PROMOTING SKILLS DEVELOPMENT FOR YOUTH IN ZAMBIA

A REVIEW OF THE LANDSCAPE OF TEVET AND SKILLS DEVELOPMENT

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
COVID-19	Coronavirus Disease 2019
EBT	Employer-Based Training
ECD	Early Childhood Development
EdTech	Education Technology
EU	European Union
GDP	Gross Domestic Product
HCI	Human Capital index
HE	Higher Education
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
ILO	International Labour Organization
IT	Information Technology
LMIC	Low- and Middle-Income Country
MCDSS	The Ministry of Community Development and Social Services
MLGH	The Ministry of Local Government and Housing
MOE	Ministry of Education
MOFNP	Ministry of Finance and National Planning
MOLSS	The Ministry of Labour and Social Security
MOTS	Ministry of Technology and Science
MSME	Micro, Small, and Medium Enterprise
MYSA	The Ministry of Youth, Sport and Arts
NDP	National Development Plan
NEET	Not in Education, Employment, or Training
NGO	Non-Governmental Organisation
NOS	National Occupational Standards
NQF	National Qualification Framework
OECD	Organisation for Economic Co-operation and Development
PISA-D	Program for International Student Assessment for Development
PWD	Persons With Disabilities
RPL	Recognition of Prior Learning
SDF	Skills Development Fund
SME	Small, and Medium Enterprise
SSVET	Secondary School Vocational Education and Training
STEM	Science, Technology, Engineering, and Mathematics
TEVET	Technical Education, Vocational and Entrepreneurship Training
TEVETA	Technical, Education, Vocational, and Entrepreneurship Training Authority
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WBL	Work-Based Learning
ZAMSTAT	Zambia Statistics Agency
ZAQA	Zambia Qualifications Authority
ZICTA	Zambia Information and Communications Technology Authority
ZQF	Zambia National Qualification Framework

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EXECUTIVE SUMMARY

This report provides an overview of Zambia's labour market, highlights key potential sectors for future economic development and employment growth, and analyses the challenges faced by the Technical Education, Vocational and Entrepreneurship Training (TEVET) system as it seeks to respond to these developments.

A key finding of the report is that Zambia's demographic transition is at a critical juncture but the country is not reaping the benefits of its potential demographic opportunities due to high levels of youth disengagement and insufficient jobs growth. Considered one of the most youthful countries globally, Zambia possesses a potential demographic opportunity that, if properly harnessed, can propel economic growth and social development. However, the potential demographic benefits are not being realized due to several factors, including limited access to quality education and skills training, high unemployment rates, lack of youth engagement, and insufficient youth empowerment opportunities.

Youth constitute more than half of the labour force but have low skill levels and are in low-paying jobs. Available data indicates that most of Zambia's 6.4 million youth (about 90 percent) are economically disengaged or partially engaged. Youth economic disengagement occurs when individuals are in a temporary or permanent state in which they do not accumulate enough human capital (knowledge, skills, and health that people accumulate throughout their lives) due to inadequate access to high-quality opportunities for skills development through formal education and employment. The alarming prevalence of youth disengagement in Zambia poses a substantial threat to the economic potential of its young population. Therefore, economically re-engaging the youth will be central to Zambia's development and economic growth. Youth disengagement is a complex problem and requires a mix of solutions and a sustained approach.

Skills development, and TEVET in particular, is one of the possible policy levers for economic development and is a strategic focus and priority for the government. In the 8th National Development Plan (NDP) (Ministry of Finance and National Planning [MOFNP], 2022), skills development and TEVET are prioritized under Strategic Development Area 1 in Strategy 3 of Outcome 2, which emphasizes scaling up the provision of technical, vocational, and entrepreneurship skills to support the growth of enterprises. Other outcome areas highlight the need to strengthen the regulatory and quality assurance frameworks for vocational skills training. Achieving these key objectives will require substantial investment in and strengthening of the current TEVET system. TEVET can support economic development through job creation and the employment of graduates in all the key sector of the economy where their skills are required. This is important for Zambia as it aspires to become a prosperous middle-income country by 2030.

The TEVET system is central to re-engaging the vast population of disengaged youth, economic development, and employment growth. The Vision 2030 recognizes TEVET as an integral part of the Education and Skills Development sub-sector and its contribution to economic development. There are, however, several constraints that Zambia faces in attaining this objective, some of which include low access to skills training, weak implementation of TEVET standards and curricula, and the fragmented governance of the system. There is also chronic underfunding relative to other educational sectors and the levy-based, employer-funded Skills Development Fund only allocates a relatively small share of the funds collected and does not adequately support industry-relevant training.

The skills development ecosystem in Zambia, and in particular the TEVET system, faces capacity constraints regarding the provision of quality and relevant skills for the labour market. Skills supply and demand are misaligned due to weak links between TEVET institutions and industry, TEVET programs not giving enough attention to fostering foundational skills, and TEVET teachers lacking pedagogical skills and industry experience to deliver quality training.

There are also weak accountability mechanisms for TEVET providers to ensure they deliver the training products and services required by learners and employers. Furthermore, most training institutions barely meet minimum quality standards, with the majority rated as Grade 3, implying that they can only provide low-quality skills training programs.

The government policy and programmatic environment is highly fragmented, with concerns over the possible duplication of policies and programming, particularly in relation to out-of-school youth, and technical and vocational skills. Governance structures within the TEVET system are complex and limit the development of a truly integrated national system. Examples of an entity that could bring the sector together holistically are either a government agency to oversee all the line ministries (e.g. the Office of the President, or the Office of the Secretary to the Cabinet) or an agency with clear links to the private sector to manage the process from their perspective, but with clear inputs from the Government of Zambia (e.g. the Zambian Development Agency).

Many institutions are poorly connected with the industry and opportunities for work-based learning are limited. As such, the quality of training is low and not fully aligned with labour market demand. There is limited access to workplaces and industry exposure during training is typically minimal. Formal apprenticeship and internship systems are underdeveloped and not substantially supported by employers. In addition, low morale, the low professional standing of teachers, low competence of teachers, and negative attitudes of staff and students have also contributed to poor learning outcomes in TEVET institutions. Access to training is also unequal, with institutions and programs clustered around main industry hubs, with fewer programs available in more remote or rural areas. Programs for disengaged youth in Zambia are primarily focused on foundational skills, targeting school-aged children. Thus, a major gap in the system exists for older youth. Young people with disabilities and out-of-school youth are also an under-targeted demographic.

Digital Education Technologies (EdTechs) have the potential to transform the TEVET ecosystem but are yet to be fully explored. The consolidation of existing investments is critical, as are further investments in rolling out digital trainings in foundational skills to set the country on the path to digital transformation and leverage the benefits of a well-functioning TEVET system. Global lessons and opportunities on the use of EdTech for TEVET are highlighted in Annex D.

To address the major identified challenges facing the TEVET system, the following recommendations could be considered. In the short-term, measures should be taken to:

- Improve funding of the sub-sector to boost its capacity to address issues surrounding the learning environment, including infrastructure, teaching and learning materials, teachers etc.
- Enhance the effective use of resources collected by the Skills Development Fund and increase governance responsibilities and oversight of industry representatives on its Board;
- Build the capacity of TEVET managers and principals to better implement the quality assurance framework for TEVET;
- Provide capacity building to trainers to develop their technical skills in line with labour market demand;
- Review the mechanisms for the development of occupational standards and curricula to improve responsiveness and flexibility in the system.
- Establish a high-level working group with representation from all key Ministries, the private sector, churches, and other stakeholders involved in the provision of skills training to strengthen programming and enhance linkages between industry and TEVET institutions.

In the medium to long-term it is also recommended that:

- Technical assistance be provided to develop a more robust skills anticipation system that better integrates and analyzes available labour market information and skills intelligence to facilitate evidence-based policies and programs;
- A review of the mechanisms and options for improved inter-ministerial coordination and cooperation be undertaken, including the establishment of a new national forum or apex body for that purpose;
- Mechanisms and incentives be introduced that provide investment opportunities

in both private and public institutions to improve training facilities and equipment;

- Support be provided to enhance the research and analysis capacity of TEVETA and to support the development of research capacity in training providers; and
- Resources and support be provided to teachers and trainers so they can more effectively develop the digital skills of students.

In Zambia, the mining industry has been the main driver of economic growth while agriculture has been the major employer. Over the years, the contribution of other sectors to economic growth, including manufacturing, construction, tourism, and services, has been increasing but at a slower pace. Among other factors, skill shortages and skill gaps are acknowledged as constraints to the accelerated growth of these sectors. Zambia requires enhanced technical and innovation skills to support its expected structural transformation towards more sophisticated and technological intensive sectors that will enhance long-term industrial competitiveness. Taking into account recent shifts in the pattern of job creation and the potential for economic growth in non-mining sectors of the economy, priority should be given to supporting the education and training system to better respond to skill needs in a number of key sectors and sub-sectors. These include:

- Wholesale and retail trade;
- Community, social, and personal services;
- Manufacturing (including wood and wood products, textiles and garments, leather and leather products); and
- Agriculture.

Support should also be provided to enhance the capacity of the education and training system to develop a range of generic skills; including digital skills, communication skills, and foundational literacy and numeracy.

As noted earlier, economically re-engaging the youth will be central to Zambia's development and economic growth. A set of targeted policy options could be considered to address this issue depending on the level of engagement. These policy options are detailed below (a summary is provided in Annex C).

A first policy priority is to promote the remediation of foundational skills among unskilled and semi-skilled youth. Programs should aim to improve youth foundational skills; notably literacy, numeracy, socio-emotional, and digital literacy skills. For low-skilled youth, these programs should follow several models, such as functional adult literacy programs or community-based literacy programs that integrate literacy with other essential skills such as numeracy, health education, and income-generating activities. For semi-skilled youth, mobile literacy programs (i.e., literacy programs utilising mobile technology, such as smartphones or tablets) are a promising alternative to delivering in-person literacy instruction. These programs can reach individuals in remote areas and provide self-paced learning materials, audiovisual content, and interactive exercises that promote literacy, numeracy skills, and socio-emotional skills through gaming, incentives to participation (e.g., winning prices for completing modules), and social networks—all while enhancing digital skills. The Ministries of Technology and Science; Youth, Sport and Arts; and Education should work together to develop an integrated and coordinated approach to foundational skills development.

A second policy priority is to "reactivate" disengaged youth. Activation policies can target low or high-skilled youth, with the objective of bringing them out of disengagement. For low-skilled poor youth, these policies often entail providing social assistance (or cash incentives) to reengage youth in economic or skilling opportunities. Such activities often give higher-skilled individuals a new sense of purpose and community engagement through sports, cultural, and volunteer programs. Activation policies are often an excellent venue to impart socio-emotional skills and help youth regain a sense of belonging and social value. Activation policies are often also a pathway (and a first step) towards more meaningful training and skills development programs. There are currently few links between TEVET and activation policies where they do exist in Zambia. Since a large share of disengaged youth are women, probably engaged in unpaid domestic activities, activation programs could focus on encouraging women to engage in the provision of social services, such as early childhood development training, caregiver for the elderly training, and home-based care training delivered through the TEVET system. Training may cover primary healthcare, nutrition, hygiene, communication skills, and providing

emotional support to individuals under their care. Even if women who benefit from these programs continue to engage in stay-at-home activities, building their skills can significantly improve children's and elders' health and education outcomes. The Ministries of Labour and Social Security, and Technology and Science should work more closely together to establish a joint program of work to ensure activation measures include access to TEVET.

A third policy priority is to provide support to long-term unemployed youth. Policies to help unemployed youth (generally semi-skilled individuals) include training and skill development (vocational and aiming to remediate and build foundational skills), job search assistance, and opportunities for individuals to gain practical work experience through internships, work placements, or subsidized employment programs. These programs help individuals reconnect with employers, build skills, develop networks, and increase their chances of securing permanent employment. These policies should also encourage semi-skilled youth to reenter formal education (i.e., connect them with second-chance programs). The Ministries of Labour and Social Security, and Technology and Science should collaborate more closely to establish a joint program of work to ensure support to long-term unemployed youth includes access to TEVET.

A fourth policy priority is to promote productivity enhancement programs for self-employed youth in the agriculture sector. Such programs provide low-productivity farmers with knowledge, technical assistance, and advice on modern farming techniques, crop selection, and pest management, among others, to generate agricultural value, get better pay for the produce, and enhance the agroindustry ecosystem. Promoting farmer education and training programs can help improve agricultural practices and productivity. These programs often include training on sustainable farming techniques, soil management, water conservation, and the efficient use of inputs like fertilizers and pesticides. The programs should also give farmers access to finance and credit to invest in improved farming equipment, seeds, fertilizers, and other inputs. Finally, the programs could also support and strengthen farmer organizations, and cooperatives can provide farmers with collective bargaining power, access to information, and opportunities for joint marketing and bulk purchasing. Ministries of agriculture, local authorities, social funds, and agriculture federations often implement these types of programs. For semi-skilled and higher-skilled youth, programs should aim to provide vocational training programs to foster innovation in agriculture, including the development of specialized community colleges that promote agricultural research and advancement that can lead to the development of high-yielding and disease-resistant crop varieties suitable for local conditions. Research can also focus on developing innovative farming techniques and technologies to develop agricultural value chains, access to formal markets, agro-processing industries, and climate-smart agriculture. Of course, individuals who participate in these programs need to have a good grasp of foundational and digital skills. The Ministries of Technology and Science, Agriculture, and Community Development and Social Services should collaborate more closely to establish a joint plan to promote productivity enhancement programs for self-employed youth in the agriculture sector.

In urban areas, productivity enhancement programs should promote entrepreneurship, digital skills, and financial inclusion. Access to finance is crucial for informal workers to invest in their businesses and improve productivity. Microfinance programs provide small loans and financial services tailored to the needs of informal workers, enabling them to purchase equipment and raw materials or expand their operations. These programs often also provide financial literacy training and support in managing business finances. Moreover, entrepreneurship and business development programs offer informal workers training and mentorship in running a business. They cover marketing, bookkeeping, customer service, and business planning topics. These programs help informal workers develop sustainable business models and improve their productivity and profitability. Finally, all programs should aim to improve and enhance the foundational skills of informal workers, including their digital skills, so that they can embrace technology, digital, and e-commerce platforms to enable them to expand their customer base, streamline operations, and increase productivity.

A fifth policy priority should be to reconnect youth with formal education. For those who have dropped out of the school system, "second chance" programs are a way to encourage youth to complete formal education or training. Second chance programs often target youth between

the ages of 15 and 20 who completed lower or upper secondary education. Second chance programs are typically more flexible than the regular courses, combining classroom-based and distance learning and allowing for shorter course completion cycles (for instance, students can complete a full academic year in four to six months). These programs offer a path to re-skilling youth and the credentials they need to pursue formal post-secondary education, including formal TEVET and short-cycle programs. These programs often lead to a formal degree and are implemented by education ministries.

Finally, it is important to continue to expand access to and the quality of formal education support programs and work-based learning for higher-skilled youth. Programs should focus on improving access to and the quality of post-secondary education programs and their relevance and alignment to the demands of employers and economic and social opportunities. Consistent with global trends, the post-secondary education systems in Zambia need to ensure flexibility and diversity of the opportunities they offer (e.g., academic certification, technical and technological degrees, as well as short course certifications); provide different learning modalities (virtual, hybrid, and face-to-face); and be better integrated to ensure permeability across programs so that students have incentives to invest in life-long learning opportunities that can be building blocks for ongoing and higher certifications, including academic degrees. Post-secondary education programs should also focus on the remediation and development of foundational skills (including digital skills) through curricula and pedagogy and expand the provision of student services, such as remedial, counseling, tutoring, and employment services and ensure smooth transitions between education and employment as between employment and education. TEVET in Zambia should foster and expand work-based learning through apprenticeships, internships, and dual programs designed and implemented in close collaboration with employers.

1

1.0 INTRODUCTION

This report provides an overview of Zambia's labour market, highlights key potential sectors for future economic development and employment growth, and analyses the challenges faced by the Technical Education, Vocational and Entrepreneurship Training (TEVET) system as it seeks to respond to these developments. Broadly, this chapter highlights two areas:

- Zambia's overall country context including the macroeconomic and labour market environment, and TEVET as a policy lever for economic development; and
- The objectives of the study and overall structure of the report.

Zambia is a lower-middle income, large land-locked country with an estimated population of 19.6 million people according to the 2022 population census (ZAMSTAT, 2022). The population is expected to grow at 2.8 percent annually, about 70 percent are below the age of 35, and the majority reside in rural areas. Zambia borders eight other countries (Angola, Botswana, Democratic Republic of Congo, Malawi, Mozambique, Namibia, Tanzania, and Zimbabwe), which expands its regional market for goods and services.

Mining is the mainstay for the country's economy, with the country ranking second in copper production in Africa after the Democratic Republic of Congo. In 2021, over 70 percent of foreign exchange earnings came from copper exports.[1] As a result, the country's economic path continues to be highly correlated with the price of copper on international markets. The diversification of the economy has been slow, although other sectors—including agriculture, manufacturing, energy, wholesale and retail trade, and information communication and technology (ICT)—have recently accounted for an increasing share of real Gross Domestic Product (GDP) growth and supported the economy's recovery in 2021 after its 2.8 percent contraction in 2020.

In recent years, the country's growth has been slow. The sluggishness started even before the COVID-19 pandemic. Between 2015 and 2021, real GDP growth averaged 2.5 percent per year (World Bank, 2022) compared to 7.4 percent between 2004 and 2014, when the economy was considered one of the fastest growing in Sub-Saharan Africa. Several factors have contributed to the slow growth, including the progressive accumulation of debt, droughts, global energy and commodity crises (due, for instance, to a weak global demand for copper), inconsistencies in domestic economic policies, the COVID-19 pandemic, and the Russia–Ukraine war. As of June 2022, the stock of public external debt amounted to US $14.87 billion—almost 100 percent of the country's GDP. Despite this challenging environment, the economy is showing resilience, with real GDP growth now projected at 4.7 percent in 2024 (IMF, 2023).

The country's debt has made its macroeconomic environment very volatile. The Gross International Reserves have improved to 3.7 months of import cover compared to 1 month in January 2021. Inflation, which has been a chronic problem, reaching a high of 24 percent in June–July of 2021, has been declining since reaching 10.2 percent in April 2023. Similarly, the exchange rate has been unstable, reaching an average of ZMW 22/US$1 in June 2021 and hovering around ZMW 18–20/US$1 since the start of 2023.

[1] *Ministry of Finance and National Development (2022): Eighth National Development Plan: 2022-2026. Copper accounted for 17.5 percent of the GDP in 2021.*

Over the years, China has become Zambia's key bilateral partner. Apart from being the major consumer of Zambia's copper, a good share of the country's international debt is owed to China. Since the turn of the millennium, Chinese investment in Zambia has grown at an exponential rate (HIR, 2023). Trade between the two countries grew 25-fold between 2003 and 2009 and during that same period, 98 percent of Chinese investment in Zambia targeted the mining and manufacturing sectors[2]. Currently, over 600 Chinese enterprises operate in Zambia, the majority of which are based in the Copperbelt region in the north of the country, primarily to serve Chinese mining companies.

Poverty incidence remains high. According to World Bank 2022 estimates, Zambia's poverty level increased amid sluggish growth. Using the new international poverty line of US$ 2.15, Zambia's poverty rate is estimated at 62 percent, up from 58.7 percent in 2015 (World Bank 2022). Similarly, real GDP per capita declined from US$1,340 in 2015 to US$1,019 in 2021. The rising poverty creates the need for stronger social protection, particularly for vulnerable groups, and for greater investments in education and health to increase the productive capacity and earning potential of individuals.

Several factors continue to constrain the country's economic growth and job creation. Business environment constraints include infrastructure deficits, power shortages, access to finance and excessive regulation; while trade competitiveness is limited by poorly developed supplier networks, small domestic markets, and wage rates that are high by regional and Sub-Saharan standards (World Bank, 2018). Key elements of the current context identified by the 2023 World Bank country diagnostic include:

- Zambia has successfully raised its average GDP growth rate since the early 2000s;
- Economic growth has been accompanied by much better development outcomes in health and education, particularly at primary level;
- Zambia is experiencing a large demographic shift and is one of the youngest countries globally by median age;
- High population growth increases the demand for jobs, health, and other social services, which the economy is not able to provide at present; and
- Zambia's national poverty and inequality levels have remained stubbornly high.

The sluggish economic growth has worsened labour market outcomes, particularly for young, female, and urban workers. The national unemployment rate has increased from 7.8 percent in 2012 to 13.8 percent in 2020. Most of the unemployed either lack formal education or have at most attained junior (lower) secondary education.[3] Youth constitute the majority (55 percent) of those in the labour force (ZAMSTAT, 2020a), and their labour market outcomes are particularly worrisome. Their unemployment rate (19.9 percent in 2020) is higher than the national average, and 70 percent of unemployed youth are aged 20–29. In addition, youth who aspire to self-employment (often due to lack of employment) frequently face challenges to start a business, including limited access to finance and lack of networking opportunities. Unemployment also varies by gender and geographic location. It is higher for female than male youth (22.9 percent v. 17.6 percent, respectively), and for urban than rural youth (20.8 percent v. 18 percent, respectively).

Therefore, the creation of quality jobs and skills training for the youth is crucial. Since the majority of the working population are youth, the growing population will continually expand the workforce. Moreover, the United Nations (UN) population projections for Zambia indicate that the share of working-age to total population will increase to about 58 percent by 2050, thereby raising the ratio of workers to dependants from today's 1.05 to 1.22 in 2030 and 1.41 in 2050 (World Bank, 2017). Zambia has the chance to reap the demographic opportunities from its youthful age composition by creating high-quality jobs for the youth.

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[2] https://www.researchgate.net/publication/305302261_The_developmental_implications_of_Sino-African_economic_and_political_relations_A_preliminary_assessment_for_the_case_of_Zambia

[3] ZAMSTAT (2020a) Labor Force Survey. Approximately 25 percent of those unemployed have no formal education and about 63 percent hold junior secondary education.

TEVET is considered one of the avenues through which youths can be offered skills trainings and create jobs. The 8th National Development Plan (NDP, 2022–26) emphasizes that skills development at different levels, including TEVET, is key to increasing productivity and employment opportunities, especially for youth and women (MOFNP, 2022). However, for this sub-sector to deliver expected results, investments will be required to address the current challenges, including ensuring that TEVET is reorientated towards labour market demand and job creation.

Currently, TEVET faces numerous challenges. In additional to being one of the least funded sub-sectors in comparison to others in education, most institutions have outdated infrastructure and equipment, a shortage of teaching and learning materials, a shortage of qualified and experienced trainers, and inadequate management and supervision capacity (ILO, 2019). At the same time, the training institutions are not well connected to industry. As a result, the training is considered low quality and not aligned to industry demands by most stakeholders. In addition, access to TEVET programs remains a challenge for many, especially poor youth and populations in rural and remote areas.

According to Zambia's 2020 National Skills Survey, newly hired workers are poorly prepared for work because they lack work experience, job-specific skills, and socio-emotional competencies. Skill shortages and skill gaps exist in most sectors of the economy, including agriculture, forestry, and fishing; manufacturing; and service sectors such as wholesale and retail trade; motor vehicle repair; accommodation and food services; and education (ZAMSTAT, 2020b).

TEVET in Zambia is regulated, coordinated, and monitored by the Ministry of Technology and Science (MOTS) through the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA). Although there is a well-established legal and regulatory framework, the programmatic environment is highly fragmented, with concerns over the possibility of duplication, particularly in areas around out-of-school youth and technical and vocational skills, which makes the governance arrangements quite complex. For example, the Ministry of Labour and Social Security also has responsibilities related to skills development pursuant to the Employment Code Law No. 3 of 2019. In addition, while the MOTS oversees a largest number of TEVET institutions, other ministries such as Community and Social Welfare; Agriculture; Youth and Sports; and Education are involved in the provision of skills. The private sector is also a major player. By law, all institutions providing TEVET are required to register with TEVETA. This operational diversity makes TEVET governance complex, making it more difficult for the system to identify and fulfill its goals.

TEVET provides opportunities for equipping youths—including those who are out-of-school or out-of-work—with skills for gainful employment or self-employment, as TEVET provides an avenue to acquire the job-specific skills and certifications necessary for certain occupations. It is also critical for lifelong learning, so that individuals can take short, affordable courses to up-skill or re-skill over the course of their lifetimes. Given the current status of TEVET in Zambia, fulfilling this goal would require an expansion of existing capacities at TEVET institutions and a review of curricula and learning pathways to make TEVET more attractive and relevant. It also demands more nuanced policy responses targeting the different segments of the youth population at different stages of economic engagement. While seeking to address the needs of all youth, this expansion should be particularly considerate of the needs of the rural poor who grapple with the double disadvantage of not being able to afford training costs and living far from training centers.

Available evidence indicates that the growing working-age population in Zambia is not matched by similar rates of employment growth. This phenomenon occurs mainly because of low youth "economic engagement" and the inability of the economy to create jobs. As a result of these two forces, output per worker in Zambia—which often increases in periods of demographic expansion—is contracting instead of expanding, which is problematic at a time when the country should be reaping the gains of its demographic opportunities.

Youth economic engagement is identified as a major issue and will be a central determinant to ensure Zambia's development and economic growth. Economic growth (total economic outputs) is usually a function of the total number of employed individuals in the economy multiplied by the output they produce. During healthy population growth, even if workers' productivity stays unchanged, economies can grow because their workforce grows. A necessary condition for economies to reap the benefits of this demographic expansion is that the growing

population engages in economic activity. A framework has been proposed for options that could ensure youth are engaged and it recognizes the need for gradual, sustained, and scalable policies that consider the varying levels of youth engagement and disengagement. The framework also recognizes that policies need to "train at the right level", depending on the youth's skills and employment perspectives. Therefore, any assessment of the TEVET and skills development system in Zambia must directly engage with one of the major challenges currently facing the country; the problem of youth employment and youth engagement with the labour market.

To better understand the TEVET landscape in Zambia and how it relates to the labour market, this study was commissioned in collaboration with the MOTS. The main objective of the study was to characterise the landscape of skills development through TEVET in Zambia, with specific objectives to:

- Characterise the demand and supply for skills development via TEVET programs in Zambia;
- Characterise the outcomes, inputs, quality, and relevance of TEVET programs in Zambia;
- Characterise the current policy landscape for TEVET;
- Identify economic sectors which drive economic transformation and job creation in Zambia;
- Identify key skills shortages and skill gaps;
- Assess the challenges and opportunities for skills development via TEVET in Zambia; and
- Provide recommendations to build a more sustainable TEVET system that delivers equitable access, quality training, and economic relevance.

Premised on these objectives, mixed-approach research methods—both qualitative and quantitative— were used to complete the task. Secondary and primary data was collected from a wide source of stakeholders including public and private sector representatives who participated in key informant interviews or responded in writing to a supplied questionnaire. Interviews were also held with representatives of major government agencies involved in TEVET, select industry representatives, and a sample of TEVET institutions. A full list of stakeholders consulted during the preparation of this report can be found in Annex A and a sample of stakeholder interview schedules in Annex B.

This report is divided into four main sections. After the Introduction, Section 2 provides an overview of the labour market in Zambia. Section 3 considers potential growth sectors in the economy and the related skills demand. Section 4 provides an assessment of the TEVET sector which includes data on educational outcomes, and an overview of key institutions and an assessment of policy, financing, and regulatory arrangements. The report concludes in Section 5 with a summary of conclusions and recommendations.

2

2.0 AN OVERVIEW OF THE LABOUR MARKET AND YOUTH PARTICIPATION

This chapter provides an overview of the labour market, including Zambia's demographic shifts. It also highlights several issues surrounding youth participation in the labour market. The main findings of the study are as follows:

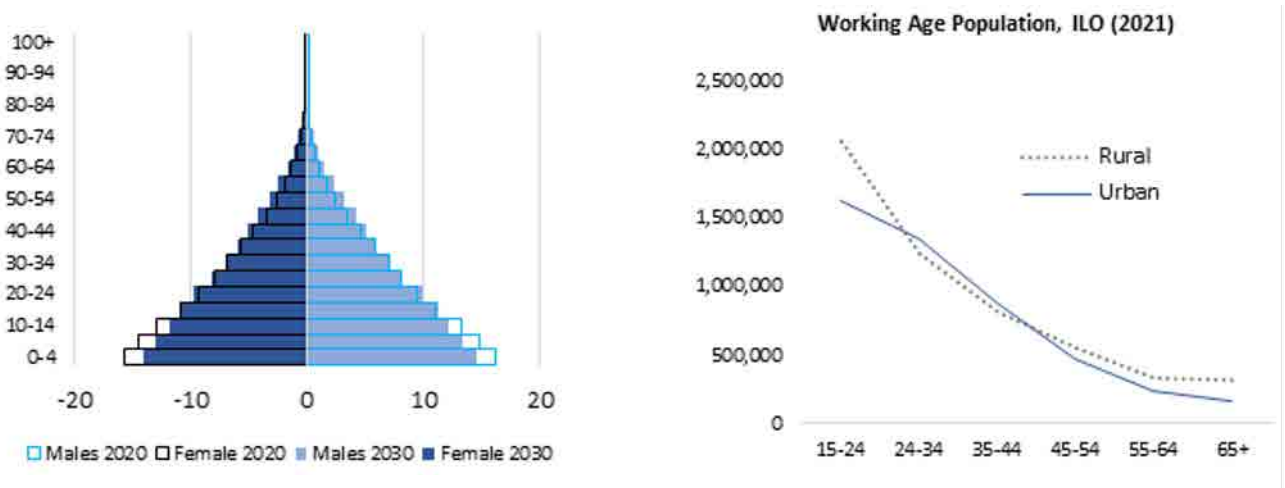
- Zambia's population structure is changing and fast growing at 2.8 percent per annum;
- Labour force participation in Zambia is low by regional standards due to low youth participation and the inability of the economy to generate more jobs;
- Unemployment is high—it is an urban phenomenon and affects the youths, especially those aged 15–24 years;
- The majority of the youth are disengaged, unemployed, and lack foundational skills and labour market demanded skills; and
- Returns to education are high and increase with the levels of education.

Based on these finding, several recommendations, both short and medium-term, are proposed, and they include focusing on (i) a greater emphasis on short-cycle programs for the youth; (ii) more investment in education, including TEVET to ensure the acquisition of foundation skills; and (iii) the development of programs to reengage the youths.

2.1 Demographics

Zambia is experiencing a sizable demographic shift (Figure 1). The population is growing at 2.8 percent, which is expected to double in the next 25 years, and with a population average age of 21 years, the country has become one of the youngest countries globally. The urban population is also experiencing rapid growth as jobs have become more urbanized and youth between the ages of 15 and 34 years (Figure 1) constitute a sizable share of the working-age population. This demographic structure is likely to continue as the large youth population enters the reproductive age and fertility rates remain high. In addition, the working-age population is expected to more than double between 2015 and 2050, increasing the demand for jobs. In this context, Zambia will need to create over 10 million new jobs by 2050 to keep labour force participation and unemployment rates unchanged; equivalent to about 400,000 new jobs annually.

Figure 1: Zambia's main demographic trends



Source: The United Nations, World Population Prospects 2022 https://population.un.org/ and ILO (2021).

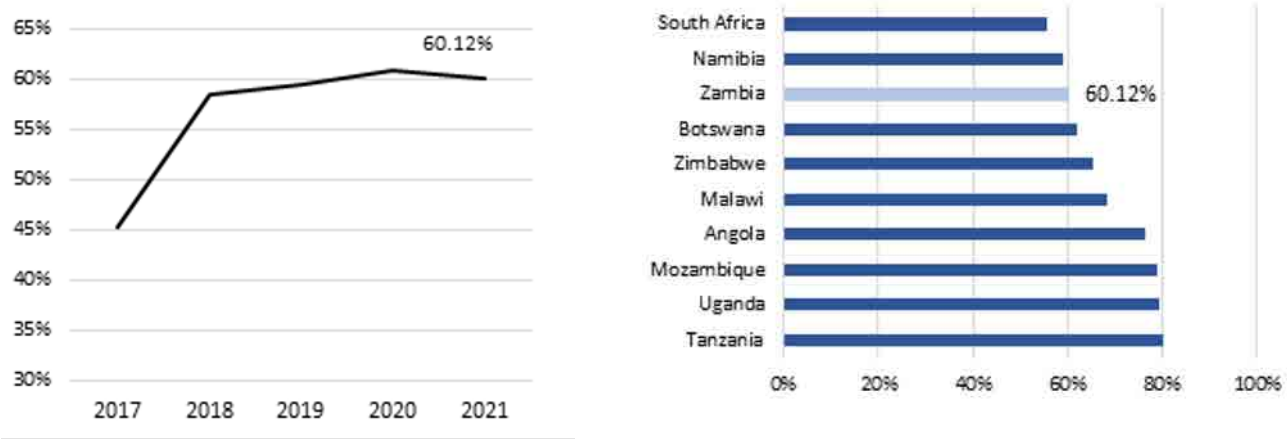
Harnessing this valuable demographic opportunity will be crucial for Zambia's economic growth and social development. A large youth population holds immense potential for development, an opportunity that can easily be lost without addressing challenges such as limited access to quality education and skills training, high unemployment rates, lack of youth engagement, and insufficient youth empowerment opportunities.

In terms of Human Capital, Zambia has one of the lowest human capital indices (HCI). The HCI measures the amount of human capital a child born today can expect to achieve by age 18, given the risks of poor health and education that prevail in the country where s/he is born. Zambia's HCI of 0.39 is about the average for the Sub Saharan region, but is lower than the average for the least middle-income countries. In terms of education, the indicator implies that a child who starts school at age 4 can expect to complete 8.8 years of school by age 18. However, factoring in what children learn, the expected schooling is only 5 years (a learning gap of 3.8 years or 43 percent). This has significant implications on the productivity level of a country, implying that a child born in Zambia today will only be 40 percent productive by the age of 18.

2.2 Labour force participation[4]

Due to growing a population, the working-age population in Zambia has been increasing steadily. However, by regional standards, labour force participation in Zambia (at 60.1 percent) is low, undermining the economic potential of its workforce standards (Figure 2). A low labour force participation rate often associates with lower economic growth (or else equal growth) since fewer people work and contribute to the economy's output.

Figure 2: Zambia's labour force participation rate (15+), trends and regional comparisons



Source: ILO (2021)

Overall, low participation rates result from lower-than-average participation rates for youth (aged 15–35), especially for youth aged 15–24 and in urban areas. Table 1 presents a set of statistics summarising labour force participation rates in Zambia (15+) by age group, gender, and strata. Results indicate that participation rates among youth aged 15–24 are lower, especially for those in the urban areas and among women. These levels of participation are lower for regional standards, at 38.2 percent (Table 1). As expected, as youth transition into adulthood (24–34 years), their participation rates raise.

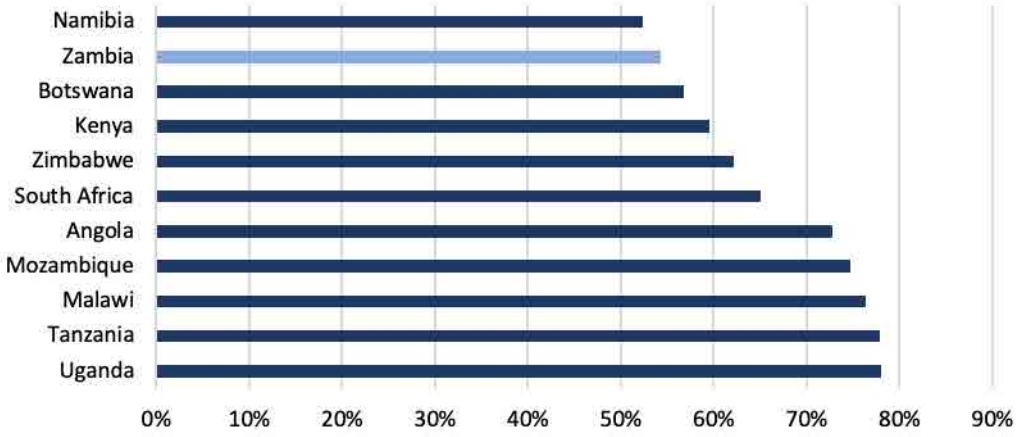
[4] Ratio of the labour force to the working-age population expressed as a percentage. It measures the country's +15 years working-age population that engages actively in the labour market—either by working or looking—and those available for work relative to the working-age population.

Table 1: Labour Force Participation (15+) by Strata and Gender [2021] (in %)

Age Group	Male	Female	Rural	Urban	Total
15–24	42.02	34.49	48.32	25.54	38.24
24–34	80.27	61.09	75.78	65.30	70.29
35–44	87.15	72.53	80.98	78.12	79.49
45–54	87.09	73.13	81.40	79.00	80.29
55–64	75.98	67.25	74.04	67.76	71.46
65+	53.42	43.99	52.30	40.45	48.30
Total	66.36	54.16	64.99	54.67	60.12

Source: ILO (2021)

Figure 3: Zambia's average labour force participation rate for youth aged 15–34 [2021][5]



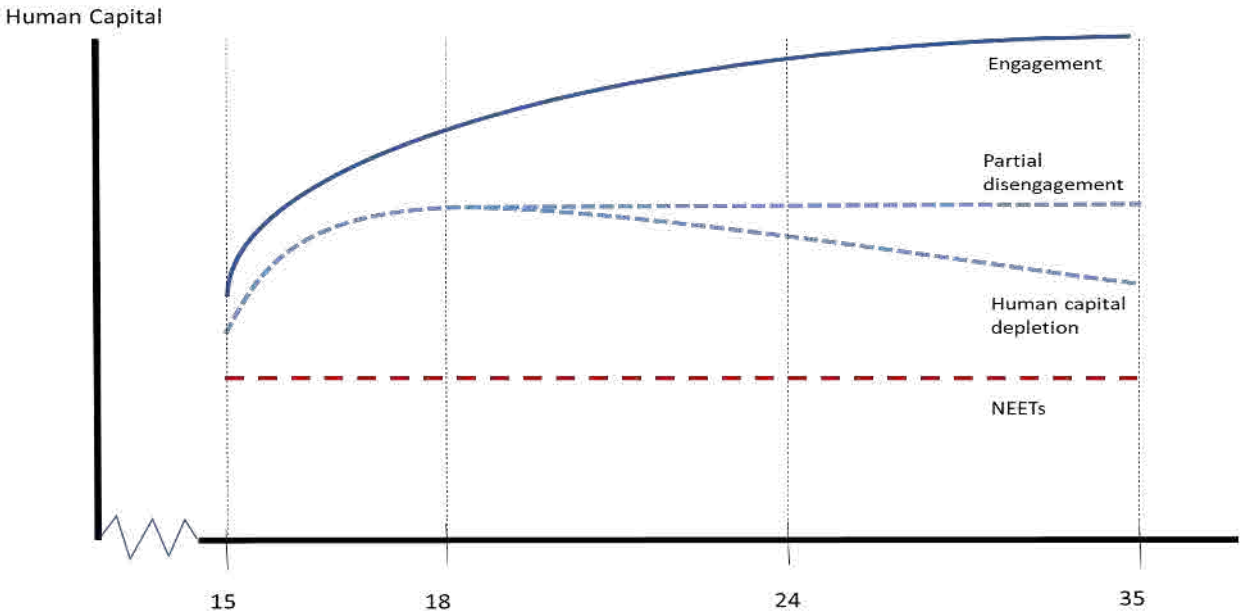
Source: ILO (2021)

Lower participation among the youth is mainly due to high levels of youth "economic disengagement" and the inability of the economy to generate more jobs. Youth economic engagement, particularly the accumulation of human capital and productive employment, will be a central determinant to changing the output per worker and Zambia's development and economic growth. Figure 4 below illustrates the diverse pathways available for the youth (aged 15 to 35) to accumulate human capital. A fully engaged individual (the upper blue curve in the figure) accumulates human capital throughout their life cycle, representing the "aspirational" form for youth engagement. These individuals continue to develop their human capital every year because they have access to education or employment opportunities that ensure a continued positive "skills-development" process.

Although the level and shape of this trajectory may vary in different contexts and by the individual's age, it usually represents a student who receives high-quality education before joining the labour market in a rewarding, constructive job that offers learning opportunities and provides positive returns to experience. On the other end of the engagement spectrum, the human capital of an individual who is out of school and out of the labour market (broadly categorised as someone who is not in education, employment, or training [NEETs]) is stagnant (or may even depreciate) with time (dotted red line in the figure). At an intermediate point of these two disengagement states, some youths are in the formal school system but enrolled in low-quality education or training institutions, are out of school and holding first-time jobs in the informal sector or with temporary contracts, or in positions that do not match their skills (dotted blue lines in the figure).

[5] *Average labour force participation rate of youth aged 15–24 and youth aged 25–34.*

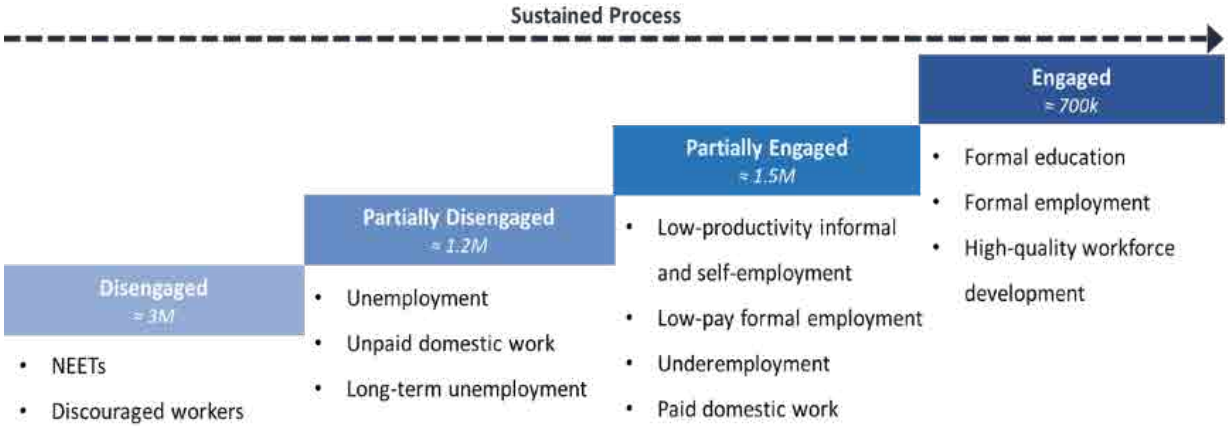
Figure 4: Heuristic illustration of youth economic engagement and disengagement paths



Source: Angel-Urdinola and Mayer (2018)

In Zambia, the phenomenon of youth economic disengagement is far reaching, with most youths lacking the minimum "foundational skills" to engage in productive employment or education, resulting in a huge number of NEETs and discouraged workers. As illustrated in Figure 5, disengaged workers comprise both NEETs and discouraged workers.[6] In addition to NEETs, there is a larger and deeper problem where youth are engaged in low-pay, low-productivity activities that do not deliver Decent Work and are not conducive to human capital development. This more significant population of partially disengaged youth is often ignored by national statistics and overlooked by policymakers worldwide, including in Zambia. Using the conceptual framework of youth (dis)engagement as shown in Figure 5, based on available data from the International Labour Organization (ILO), estimates show that disengagement among youth is rampant. Of the 6.4 million youth, about 90 percent are economically disengaged or at most partially engaged.

Figure 5. Conceptual framework of youth (dis)engagement from a skills and jobs perspective



Source: Angel-Urdinola and Mayer (2018)

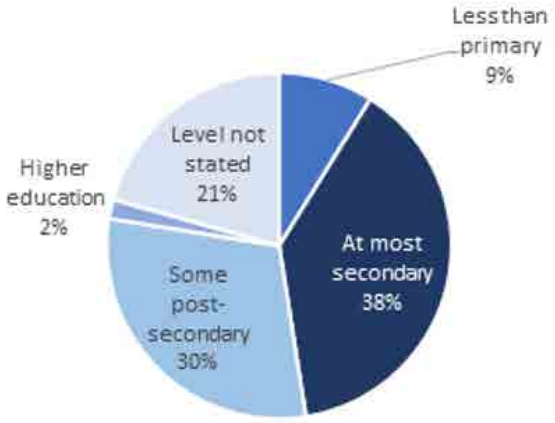
[6] *NEETs are youth not in employment, education, or training. Discouraged workers are individuals (of any age) who want to work but are not seeking work because they believe no suitable job is available for them.*

As can be seen from the framework, the level of disengagement is at different stages.

1. **Disengaged youth (approximately 3 million individuals)**: These youth self-report as not being in education or training (NEETs) or who withdrew from the labour market because they could not find suitable employment. A high incidence of youth being NEETs can have long-lasting human capital effects. NEETs often feel isolated from society, and they may struggle to form connections with others. High incidence of NEETs can lead to social exclusion, adversely affect mental health and well-being, and boost crime rates and political instability. In addition, a youth who is NEET suffers from labour market scarring, which can reduce and limit future earnings opportunities and lead to long-term unemployment and underemployment. Most NEETs in Zambia are young adults between 20 and 29 years (60 percent), live in rural areas (62 percent), and are women (58 percent). NEETs are a very heterogeneous population with about one-third of all NEETs being semi-skilled individuals (probably with high reservation wages) who cannot find adequate education or employment opportunities that meet their expectations.
2. **Partiallydisengagedyouth(approximately 1.2 million individuals):** These are youth who are not necessarily engaged in income generation and are either actively seeking employment (i.e., unemployed) (mainly males) or contributing to homecare as unpaid domestic workers (mostly females). Partly disengaged youth are a heterogeneous group. Unemployed youth tend to be semi-skilled individuals with high reservation wages and can afford to be unemployed. Nonetheless, most have been unemployed for over 12 months (about 77 percent). Long-term unemployment leads to skills and work experience deterioration. Lack of practice and professional development can result in losing marketable skills, making it harder to find suitable employment. This situation can lead to a downward spiral of diminishing job prospects and employability. Prolonged unemployment can have lasting effects on an individual's earning potential. Even when individuals find new employment, they may experience reduced wages or settle for jobs below their qualifications. Finally, long-term unemployment can lead to social isolation as individuals may withdraw from social activities and networks due to financial constraints or feelings of shame and embarrassment, which can also lead to violent behavior and mental health problems.
3. **Partly Engaged youth (approximately 1.5 million individuals):** Partly engaged individuals are mainly low-skilled youth (90 percent have only attained at most secondary education) who engage in low-productivity, low-pay employment activities, mainly in agriculture-related activities (75 percent). These are often low-skilled individuals with low reservation wages that engage in subsistence employment. According to available data, partly engaged youth (aged 15–35) account for about half of all employed individuals in Zambia. As expected, partly engaged young women are more likely to engage in domestic paid work or family care. Meanwhile, partly engaged youth men are in casual employment in the agriculture and service sectors. In addition, partly engaged individuals are generally underemployed. About 145,000 individuals within this group would like to work more hours (i.e., underemployed). Most underemployed youths are male (63 percent), live in rural areas (65 percent), and have attained at most secondary education (70 percent).
4. **Engaged youth (approximately 700,000 individuals):** Engaged youth are individuals (aged 15–35) who are either enrolled in or have attained some post-secondary or tertiary education (including short-cycle programs) and have access to well-paid formal employment, internships, and apprenticeships. Unfortunately, they constitute only a minority of all Zambian youth.

NEETs are a very heterogeneous population with about one-third of all NEETs being semi-skilled individuals. Many of these individuals will have high reservation wages, and cannot find adequate education or employment opportunities that meet their expectations (Figure 6). Indeed, Individuals become NEETs when education and employment opportunities are not worth the time investment of studying or working. Given their skill level, after individuals leave school, they will stay idle when the available employment opportunities are below their reservation wages. Higher-skilled youth, especially women, often have higher reservation wages and can be selective about their employment aspirations.

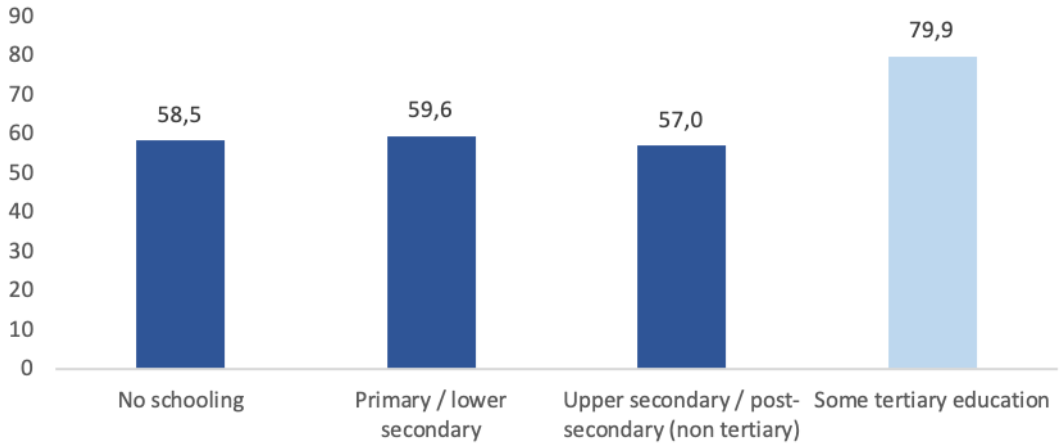
Figure 6: NEETs by educational attainment [2021]



Source: ILO (2021)

Supporting the acquisition of foundational skills and promoting higher education attainment could improve participation rates in Zambia. Available data indicate that only 5 percent of all 15-year-old individuals in Zambia achieve the minimum level of proficiency in reading and only 2 percent in mathematics (OECD, 2018). At the same time, Zambia's gross enrollment rate in tertiary education (8.2 percent in 2019), although slightly below that in Sub-Saharan Africa (9 percent in 2019), is significantly below the world's average (38 percent in 2019) according to data from the United Nations Educational, Scientific and Cultural Organization's (UNESCO's) Institute for Statistics. ILO (2021) results indicate that labour force participation rates in Zambia for individuals (ages 15+) who attain some tertiary education are above average, at almost 80 percent (Figure 7). As such, focusing on foundational skills and promoting access to higher education, including higher vocational studies, could be a building block conducive to reducing inactivity in the country, especially among youth and women.

Figure 7: Labour force participation rates (ages 15+) by educational attainment [2021]

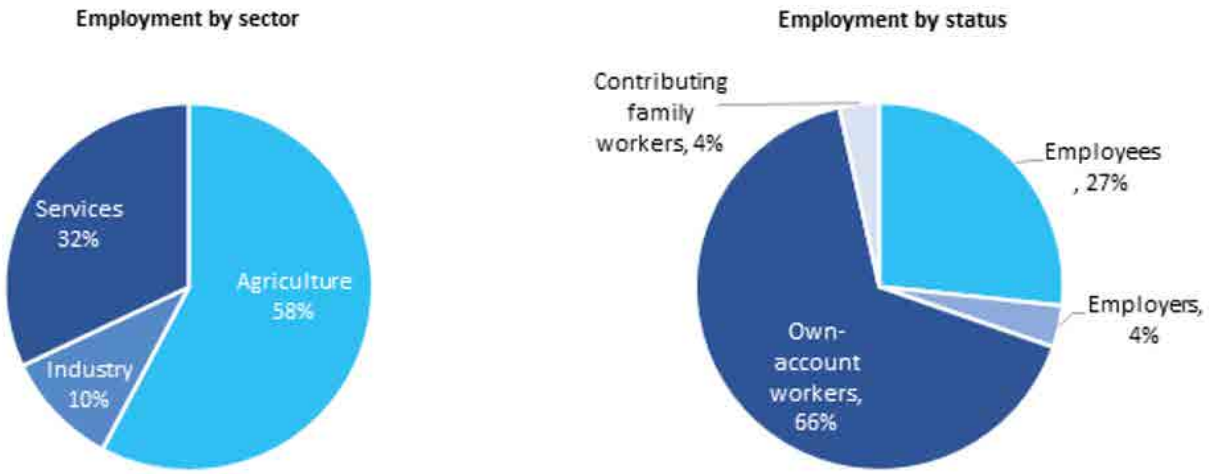


Source: ILO (2021)

2.3 Employment

Own-account agriculture is Zambia's largest employer. According to the ILO (2021), about 5.7 million individuals in Zambia are employed with "own-account agriculture" being the largest occupation in Zambia. Most employed individuals are men (54 percent), live in rural areas (59 percent), work in the agriculture sector (58 percent), and are own-account workers (66 percent). Paid employees and workers employed in the industry sector constitute only a minority of employed workers, suggesting that many employed individuals engage in low-pay subsistence employment, notably in agriculture or services (Figure 8).

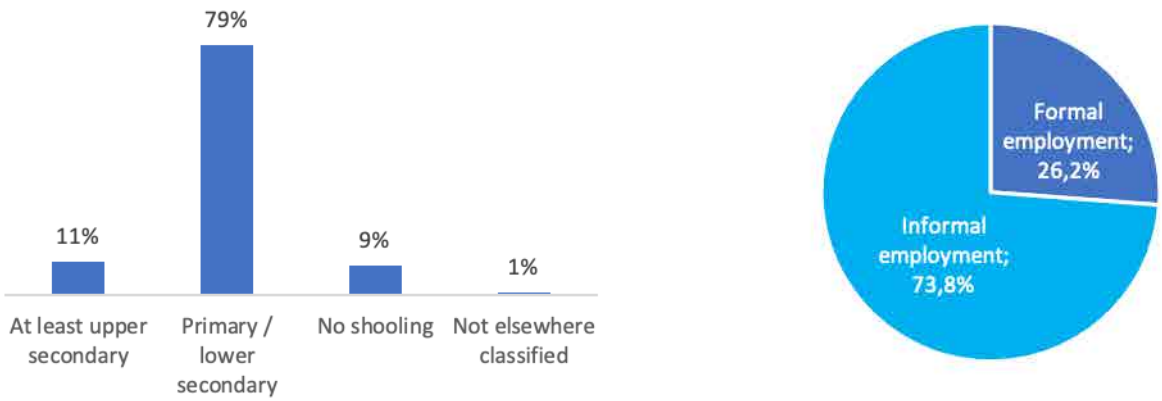
Figure 8: Employment (ages 15+) by sector and worker status (Zambia, 2021]



Source: ILO (2021)

Most employed individuals display low levels of skills and are engaged in the informal sector. About nine out of every ten employed individuals in Zambia have attained lower secondary education, indicating that most employed populations can benefit from skilling and re-skilling (Figure 9). Moreover, given the prevailing high rates of own-account employment, most employed individuals in Zambia work in the informal sector, meaning that they do not contribute to social security and have no entitlements such as paid leave and absence, maternity leave, etc. Most informal workers reside in rural areas (65 percent) and are male (52 percent) (ILO, 2021). High rates of informality mean that most workers are unprotected against employment, health, and old-age risks—leaving them highly vulnerable to health and employment shocks.

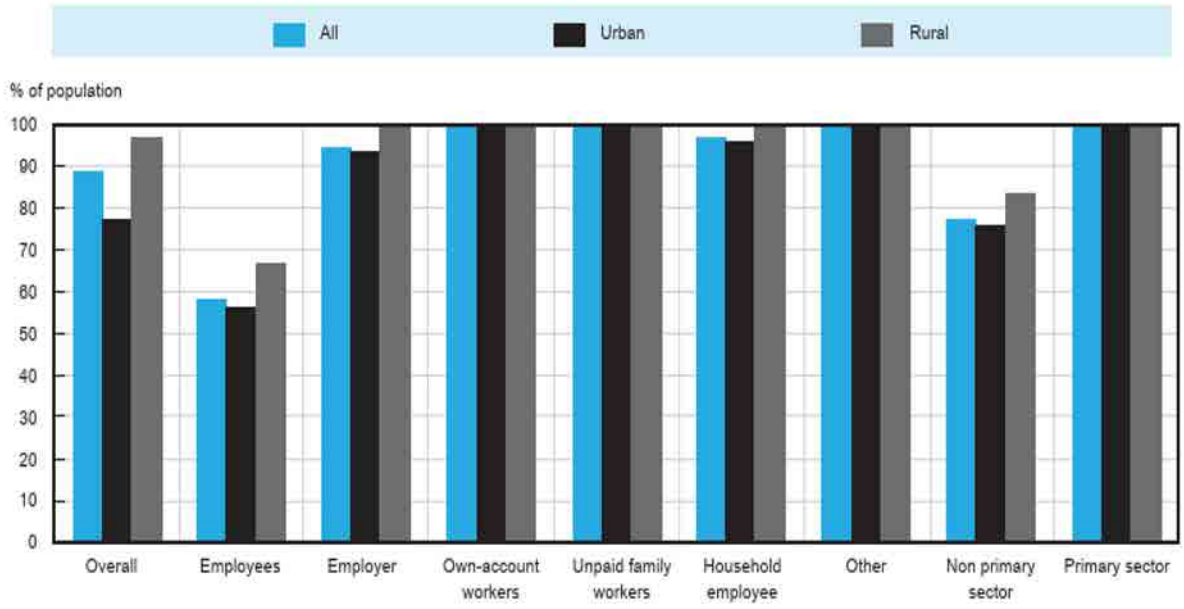
Figure 9: Employment (15+) by educational attainment and access to social security



Source: ILO (2021)

Overall, most workers in the primary sector (defined as working in the farming, fishing, and forestry industries) are informally employed (Figure 10). Beyond their primary economic activity, about 9 percent of all workers declare having a secondary job. The great majority of those secondary jobs or businesses are informal; in particular, they are all informal if the primary activity is informal. About 9 percent of workers formally employed in their primary activity report having another job, which in 92 percent of the cases is informal (ILO, 2019a).

Figure 10: Proportion of informally employed workers by type of employment



Source: ILO (2019a)

Managers, professionals, and technicians account for less than 13 percent of all employment. Table 2 provides a detailed disaggregation of employment by occupation in Zambia. Results confirm that most employed individuals are engaged in agriculture, services, and sales. Managers, professionals, and technicians account for only about 10 percent of all employment. While most professionals are self-employed (e.g., doctors, lawyers, accountants), most technicians work as paid employees. Nonetheless, self-employment is high in all occupations, even among managers, professionals, and operators.

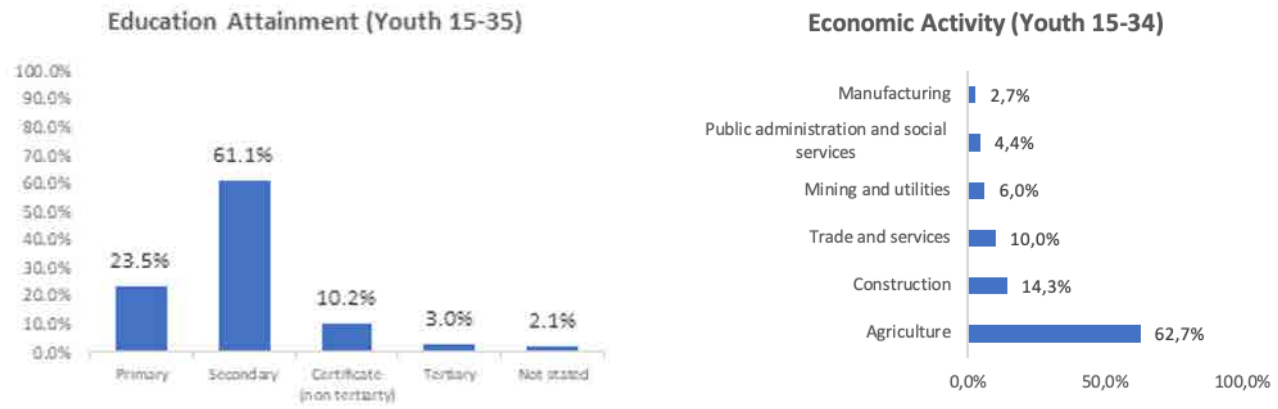
Table 2: Employment by occupation and status

Occupation	EMPLOYMENT	COMPOSITION	
		Employees	Self-employed[7]
Managers	3.4%	27%	73%
Professionals	4.5%	42%	58%
Technicians and associate professionals	2.7%	84%	16%
Clerical support workers	0.9%	62%	38%
Service and sales workers	16.5%	80%	20%
Agriculture, forestry, and fishery workers	52.8%	40%	60%
Craft and related trades workers	5.8%	1%	99%
Plant and machine operators, and assemblers	3.1%	38%	62%
Elementary occupations	9.4%	82%	18%
Armed forces occupations	0.9%	67%	33%
Total population employed (x 1000)	**5727.6**	**1526.4**	**4201.2**

Source: ILO (2021)

Youth aged 15–35, which account for about half of all employed individuals in Zambia, are mainly engaged in low-pay, low-productivity, informal jobs. As is the case with the overall employed population, employed youth are largely low-skilled (90 percent) and engage mainly in agriculture-related activities (63 percent) (Figure 11). Most youths are employed in own-account or paid agriculture. As expected, young women are more likely to engage in domestic paid work or family care, while young men are in casual employment. Only a minority of youth, mainly male, engage in paid apprenticeships or internships (Table 3). ILO (2020) data indicate that most youth aged 15–24 (96 percent) work in the informal sector.

Figure 11: Youth employment by educational attainment and economic activity



Source: Left Panel: Zambia's Labour Force Survey (2020); Right Panel: ILO (2021)[8]

[7]*Self-employed persons include employers, own-account workers, members of producers' cooperatives, and unpaid family workers (ILO).*
[8]*The right panel figure is an average of the economic activity of youth aged 15–24 and youth aged 25–34.*

Moreover, about one-third of youth aged 15–34 are underemployed. According to data from the ILO (2021), about 30 percent of all employed youth (accounting for about 145,000 individuals) would like to work more hours (i.e., that are underemployed). Most underemployed youths are aged 25–34 (59 percent of all underemployed youth aged 15–34), while most underemployed youth aged 15–24 live in rural areas (65 percent, ILO 2021) and have attained at most secondary education (70 percent) (World Bank, 2023).

Table 3: Youth employment [ages 15–35] by occupation, strata, and gender

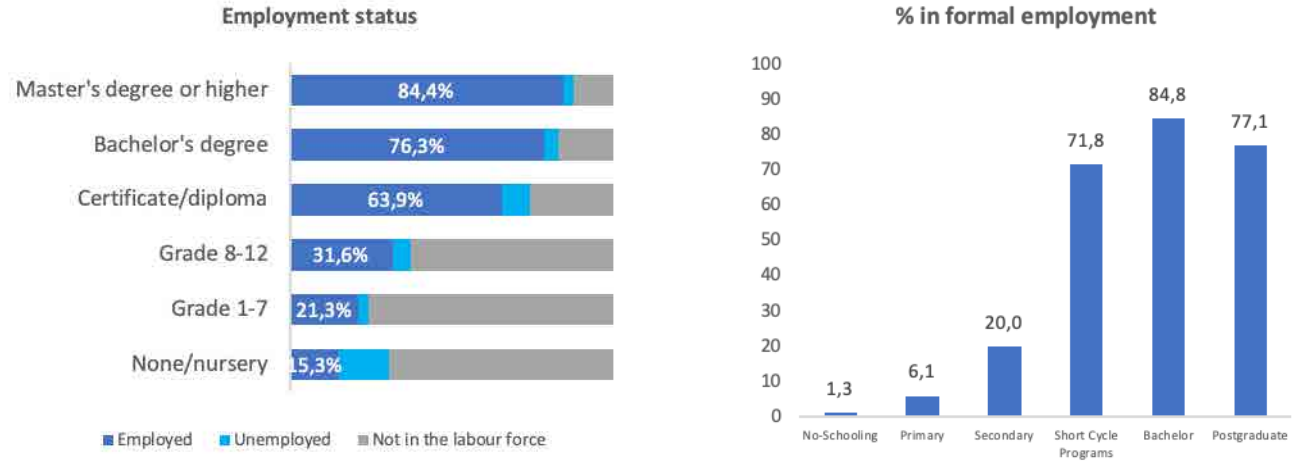
	TOTAL			RURAL			URBAN		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Status in Employment	%	Composition (%)		%	Composition (%)		%	Composition (%)	
Paid Employees	43.6	65.8	34.2	29.8	73.1	26.9	51.1	63.4	36.6
Own-account workers	39.5	54	46	47.5	58.3	41.7	35.2	50.9	49.1
Family workers	6.8	35.7	64.3	14.1	37	63	2.8	32.3	67.7
Casual employees	3.3	75.9	24.1	4.4	70.8	29.2	2.7	80.4	19.6
Employers	2.9	67.7	32.3	1.5	75	25	3.7	66.1	33.9
Domestic paid workers	1.9	31.6	68.4	0.8	22.4	77.6	2.5	33.1	66.9
Paid apprentice	1.6	71.8	28.2	1.2	80.5	19.5	1.8	68.5	31.5
Paid intern	0.4	50.2	49.8	0.6	45.7	54.3	0.2	56.8	43.2
Total (x1000)	**1,514**	**58.9**	**41.1**	**532**	**60.5**	**39.5%**	**982**	**58%**	**42%**

Source: Zambia Labour Force Survey (2020)

Finally, it is worth noting that individuals with a certification attained from short-cycle programs display much better employment outcomes. Not surprisingly, employment outcomes among high-skilled individuals are much better than the low-skilled (Figure 12). Available data indicate that 70 to 80 percent of all individuals with post-secondary education are employed compared to below 30 percent for those with at most upper secondary school. Nonetheless, it is worth noting that individuals with some employment certification who have attained short-cycle programs display much better employment and formality rates than those with at most upper secondary education.

Short-cycle and certification programs constitute a promising pathway to promote engagement among youth. These programs, which are usually two to three-years duration and oriented to the labour market, could become an option to boost employment by offering a shorter and less expensive path to well-paid/formal job opportunities.

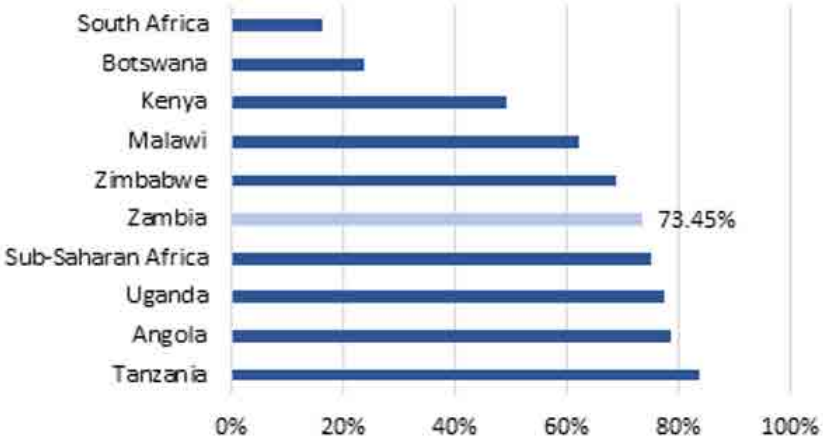
Figure 12: Employment outcomes by educational attainment



Source: Left Panel: Zambia's Labour Force Survey (2020); Right Panel: ILO (2021)

The self-employment rate in Zambia (at 73.45 percent) aligns with regional standards. According to data from the ILO, Zambia's self-employment rate is only 2 percent lower than the average rate observed in Sub-Saharan Africa (Figure 13).

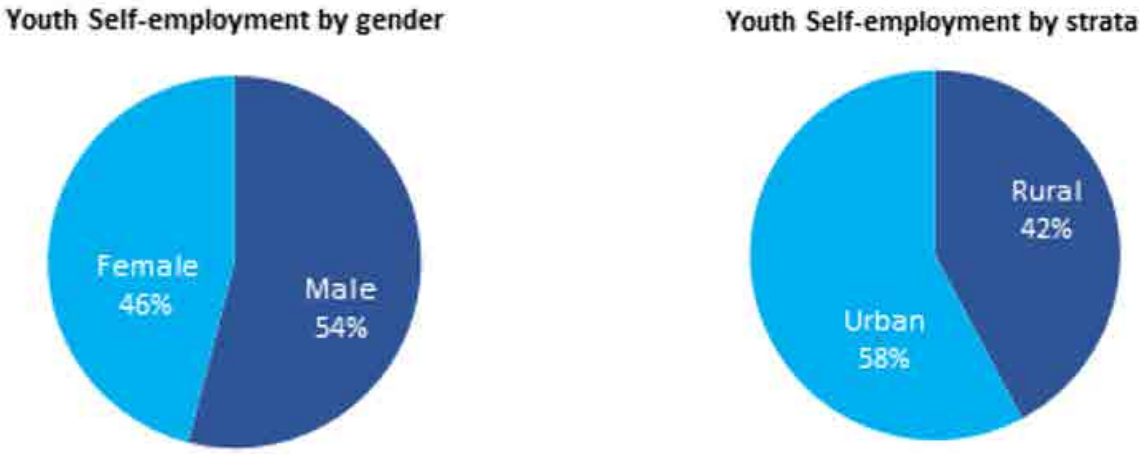
Figure 13: Share of self-employment



Source: ILO (2021)

Most employed individuals are self-employed. Self-employment rates are higher for males than females (54 percent vs. 46 percent, respectively, in 2020), and in urban areas than in rural areas (59 percent vs. 41 percent, respectively, in 2020). Self-employment rates for youth aged 15–35 are similar (Figure 14). In addition, most rural and urban self-employed youth are male (58 percent and 51 percent, respectively, in 2020).

Figure 14: Zambia's youth self-employment



Source: Labour Force Survey (2020)

2.4 Unemployment

According to the Zambia Labour Force Survey (2020), 477,000 individuals in Zambia are unemployed (13.8 percent of the labour force). Unemployment in Zambia is experiencing an upward trend. The national unemployment rate increased from 7.8 percent in 2012 to 12.6 percent in 2017 and 13.8 percent in 2020. Although unemployment varies by gender and geographic location, unemployment rates are higher for females than males (16.4 percent vs. 11.9 percent, respectively, in 2020) (Table 4). In addition, most of those employed in nominal terms (66.4 percent) live in urban areas, especially among females.

While most rural unemployed individuals are male (58 percent), most urban unemployed individuals are female (52 percent). Such differences may explain some reluctance rural men have to engage in agricultural activities, as well as the difficulties for urban women in engaging in non-agricultural activities. Finally, nice out of every ten unemployed individuals have attained at most high-school education, suggesting that unemployment primarily affects low-skilled individuals (World Bank, 2023).

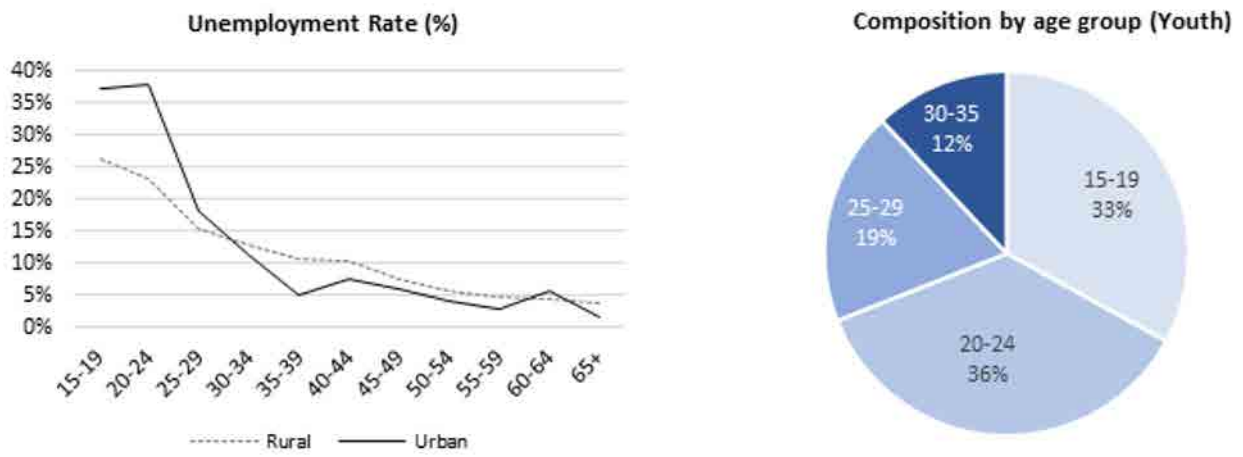
Table 4: Unemployment by Strata and Gender

	Total		Male		Female	
	Share (%)	Rate (%)	Share (%)	Rate (%)	Share (%)	Rate (%)
Rural	33.6	13.6	37.8	12.9	29.1	14.7
Urban	66.4	13.8	62.2	11.4	70.9	17.2
Total Unemployed	477,147	13.8	243,860	11.9	233,287	16.4

Source: Zambia Labour Force Survey (2020)

Approximately eight out of every ten unemployed individuals are youth aged 15 to 35 years. Zambia's government defines youth unemployment as the unemployment rate of individuals between 15 and 35 years of age. Using this definition, the total number of unemployed youths reached 375,000 individuals in 2020 (equivalent to youth unemployment of 19.9 percent). According to data from the National Labour Force Survey (2020), youth unemployment rates increased from 17.4 percent in 2017 to 19.9 percent in 2020. While youth unemployment rates are similar for men and women, they are higher in urban areas (22.9 percent) compared to rural areas (17.6 percent). Moreover, most of the stock of unemployed youth (69 percent) are between the ages of 15 and 24 (Figure 15) (World Bank, 2023).

Figure 15: Unemployment by age group



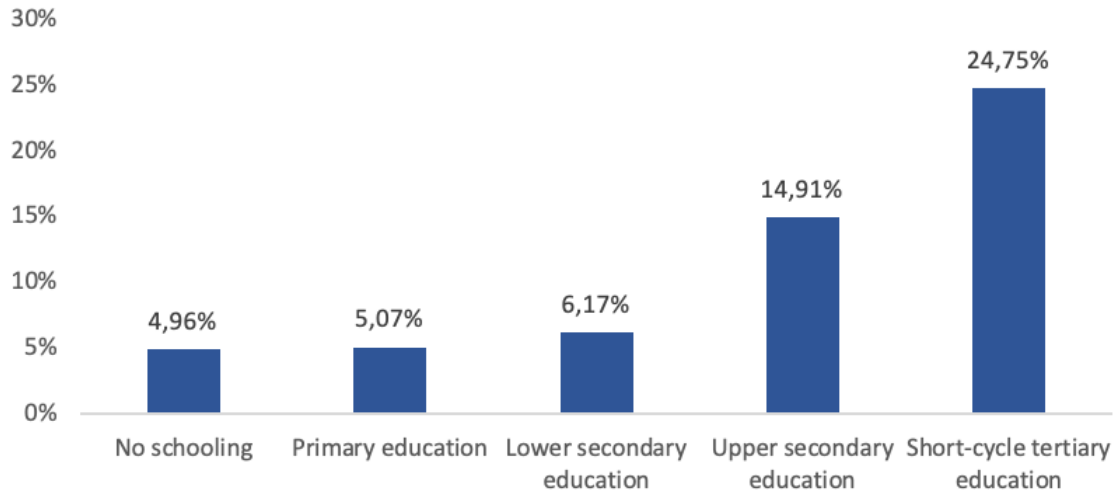
Source: Zambia's Labour Force Survey (2020)

While the majority of unemployed are low-skilled, youth unemployment rates are highest among semi-skilled youth. The 2020 Labour Force Survey results reveal that most unemployed youths have attained at most secondary education (88 percent), and unemployment rates are exceptionally high among semi-skilled individuals who complete short-cycle higher education programs (25 percent) (Figure 16). This fact indicates that Zambia's economy needs to create more technician jobs. Alternatively, the available technical programs may not align with the labour market's needs.

This result highlights the importance of ensuring a good design of post-secondary education programs while ensuring their alignment with the needs and demands of employers. Moreover, semi-skilled youth who attained some tertiary education may come from middle-class households and be more selective about the jobs they are ready to accept, which may lead to some queuing for scarce technical/ technological jobs (World Bank, 2023).

Finally, most unemployed youth remain so for periods longer than 12 months. Long-term unemployment is also becoming worrisome in Zambia. Long-term unemployment among youth (i.e., unemployment for over 12 months) reached 76.8 percent in 2020 (LFS, 2020). Long-term unemployment leads to skills and work experience deterioration. Lack of practice and professional development can result in losing marketable skills, making it harder to find suitable employment. This situation can lead to a downward spiral of diminishing job prospects and employability. Prolonged unemployment can have lasting effects on an individual's earning potential. Even when individuals find new employment, they may experience reduced wages or settle for jobs that are below their qualifications. Finally, long-term unemployment can lead to social isolation as individuals may withdraw from social activities and networks due to financial constraints or feelings of shame and embarrassment, which can also lead to violent behaviour and mental health problems (World Bank, 2023).

Figure 16: Youth (ages 15–34) Unemployment rates by Educational Attainment



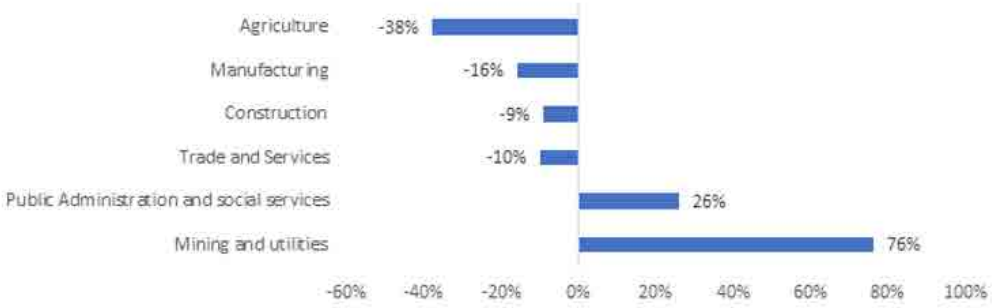
Source: ILO (2021)[9]

2.5 Earnings and returns to education

Wages in Zambia are highest in mining, energy, and public administration (between 30 and 76 percent higher than average) covering only 11 percent of all workers (Figure 17). The average wage for an employed person in Zambia is around US$160 per month (ILO, 2021). By comparison, wages in the service, construction, and manufacturing industries are 10 to 16 percent lower than average. In agriculture, which employs about six out of every ten workers, wages are 38 percent lower than average.

[9]*Average unemployment rate of youth aged 15–24 and youth aged 25–34.*

Figure 17: Monthly wage premium by industry, relative to the average wage



Source: ILO (2021)

Average earnings among men are higher than among women, especially among professionals and technicians. Table 5 provides data on average monthly earnings by occupation and gender. Results indicate that wages for managers, professionals, technicians, and clerical workers (accounting for about 13 percent of all employed individuals) are 35 to 138 percent higher than average, while wages among agricultural workers, operators, trade and service workers, and blue-collar workers are between 16 and 50 percent lower than average. On average, men earn higher wages than women in all occupations, but male premiums are higher among technicians, professionals, and clerical workers. Wage premiums may arise for different reasons, such as women's self-selection to lower-paid industries/sectors, less engagement in terms of working hours, and/or discrimination.

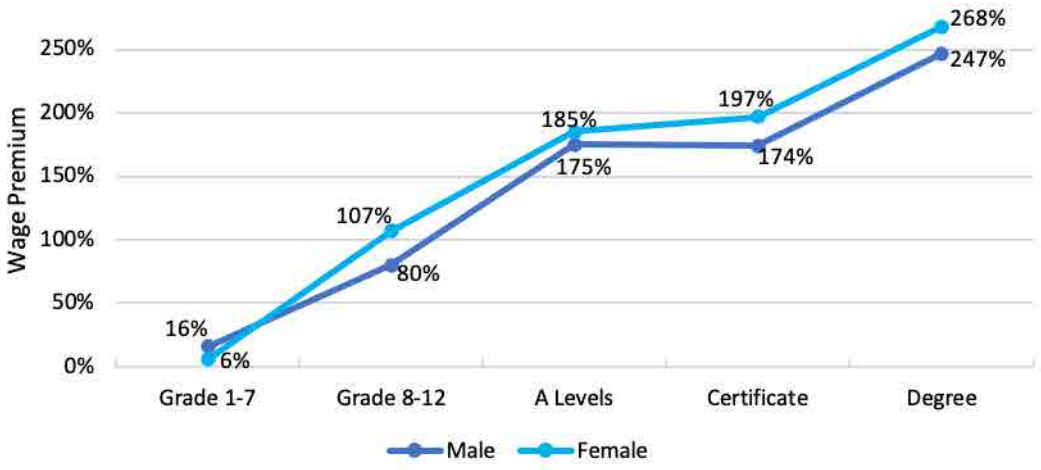
Table 5: Monthly wages by occupation and gender [in US$, 2021]

Occupation	Total	Male	Female	Male Premium (%)
Managers	381.14	381.7	379.98	0.5%
Professionals	310.3	348.52	264.72	31.7%
Technicians and associate professionals	246.4	281.69	166.14	69.5%
Clerical support workers	216.26	237.25	186.6	27.1%
Service and sales workers	91.7	98.03	82.87	18.3%
Agriculture, forestry, and fishery workers	75.39	75.77	72.29	4.8%
Craft and trade workers	147.16	149.24	110.71	34.8%
Plant/machine operators/ assemblers	134.23	134.57	127	6.0%
Elementary occupations	79.88	84.04	70.09	19.9%
Total monthly wages	**160.13**	**166.27**	**146.11**	**13.8%**

Source: ILO (2021)

The current labour market in Zambia pays high wage premiums for higher levels of education and skills. There are significant gains in earning with higher educational attainment, especially among women. A recent analysis conducted under Zambia's Systematic Country Diagnostic Report, as part of an education Public Expenditure Review (PER) in Zambia (World Bank, 2018), shows that the current labour market pays high wage premiums to education attainment (Figure 18) (World Bank, 2023).

Figure 18: Rate of returns to education among wage-employed workers by gender



Source: Zambia Systematic Country Diagnostic Report (2018)[10]

Returns to education in Zambia are high for international standards. Although most countries exhibit this pattern, Zambia's wage premium for an additional year of education attainment (12.6 percent) is higher than the world average (9.7 percent). Compared to workers with no education, workers who complete grades 1–7 gain 16 percent higher salaries if they are male and 6 percent higher salaries if female. The wage premium increases dramatically to 80 percent and 107 percent for men and women, respectively, in the case of grades 8–12. This result means that female workers with grades 8–12 earn, on average, a salary twice as high as workers with no education. Higher rates of returns to schooling even happen for self-employed agricultural workers: A-level holders enjoy more than twice the earnings of non-educated agricultural self-employed workers. Nonetheless, cross-sectional wage regressions reveal that women earn between 13 percent and 20 percent less than men. The wage gap for women seems to be declining over time (World Bank, 2018).

2.6 School-to-work transition

As noted earlier, Zambia has a particularly high problem of youth unemployment. The government acknowledges the problematic situation and is aware that a large number of youth work informally, particularly in manufacturing; engaging in activities such as furniture making and trading activities (UNIDO, 2020).

High NEET rates in Zambia highlight challenges in the school-to-work transition, whereby more than half of all women and 38.9 percent of men struggle to find employment or further education and training opportunities after leaving the schooling system (UNICEF, 2022). Despite the economic growth of the past two decades, many Zambian youths still struggle to find formal employment after graduating from the education and training system. While there are multiple causes of youth unemployment in Zambia—including a lack of Decent Work opportunities—experts point to the lack of relevant skills in young people leaving the education system (ILO, 2019). Youth who are able to find employment do struggle to find employment appropriate for their skill level, with 25.8 percent being overeducated for their position and 18.7 percent being undereducated for their position. Lack of skills results in lower productivity. For the graduates who struggle to find work, they may end up having low self-esteem. These difficulties in finding work or being employed for a job one is appropriately qualified for is a reflection of skills mismatch. This mismatch suggests that the education system is not aligned with the labour market in terms of the skills it provides to graduates, compared to the skills required by firms (UNICEF, 2022).

[10]*Authors used the Labour Force Survey of 2012 for this analysis. The number of workers includes only those whose wages or imputed wages were observed. Imputed wages for the self-employed are self-reported net profits from the main business.*

According to a recent international review (World Bank, ILO and UNESCO, 2023), three major factors are associated with skills mismatch:

- TEVET learners are challenged: their families generally have lower incomes than those of peers in general education. Rigid social norms usually prevent women from entering more profitable specializations or TEVET altogether. TEVET learners usually have weaker foundational skills at entry, since many education systems encourage or track lower-performing students into TEVET, and at graduation, because most TEVET programs do not give enough attention to fostering these skills.
- Unsupported TEVET teachers: they often lack the pedagogical skills to deliver quality training and they often have little if any industry experience, which hinders the acquisition of practical skills. In addition, they often lack motivation due to poor working conditions and the lack of prestige.
- Weak incentives supporting the accountability of TEVET providers to learners or employers: there is very little data, and when available, it focuses on inputs and maybe outputs, but not results. TEVET is seen as a risky investment that pays off only for some individuals; mainly among those with strong foundational skills, women with mentors, graduates whose fields of study are in demand or who attend a highly reputed TEVET institution, or those seeking a quicker school-to-work transition—though possibly at the cost of their skills depreciating faster over time (World Bank, ILO and UNESCO, 2023).

A related issue is that of career and vocational planning and job matching. Available literature suggests there are few examples of job-matching programs or career and vocation counselling and guidance programs, as well as platforms for young people attempting to make career plans or to find jobs that match their interests and skillsets. The majority of young Zambians rely on personal networks of friends and family when they seek work opportunities. Such a status quo is problematic because it means that young people without good connections may struggle to find employment, reinforcing a cycle of inequality. A lack of career and vocational guidance and job-matching services is likely to result in longer transition times between education and employment. Among those who do find employment, this can result in a low degree of job satisfaction due to a mismatch between their employment and longer-term goals for their career (UNICEF, 2022).

2.7 Conclusion

Zambia is experiencing a sizable demographic shift. The population is growing at 2.8 percent and is expected to double in the next 25 years. The country has become one of the youngest countries globally, with a population average age of 21 years.

Harnessing this valuable demographic opportunity will be crucial for Zambia's economic growth and social development. However, Zambia's poverty level remains high and the country has one of the lowest HCIs in Africa.

Due to the growing population, the working-age population in Zambia has been increasing steadily, but overall, labour force participation rates are low, as a result of lower-than-average participation of youth (ages 15–35), especially for youth aged 15–24 and in urban areas.

Lower participation among youth is mainly due to high levels of youth "economic disengagement" and the inability of the economy to generate more jobs. In Zambia, the phenomenon of youth economic disengagement is far-reaching, with most youths lacking the minimum "foundational skills" to engage in productive employment or education. This results in a huge number of NEETs and discouraged workers, which constrains the school-to-work transition. Whilst NEETs are a very heterogeneous population, about one-third are semi-skilled. Consequently, supporting the acquisition of foundational skills and promoting higher education attainment could improve participation rates in the country.

In Zambia, own-account agriculture is the country's largest employer. Most employed individuals display low levels of skills and are engaged in the informal sector. Overall, most workers in the primary sector (defined as working in the farming, fishing, and forestry industries) are informally employed.

Most employed individuals are self-employed (73.45 percent), which aligns with regional standards. Managers, professionals, and technicians however, account for less than 13 percent of all employment.

Wages in Zambia are highest in mining, energy, and public administration (between 30 and 76 percent higher than average), but these sectors engage only 11 percent of all workers. Average earnings among men are higher than among women, especially among professionals and technicians. Overall, the current labour market in Zambia pays high wage premiums for higher levels of education and skills.

Youth (aged 15–35), which account for about half of all employed individuals in Zambia, are mainly engaged in low-pay, low-productivity, informal jobs. Moreover, about one-third are underemployed. Those with certification from short-cycle programs, however, display much better employment outcomes.

Total unemployment is 13.8 percent, with most rural unemployed individuals being male (58 percent) compared with most urban unemployed individuals being female (52 percent). Zambia has a particularly high problem of youth unemployment and approximately eight out of every ten unemployed individuals are youth between the ages of 15 and 35 years. While the majority of those unemployed are low-skilled, youth unemployment rates are highest among semi-skilled youth, and most unemployed youth remain so for periods longer than 12 months.

There are higher returns to education even when compared to international standards. There are significant gains in earning with higher educational attainment, especially among women.

On the basis of the analysis in this section, it is recommended that in the short-term:

- greater emphasis on short-cycle programs could improve employment outcomes for youth;
- strengthening career and vocational guidance and job-matching services could also enhance the school-to-work transition of young people and reconnect youth with formal education.

In the medium to long-term, it is also recommended that:

- greater investment be made to ensure the acquisition of foundational skills and promote higher education attainment amongst youth in Zambia to improve their labour force participation and employment outcomes;
- given the low levels of formal employment in Zambia, greater emphasis on entrepreneurial education and business start-up support could also improve labour force participation and employment options for youth;
- support should also be provided to "reactivate" disengaged youth through a range of measures, including productivity enhancement programs for self-employed youth in the agriculture sector and the promotion of entrepreneurship, digital skills, and financial inclusion in urban areas;
- finally, it is important to continue to expand access to and the quality of formal education support programs and work-based learning for higher-skilled youth.

3

3.0 AN OVERVIEW OF THE ECONOMIC STRUCTURE, EMPLOYMENT GROWTH AND SKILLS DEMAND

This chapter provides an overview of Zambia's economic structure, highlighting Government priority sectors, employment growth, and skills gaps. The main findings include the following:

- Zambia's economic structure is changing but slowly. Mining continues to be the country's economic mainstay and there is an observed growth in manufacturing, construction, tourism, and wholesale which are becoming key sectors for the country;
- Privatisation has paved the way for greater private sector participation;
- Zambia's employment profile is changing in line with changing economic structures; however, agriculture remains the major employer;
- Small firms remain the main source of employment in the country but remain limited in scope and productivity; and
- Skills shortages and gaps exist, especially in the entrepreneurial ICT field.

Recommendations include: (i) strengthening the general and skills training systems to address skills shortages and gaps; and (ii) strengthening the labour market information system so that a more integrated picture of skills demand and supply is available for analysis and use in decision making.

3.1 Economic structural change

Until the early 1990s, when Zambia privatised the majority of state-owned enterprises, the country had a socialist system. Privatisation paved the way for broader private sector participation in the economy and since then, the country divested 265 enterprises, leaving only 30 parastatals in place (Malisese, 2021). Private sector investment spans many sectors including mining, manufacturing, and tourism.

Despite private sector investments in these other sectors, the mining sector remains the mainstay for the country's economy. With heavy dependency on copper exports, the trends in the country's economy mirror very well the changes in global copper prices. Copper prices declined between 2018 and March 2020, creating unfavourable conditions for Zambia's economy. The vulnerability of the Kwacha, which is linked to copper prices, affected all exports as well as imports of inputs and machinery required for production, and undermined the country's efforts to diversify the economy. In addition to issues around copper dependency, climate change resulted in lower crop harvests in recent years, affecting agriculture and agro-processing and resulting in electricity shortages due to reduced rainfall (World Bank, 2018).

Aware of the copper dependency challenge, the government continues to seek alternative paths to diversify the economy. To this end, an array of interventions is being promoted in order to support the economy through structural change and diversification. Government has also targeted its efforts to support the most vulnerable, following the blueprint of the national development plans and sector policies. Nonetheless, these efforts have been limited by fiscal challenges as revenue is strongly dependent on copper and large external debts (AfDB, 2023).

The country's Vision 2030, the National Industrial Policy (2018), and the current 8th NDP all point to the need for diversification and value addition in Zambia's economy as it aspires to transition from being a lower middle-income (LMI) country to an industrialised middle-income nation by 2030 (UNIDO, 2020). According to the 8th NDP themed "Socio-economic transformation for improved livelihoods" (2022–2026), economic transformation will be anchored on industrialisation with a focus on value addition in agriculture, mining, and manufacturing. Priority will also be given to job-rich sectors such

as tourism and agriculture. Focus will be placed on the development of micro, small, and medium enterprises (MSMEs) across all sectors as they have high income and job creation potential (Table 6). Human development entails having a well-educated, highly skilled, and healthy labour force that can propel Zambia to become a thriving and industrialised nation as espoused in the Vision 2030 and 8th NDP (MOFNP, 2022).

Table 6: Key 8th NDP Outcomes by Strategic Development Area

8th NDP Strategic Development Area	Outcome
No 1: Economic Transformation and Job Creation	*Outcome 1:* Industrialised and Diversified Economy, Strategy 3 "Promote value addition and manufacturing": a) Skills training; and Strategy 9 "Enhance digital capacities", b) Digital skills enhancement. *Outcome 2:* Enhanced Citizenry Participation in the Economy, Strategy 3 "Promote technical and vocational and entrepreneurship skills".
No. 2: Human and Social Development	*Outcome 1:* "Improved Education and Skills Development" covers a wide range of aspects, from primary, secondary, and tertiary (TEVET and higher) education as well as enhanced science and innovation.

Source: MOFNP (2022)

Furthermore, the industrial policy prioritises industries such as processed foods; textile and garments; leather and leather products; wood and wood products; metallic and non-metallic minerals; pharmaceuticals; and engineering products. These priority sectors identified by the Zambia Industrial Policy (2018) (II digits level) are supported by economics rationale in terms of either the revealed comparative advantage, representing the presence of existing capabilities; the latent comparative advantage, identifying the need to fill untapped potential; or high employment intensity, to contribute to employment creation and inclusive industrialisation (MOCTI, 2018).

Diversification away from the reliance of copper mining and related exports and investing in other priority sectors remains key. Contribution to economic growth from other sectors is increasingly becoming more important and apparent. For instance, manufacturing, wholesale, tourism, and others will be key to the country's recovery from the COVID-19 pandemic's devastation. However, investments into Zambia have strongly declined in recent years, particularly due to the reduction in copper projects, which once again calls for investment promotion for the diversification into value addition (UNIDO, 2020).

3.2 Employment growth

In line with the changes in the structure of the economy, employment profiles are slowly changing in Zambia. While agriculture remains the major employer, there is an observed shift in employment out of agriculture into other key sectors, such as commerce and other services, including construction, manufacturing, transport, and communications.

Jobs are becoming urbanised; people are moving out of agriculture to employment in services, and to a lesser extent, in industry. Within urban areas, formal employment in manufacturing, construction, wholesale and retail, and other services is growing. The net effect of this is an increase in formal and urban jobs relative to rural and informal jobs. Men have moved out of agriculture into industry and services, whereas women have moved out of agriculture into services. The growth in services and construction has led to a consumption boom in urban areas, especially Lusaka. This, in turn, also benefited the expansion of informal trade and self-employment opportunities among the urban poor (World Bank, 2023a).

Whilst most of the new jobs created are informal and outside agriculture, some "good" wage and formal jobs were created recently but at a slower pace. The more dramatic

increases in wage work are occurring for men in urban areas. Wage employment (formal employees) absorbs larger numbers of people in urban areas, whereas informal employment has been relatively high in rural areas. The quality of jobs also seems to be improving for those in wage employment, including for young people, with significant increases in social security coverage and a rise in the share of youth with a work contract (World Bank, 2023a).

Small firms remain the main source of employment in the country but remain limited in scope and productivity. The incapacity by most firms to create high-productivity jobs or of the economy to absorb the growing labour force has led to insufficient structural transformation and segmented labour markets, both key constraints to inclusion (World Bank, 2023a). Zambia has been struggling with improving its business environment. Besides poor infrastructure and access to finance, investors face several regulatory and administrative barriers. The major issues cited by businesses include corruption, tax rates, and licensing and permits. Thus, most small and medium enterprises (SMEs) in Zambia are informal and low-productivity enterprises. Despite their low productivity, these informal enterprises are a significant source of nonfarm employment and income in Zambia. Increased overall employment and the likelihood of starting a small enterprise could translate into gains on household consumption and build resilience to shocks (World Bank, 2023a).

The mining sector is a crucial part of the Zambian economy and remains a key influence on employment growth. However, the mining sector should be able to contribute to inclusive growth through three different channels: (a) providing government revenue, (b) backward links, and (c) spatial links (including infrastructure). Growth of the sector can create links through the demand for outputs, and hence employment, from other non-mining sectors. Further, the mining sector can generate the resources needed for redistribution and more inclusive growth. Diversification is also more likely if the resources generated from the mining sector are carefully invested in other job-creating sectors (World Bank, 2023a).

Other key industrial sectors have varying potential for employment growth. Based on the available data on value added, trade, and employment, the 2020 United Nations Industrial Development Organization (UNIDO) country diagnostic analysed the employment intensity of key industrial sectors and their potential to drive employment growth as the economy develops. It found the potential for employment growth as follows:

- textiles and garments - above average;
- leather and leather products – above average;
- wood and wood products – above average;
- mineral (metallic and non-metallic) processing and products - below average;
- processed foods – below average;
- engineering products – below average; and
- pharmaceuticals – none (UNIDO, 2020).

The wood processing sector in particular is a key sector for employment creation as it has by far the largest employment intensity of all manufacturing sectors. This makes it very attractive for Zambia in order to address the high unemployment rate of the country, particularly among youth. Zambia has had a weak and sharply declining production capacity in the textiles sector, far below expected levels compared to real value-added data of lower middle-income countries. The low exports of the sector mirror the low production levels. The textiles sector is, however, known to be a sector that can potentially generate large-scale employment and generally provides opportunities for people with lower levels of skills (UNIDO, 2020).

The Industrialization and Job Creation Strategy (IJCS) is the key national framework for employment. It was adopted by the Ministry of Commerce, Trade and Industry in 2016 with a focus on the creation of one million decent jobs. While this policy is not specifically focused on youth, providing skills to youth and getting young people into decent forms of employment will be crucial to realising this goal. (UNICEF, 2022)

The IJCS identified the four growth sectors for job creation as agriculture, manufacturing, construction and tourism. However, the IJCS lacks a comprehensive implementation plan for the creation of these jobs. The Zambian Government has partnered with the World Bank for the Let's Work Partnership. The World Bank will be providing assistance in implementing the IJCS with a focus on creating linkages between large firms and SMEs in agro-processing, transport, warehousing, and logistics. (UNICEF, 2022) The European Union (EU)-funded Skills Development

for Increased Employability Program was launched by the ILO in 2023 and has prioritised four sectors on the basis of their alignment with government development priorities, their contribution to the country's economic development, and their potential for current and future employment creation. The sectors are agriculture, manufacturing, tourism, and mining (ILO, 2023a).

Skills development including TEVET is critical for economic development and employment growth. While growth is observed in key sectors including manufacturing, construction, tourism, and services , skill shortages and skill gaps are acknowledged as some of the constraints to the accelerated growth of these sectors. For example, in its review of the country's industrial capacity in 2020, UNIDO noted that Zambia particularly requires enhanced technical and innovation skills to support the expected structural transformation towards more sophisticated and technologically intensive sectors that will enhance long-term industrial competitiveness (UNIDO, 2020).

3.3 Skills shortages and skills gaps in Zambia

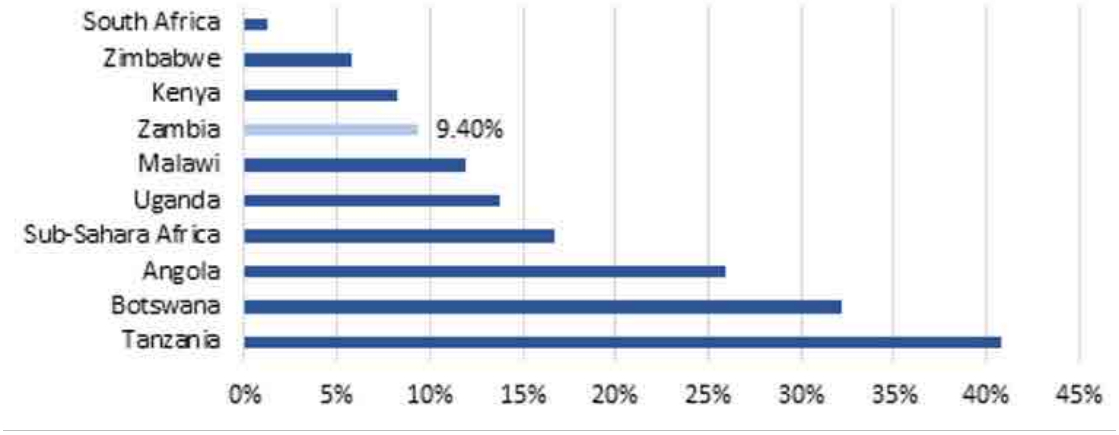
As the structure of the economy and employment profiles change, the demand for more skilled workers and new skills is likely to increase. Various studies highlight the current and emerging skill shortages and skill gaps in Zambia.

According to the 2020 National Skills Survey, the most substantial skills gaps were noted in wholesale and retail trade at 39.9 percent (ZAMSTAT, 2020b). Other industries exhibiting high numbers of skills gaps included the repair of motor vehicles and motorcycles, manufacturing, accommodation and food services, education, agriculture, forestry, and fishing (MOFNP, 2022).

The 2020 National Skills Survey further notes that the most cited occupational group in which establishments had challenges in hiring workers is technicians at 37.7 percent, followed by craft and related trade workers at 27.6 percent. The professional occupation group was least cited at 4.6 percent. (ZAMSTAT, 2020b). The current TEVETA strategic plan also makes note of several key skills gaps and shortages, especially in the ICT sector. It notes that the advancement in ICT has led to an increased demand for e-services as well as the need to develop and revise curricula to respond to emerging technologies and re-engineer delivery and assessment processes (TEVETA, 2021). The most cited problem during recruitment was the lack of or limited number of applicants, reported by 87.1 percent of enterprises. Whilst a lack of the required qualification or education level was reported by 12.8 percent of enterprises, 99.7 percent of respondents also reported the lack of technical skills amongst applicants (ZAMSTAT, 2020).

Lack of skilled labour is compounded by the low entrepreneurial and vocational skills of the graduates as well as inadequate apprenticeship/internship programs for the youth, thereby impeding their effective participation in economic activities. For this reason, skills development and job creation are considered one of the critical focuses of the two strategic development pillars of the 8th NDP (Pillar 1 and 2). Industry consultations undertaken by the ILO highlighted the skill mismatch between what industry requires and what employees can offer despite their (high level of) formal education (ILO, 2019). Employers repeatedly mentioned technical and vocational on-the-job skills; information technology (IT) skills and skills related to science, technology, engineering, and mathematics (STEM) as key areas of shortage. However, as shown in Figure 19, the proportion of firms in Zambia perceiving an inadequately educated workforce as a significant constraint is relatively low. This suggests that the majority of businesses in the country do not perceive education-related deficiencies among their employees as a major hindrance to their operations.

Figure 19: Firms identifying an inadequately educated workforce as a major constraint



Source: World Bank Enterprise Survey (WBES)

Enterprise surveys conducted by the World Bank in 2013 and 2019 also found that the extent to which skill gaps and skill shortages hinder firm performance depends largely on the sector. According to the survey, 30 percent of firms in the non-metallic minerals sector, 19 percent in metals sector, and 15 percent of producers of medium and high-tech sectors (excluding fabricated metals and chemical products) indicated that skills mismatch created a very severe or major problem.

ICT skills were named most often by all types of firms as being a binding constraint. Table 7 shows which skills are perceived by firms to be below the required level. Of these, on average, a quarter of manufacturing sector respondents stated that this is below average in their firm. This is followed by English (18 percent) and technical (vocational) skills (16 percent), although in the metals sector, insufficient vocational skills (18 percent) is the larger issue. Reflecting these challenges, technical and vocational skills were reported as being among the top three priorities of employers when hiring (UNIDO, 2020).

Table 7: Enterprise Skill Gaps and Skill Shortages by Sector

	Mnf.	Non Mnf	Mnf TNZ	Proc. Food	Textiles Leather	Metals	Dom Owned	SMEs	Non-Exp
Critical Thinking	7	8	5	6	19	7	7	7	6
English	18	14	60	12	33	11	18	19	18
Interpersonal	12	9	5	8	19	14	11	13	13
IT	25	19	56	22	38	21	25	28	26
Numerical	11	11	NA	14	14	4	10	12	12
Problem Solving	7	7	11	2	10	11	7	8	7
Vocational	16	12	19	16	14	18	17	19	18
Work Ethic	5	6	5	2	10	11	5	5	5
Writing	12	9	13	6	19	11	12	14	13

Source: UNIDO (2020)

Entrepreneurial and management skills have also been identified as a pressing issue. This is particularly important in connection with finance, for example when the probability of successfully applying for credit is higher when owners/managers can create credible business plans (TEVETA, 2023). As such, TEVETA noted the following skills in order of priority:

- literacy and numeracy;
- problem solving;
- digital literacy;
- socio-emotional skills;
- entrepreneurship; and
- critical thinking.

Whilst many workers in the informal economy have high-level artisanal skills, they are not required by larger manufacturing firms, making it harder to transfer people to formal employment. Industry consultations undertaken by UNIDO also noted that as mining is a major employer in Zambia, many skills initiatives are focused on this sector and given that wages are generally higher in that sector, it might create a relative scarcity of skills in other important sectors (UNIDO, 2020).

In order to deal with the existing skills gap, some firms source skills from outside Zambia. Inputs from industry stakeholders consulted for this report revealed that larger enterprises have also used their own resources to set up trade training schools or employee-based training which they conduct in partnership with TEVETA. Companies also reported sending some employees abroad for skills development. In addition, industry stakeholders identified issues with the quality and relevance of training and noted that the existing skill system was not keeping abreast of the technological changes affecting local industries, including automation, artificial intelligence, and the greening of the economy.

TEVETA noted that whilst skills gaps and mismatches have been reported by employers, because TEVETA does not have a research unit, it depends on other institutions to collect the data. They observed that the Ministry of Labour and Social Security and the Zambia Statistics Agency (ZAMSTAT) are required to undertake Skills Audits every two years to inform curriculum development and training in general. Whilst the last assessment was conducted in 2020, they noted that there is a need for more regular feedback from the Skills Advisory Groups and professional bodies on skills demand (TEVETA, 2023).

TEVETA also observed that engagement with industry on the issue of skills gaps and skills shortages was inadequate. The skills system is not very responsive to changing skill demands in the labour market, so they suggested that there is a need for regular inputs from the newly established Skills Advisory Groups (TEVETA, 2023).

3.4 Conclusion

Zambia is a heavily resource-based economy that would benefit from further development of value chains to effectively transform raw materials into processed goods. Diversification away from the reliance of copper mining and related exports also remains key. Aware of the copper dependency challenge, the government has put in place an array of interventions in order to support the economy through structural change and diversification. Apart from mining, other industrial sectors have been prioritised in the country's industrial policy, including processed foods; textile and garments; leather and leather products; wood and wood products; metallic and non-metallic minerals; pharmaceuticals; and engineering products.

Privatisation has paved the way for greater involvement of the private sectors, with huge investments in the mining sector. Substantial investments in other sectors are key for diversification.

Whilst the mining sector is a crucial part of the Zambian economy and remains a key influence on employment growth in various value chains, key industrial sectors with above-average employment growth include textiles and garments, leather and leather products, and wood and wood products. The wood processing sector in particular is a key sector for employment creation as it has by far the largest employment intensity of all manufacturing sectors.

Employment profiles for the country are changing, with a shift in employment out of agriculture into commerce and other services taking place recently. There are also gains in construction, manufacturing, transport, and communications. Whilst most of the new jobs created are informal and outside agriculture, some "good" wage and formal jobs have been created, but at a slower

pace. Small firms remain the main source of employment in the country but remain limited in scope and productivity. Whilst many workers in the informal economy have high-level artisanal skills, these skills are not required by larger manufacturing firms, making it harder to transfer people to formal employment.

Skills development, including TEVET, is critical for economic development and employment growth and various studies have highlighted current and emerging skill shortages and skill gaps in Zambia. The industry that reported the most substantial skills gaps was wholesale and retail trade at 39.9 percent. The 2020 National Skills Survey noted that the most cited occupational group which establishments had challenges in hiring was technicians, followed by craftsmen and women and related trade workers. Lack of skilled labour is compounded by the low entrepreneurial and vocational skills of the graduates, as well as inadequate apprenticeship/internship programs for youth, thereby impeding their effective participation in economic activities.

The extent to which skill gaps and skill shortages hinder firm performance depends largely on the sector. Whilst robust data on skills gaps and skills shortages does not exist for all economic sectors in Zambia, the teaching and health workforces have been analysed in depth. Data indicates that Zambia needs a robust and effective education system that addresses the immediate need for new teachers and lays the foundation for a sustainable supply of well-trained educators in the future. The government also plans to recruit 30,000 nurses by 2030 and improve education and training pathways in the health and community care sector.

ICT skills are named most often by all types of firms as being a binding constraint and a range of other generic skills have also been identified as priorities. Entrepreneurial and management skills have also been identified as a pressing issue.

Policy concerns about the quality and limited supply of high-level skills, and the constraints they pose for growth, appear well-founded. Employer assessments, supported by the analyses, suggest that many workforce skills are inadequate compared to what firms need and these skill deficiencies negatively impact production, the use of new technology, and innovation. Firms that export and innovate demand more skilled workers with tertiary education, TEVET credentials, and higher occupational skills.

The skills supply to meet these needs are often limited, especially when firms are located in regions outside Lusaka where skill sources are concentrated. Some firms, but not all, respond to skill gaps and demand by deploying skill strategies to fill job vacancies, provide in-service training to develop or upgrade skills of their workers, hire high-skill expatriates when local supply is limited, and outsource professional services.

TEVETA noted that whilst skills gaps and mismatches have been reported by employers, because TEVETA does not have a research unit, it depends on other institutions to collect the data. TEVETA also observed that engagement with industry on the issue of skills gaps and skills shortages was inadequate.

On the basis of the analysis in this section, it is recommended that in the short- term:

- Priority be given to enabling the education and training system to better respond to the skill needs of the following priority sectors and sub-sectors:
    - Wholesale and Retail Trade
    - Community, Social and Personal Services;
    - Manufacturing (including Wood and Wood Products; Textiles and Garments; Leather and Leather Products); and
    - Agriculture.

In the medium to long-term, it is also recommended that:

- Support be provided to enhance entrepreneurial skills and expand business development services;
- Support be provided to enhance the capacity of the education and training system to develop a range of generic skills; including digital skills, communication skills and foundational literacy, and numeracy, and
- Support be provided to strengthen the labour market information system so that a more integrated picture of skills demand and supply is available for analysis and use in decision making.

4

4.0 THE TEVET SYSTEM OF ZAMBIA

This chapter discusses key features and challenges of the TEVET sub-sector in Zambia, including access, quality, and relevance; the policy and regulatory framework; and financing, and identifies recommendations for improving the contribution of the sub-sector for skills development. Key finding include:

- Overall, relative to demand, the absorption capacity of the TEVET sub-sector has remained low and reflects the need to develop a system that can increase both access and participation to TEVET;
- The provision of institution-based training in Zambia is characterised by unequal geographical distribution of TEVET institutions coupled with considerable variation in quality;
- Most of the training institutions in TEVET barely meet minimum training standards. There is an established regulatory framework, however, fragmentation in the programming makes the system complex;
- TEVET is one of the least-funded sub-sectors within the education system and has little support from stakeholders, including cooperating partners. The Skills Development Fund (SDF) is becoming an important source of financing for TEVET; and
- There is a mismatch between skills supplies and the labour market demand.

To address these challenges, some of the suggested recommendations include (i) improving the financing of TEVET to enhance learning conditions such as infrastructure, equipment, teaching, and learning materials; and (ii) strengthening the regulatory framework, including inter-ministerial coordination and linkages between industry and TEVET.

4.1 Key education and skills development outcomes

The education sector in Zambia is made up of formal and non-formal education systems. The formal education system covers early childhood, primary, secondary, and tertiary education. Vocational education and training are offered at secondary and tertiary education. The Zambian education system has a 3-7-5-4 structure, namely three years at early childhood, seven years at primary, two and three years at junior and senior secondary, respectively. For tertiary education, college education and technical and vocational training is between two and three years, and a minimum of four years at university.

Until recently, the education sector was managed by two ministries. Early childhood education and primary and secondary education were managed by the Ministry of General Education, while TEVET, college education and university education were managed by the Ministry of Higher Education. With the new government, university education is now part of the Ministry of Education (MOE), while TEVET is under MOTS.

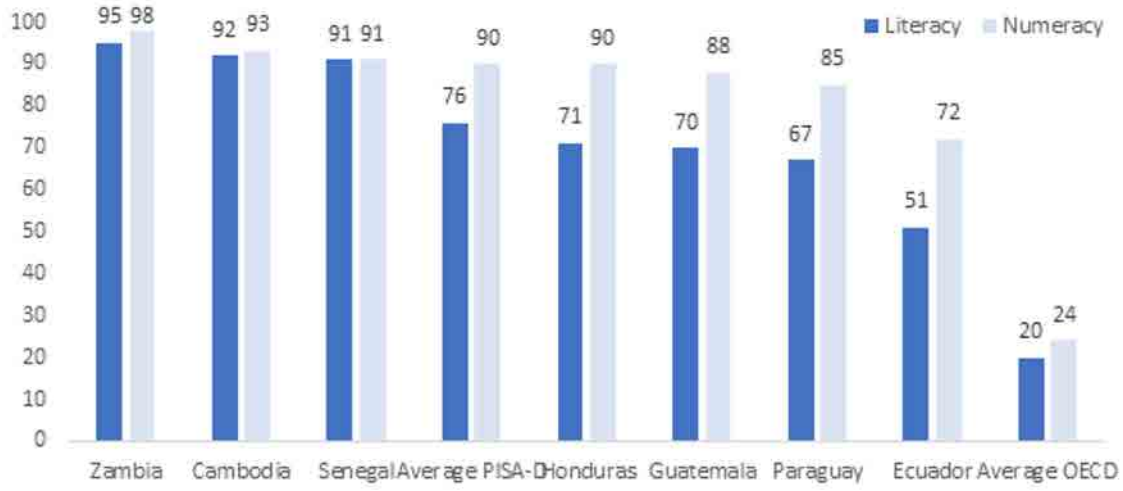
TEVET is a critical pillar in a country's education architecture. It is meant to enhance training opportunities for a wide range of individuals, such as school leavers, employees seeking retraining in current jobs or embarking on career shifts, out-of-school youths, those who have never been to school, and school dropouts. It equips individuals with practical and lifelong skills that improve their employability and increase their competitiveness in the labour market. This is especially essential for youths that are transitioning from school to work. This report focuses on the TEVET sector, given its key role in responding to the skills gaps and shortages identified in the previous section. However, in Zambia, the TEVET system is further challenged by the low levels of foundational skills amongst its potential student base.

Foundational skills in numeracy and literacy are critical for an effective TEVET system. In Zambia, most students leave the education system without a mastery of foundations skills. According to the Program for International Student Assessment for Development (Zambia PISA-D [2018]) results, Zambia's student performance in literacy and numeracy is below average by regional standards (Figure 22). Results from PISA-D indicate that by age 15, only 5 percent of students achieve the minimum

level of proficiency in reading and only 2 percent in mathematics. Results indicate that most of Zambia's 15-year-old students do not achieve minimum proficiency in literacy and numeracy. Zambia's results under-perform those of other developing countries participating in PISA-D (including Senegal) and are significantly behind the Organisation for Economic Co-operation and Development's (OECD's) standards. These results are worrisome, since these foundational skills are necessary for individuals to develop other higher-order cognitive skills that are key to success in the labour market and life, such as communication, problem-solving, and information analysis. Individuals with limited foundational skills are often unattractive to employers, cannot adjust to technological changes, and, even if they gain proficiency in technical skills (such as plumbing or welding), have limited capacity for greater value addition in their work.

Individuals without adequate foundational skills may also not be able to profit from digital education and employment opportunities emerging through digital transformation. In this context, foundational skills assessment, development, and remediation should be Zambia's main workforce development priorities.

Figure 20: Percentage of the population of 15-years-old not achieving minimum proficiency in foundational skills [Countries that have participated in the PISA-D program]



Source: Zambia's PISA-D (2018)

4.2 Key features of the TEVET system

4.2.1 Key institutions and agencies

The Ministry of Technology and Science, through its Department of Vocational Education and Training, is responsible for policy formulation, co-ordination, and promotion of TEVET in Zambia. The Ministry is also responsible for increasing stakeholder participation in the provision of TEVET and assessing the impact of TEVET programs (MOTS, 2023). The responsibility to regulate TEVET is discharged through TEVETA, which is its semi-autonomous agency established through the TEVET Acts of 1998 and 2005 (TEVETA, 2018). TEVETA's main functions include advising the ministry on TEVET, managing the levy-financed TEVET fund, regulating and coordinating apprenticeship and trade testing facilities, leading curriculum development, setting minimum standards and qualifications for TEVET, approving and conducting national examinations, awarding TEVET certificates, and registering training institutions (TEVETA, 2018). Indeed, the United Nations Educational, Scientific and Cultural Organization (UNESCO) noted that TEVETA's mandate is broad, including no less than 20 different areas of responsibility that span direct training provision to labour market information, and national TEVET coordination to national policy development (UNESCO, 2022).

In terms of qualification accreditation, the MOTS collaborates with the *Zambia* Qualifications Authority (ZAQA), which is an institution established pursuant to the ZAQA Act No. 13 of 2011 and is responsible for the development, management, and operation of the *Zambia* National Qualifications Framework (NQF). The ZAQA is a statutory body under the MOE and has the mandate to develop and implement a national qualifications framework to ensure that standards and

registered qualifications are internationally comparable. The ZAQA has the legal mandate to manage the Zambia NQF and keeps records of learner achievements in Zambia. The Zambia NQF is managed through three sub-frameworks that includes (i) General Education, (ii) Trades and Occupational, and (iii) Higher Education. The ZAQA is not itself a quality assurance body as is the case with TEVETA, but it does coordinate the outputs of relevant awarding and quality assurance bodies, such as the MOE or TEVETA (ZAQA, 2018).

ZAQA maintains records of the Appropriate Authorities who are responsible for accrediting Institutions in their respective sub-frameworks. All providers of education and training operating in the country are required to be registered by their respective authorities. These Authorities include the Teaching Council of Zambia (TCZ) responsible for General Education; the Higher Education Authority (HEA); the Zambia Institute of Chartered Accountants (ZICA); and TEVETA, which is responsible for the Trades and Occupational Framework.

The Ministry of Labour and Social Security also has a formal role in the TEVET system pursuant to the Employment Code Act (2019) which empowers the Ministry to establish and support Skills and Labour Advisory Committees, and in conjunction with ZAMSTAT, it is also expected to produce a biannual national skills survey.

4.2.2 Key providers and programs

Within the Zambian TEVET system, the ILO has identified six main pathways for skills formation:

- secondary school vocational education and training (also called SSVET);
- TEVETA registered institution-based training;
- the learnership/apprenticeship system;
- non-formal and informal work-based training;
- open and distance learning; and
- recognition of prior learning (or assessment only system) (ILO, 2019).

TEVETA observed that only a few TEVET institutions offer training from craft to diploma level, with the majority of providers offering a small number of formal programs in the open training market. Almost 60 percent of training institutions only offer short courses of less than three months, or Level 3 certificates as their highest level of qualification (TEVETA, 2023). Overall, skills provision mainly takes place at the lower levels of the Zambia NQF (ILO, 2019).

Table 8 show that the majority of training institutions are concentrated in a few urban provinces. For example, in 2021, 85.4 percent of the registered TEVET institutions were along the line of rail representing Southern, Lusaka, Central, Copperbelt and North-Western Provinces. The remaining 14.6 percent were located in the rural provinces of Zambia, namely Eastern, Luapula, Northern, Muchinga and Western Provinces.

Table 8: Distribution of TEVET registered training institutions by province

	NUMBER OF REGISTERED INSTITUTIONS					
PROVINCE	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Central	18	19	22	18	19	20 (6%)
Copperbelt	80	73	78	80	84	78 (25%)
Eastern	11	12	13	11	11	10 (3%)
Luapula	10	10	10	12	12	12 (4%)
Lusaka	110	110	122	114	117	122 (40%)
Muchinga	5	4	4	4	5	5 (2%)
Northern	6	7	7	9	8	9 (3%)
North-Western	11	12	13	12	12	13 (4%)
Southern	34	29	27	25	25	29 (9%)
Western	8	8	8	10	10	10 (3%)
TOTAL	**293**	**284**	**304**	**293**	**303**	**308 (100%)**

Source: ZAMSTAT, 2022

In terms of ownership, there is mix between faith-based, government, trust, non-governmental organisation (NGO), private, and community ownership. Table 9 shows the distribution of training institutions in TEVET by ownership over five years: As evidenced, the majority of institutions are owned and run by the government. The Public TEVET institutions fall under various ministries, including MOTS; the Ministry of Youth and Sports; the Ministry of Community Development, Mother and Child Health; the Ministry of Tourism and Arts; the Ministry of Lands, Environment, and Natural Resources; the Ministry of Labour and Social Security; the Ministry of Commerce and Industry; and the Ministry of Agriculture.

The private for-profit entities and faith-based organisations also own a significant share of TEVET institutions, while Trust and community ownership remain low.

Table 9: Distribution of Institutions according to Ownership

	TYPE OF OWNERSHIP							
Year of Registration	**Public/ Govt.**	**Private**	**Faith-based**	**Community**	**Trust**	**Company**	**NGO**	**Total**
2016	94	89	57	8	7	26	12	293
2017	95	82	55	8	7	26	11	284
2018	102	87	56	8	5	25	21	304
2019	106	75	53	7	5	25	22	293
2020	114	79	46	6	7	26	25	303
2021	115 (37%)	83 (27%)	46 (15%)	6 (2%)	7 (2%)	27 (9%)	24 (8%)	308 (100%)

Source: ZAMSTAT, 2022

The overall number of training providers has been increasing over time from a total of 293 in 2016 to 308 in 2021, and to about 350 in 2023. However, a large number of these training institutions are only able to offer lower-level training in the form of short courses or Level 3 certificate. As shown in Table 10, only 18 percent (55 institutions) were able to offer programs at a diploma level for both technical and management courses.

Table 10: Distribution of Institutions according to Levels of qualifications

	Level of Training						
Year of Registration	**Short Courses**	**Level 3 Certificate**	**Level 4 Certificate**	**Level 5 Certificate**	**Diploma (Tech)**	**Diploma (Mgt.)**	**Total**
2016	60	114	48	7	15	49	**293**
2017	56	115	49	7	13	44	**284**
2018	69	119	44	5	15	52	**304**
2019	69	117	41	5	15	46	**293**
2020	68	130	45	6	15	44	**303**
2021	69 (22%)	133 (43%)	45 (15%)	6 (2%)	15 (5%)	40 (13%)	**308 (100%)**

Source: ZAMSTAT, 2022

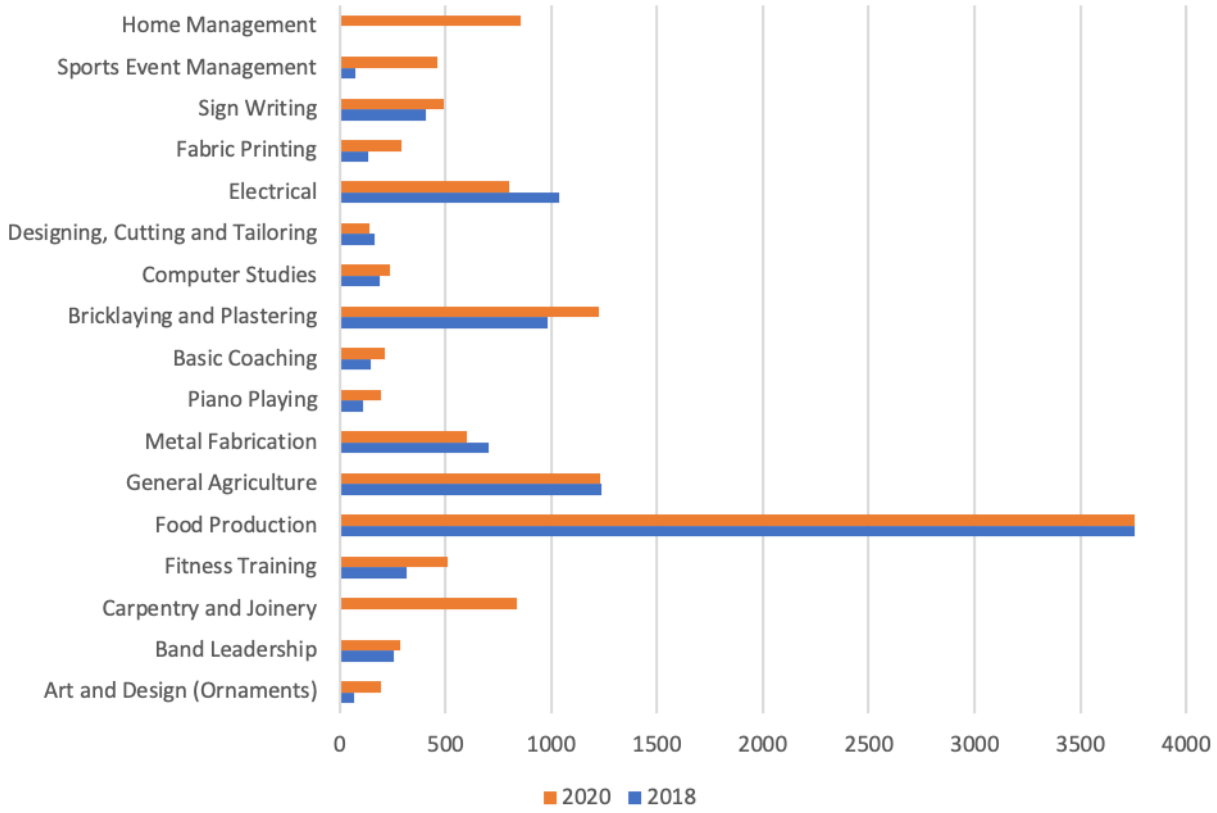
TEVET is also mainstreamed within the general education system under the SSVET. This pathway is part of the reforms that were introduced under the revised 2023 curriculum. The MOE has the overall responsibility of managing the program, including the provision of training facilities, and works with TEVETA for certification and to ensure quality. TEVETA is able to provide training facilities for those secondary schools within the proximity of the trade schools. Students on this pathway are awarded trade test certification by TEVETA. There are more than 2,300 secondary schools running the SSVET. Based on trade test data provided by TEVETA, programs have been offered in the following occupational fields:

- General agriculture;
- Electrical engineering;
- Bricklaying and plastering;
- Carpentry and joinery;
- Metal fabrication;
- Automotive mechanics;
- Designing, cutting, and tailoring;
- Fabric printing;
- Sign writing;
- Housekeeping;
- Basic coaching;
- Sports events management; and
- Fitness training (TEVETA, 2023).

Trade test examinations are provided at secondary schools in partnership with TEVETA. In 2020, a total number of 290 schools presented candidates for the trade test examination. Copperbelt Province recorded the highest number of schools at 110, followed by Southern Province at 61; Eastern Province at 32; Luapula Province at 21; Central Province at 14; Western Province at 14; and Muchinga Province at 13, while North-Western, Northern, and Lusaka Provinces recorded the least number of schools participating in the examination at 12, 12, and 1, respectively. The number of schools that participated dropped from 417 in 2019 to 290 in 2020 (TEVETA, 2021). This was attributed to the introduction of online registration running on the Examination Council of Zambia platform. Some schools were unable to register their candidates on the platform on time.

Figure 21 provides an overview of the number of students that registered for various courses in 2018 and 2020. Food production had the highest number of registered students in 2018 (3758 students) and 2020 (3756 students). This was followed by general agriculture with 1239 students in 2018 and 1232 students in 2020. Art and design and piano playing attracted the lowest number of students.

Figure 21: Registered SSVET students by course



Source: Trade test assessment results by TEVETA (2021)

In terms of pass rates, art and design (ornaments) scored the highest pass rate at 100 percent in both 2018 and 2020. This was followed by basic coaching at 92.27 percent in 2020 and 95.17 percent in 2018. The lowest pass rate was in piano playing at 62.96 percent and 69.72 percent in 2020 and 2018, respectively. Despite these results, no data was available to indicate the trajectories of students enrolled in these programs so it is difficult to ascertain the extent to which they prepare students for direct labour market entry or for higher vocational studies.

The provision of SSVET is, however, not without challenges. In 2020, the following key issues were observed;

- The schools monitored during the assessment period indicated that they experienced challenges in procuring examination materials because of the high costs involved. This might have compromised practical training during learning.
- Some administrators considered TEVET assessment as optional, regardless of the fact that it was a clear policy priority and an element of the educational framework.
- It was observed that some schools had inadequate learning and training equipment/ facilities.
- Secondary school teachers who were used as SSVET assessors required capacity building in skill competence assessment techniques.
- The assessment fees paid for each candidate were too low and were paid very late to enable TEVETA to meet their operational requirement in regard to the administration of SSVET assessments (TEVETA, 2021).

Another pathway for skills formation is the provision of institution-based training. This pathway is characterised by the unequal geographical distribution of TEVET institutions, coupled with considerable variation in quality (ILO, 2019). More than 62 percent of the institutions are based along the line of rail or in economic hubs. Recently, there have been efforts by the government to establish trade schools in almost all the 116 districts of the country. In terms of institution-based training, the United Nations Children's Fund (UNICEF) noted that there is a large degree of overlap amongst public

agencies involved in the delivery of technical and vocational training and out-of-school youth training programs, with as at least five ministries involved in programs targeting youth (UNICEF, 2022). They suggest that whilst this could reflect that the ministries are catering to different demographics and target groups, they note it may also reflect the duplication of efforts and an inefficient use of resources. They therefore conclude that enhanced coordination between ministries is necessary (UNICEF, 2022).

One example of a key public provider is the Ministry of Youth, Sport and Arts (MYSA), the lead government agency responsible for the National Youth Policy, which has a particular focus on employment, entrepreneurship, and education. Whilst MOTS and MYSA both conduct TEVET for out-of-school for youth, the quality of MOTS' vocational centres has been judged as significantly higher than MYSA centres due to their more advanced equipment and training standards (UNICEF, 2022).

MYSA manages 307 registered youth resource centres nationwide—25 of which are run by MYSA itself— which provide training in life skills, basic technical skills, and entrepreneurship, with a focus on school dropouts and school leavers. However, such centres are not located in areas of greatest need and they lack sufficient funds to carry out all of their operations (UNICEF, 2022).

The Ministry of Community Development and Social Services (MCDSS) also provides vocational training, targeting women, disabled people, youth, and unemployed adults in particular. Other sector agencies are involved in skills development, such as the Ministry of Local Government and Housing (MLGH), which provides up-skilling in water and sanitation-related services through its Small Towns Water Supply and Sanitation Program. In addition to being a provider of vocational education in secondary schools, the MOE also runs the Department for Continuing Education which operates several open learning centres, night schools, and the national correspondence college, which aim to assist out-of-school youth and other adults seeking to further their education (UNICEF, 2022).

TEVETA observed that in the absence of a research unit, it was difficult for them to analyse TEVET program and labour market data to inform evidence-based policy making (TEVETA, 2023). The lack of a research unit at TEVETA also affects the curriculum development process, as Training Needs Assessments (TNAs) are often forsaken and new programs are developed on the basis of assumptions made by agency staff (TEVETA, 2023).

Whilst initial and continuing vocational training in Zambia also involves companies, there is limited data on which companies are involved in training, who among their employees receives training, and which skilling needs are addressed (ILO, 2019). Data from the levy-based training fund suggests that only 25.8 percent of firms have training plans for employees (UNICEF, 2022). When considering manufacturing firms alone, UNIDO found that 28 percent offered some form of staff training, with 25 percent conducting training specifically for the development and/or introduction of innovative products/services and processes (UNIDO, 2020). They reported that 50 percent of staff participated in training, although this figure dropped to 38 percent for the metal sector. In-house training was mostly provided by staff of the firms along with representatives of industry associations. Of those firms not delivering training, 42 percent cited cost or cost effectiveness as key reasons why they did not engage in the same (UNIDO, 2020).

The staff of public and private training organisations, including enterprises, can apply to be registered with TEVETA as an Assessor, Examiner, and Trainer. Candidates who do not meet the entry requirements are not enrolled in the Learner Data Management System (LDMS) and will not be registered as students in the TEVET system (TEVETA, 2023.) The following entry requirements apply to the trade tests conducted by TEVETA:

- Level 1 – Open Entry
- Level 2 – Grade 9
- Level 3 – Minimum of one *General Certificate of Education* (GCE) subject
- Craft – 5 subject passes from the relevant program (depending on the program; some programs include English, Science, and Mathematics)
- Technician and Diploma – 5 credits depending on the level of the program (TEVETA, 2023).

The policy on the recognition of prior learning (RPL) provides assessment and validation options for all levels of the ZQF, in line with the ZAQA Act. Whilst data on RPL assessment levels was not provided, TEVETA advised that most RPL assessments were for trade tests but that the

ZQF also provides for higher qualifications. Upon the successful completion of the RPL process, the candidate will be awarded with a qualification or a record of learning achievement depending on the different levels of the ZQF being attained. The number of RPL assessments undertaken were: 1,026 in 2019; 1,393 in 2020; 2,093 in 2021; and 812 in 2022 (TEVETA, 2023).

Recognition of prior learning is a potential means for increasing formal labour market participation. It could be of particular benefit to young people trained as apprentices in the informal sector, helping them to get their skills validated and certified. According to the 7th NDP implementation plan, 2,000 students should have been certified through RPL by 2021 (MNDP, 2018). One important unresolved issue remains how best to share the costs of implementing RPL between individuals and the state.

4.2.3 Enrolment, completion, and pass rates

For institution-based learning, ZQF level 3 training, which includes trade test certificates, has the majority of enrolled students. ZQF level 4–6 means artisan (craft certificate), technician (advanced certificate), and technologist (Diploma), respectively. Table 11 shows enrollment in the past five years. As evidenced, enrollment in ZQF level 3 grew almost 40 percent, from 11,042 in 2015 to 18,463 in 2021. Over time, the enrollment rates have been skewed in favour of males, with the number of female enrollment less than half the number of male enrollment for most qualifications. For SSVET qualifications, the data suggests that the gender gap has narrowed in recent years, with the number of males and females enrolled almost equal from 2019 to 2021.

Table 11: Enrollments per level of qualification

	ZQF 4-6		ZQF 3		Skills Award		SSVET		TOTAL
	Male	Female	Male	Female	Male	Female	Male	Female	
2015	6,357	2,028	7,872	3,170	0	0	1,291	599	**21,317**
2016	6,609	2,200	6,888	3,140	0	0	1,121	409	**20,740**
2017	6,610	2,540	8,422	4,090	917	327	4,286	3,483	**30,675**
2018	6,191	2,219	8,812	4,751	1,012	328	6,970	5,684	**35,967**
2019	6,168	2,470	9,360	6,118	633	325	8,188	8,530	**41,792**
2020	4,774	1,927	8,480	5,032	164	27	5,932	6,634	**32,970**
2021	5,697 (15%)	2,517 (7%)	11,182 (26%)	7, 281 (19%)	120 (≤1%)	94 (≤1%)	5,284 (14%)	5,687 (15%)	**37,862** (100%)

Source: ZAMSTAT, 2022

Broadly, the fields of training are categorised into science, engineering, technology, and mathematics, collectively known as STEM subjects. Others include social science, business, and hospitality/tourism programs. Table 12 shows the distribution of enrollments based on the various training programs. For the years under analysis, the majority of enrollments were consistently in STEM-based programs, followed by enrollments in hospitality and tourism.

Table 12: Enrollments by field of training

Year	Business	Technology	Science	Social Science	Hospitality & Tourism	Engineering	Other	Totals
2016	897	4,217	2,600	1,150	1,921	9,160	0	19,945
2017	1,492	7,324	2,916	1,643	4,809	10,566	865	29,615
2018	1,832	8,914	3,684	1,169	6,285	11, 792	1,068	34,744
2019	2,868	8,375	5,246	1,098	9,662	12, 880	772	40,901
2020	2,004	7,796	3,989	1,856	6,222	10, 645	115	32,627
2021	1,911 (5%)	10,276 (27%)	4,980 (13%)	1,998 (5%)	6,611 (18%)	11, 412 (30%)	214 (≤1%)	37,402 (100%)
TOTAL	**12,233**	**52,189**	**25,934**	**9,469**	**37,501**	**75,380**	**3,034**	

Source: ZAMSTAT, 2022

Overall, relative to demand (which includes school leavers, employees seeking retraining in current jobs or embarking on career shifts, out-of-school youths, those who have never been to school, retirees, school dropouts, and retrenched workers) the absorption capacity has remained low and reflects the need to develop a system that can increase both access and participation to TEVET. In response, the government has sought to implement a number of strategies aimed at increasing access to TEVET. These include the construction of new trades training institutes, and the introduction of the two-tier system to provide for vocational and academic learning to both increase access to skills training and equip the secondary school learners with practical and lifelong skills that can enhance their employability (self-employed and salaried).

To enhance the participation of the private sector in the provision of TEVET, the government introduced a training levy called the Skills Development Levy (SDF[11]) of 2016. Since its introduction, the SDF has grown in contributions. For instance, according to the TEVETA 2021 financial reports, about ZMW 161 million was collected in the SDF, which was almost 66 percent of the budget allocated for skills development by the government. However, there is still low participation of industry in TEVET provision, particularly partnerships to improve access to and quality of training. As a result, both access and participation remain a challenge despite all the interventions (Ministry of Higher Education, 2020).

As noted in the National TEVET Policy (2017–2021), to address low access to TEVET and the growing youth population, multi-modal approaches to vocational education and training premised on different learning pathways are required in the country. Further, the construction of new trades training institutions is cardinal to increase training opportunities for the youth that need relevant skills to participate in different sectors of the economy. This is critical to ensure that the distance between the learner and the training institution does not continue to be a barrier to access.

In terms of completion and pass rates, most students who enroll for the programs complete and pass them. For instance, Table 13 shows the number of students who sat for final examinations and those who passed. Over the years for which data was accessed, the pass rate remained high with more than three-quarters of all students who sat for an exam recording a pass. For example, in 2020, from 5,952 female candidates who sat for examinations, 5,297 passed, making the pass rate 89 percent, whilst 655 failed, making the failure rate 11 percent. Similarly, from 5,230 male candidates who sat for examinations, 4,482 passed, making the pass rate 85.70 percent, whilst 748 failed, making the failure rate 14.30 percent.

Table 13: TEVET examinations and pass rates

	Sat	Absent	Male Passed	Female Passed	Male Failed	Female Failed	Total
2020	11,182	742	4,482 (40%)	5,297 (47%)	748 (7%)	655 (6%)	11,924
2018	10,319	603	4,707	4,383	709	520	10,922
2017	7,011	324	3,359	2,469	687	427	7,335
2016	1,472	56	946	341	131	51	1,528

Source: ZAMSTAT, 2022

[11] *The SDF is intended to provide sustainable financing of the TEVET system in order to ensure the development and supply of skilled persons to the Zambian economy. The Fund has been designed to include policy responsiveness, governance structures, institutional arrangements, institutional capacities, systems, and procedures. This SDF will be collected from the employers at 0.5 percent of their payroll.*

At provincial level, there are noticeable variations in the pass rates, with urban provinces recording higher rates compared to rural provinces (Table 14). As an example in 2020, Lusaka province scored the highest pass rate at 95.24 percent. The other provinces pass rates were as follows: Eastern at 90.56 percent; Luapula at 89.45 percent; Muchinga at 89.16 percent; Southern at 84.28 percent; Northern at 84.02 percent; Western at 82.99 percent; North-Western at 78.38 percent; Central at 76.28 percent; and Copperbelt at 63.73 percent. This distribution might suggest a correlation between student performance and the quality of the training institutions in the provinces.

Table 14: Student pass rates by province

	2020	2020	2018	2018	2017	2017	2016	2016
Province	**Sat**	**Pass Rate (%)**	**Sat**	**Pass Rate (%)**	**Sat**	**Pass Rate (%)**	**Sat**	**Pass Rate (%)**
Lusaka	21	95.24	294	94.9	325	97.23	81	**100%**
Eastern	1,229	90.56	940	90.96	617	91.73	198	**99%**
Luapula	692	89.45	589	90.83	545	88.62	95	**96%**
Muchinga	701	89.16	2,523	90.45	1,107	87.53	188	**94%**
Southern	2,386	84.28	1,241	88.8	214	85.98	119	**94%**
Northern	682	84.02	1,349	87.25	1,375	81.9	142	**93%**
Western	788	82.99	622	86.33	498	79.12	148	**88%**
North-Western	532	78.38	886	85.44	1,064	78.2	237	**76%**
Central	371	76.28	1,091	83.5	763	77.85	142	**74%**
Copperbelt	3,934	63.73	784	82.53	503	75.94	122	**70%**
Overall	**11,336**	**77.82**	**10,319**	**88.01**	**7,011**	**84.41**	**1,472**	**88%**

Source: ZAMSTAT, 2022

4.2.4 Staffing, curriculum, and infrastructure

The ZAQA and industry have developed a series of National Occupational Standards (NOS) used when developing curricula. For those programs that ZAQA has yet to develop a NOS, TEVETA has in place similar competency statements in the form of job profiles. Job profiles have been developed by TEVETA as part of a curriculum development process that existed before ZAQA was established. The NOS are used by all providers, both public and private (TEVETA, 2023).

Public and private providers able also to develop their own curriculum and have it approved but this tends to be restricted to mining companies and other well-established sectors/companies where such in-house capacity exists (TEVETA, 2023). All courses developed by training providers for programs leading to formally recognised credentials have to be accredited by TEVETA at national level to ensure standardisation (ILO,2019).

The TEVETA Guidelines for Curriculum Development and Review are the regulations that determine when occupational standards or a curriculum should be reviewed and which stakeholders are involved in the process. TEVETA policy dictates that a curriculum should be reviewed every three to five years according to the following guidelines:

- Short Courses and Trade Test – every 3 years;
- Craft Certificate – every 4 years; and
- Technician and Diploma – every 5 years (TEVETA, 2023).

However, as various reports on TEVET in Zambia highlight, the effectiveness of such review mechanisms remains an open question as timeframes are not followed. As such, outdated curricula are issue. TEVETA guidelines also require all new courses to be developed in consultation with employers, and industry currently contributes to the development of NOS and the curriculum process through representation in skills advisory groups or as experts from industry invited by TEVETA. In some sectors, such as water,

a skills advisory group is the key point of contact. In others, such as mining, a central body such as the Zambia Chamber of Mines, act as the key industry group which identifies the skills needs of their members and submits them for the development of relevant curricula in cases where the appropriate curricula are not available. The approval of a curriculum is done by a Technical Committee of the TEVETA Board, which draws membership from the industry. Industry thus participates at different stages during standards and curriculum development (TEVETA, 2023).

Information on curriculum implementation and the skills gaps of teaching staff is also obtained by TEVETA through the inspections of providers, with some gaps addressed through the placement of trainers within companies for practical competency enhancement. Industry collaboration in key in ensuring trainers are given spaces for industrial exposure. Tailor-made content is also developed for the continuing professional development of trainers such as in Auto CAD, soil testing, water testing, and heavy-duty engineering. TEVETA collaborates with registered institutions accredited to offer the programs (TEVETA, 2023).

There is a commonly held view that most registered providers do not have the equipment and training infrastructure that reflect current industry standards (ILO, 2019; UNICEF 2022). TEVETA also recognises that institutions do not have appropriate technology, both in terms of equipment and the knowledge of teachers and trainers (TEVETA, 2023). However, investments such as the US$10 million allocated by the government to 28 institutions under the Ministry of Technology and Science is slowly changing the standard of training equipment. But since there are more providers managed under different ministries, greater investment is required as the majority continue to use outdated equipment. There are 350 training providers currently registered by TEVETA (as at March 30, 2023) (TEVETA, 2023). Key weaknesses in training infrastructure were identified by TEVETA as being:

- general condition of buildings;
- lack of internet connectivity;
- outdated workshop and laboratory equipment;
- outdated computer equipment; and
- outdated or limited teaching tools and resources (TEVETA, 2023).

TEVET institutions are normally run by their proprietors and this includes recruiting and maintaining the institutions' teachers, trainers and instructors. Training institutions often face challenges when attempting to offer quality training, partly due to inadequately trained teaching staff and the loss of key experienced personnel.

Concern has been expressed about the capacity of the instructors; while many have specific technical qualifications and work experience, they lack the skills required for effective teaching (TEVETA 2023). Further, some instructors have not had the opportunity to update their technical skills in line with changing technologies and practices in the workplace.

The inadequate staffing is illustrated in the high student–teacher ratio that has been observed overtime. For example, the government, in its 2010–2014 TEVET sector plan, envisaged a maximum student–lecturer ratio of 20:1 as a measure of achievement with respect to the objective of increasing access to TEVET programs. The ratio at the moment is much higher than this. In striving to counter this shortage of lecturing staff, most private universities and colleges had opted to engage part-time lecturers from both industry and other institutions.

Although there was an advantage that, through part-time lecturers, there was an opportunity to have experts share their practical industry experience with learners in the classroom, there was also a danger of engaging low-grade lecturers, thereby compromising quality. Further compounding the staff shortages is the fact that the lecturers in TEVET institutions, despite their technical importance, were getting much lower salaries than their counterparts in the teaching service. The imbalance did not motivate them and accounted for their preference for migration to the teaching service, leaving the TEVET systems understaffed and with low staff retention (Parliamentary Committee on Education, Science and Technology, 2014).

4.2.5 Work-based learning

Alongside institution-based training, there are also some forms of work-based training in the Zambian skills system. The TEVETA Learnership Program is a formal apprenticeship system that combines school-based and work-based learning within a company. There have been several donor-funded programs to support this kind of dual apprenticeship model, and large companies still advertise apprenticeships for secondary school graduates (ILO, 2019).

However, the number of formal apprentices engaged under the provisions of the 1970 Apprenticeship Act remains limited. A more common practice is for young people to learn a trade while working in the informal sector. This kind of informal apprenticeship is not as well-developed as it is in other Sub-Saharan African countries. Apprentices in the urban informal sector are mostly called "helpers', and there is no clear distinction between apprentices and casual workers as regards to their status in law or in practice. There is limited statistical information on the prevalence of informal apprenticeship, but evidence from other countries suggests that upgrading informal apprenticeships could contribute to addressing some of the challenges facing the country in terms of youth unemployment and formalisation (Ryan and Aggarwal, 2015).

TEVETA noted that whilst there were limited opportunities for apprenticeships, all the curricula include an industrial attachment (TEVETA, 2023). However, information on the efficacy of these arrangements is not publicly available. One of the issues identified by TEVETA was inadequate synergies with the private sector/industry, which has negatively impacted private sector participation in a range of activities, including defining occupational profiles, providing skills-demand projections, participating in curricula review and development, financing ,and providing work-based Learning (WBL) opportunities, including attachments, internships, and placements (TEVETA, 2023).

TEVETA also noted that the TEVET Act does not comprehensively cover the different modes of training delivery, including vocational, and entrepreneurship training in schools; apprenticeships; and industrial attachments (TEVETA, 2023).

Beyond the levy-grant model that underpins the SDF, there are currently no incentives in place that encourage employers to support TEVET institutions in the delivery of training on or off the job. TEVETA called for incentives to be provided through channelling some of the proceeds from collected levies into WBT; in-servicing training (up-skilling) for employees of the private entities that contribute to the levy (TEVETA, 2023). The allocation of part of the SDF towards Employer Based Training (EBT) is the current measure to increase private-sector funding into TEVET. EBT is co-financed by employers and the SDF. TEVETA called for more sensitisation and employer engagement if EBT was to be effective. They suggested that some employers assume the EBT is for technical and vocational up-skilling only, hence they do not access the SDF. With communication and outreach, most of them are appreciating the financing window of EBT and are identifying training institutions in TEVET with which to partner for their workforce up-skilling. It is interesting to note, however, that the 2020 National Skills Survey reported that the most cited barrier to provision of training by establishments was lack of funds, at 51.4 percent (ZAMSTAT, 2020).

4.2.6 The quality of training

TEVETA's Training Standards Division is responsible for the evaluation of training providers and training quality. The division rates registered TEVET providers on a three-point scale, ranging from Grade 1 (very good) to Grade 3 (satisfactory), based on criteria related to management and trainer qualifications, trainee–trainer ratios, curricula in use, assessment standards, and training equipment (TEVETA, 2023).

A "Grade 1" institution is one which has well established management systems, qualified and experienced management staff, accredited trainers, appropriate and equipped workshops, ample classroom space, adequate reference materials for teaching and learning, equipped ICT facilities, adequate sanitary facilities, and a conducive learning environment. A "Grade 2" Institution is one which meets the basic requirements, whilst a Grade 3 institution is one that barely meets the training standards (TEVETA, 2023).

Institutions are graded according to the inspection findings. TEVETA registers institutions that meet the set minimum training standards and conducts external quality assurance through various mechanisms, including inspections and a desk evaluation of supplied documentation. An inspection checklist is used which includes a physical review of teaching files, monitoring of lessons, and continuous assessment verification. Since 2018, TEVETA has selected specific themes as a focus of inspections, including most recently, "training delivery". These requirements and regulations apply equally to public and private providers (TEVETA, 2023).

There are guidelines for inspecting TEVET institutions which were amended in 2017, based on the 1998 Act and the Amended 2005 Act.

However, these guidelines have not yet been implemented (TEVETA, 2023). The guidelines are comprehensive, stipulate formal technical qualification requirements for TEVET trainers, and specify a minimum number of years of industry experience. Whilst details were not provided, TEVETA also indicated that there are continuous development programs (CDP) available for teachers and trainers, from both public and private providers, to upgrade their pedagogical skills and/or their industry experience (TEVETA, 2023).

The training is considered as low quality by most stakeholders, as most of the training institutions are categorised as Grade 3, which is the lowest level in the quality grading system. As evidenced in , only 7.8 percent of all registered institutions were in the Grade 1 category, while 62.3 percent were graded in the lowest category. More than 75 percent of the best-rated institutions were located in Lusaka or the Copperbelt region, indicating that training provision in the remaining regions is of lower quality on average (TEVETA, 2021). This distribution of institutional grades signifies that broadly, the TEVET system in Zambia is tilted towards the provision of lower-quality training and skills (TEVETA, 2023).

Table 15: Quality of training in the TEVET sector

Level of quality	2016	2017	2018	2019	2020	2021
Grade 1	12.6%	13%	10%	10%	7.3%	7.8%
Grade 2	35.5%	36.5%	37%	38%	29.4%	29.9%
Grade 3	51.9%	50.5%	53%	52%	63.3%	62.3%
Total	100%	100%	100%	100%	100%	100%
Number of Institutions	**293**	**284**	**304**	**293**	**303**	**308**

Source: ZAMSTAT, 2022

TEVETA identified the following key issues as major constraints on the quality of TEVET providers and programs in Zambia:

- quality of infrastructure, including inadequate and inappropriate tools and equipment;
- insufficient qualified and experienced trainers with low morale and lack of professionalism;
- inadequate industry skills and knowledge by teachers;
- lack of ongoing professional development of teachers and trainers;
- quality of institutional management in general;
- inadequate capacity of management and supervisory levels to develop, implement, and lead quality assurance systems in training institutions effectively and efficiently;
- outdated curricula and limited teaching and learning materials;
- lack of investment in infrastructure and current tools and equipment;
- lack of research capacity in institutions to analyse local labour markets and track student pathways;
- over-enrollment of students;
- negative attitudes of staff and students towards TEVET; and
- insufficient funding which forces some institutions to raise additional funds to cover salaries (TEVETA, 2023).

4.2.7 Access and equity provisions

There is little or no data on the number of students with disabilities in the Zambian education and training system. According to UNICEF, there are 84 disabled students for every one special education classroom in secondary schools alone (UNICEF, 2022). TEVETA observed that whilst gender and disability guidelines and policies exist in institutions, implementation is weak and there is little affirmative action to enhance outreach and participation. Evidence also suggests that there are insufficient training resources tailored to suit the needs of persons with disabilities (PWD) (TEVETA, 2023).

The 8th NDP notes that progress was made in increasing access to vocational and skills training through the construction of training facilities in selected rural districts. The government also introduced the TEVET bursary scheme to encourage and increase the number of youths taking up-skilling training, especially females and PWDs for whom 30 percent and 10 percent of bursaries, respectively, are reserved. (MOFNP, 2022). However, enrollment data indicates that females train more in social science-related courses, while STEM remains dominated by males (TEVETA, 2021).

One factor affecting access to TEVET is the provision of career and vocational guidance. TEVETA reported that there are few if any tracer studies conducted to evaluate the outcomes of training, and no student tracking is done by the schools that do offer guidance (TEVETA, 2023). TEVETA has supported career promotions/ fairs in collaboration with MOE schools, but has recommended that those that work in guidance departments receive training and capacity building on the opportunities and pathways that exist through TEVET (TEVETA, 2023).

4.2.8 Digitalisation of TEVET

While raising the demand for new skills, digital technologies are also creating new opportunities and challenges for TEVET and skills development systems. Changes in access modalities, learning methods, assessments, and certification are taking place alongside massification and internationalisation. Moreover, developments such as massive open online courses (MOOCs) are disrupting established operational models in the sector.

The use of digital technologies, including open educational resources (OER), machine learning, and artificial intelligence (AI) in education and training are also driving change in the development of learning materials, teaching, and learning processes, as well as fundamentally changing pedagogies. Real-time data and data analytics are also complementing traditional labour-market information systems by providing a more timely understanding of the changing demand for skills (ILO, 2020a).

There exists increasing evidence that while the digitisation of TEVET comprises multiple policies and actions at all levels of government, it often does not represent a unitary, coherent strategy. Much innovation in digital TEVET is institutionally driven, with the labour market following innovation pathways that are not filtering into TEVET curricula or the operations of TEVET institutions. Many national systems, like Zambia's, still grapple with challenges associated with the accelerated digitalisation of learning caused by the pandemic.

However, whilst the shift to online or distance learning during the pandemic should be seen first and foremost as an emergency response, the crisis provided an opportunity for the development of more flexible learning solutions that make better use of distance learning and digital solutions. In doing so, three important policy issues must be addressed to create long-term positive impacts and develop greater resilience. First, human and financial resources have to be mobilised to ensure universal access to digital infrastructure, tools, and modern learning technologies. Second, college managers, teachers, trainers, and learners themselves need training and support to engage in distance and online learning. And third, education and training providers have to revise teaching and learning models to make the best use of digital resources and tools (ILO, 2020a).

Low-level or mature digital technologies, when taken globally, still hold the most potential for transformation of the TEVET sector in the short term. Digital TEVET increases dramatically in cost with increases in the complexity and sophistication of the offering. Moreover, digitisation is viewed with scepticism by a significant segment of the educational establishment—and TEVET institutions in particular.

Digital skills are becoming crucial as they are seen as an important asset for individuals to be more competitive on the job market, improve businesses, and enhance people's overall digital literacy. However, digital transformation lies in having a skilled workforce that can effectively leverage these technologies, and it must ensure that no one is left behind throughout this process. Investing in skills development can help bridge the digital skills gap, reduce unemployment rates, increase productivity, foster innovation and entrepreneurship, and ultimately promote economic growth.

Neither the existing curriculum at the lower nor higher learning institutions is geared to meet the emerging needs of the digital transformation (National Digital Transformational Strategy, 2022). In addition, analyses of the employer assessments suggest that many workforce skills are not up to what firms need, and these skills deficiencies negatively affect production and sales, the use of new technology, and innovation (Enterprise Skills and Firm Performance in Zambia [World Bank, 2018]). If the shortage of appropriate skills among youth is not adequately addressed, it will likely hinder the pace of digital transformation, and be a constraint to national development, competitiveness, diversification, and equitable and inclusive growth. Hence, strategic investments in improving education quality are necessary for building essential human capital. Given Zambia's demographic profile, higher education and TEVET systems will become critical entry points to equip the current and future workforce with the skills needed for productive jobs and overall economic growth, as well as increase individuals' productive capacity and earning potential. Skills development and skills remediation for the country's young population is crucial to ensure that youth are equipped with the skills necessary to fully participate in and benefit from the digital economy. By providing training and education in digital skills, Zambia can harness the potential of its youth, ensure that its workforce is competitive in the global digital economy, and leverage the potential of digital transformation and economic development.

In Zambia, while an increase in open and distance learning could complement training offers outside the Lusaka and Copperbelt regions, only 2 percent of registered institutions provide distance learning opportunities (ILO, 2019). However, the government had plans to increase the number of people enrolled in distance learning courses from 3,361 in 2016 to 5,500 by 2021 (MNDP, 2018).

4.3 TEVET policy, regulatory and financing arrangements

4.3.1 TEVET policies

The overarching policy framework guiding national development and policies related to human capital in Zambia is provided by Vision 2030 and the 8th NDP. The Vision 2030 document states that "the pathway to a nation with improved human capital will benefit from five medium-term changes over the period from 2016 to 2030: improved quality of the labour force, expanded use of information communication technology among the youth, improved research-for-development capacity in higher education and research institutions, improved health and health-related services, and improved work skills for economic development" (MOFNP, 2018).

More specific strategies and goals for expanding and modernising TEVET are outlined in the 8th NDP, under Strategic Development Area 2: Human and Social Development. Under Strategy 2—Improve Technical, Vocational and Entrepreneurship Skills, to improve vocational, technical and entrepreneurship skills—the main focus will be on:

- strengthening the regulatory and quality assurance frameworks that will also cover vocational skills training development in the private sector;
- regularly upgrading training equipment and expansion of training facilities;
- upgrading the qualifications for TEVET skills to allow for progression;
- improving quality through the upgrading of TEVET institutions with at least 40 percent of institutions classified as Grade 1 in 2026 from 7.8 percent in 2020;
- reducing skills gaps in different industries and ensuring that TEVET is relevant to industry. The curricula will be reviewed regularly to ensure that they respond to the demands of industry;
- promoting learning pathways such as work-based learning, in particular internship and apprenticeship;
- ensuring sustainable financing of the TEVET system by the government;
- scaling-up and decentralising the skills development bursary scheme to the local level, by the Government, to enhance the targeting of beneficiaries (MOFNP, 2022).

A number of key programs have been proposed under the 8th NDP to address these goals. These are:

- TEVET
- Curriculum review
- Research and development
- Internship and apprenticeship
- Digital skills development
- Human resource development
- Infrastructure development (MOFNP, 2022).

The concrete targets set for these programs and the steps required to achieve them will be outlined in an implementation plan that accompanies the 8thNDP. This plan will formulate annual expenditures, outcome goals, and output targets for programs dedicated to education and skills development and will be available in 2024 (TEVETA, 2023).

The sector-specific TEVET Policy of 1996 was evaluated and reviewed in 2020. This evaluation revealed several challenges with implementation since its formulation and adoption, including:

- inconsistencies in the regulatory framework;
- inadequate quality control systems;
- inadequate human and financial resources;
- inadequate infrastructure;
- obsolete equipment;
- uncompetitive conditions of service;
- weak linkages with line ministries and other stakeholders; and
- limited career progression from Technologist (ZQF Level 6) to higher qualifications (TEVETA, 2023).

The 2020 TEVET policy was developed in order to address these challenges. The 2020 TEVET policy focuses on the following:

- Strengthening linkages with industry;
- Strengthening coordination with line ministries and other TEVET providers;
- Increasing access to skills for a growing youth population and other target groups;
- Realigning the policy to the development plan, Vision 2030, and other government priorities on skills development;
- Enhancing entrepreneurship development to all target groups;
- Strengthening the regulatory framework;
- Enhancing curriculum development and review;
- Enhancing assessment processes in TEVET;
- Ensuring sustainability in financing of the TEVET sector;
- Developing adequate infrastructure;
- Building capacity in human resources focusing on creative, entrepreneurial and innovative skills; and
- Mainstreaming cross-cutting issues such as, gender, HIV and AIDS, learners with special educational needs and vulnerable groups in the provision of TEVET.

The revised 2020 policy provides for the establishment of polytechnics/technical universities for the smooth progression of learners from lower levels of qualification to higher ones. Polytechnic education strongly emphasises practice-based learning. It includes internships, industry attachments, and WBL to enable learners to acquire valuable hands-on skills and insights into the essential skills required by the industry (TEVETA, 2023).

The revised TEVET policy provides for relevant qualification and quality assurance bodies to develop a system for credit transfer and standardise learning modules, among other modalities. These bodies include TEVETA, General Nursing Council, Health Professions Council of Zambia, Engineering Institution of Zambia, Higher Education Authority, Teaching Council of Zambia, Examinations Council of Zambia, and Zambia Qualifications Authority.

The revised policy has been developed to strengthen linkages with industry, improve coordination with line ministries and other TEVET providers, increase access to skills for a growing youth population and other target groups, and realign the policy to the 8th NDP, Vision 2030 and other government priorities on skills development. The policy also enhances entrepreneurship development, strengthens the regulatory framework, enhances curricula development and review, enhances assessment processes in TEVET, and ensures sustainability in financing of the TEVET sector.

Progression in the TEVET system over the years presented challenges to learners with intentions to pursue higher-level vocational qualifications. The technologist/diploma qualification remained the highest level for the TEVET system. The lack of progression pathway was compounded by the absence of clear exemptions across different programs, which resulted in the limited career progression of staff and graduates. Due to this gap, some of the TEVET institutions have partnered with universities to offer technical degree programs (TEVETA, 2023).

The revised policy provides a new approach to the progression pathway in the TEVET sector to the highest level of qualification, which is the doctorate. The new TEVET policy also promotes the transfer of knowledge and skills from the industrial clusters to TEVET institutions through a credit transfer system. Credit transfer is also known as part-qualification. Credit transfer is a system or procedure of granting credit (for a professional or vocational qualification) to a learner for studies done at another institution or in the industry based on a standardised module or unit of competence. The procedure includes the transfer of credit by examinations, credits earned through experiential learning, or external training credits (TEVETA, 2023).

The revised TEVET policy also provides for relevant qualification and quality assurance bodies to develop a system for credit transfer, standardise learning modules, and develop guidelines for undertaking credit transfers, among other modalities. Other goals of the policy are to develop adequate infrastructure; build capacity in human resources focusing on creative, entrepreneurial, and innovative skills; and mainstream cross-cutting issues such as gender, HIV and AIDS, learners with special educational needs, and vulnerable groups in the provision of TEVET. Government envisages that realising sustainable socio-economic development of the country would be enhanced by sufficiently investing in the youth, who constitute most of the country's population and labour force.

Another key recent policy development is membership of WorldSkills International to utilise WorldSkills standards in i) curriculum development; ii) the development of training standards and instruments for quality assurance purposes; and iii) the development of assessment instruments for comparability and portability of skills/qualifications based on international occupational standards (TEVETA, 2023).

An additional key policy related to TEVET and skills development in Zambia is the 2015 National Youth Policy (MYSA, 2015), which includes a focus on employment, entrepreneurship, and education. Under the 2015 National Youth Policy, the objectives focusing on skills development include the improvement of the employability of youths through the facilitation of the certification of skills gained outside the formal skills training sector; the promotion of entrepreneurial education and skills training at all levels of education; increasing access to education through formal and alternative modes of delivery in partnership with key stakeholders; promoting equity in the provision of education skills training; improving efficiency and effectiveness in the delivery of education services; as well as enhancing teacher training and education to meet national demand and the needs of pupils.

Supporting this policy is the National Action Plan on Youth Employment (MYSA, 2015), which created a framework for effective support in designing, monitoring, and evaluating policies and programs for youth employment and inclusive economic growth for Zambia. Part of this intervention includes combining scattered micro-interventions into cohesive approaches to address particular labour market and economic issues (UNICEF, 2022). The strategic and operational links between the National Youth Policy and the TEVET Policy are, however, not clear.

4.3.2 TEVET regulatory framework

While MOTS, through TEVETA, has the mandate to regulate, coordinate, and monitor TEVET to ensure the sustainable supply of skilled labour force and the TEVET policy explicitly aims to include various stakeholders, there is little evidence to demonstrate effective cooperation between the government, employers, and workers' and learners' representatives in TEVET (ILO, 2019). Sectoral associations, such as the Zambia National Chamber of Commerce and Industry (ZACCI), or employers' associations in the informal sector, are not systematically involved in TEVET (UNESCO, 2016). The limited involvement of these stakeholders and social partners at regional or industry level can partly be attributed to a lack of appropriate organisational structures (ILO, 2019).

TEVETA noted the existence of conflicting and inadequate legal frameworks and observed that the quality of TEVET has been negatively affected by inadequate and sometimes conflicting legal frameworks (TEVETA, 2023). They cite the TEVET Act No. 13 of 1998 and the TEVET Amendment Act No. 11 of 2005 which provides the regulatory framework for the sector and for the establishment of public training institutions (TEVETA, 2023). However, there exist training offerings not regulated by the TEVET Act, including training in nursing and midwifery education, tourism and hospitality, and civil aviation which are covered by separate pieces of legislation. TEVETA also noted that while these pieces of legislation have mostly complemented the provision of TEVET, there are areas of duplication, conflict, and contradictions and this has resulted in segmentation and lack of synergies in the provision of skills training, and has affected the standardisation of quality assurance (TEVETA, 2023).

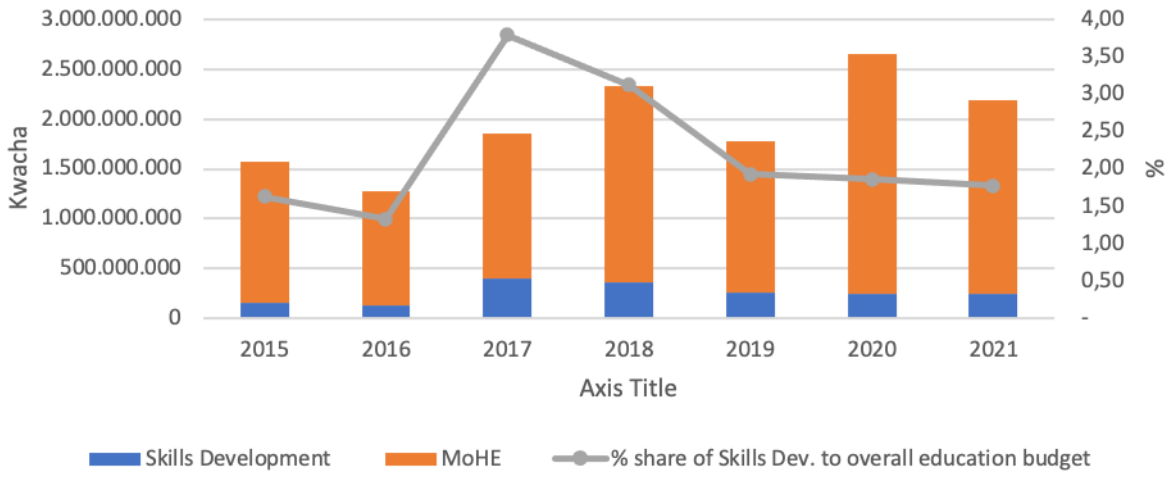
The ZQF, which is a statutory body under the MOE of the Republic of Zambia, aims to develop and implement a national qualifications framework to ensure that standards and registered qualifications are internationally comparable is another key element of the regulatory framework for TEVET in Zambia. The ZQF has 10 levels, with TEVET situated at Levels 3 to 6. Trade Test Certificates are positioned at Level 3, followed by Craft Certificates (Level 4), Advanced/Technician Certificates (Level 5), and Diplomas (Level 6). These programs vary in duration and training content. Trade Test Certificates typically take 1 year of study, while the completion of diploma programs usually takes 3 years. The current TEVET policy calls for the expansion of TEVET qualifications on the ZQF from Level 6 (technologist/diploma qualification) to Level 10 (doctorate) (TEVETA, 2023).

TEVETA has the central responsibility for assessment, examinations, and awarding certificates. While continuous assessment is usually carried out by the training provider, the final testing of trainees' competencies is conducted by external assessors and examiners. These have to be registered with TEVETA, but legislation also allows for the accreditation of foreign examination bodies. By 2016, 17 foreign examination bodies had been accredited by TEVETA. These institutions are also responsible for the recognition of prior learning, which enables individuals to have their skills formally certified, even if they attained them informally in the process of work (TEVETA, 2023).

4.3.3 TEVET financing

The TEVET system largely depends on public finance, which is a small proportion of the public budget compared to other sub-sectors of education. For example, TEVET received an average of just 2.2 percent of the government budget between 2015 and 2021.[12] This allocation was an average of about 15 percent in terms of the share for skills development within the overall budget allocated to MOTS over the same period (see Figure 22).

Figure 22. Skills development allocation



Source: Team's computation based on MOFNP financial reports, including output-based budget reports

[12] *MOFNP financial reports*

This level of funding may be a self-fulfilling cycle in which minimal funding leads to relatively low-quality service delivery, and that lower quality TEVET attracts fewer students. A step change in funding is required to rapidly increase quality and allow TEVET to play its role as a significant part of the national education landscape (UNICEF,2022). Aside from government financing and various bursaries to trainees in the form of grants and loans, there are a number of additional funding sources:

- All training providers take student fees, which pay for registration, tuition, and instruction. While maximum fees for public institutions are determined by MOTS, other institutions are allowed to set their own fee levels;
- Many TEVET providers market the goods and services that are produced as by-products of the training process; and
- Some firms invest a proportion of their own budget into training provision for their employees and apprentices/trainees. Precise numbers regarding the volume of private investment in education are not available (ILO, 2019).

TEVETA identified the following sources of finance for TEVET in Zambia:

- Government budget appropriation;
- Student fees;
- Student loans and grants;
- Payroll levies and funds such as the tourism fund (from the tourism levy), SDF (Skills Development Levy), and the Constituency Development Fund (skills bursary);
- Donations (from donor community such as EU, ILO, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GiZ), the Swedish International Development Agency (SIDA), and the Danish International Development Agency (DANIDA);
- Income generating activities through production units which enter into contracts for commercial work; and
- Loans (project-based loans such as the Support to Science and Technology Education (SSTEP) (TEVETA, 2023).

TEVETA reported that tuition fees vary from institution to institution, region/province, and program of study. The same fees are charged regardless of gender (TEVETA, 2023). The funding for bursaries is based on student numbers. Funding for operational grants is based on the size of the institution. However, funding for equipment and infrastructure development and maintenance in public institutions is based on the assessed needs at any given point (TEVETA, 2023).

To broaden the financial basis for TEVET, the government established an SDF in 2017 pursuant to the Skills Development Levy Act of 2016. This is financed through a levy of 0.5 percent of the employer's wage bill. The levy is payable by employers whose annual wage bill is above ZMW 800,000 (MNDP, 2017). Employers tend to perceive the levy as an additional tax on the private sector, and have complained about unclear allocation mechanisms (Phiri and Chisanga, 2018). This fund is increasingly becoming an important source of financing for TEVET. In 2021 for instance, a total of ZMW 160 million was collected through the SDF. This is equivalent to 60 percent of the budget allocation for skills development in the same year.

In order to reduce industry opposition and increase ownership of the SDF, it could be helpful to find mechanisms through which employers and unions are involved in the decision-making, alongside the government, on how to allocate the funds (ILO, 2019). Resources collected via the skills development levy go into the SDF managed by MOTS, which then allocates them to resource the TEVET Fund, which was itself established via the Technical Education, Vocational and Entrepreneurship Training Act the (TEVET Act), for technical education, vocational, and entrepreneurship training, (UNESCO, 2022). There is no database of the companies who should pay the levy, and there is a significant challenge in engaging businesses in the informal sector, as the current levy system does not capture them. Those formal employers that do pay the levy consider the levy collection mechanism to be effective. Compliance levels for the skills levy are still understood to be "very low", though there are no available statistics to verify this. The penalty for non-payment is 0.25–0.75 percent of the undeclared amount (ILO, 2020).

In an online survey conducted as part of the 2020 ILO review of the SDF, it was found that almost 70 percent of responding Zambian employers rated the success of the training levy as either "not successful" or "not successful at all" (ILO, 2020). One employers' organisation considered the training levy as

"not successful: "For starters, collected money from the levy is not reaching the implementing Ministry in full, only a fraction of it is getting to the implementer thus far. At the same time, since inception two years ago to date, the fund has been biased more to funding [the] rehabilitation of government training institutions and financing bursaries for TEVET students" (ILO, 2020).

Employers also expressed their dissatisfaction with the SDF on the basis that there is a lack of clarity, transparency, or agreement on the allocation of the levy. Zambia, despite having employer grants as a specific allowable expenditure item, only disburse 1–3 percent of levy income back to levy-paying firms as direct cost reimbursement on employee training. Reasons behind the low uptake of the funds include an inefficient process of applying for the funds, the type of training eligible for reimbursement, and a lack of awareness among employers (ILO, 2020). Whilst the SDF in Zambia has a Board that is meant to govern their operations, there is a question about the extent to which the Board actually "governs", versus the real decision-maker in the form of the parent ministry.

In Zambia, the SDF is not a separate entity, but resides within TEVETA that has a wider remit than only the training fund, which limits the governance role that the Board has (ILO, 2020). The ILO review also found that overall, monitoring and evaluation systems in the training funds was weak, as there is a heavy reliance on output data (often without disaggregation), which makes it difficult to determine the overall impact (ILO, 2020). In addition to an increase in the share of the public education budget for TEVET, it would appear that more effective governance of the SDF would free up substantial resources that could be used to purchase targeted training that more effectively meets labour market needs.

The Youth Development Fund, which provides loans and grants to youth-led SMEs, has provided funds to over 1,300 youth groups since 2012. However, many of these loans have not been repaid and there is a lack of monitoring and evaluation on the overall efficacy of this fund (UNICEF, 2022).

4.4 Conclusion

The education sector in Zambia is made up of formal and non-formal education systems, of which TEVET is a critical pillar. The TEVET system receives a very small proportion of the public budget compared to other sub-sectors of education.

The MOTS, through its Department of Vocational Education and Training, is responsible for policy formulation and the co-ordination and promotion of TEVET in Zambia. The central responsibility for regulating the TEVET sector is discharged through TEVETA, which is a semi-autonomous institution.

ZAQA, which is a statutory body under the MOE established pursuant to the ZQA Act No. 13 (2011), supports MOTs, and TEVETA in particular, to accredit TEVET qualification in line with the ZQF. The Ministry of Labour and Social Security also has a formal role in the system pursuant to the Employment Code Act (2019).

The overarching policy framework guiding national development and policies related to human capital in Zambia is provided by Vision 2030 and the 8th NDP. The 2020 TEVET policy seeks to address the following identified major needs:

- strengthen linkages with industry;
- strengthen coordination with line ministries and other TEVET providers;
- increase access to skills for a growing youth population and other target groups;
- enhance entrepreneurship development for all target groups;
- strengthen the regulatory framework;
- enhance curricula development and review;
- enhance assessment processes in TEVET;
- ensure sustainability in the financing of the TEVET sector;
- develop adequate infrastructure;
- build capacity in human resources focusing on creative, entrepreneurial, and innovative skills; and
- mainstream cross-cutting issues such as, gender, HIV and AIDS, learners with special educational needs, and vulnerable groups in the provision of TEVET (TEVETA, 2021).

While TEVET policy explicitly aims to include various stakeholders, there is little evidence to demonstrate effective cooperation between the government, employers, as well as workers' and learners' representatives in TEVET. It has been observed that the fragmented nature of the TEVET sector means there is limited coordination and collaboration amongst the seven ministry/

quasi-governmental entities involved.

The provision of institution-based training in Zambia is characterised by unequal geographical distribution of TEVET institutions, coupled with considerable variation in quality. There are few institutions that offer training from craft to diploma level, with the majority of providers offering a small number of formal programs in the open training market. In terms of ownership, there is a mix between faith-based, government, trust, NGO, private, and community ownership. Whilst there are also more than 2,300 secondary schools undertaking SSVET, serious concerns have been raised about the quality of delivery and assessment practices.

Other key public providers include the MYSA and the MCDSS. Whilst initial and continuing vocational training in Zambia also involves companies, there is limited data on which companies are involved in training, who among their employees receives training, and which skilling needs are being addressed.

To enhance the participation of the private sector in the provision of TEVET, the government introduced the Skills Development Levy of 2016. However, employers have expressed their dissatisfaction with the levy on the basis that there is a lack of clarity, transparency, or agreement on the allocation of the levy. Beyond the levy-grant model that underpins the SDF, there are currently no incentives in place that encourage employers to support TEVET institutions in the delivery of training on or off the job.

Overall, relative to demand (which includes school leavers, employees seeking retraining in current jobs or embarking on career shifts, out of school youths, those who have never been to school, retirees, school dropouts, and retrenched workers), the absorption capacity of the TEVET system has remained low and reflects the need to develop a system that can increase both access and participation to TEVET. One factor affecting access to TEVET is the provision of career and vocational guidance.

There is little or no data on the number of PWD in the Zambian education and training system. The most recent national development plan notes that progress was made in increasing access to vocational and skills training through the construction of training facilities in selected rural districts. At a provincial level, there are noticeable variations in the pass rates with urban provinces recording higher rates compared to rural provinces.

Progression in the TEVET system over the years presented challenges to learners with intentions to pursue higher-level vocational qualifications. The revised TEVET Policy provides for relevant qualification and quality assurance bodies to develop a system for credit transfer, standardising learning modules, and developing guidelines for undertaking credit transfers, among other modalities.

Whilst the ZAQA and industry have developed a series of NOSs used when developing curricula, public and private providers are also able to develop their own curriculum and have it approved. This option, however, tends to be restricted to mining companies and other well-established sectors/companies where such in-house capacity exists.

TEVETA's Training Standards Division is responsible for the evaluation of training providers and training quality. The 8th NDP noted Zambia's TEVET system requires an improvement in the quality of training offered. Currently, most of the training institutions in TEVET barely meet minimum training standards for registration.

The major constraints on the quality of TEVET providers and programs in Zambia include:

- quality of infrastructure including inadequate and inappropriate tools and equipment;
- insufficient qualified and experienced trainers with low morale and lack of professionalism;
- inadequate industry skills and knowledge by teachers;
- lack of ongoing professional development of teachers and trainers;
- quality of institutional management in general;
- inadequate capacity of management and supervisory levels to develop, implement, and lead quality assurance systems in training institutions effectively and efficiently;
- outdated curricula and limited teaching and learning materials;
- lack of investment in infrastructure and current tools and equipment;
- lack of research capacity in institutions to analyse local labour markets and track student pathways;

- over-enrolment of students;
- negative attitudes of staff and students towards TEVET;
- insufficient funding which forces some institutions to raise additional funds to cover salaries (TEVETA, 2023).

On the basis of this analysis, it is recommended that in the short-term, measures should be taken to:

- enhance the effective use of resources collected by the SDF and increase the governance responsibilities and oversight of industry representatives on the Board;
- Build the capacity of TEVET managers and principals to better implement the quality assurance framework for TEVET;
- Provide capacity building to trainers to develop their technical skills in line with labour market demands; and
- Review the mechanisms for the development of occupational standards and curricula to improve responsiveness and flexibility in the system.

In the medium to long-term, it is also recommended that:

- A review of the mechanisms and options for improved inter-ministerial coordination and cooperation be undertaken, including the establishment of a new national forum or apex body for that purpose;
- Access to TEVET is increased in view of the growing population in priority sectors/ market relevant programs, including short- and long-term programs.
- Additional resources be allocated to improve training infrastructure;
- Mechanisms and incentives be introduced that provide investment opportunities in both private and public institutions to improve training facilities and equipment;
- Resources and support be provided to teachers and trainers so they can more effectively develop the digital skills of students;
- Technical assistance be provided to develop a more robust skills anticipation system that better integrates and analyses available labour market information and skills intelligence to facilitate evidence-based policies and programs; and
- Support be provided to enhance the research and analysis capacity of TEVETA and to support the development of research capacity in training providers.

5

5.0 CONCLUSIONS AND POLICY RECOMMENDATIONS

This report provides an overview of Zambia's labour market and TEVET system. Conclusions and a set of recommendations have been captured in each chapter. However, the main highlights are summarised and presented as follows:

Zambia's demographic transition is at a critical juncture but is not reaping the benefits of its potential demographic opportunities due to high levels of youth disengagement and the economy not generating enough jobs. Available data indicates that most of Zambia's 6.4 million youth (about 90 percent) are economically disengaged or partially engaged. Youth economic disengagement occurs when individuals are in a temporary or permanent state in which they do not accumulate enough human capital due to inadequate access to high-quality opportunities for skills development through formal education and employment. The alarming prevalence of youth disengagement in Zambia poses a substantial threat to the economic potential of its young population. Therefore, economically re-engaging the youth will be a central determinant to Zambia's development and economic growth.

Central to that challenge and the broader issues of economic development and employment growth is the role of the TEVET system. The Vision 2030 recognizes TEVET as an integral part of the Education and Skills Development sub-sector and its contribution to economic development. There are, however, several constraints that Zambia faces in attaining this objective, some of which include low access to skills training, the implementation of TEVET standards; the curricula; and the governance of the system, including the financing of training. In addition, the skills development ecosystem in Zambia, and in particular the TEVET system, faces capacity constraints regarding the provision of quality and relevant skills for the labour market. Another challenge is insufficient or outdated equipment and teaching aids coupled with limited access to industry exposure during training. In addition, low morale, the unprofessionalism of teachers, low competence of teachers, and the negative attitudes of staff and students have also contributed to poor learning outcomes in TEVET institutions.

Programs are clustered around main hubs, with fewer programs in more remote or rural areas. Programs for youth in Zambia are primarily focused on foundational skills, targeting school-aged children. Thus, a major gap in the system exists for older youth. Young PWDs and out-of-school youth are also an under-targeted demographic. The government policy and programmatic environment is highly fragmented, with concerns over the possibility of duplication, particularly in the areas around out-of-school youth, and technical and vocational skills. Examples of entities which would be able to bring the sector together holistically would be either a central government agency to oversee all the line ministries (e.g., the Office of the President or the Office of the Secretary to the Cabinet) or an agency with clear links to the private sector to manage the process from their perspective, but with clear inputs from the government (e.g., the Zambian Development Agency) (UNICEF, 2022).

To address the major identified challenges facing the TEVET system, the following recommendations could be considered.

In the short term:

- Enhance the effective use of resources collected by the SDF and increase the governance responsibilities and oversight of industry representatives on the Board;
- Build the capacity of TEVET managers and principals to better implement the quality assessment framework for TEVET;
- Provide capacity building to trainers to develop their technical skills in line with labour market demand; and
- Review the mechanisms for the development of occupational standards and curricula to improve the responsiveness and flexibility in

the system.

In the medium to long-term, it is also recommended that:

- A review of the mechanisms and options for improved inter-ministerial coordination and cooperation be undertaken, including the establishment of a new national forum or apex body for that purpose;
- Access to TEVET is increased for a growing youth population in priority sectors/market relevant programs, including short-term and long-term programs;
- Additional resources be allocated to improve training infrastructure;
- Mechanisms and incentives be introduced that provide investment opportunities in both private and public institutions to improve training facilities and equipment;
- Resources and support be provided to teachers and trainers so they can more effectively develop the digital skills of students;
- Technical assistance be provided to develop a more robust skills anticipation system that better integrates and analyses available labour market information and skills intelligence to facilitate evidence-based policies and programs; and
- Support be provided to enhance the research and analysis capacity of TEVETA and to support the development of research capacity in training providers.

Digital technologies (EdTech) also have the potential to transform the TEVET ecosystem. Therefore, the consolidation of existing investments is critical, as is further investment to roll out digital trainings in foundational skills to set the country on the path of digital transformation and leverage the benefits of a well-functioning TEVET system. Global lessons and opportunities on the use of EdTech for TEVET are highlighted in Annex D.

In Zambia, the mining sector has been the main driver of economic growth while agriculture has been the major employer. Over the years, the contribution of other sectors—including manufacturing, construction, tourism, and services—to economic growth has been increasing but at slow pace. Among other factors, skill shortages and skill gaps are acknowledged as constraints to the accelerated growth of these sectors. Zambia particularly requires enhanced technical and innovation skills to support the expected structural transformation towards more sophisticated and technological intensive sectors that will enhance long-term industrial competitiveness. Taking into account recent shifts in the pattern of job creation and the potential for economic growth in non-mining sectors of the economy, priority should be given to supporting the education and training system to better respond to the skill needs in a number of key sectors and sub-sectors. These include:

- Wholesale and retail trade;
- Community, and social and personal services;
- Manufacturing (including wood and wood products; textiles and garments; leather and leather products); and
- Agriculture.

Support should also be provided to enhance the capacity of the education and training system to develop a range of generic skills, including digital skills; communication skills; and foundational literacy and numeracy.

As noted earlier, economically re-engaging the youth will be a central determinant to Zambia's development and economic growth. A set of targeted policy options could be considered to address this issue depending on the level of engagement. These policy options are detailed below (a summary is provided in Annex C).

A first policy priority is to promote the remediation of foundational skills among unskilled and semi-skilled youth. Programs should aim to improve youth foundational skills; notably literacy, numeracy, socio-emotional, and digital literacy skills. For low-skilled youth, these programs follow several models, such as functional adult literacy programs or community-based literacy programs that integrate literacy with other essential skills, such as numeracy, health education, and income-generating activities. For semi-skilled youth, mobile literacy programs (i.e., literacy programs utilising mobile technology, such as smartphones or tablets) are a promising alternative to delivering in-person literacy instruction. These programs can reach individuals in remote areas and provide self-paced learning materials, audiovisual content, and interactive exercises that promote literacy, numeracy skills, and socio-emotional skills through gaming, incentives to participate (e.g., winning prices for completing modules), and

social networks—all while enhancing digital skills. The ministries of Technology and Science; Youth, Sport and Arts; and Education should work together to develop an integrated and coordinated approach to foundational skills development.

A second policy priority is to "reactivate" disengaged youth. Activation policies can target low or high-skilled youth, and their objective is to bring them out of disengagement. For low-skilled poor youth, these policies often entail providing social assistance (or cash incentives) to reengage them in economic or skilling opportunities. These activities often give higher-skilled individuals a new sense of purpose and community engagement through sports, cultural, and volunteer programs. Activation policies are often an excellent venue to impart socio-emotional skills and help youth regain belonging and social value. In addition, activation policies are often a pathway (and a first step) towards more meaningful training and skills development programs. Since a large share of disengage youth are women, probably engaged in unpaid domestic activities, activation programs could focus on encouraging women to engage in the provision of social services, such as early childhood development training, caregiver for the elderly training, and home-based care training. Training may cover primary healthcare, nutrition, hygiene, communication skills, and providing emotional support to individuals under their care. Even if women who benefit from these programs continue to engage in stay-at-home activities, building their skills can significantly improve children's and elders' health and education outcomes. The Ministries of Labour and Technology and Science should work more closely together to establish a joint program of work to ensure activation measures include access to TEVET.

A third policy priority is to provide support to long-term unemployed youth. Policies to help unemployed youth (generally semi-skilled individuals) include training and skill development (vocational and those aiming to remediate and build foundational skills), Job search assistance, and opportunities for individuals to gain practical work experience through internships, work placements, or subsidised employment programs. These programs help individuals reconnect with employers, build skills, develop networks, and increase their chances of securing permanent employment. These policies should also encourage semi-skilled youth to reenter formal education (i.e., connect them with second-chance programs). The Ministries of Labour and Social Security, and Technology and Science should collaborate more closely to establish a joint program of work to ensure support to long-term unemployed youth include access to TEVET.

A fourth policy priority is to promote productivity enhancement programs for self-employed youth in the agriculture sector. These programs seek to provide low-productivity farmers with knowledge, technical assistance, and advice on modern farming techniques, crop selection, and pest management, among others, to generate agricultural value, get better pay for the produce, and enhance the agroindustry ecosystem. Promoting farmer education and training programs can help improve agricultural practices and productivity. These programs often include training on sustainable farming techniques, soil management, water conservation, and the efficient use of inputs like fertilisers and pesticides. These programs should also give farmers access to finance and credit to invest in improved farming equipment, seeds, fertilisers, and other inputs. Finally, programs could also support and strengthen farmer organisations, and cooperatives can provide farmers with collective bargaining power, access to information, and opportunities for joint marketing and bulk purchasing. Ministries of agriculture, local authorities, social funds, and agriculture federations often implement these types of programs. For semi-skilled and higher-skilled youth, programs should aim to provide vocational training programs to foster innovation in agriculture, including the development of specialised community colleges that promote agricultural research and development that can lead to the development of high-yielding and disease-resistant crop varieties suitable for local conditions. Research can also focus on developing innovative farming techniques and technologies to develop agricultural value chains, access to formal markets, agro-processing industries, and climate-smart agriculture. Of course, individuals who participate in these programs need to have a good grasp of foundational and digital skills. The Ministries of Technology and Science, Agriculture, and Community Development and Social Services should collaborate more closely to establish a joint plan to promote productivity enhancement programs for self-employed youth in the agriculture sector.

In urban areas, productivity enhancement programs should promote entrepreneurship, digital skills, and financial inclusion. Access to

finance is crucial for informal workers to invest in their businesses and improve productivity. Microfinance programs provide small loans and financial services tailored to the needs of informal workers, enabling them to purchase equipment and raw materials or expand their operations. These programs also often provide financial literacy training and support in managing business finances. Moreover, entrepreneurship and business development programs offer informal workers training and mentorship in running a business. They cover marketing, bookkeeping, customer service, and business planning topics. These programs help informal workers develop sustainable business models and improve their productivity and profitability. Finally, all programs should aim to improve and enhance the foundational skills of informal workers, including their digital skills, so that they can embrace technology, digital, and e-commerce platforms to enable informal workers to expand their customer base, streamline operations, and increase productivity.

A fifth policy priority should be to reconnect youth with formal education. For those who have dropped out of the school system, "second-chance" programs are a way to encourage youth to complete formal education or training. Second chance programs often target youth between the ages of 15 and 20 who completed lower or upper secondary education. Second chance programs are typically more flexible than the regular courses, combining classroom-based and distance learning and allowing for shorter course completion cycles (for instance, students can complete a full academic year in four to six months). These programs offer a path to re-skilling youth and the credentials they need to pursue formal post-secondary education, including formal TEVET and short-cycle programs. These programs often lead to a formal degree and are implemented by education ministries.

Finally, it is important to continue to expand access to and the quality of formal education support programs and work-based learning for higher-skilled youth. Programs should focus on improving access to and the quality of post-secondary education programs and their relevance and alignment to the demands of employers and economic and social opportunities. Consistent with global trends, the post-secondary education systems in Zambia needs to ensure flexibility and diversity of the offer (e.g., academic certification, technical and technological degrees, as well as short course certifications); provide different learning modalities (virtual, hybrid, and face-to-face); and be better integrated to ensure permeability across programs so that students have incentives to invest in life-long learning opportunities that can be building blocks for ongoing and higher certifications, including academic degrees. Post-secondary education programs should also focus on the remediation and development of foundational skills (including digital skills) through curricula and pedagogy and expand the provision of student services, such as remedial, counseling, tutoring, and employment services and ensure smooth transitions between education and employment as between employment and education. TEVET in Zambia should foster and expand work-based learning through apprenticeships, internships, and dual programs designed and implemented in close collaboration with employers.

6

6.0 ANNEXES

Annex A: List of Organisations Consulted

- Ministry of Technology and Science (MOTS)
- Ministry of Commerce, Trade, and Industry (MCTI)
- Ministry of Agriculture (MOA)
- Ministry of Labour (MOL)
- Ministry of General Education (MOGE)
- Ministry of Youth, Sports and Arts (MYSA)
- Technical Education, Vocational, and Entrepreneurship Training Authority (TEVETA)
- The Zambia Chamber of Commerce and Industry (ZACCI)
- Zambia Federation of Employers
- The Zambia Chamber of Mines (ZCM)
- Zambia Association of Timber and Forestry-Based Industries
- Zambia National Farmers Union (ZNFU)
- Tourism Council of Zambia (TCZ)
- Zambia Congress of Trade Unions (ZCTU)
- International Labour Organisation (ILO)
- Delegation of the European Commission (EC)

Annex B: Sample Questionnaire

The following question bank was used during the interviews with industry and government representatives:

- What are the objectives of the ministry that are focused on skills development through TEVET?
- What strategies are in place to achieve these objectives?
- Are there any other ministries or agencies responsible for developing TEVET policy? If yes, please list these ministries/agencies and their mandates and responsibilities in line with TEVET.
- Are there guidance and awareness programs designed to improve the enrollment of students in TEVET? If yes, what form of guidance and awareness programs are these?
- What mechanisms should be followed in order to guide students in the primary stages toward TEVET?
- Is there a policy for gender balance in the TEVET framework? If yes, please state the policy.
- Is there a policy on accessibility to TEVET both in terms of affordability and distance? If yes, please state the policy.
- Is there a policy on internships/field attachments? If yes, please state the policy.
- What challenges are you aware of as a ministry that affect access and participation to TEVET?
- Has the ministry devised strategies to resolve the problems faced in accessing and participating in TEVET?
- Is there an explicit quality management framework in place? If yes, who has been involved in defining current quality assurance mechanisms?
- Are indicators in place that guide the development and monitoring of TEVET training? If yes, what are those indicators?
- Are there quality mechanisms in place to ensure that students' curriculum in up to date with the needs of the labour market?
- Are employers involved in ensuring that TEVET provision corresponds to labour market demand? If yes, how are they involved?
- How are the coordination, planning, and projection of TEVET managed so as to align TEVET policy planning with other policy priorities and industry demand?
- Does outcome and monitoring data feed into policy making and institutional practice?
- What are the sources and opportunities for funding of the TEVET sector?
- What is the share of government spending that goes into TEVET?
- Is this adequate and in line with what is being spent by other governments in the region?
- What is the institutional allocation across different levels of TEVET? What guides these allocations?
- Is there encouragement for TEVET schools to finance themselves by offering competitive programs?
- What financing mechanisms are in place to promote the inclusion of groups at risk of the labour market and social exclusion (women, disabled etc).
- Are there any policy measures or incentives to increase private sector funding in TEVET and the provision of TEVET services and facilities?
- What regulations has the ministry put in place to govern TEVET?
- How have these regulations affected the running of TEVET?
- What policies or regulations do you think should be implemented by the government to help deal with the challenges faced in TEVET?
- What percentage of employers in your data base employ TEVET graduates?

- What percentage of employers in your data base provide internship for TEVET graduates?
- What is the average salary for a TEVET graduate?
- Are you aware of the TEVET policy?
- If yes, what key objectives do you think affect members of your association? Are you consulted on issues regarding TEVET by the governing institutions?
- How do you rate the level of available skills compared to what most institutions needs in the labour market? [provide according to the positions]
- Are there specific skills that are in high demand but lacking from the local labour market at the moment?
- Do institutions experience any challenges due to a shortage of employees or skills gaps? If yes, how do institutions deal with the shortage of employees or skills gaps?
- Which sector faces the highest level of shortage of employees or skills gaps?
- How, in your opinion, can an effective match between skills demand and skills supply be established?
- Are there entities/initiatives that effectively play the role of mediators between trainees and the private sector?
- Are there trades and related skills that have declined, or you foresee declining, in demand or become obsolete in the context of environmental degradation, climate change, or environmental policies?
- Where are the greatest skills gaps in the country in terms of greening the economy?
- Are you aware of the curriculum offered for TEVET? If yes, are there any modifications that you would suggest?
- How are employers involved in ensuring that TEVET provision corresponds to labour market demand?
- What skills would you recommend be included in the curriculum?
- Do you think TEVET providers have the capacity to incorporate these skills in their curriculum?
- What factors do you think affect the quality of TEVET?
- What recommendations can you provide that would make TEVET more relevant?

Annex C: Policy options depending on youth engagement level

Policy Area	Description	Level of Engagement
Foundational Skills Remediation and Development	Programs should aim to improve foundational skills of low-skilled youth who may not have had the opportunity to complete their formal basic education or who need to enhance their literacy, numeracy, socio-emotional, and digital literacy skills.	Fully disengaged Partially disengaged Partially engaged
Activation Policies	Set of measures and strategies to enhance the functioning of the labour market, promote employment, and facilitate the transition of individuals from unemployment to work. The primary goal is to activate and engage discouraged job seekers in the labour market by providing them with the necessary support, resources, and incentives to find and retain suitable employment. These policies typically include active labour market measures and policy interventions.	Fully disengaged
Short-Term Vocational Training and Workforce Development	Training programs that aim to enhance the skills and knowledge of individuals. It includes training programs for women focusing on childcare and elder care, adult literacy programs to improve reading, writing, and numeracy abilities, and programs to develop life skills among youth to enhance their personal, social, and economic capabilities.	Partially disengaged Partially engaged
Productivity Enhancement	Policies and interventions to provide support, training, and resources to informal workers, empowering them to improve their productivity and livelihoods. Ultimately, these programs and initiatives aim to promote inclusive economic growth and reduce poverty.	Partially disengaged Partially engaged
Second Chance Programs	Programs that aim to provide educational, vocational, and personal development opportunities for individuals who have dropped out of school or face barriers to education and employment. These programs offer youth opportunities to re-engage with formal education tracks, acquire new skills, and develop their full potential. The programs contribute to personal growth, social mobility, and human capital accumulation.	Partially disengaged Partially engaged
Formal Education Support and Work-Based Learning	Policies and initiatives to develop a high-skilled workforce and engage individuals in the labour market in sectors and occupations with high demand or with economic potential. It includes higher education initiatives to help individuals complete their studies (such as scholarships, counseling, remedial services, and tutoring), investments in research and innovation, development of new academic programs in key economic sectors (such as agriculture, energy, education, and healthcare), and the provision of more and better work-based learning opportunities such as internships, apprenticeships, and dual programs.	Engaged

Annex D: Using EdTech for TEVET (global lessons and opportunities) (World Bank, 2023a)

Investments in Education Technology (EdTech) can make Zambia's education systems more resilient to future shocks and help reform and reimagine how education is delivered. Zambia should leverage the use of hardware, software, digital content, data, and information systems in education to support and enrich teaching and learning as well as to improve education management and delivery.

The quality of education does not always ensure that students have the foundational skills necessary to assimilate TEVET, higher education, or university-level academic content. To address skills gaps, education institutions globally implement remedial programs. However, in many countries, due to institutional and budgetary constraints, remedial programs are scarce, do not follow clear quality standards, and remain largely unassessed. Moreover, remedial programs often rely on tutors, making it challenging to customise them to the student's needs and expensive to implement at scale.

The COVID-19 pandemic exacerbated the need for remedial programs globally. School closures contributed to learning losses on core foundational skills, especially among students from socio-economically vulnerable households. A recent review of short-cycle programs in Latin America found that majority of these programs incorporate remedial education due to significant deficiencies in mathematics, reading, and writing skills among incoming learners. The review also indicated that although the average returns on investment for these programs were lower than those for bachelor's programs in most countries, this was not the case for individuals who had started but not completed a bachelor's program. This suggests that short-cycle programs can be a viable alternative for individuals who are unable to pursue or less likely to complete a bachelor's program (Ferreyra et al., 2021).

Skills remediation is an effective mechanism to ensure individuals continue their education studies. In higher education, the literature finds that first-year students who attend in-person remedial instruction in mathematics are highly likely to continue into their second study year (Calcagno & Long, 2009). A recent assessment of counseling and mathematics remedial courses on the academic achievement of higher education students in Chile shows that students who participated in these programs had better academic results than those with similar characteristics who did not take part (Venegas-Muggli et al., 2019).

Implementing remedial education programs that meet minimum quality standards poses challenges and demands certain prerequisites. Skills remediation programs rely heavily on tutoring, are costly, and require high levels of institutional capacity (Saxon & Boylan, 2001), which emphasises the need for comprehensive planning, resource allocation, and sustained institutional support to achieve positive outcomes for learners.

Skills assessments may be an effective tool to help identify gaps or deficiencies in the skills of teachers of students, and thereafter provide targeted remediation programs. In this context, skills assessments designed to measure the levels of literacy, numeracy, socioemotional skills, and digital skills of youth and adults can serve as an important tool to understand whether they have a set of foundational skills to thrive and flourish in the labour market and to realise their full potential as productive members of society. These assessments can also serve as a message to policymakers, educators, and others who believe in the powers of education and training in strengthening a citizen's ability to face the challenges and opportunities of the 21st century.

Box 1: Use of Digital Personalised Learning for mathematics remediation in higher education. Evidence from Ecuador.

Digital Personalised Learning (DPL) is an alternative to provide in-person remediation in mathematics to students. DPL can utilise a student's skill development process and offers the possibility for cost-effective deployment at scale. Essentially, DPL uses Artificial Intelligence (AI) and machine learning to provide students with adaptive instruction tailored to their competency levels.

Adaptive learning is a promising mechanism to improve student skills and their perceptions about those skills, known as perceived self-efficacy, which is often associated with academic performance, especially in mathematics (Ryan and Deci, 2000; Wigfield and Eccles, 2000). DLP offers additional advantages, such as providing students and teachers with different pedagogical strategies and regular data to assess and monitor learning. Many DPL platforms are available through person computers, tablets, and telephones with internet access, which makes them accessible and relevant.

Many Ecuadorian students entering higher education have cognitive skills gaps in mathematics that undermine their ability to assimilate academic contents. The World Bank conducted a randomised control trial on first-year students entering technical and technological higher education programs in Ecuador amid the COVID-19 pandemic to assess the effects on academic outcomes of a DPL software for mathematics remediation (the ALEKS software). The possibility to used the software led to a large and marginally significant decline in the probability of repeating a course, as well as a very large positive impact on a standardised text score in mathematics. The authors found no impact on the probability of enrolling in the third semester. When disaggregating the impacts, the effects on repetition were particularly large for male students possibly because of the higher male enrollment in STEM disciplines. When assessing the potential mechanisms, evidence was found suggesting the software led to a net increase in the hours dedicated to studying mathematics. Overall, results indicated that DPL software can be a cost-effective solution for mathematics remediation with the a potential for large-scale application.

Source: Angel-Urdinola et al., 2023

Virtual laboratories

Virtual laboratories (labs) can provide students with training opportunities conducive to practical learning for skills development. Compared to real equipment, virtual labs offer advantages related to safety, remote access for distance education, low costs, reliability, security, flexibility, practice opportunities, personalisation, convenience to students, engagement, motivation, data collection, and data analysis. Moreover, virtual labs can be used to complement classroom instruction and provide students with practical, hands-on experience that may be difficult to obtain otherwise. This can help to prepare students for employment in industries that require practical skills and experience, such as auto-mechanics, welding, manufacturing, and nursing.

The use of virtual labs can be particularly beneficial for TEVET in Zambia. Virtual labs may serve as an alternative means to grant students access to training experiences in countries with limited resources. In addition, they can help level the playing field for students in different parts of the world and give them access to the same opportunities and resources, by offering simulations and experiments that replicate real-world scenarios. However, it is important to note that the use of virtual labs in low- and middle-income countries (LMICS) may face challenges related to limited internet connectivity, access to devices, and technical support. Therefore, TEVET institutions and policymakers must work together to address these challenges and ensure that virtual labs are implemented in a way that maximises their potential to improve learning outcomes and employment opportunities for students.

Box 2: ActiVaR: Virtual Reality (virtual reality) training programs for technical education in Ecuador

With support from the Government of Korea, with a gram from the Korea World Bank Partnership , the World Bank launched the ActiVaR Program to support the country teams in designing, implementing, and evaluating training using XR technologies for skills and workforce development. ActiVaR has helped six technical universities in Latin America develop virtual laboratories for workforce development, benefiting over 600 students annually. ActiVaR supported the creation of two new immersive training programs in auto-mechanics and industrial risk prevention. ActiVaR is developing an XR training program to train young fishermen in the Caribbean to develop their blue economy productively and sustainably with state-of-the-art fishing and navigation technology. ActiVaR also promotes using virtual campuses to create more engaging hybrid learning experiences in the metaverse. The ActiVaR program has the potential to be scale-up globally. Available evaluation results of the ActiVaR program indicate that immersive training can contribute to student learning by fostering student engagement and motivation and reducing training risks.

Cotopaxi TTI: VR laboratory in auto-mechanics. The intervention provided a group of students from the Cotopaxi Technical Institute's Motor Engine Repair Program with training on generic V-6 gasoline engines using augments and (AVR) technology. The training included eight learning modules developed in coordination withe Namsoul University in Korea. The content was delivered to a second-year cohort at Cotopaxi, one of the largest public technical universities in Ecuador. The pedagogical approach for the curriculum was based on blended learning models. The students' initial introduction to content through ARV-mediated experiences, allowing a customised and integrated approach to learning. The AVR simulations actively allow students to manipulate a virtual motor engine in order to make them proficient in understanding, manipulating and repairing it.

Tsa Chila TTI: VR laboratory for the prevention of industrial risks. The intervention provided a group of students from the Tsa Chila Technical Institute's Safety and Occupational Risk Prevention Program with training on industrial risk prevention using VR technology. The curriculum was developed by the Educate Foundation (an Ecuadorian non-profit organization) in coordination with prove sector stakeholders. The pedagogical approach for the proposed curriculum was based on blended learning models. The Tsa Chila Technical Institute was equipped with and AVR lab (hardware and software). The experience transports students to a virtual factory, introduces them to industrial risk prevention, simulates work environments and risk factors, and provides them with practical experiences to control risks, use machines safely, and to react correctly in case of an emergency.

Source: World bank (2023)

Micro-credentials

The TEVET ecosystem should be integrated with the rest of the education system. Bridging programs are part of a comprehensive approach to facilitating transitions between secondary, post-secondary non-tertiary, and tertiary education. Providing flexible pathways for TEVET is of utmost importance to cater to the diverse needs of learners and enhance connections with general education. By establishing smoother transitions between TEVET and other educational pathways, individuals can have enhanced prospects to cultivate their skills and reintegrate into education or training at different stages of their lives. This would help ensure that TEVET successfully contributes to employment and productivity as well as meets the needs of learners and the demand for skills.

TEVET can become a deterrent for further studies and smooth integration with formal, non-formal, and informal short-term training and universities due to the scarcity of micro-credentials or flexible pathways. At the present time, some LMICs have no pathways from TEVET to tertiary education, and education systems do not allow students to move easily between or combine general and technical education. Even though formal pathways exist between TEVET and general education in several countries, the

actual number of students transitioning between the two remains relatively low, even when they express a desire to make such a transition. This may be because secondary TEVET graduates often are (or are perceived to be) inadequately prepared for general education (Field and Guez, 2018); or because they lack foundational skills and drop out before earning a degree (Salmi and Bassett 2012).

Strong foundational skills are necessary for TEVET graduates to enhance the value and recognition of micro-credentials within society. Moreover, effective pathways require that the broad education system addresses fragmentations in governance. Some policy examples are national qualification frameworks, credit recognition agreements, recognition of prior learning, career guidance support, bridging programs, or financial support for students transitioning between levels (Field and Guez, 2018).

Offering an increased number of TEVET programs at advanced levels can facilitate the transition to higher levels of academic education. This is commonly known as the "vocalization" of tertiary education, such as short-cycle technical tertiary education programs at the International Standard Classification of Education (ISCED) 5 level. These programs usually take two to three years and lead to an associate degree, providing access to general tertiary education while keeping the focus on the labour market. Additional measures include, for instance, flexible admissions procedures and guidance, and credit accumulation and transfer (UNESCO 2015).

Hybrid learning

In the wake of the global COVID-19 pandemic, hybrid or blended learning models are becoming fundamental. Hybrid or blended learning, which is any combination of in-person and remote learning, serves as a solution to make up for lost instructional time (remediation), facilitates seamless student rotation, provides learning flexibility, and reduces the administrative burden on teachers. Moreover, it can help address the scarcity of qualified teachers and trainers. Through the provision of online training modules and virtual simulations, TEVET institutions can extend the reach of quality education and training, irrespective of the geographical location or the presence of expert instructors.

Prior to the implementation of hybrid learning models, it is essential to equip both learners and trainers with the necessary skills. By promoting digital literacy and providing training and support for students and teachers, education institutions can create a more effective and engaging learning experience that prepares students for success in a rapidly digital transformation. Prior to implementing hybrid learning, policymakers should consider, among other issues, the need to equip learners with the basic skills to learn by themselves, be motivated, resilient and empowered; and teachers to build digital skills, pedagogical effectiveness, or ability to identify the suitability of different forms of hybrid learning depending on the context. Both students and trainers should have an adequate level of digital literacy and digital skills to access, evaluate, and communicate information effectively and efficiently; as well as to be able to find, evaluate, and use information from digital sources effectively.

7

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