutions and technical training centres across the country. For instance, currently, there are 70 universities and 2301 TVETs. - Promoted the establishment of Special Economic Zones and the development of infrastructure such as roads, railways, and ports which have attracted investment and created job opportunities for young people. 	<ul style="list-style-type: none"> - An effective monitoring and evaluation mechanism to track progress in skills development and youth employment should be established. - More attention should be accorded to emerging sectors such as ICT, tourism, and manufacturing that can offer decent jobs to youth.
<p>Science, Technology and Innovation Act of 2013</p>	<ul style="list-style-type: none"> - Enables the creation of job opportunities for young people through the promotion of innovation and the development of new industries. 	<ul style="list-style-type: none"> - Created a conducive environment for innovation and research, which has led to the development of new technologies and the improvement of existing ones. - Encouraged collaboration between universities, research institutions, 	<ul style="list-style-type: none"> - More investment should be put in infrastructure that promotes access to technology, particularly in rural areas, to ensure that youth have the tools they need to develop the skills required in the job market.

	<ul style="list-style-type: none"> - Aids the development of skills needed in the job market through the support of research and development activities. - Enables improvement of the competitiveness of Kenyan businesses by promoting the use of technology and innovation which has helped create new markets and increase the demand for skilled workers. 	<p>and the private sector, which has led to the transfer of knowledge and skills from academia to industry.</p>	<ul style="list-style-type: none"> - The enactment of the STI Policy should be hastened.
<p>The Big Four Agenda</p>	<ul style="list-style-type: none"> - Creates opportunities for skills development, particularly in technical and vocational fields. - Creates employment opportunities for young people in the four key sectors, which can help to reduce unemployment and improve livelihoods. 	<ul style="list-style-type: none"> - Prioritized the development of skills and the creation of job opportunities for young people in the manufacturing sector, particularly through the development of the Special Economic Zones (SEZs) and the establishment of the Kenya Industrial Transformation Programme. 	<ul style="list-style-type: none"> - More investment should be put towards quality education, particularly in technical and vocational fields that align with the needs of the job market.

		<ul style="list-style-type: none"> - Prioritized skills development in the healthcare sector, particularly through the expansion of training opportunities for healthcare workers. - Created over 100,000 new jobs. 	
<p>Kenya Youth Development Policy of 2019</p>	<ul style="list-style-type: none"> - Calls for the development of innovative and accessible training programs that cater to the needs of different groups of young people. - Creates an enabling environment that promotes the growth of businesses and industries that can provide job opportunities for youth by encouraging entrepreneurship and self-employment. 	<ul style="list-style-type: none"> - Prioritizes the promotion of entrepreneurship among young people, particularly through the establishment of the YEDF which has disbursed over Ksh 1 billion. - Over 69,000 job opportunities created for young people through initiatives such as the National Industrial Training Authority (NITA) apprenticeship and KYEOP. 	<ul style="list-style-type: none"> - Create more job opportunities and provide training and mentorship for young people. - More investment in infrastructure such as roads, electricity, and internet connectivity need to be revamped to create an environment that is conducive to business growth and job creation.
<p>Micro and Small Enterprise Act of 2012</p>	<ul style="list-style-type: none"> - Created job opportunities for youth in the informal sector. -Facilitated the development of skills among young 	<ul style="list-style-type: none"> - Established the Micro and Small Enterprise Fund (MSEF) to provide financial support to micro and small enterprises, particularly those owned by young people. The MSEF 	<ul style="list-style-type: none"> - Improve access to markets for micro and small enterprises, including through the establishment of market linkages and the development of e-commerce platforms.

	<p>entrepreneurs by providing training and advisory services, which has enabled them to improve the quality of their products and services and compete effectively in the market.</p>	<p>enabling them to start and grow their own businesses. For instance, YEDF has provided over USD 100 million to over 500,000 youth-owned enterprises since its inception in 2006.</p> <ul style="list-style-type: none"> - Over 500,000 young people have benefitted from its training and mentorship programmes, while the MSEF has disbursed over Ksh 20 billion to support the establishment and growth of youth-owned businesses. 	<ul style="list-style-type: none"> - Business development service centres should be well-equipped and staffed with qualified personnel to provide effective support.
<p>Uwezo Fund</p>	<ul style="list-style-type: none"> - Provides interest-free loans, to women and youth. 	<ul style="list-style-type: none"> - Approximately 1.7 million young people and women have benefitted from the fund's training and mentorship programmes, and over Ksh 11.6 billion has been disbursed to support the establishment and growth of youth-owned businesses. 	<ul style="list-style-type: none"> - Better monitoring and evaluation mechanisms to ensure that the funds are being used appropriately and effectively. - Provide a more comprehensive capacity building and mentorship to the beneficiaries to enhance their business skills and increase their chances of success.
<p>Access to Government Procurement Opportunities (AGPO)</p>	<ul style="list-style-type: none"> - Has made it mandatory for 30% of government tenders be set aside for youth, women, and persons with disabilities. 	<ul style="list-style-type: none"> - Over Ksh 90 billion worth of government contracts have been awarded to youth and women-owned businesses since the policy's inception. 	<ul style="list-style-type: none"> - Support and train the target groups to enhance their skills and capacity to participate effectively in government procurement. - Swiftly address the issue of delayed payments for SMEs participating in government tenders.

Table 2: Summary of key institutions, their roles and impact on youth employment in Kenya

STI Institutions	STI Institutions Roles in skills development and youth employment	Impacts on skills development and youth employment
<p>Government: Ministries, Agencies and Departments (MDAs)</p> <p>Ministry of Education</p>	<ul style="list-style-type: none"> - Create policies and programs that facilitate the development of an education system that produces competent, skilled, and knowledgeable graduates who can succeed in the global job market. 	<ul style="list-style-type: none"> - Contributed to the improvement in the quality of education in the country. - Promoted vocational and tertiary education and training by licencing and chartering institutions that have applied. Currently, Kenya boasts of 70 universities and 2301 TVETs. - Collaborated with other government agencies, private sector organizations, and development partners to create job opportunities for young people. This has been achieved through initiatives such as the Youth Enterprise Development Fund and the National Youth Service. For instance, NYS has trained over 1 million young people and employed over 300,000 youth since its inception in 1964.
<p>National Commission for Science, Technology & Innovation (NACOSTI)</p>	<ul style="list-style-type: none"> - Funds research and innovation projects that have the potential to address challenges facing the country. 	<ul style="list-style-type: none"> - Promotes innovation and entrepreneurship through developing innovative ideas and technologies that have the potential to create jobs and improve the country's economy. - Through the provision of grants, many youths have been supported to start and grow their businesses. - Provides accreditation to 22 institutions of higher learning offering courses in STI. This ensures youth are properly skilled in line with the labour market.
<p>Kenya Industrial Property Institute (KIPI)</p>	<ul style="list-style-type: none"> - Encourages young people to invest in research, development, and innovation by providing services such as patent, trademark, and copyright registration to 	<ul style="list-style-type: none"> - Provides SMEs with access to technical resources that can help them to protect their intellectual property and grow their businesses.

	<p>trademark, and copyright registration to innovators, entrepreneurs, and creative artists.</p> <ul style="list-style-type: none"> - Provides information, training, and support to entrepreneurs, especially young people, on how to protect their intellectual property and commercialize their ideas. 	
Private Sector		
Kenya Private Sector Alliance (KEPSA)	<ul style="list-style-type: none"> - Provides training, mentorship, and networking opportunities to young entrepreneurs to enhance their business management skills and expand their networks. - Advocate for policies and reforms that promote youth employment. - Works closely with the government to identify policy gaps that hinder private sector growth and job creation. 	<ul style="list-style-type: none"> - Numerous partnerships and collaborations with various stakeholders have opened doors to young people to obtain access to various resources such as financing, training, and mentorship, which can help them to start and grow successful businesses. For instance, through Kenya Youth Employment & Entrepreneurship Accelerator Program 1 million jobs and entrepreneurship opportunities for youth and women in the private sector between 2023-2027 will be created.
ILab Africa	<ul style="list-style-type: none"> - Provides training and mentorship programs for young people in technology-related fields. - Offers incubation and acceleration programs to support young entrepreneurs and innovators in developing and scaling their businesses. 	<ul style="list-style-type: none"> - Conducts research in areas such as agriculture, health, and education, among others, to develop innovative solutions that can address social and economic challenges facing Africa.

Civil Society Organizations (CSO's)/ Non-Governmental Organisation (NGOs)		
Green Belt Movement	<ul style="list-style-type: none"> - Provision of training and mentorship programs in environmental conservation and sustainable development. - Works closely with local communities to identify and address social and economic challenges through sustainable environmental practices 	<ul style="list-style-type: none"> - Works with government agencies, civil society organizations, and the private sector to promote environmental conservation and sustainable development by providing various resources such as financing, training, and mentorship.
Kenya Climate Innovation Centre (KCIC)	<ul style="list-style-type: none"> - Provides education on green technologies, renewable energy, and climate-smart agriculture to equip young people with the skills needed to develop innovative solutions to climate change challenges. - Offers incubation and acceleration programs to support young entrepreneurs and innovators in developing and scaling their businesses. 	<ul style="list-style-type: none"> - Works with government agencies, civil society organizations, and the private sector to promote climate innovation and entrepreneurship.
Development Partners		
United Nations Educational, Scientific and Cultural Organization (UNESCO)	<ul style="list-style-type: none"> - Contributes to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication, and information. 	<ul style="list-style-type: none"> - Through the Youth Mobile Initiative, some youth have been trained and mentored on mobile application development. - Works with the Kenyan government and other stakeholders to improve the quality and relevance of TVET programs, and to ensure that young people have access to the skills training they need to succeed in the labour market.

5. Conclusion

Kenya has STI policies such as the STI Act 2013, Vision 2030, Big Four Agenda etc (Table 1) and institutions that have promoted innovation development to enhance employability, entrepreneurship, and job creation. Whereas many best practices have emerged from the policies and institutions in place, some challenges have also come up that have negatively impacted youth employment and entrepreneurship opportunities in the country. To address the challenges, some policy recommendations have been suggested in the section below.

6. Policy Recommendations

To enhance skills development, youth employment, and entrepreneurship in Kenya, the following policy recommendations are proffered.

Recommendation 1: Learning institutions should apply a holistic approach in their pedagogy to enhance skills development among youth: The Ministry of Education, in collaboration with learning institutions' leadership, should adopt a comprehensive approach to skills development. This entails broadening the curriculum focus to include essential soft skills like entrepreneurship, effective communication, problem-solving, relationship-building, and time management in TVET and tertiary education programs. The rebalancing of curricula to emphasize both technical and soft skills will reduce barriers to employment. To achieve this, partnerships with the private sector, NGOs, development partners, and individuals should be fostered to provide training and mentorship in these vital skills. This holistic strategy will better equip youth for the job market, promoting job creation and improving their employability.

Recommendation 2: The Recognition of Prior Learning Policy Framework across the country should be aggrandized to promote its awareness and uptake: There is currently insufficient national awareness of the RPL Policy Framework, its processes, and methodologies, particularly among those with limited formal education. To maximize the intended impact, the government should launch a serious campaign to promote RPL in all 47 counties in Kenya. While doing so, it would be beneficial if the government could reduce the high costs associated with obtaining RPL, particularly among young people working in the Juakali sector. Civil societies can also pull their weight by organizing public events, workshops, and information sessions targeting both individuals and employers to raise awareness about the value and benefits of RPL. Additionally, they can also

collaborate with educational institutions and employers to develop and implement RPL policies and practices that recognize and validate prior learning. Addressing the high cost will immediately improve the fortunes of many young people who are currently unemployed or are being paid far too little for their abilities due to a lack of recognized certification.

Recommendation 3: Conduct regular in-depth research on Kenyan labour market trends and demand for skills to guide policy formulation and program development: Research institutions, NGOs, and Think tanks can play a major role in contributing to the development of policies and programmes that can help mitigate the high youth unemployment by providing the required evidence. These institutions can evaluate the effectiveness of existing youth employment initiatives, identify gaps, and recommend evidence-based strategies for creating more jobs, especially for the youth. These studies can be supported by the development partners up to the end of the value chain by providing resources for sub-granting youth who are very innovative or have Proof of Concepts. Sharing research findings with relevant stakeholders such as government, private sector, and development partners will contribute to informed decision-making such as giving development partners a clear path of where to prioritize their investments, especially in sectors with high youth employment potential, such as agriculture, renewable energy, and information technology. The government through its MDAs can direct curriculum changes that can accommodate the findings of regular research. The Ministry of Trade, Investments and Industry can use the research findings to develop appropriate policies that support the growth of emerging industries and sectors.

Recommendation 4: Need to invest in the modernization of TVET infrastructure: Investing in the modernization of TVET infrastructure in Kenya is crucial for addressing the country's obsolete infrastructure and supporting relevant skills training. Development partners and the private sector can support the government in upgrading TVET

facilities. This will support the goal of meeting the demand for skilled labour, bridge the gap between theoretical and practical knowledge, foster innovation, and entrepreneurship, and improve the sector's reputation. Modernized infrastructure will provide young people with up-to-date technical skills, enhance their employability, and contribute to economic growth by providing industries with a skilled workforce. State-of-the-art facilities will offer hands-on training, experiential learning, and access to cutting-edge technology, preparing students for real-world work environments and encouraging innovation and entrepreneurial initiatives. Priority should be given to TVET infrastructure modernization as a pathway to empowering youth, promoting national development, and securing a prosperous future.

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