



USING SCIENCE, TECHNOLOGY, AND INNOVATION TO ENHANCE SKILLS DEVELOPMENT, JOB CREATION, AND ENTREPRENEURSHIP IN ZIMBABWE

**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.

About Africa Technology Policy Studies Network (ATPS)

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 STI for African development, environmental sustainability and global inclusion. ATPS has over 5,000 members and 3,000 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 government of Zimbabwe recognises the important role of Science Technology, and Innovation (STI) in stimulating economic growth through the provision of skills, enabling technological innovation and enhancing entrepreneurship hence creating jobs for the youth and marginalised groups. It has therefore enacted policies and established institutions to ensure STI development and mainstreaming across all priority sectors.
- Zimbabwe just like other developing countries has high unemployment rates, particularly among young people. This is partially due to overreliance on traditional sectors of the economy such as agriculture which can only absorb a small proportion of the growing youth population. Increasing access to quality education and training, particularly in rural areas can unlock the potential of the youth to develop the skills and knowledge needed to succeed in the modern economy.
- Regional collaboration especially with Common Market for Eastern and Southern Africa (COMESA), in hosting Innovation Awards, has directly enhanced the recognition and support of young entrepreneurs in Zimbabwe and has led to the attraction of foreign investors irrespective of the implementation of the rather controversial empowerment and indigenisation policies.
- The Zimbabwean economy is predominantly informal, accounting for more than 60% of total GDP. By streamlining the process of registering a firm, lowering taxes on small businesses, and providing incentives to companies that hire young people, the government can diversify the economy and allow more contributions from young entrepreneurs. This will also assist in lowering bureaucratic hurdles to entrepreneurship, encouraging experimentation and innovation, and eventually expanding possibilities for youth and marginalized populations.

1. Introduction

Zimbabwe has a population of approximately 15 million¹ people. The overall unemployment rate is currently 5.3% and is projected to trend around 5.5% in 2023 and 5.6% in 2024². The country has implemented several economic blueprints aimed at promoting sustainable economic growth, employment, wealth creation, national development and poverty alleviation, albeit achieving subpar results. It has over the years failed to achieve sustainable economic growth, and the macroeconomic environment has largely been volatile (Ministry of Finance and Economic Development, 2019), with severe socio-economic challenges like unemployment, poverty, poor service delivery in urban areas and high inflation among many others. Cognizant of the failures of the past blueprints, the government, under the new dispensation sought to deal with the many economic challenges that have bedevilled the country by coming up with the Transitional Stabilization Program (TSP) that ran from October 2018 to December 2020. The TSP was deeply rooted in austerity measures as a means to achieving macroeconomic and financial stability which are undoubtedly prerequisites for sustainable economic development. Notable achievements of the TSP include fiscal consolidation, external sector balance and exchange rate stability. However, the program failed to achieve economic growth rates of above 5% and failed to address the everyday socioeconomic challenges faced by citizens.

Building from the TSP and taking note of its failures, the Government launched the National Development Strategy 1 (NDS1) in November 2020 which was to run from January 2021 to 2025 under the theme “Towards a Prosperous and Empowered Upper Middle-Income Society by 2030.”

¹ <https://www.macrotrends.net/countries/ZWE/zimbabwe/population>

² <https://tradingeconomics.com/zimbabwe/unemployment-rate#:~:text=Unemployment%20Rate%20in%20Zimbabwe%20is,macro%20models%20and%20analysts%20expectations>

The NDS1 is aimed at realising the country's Vision 2030 which sets priority on economic growth and stability, food and nutrition stability, governance, human capital development, housing delivery, health and well-being, and devolution among others. To achieve this, the government has enacted other support policies including Zimbabwe's second policy on Science and Technology of 2012 which incorporates Innovation to underscore the general expectation that activities and products of innovative nature have a strong likelihood of success in enhancing job creation and subsequently socioeconomic development, especially among the youth and marginalised groups. Other policies and institutions that have been developed and implemented are discussed in this document.

2. Rationale for STI application for skills development and youth employment

The overall unemployment rate in Zimbabwe was 5.42 million in 2020, while the rate of youth unemployment was 33.5%, highlighting the need for innovative approaches to address the issue (Zimbabwe National Statistics Agency [ZIMSTAT], 2020). There is a growing proportion of youth lacking basic work skills which correlates to unprecedented levels of young people who are out of work or underemployed. The lack of job opportunities is due to the country's struggling economy, which has been characterized by low growth and high inflation rates. Limited foreign investment, inadequate infrastructure, and political instability are some of the other factors contributing to the economic challenges. The quality of education and training is a significant challenge including inadequate funding, limited access to education, and insufficient infrastructure.

In addition, the mismatch between the skills acquired by graduates and those required by employers is a significant concern, as it limits young people's employability. Access to finance is also a significant challenge for young people in the country, limiting their ability to start businesses or pursue entrepreneurship. The country's banking sector is characterized by limited credit availability and high lending rates, making it difficult for young entrepreneurs to access finance (Reserve Bank of Zimbabwe, 2020). Discrimination and inequality in the job market are prevalent, with young people from disadvantaged backgrounds being the most affected. Women and rural youth face higher rates of unemployment and underemployment. Discrimination based on social status, ethnicity, and gender is also a significant concern (International Labour Organization [ILO], 2020a). It is hoped that Science Technology and Innovation (STI) can significantly reduce these challenges by providing systems that

can minimise discrimination and increase access to training and education. The government needs to prioritize investment in skills development, entrepreneurship, and innovation to address the challenges facing young people. These efforts will cut down the emigration of young people to other countries in search of better opportunities, contributing to a “brain drain” phenomenon.

3. Methodology

This policy brief was developed from a study on STI policies and institutions and stakeholder mapping and analysis for technological innovation, skills development, youth employment and entrepreneurship that was conducted in seven sub-Saharan African (SSA) countries including Rwanda. Both qualitative and quantitative data were collected through desk studies, key informant interviews, online surveys as well as focus group discussions. The respondents were drawn from five stakeholder categories (Government/Policy makers, Private sector/industry, Civil Society/NGOs, Research and Development Partners/Media). The respondents were selected carefully to ensure inclusivity and gender balance to ensure that youth and other marginalised groups' voices were also included.

4. Major Findings

The findings of the study in Zimbabwe are discussed below. The STI policies, institutions, best practices, challenges and opportunities for skills development, youth employment and entrepreneurship are highlighted.

4.1 STI Policies and Programmes for Youth Employment in Zimbabwe

The NDS1 recognizes the importance of technological innovation in driving economic growth and development. It aims to leverage digital technologies to enhance efficiency and productivity in various sectors of the economy, including agriculture, health, education, and finance. To achieve this, the government has prioritized investment in digital infrastructure, including broadband networks and data centres, and the establishment of a digital economy policy to guide the development of the sector. As of 2022, Zimbabwe's mobile phone penetration rate was 86%, and the country had 7.7 million internet users, indicating progress towards achieving the strategy's goals for digital infrastructure. NDS1 prioritizes investment in human capital development through education and skills training to improve employability. The strategy aims to equip young people with relevant skills that are in demand in the labour market, with a particular focus on TVETs. To this end, the government has made significant investments in the expansion of TVET institutions to provide relevant skills training for young people (USAID, 2018). For example, the Harare Institute of Technology has been established to provide training in areas such as engineering, information and communication technology, and biotechnology (Chikowore, 2019).

The Zimbabwean government has established several initiatives to promote entrepreneurship and innovation among young people, including the Zimbabwe Youth Council and the Youth Empowerment and Transformation Trust (YETT) (UNCTAD, 2017). The YETT provides business training, mentorship, and funding for young

entrepreneurs, while the Zimbabwe Youth Council supports the development of youth-led businesses and startups (UNCTAD, 2017). STI implementation has led to investment in the development of renewable energy sources, such as solar and hydropower, to create job opportunities and promote sustainable economic growth (African Development Bank [AfDB], 2021). The use of STI in the development of these industries can help to attract investment and create high-skilled job opportunities.

Several policies and programmes have been enacted and launched respectively to facilitate these. For instance, the government launched the Youth Employment Scheme (YES) to provide youth with job opportunities in various sectors of the economy. Through these initiatives, the government has been creating an enabling environment for entrepreneurship by providing access to finance, improving the ease of doing business, and promoting innovation and creativity. It has established a National Venture Fund to provide seed capital to start-ups and SMEs and a One-Stop Shop Investment Center to facilitate investment in the country. Zimbabwe's second policy on Science and Technology Policy of 2012, responds to the country's challenges and seeks to exploit its wide range of natural resources. It calls for STI to be an active component of all national developmental efforts in order to speed up the process. The policy aims to create a conducive environment for scientific research and innovation, foster the commercialization of research outputs, and increase the use of technology in various sectors of the economy.

The Zimbabwe National Education Policy of 2018 outlines the government's priorities and goals for improving access to education and the quality of education in the country while the Zimbabwe ICT Policy of 2016 outlines the government's strategy for the development of the ICT sector by improving access to technology for all citizens, and leverages ICT to drive economic and social development in the country. The Zimbabwe Industrial Development Policy (2012-2016) was enacted to improve the economy of the

country by supporting the SME sector. The IDP was the government's blueprint that brought up some positive results which included an increase in the number of SMEs established and the involvement of Black people in entrepreneurship programmes. The Indigenization and Empowerment Policy (IEP) of 2008 on the other hand, aimed at promoting the transfer of ownership and control of key industries and resources from foreign to local ownership, to empower Zimbabweans and promote economic independence. The policy required that foreign-owned companies operating in Zimbabwe transfer a minimum of 51% of their shares to local black Zimbabweans, with the government having the power to enforce this requirement.

The Zimbabwe National Employment Policy Framework (ZiNEPF) of 2013 aims to provide policy guidance on the development and implementation of programs and initiatives aimed at increasing employment opportunities and promoting decent work for all citizens, with a particular focus on youth and women. The National Youth Policy of 2000 seeks to 'empower the youth by creating an enabling environment and marshalling the resources necessary for undertaking programmes and projects to fully develop the youths' mental, moral, social, economic, political, cultural, spiritual and physical potential in order to improve their quality of life while the Youth Employment Policy of 2016 aimed at addressing the high levels of unemployment among young people in the country by providing them with the skills, knowledge, and opportunities they need to participate in the formal economy and secure decent work. It addresses the structural barriers that prevent young people from entering the workforce, such as a lack of relevant skills, limited access to finance, and discrimination in the workplace. The Youth Employment, Entrepreneurship and Empowerment Program (YEEEP) was also launched in 2016 to empower young people by providing training, mentorship, and funding to young entrepreneurs, resulting in the creation of new businesses and jobs. As of 2019, the program had trained over 21,000 young entrepreneurs and provided funding to over 3,500 businesses, resulting in the creation of over 18,000 jobs

(Zimbabwe Youth Council, 2019). The Youth STI Entrepreneurship Support Program (YSESIP) is a government-funded program that provides training and skills development opportunities to youth who are interested in starting or growing STI businesses. The program has supported over 1,000 youth entrepreneurs, and it is estimated that it has created over 500 jobs.

The Public Works Program was launched in 2018 to provide temporary employment opportunities to vulnerable groups, such as the elderly, women, and youth. The program focuses on infrastructure development and maintenance, such as road construction and rehabilitation, resulting in increased employment opportunities. The program created over 13,000 temporary jobs in the construction and rehabilitation of infrastructure such as roads, bridges, and schools, benefiting vulnerable groups such as women, youth, and people with disabilities (ILO, 2020b). The other critical programme is the SMEs and Cooperatives Development established in 2018 to support the growth of SMEs and cooperatives by providing training, mentorship, and funding, resulting in the creation of new businesses and jobs. The program supported over 1,500 SMEs and cooperatives, resulting in the creation of over 5,000 jobs. National Employment Creation Fund was established in 2020 to provide funding to businesses and projects that create jobs. It provides loans at low-interest rates to businesses and projects that demonstrate job creation potential. According to a 2020 report by the African Development Bank (AfDB, 2020), the fund has provided funding to over 60 businesses and projects, resulting in the creation of over 2,000 jobs in sectors such as agribusiness, manufacturing, and tourism. Some of the other key STI policies, strategies and programmes have been highlighted in Table 1.

4.2 STI institutional framework for youth employment in Zimbabwe

Several key institutions in Zimbabwe support technological innovation, entrepreneurship, skills development, and job creation. The Ministry of Higher and Tertiary Education, Innovation, Science

and Technology Development (MHTEISTD) is responsible for providing policy guidance and direction for the development of science, technology, and innovation in Zimbabwe. The Zimbabwe Innovation and Technology Development Centre (ZITDC) is a government-owned institution that provides support to SMEs in the technology and innovation sectors, including training, mentorship, and access to finance. Zimbabwe Council for Higher Education (ZIMCHE) is a statutory body that is responsible for the development, coordination, and regulation of higher education in Zimbabwe. It promotes the development of STI through research and training programs. The Zimbabwe National Innovation Agency (ZINA) is a government agency that promotes innovation and entrepreneurship in Zimbabwe. The ZINA has supported several STI projects that have created jobs for youth, including the development of a mobile app that helps farmers sell their produce and the development of a new type of solar panel that is more affordable and efficient.

The Research Council of Zimbabwe (RCZ) is a government agency responsible for promoting and supporting research and development activities. It was established in 1980 to provide a national framework for research and development, to promote sustainable economic growth and social development. The Council provides funding for research projects, supports training and capacity building for researchers, and provides a platform for the dissemination of research findings. It works with a range of partners, including universities, research institutions, government agencies, and the private sector, to promote research and development activities in Zimbabwe. The Council also provides advice and guidance to the government on research and development policies and programs. The other critical institutions working with the government in the STI sector are the Zimbabwe Academy of Sciences (ZAS), Zimbabwe Association of Research and Development (ZARD), Small Enterprise Development Corporation (SEDCO) and Venture Capital Company of Zimbabwe (VCCZ) among others playing various roles with different power and influence.

The Zimbabwe Youth Innovation Hub (ZYIH) is a non-profit organization that provides training and skills development opportunities to youth in the areas of ICT, entrepreneurship, and social entrepreneurship. The ZYIH has supported over 1,000 youth, and it is estimated that it has created over 100 jobs. Some of the key institutions, roles and impacts on youth employment are highlighted in Table 2.

4.3 Challenges and Opportunities for Youth Employment in Zimbabwe

The implementation of STI for technological innovation, skills development, entrepreneurship, and job creation for the youth has not been without challenges in Zimbabwe. Although the government has tried to put in place policies to support SMEs, it has failed to fund research and promote technological innovation efforts and has had a low commitment to support its policies. The rationale to support small businesses is that they have shown resilience and continued to operate and held on in sustaining livelihoods and the economy when the bigger corporates were in distress and most of them closed down businesses due to economic challenges. Poor coordination and management of key actors in the STI ecosystem have resulted in a fragmented and under-supported STI ecosystem.

One of the main issues is poor communication and coordination among government agencies, universities, research institutions, and private sector organizations. This has led to duplication of efforts and a lack of alignment in the development and implementation of STI policies and programs, lack of strong leadership and strategic direction in the STI ecosystem, which has led to a lack of focus and direction in the development of STI initiatives in the country. The key actors in the National Innovation System (NIS) are not working effectively together to support the development of new technologies and innovations. Some of the empowerment policies as alluded to earlier had a negative impact on attracting FDI. The Policy has negatively affected the ability of the Zimbabwean economy to attract foreign investment. Zimbabwe needs to come up with a strategic

framework that aims to improve the performance of SMEs and other entrepreneurs. The development of a home-grown strategic framework that can be used by SMEs in Zimbabwe is one of the key economic drivers being recommended for the improvement of the performance of entrepreneurs and can therefore, significantly create opportunities for the youth and marginalised groups.

4.4 Best Practices and Impacts for Youth Employment in Zimbabwe

Some exemplary actions and practices that have contributed to supporting youth employment in Zimbabwe include the development of a national strategy that clearly articulates the implementation plan or matrix, emphasizing on the strong need for monitoring and evaluation of progress made has led to clarity in implementation. By strictly adhering to the implementation plan, the achievement of 'Vision 2030' is increasingly becoming a reality. The translation into different Zimbabwean languages was a positive move taking into consideration that the previous blueprints were only available in English. The content of the document has therefore very well disseminated and understood by the larger Zimbabwean population.

The inclusion of commercialization of research results in the STI Policy was also very critical for entrepreneurship and employment creation in Zimbabwe. While specific activities to stimulate commercialization were specified in the STI policy document, implementation modalities/ institutions for these were set up only recently, spearheaded by MHTEISTD hence generating optimism going forward.

The establishment of innovation hubs at national universities and their technology incubation centres and agro-industrial parks together with the wide-spread strategic research and development (R&D) institutions serving key sectors constitute good and potentially effective infrastructure for promoting STI in technological innovation, job creation, skills development for employability and entrepreneurship.

The development and implementation of various SME policies have revitalized the sector. SMEs play a vital role in the development of Zimbabwe's economy and therefore to support their growth and development, the Zimbabwean government has implemented several policies aimed at promoting the growth of SMEs. One such policy is the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim-Asset) which outlines the government's plans to grow the economy and create jobs through initiatives like access to finance, business development services, and training.

The crafting of indigenous policies to redress the dominance of multinational companies was a noble idea. It brought up some positive results which include an increase in the number of SMEs established and the involvement of black people in entrepreneurship programmes. However, this policy was controversial as foreign direct investments (FDI) have diminished. Zimbabwe has been participating in the COMESA Innovation Awards which was launched in 2013, to recognize and celebrate individuals and institutions that have used STI to advance the regional integration agenda. Although the innovation awards are geared towards all innovators in Member-States, the three main target groups are SMEs, youth and women.

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

STI Policies and Programmes	Roles in skills development and youth employment	Impact on skills development and youth employment	Remarks
Vision 2030	<ul style="list-style-type: none"> - Emphasizes the need for quality education and training programs that are aligned with the demands of the labour market. 	<ul style="list-style-type: none"> - Created an enabling environment that promotes entrepreneurship, innovation, and job creation. - Created awareness and generated discussions around the importance of youth employment. 	<ul style="list-style-type: none"> - To further increase the impact of Vision 2030 especially in its quest to enhance skill development and youth employment in Zimbabwe, the education system needs to be strengthened to enhance the quality and relevance of education and training programs and align them with the needs of the labour market.
National Development Strategy 1 (NDS1)	<ul style="list-style-type: none"> - Emphasizes the importance of equipping the youth with relevant and marketable skills. - Seeks to address structural barriers to youth employment, such as limited access to finance, lack of market information, and inadequate support systems. 	<ul style="list-style-type: none"> - It has laid the foundation for addressing youth employment challenges and creating opportunities for the youth. 	<ul style="list-style-type: none"> - Establish robust monitoring and evaluation mechanisms to track the progress and impact of NDS1 initiatives on youth employment. This will enable timely adjustments and ensure accountability in achieving the desired outcomes. - Provide comprehensive support for youth entrepreneurship, including access to finance,

<p>Second Policy on Science and Technology of 2012</p>	<p>- Emphasizes the need to strengthen science, technology, engineering, and mathematics (STEM) education at all levels.</p> <p>- Encourages increased investment in research and development (R&D) activities. It recognizes the role of research institutions and universities in generating new knowledge, innovations, and technologies. By fostering a culture of research and supporting R&D initiatives, the policy aims to create.</p>	<p>- Contributed to the development of a skilled workforce with expertise in science and technology, which has increased employability among the youth.</p> <p>- Created opportunities for young people to start their own businesses and generate employment for themselves and others.</p>	<p>business development services, mentorship programs, and incubation centres. This can empower young people to start their own businesses, create jobs, and contribute to economic growth.</p>
			<p>- Facilitate stronger linkages between the science and technology sectors and industries. This can be done through internships, apprenticeships, and industry attachment programs that provide practical work experience to young graduates. Such initiatives can bridge the gap between academic knowledge and industry requirements, increasing youth employability.</p> <p>- Establish funding mechanisms and support schemes specifically targeted at young scientists, technologists, and entrepreneurs.</p>

			<p>Access to affordable financing is critical for young people to turn their ideas into viable businesses. By providing financial support, the policy can encourage more youth to pursue entrepreneurial ventures and create job opportunities.</p>
<p>Industrial Development Policy (2012-2016)</p>	<ul style="list-style-type: none"> - Emphasizes the need for relevant and market-driven skills that align with the demands of the industrial sector. - Created an enabling environment for industrial development, which in turn generates employment opportunities for the youth. 	<ul style="list-style-type: none"> - Contributed to the growth of certain sectors and the creation of employment opportunities among the youth. 	<ul style="list-style-type: none"> - Investment in industrial infrastructure, including industrial parks, special economic zones, and technology hubs can attract investments, facilitate technology transfer, and create employment opportunities for young people.
<p>National Youth Policy of 2000</p>	<ul style="list-style-type: none"> - It has advocated for the integration of vocational and technical training into the education system, the promotion 	<ul style="list-style-type: none"> - Implementation of specific initiatives, economic conditions, and the availability of resources that have led to youth employment. 	<ul style="list-style-type: none"> - Targeted interventions that address specific needs such as tailored skill development programs, access to finance and market information, and support systems and challenges faced

	<p>of entrepreneurship education, and the provision of practical skills training programs.</p> <ul style="list-style-type: none"> - Working to address the challenges faced by young people in accessing decent and productive employment by encouraging job creation, supporting youth-led enterprises, and promoting self-employment. 		<p>by different groups of young people, including those in rural areas, with disabilities, or from marginalized backgrounds should be developed.</p> <ul style="list-style-type: none"> - There should be increased awareness among young people about the opportunities and support available through the policy. This can be achieved through effective communication and information dissemination channels, such as youth-friendly websites, social media platforms, and community outreach programs. It is important to ensure that young people are informed about the policy's provisions and how they can access the available resources and support.
<p>Command Agriculture Program</p>	<ul style="list-style-type: none"> - The program provides training and extension services to farmers participating in the program. 	<ul style="list-style-type: none"> - Contributed to skill development, youth employment, and the overall development of the agricultural sector. 	<ul style="list-style-type: none"> - Market linkages should be strengthened for agricultural products, ensuring that young farmers have access to reliable and profitable markets.

	<ul style="list-style-type: none"> - The program provides training and extension services to farmers participating in the program. This training helps farmers acquire improved farming techniques, knowledge about modern agricultural practices, and skills related to crop production, irrigation, and post-harvest management. The acquisition of these skills contributes to skill development in the agricultural sector. - Created employment opportunities within the agricultural value chain. This includes jobs in farming, processing, distribution, and marketing. Young people have the potential to benefit from these employment opportunities, both as direct participants in farming activities and as employees in related industries. 		<p>This can involve establishing market information systems, facilitating market connections, and supporting the development of farmer cooperatives or associations that can negotiate better prices and access bulk markets.</p>
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<p>Youth Employment, Entrepreneurship and Empowerment Program (YEEEP)</p>	<ul style="list-style-type: none"> - Promotes entrepreneurship among young people by providing training, mentorship, and access to financial resources. - Emphasizes the importance of skills development among young people. It provides training programs and capacity-building initiatives that equip them with relevant and marketable skills. 	<ul style="list-style-type: none"> - It has empowered young people economically, foster their entrepreneurial spirit, and contributed to the country's economic growth and development. 	<ul style="list-style-type: none"> - Establish a robust monitoring and evaluation framework to assess the program's impact on youth employment outcomes. Regularly collect data, measure key performance indicators, and conduct evaluations to identify successes, challenges, and areas for improvement. This will help inform evidence-based decision-making and program adjustments.
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Table 2: Summary of key institutions, their roles and impact on youth employment in Zimbabwe

STI Institutions	STI Institutions Roles in skills development and youth employment	Impacts on skills development and youth employment
Government: Ministries, Agencies and Departments (MIDAs)		
Zimbabwe Council for Higher Education (CHE)	<ul style="list-style-type: none"> - Responsible for ensuring that higher education institutions meet and maintain quality standards in their academic programs. - Collaborates with higher education institutions to develop curricula that are aligned with the needs of industries and the labour market. 	<ul style="list-style-type: none"> - The CHE's quality assurance processes contribute to the provision of quality education in higher education institutions. This ensures that graduates have the required knowledge, skills, and competencies to enter the job market with confidence. - CHE has promoted the development of programs that are responsive to industry needs. This helps graduates acquire skills that are in demand, increasing their chances of finding employment or starting their own businesses.
Zimbabwe Energy Regulatory Authority (ERA)	<ul style="list-style-type: none"> - Regulate the energy sector, ensuring efficient, reliable, and sustainable energy services for the country. However, the activities and policies of ERA indirectly contribute to skills development and youth employment in the energy sector. 	<ul style="list-style-type: none"> - ERA has led to the establishment of new energy infrastructure, such as solar or wind farms, and the expansion of existing energy facilities. Such developments can create job opportunities in construction, installation, operation, and maintenance, thereby indirectly contributing to youth employment. - ERA's promotion of renewable energy sources and green technologies can drive the adoption of sustainable energy practices in Zimbabwe. Young people have benefited from these emerging employment opportunities by acquiring skills in renewable energy technologies and related fields

<p>Postal and Telecommunications Regulatory Authority of Zimbabwe (PORTAZ)</p>	<p>- Promotes the development of a robust and competitive industry while ensuring consumer protection and universal access to postal and telecommunications services.</p>	<ul style="list-style-type: none"> - Young people have been employed in various areas, including customer service, technical support, network operations, software development, and digital marketing. - POTRAZ has enhanced the skills of employees in the sector. This includes both technical skills related to telecommunications infrastructure and digital technologies, as well as soft skills such as customer service, project management, and leadership.
<p>Zimbabwe Gender Commission Private Sector</p>	<p>- Advocates for gender-responsive policies and practices in skills development and youth employment. It highlights the importance of gender equality in accessing education, training, and employment opportunities; Engages in capacity-building initiatives to enhance awareness and understanding of gender issues in skills development and youth employment. It provides training and sensitization programs to various stakeholders, including policymakers, educators, employers, and young people themselves.</p>	<ul style="list-style-type: none"> - Its efforts contributed to the mainstreaming of gender in skills development and youth employment policies and programs. This ensures that initiatives are designed and implemented in a way that addresses gender disparities and promotes equal opportunities for all young people, regardless of their gender.

Private Sector		<p>- Advocates for policies that support skills development and youth employment. It engages with government authorities and other stakeholders to influence policies and regulations that promote business growth and create an enabling environment for skill acquisition and job creation; Provides support and mentorship to entrepreneurs and young professionals; Fosters collaboration and partnerships with educational institutions, government agencies, and other organizations involved in skills development and youth employment.</p>	<p>- The Chamber's initiatives, such as business support programs and mentorship, help entrepreneurs establish and grow their businesses, resulting in the creation of employment opportunities for the youth.</p>
<p>National Economic Consultative Forum (NECF)</p>	<p>- Engages in policy discussions and formulation processes related to skills development and youth employment. It provides a platform for stakeholders to share their insights, experiences, and recommendations.</p> <p>- Monitors and evaluates the implementation of policies and programs related to skills development and youth employment. It assesses the progress made, identifies gaps, and recommends adjustments or improvements.</p>	<p>- The NECF's policy recommendations and engagement with policymakers influence the development of strategies and policies that address the challenges faced by young people in accessing skills development opportunities and gaining meaningful employment.</p> <p>- Promotes policy coherence and alignment among different sectors and stakeholders involved in skills development and youth employment. Through its discussions and recommendations, the Forum helps identify synergies, avoid duplication of efforts, and promote a coordinated approach.</p>	

Civil Society Organizations (CSO's)/ Non-Governmental Organisation (NGOs)		
Standards Association of Zimbabwe (SAZ)	<p>- SAZ develops and establishes industry standards in collaboration with relevant stakeholders. These standards provide a benchmark for quality, safety, and performance, ensuring that products and services meet specified requirements. Through certification programs, SAZ verifies and recognizes individuals and organizations that meet the prescribed standards, enhancing their credibility and employability.</p>	<p>- The adoption of standards encourages innovation and continuous improvement within industries promoting best practices, technological advancements, and process optimization, fostering a culture of innovation among businesses.</p> <p>- Through quality assurance practices, SAZ enhances the reputation of Zimbabwean industries and builds consumer confidence leading to increased demand for products and services, which creates employment opportunities for young people in various sectors.</p>
Plan International Zimbabwe	<p>- Empowers young people to pursue meaningful employment and contribute to their communities by providing career guidance and life skills education to young people, helping them make informed decisions about their education and career paths.</p> <p>- Implements vocational training programs that equip young people with practical skills in various trades and industries. These programs aim to enhance their employability and entrepreneurial capabilities.</p>	<p>- By providing practical training and business development support, Plan International Zimbabwe has increased the employability of young people, enabling them to secure sustainable livelihoods and become self-reliant.</p> <p>-The organization has worked towards breaking down gender barriers and stereotypes that hinder young women's access to skills development and employment opportunities. By addressing gender-based discrimination and providing tailored support for young women.</p>

5. Conclusion

Zimbabwe has developed a myriad of policies and institutions that are aimed to support economic development in the country. However, the effects of these policies on technological innovation, skills development, job creation, and entrepreneurship have been mixed. On one hand, some of the policies have had a positive impact on technological innovation in the country. For example, the government has implemented initiatives to support the development of new technologies and innovations, such as providing funding for research and development activities and creating incentives for private sector organizations to invest in new technologies. On the other hand, the lack of resources and funding has limited the ability of key actors in the STI ecosystem to collaborate and undertake joint projects, as well as to support the development of new technologies and innovations. This has hurt the ability of the country to use STI to support skills development, entrepreneurship and job creation and hence the socioeconomic development of the country.

6. Policy Recommendations

In view of the study findings, the following recommendations are proffered:

Recommendation 1: Encourage the participation of researchers, innovators, entrepreneurs and other stakeholders in designing the education curriculum to enhance skills development, job creation and entrepreneurship: The government working with all stakeholders needs to establish mechanisms that ensure that there is free engagement and participation in curriculum development. Inputs from researchers, innovators and entrepreneurs could unlock the skills gap and therefore leading to the creation of jobs and enhanced entrepreneurship. While Zimbabwe has a relatively high literacy rate, the quality of education is not always sufficient to equip students with the skills needed to thrive in a rapidly evolving economy driven by STI.

To address this challenge, the government must invest in improving the quality of education at all levels. If we are to address the education crisis and youth unemployment, governments, the private sector, development partners, NGOs/CSOs and young people must work together to develop the resilient skills and qualifications that will be needed to adapt to the future of work. Furthermore, these partnerships and collaborations can help to overcome some of the challenges that emerging entrepreneurs face, including limited access to finance, a lack of business skills, and difficulty in accessing markets. By working together, entrepreneurs can leverage each other's strengths and resources, build new networks, and develop innovative solutions that drive economic growth and job creation in Zimbabwe.

Recommendation 2: Provide an enabling environment for emerging entrepreneurs, innovators and SMEs to explore opportunities for cooperation, therefore, building synergies, hence allowing them to

penetrate the traditional markets usually reserved for big players or bring about entry into new ones: The Zimbabwean economy is dominated by a few large players and entry into traditional markets can be challenging for smaller players. However, emerging entrepreneurs, innovators, and SMEs can bring fresh ideas and innovative solutions that can disrupt traditional markets and create new ones. To support this, the government must create an enabling environment that allows these groups to thrive. This includes providing access to financing, developing supportive policies, and creating networks that allow for cooperation and collaboration. By doing so, these groups can build synergies, penetrate traditional markets, and create new ones, thus contributing to job creation and economic growth in Zimbabwe. Furthermore, by simplifying the process for registering a business, reducing taxes on small businesses, and providing incentives for companies that hire young people, the government can encourage entrepreneurship and job creation. This will also help reduce bureaucratic barriers to entrepreneurship and encourage experimentation and innovation.

Recommendation 3: Promote smart partnerships in the STI ecosystem through the administration of grants, linking emerging and seasoned entrepreneurs, and organising and showcasing innovative entrepreneurship programmes: There is a need to promote partnerships within the STI ecosystem to drive innovation and job creation given the significant economic challenges, high unemployment rates and limited job opportunities for the youth. Promoting smart partnerships within the STI ecosystem, administering grants to emerging and seasoned entrepreneurs, and linking them together to foster collaboration and knowledge-sharing through stakeholder engagement platforms would significantly enhance job creation and entrepreneurship. Additionally, innovative entrepreneurship programs can be organized and showcased to provide opportunities for emerging entrepreneurs to learn from seasoned entrepreneurs and gain exposure to potential investors.

Recommendation 4: The government needs to collaborate with the private sector and development partners to bridge the huge gap in investment in digital infrastructure to narrow the digital divide between rural people and those residing in urban areas: Given the fact that Zimbabwe has high unemployment rates, particularly among young people, expanding the digital infrastructure and diversifying economic activities could be the solution. Increasing access to technology is essential in today's digital economy. By investing in infrastructure to increase access to technology, particularly in rural areas, Zimbabwe can ensure that all young people have the tools they need to succeed. This will also help bridge the digital divide and provide equal opportunities for all young people and marginalised groups.

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