

Annual Priority Skills Report

2026





OUR PEOPLE • OUR FUTURE

Annual Priority Skills Report

2026

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Contents

List of Figures	ii
List of Tables	ii
Profile of HRDC	iii
Foreword	iv
Acronyms	vi
Executive Summary	vii
 CHAPTER ONE:	
INTRODUCTION AND METHODOLOGY	1
1.0 Introduction	2
1.1 Objectives of Priority Occupations and Skills	2
1.2 Methodology	3
1.2.1 HRD Planning Process	3
1.2.2 Criteria for Prioritising Skills	4
1.2.3 Occupational and Skills Forecasting Model	5
 CHAPTER TWO:	
LABOUR MARKET ANALYSIS	8
2.1 Global Overview	9
2.1.1 The Digital Economy	9
2.1.2 The Green Economy	9
2.1.3 Care Economy	9
2.2 National Overview	10
2.2.1 Economic Growth	10
2.2.2 Employment	11
2.2.3 Unemployment	13
2.2.4 Tertiary Education Enrolments	14
2.2.5 TVET for Sustainable Economic Development	14
 CHAPTER THREE:	
PRIORITY OCCUPATIONS AND SKILLS	15
3.1 Economic Sectors	18
3.1.1 Agriculture	18
3.1.2 Mining Sector	21
3.1.3 Energy Sector	23
3.1.4 Manufacturing Sector	25
3.1.5 Tourism, Sports and Creative Industries	27
3.1.6 Financial Services & Digitalisation	35
3.1.7 Infrastructure Cluster	41
3.2 Social and Enabling Sectors	47
3.2.1 Education Sector	47
3.2.2 Health Sector	51
3.2.3 Public Sector	53
3.3 Redundant Jobs and Skills	55
 CHAPTER FOUR:	
CRITICAL ISSUES AND RECOMMENDATIONS	58
4.1 Critical Issues	59
4.2 Recommendations	60
 CHAPTER FIVE:	
Conclusion	61
References	62
Annex 1 Priority/future occupation and skills forecasts (Local)	64
Annex 2 Priority/Future Occupation And Skills Forecasts(External)	133

LIST OF FIGURES

Figure 1: Methodology for Skills Review	3
Figure 2: Criteria for Skills Priority	4
Figure 3: Demand and Supply for Skills	6
Figure 4: Contribution to GDP by Sector	10
Figure 5: Employment by Industry	11
Figure 6: Employment by Occupation	12
Figure 7: Formal Sector Employment by Education/Training Level	12
Figure 8: Unemployment Levels	13
Figure 9: Tertiary Education Enrolment by Learning Fields (2024)	14
Figure 10: Priority Sectors	17
Figure 11: Overview of the Agriculture Sector Performance	18
Figure 12: Overview of the Mining Sector Performance	21
Figure 13: Overview of the Energy Sector Performance	23
Figure 14: Overview of the Manufacturing Sector Performance	25
Figure 15: Overview of the Tourism Sector Performance	27
Figure 16: Overview of the Creative Industries Sector Performance	31
Figure 17: Performance overview for Finance and Insurance Activities, Wholesale and Retail services and Real Estate	35
Figure 18: Overview of ICT Sector Performance	38
Figure 19: Overview of the Construction Sector Performance	41
Figure 20: Overview of the Transport and Logistics Sector Performance	43
Figure 21: Overview of the Water Sector Performance	45
Figure 22: Overview of the Education Sector Performance	47
Figure 23: Overview of the Health Sector Performance	51
Figure 24: Overview of the Public Sector Performance	53

LIST OF TABLES

Table 1: Design matrix for sources of data	7
Table 2: Employment Trends	11
Table 3: Top 10 Unemployed Graduates Classified by Occupations	13
Table 4: Priority Occupations and Skills in the Agriculture Sector	20
Table 5: Priority Occupations and Skills for the Mining Sector	22
Table 6: Priority Occupations and Skills in the Energy Sector	24
Table 7: Priority Occupations and the Skills in Manufacturing Sector	26
Table 8: Priority Occupations and Skills in the Tourism sector	29
Table 9: Priority Occupations and Skills in the Creative Industries Sector	34
Table 10: Priority Occupations and Skills in the Financial Services Sector	37
Table 11: Priority Occupations and Skills in the ICT Sector	39
Table 12: Priority Occupations and Skills in the Construction Sector	42
Table 13: Priority Occupations and Skills in the Transport and Logistics Sector	44
Table 14: Priority Occupations and Skills in the Water Sector	46
Table 15: Priority Occupations and Skills in the Education Sector	49
Table 16: Priority Occupations and Skills in the Health Sector	52
Table 17: Priority Occupations and Skills in the Public Sector	54
Table 18: Summary of Redundant and Displaced Jobs & Skills	55

Human Resource Development Council Profile

HRDC Objectives:

- Provide policy advice on all matters of the National Human Resource Development
- Co-ordinate and promote the implementation of the National Human Resource Development Strategy
- Plan and advise on tertiary education financing and workplace learning.

Functions:

- Education & Training Financing
- National Human Resource Development Strategy
- Institutional Capacity Building
- Workplace Learning
- Human Resource Development Planning
- Internship & Apprenticeship
- Education and Labour Information
- Human Resource Development policy advice
- Research & Innovation
- Non-Credit Bearing Short Courses (NCBSCs)

Strategic Foundations

The Human Resource Development Council (HRDC) Board, Management and Staff established a shared understanding of the Vision, Mission and Values as strategic foundations that give and define the business of the Council.



MISSION

To drive the development of Botswana's human resource to achieve a knowledge-based economy through the provision of policy advice, planning, funding and coordination and effective collaboration.



VISION

To transform Botswana into a Globally Competitive Human Resource Hub by 2036.



VALUES

We will in all our dealings with stakeholders uphold the following values:



Excellence: Quality service and commitment to outstanding performance.



Effective Communication: Effective and continuous engagement of both internal and external stakeholders.



Teamwork: Collectively working towards common goals.



Innovation: Continuously seeking solutions and improvements.



Integrity: Ethical, respectful, honest and Botho when dealing with customers and stakeholders



Accountability: We act responsibly and commit to being answerable for our decisions and actions.



FOREWORD FROM
**PROFESSOR
ALINAH K.
SEGOBYE**

The Human Resource Development Council (HRDC) is pleased to release the 2026 Priority Skills Report.

The report provides critical advice on current, emerging and future skills. It guides education planning for human capital development in Botswana.

This ensures that skills development is futuristic and globally competitive. The report also guides key stakeholders, including education financing institutions, in making targeted investments in sponsorship and training. Education and training providers can align their programmes and curriculum with future skills needs, while regulatory authorities can use the report to review programme accreditation and professional certification processes. The report also informs students, parents, guardians and all users in making informed career choices. For the private sector, actors, and international partners, the report provides insights into Botswana's education and human capital development systems that can facilitate investment decisions.

The HRDC Act No 17 of 2013 mandates the Council to provide policy advice to the government, including the coordination of national and sector human capital development. Through the National Human Resource Development Strategy (NHRDS), the Council has provided an integrated approach to human capital development and economic development. This has enabled government to make informed decisions on education and training, tertiary education financing and workplace learning. The HRDC adopted a sector-led planning approach whereby public and private sector actors and industry identify the strategic areas for education and skills development. The process culminates in the identification of priority skills needed to drive current and future economic development.

On behalf of the HRDC Board, Management and Staff, it is my pleasure to share the 2026 Priority Skills Report, themed Driving Economic Transformation through Skills Development. The report is anchored on tenets of the National Development Plan 12 (NDP 12) and the Botswana Economic Transformation Programme (BETP). These blueprints for national economic transformation have catalysed the Council's engagement with diverse partners to realise a truly transformative human capital development agenda. A rigorous stakeholder consultative process has commenced to review the NHRDS, which will culminate in the development of a second national human capital strategy.

The global economy is experiencing several shocks due to multiple intersecting crises. Labour markets are being transformed by rapid technological change, climate crises, seismic geopolitical shifts, and demographic changes. These are reshaping jobs and human capital, and impact on skills in demand. The 2025 world economic forum report projects approximately eight million net jobs and about forty percent (40%) of redundant skills by 2030. It is therefore imperative that priority skills review and forecasting methodologies strengthen integration of foresight and futures methodologies into the HRD planning approach. This is expected to improve decision-making today for a better future. As HRDC, we hope the report guides decision makers for technological disruptions and the quest for sustainability.

We appreciate all stakeholders who contributed to this report. We remain available for continued engagement as we work together towards a transformed human capital ecosystem and workforce for a better Botswana.



Professor Alinah K. Segobye
Chief Executive Officer

ACRONYMS

AfCFTA	African Continental Free Trade Area
AGOA	Africa Growth Opportunity Act
BETP	Botswana Economic Transformation Programme
BQA	Botswana Qualifications Authority
ETPs	Education and Training Providers
HRD	Human Resource Development
ICT	Information and Communication Technology
NDP	National Development Plan
NHRDS	National Human Resource Development Strategy
OSD	Occupations and Skills in demand
QMTS	Quarterly Multi-topic and Household Survey
SADC	Southern Africa Development Community
SDGs	Sustainable Development Goals
STEM	Science, Technology, Engineering and Mathematics
STREAM	Science, Technology, Research, Engineering, Arts and Mathematics
TVET	Technical and Vocational Education and Training
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme



Executive Summary

Human resource development is a central driver of Botswana's economic development. The 2026 Annual Priority Skills Report is informed primarily by National Development Plan Twelve (NDPI2) and the Botswana Economic Transformation Programme (BETP), and further aligned to VISION 2036, particularly the pillar focused on ***“developing an internationally competitive workforce that is productive, creative and has international exposure”***. The Education Sector True North advocates for a globally competitive and innovative human capital that supports Botswana's transition to a sustainable, knowledge-based economy and improved socio-economic outcomes for Botswana.

The annual priority skills review process conducts labour market intelligence and foresight analysis to ensure that the country develops and retains skills required to grow the economy. The World Economic Forum's Future of Jobs Report (2025) highlights digital, green and care economies as major drivers of global labour markets over the next five years. These trends are expected to accelerate a shift from predominantly manual tasks towards complementary capabilities, including technical, digital and higher-order skills. The implications are particularly relevant for Botswana's key economic sectors, including Mining, Energy, Agriculture, Manufacturing, Tourism, Infrastructure, Business Services and Digitisation.

This report supports proactive decision-making and forward-looking planning for human resource development and seeks to align education and training with national priorities and evolving labour market trends. It further identifies skills that should be developed now to reduce imbalances over time and sustain a relevant, globally competitive workforce. The report guides stakeholders across the skills ecosystem, including, Employers, Education Training Providers (ETPs), Students, Policymakers & Planners, Regulators, Professional Bodies, among others.

The 2026 review draws on multiple methodologies to scan national and global labour market developments. Stakeholders consulted comprised policy makers, private and public sector industries, professional and regulatory bodies, Education and Training Providers (ETPs) and labour unions. The review examined three critical areas: (i) Policy & Strategic Frameworks, (ii) Key Enablers, and (iii) Human Resource Development and Management issues. Priority occupations and skills were identified with reference to medium to long-term policies and strategies (National and Global), emerging and key projects, value chain development, future jobs and future skills, as well as redundant jobs and skills. An Occupational and Skills forecasting model was also

used to quantify the occupational and skills gaps over a five-year horizon, including areas of potential shortage and oversupply.

Botswana's economic performance influences projections of future skills need. Youth unemployment remains high, estimated at 38.2% (World Bank, 2023), which underscores the importance of strengthening skills planning alongside broader job creation. The 2026 occupations and skills review findings indicate that:

- 1 Demand for many occupations is projected to be relatively low, reflecting limited job creation and heightened uncertainty.
- 2 Future skills requirements are increasingly shaped by technological change, green technologies, climate change and environmental priorities.
- 3 Priority skills show a growing concentration and shift towards TVET and specialised skills.
- 4 Despite satisfactory uptake of priority occupations and skills, enrolment remains sizeable in some fields already associated with high graduate unemployment.
- 5 Industry stakeholders continue to raise concerns that the education and training system emphasises qualifications over demonstrable skills, reinforcing the need to shift from education solely for employment towards education that also supports job creation, research, and innovation.
- 6 Clerical and administrative roles are gradually becoming vulnerable to redundancy primarily because of automation, process optimisation and digital transformation.

Key challenges in conducting the priority skills review include a lack of up – to – date data, a lack of futuristic planning to anticipate future growth against which to map skills requirements. In addition, some sectors, including Creative Industries, Manufacturing and Agriculture, are characterised by a high prevalence of informal activity and small and medium - scale firms, which can limit the availability of structured workforce data and complicate planning.

Introduction & Methodology

1.0	Introduction	2
1.1	Objectives of Priority Occupations and Skills	2
1.2	Methodology	3
1.2.1	HRD Planning Process	3
1.2.2	Criteria for Skills Prioritisation	4
1.2.3	Occupational and Skills Forecasting Model	5



1.0 Introduction

Botswana continues to recognise the quality of its education and training system as critical for economic growth and well-being. This is evidenced by the country's deliberate intention to make substantial investments in human capital development to drive economic growth.

Anchored in the Mining sector, particularly diamonds, Botswana's economy has made significant strides since independence, becoming an upper-middle-income country in 2004/05 (World Bank). However, volatility in the diamond market has propelled Botswana to fast-track economic diversification and intensify its efforts to become a knowledge-based economy. As such, skills development and knowledge generation remain critical to ensuring that Botswana's aspirations become a reality.

Understanding labour market requirements and occupational dynamics is vital to meeting the goals of the national Vision 2036 and National Development Plan-twelve (NDP12), Botswana's frameworks for transforming into a high-income country focusing on sustainable development, economic diversification, and digitalisation. Human resource development is at the heart of any economic development process, which cannot be divorced from sustainable economic growth. Therefore, it is important to continuously conduct labour market intelligence and foresight to guide human resource development and make informed decisions.

It is against this background that the Human Resource Development Council (HRDC) assesses priority occupations and skills on an annual basis. Priority occupations and skills in demand are mainly those that:

- a) Show signs of employment growth, based on trends and anticipated future needs
- b) Experience shortages in the labour market, meaning demand for such skills/occupations is higher than the supply from the education and training system; or
- c) Are emerging due to factors such as innovation, technological advancements, new government strategic priorities or global influences.

The Priority Skills Report is used to inform decision-making and planning. Specifically, the report guides tertiary education financing, industry workplace learning and skills development, curriculum review and programme development. It further advises policy makers on Human Resource Development (HRD) strategic interventions and provides career guidance to learners, parents, guardians and sponsors. The Report also clearly outlines the approaches and methodologies used to determine priority occupations and skills in demand, the criteria used for prioritisation, the forecasting model, and the resulting list of priority occupations and skills.

1.1 OBJECTIVES OF PRIORITY OCCUPATIONS AND SKILLS

The aim of the annual review of priority occupations and skills is to promote alignment of the education and training system with the demand for labour. Specifically;

- a) To monitor labour market trends to address skills imbalances
- b) To identify future jobs and future skills
- c) To support the prioritisation of training and investment.
- d) To project skills requirements for the next five-year period
- e) Provide recommendations for skills development (local and external training)



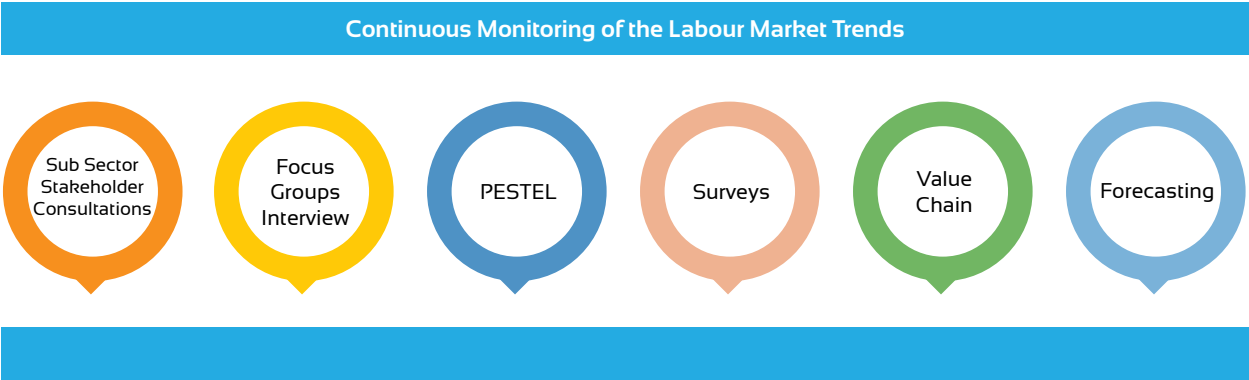
1.2 METHODOLOGY

1.2.1 HRD Planning Process

The HRD planning approach is demand-led, aiming to ensure that graduates acquire skills aligned with labour market needs. HRDC continuously monitors labour market trends and advises learners, as well as education and training providers, on current, emerging, and future skills requirements. To inform this process, the Council tracks key indicators such as economic growth, employment and unemployment rates, tertiary education enrolment and graduation rates, and work permit data.

Methods for undertaking the Sector occupational skills review are summarised in Figure 1, which shows the various quantitative and qualitative methods used. Benchmarks have shown that the mixed methods approach is effective in countries such as Singapore and Mauritius, which have developed National Human Resource Development Strategies, as is the case in Botswana. The Strategy mirrors the national economic agenda, which advocates for becoming a knowledge-based society and a knowledge-based economy.

Figure 1: Methodology for Skills Review



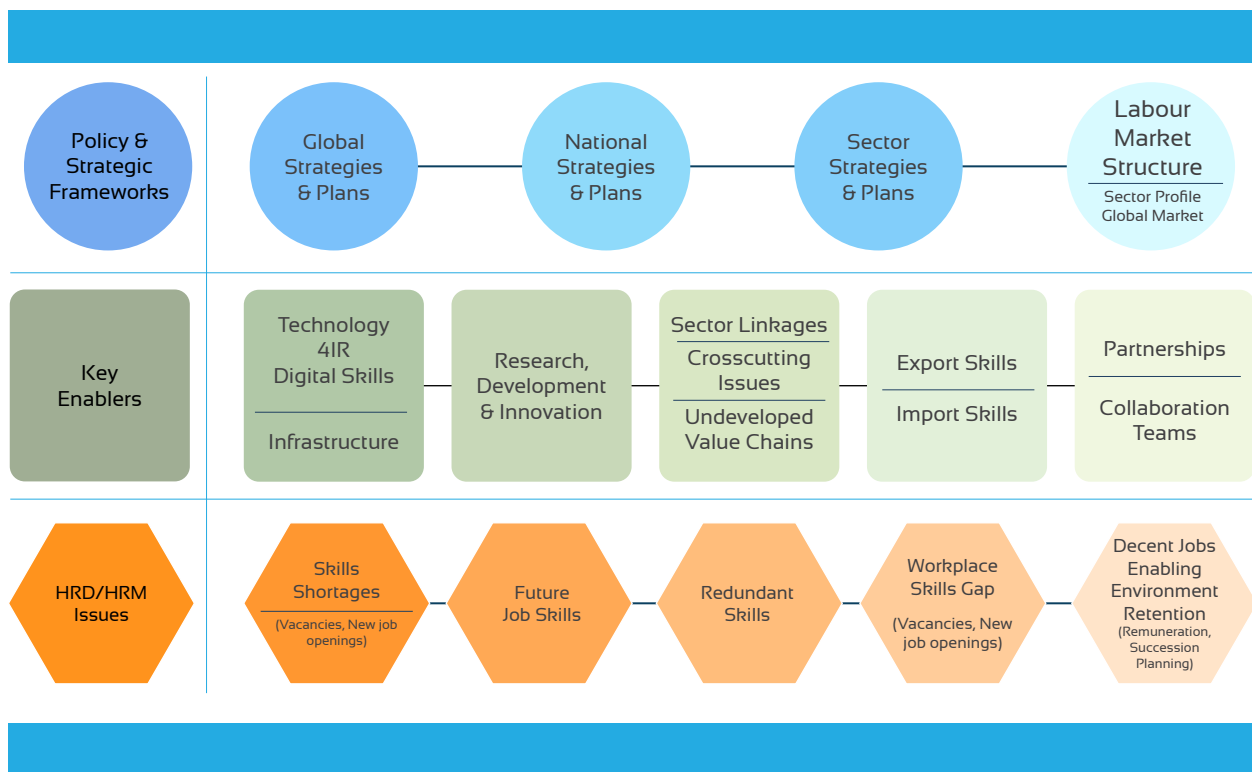
Literature and available surveys were reviewed and analysed in line with labour market trends, sector evolution, and development prospects. The PESTEL framework was also used to evaluate the impact of external macro-environmental factors, Political, Economic, Social, Technological, Environmental, and Legal, on the demand for skills in different sectors of the economy. Global labour market scanning was conducted to identify emerging trends and issues that may impact Botswana's labour market structure. Moreover, Interviews, focus group discussions and stakeholder workshops with industry representatives were conducted to map sector growth trends and define occupational and skills requirements. Interviews and structured data collection tools were developed and used where necessary. This process enabled a systematic mapping of priority skills based on sector development strategies, value chains development, technological evolution and environmental considerations.

Stakeholder consultations included employers from both private and public sectors. Within each sector, different groupings were engaged, including associations, professional and regulatory bodies, Education and Training Providers (ETPs), industry experts and labour unions. Following these stakeholder consultations, a draft list of occupations and skills in demand, with indicative numbers, was produced and validated through focus group discussions, meetings with experts and wider stakeholder workshops.

1.2.2 Criteria for Prioritising Skills

Through its structures, HRDC developed the criteria for Priority occupations and skills that considers three (3) areas being, Policy & Strategic Frameworks, Key Enablers and Human Resource development and Management issues. This model is customised to each sector based on the strategic direction, profile, and socio-economic importance of the sector. Figure 2 details all the elements that are analysed under each area to deduce critical issues and skills.

Figure 2: Criteria for Skills Prioritisation



The Policy & Strategic Frameworks examines skills requirements emanating from global, national and sector specific strategies and plans. It is then important to assess the national policies, strategies and initiatives to understand how they position the sector within the national economy. The process also considers the labour market structure and profiles the sector to determine skills needs.

Key enablers focus on occupational and skills changes resulting from technological advancements, infrastructural development, and research and development. The need for skills imports and export also signals what is required by the local and international markets. The cross-cutting issues, undeveloped value chains, and collaborations and partnership opportunities further suggest skills implications for the sector.

Human Resource Development /Management (HRD/ HRM) provides insight into the demand and supply of skills, and how these are managed within the sector and the respective workplaces. This process involves analysing job openings, skills shortages and the supply of skills, determining future and redundant jobs and skills, assessing workplace skills gaps, and considering decent work attributes such as conducive work environment, remuneration, retention and succession planning policies.



1.2.3 Occupational and Skills Forecasting Model

Skills forecasting is the process of determining future skill needs based on economic modelling of future labour demand (Brustis, 2021). The forecasting process provides early warning signals of labour market dynamics, helping key stakeholders respond proactively to the risks associated with an over- or undersupply of skills. Continuous review of skills forecasts is critical for effectively managing unemployment and underemployment. Training can then be adjusted continually and timeously to respond to industry needs at any given time. The skills forecasting model is a tool that integrates modelling and forecasting into the HRD planning process.

The key processes of forecasting include, but are not limited to:

1

Identifying the concentration of potential future job openings in the country.

2

Identifying the implications of these potential jobs in terms of occupations and qualifications.

3

Comparing skills needs with the supply of skills to determine whether imbalances are likely.

Figure 3 shows a schematic interaction between the supply and demand for skills used for the Occupational Demand and Supply Model adopted by Botswana. This model is used worldwide and can be customised to each country's context. The choice of model was driven by the availability of data and information.

The model requires two critical steps:

1

Collecting data on past trends in the economy (Gross Domestic Product), labour market, demography, and education.

2

Setting assumptions about the future of the economy (GDP Projections), labour market, demography, and education.

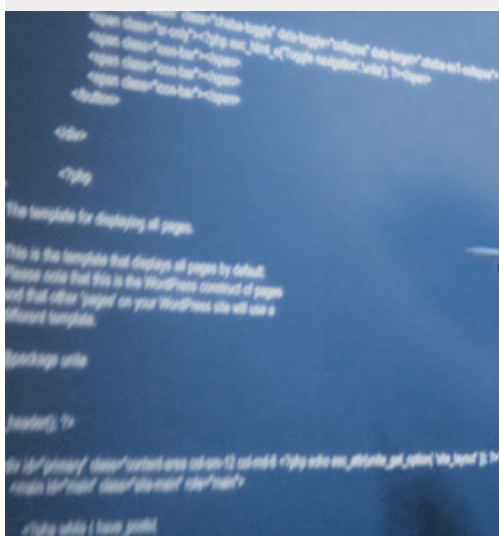


Figure 3: Demand and Supply for Skills



The HRD forecasting model was developed based on the macroeconomic outlook to forecast the demand for, and the supply of, labour in Botswana. Because Botswana has adopted a demand-led approach, the model treats supply as a dependent variable and forecasts demand as an independent variable.

The Forecasts used a combination of desktop review, analysis and secondary data to provide a context on the status of skills demand and supply in Botswana's labour market. Sector experts, focus group interviews and stakeholder workshops were conducted to validate the findings. Data sources for the forecasts were guided by the specific objectives captured in Table 1.

Due to the unavailability of data for some of the new and emerging future skills, the process used industry expertise to apply workload indicators, staffing norms and standards to generate forecasts.



Table 1: Design matrix for sources of data

Variables	Objective	Source of data
GDP	To map economic growth forecast which are used to guide skills required (employment growth)	Q3-2025 GDP Forecasts, Ministry of Finance
Employment	To show employment trends	QMTS-Q1, 2024, Statistics Botswana
Attrition	To measure and estimate labour replacement rate	Administrative data From
Population	Serves as source of labour	2021 Population Census, Statistics Botswana
Unemployment	To gauge the level of unemployment and the extent to which they have skills that are required in future	QMTS-Q1, 2024
Enrolment/ Graduates	Estimates anticipated skills that are still on training	Tertiary Education Statistics, HRDC

SECTOR EXPERTS,
FOCUS GROUP
INTERVIEWS AND
STAKEHOLDER
WORKSHOPS WERE
CONDUCTED TO
VALIDATE THE FINDINGS.

Labour Market Analysis

35%

18%

2.1 Global Overview	9
2.1.1 The Digital Economy	9
2.1.2 The Green Economy	9
2.1.3 Care Economy	9
2.2 National Overview	10
2.2.1 Economic Growth	10
2.2.2 Employment	11
2.2.3 Unemployment	13
2.2.4 Tertiary Education Enrolments	14
2.2.5 TVET for Sustainable Economic Development	14

2.0 Labour Market Analysis

The HRD sector-led planning process emphasises continuous monitoring of labour market trends to ensure alignment with industry skills requirements and to reduce gaps between the supply of graduates and labour market demand. The analysis covers both global and national trends.

2.1 GLOBAL OVERVIEW

According to the World Economic Forum Report (2025), global labour markets will be transformed between 2025 and 2030, driven by technology and digitalisation, the green transition, geo-economic and geo-political tensions, demographic shifts, and economic uncertainty. It is expected that there will be a shift from manual and sensory tasks to complementary capabilities, including human-centric skills, digital literacy, and green skills, across all sectors of the economy. At the same time, demand for traditional occupations such as those in education and healthcare is expected to continue.

2.1.1 The Digital Economy

According to the World Economic Forum's 2025 report, nearly 40% of current skills are expected to become redundant by 2030, making continuous learning and upskilling essential.

Furthermore, the Report indicates that technological advances, particularly in generative artificial intelligence, information processing, robotics and automation, are reshaping the job market in different ways. The rising demand for specialised, tech-savvy roles such as big data scientists, fintech engineers, AI and machine learning specialists, software developers and cybersecurity experts is driven by digital economy. Demand is also growing for emerging roles like AI ethics specialists and prompt engineers. At the same time, AI poses a risk of displacing jobs that involve repetitive and routine tasks, including tellers, entry clerks, cashiers and administrative assistants.

2.1.2 The Green Economy

The green economy encompasses jobs related to renewable energy as well as those focused on restoring and preserving the environment. Growing demand for clean energy and infrastructure, driven by decarbonization and stricter environmental regulations towards a sustainable economy, calls for the implementation of climate change mitigation actions. According to the World Economic Forum's 2025 report, this shift is driving demand for roles such as environmental engineers, electric and autonomous

vehicle specialists, renewable energy engineers and solar installers. The report also notes that climate change adaptation is expected to be the third-largest contributor to net global job growth by 2030, adding about 5 million jobs, while mitigation could add another 3 million.

2.1.3 Care Economy

Demographic shifts are reshaping the care economy. Ageing populations in advanced economies are contributing to labour shortages, particularly among nurses and teachers.

According to the World Economic Forum's 2025 report, demand for jobs is expected to increase between 2025 and 2030 for roles such as nurse practitioners, medical and health services managers, home health aides and educators. In lower-income countries, however, a growing youth population continues to exacerbate persistent unemployment, the International Labour Organisation reported in 2025. This presents an opportunity for these countries to export labour.

40%
OF CURRENT SKILLS ARE
EXPECTED TO BECOME
REDUNDANT BY 2030,
MAKING CONTINUOUS
LEARNING AND UPSKILLING
ESSENTIAL.

2.2 NATIONAL OVERVIEW

This section highlights sectoral performance and key drivers that continue to shape the labour market. It provides an overview of Botswana's labour market dynamics, highlighting recent trends in economic growth, employment, unemployment, and enrolments.

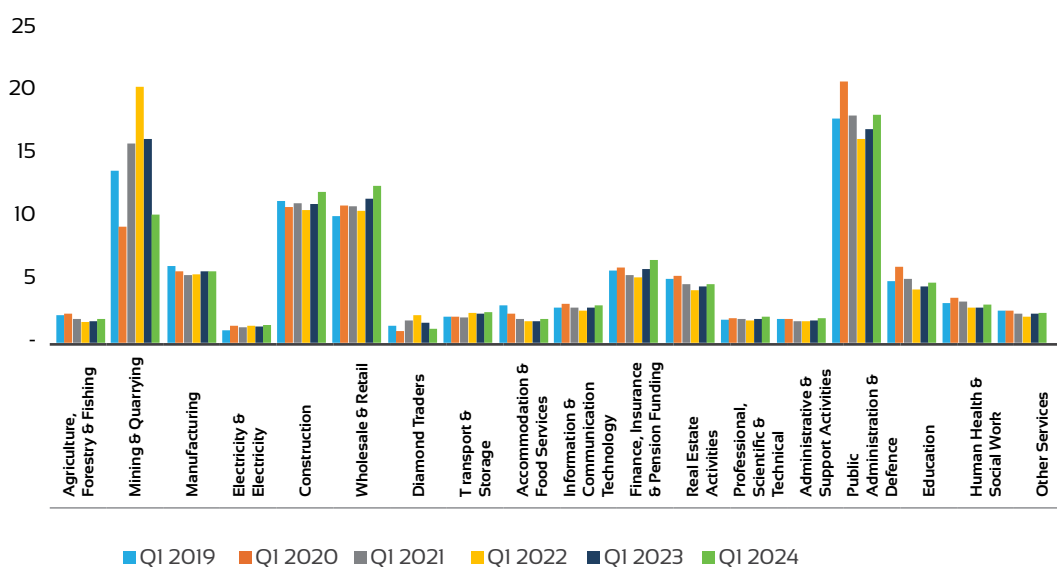
2.2.1 Economic Growth

The 2026 Budget Speech highlights that global economic conditions remain fragile, driven by tightening financial conditions, elevated public debt, climate-related disruptions, and sluggish growth. Botswana is therefore operating in an unfavourable economic environment.

According to the Budget Speech, the economy remained sluggish after averaging 0.9 percent in the first three (3) quarters of 2025. The non-mining sector provided limited support, as key industries such as manufacturing, transport and storage, and construction slowed, reflecting the economy's strong dependence on diamond- financed government spending. The domestic economy, however, is estimated to rebound to 3.1 percent in 2026.

The analysis of GDP contribution by sector indicates that, in 2024, the Public Administration & Defence industry remained the major contributor to GDP at 18.2 percent, followed by Wholesale & Retail Trade at 12.3 percent and Construction & Mining & Quarrying industries at 11.9 percent and 10.5 percent respectively. Figure 4 shows the percentage contribution to GDP by industry for the period 2019 to 2024. The analysis further shows stagnant growth across all sectors.

Figure 4: Contribution to GDP by Sector



Source: Statistics Botswana, GDP 2024

Given this economic outlook, the creation of sustainable employment opportunities is expected to remain limited in the short term. Consequently, the economy poses a continued risk of rising unemployment.

2.2 NATIONAL OVERVIEW

2.2.2 Employment

According to the 2024 first quarter Multi-Topic Survey report (QMTS-Q1, 2024), total estimated employment in 2024 was 754 146 persons. Of this total, 371 638 (49.3%) were males and 382 509 (50.7%) were females. This distribution is consistent with the Botswana Population and Housing Census 2022, which indicates that the national population comprises more females than males. The analysis of employment by citizenship indicates that in the formal sector, out of the total of 504738 employed, only 3.8% are non-citizens.

Employment Trends

Employment trends over the past five years show a general decline in employment levels between 2019 and 2022, as shown in Table 2. Employment growth fell from 9.9% in the third quarter of 2023 to -4.4% in the first quarter of 2024, representing a net decline of about 34 469 persons in employment.

Table 2: Employment Trends

Indicator	Totals					Q1 2024
	Q4 2019	Q4 2020	Q4 2021	Q4 2022	Q3 2023	
Employed Population	742,378	733,875	717,418	717,725	788,616	754,146
Changes (Number)		-8,503	-16,457	307	70,891	-34,469
Changes (Percent)		(1.1)	(2.2)	0.0	9.9	(4.4)

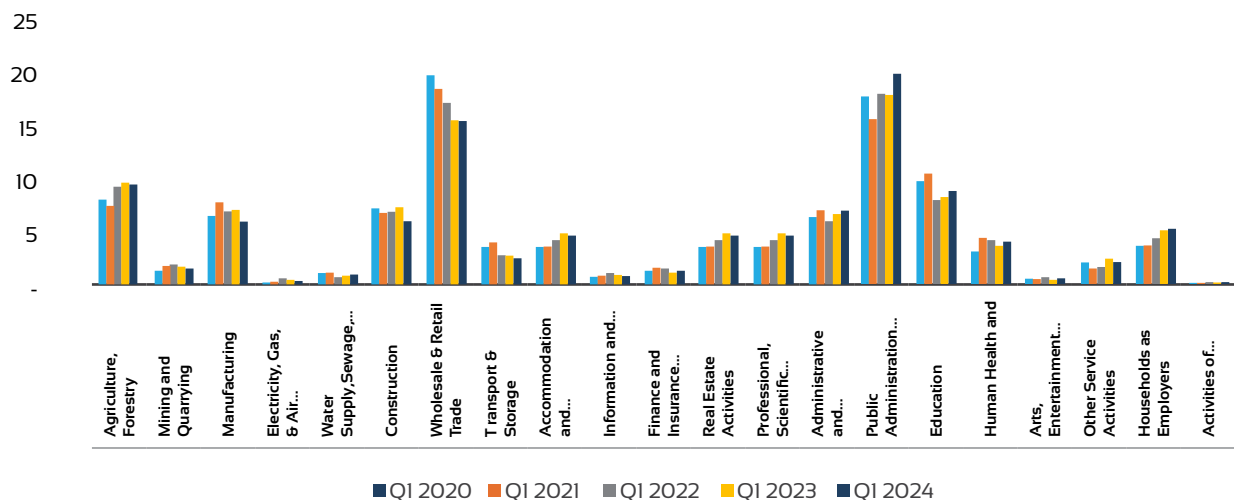
Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024

Between 2019 and 2024, Botswana experienced a decline in employment levels due to the combined effects of the Covid-19 pandemic, weak performance of key sectors of the economy such as mining and tourism, and insufficient economic growth to absorb new labour market entrants. These factors limited both job retention and new employment creation, particularly in the private sector.

Employment by Sector

The QMTS-Q1, 2024 employment by industry shows that Public Administration was the highest employer, constituting 20.3 percent of the total employed persons, followed by Wholesale & Retail Trade with 15.7 percent and the Agricultural industry with 9.6 percent. The education industry was the fourth with 9.0 percent. Figure 5 indicates the percentage of employed by industry from 2020 to 2024.

Figure 5: Employment by Industry

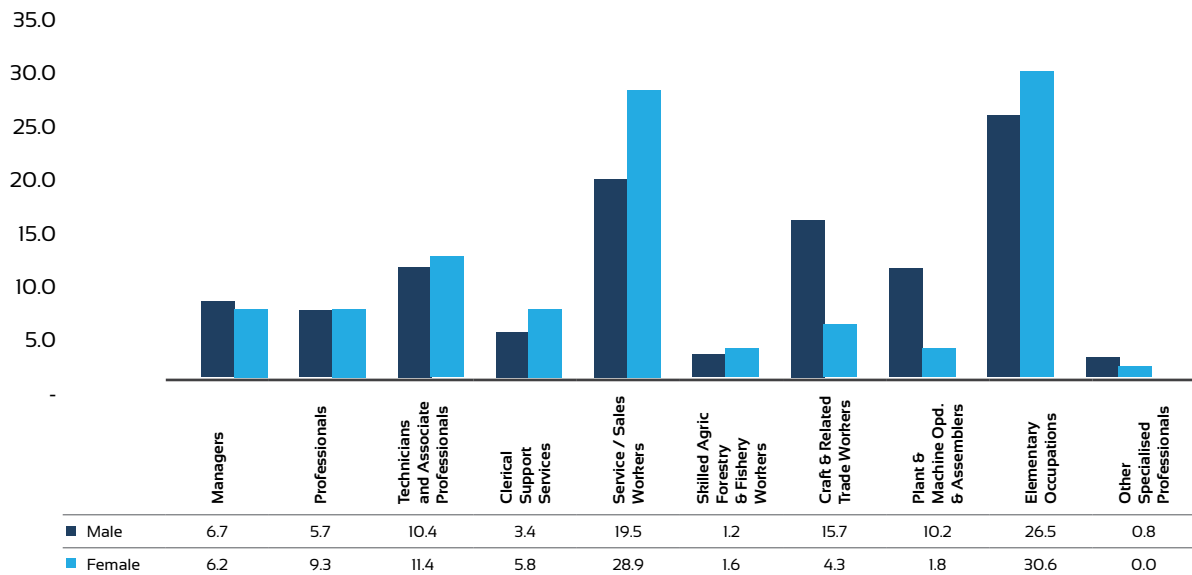


Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024

Structure of the Labour Force

The Botswana labour market structure is largely dominated by semi-skilled workers and unskilled workers, particularly those in elementary and service/sales occupations, as shown in Figure 6. Females constitute the majority in these occupations.

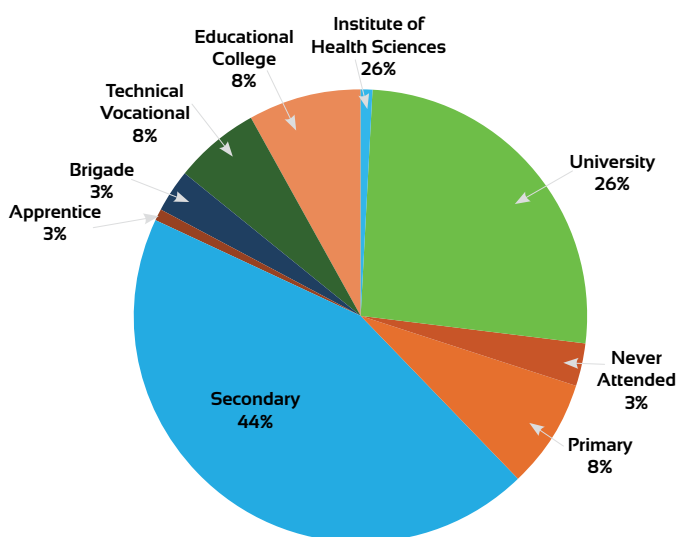
Figure 6: Employment by Occupation



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024

Formal sector employment is largely composed of workers with secondary qualifications (44%), followed by those with university qualifications, as shown in Figure 7. This suggests that sectors of the economy predominantly rely on semi-skilled labour.

Figure 7: Formal Sector Employment by Education/ Training Level



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024

Work Permits

Work Permits Holders, Statistics Botswana, 2023 shows a declining trend in the issuance of work permits between 2019 and 2023, which suggests a gradual reduction in reliance on expatriate labour. This may reflect increased local capacity development, resulting in reduced demand for foreign labour.

During the same period, Agriculture and Forestry consistently recorded the highest number of permit holders. In 2023, for instance, the sector accounted for the largest share at 28.8%, followed by the Human Health and Social Work sector at 21.9%. Furthermore, analysis by occupation indicates that a substantial proportion of work-permit holders (34%) were employed in elementary occupations.

34%
OF WORK-PERMIT HOLDERS
WERE EMPLOYED IN
ELEMENTARY OCCUPATIONS.

2.2 NATIONAL OVERVIEW

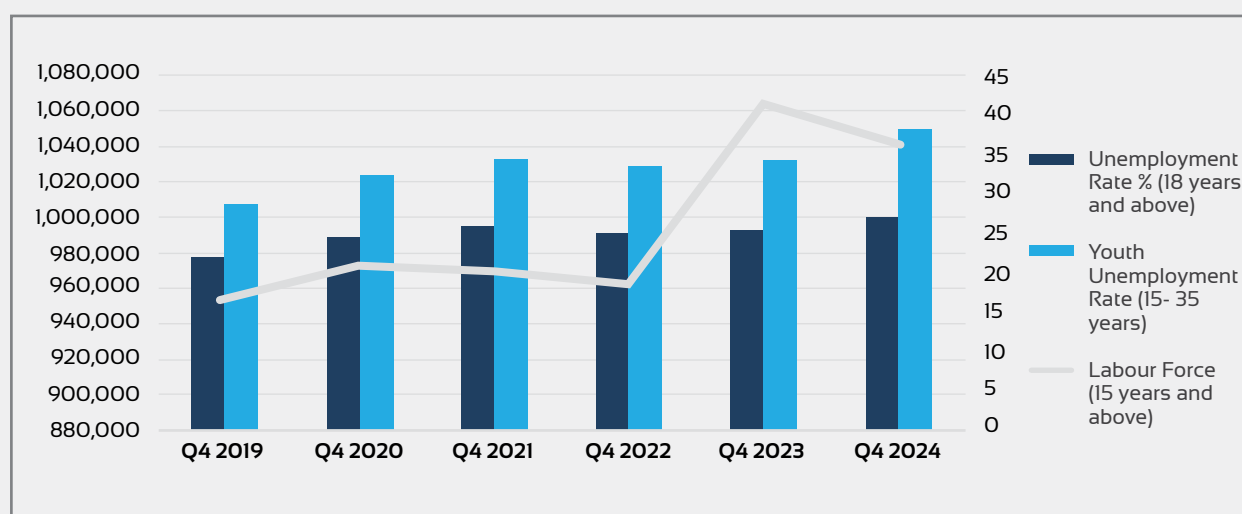
2.2.3 Unemployment

Botswana's overall unemployment rate remains high at 27.6 % (QMTS-Q1, 2024), of which youth unemployment rate is 38.2% and is considered high by international standards for a middle-income country with a small population such as Botswana (World Bank, 2023). This problem seems rampant in the SADC region.

Unemployment Trends

Youth unemployment trends have been rising since 2019, as shown in Figure 8. Statistics show that the leading unemployed youth have acquired secondary education (68.7%), followed by those who attained university education at 13.8%.

Figure 8: Unemployment Levels



Source: Statistics Botswana, Quarterly Multi-Topic Survey 2019-2024

Graduate Unemployment

The Quarterly Multi-Topic Survey (Q4 2019 – Q12024) indicates that the number of unemployed graduates increased by 46.7% over the five years, rising from 48,076 in 2019 to 70,512 in 2024.

A detailed analysis of unemployed graduates for 2023 and 2024 shows that, among the top ten occupations with the highest numbers of unemployed graduates, those with qualifications in Business, Finance, Building and related trades, and Health and Associated professionals constitute the top three categories, as reflected in Table 3.

Table 3: Top 10 Unemployed Graduates Classified by Occupations

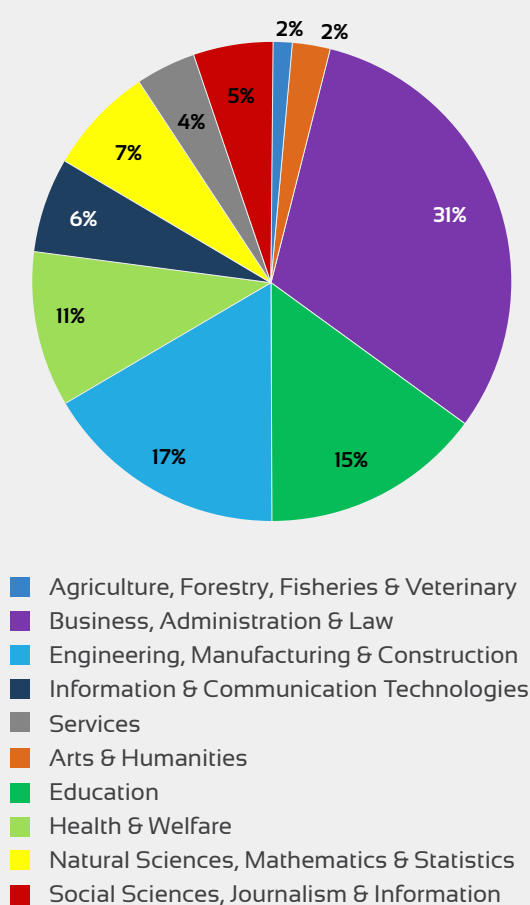
Unemployed graduates classified by occupations	Q3-2023	Q1-2024
Business and Administration Associate Professionals	8288	10789
Building and related trades workers	7141	7864
Health and Associated professionals	6713	7586
Hotel retailers and other Service Workers	6365	5248
Legal, Social, Cultural and Related Associate Professionals	5532	4672
Primary, Pre-Primary, Vocational and Technical Education Teachers	3731	4606
Stationary Plant and Machine Operators	2125	4299
Business and Administration Professionals	2174	4140
Information and Communications Technicians	1557	3837
Engineering and related professionals	1624	3130

Source: Statistics Botswana, Quarterly Multi-Topic Survey 2024

2.2.4 Tertiary Education Enrolments

The majority of students across all Education and Training Providers (ETPs) in the country are enrolled in Business, Administration and Law fields, as shown in Figure 9. The distribution of tertiary education enrolments by ISCED Fields of Education shows that the highest concentration of students was in Business, Administration, and Law, followed by Engineering, Manufacturing & Construction and Education, respectively.

Figure 9: Tertiary Education Enrolment by Learning Fields (2024)



Source: Tertiary Education Statistics, HRDC 2024

Further analysis indicates that women continue to dominate in non-technical fields such as Education, Social Sciences, Health, and Business-related disciplines, while remaining under-represented in more technical fields such as Engineering, Manufacturing and Construction.

The Finance and Business Services learning fields continue to record the highest student enrolments. However, despite these high enrolment levels, the sector also experiences the highest unemployment among graduates. This indicates a mismatch between the supply of graduates produced by the education system and the skills demanded by the labour market.

2.2.5 TVET for Sustainable Economic Development

Botswana's National Development Plan 12 (NDPI2) positions Technical and Vocational Education and Training (TVET) as a central element of the country's education and human-capital development strategy, particularly to support industrialisation and employment creation. TVET in Botswana faces multifaceted challenges that impede its effectiveness in meeting the demands of the labour market. The primary challenges include quality and relevance, insufficient industry engagement, inadequate infrastructure, fragmented TVET provision and limited funding.

TVET programs are integral components of educational systems globally, aimed at equipping individuals with practical skills and knowledge relevant to specific trades or industries. The Botswana Government is developing a robust TVET ecosystem informed by policies right from early childhood learning stages through to tertiary education levels. The need for revitalisation of the TVET as a gateway to job creation in Botswana is encapsulated in several national policies and strategies, including NDPI2 and the Botswana Economic Transformation Programme (BETP).

As part of the annual review of priority skills, HRDC continues to embrace skills requirements at all levels, including TVET. The industry has also demonstrated skills needs at the artisan (Certificate) and technical (Diploma) levels. Notably, most of these skills are offered locally. The identified priority skills are presented in Chapter Three across different sectors and detailed in Annexes 1 and 2.



A close-up photograph of a white and black microscope. A hand is visible in the lower right corner, adjusting a black knob. In the upper left, there is a large circular graphic composed of many thin, vertical white lines. The background is a blurred blue and white laboratory setting.

Priority Occupations & Skills



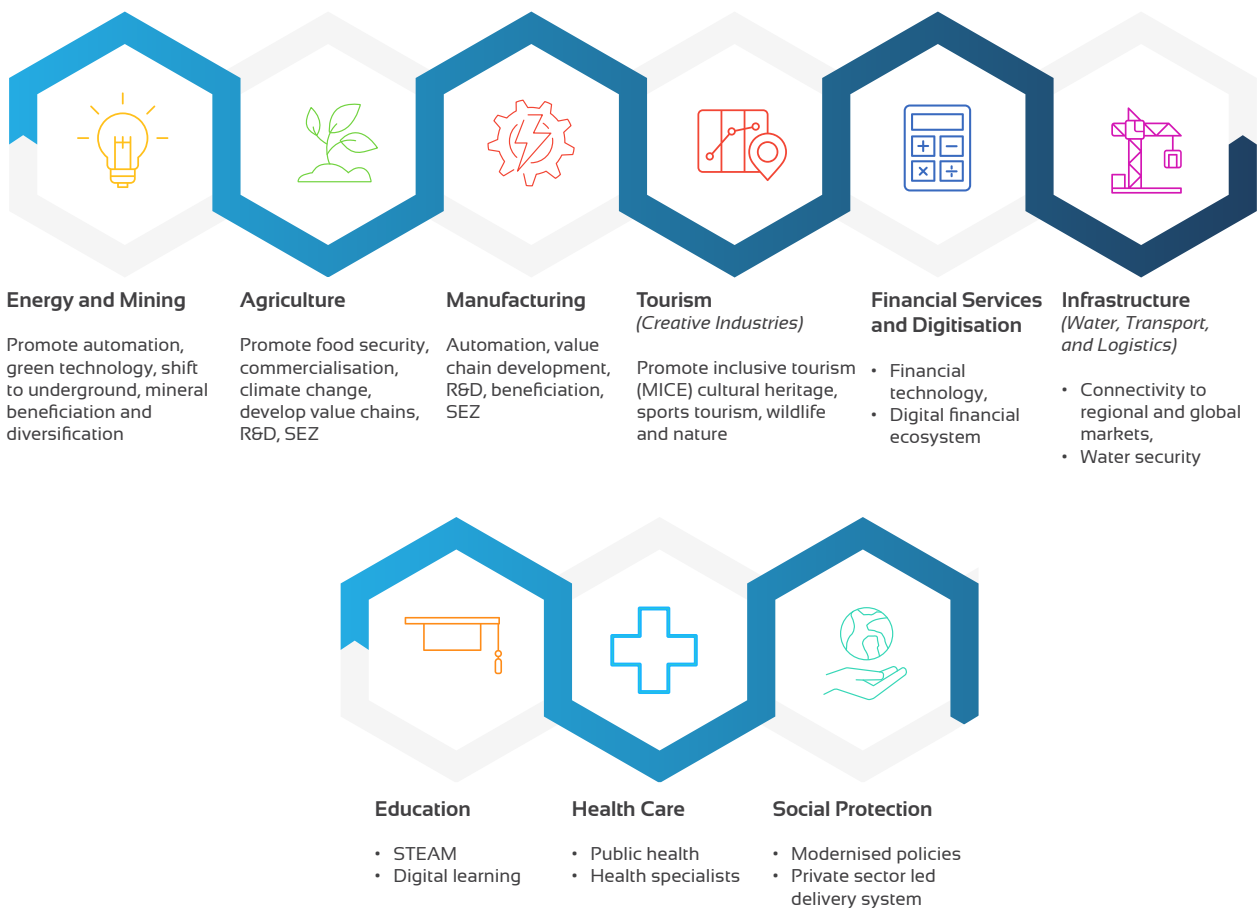
3.0	Priority Occupation and Skills	17
3.1	Economic Sectors	18
	3.1.1 Agriculture	18
	3.1.2 Mining Sector	21
	3.1.3 Energy Sector	23
	3.1.4 Manufacturing Sector	25
	3.1.5 Tourism, Sports and Creative Industries	27
	3.1.6 Financial Services & Digitalisation	35
	3.1.7 Infrastructure Cluster	41
3.2	Social and Enabling Sectors	47
	3.2.1 Education Sector	47
	3.2.2 Health Sector	51
	3.2.3 Public Sector	53
3.3	Redundant Jobs and Skills	55



3.0 Priority Occupations and Skills

The chapter outlines the findings of the occupations and skills review, which was done and aligned to both NDP12 and the Botswana Economic Transformation Programme (BETP). Figure 10 summarises strategic areas that inform priority skills in different sectors of the economy. Like the rest of the world, Botswana is showing the need for digital, green and care skills

Figure 10: Priority Sectors



A further analysis of the economic and social sectors is presented in the next section, and a detailed list of priority occupations and skills is attached as **Annexes 1 and 2**.

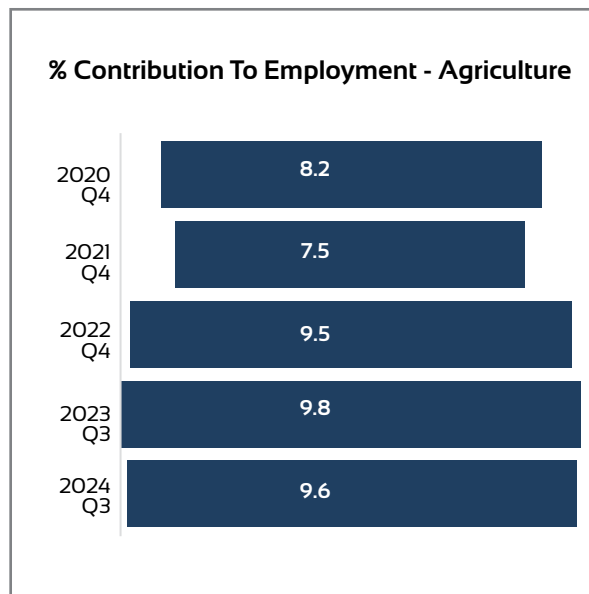
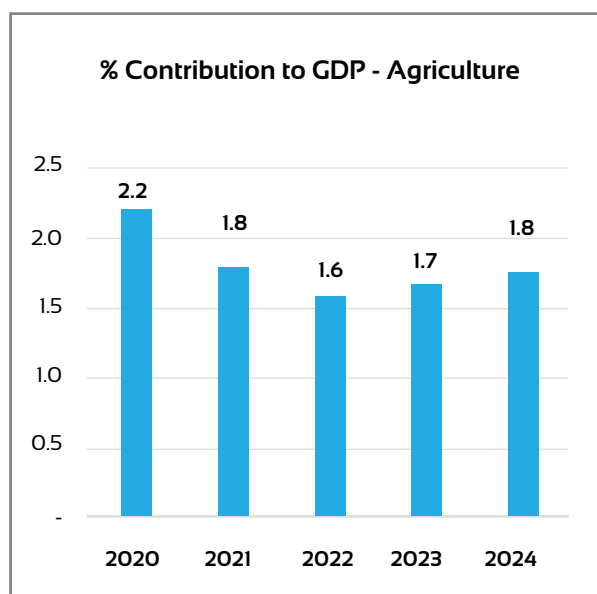
3.1 ECONOMIC SECTORS

3.1.1 Agriculture

The agriculture sector encompasses all the value chain activities because of its strong linkages with the rest of the economy; hence, the sector is a national priority. In addition, the sector is earmarked as one of the priority sectors to drive economic diversification away from diamonds, enhance food security, and reduce reliance on food imports. Thus, agriculture has potential for growth and opportunities for job creation. However, the sector is not performing optimally, as captured in Figure 11, which provides a five-year sector performance overview. On average, contributions to GDP and employment have stagnated, implying a stunted sector. The sector's performance is mostly affected by diseases and recurring droughts.



Figure 11: Overview of the Agriculture Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Exhibit 3.1 summarises the sector's key issues and strategies for the NDP 12 period geared toward boosting the sector's performance by transforming it from a subsistence to commercial farming. This requires application of high-tech machinery, TVET skills and the use of green technologies to exploit value chain development.

Exhibit 3.1: Key issues and Projects in the Agriculture Sector

Issues

- 1 Undeveloped value chain for most Agriculture sub-sectors.
- 2 Dominance of subsistence farmers in the sector and logistical challenges of supply chain.
- 3 Climate Change leading to extreme drought conditions.
- 4 Volatile and varying market access challenges across the sector.
- 5 Slow adoption of technology-driven farming due to inadequate ICT infrastructure and low digital literacy.
- 6 Frequent outbreaks of pests and diseases such as Foot and Mouth, Quelea, Locust, armyworm and fruit-fly.
- 7 Resource constraints including inadequate personnel & skills.
- 8 Aging farming population, low participation by youth and lack of farmer succession plan.

Projects

- Establishment of the Agricultural Bank and Insurance Facility.
- Improve quality standards and market access.
- Establishment of Centres of Excellence to serve as hubs for training, mentorship, and practical demonstrations to empower stakeholders across the agricultural value chain.
- Promote Value Chain development to drive value addition.
- Promote digitalisation and improving digital literacy to integrate enabling technologies and automation to increase efficiency and effectiveness.
- Increase vaccine production capacity and diversity.
- Promote commercialisation and diversification of the Agricultural Sector by developing and exporting production of dairy, livestock, crop, horticulture produce, aquaculture, fodder, and high-value commodities.

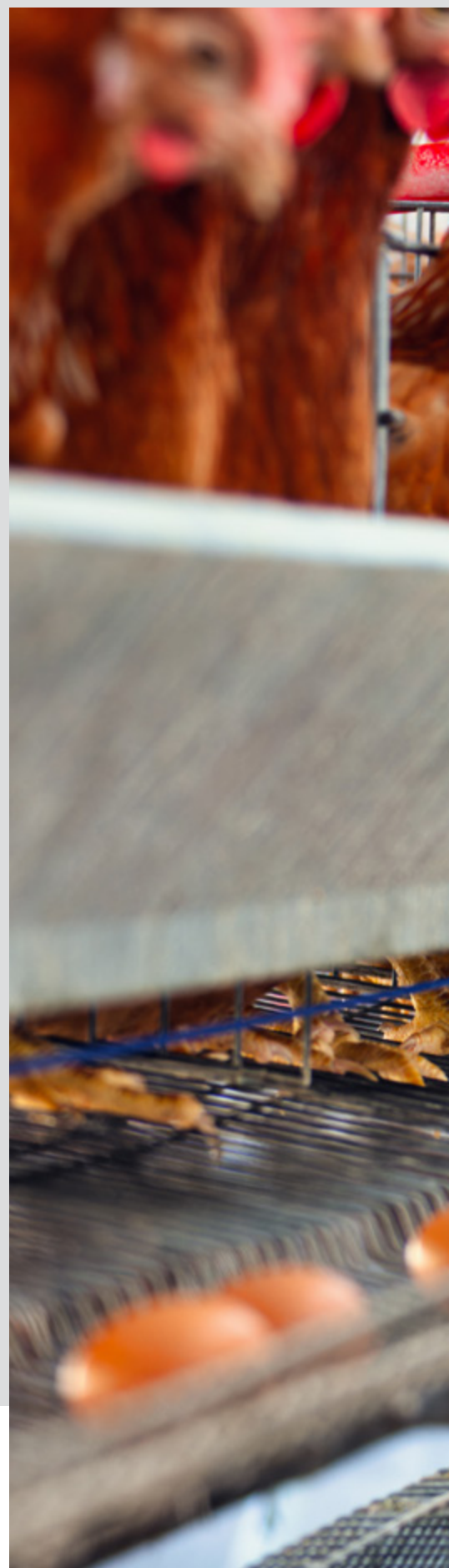


Table 4: Priority Occupations and Skills in the Agriculture Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Meat Inspectors	Diploma	Meat Scientist	Degree	Agronomists	Postgraduate
Irrigation Technicians	Diploma	Scientific officers	Degree	Soil Scientists	Postgraduate
Meat Processor	Diploma	Range managers	Degree	Entomologist	Postgraduate
Dairy Technicians	Diploma	Seed technologists	Degree	Animal Breeders	Postgraduate
Ecologist	Degree	Climate Scientists	Degree	Microbiologists	Postgraduate
Food Scientists	Degree	Senior Researchers	Postgraduate	Biotechnologists	Postgraduate
Fire Impact Assessors	Degree	One health Specialist	Postgraduate	Animal Bio Statistician	Postgraduate
Post-harvest technologists	Degree	Bee Pathologist	Postgraduate	Veterinary surgeons	Postgraduate
Soil Scientist	Degree	Plant Pathologist	Postgraduate	Animal Geneticists	Postgraduate
Aqua culturist	Degree	Animal Welfare Specialist	Postgraduate	Hydro-meteorologists	Postgraduate
Meteorologist	Degree	Food safety specialists	Postgraduate	Molecular Biologists	Postgraduate
Food Technologists	Degree	Range Ecologists	Postgraduate	Agro-meteorologist	Postgraduate

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Automation & Robotics	Artificial Intelligence	Critical thinking
Drones	Climate intelligence	Problem-solving
Microscopy	Digital Marketing	Adaptability
Data Analysis	Digital Sales	Analytical
Soil genetics	Precision Agriculture	Innovative
Analytical Chemistry & Instrumentation	Geographic Information System (GIS) and Remote sensing	

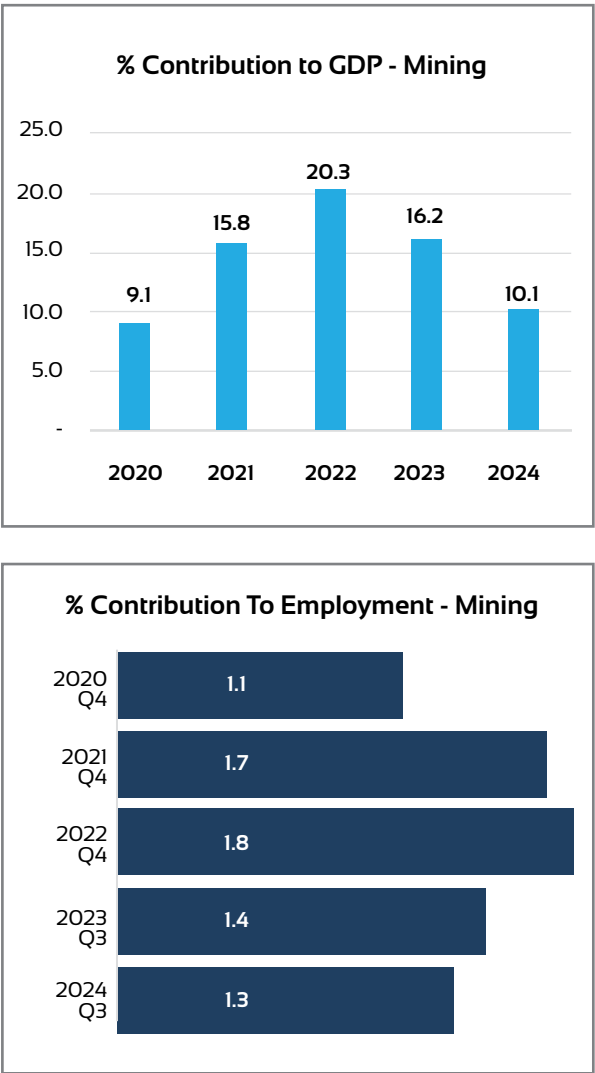


3.1 ECONOMIC SECTORS

3.1.2 Mining Sector

The mining sector remains a pillar of the national economy and the highest contributor to GDP by 10.1% in 2024. However, its contribution to employment continues to be insignificant because it is highly mechanised, particularly in recent years, with the biggest mines in the country using the underground mining method. It is against this background that the NDP 12 Mining sector's True North is "A diversified mining sector that is innovative with extensive value addition and employment creation". This aspiration is anchored on exploration and extraction for new mineral commodities, as well as exploiting mineral beneficiation. The aim is to transform raw resources into higher-value products, driving economic diversification, creating skilled jobs, particularly in cutting and polishing, as well as increasing foreign investment. This strategy, particularly in diamonds, intends to foster local industry growth, enhance technical skills, and ensure that a greater share of mineral value remains in Botswana. Figure 12 is the sector's performance trend over the five years.

Figure 12: Overview of the Mining Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Exhibit 3.2 summarises key issues and resultant projects that are likely to influence future employment trends and the sector's performance

Exhibit 3.2: Key issues and Projects in the Mining Sector

Issues

- 1 Volatile market for diamond sales and the evolution of synthetic diamonds.
- 2 Diversifying diamond to other minerals commodities such as Manganese, REE and to non-mineral sectors.
- 3 Lack of citizen participation across the mining value chain and the need to drive mineral beneficiation.
- 4 Shift to underground mining, adoption of high-tech equipment and automation.
- 5 Aging mines posing challenges of safety and increased operational costs.
- 6 Trade tariffs and global uncertainty with potential to depress demand and prices for mineral commodities.
- 7 Limited global funding opportunities for beneficiation of certain minerals.



Projects

- Mineral Resource Development, Exploitation and Value Chain (Beneficiation) Strategy
- Shift to underground mining by Debswana diamond mines
- National Integrated Geoscience Information System (NIGIS);
- Recapitalisation and commercialisation of Botswana Geoscience Institute (BGI) Labs
- Rehabilitation of mines (Rehabilitation of Moshana and Old Francistown Mines)
- Core shed for the Storage of Exploration Geoscience Drill Cores (Gumare)

The sector's current and future occupations and skills are summarised in Table 5.

Table 5: Priority Occupations and Skills for the Mining Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Boilermakers	Certificate	Borehole Mechanic	Diploma	Control Systems Engineer	Degree
Coded Welders	Certificate	Geo-Technicians	Diploma	Mechatronic Engineers	Postgraduate
Riggers	Certificate	Control & Instrumentation Technicians	Diploma	Geo Metallurgists	Postgraduate
Chemical Products & Machine Operators	Certificate	Control & Instrumentation Engineers	Degree	Process Engineers	Postgraduate
Fitters and Turners (Millwrights)	Diploma	Protection Engineers	Degree		

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Automation & Robotics	Artificial Intelligence	Communication
Remote sensing	Mineral modelling and economic	Attention to detail
Seismology	Brilliant ring	Problem solving
X-Ray Transmission Technology	Thermal Imaging	Critical thinking
Computer Aided Design	Laser Technologies	Digital literacy
Drones	Waterjet Technology	
Big data analysis	Strata Control Engineering	
Sorting & Grading	Rock Mechanics Engineering	

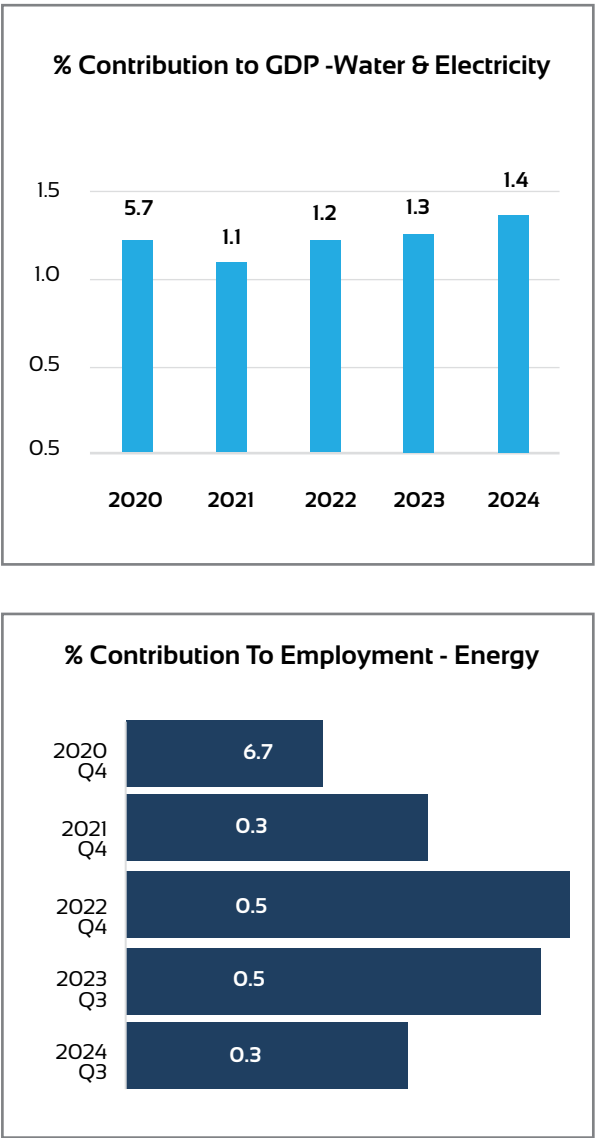


3.1 ECONOMIC SECTORS

3.1.3 Energy Sector

The Energy Sector True North aspires to have a citizen-led energy hub for Africa and to become a major economic engine and net exporter. National policies and strategies advocate for the diversity of the national energy mix by promoting renewable energy sources, especially solar and clean coal technologies. The 2021 National Energy Policy set a target of 20% power generated through the use of new and renewable energy sources such as solar, biofuels, coal-bed methane, wind, and waste. This ascribes to the SADC Industrialisation Strategy, which advocates for alternative sources of energy, particularly renewables, to address the regional energy deficit and to adopt efficient technologies to reduce production cost and minimise gas emissions.

Figure 13: Overview of the Energy Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The sector's performance is reflected in Figure 13. Contribution to GDP and employment shows growth potential, based mainly on the anticipated increase in the use of green energy and the transformation of the oil and gas industry.

Critical issues that affect the sector are summarised in Exhibit 3.3, together with planned projects as highlighted in the NDP12 and BETP to address energy security and influence the sector's performance.

Exhibit 3.3: Key issues and Projects in the Energy Sector

Issues

- 1 Low participation of the private sector and undeveloped value chains.
- 2 Lack of energy security due to local power generation below demand, creating dependence on power imports.
- 3 Un-diversified power supply sources to reduce reliance on petroleum and electricity imports.
- 4 Vandalism of electricity distribution infrastructure resulting in electricity supply disruptions
- 5 The unpredictable tariff and price adjustments decision-making process continues to disrupt economic business planning.



Projects

- Infrastructure Development (Power Generation and Distribution; Rural Villages Electrification and Network Extension, Morupule B Remedial Works & 300MW solar plant)
- Implementation of Renewable Energy Programme
 - Solar streetlights and Off Grid Solar Solutions Programme.
 - Solar Rooftop Systems; PV installations in hotels.
 - Renewable Energy Projects (Solar and Wind Powered Projects).
 - Development of Strategic Stocks in strategic locations
 - Promoting the use of clean and secure supply (100% use of unleaded petrol; 5% sulphur diesel; 20% renewable power)

Skills in the Energy sector are informed by objectives, initiatives, programmes, and key projects outlined in Exhibit 3.3 and other sector-related strategies nationally and globally. Current and future jobs and skills for the sector are summarised in Table 6.

Table 6: Priority Occupations and Skills in the Energy Sector

Occupations	Level of Training	Occupations	Level of Training
Masons Operators	Certificate	Ventilation Engineers	Degree
Photovoltaic (PV) Installers	Certificate	Renewable Energy Engineers	Degree
Coded Welders	Certificate	Project Commissioning Specialist	Post-Graduate
Boilermakers	Certificate	Energy Economist	Post-Graduate
Riggers	Certificate	Energy Auditors	Post-Graduate
Renewable Energy Technicians	Diploma	Piping Engineers	Postgraduate
Thermography Technician	Diploma	Environmental and Sustainability Engineers	Postgraduate
Control & Instrumentation Technicians	Diploma	Regulatory Affair Specialist	Post-Graduate

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Automation	Artificial Intelligence	Communication
Green Energy	Digital Marketing	Attention to detail
Solar Energy Engineering	Digital Sales	Problem solving
Solar Installation		Critical thinking
Project Management		Time management
Coded Welding		
Research & Development		
Energy Modelling & Analysis		
Data Analytics		
Digitisation		

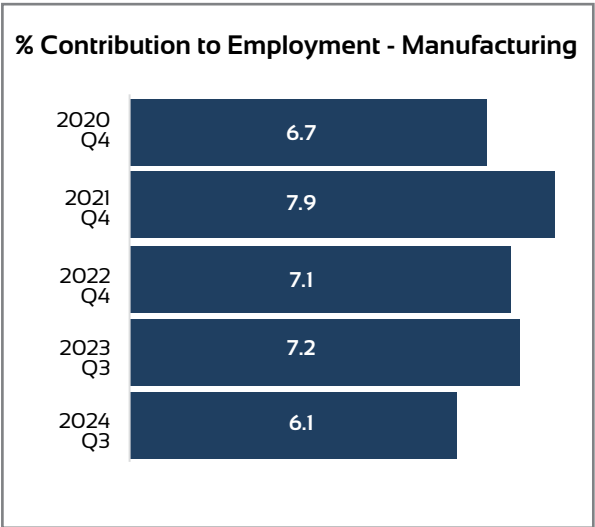
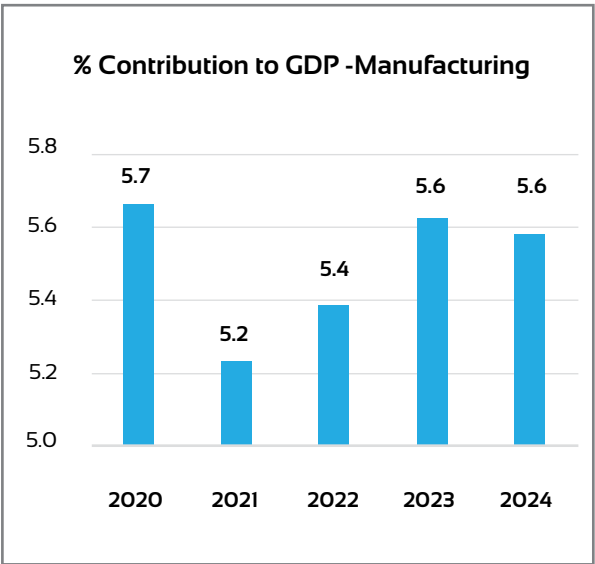


3.1 ECONOMIC SECTORS

3.1.4 Manufacturing Sector

The manufacturing sector is diverse and has become an engine of growth and stability for most economies. The 2024 Global Agenda Council on the Future of Manufacturing states that “the manufacturing sector has one of the highest multiplier effects on an economy and is a major driver of knowledge building and job creation”. The Sector is also prioritised in the NDP 12 and BETP, as critical for economic diversification in order to reduce the import bill and promote export of locally produced goods and services. Figure 14 gives a snapshot of the sector’s performance over the five years, showing a sector with potential to grow the economy but a struggling sector to create jobs.

Figure 14: Overview of the Manufacturing Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The Sector is dominated by Small, Micro, Medium Enterprise (SMMEs) with the majority of an unskilled to semi-skilled labour force. There is therefore a need to facilitate critical skills that can unlock the sector’s potential and push its contribution to GDP to an international benchmark of 15-20%. The NDP 12 and BETP aim to leverage the sector’s potential by transitioning it from low-value to high-value production.

The sector’s future performance will be driven by the government’s initiatives for value chain development, special economic zones, electronics and technology manufacturing and a slight recovery in the diamond sorting, cutting, and polishing industries. Since the sector is heterogeneous, the sub-sectors with high potential to create jobs and give the country a comparative advantage have been prioritised. These include agro-processing, textile and wearing apparel, leather and leather products, automotive components manufacturing, diamond and jewellery manufacturing, pharmaceutical manufacturing, and processing of minerals such as copper, nickel, silver, Soda Ash and Salt.

Exhibit 3.4 highlights the sector’s key issues and projects as outlined in NDP12 and BETP, which are likely to influence the sector’s performance and employment trends.

Exhibit 3.4: Key issues and Projects

Issues

- 1 Limited capacity to penetrate export markets requirements and high cost of raw material.
- 2 Limited access to finance and capital (pre and post funding; market research, feasibility studies, quality standards).
- 3 Infrastructure and Logistics Constraints (Limited rail connectivity, inadequate industrial infrastructure, telecommunication infrastructure and insufficient specialised facilities, shortage of affordable factory spaces).
- 4 Limited entrepreneurial and innovative skills to exploit the sector’s value chain.
- 5 Low productivity and poor work ethics.
- 6 Slow absorption of digital transformation and smart manufacturing

Projects

- Promotion of cluster development and Business Linkages.
- Promotion of market penetration of locally produced goods.
- Promotion and upscaling value chains development and high-value manufacturing.
- Promotion of diversified and competitive products.
- Promotion of integration of technology in the manufacturing sector.
- Promotion of productivity, innovation, and competitiveness in the sector.
- Strengthen Intellectual Property Protection and enforcement.

Table 7: Priority Occupations and the Skills in Manufacturing Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Diamond Planner/Marker	Certificate	Sewing Machine Mechanics	Diploma	Industrial Pharmaceutical Microbiologist	Advanced Diploma
Diamond Grader	Certificate	Spinning Technicians	Diploma	Industrial Pharmaceutical Scientist	Advanced Diploma
Diamond Bruter (Cutter)	Certificate	Garment Packager	Diploma	Leather Chemists	Degree
Diamond Polishers	Certificate	CAD Technicians	Diploma	Leather Technologists	Degree
Leather Tanners	Certificate	Leather Technicians	Diploma		
Mould Designer/Maker	Certificate	Jewellery Technician	Diploma		

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Automation	Artificial Intelligence	Communication
Packaging and branding	Machine e-learning	Attention to detail
Computer aided design (CAD)	Grey Fabric Dye	Problem solving
Computer aided manufacturing (CAM)	Visual Merchandising	Critical thinking
Entrepreneurial Skills	Yarn Spinning	Time management
Machine Maintenance	Garment Manufacturing	
Fabric Knowledge	Mental health	
Occupational Health & Safety	Jewellery Model making and casting	
Quality Standards	Rubber moulding & waxing	
Market research	Grinding and filing (Jewellery)	
Project Management		
Digital Marketing		



3.1 ECONOMIC SECTORS

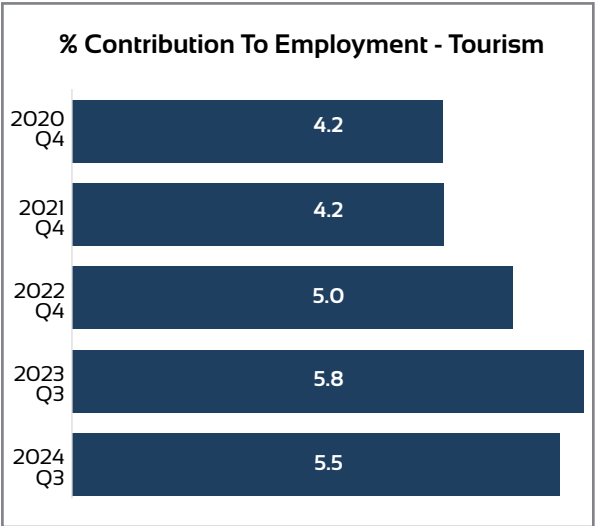
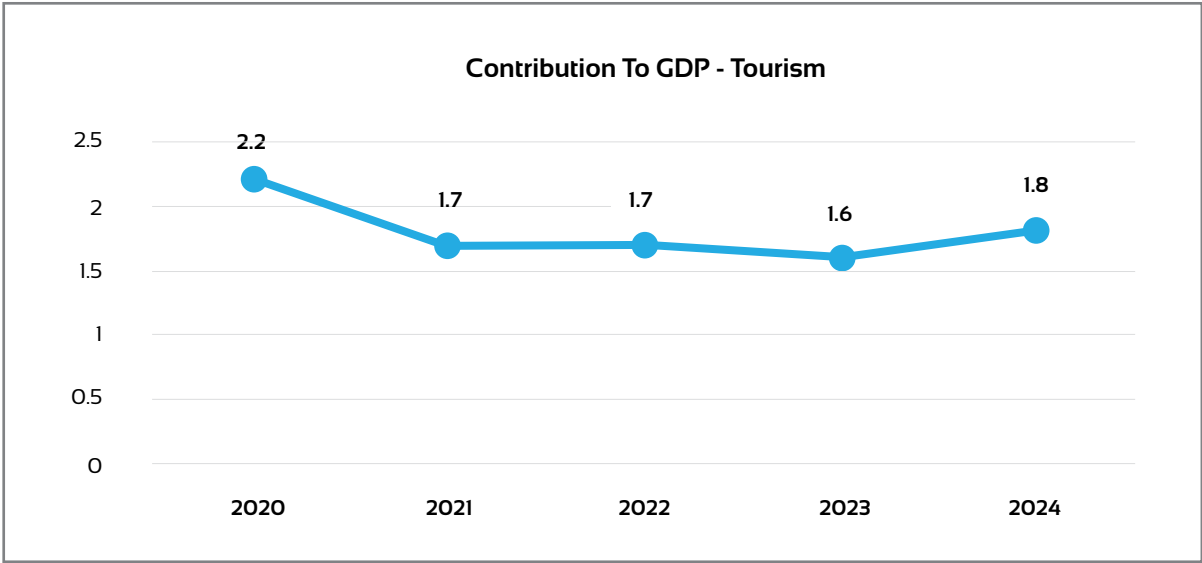
3.1.5 Tourism, Sports and Creative Industries

3.1.5.1 Tourism Sector

Botswana’s Tourism industry has evolved over the years to become the second-largest foreign exchange earner after diamond mining. The Tourism Sector is a priority sector under the BETP with its True North anticipating it to “cultivate a diversified and inclusive tourism product anchored on 1) wildlife, nature and adventure tourism 2) accommodation and meetings, incentives, conferences and exhibitions (MICE), 3) cultural, heritage, creative industries and sport tourism, 4) urban, business and experience”.

Figure 15 summarises the sector’s performance, which shows, on average, a gradual decline and increase of its contribution to GDP and employment, respectively. It is important to note that the sector is now beginning to bounce back after the impact of COVID-19. The Botswana Monthly Tourism and Hospitality Survey of 2024 projected employment growth of 28% by 2030, which in turn may increase the sector’s economic performance.

Figure 15: Overview of the Tourism Sector Performance



Youth unemployed graduates with tourism or hospitality related programmes have increased from 2,441 in 2019 to 5,248 in 2024. According to QMTS-Q1, 2024, the majority of these are at the certificate level, which accounted for 40% (2,082).

During NDP 12, the government plans to support the tourism sector through several initiatives, including those in Exhibit 3.5:



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Exhibit 3.5: Key issues and Projects

Issues

- 1 Entry and connectivity, diversification of offerings, investment barriers, capacity constraints.
- 2 The sector is highly populated with professionals with on-the-job training experience only and lack of occupation best practices.

Projects

- Review and harmonisation of legal frameworks.
- Elimination of barriers to access to finance for Small, Medium and Micro Enterprises (SMMEs).
- Development of specialised digital marketing (including a destination marketing and branding strategy).
- To facilitate the Tourism Sector through the NDP 12, there shall be review and harmonisation of the legal framework supporting the sector and Development and Implementation of Service excellence strategy and improvement of Tourism Statistics and Digitalisation.
- Development and diversification of Botswana's Tourism sector products within Tourism Development Areas (TDAs) for example Monuments and Museum, Dam, Mining, Agro Tourism, Urban Tourism Experience and MICE.
- Improvement of infrastructure and support services.



PRIORITY OCCUPATIONS AND SKILLS

Table 8 shows the potential future occupations and skills in demand in the tourism sector during the implementation of NDP 12.

Table 8: Priority Occupations and Skills in the Tourism sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Professional Hunter	Certificate	Sommeliers / Wine and Beverage specialist	Certificate	Food and Beverage Manager	Diploma
Restaurant Managers	Certificate	Travel Attendants and Travel Stewards	Certificate	Hotel Managers	Diploma
Conference and Event Planners	Certificate	Certified Cultural Tour guides	Professional	Sous Chef	Advanced Diploma
Professional Guides	Certificate	Foreign Languages Translators	Proficiency	Pastry Chef	Diploma
Travel Guides/ Tour Guides	Certificate	Barista	Certificate	Private Chef	Diploma
Specialised Tour Guides/ Mokoro	Certificate	Station Chef	Diploma	Environmental Sustainability Policy Analysts	Degree
Travel planners	Certificate	Gallery Technicians	Diploma	Product Development Chef	Degree
Travel Consultants and Clerks	Certificate	Facility Manager	Diploma	Environmental Scientists	Degree
Certified City Tour guides	Professional	Digital Marketers	Diploma	Executive Chef	Degree
Commis Chef	Specialised Certificate	Monuments guides	Diploma	Culinary Content Creator / Food Stylist	Degree
Executive Housekeeper	Certificate	Gastronomy Tour Guides	Diploma		

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Storytelling	AI foundations and applications	Analytical thinking
Cultural sensitivity	Digital literacy	Adaptability
Foreign languages translation	Data protection and cyber security	Creative thinking
Sustainability certification	Data literacy	Customer experience
Ted-Qual certification	Ethical consideration	Communication
Digital marketing and branding	Curiosity and lifelong learning	Teamwork
Biodiversity and sustainability management	Carbon management	
Resource-efficiency management	Environmental stewardship	
Data analysis, research, and market intelligence	Grinding and filing (Jewellery)	
Market research		
Project Management		
Digital Marketing		

To leverage technology to improve service delivery and product development, the tourism workforce requires continuous retooling and up-skilling its workforce.





3.1 ECONOMIC SECTORS

3.1.5 Tourism, Sports and Creative Industries

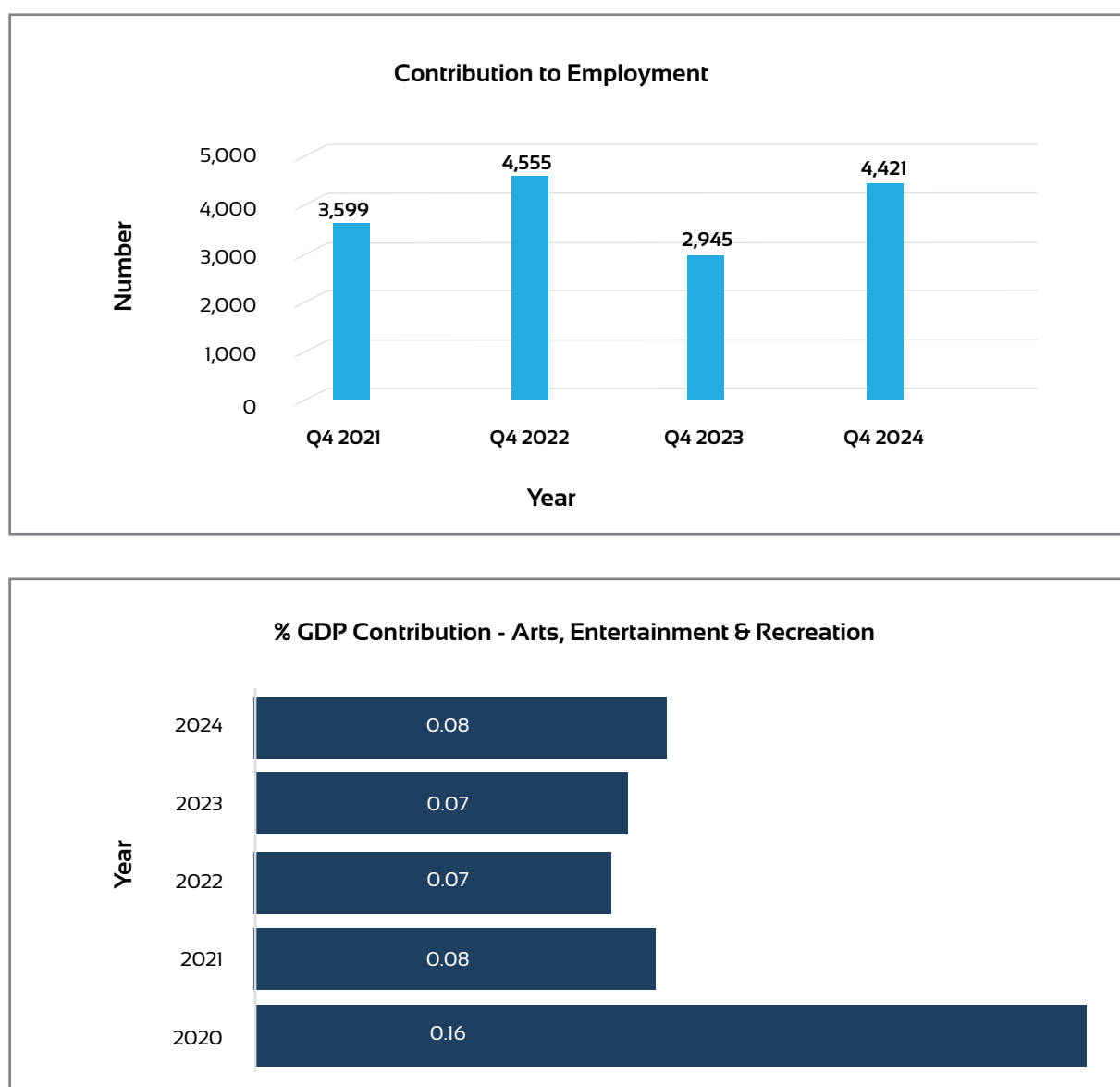
3.1.5.2 Creative Industries Sector

Through national policies and strategies, the government of Botswana is committed to developing the creative and cultural sector, which has the potential to create jobs and diversify the economy. According to the National Strategy for the Creative Industries 2020-2025, Creative Industries are “a range of economic activities that are concerned with the generation and commercialisation of creativity, ideas, knowledge and information. Also understood as practices whose economic value is anchored on aesthetic appeal and historic or heritage elements”.

The Creative Industries sector is predominantly informal, in which creatives can self-employ as well as employ others. It is, therefore, one of the sectors that can potentially diversify the economy, particularly since Botswana have proven to have many and varied talents.

Figure 16 is a snapshot of the sector’s contribution to GDP and employment over the years. The sector shows potential for job and wealth creation, especially for the youth. For the sector to contribute significantly to economic growth, it needs talent commercialisation. Therefore, there is a need to develop initiatives geared towards monetising talent and creativity.

Figure 16: Overview of the Creative Industries Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The sector is dominated by jobs at the technician level and services or sales workers who predominantly possess the arts and humanities, as well as journalism, information and documentation programs.

The steady increase in unemployment levels validates the need for entrepreneurial training to enable the creatives who may have core skills (creativity and talent) to use the knowledge and skills they have to start their own businesses. Creative Industries draw on skills from art, design, media, communication, drama, music, and

all creativity-enhancing subjects across the education continuum from basic education through to tertiary education.

Botswana's sports and creative industry sector has growth potential but continues to face persistent human resource development challenges that limit its growth, competitiveness, and sustainability. NDP12 recognises the Creative Industries as a strategic growth sector with substantial investment planned for the 2025–2030 period. Exhibit 3.6 summarises critical issues and planned projects over the plan period.

Exhibit 3.6: Key issues and Projects

Issues

- 1 Limited Industry Exposure and Work-Integrated Learning:** Opportunities for internships, apprenticeships, mentorships, and work-integrated learning within the creative industries sector are limited.
- 2 Weak Entrepreneurship and Business Skills:** Most creative practitioners in Botswana operate as freelancers or small enterprises.
- 3 Shortage of Specialised and Advanced Skills:** There is a limited pool of highly specialised creative professionals in areas such as film production, animation, sound engineering, fashion technology, game design, and digital content creation.
- 4 Informality and Precarious Employment Conditions:** The Creative Industry in Botswana is characterised by informal employment arrangements, short-term contracts, and inconsistent income streams.
- 5 Limited Data and Labour Market Intelligence:** There is insufficient, disaggregated data on Creative Industry employment, skills demand, and graduate outcomes.



Projects

Construction of appropriate Art and sporting infrastructure

- This includes the construction of a national state theatre and an art gallery to enable major performing art projects and visual arts exhibitions as well as development and refurbishment of Sport facilities.

Expansion of the Film and Television sub sectors

- This includes the development of the TV Academy & Wildlife Film School which aims at training Batswana in production, directing, cinematography, digital content and wildlife filmmaking with international standard curricula.

Development of the Fashion industry

- The Creation Botswana programme provides business training, mentorship, market access, and funding support to fashion and textile entrepreneurs.

Gender Mainstreaming in Sport

- Botswana aims to address barriers to participation that disproportionately affect women and girls, including cultural, economic and infrastructural challenges.

Promote Sport Tourism Driven Activities and Festivals & Shows

- Develop and promote sport related programmes and infrastructure which is essential for putting the country in a better position to bid and host international sanctioned sport events and international festivals and shows.



Table 9 shows a summary of priority occupations and skills for the Creative Industries.

Table 9: Priority Occupations and Skills in the Creative Industries Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Painters and drawers	Certificate	Music Arrangers	Degree	Light Engineers	Degree
Best Boy	Certificate	Music producers	Degree	Sound Engineers	Degree
Muralists	Certificate	Film Props Designers	Degree	Multimedia Designer	Degree
Production runners	Certificate	Film Distributors	Degree	Digital Designers	Degree
Actors	Certificate	Film Producers	Degree	Digital Archivists	Degree
Camera Operators	Diploma	Film Directors	Degree	Illustrators	Degree
Gaffers	Diploma	Film Editors	Degree	Coding Specialists	Degree
Film Make-up artists	Diploma	Cinematographers/ D.O.P	Degree	Curators	Degree
Author/Creators	Degree	Script Supervisors	Degree	Copyright Specialists	Degree
Stage Designers	Degree	Script Writers	Degree	Arts Managers	Postgraduate
Animators	Degree				



Current and Future Skills (Top-up Skills)

Current	Future Skills
Adaptability	Digital Marketing and Sales
Communication	Artificial Intelligence (AI)
Creativity and Originality	Big Data Analysts
Negotiation	Digital Designers
Critical thinking	Audience Surveying
Product design	Business acumen
Events management	Information Security
Knowledge of IP Laws	
Copyright laws and Standards	
Digital Marketing	
Financial Management	
Budgeting	
Mobilization	



3.1 ECONOMIC SECTORS

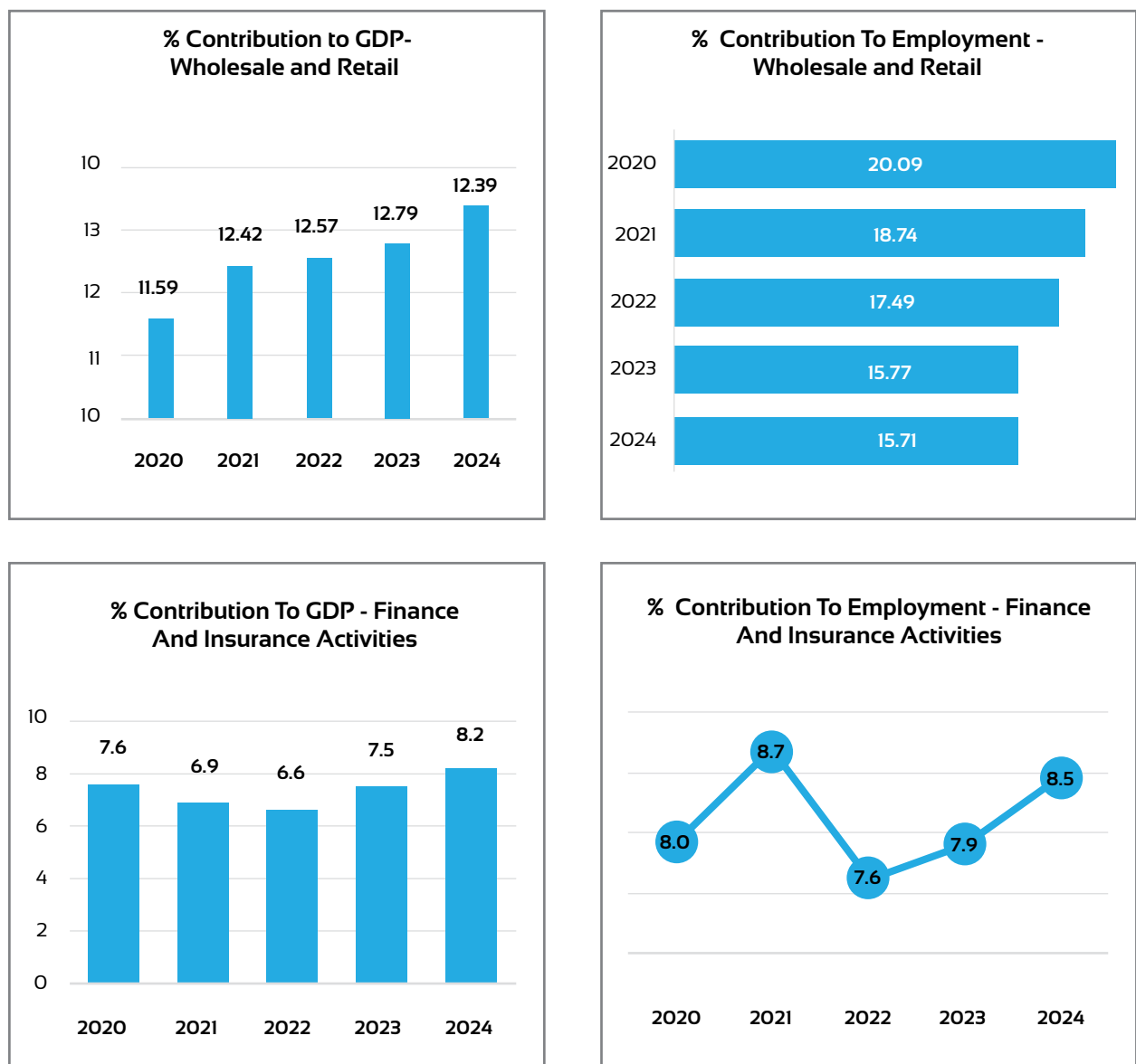
3.1.6 Financial Services & Digitalisation

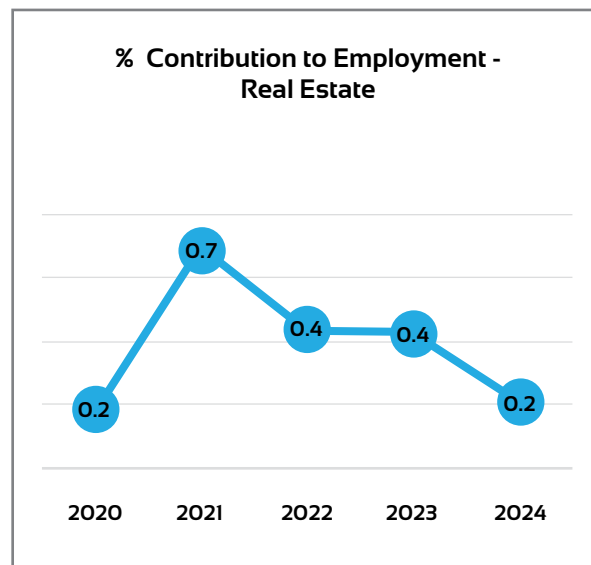
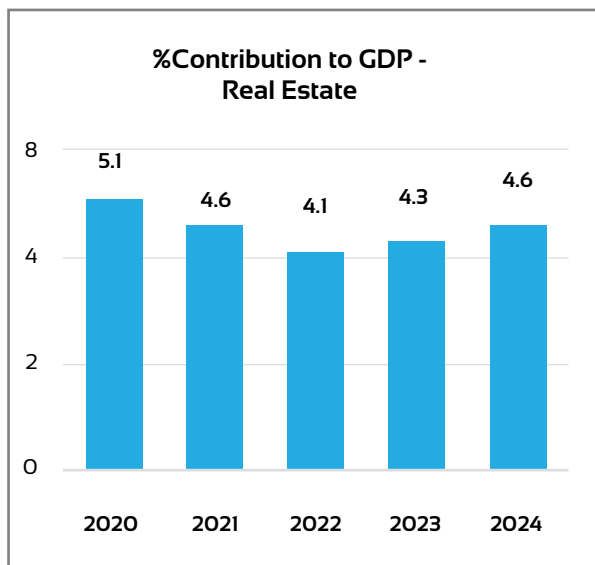
This sector comprises Financial, Real Estate, and Business Services as well as Information and Communication Technology (ICT). The sector is one of the NDP 12 “True North” priority economic sectors. Under NDP 12, the Financial Services and Digitalisation sector seeks to establish a fully integrated, inclusive, and secure financial and digital ecosystem that enables seamless transactions, universal access to public and private services, and boosts Botswana’s competitiveness. According to the Plan, the transformation will be anchored on four key pillars of trust framework, smart services, financial services innovation and financial inclusion.

3.1.6.1 Financial, Real Estate, and Business Services Sectors

Figure 17 is an overview of Finance and Insurance Activities, Wholesale and Retail services and Real Estate. Wholesale and Retail continue to be the second largest contributors to GDP and employment, accounting for a share of approximately 12.6% and 17.6% on average, respectively. Finance and Insurance Activities contributed an average of 7.4 % to GDP over the five years, while Real Estate contributed an average of 4.5% for the same period. Finance and Insurance and the Real Estate are among the lowest employers, with an average share of 8.1% and 0.4%, respectively.

Figure 17: Performance overview for Finance and Insurance Activities, Wholesale and Retail services and Real Estate





Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Exhibit 3.7 summarises key issues within the Financial, Real Estate and Business Services sector together with key projects that are likely to influence future employment trends and the sector's performance.

Exhibit 3.7: Key issues and Projects

Issues

- 1** The industry recommends professional certification in Finance and Insurance Activities. However, such qualifications remain scarce.
- 2** Inadequate attachment training for industry exposure and requires extended durations.
- 3** The sector is over supplied but continues to be the most training in terms of enrolment particularly for programmes that already have high unemployment rate.
- 4** GDP growth in the sector is slow to propel employment however the Sector has a potential to become future engine of growth.
- 5** Legal and Regulatory Challenges lagging behind technical development.

Projects

- Accelerating financial inclusion (Digital Finance Services and Enhanced Micro, Small and Medium Enterprises (MSME)) – establishment of mobile money interoperability gateway, national digital ID, development of national citizen E-wallet, digitalisation of social protection services.
- Promoting long-term development Finance
- Digital ecosystem
- Strategies to boost investment in digital infrastructure
- To develop a policy that will support Innovation driven enterprise
- Develop and implement a holistic Digital Government plan and Digital Service plans



PRIORITY OCCUPATIONS AND SKILLS

The sector's current and future jobs and skills are summarised in Table 10

Table 10: Priority Occupations and Skills in the Financial Services Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Asset Manager	Degree	Actuaries	Degree	Software Developers	Postgraduate
Data Analyst	Degree	Digital Marketers	Postgraduate	Chartered Accountants	Professional
Data Scientist	Degree	Forensic Accounting/ Auditors	Postgraduate	Financial Advisors	Professional
Database Administrator	Degree	Tax Specialist	Postgraduate	Financial Engineers	Professional
Property Developer	Degree	Underwriter	Postgraduate	Investment Advisors	Professional
Property Managers	Degree	Fintech Analyst	Postgraduate		



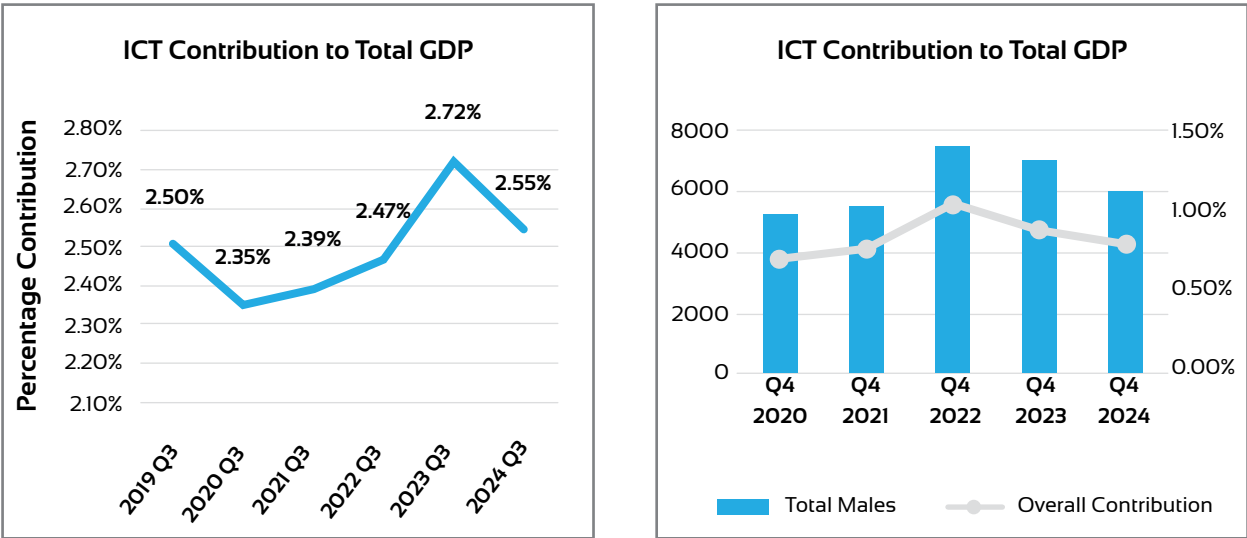
Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Financial analysis,	Financial technology	Communication
Valuation	Data analytics	Attention to detail
Research	Business Intelligence	Critical thinking
Cybersecurity	Financial modelling	Negotiation
Digital marketing		Assertive
		Decision making

3.1.6.2 Information and Communication Technology (ICT)

The ICT Sector remains one of the smallest contributors to GDP, with value added consistently averaging around 2.5% over recent years. Similarly, the sector’s share of total employment has remained one of the lowest at an average of 0.8% over the five years, as shown in Figure 18. Nonetheless, the ICT sector, crafted under the Digitalisation sector in the NDP 12, is highlighted as one of the key drivers to supporting economic growth through strengthening competitiveness and human capital development. The initiatives to be implemented include, among others, strengthening digital infrastructure, fostering youth entrepreneurship in technology, automating government services, and integrating AI and advanced technology.

Figure 18: Overview of ICT Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

As shown in Figure 9, ICT programmes account for 6% of total tertiary enrolment, ranking fifth among all fields. Analysis of unemployed graduates shows that graduates from ICT-related programmes remain high. Key issues and projects for the ICT Sector are summarised in Exhibit 3.8

Exhibit 3.8: Key issues and Projects

Issues	
1	Lack of Professional Certification, which is also costly and not affordable to most professionals.
2	Non-availability of local ICT professional body, leaving the industry having to outsource it externally.
3	More focus on academics, with very little practical work at the right level and relevance for industry.
4	Internships are misaligned with the skills and experience industry want.

Projects

- **Digitalization strategies:**
 - Reviewing of Legal and Regulatory Policies including new e-Government Law, Artificial Intelligence and data Policy, Botswana Data Protection Act amendment;
 - Information Technology Act; establishing a legal framework for electronic governance.
 - Development and implementation of holistic Digital Government plan and Digital Service plans (modernisation of government services and automation, e-service delivery platform, Digitalising and linking the cyber-resilient National Digital ID to public and private services.
- Creating a cyber-resilient digital economy ecosystem and a financial ecosystem that integrates multiple financial services products.
- Developing and implementing a national Artificial Intelligence centre.
- Improving digital and financial literacy through systematic retooling and training to ensure participation in the digital economy and reduce exposure to fraud.

Table 11 presents the key skills needed for the ICT sector as identified by the industry.

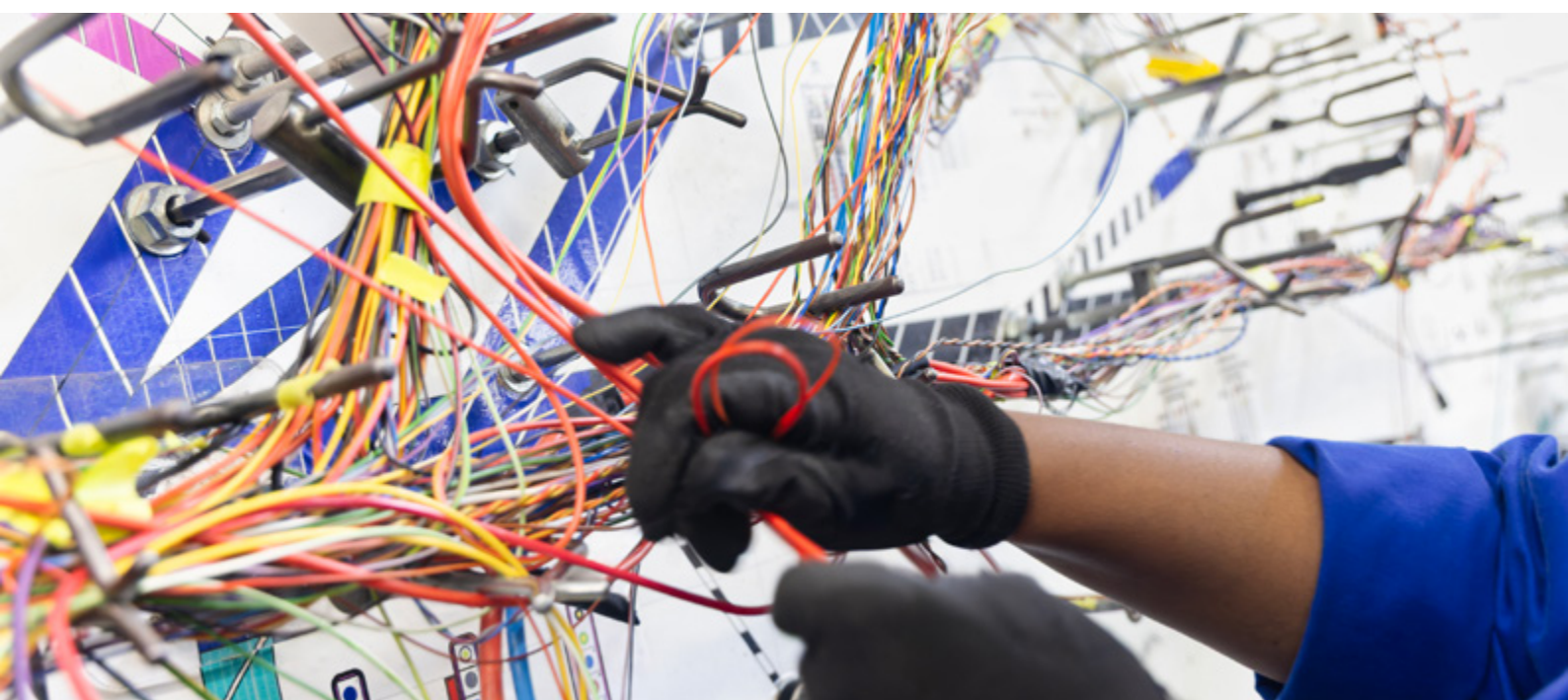
Table 11: Priority Occupations and Skills in the ICT Sector

Occupations	Level of Training	Occupations	Level of Training
Mobile Financial Officers	Degree	Ethical Hackers	Professional
Network Engineers	Degree	Information Security Managers	Professional
Internet of Things Engineers	Degree	IT Risk Managers	Professional
Software Developers	Degree	IT Business Analysts	Professional
Fintech Developers	Degree	Digital Forensics Experts	Professional
Data Scientists	Degree	Information Security Engineers/ Architects	Professional
Machine Learning Engineers	Degree	Database Administrators	Professional
Network Security Analysts	Degree	Data Centre Engineers	Professional
Cyber Security Analysts	Degree	Cloud Computing Engineers	Professional
Data Architect	Degree	IT Quality Assurance Specialists	Professional
Data Engineers	Degree	Network Security Specialists	Professional
Data Center Specialist	Degree	Core Network Specialists	Professional
Robotics Engineers	Degree	Block Chain Developers	Professional
Big Data Analysts	Post Graduate	ICT Infrastructure Managers	Professional
Data Centre Managers	Post Graduate	ICT Project Managers	Professional

Occupations	Level of Training	Occupations	Level of Training
User Interface/User Experience Engineers	Post Graduate	Cyber Security Experts/Specialists	Professional
Virtual/Mixed Reality Developers	Post Graduate	Information Systems Auditors	Professional
Mobile App Developers	Post Graduate	Artificial Intelligence Engineers	Professional
ICT Lawyers	Post Graduate	Cyber Risk Managers	Professional
ICT Broadcasting/Postal Policy Specialists	Post Graduate	Digital Transformation Managers	Post graduate
ICT Contract Specialists	Post Graduate		

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Programming	Artificial Intelligence (Ai)	Creativity, Innovation
Coding	Machine Learning	Problem Solving
Software Development	Knowledge of Augmented Reality (Ar) / Virtual Reality (Vr)	Teamwork & Communication
Digital Transformation	Block Chain Technologies	Analytical & Multi-Tasking
Product Knowledge	Cybersecurity	Time Management
Algorithm	Data Science & Big Data	Attention-to-detail
Networking	Ethical Hacking	Professionalism
	Automation & Robotics	Adaptability & Active Learning
	Cloud Computing	Business Intelligence
	Internet of Things (Iot)	Managing Complexity
	Tech Entrepreneurship	Netiquette



3.1 ECONOMIC SECTORS

3.1.7 Infrastructure Cluster

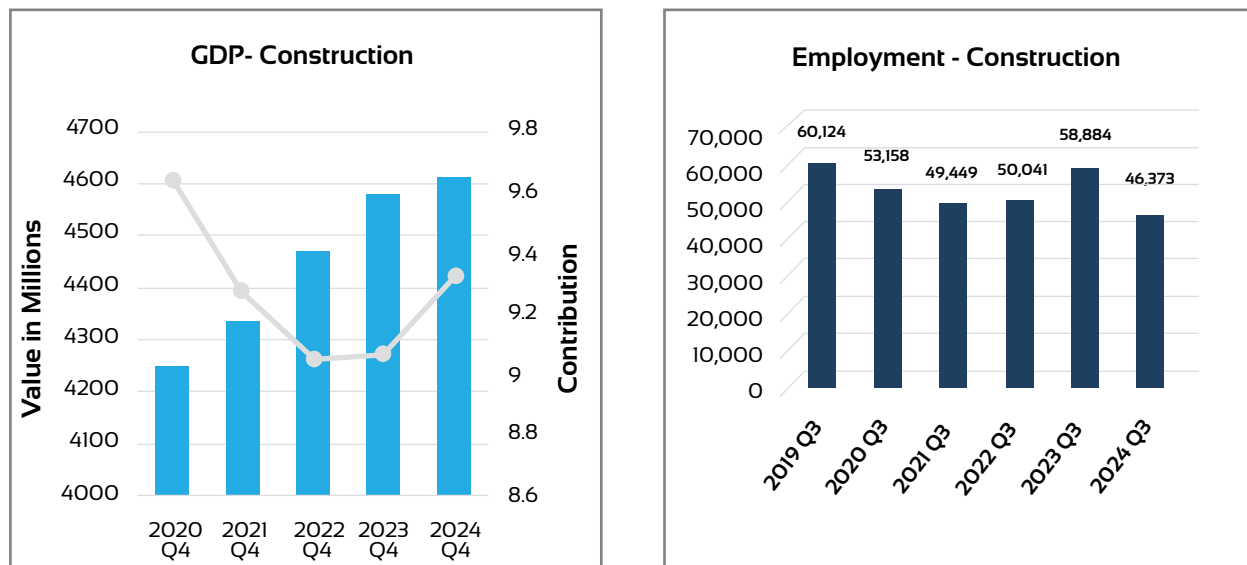
Vision 2036 aspires to transform Botswana into a premier regional hub for trade, travel, and investment by building world-class, integrated infrastructure that ensures resource security, powers sustainable economic diversification, and provides seamless connectivity to regional and global markets. The cluster consists of the Construction, Water, Transport and Logistics sectors.

3.1.7.1 Construction Sector

According to NDP 12, the True North for the Construction sector is “to transform Botswana into a regional hub for trade, travel, and investment through integrated infrastructure that ensures resource security, economic diversification, and seamless connectivity to regional and global markets”. This will be anchored on land transport development, air transport development, water security for industrial growth and strengthening Special Economic Zones access and viability for investors.

Figure 19 shows GDP and employment trends in the construction sector. Generally, both GDP and employment show growth potential. It should be noted that the dwindling performance may be attributed to the impact of COVID-19, which affected the sector.

Figure 19: Overview of the Construction Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The sector workforce profile reflects artisan dominance, hence the majority of the unemployed graduates in the related fields are certificate holders and below, led by bricklaying and related, followed by carpentry and joinery.

Exhibit 3.9 is a summary of key issues and projects for the sector



Exhibit 3.9: Key issues and Projects

Issues

- 1 Limited knowledge and skills to advance the development of the sector.
- 2 Lack of competitiveness of local companies.
- 3 The sector is one of those that have a high number of work permits.
- 4 Lack of a strategy guiding the development of the sector.

Key large Projects

- Large-scale water infrastructure projects, transport and logistics networks, telecommunications systems.
- Value-added sectors such as horticultural production and agricultural processing.

Table 12 is a summary of priority occupations and skills in the sector.

Table 12: Priority Occupations and Skills in the Construction Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Riggers and Cable Splicers	Certificate	Building and Related Electricians	Certificate	Building Structure Cleaners	Certificate
Stonemasons, Stone Cutters, Splitters and Carvers	Certificate	Stonemasons, Stone Cutters, Splitters and Carvers	Certificate	Scaffold Erectors	Certificate
Structural Steel Erectors	Certificate	Structural Steel Erectors	Certificate	Wood Treaters	Certificate
Steel Fixers	Certificate	Steel Fixers	Certificate	Sheet Metal Workers	Certificate
Structural Steel Erectors	Certificate	Carpenters and Shop Fitting	Certificate	Glaziers	Certificate
Coded Welders	Certificate	Steel Fixers	Certificate	Construction Technicians	Diploma
Special Coaters (water coaters)	Certificate	Concrete Placers, Concrete Finishers and Related Workers	Certificate	Project Managers	Post Graduate
Building and Related Electricians	Certificate				

Current and Future Skills (Top-up Skills)

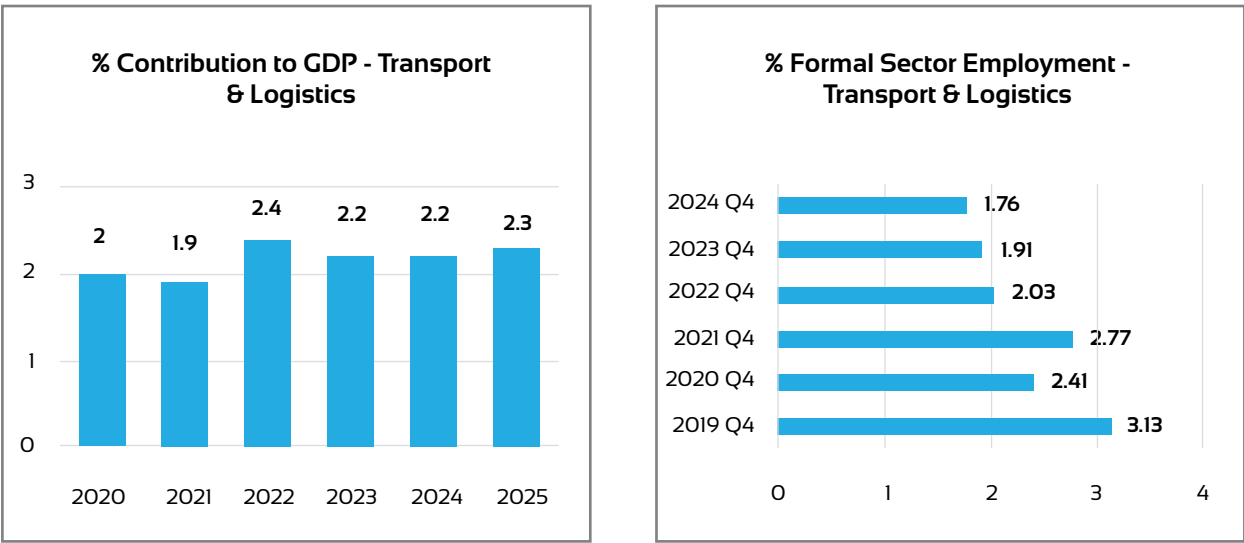
Current	Future Skills	Soft Skills
Steel Fixing	Technology	Communication
Health & Safety	Artificial Intelligence (AI)	Teamwork
Mixture Techniques	Internet of Things (IoT)	Time Management
Understand technical drawings	Exoskeletons	Stress Management
Calculating heights	Robotics	Organization
Assembling scaffolds	Self-healing concrete	Resilience
Calculating heights	Transparent aluminium	Collaboration
	Rise of Eco- Friendly Materials	

3.1.7.2 Transport & Logistics

The Transport and Logistics Sector comprises different sub-sectors, being road, rail, air and water. Road transport is the most commonly used mode of transport in Botswana. There has been an increase in the demand for road and freight transport, thereby opening opportunities for establishing companies that could result in employment creation. Inland Dry Port and Container Terminal is a relatively new subsector within the Transport and Logistics industry. It is an intermodal transport-based sector that facilitates the movement of goods (mostly containerised) from overseas to Botswana.

Performance of the sector is shown in Figure 20. Over the past five years, the sector has increased its contribution to GDP and employment. Currently, by employment size, the sector is the 11th largest employer in the economy and has growth potential as it serves all economic sectors. With prospects for new projects outlined in the Transport Masterplan, NDP12 and BETP, employment is expected to increase significantly

Figure 20: Overview of the Transport and Logistics Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Employment is dominated by Plant and Machinery occupations with 61.7%, which may be attributed to the fact that the sector deals more with heavy plant equipment and machinery. The Sector contributed 2.4% of the informal employment in the first quarter of 2024.

Motor mechanics programs accounted for the highest number of unemployed in the Transport & Logistics Sector, followed by road motor programs. Data from the 2024 Tertiary Education Statistics Report shows a fluctuation in student enrolment for transport-related courses in the TVET institutions, with Auto Mechanics Trade Test C having the largest numbers. At higher education level, there has been a decline in enrolments over the years.

Exhibit 3.10 is a summary of issues and priority projects anticipated under NDP12, BETP and other initiatives, which will require relevant skills and occupations to drive them.

Exhibit 3.10: Key issues and Projects

Issues

- 1** Skills shortages in critical transport occupations - There are persistent gaps in transport planning, logistics management, aviation maintenance, rail operations, and transport engineering, leading to reliance on expatriate skills.
- 2** Limited work-based learning opportunities - Insufficient internships, apprenticeships, and industry attachments reduce practical exposure and slow the transition from training to employment.
- 3** Gender imbalance and limited inclusion - Women and persons with disabilities are under-represented in transport and technical occupations, restricting the available talent pool.
- 4** Rapid technological change - The sector is adapting to digital logistics systems, intelligent transport systems, and automation, but skills development is not keeping pace.

Projects

- Rail Corridor for trade integration - The rail corridor initiative in Botswana aims to strengthen regional and international trade by improving rail connectivity between Botswana and key Southern African markets. It focuses on positioning Botswana as a land-linked logistics hub rather than a land-locked country.
- Strategic roads for trade access – Strategic road development will strengthen Botswana's trade competitiveness, improve regional connectivity, reduce logistical constraints of being landlocked, and support long-term economic growth and diversification.
- Expansion of airport for connectivity & logistics and upgrading of aviation infrastructure - These airport expansions and upgrades aim to transform Botswana into a regional aviation and logistics hub, boosting trade, improving access to global markets, enhancing tourism linkages, creating jobs, and supporting broader economic diversification goals.

Table 13 summarises priority occupations and future skills in the Transport and Logistics Sector.

Table 13: Priority Occupations and Skills in the Transport and Logistics Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Site Lift Operator	Special license	Accident Investigator	Diploma	Customs Clearance Managers	Post Graduate
Reach Stacker Operators	Special license	Signal & Telecommunications Engineers	Degree	Transport/ Operations Managers	Post Graduate
Forklift Operators	Special license	Technical Managers	Degree	Transportation Safety Managers	Post Graduate
Weighbridge Operators	Certificate	Dry Port Managers	Post Graduate	Maintenance Managers	Post Graduate
Gateway Operations Officers	Diploma	Freight Village Managers	Post Graduate	Workshop Managers	Post Graduate
Trailer Technicians	Diploma	Warehousing and Logistics Managers	Post Graduate	Terminal Managers	Post Graduate
Auto Electricians Technicians	Diploma				

Current and Future Skills (Top-up Skills)

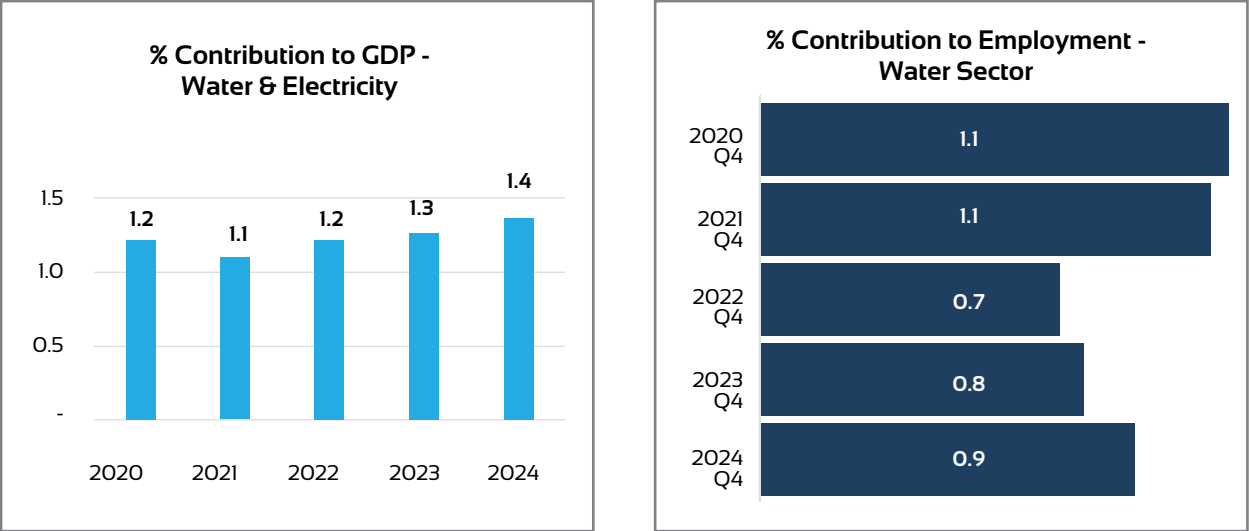
Current	Future Skills
Transportation regulations	Transport Planning
Risk assessment	Artificial Intelligence (AI)
Safety management	Proficiency with highway capacity software
Communication	
Project Management	



3.1.7.3 Water Sector

Water security and sanitation are pivotal for sustainable livelihoods and industrial development. Considering the natural aridity of Botswana and the impact of climate change on the conventional sources of water, the Botswana National Conservation and Demand Management Strategy (2021) prioritises the development of alternative sources such as greywater recycling, rainwater harvesting, stormwater collection, saline and wastewater reuse. NDP12 underscores the importance of water as a critical enabler to stimulate sector growth and improve employment outcomes across the economic landscape.

Figure 21: Overview of the Water Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Figure 21 is a summary of the Water sector performance, showing a very slow increase in GDP and declining employment.

Key issues affecting the sector are highlighted in Exhibit 3.11, as well as planned projects addressing these issues in order to ensure national water sufficiency.

Exhibit 3.11: Key issues and Projects

Issues	
1	The national water supply deficit is 17.3 percent, and demand is expected to increase to 340MM3 per year until 2035
2	Re-cycling of wastewater
3	Limited water network distribution to facilitate household connections, especially in urban areas where the population is ever increasing
4	Due to deficient and dilapidated infrastructure, several regions are experiencing high levels of water housing and thus increasing operational costs
5	Physical water losses is 35 percent nationwide due to old and dilapidated infrastructure. This is against high costs of acquiring new infrastructure or maintaining/replacing old ones.
6	Recurrence of annual droughts due to effects of climate change
7	Lack of recognition of prior learning for TVET apprentices and Project Commissioning Specialists

Projects

- Expand resource base by diversifying water sources, including saline groundwater, wellfields, rainwater harvesting, small dams, weirs, wells, salt pans, effluent reuse, and managed aquifer recharge.
- Delivery of mega projects including Kgalagadi North, Lobu Farm, Glen Valley Wastewater Reclamation and expansion of wellfields.
- Strengthening cross-border collaborations and international partnerships to harness trans-boundary water resources such as Chobe - Zambezi and Lesotho- Botswana Water Transfer Schemes.
- Wastewater Reclamation and Re-use - the Glen Valley Wastewater Reclamation Project and construction of wastewater treatment facilities across the country.
- Development of the national strategies including water conservation and management strategy, raw water abstraction, pricing strategy and sanitation technologies.

As one of the BETP Infrastructure sub-sectors, the water sector has several projects that will require specific new skills and stimulate growth to address those performance issues. Table 14 is a summary of priority and future occupations and skills required.

Table 14: Priority Occupations and Skills in the Water Sector

Occupations	Level of Training	Occupations	Level of Training
Boilermakers	Certificate	Chemical Engineers	Degree
Coded Welders	Certificate	Control and Instrumentation Engineers	Degree
Fitters and Turners (Millwrights)	Certificate	Hydrogeologists	Postgraduate
Borehole Mechanics	Diploma	Commercial Transaction Advisors	Postgraduate
Water Treatment Technicians	Diploma	Project Commissioning Specialists	Postgraduate
Control System Engineers	Degree	Quality Control Specialist	Postgraduate
Protection Engineers	Degree		

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Automation	Artificial Intelligence	Communication
Project management	Fischer-Tropsch catalysis	Attention to detail
Supervisory Control & Data Acquisition	Refinery and Petrochemical Operations	Problem solving
Simulation and scale up	Gasification kinetics	Time management
Solar installation		
Contractual law		



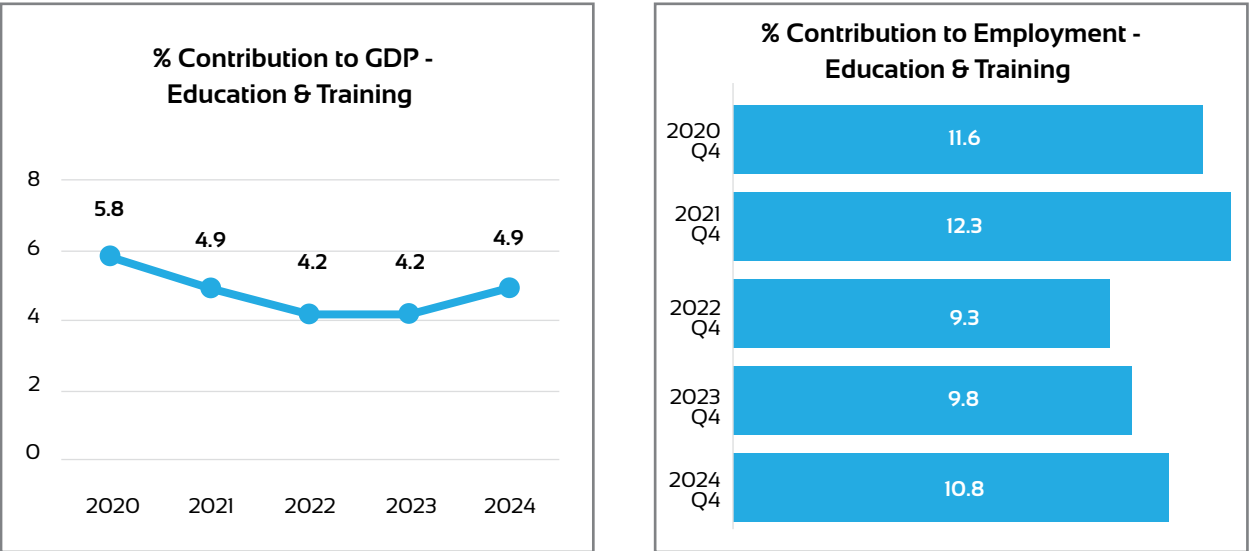
3.2 SOCIAL AND ENABLING SECTORS

Social sectors complement the priority growth sectors as well as strengthen the nation’s social safety net. They include the Education, Health and Social Protection sectors. In the report, social protection activities are considered under the Public sector.

3.2.1 Education Sector

The education sector comprises “early childhood, primary to tertiary, technical training, and skills development. The education sector’s True North is “to cultivate globally competitive and innovative human capital by providing an inclusive, high-quality, and future-ready education system that empowers every Motswana for economic prosperity and lifelong success”. This is aligned with Botswana’s commitment to education for all. “To drive this True North, the focus will be on increasing national pass rates, access and progression, institutional quality, and youth productivity” (NDP 12).

Figure 22: Overview of the Education Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

Figure 22 shows that the Education Sector contributes significantly to total employment, even though there has been a decline over the years.

Although graduate unemployed youth with an education qualification are less than 10% of the total unemployed youth, the figures have been increasing over the years. The highest number of unemployed graduates are those with Early Childhood qualifications.

Exhibit 3.12 summarises issues that affect the performance of the Education and Training sector, and planned projects to mitigate some of the issues raised.

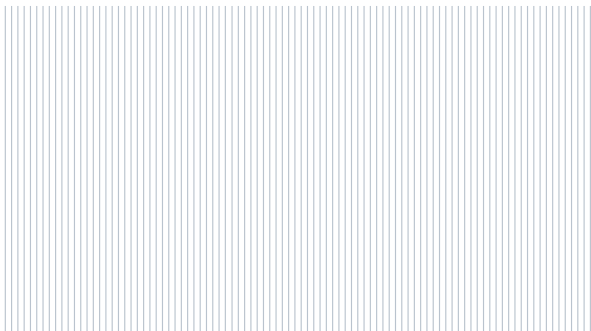


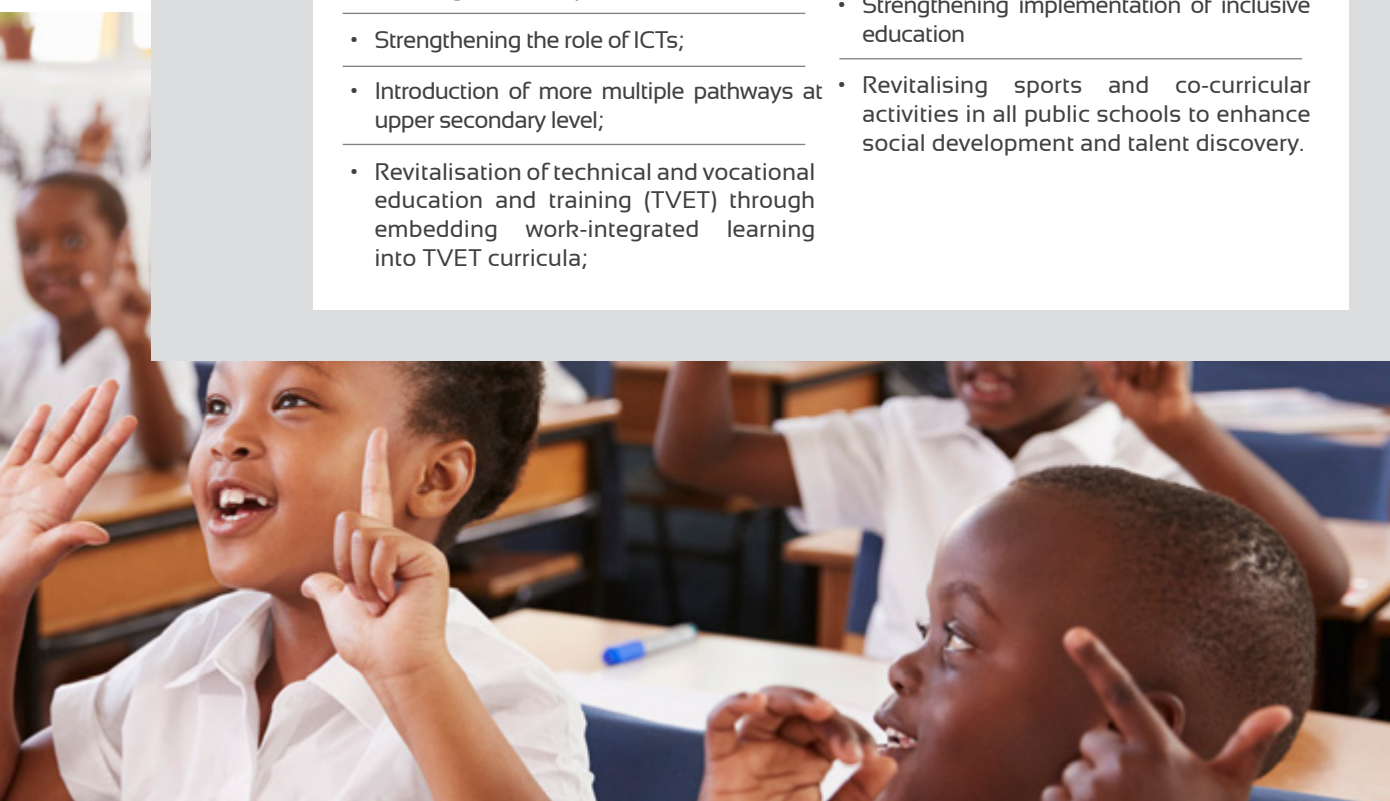
Exhibit 3.12: Key issues and Projects

Issues

- 1 Botswana's education system continues to experience low pass rates at primary, junior and secondary education levels, resulting in low student progression from one level to another
- 2 High rate of youth not in education, employment, or training (NEET).
- 3 Inadequate support for learners with disabilities due to severe resource deficiencies. There are only 16 specialised schools for students with visual or hearing impairments, and less than 5% of vocational training content is adapted for them.
- 4 Infrastructure and digital access also remain challenges.
- 5 Slow implementation of multiple pathways weakens Botswana's human capital and global competitiveness.
- 6 Lack of industry-certified training in emerging fields.

Projects

- Revision and improvement of curriculum across the general education sector with emphasis on Science, Technology, Engineering, the Arts and Mathematics (STEAM) subjects, as well as the 21st-century skills such as innovation, critical thinking and entrepreneurial.
- Strengthening the role of ICTs;
- Introduction of more multiple pathways at upper secondary level;
- Revitalisation of technical and vocational education and training (TVET) through embedding work-integrated learning into TVET curricula;
- Fast tracking of a 2-year pre-primary reception;
- Modernisation of tertiary education training by upgrading the curriculum from diploma to degree level;
- Strengthening implementation of inclusive education
- Revitalising sports and co-curricular activities in all public schools to enhance social development and talent discovery.





PRIORITY OCCUPATIONS AND SKILLS

Table 15 shows the priority occupations and skills in the education sector during NDP12 period and beyond.

Table 15: Priority Occupations and Skills in the Education Sector

Occupations	Level of Training	Occupations	Level of Training	Occupations	Level of Training
Vocational and Technical Education Teachers	Diploma	Music Teachers	Degree	Education Psychologist	Postgraduate
Local Languages Specialist with Teaching Qualification	Diploma	Special Needs Teachers*	Degree	Information Technology Teachers	Postgraduate
Sign Language Instructors	Diploma	Nutritionist	Degree	University and Education Lecturers	Postgraduate
Music Teachers	Diploma	Physiotherapist	Degree	Assistive Technology Specialist	Postgraduate
Arts Teachers	Degree	Occupational Therapist	Degree	Physiotherapist	Postgraduate
Sign Language Instructors	Degree	Psychometrician	Degree	Addiction Specialist	Postgraduate
Education Methods Specialists	Degree	Speech and Language Therapist	Masters	Speech and Language Therapist	PhD
Special Needs Teachers (Specialisation)	Degree	Special Education Specialist*	Masters	Occupational Therapist	PhD
Secondary Education Teachers - Science	Degree	Occupational Therapist	Masters	Counselling Psychologist	PhD
Foreign Language Specialist	Degree	Counselling Psychologist	Masters	Physical Therapist	PhD
Speech and Language Therapist	Degree				

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Resource management	AI foundations and applications	Analytical I thinking
Research and knowledge	Digital literacy	Leadership
Curriculum design	E-learning	Creativity/ Creative thinking
Curriculum delivery	Data literacy	Cultural sensitivity
Teaching and mentoring	Ethical consideration	Problem solving
Quality and compliance	Curiosity and lifelong learning	Interpersonal
Emotional intelligence		Teamwork
Classroom management		Communication
Professionalism		Critical thinking
		Adaptability

Note* Special education specialists and special education teachers include the following specialisations: Inclusive Education, Intellectual and Developmental Disabilities, Hearing Impairments, Vision Impairments, Deaf – Blind, Autism Spectrum Disorders, Psychosocial Disabilities, Physical Disabilities, Adaptive Technology



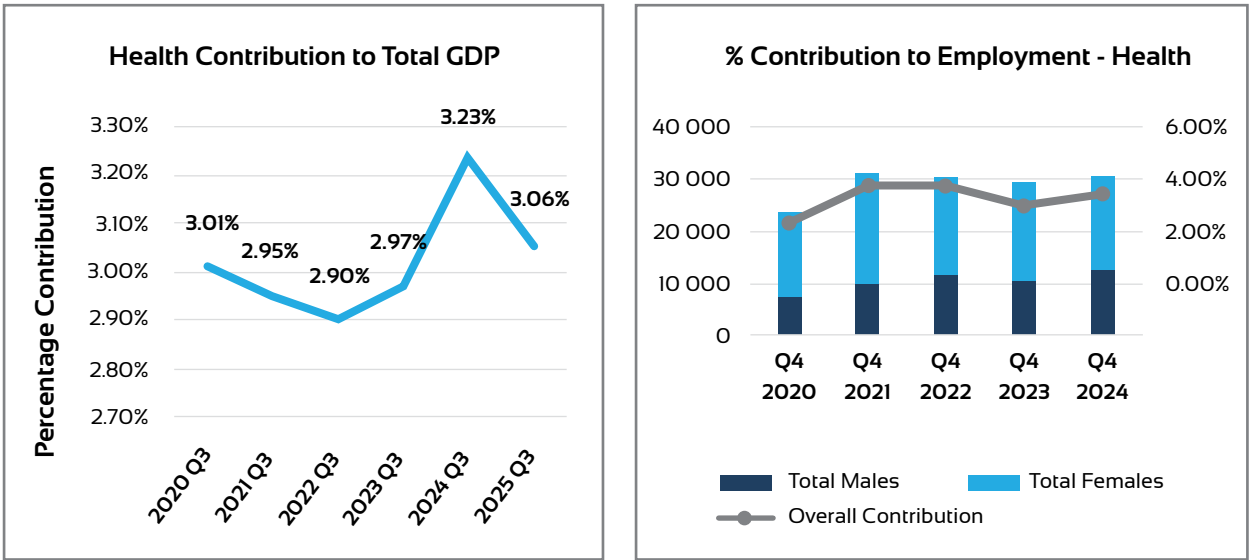


3.2 SOCIAL AND ENABLING SECTORS

3.2.2 Health Sector

The Health sector is one of the National Development Plan (NDP) 12 priority social sectors. The Sector remains one of the smallest contributors to Gross Domestic Product (GDP), with value added consistently averaging around 3% over recent years. Similarly, the sector's share of total employment has remained modest, ranging between 3% and 4% from 2020 to 2024, as shown in Figure 23.

Figure 23: Overview of the Health Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The analysis of employment reveals that foreign nationals are predominantly in specialist areas of nursing, health diagnostic and treatment, medicine and pharmacy. In contrast, most Batswana in the Health sector are trained as generalists.

Between 2019 and 2024, unemployment among graduates in health-related programmes more than doubled, rising from 8.9% to 13.6%. On the other hand, as shown in Figure 8, health welfare programmes account for 12% of total tertiary enrolment, ranking fourth among all fields. This level of enrolment contributes to the

growing number of unemployed graduates trained in health and welfare-related programmes, showing that enrolment is not yet aligned to demand.

NDP12 envisages transforming Botswana's health system to align with global Universal Health Coverage standards by 2036, through strengthened service delivery, workforce development and digital innovation. Exhibit 3.13 highlights critical issues within the Health Sector as well as planned projects to improve the sector's performance.

Exhibit 3.1.3: Key issues and Projects

Issues	1 The need for greater industry and practical exposure for both trainers and trainees, as graduates possess strong theoretical knowledge but limited practical skills.	development, infrastructure upgrades, outdated laboratories, equipment and software.
	2 The sector also faces shortage of health specialists, particularly in medicine and nursing, alongside inadequate specialised facilities in some areas.	4 There are financial constraints in sponsoring students in specialised fields
	3 There are weak financing strategies leading to limited funding for curriculum	5 Limited private sector participation.
		6 Unsustainable health financing models and dwindling ear marked donor funding

Projects

- Implementation of a National Health Insurance System.
- Revitalization of service delivery mechanisms and development of critical infrastructure
- Development of health workforce.
- Integration of mental health services and operationalisation of rehabilitation centres.
- Strengthening drugs and medicines supply chain
- Digitalisation of health services
- Health information systems and monitoring and evaluation

Table 16 presents the key skills needed of the sector to enhance its capacity to deliver the planned projects and boost its performance.

Table 16: Priority Occupations and Skills in the Health Sector

Occupations	Level of Training	Technical Skills	Soft Skills
Medical Specialists	Postgraduate	Diagnostic & assessment, infection control, product knowledge, advanced cardiac & trauma life support, counselling, interpretation of results,	Time management, analytical & communication, attention to details, decision making, critical thinking, interpersonal relations
Nursing Specialists	Postgraduate	basic & advanced life support, pain management, product knowledge, counselling, emergency care,	Problem solving, time management, electrocardiograph (ECG) interpretation, medication administration
Allied Health Professions	Degree & Postgraduate	Clinical practice, regulatory, product knowledge, patient management, cognitive behaviour therapy	Counselling & diagnostics, patient management, communication, monitoring and evaluation of care, radiation safety, emotional intelligence

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
Telemedicine	Forensic Psychology	Professionalism
Radiology & diagnostic imaging	Transplant Surgery	Interdisciplinary collaboration
Endoscopic surgery & ultrasound	(renal, cardiac, liver, pulmonary lung)	Communication
Digital & Analytical	Health informatics	Critical thinking
Internal medicine	Digital diagnostics	Problem solving
Health financing	Data analytics	Multi-tasking
Pharmacy	Vascular Surgery	Time management
		Attention to detail

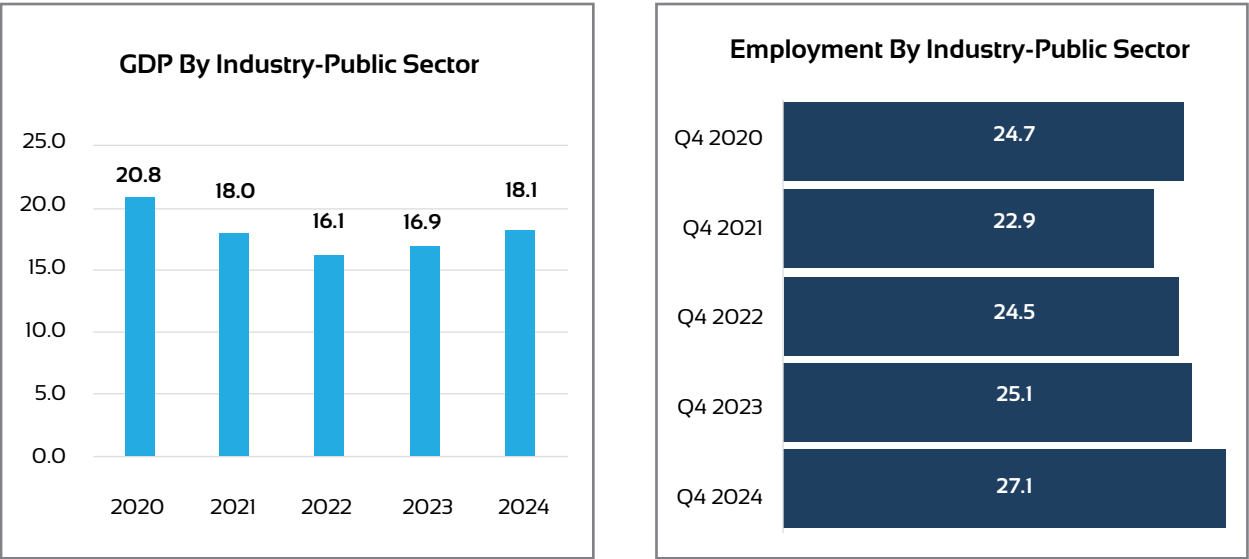


3.2 SOCIAL AND ENABLING SECTORS

3.2.3 Public Sector

The Public Sector should ensure that there is effective implementation of planned programmes and projects. The NDP 12 strategies are premised on a private sector-led model. This approach calls for a transformed Public Sector that will focus on fostering a conducive environment for the private sector, through modernised policies and legislation for the effectiveness and execution of the BETP and sector strategies. This facilitation will encourage investment, enhance competitiveness, promote robust public-private partnerships and generate employment. A brief performance overview of the sector is shown in Figure 24.

Figure 24: Overview of the Public Sector Performance



Source: Statistics Botswana, Quarterly Multi-Topic Survey, Q1 2024; GDP 2024

The Public Sector is the main contributor to employment and, consequently, a significant contributor to GDP due to its size. It is however, important for the sector to gradually offload implementation to the private sector and focus on policy formulation and facilitation. The effectiveness of this futuristic transformative change should be positioned as a smart public service, and it

requires the right calibre of skills.

Topical issues are summarised in Exhibit 3.14, together with planned projects to transform the Public Sector into an agile sector.

Exhibit 3.14: Key issues and Projects

Issues	Projects
1 Poor project implementation leading to resource wastage	• Review and alignment of policies and legislations
2 Ballooned public service and poor work ethics	• Strengthening the judiciary system
3 Effectiveness of social protection and support programmes	• Right sizing the public sector
4 Increasing levels of corruption and crime	• Improving work ethics
5 Increasing level of youth unemployment and related social ills	

Table 17 shows the priority occupations and skills in the public sector which were mapped against planned future developmental programmes, strategies and projects.

Table 17: Priority Occupations and Skills in the Public Sector

Occupations	Level of Training	Occupations	Level of Training
Youth Resilience Coach	Certificate	Strategic Resource Mobilisation Officer	Postgraduate
Social Entrepreneur / New Venture Creator	Diploma	Climate-Resilient Project Manager	Postgraduate
Urban Planners	Degree	Monitoring, Evaluation, Accountability and Learning (MEAL) Specialist	Postgraduate
Firefighters	Post-basic Diploma	Project Manager	Postgraduate
Digital transformation and AI lead	Postgraduate	Policy Advocacy Strategist	Postgraduate

Current and Future Skills (Top-up Skills)

Current	Future Skills	Soft Skills
SMME business modelling	Energy lawyers	Resilience
Financial modelling	Labour lawyers	Innovation
Market analysis	Human Rights lawyers	Change management
Project design	Data Protection Lawyers	Ethical Ai governance
Climate risk assessment	Traffic Engineers	Communication of complex data
Cyber security		
Results-based frameworks		
Donor mapping		





3.3 REDUNDANT JOBS AND SKILLS

The industry and literature review highlight skills that are becoming redundant or are being replaced due to automation, digitalisation, and evolving workplace processes. Similarly, the World Economic Forum 2025 Report provides insights into the global displacement of some jobs. There is therefore a need for retooling and reskilling to help the affected workers transition into emerging roles. Table 18 presents a summary of redundant and displaced jobs.

Table 18: Summary of Redundant and Displaced Jobs & Skills

National	Global
Hospital orderly	Postal service clerks
X-ray attendants	Bank tellers and related clerks
Manual data capturing	Data entry clerks
Bulk printing and posting	Cashiers and tickets clerks
Manual sorting	Printing and related trades workers
Copper cabling	Shop sales persons
Hand patterns markers	Building caretakers, cleaners & housekeeping
Hand graders	Administrative Assistants & Executive Secretaries
Data capturing clerks	
Typists	
Book clerks	

Source: HRDC Stakeholder Engagement; World Economic Forum 2025 Report







Critical Issues and Recommendations

4.0	Critical Issues and Recommendations	59
4.1	Critical Issues	59
4.2	Recommendations	60
5.0	Conclusion	61

4.0 Critical Issues and Recommendations

During engagement and analysis, several human resource development issues and recommendations arose across all economic sectors. The section, therefore, summarises key issues and recommendations.

4.1 CRITICAL ISSUES

- Lack of up-to-date information and data to support human resources development planning. Furthermore, the unavailability of long-term sectoral strategic planning also impacts on defining the future skills for the sector.
- Limited job openings. It has been noted from engagements and submissions that most industries have limited job openings as a result of slow economic growth; hence, indicative manpower estimates reflect low numbers.
- Graduates' waiting period for employment is too long because of limited job opportunities, and their skills become outdated.
- Most graduates are generalists, while industry requires specialised skills. This is because the government, as the main sponsor, is focusing mainly on general qualifications.
- Lack of industry exposure by both trainers and trainees. The industry continues to raise concerns relating to the quality of products from some local ETPs due to a lack of industry exposure.
- There are human resource management issues that have implications on skills development. e.g. issues of remuneration, vacancies, and budget constraints.
- Lack of a structured system for the transfer of indigenous knowledge. There are currently no effective structures to facilitate the passing down of indigenous skills from generation to generation. This is probably because there is a perception that learning can only be done in formal classrooms.



4.2 RECOMMENDATIONS

Education and Training Reforms across all Levels of Training

- Education and Training should shift from qualification to skills-based training. This will create a mindset change from schooling for employment to education for entrepreneurship, job creation, research development, and innovation.

STEAM

- Fast track implementation of Science, Technology, Research, Engineering, Arts and Mathematics (STEAM) to support government priorities to integrate technology and research to improve innovation, development and competitiveness.

Technical and Vocation Education and Training (TVET)

- Rationalise programmes and Institutions to establish centres of excellence for emerging and future skills that include digital skills and green skills.
- Establish industry simulations to improve the training and acquisition of industry skills to prepare the graduates for the world of work.
- Strengthen private sector participation in programme development and delivery to improve the quality of graduates through both the trainer's attachments and students' attachments.

Student Sponsorship

- Incorporate graduate sponsorship in the budget for students' sponsorship to increase the number of post-graduate students who will explore opportunities in research development and innovation.
- To reduce the saturation of the same qualifications in the labour market, government sponsorship should focus more on priority skills for the priority sectors identified in the NDP12 and BETP. The skills forecast provided should guide quotas for the various fields of learning.



Strengthen HRD System

- Establish an efficient and effective HRD system to harmonise policies, tools regulations, processes, and systems to ensure the availability of quality HRD information.
- Promote the integration of foresight analysis into sectoral planning to inform future skills.
- Develop structures to facilitate the transfer of indigenous knowledge.

5.0 Conclusion

The 2026 Priority Skills Report underscores Botswana's urgent need to align its education and training systems with the demands of a rapidly shifting labour market. The report highlights issues of high unemployment, slow economic growth and skills mismatches. These require a deliberate shift from qualification-driven to skills-based training and industry-responsive human capital development. Workforce forecasting reveals modest future job openings due to limited economic expansion, highlighting the need for entrepreneurship, innovation, and job creation initiatives. This Report shows that future economic growth will be shaped by the digital, green, and care economies, requiring skills such as AI, data analytics, renewable energy, advanced manufacturing, and specialised health and education services. At the same time, sectors identified as pillars of diversification, such as Tourism, Agriculture, and Creative industries, require modernisation through technology adoption and value chain strengthening to fully unlock their growth potential.

Overall, the report calls for a transformative, future-ready human capital that positions Botswana for sustained economic resilience and competitiveness. This requires stronger private sector participation, accelerated implementation of STEAM education, revitalisation of TVET, targeted sponsorship in priority fields, expansion of industry partnerships, investment in digital and green capabilities, and embracing foresight in skills planning. Addressing these priorities will ensure Botswana cultivates a globally competitive workforce capable of driving economic transformation, reducing unemployment, and supporting the ambitions of NDP 12, BETP, and Vision 2036.



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Annex 1

Priority/future occupation and skills forecasts (Local)

ANNEX 1: Priority/Future Occupation and Skills Forecasts (Local)

Crafts and Trade (Artisans)

Occupations	Technical Skills
FIELD 4: CREATIVE INDUSTRIES	
Beadwork workers	- Proficiency in beadwork/ Beadwork Techniques - Tool Handling - Material Selection - Pattern Design & Reading - Quality Control & Repair
Tapestry weaver	- Looming - Knowledge of tapestry - Drawing and design skills - Artistic - Warping and Tension Control - Material Selection - Pattern Execution - Quality Control
Leatherwork workers	- Knowledge of types of leather and their uses - Skiving: Shaving or thinning leather edges to reduce bulk, particularly for seams, pockets, and folding - Cutting & Pattern Making - Material Selection & Knowledge - Stitching (Hand & Machine) - Finishing & Edge Work
Painters and drawers	- Design and presentation skills - Information Technology - Profile design for artist - Marketing - Portfolio design for international exhibitions
Best Boy	- Equipment management; Proficiency in managing and maintaining lighting and electrical equipment. - Ensuring everything is in working order and properly set up.
Muralists	- Technical Drawing - Mathematics and Ratios - Paint specifications - Wall/ surface specifications - Visual Arts
Production runners	Basic equipment knowledge: A runner should understand the use and handling of film equipment such as cameras, lights and sound gear to assist crew efficiently with set up or maintenance.
Actors	- The actor must be able to embody a character and deliver as directed by the story. - The actor must be able to break down the script and work out his/her flow across the scene acts.

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Attention to detail - Creativity and Artistic Vision - Flexibility/Adaptability - Patience & Precision	Beading	16	11	11	17	17
- Attention to detail - Management skills - Teamwork & Collaboration - Communication - Networking, negotiation, and reflective journaling	Weaving	16	17	21	15	15
- Attention to detail - Creativity & Artistic Ability - Manual Dexterity - Time Management	Leatherwork design and manufacture	16	11	11	17	17
- Attention to detail - Critical thinking - Time Management	Fine Arts	16	14	22	16	16
Organizational skills: Strong ability to organize and coordinate equipment, supplies and crew members, ensuring that everything is efficiently prepared and available when needed.	Electrical engineering, film production, or technical theater/ lighting design	148	117	160	153	153
- Creativity - Innovation - Communication - Storytelling	Fine Arts	16	14	22	16	16
Time management: The ability to prioritize tasks and manage time effectively in a fast-paced environment to ensure that everything runs smoothly on set.	Film and television production, media studies, or creative media production	119	94	128	122	122
Emotional intelligence: The ability to understand and manage one's emotions and those of others, crucial for connecting with characters and audiences.	Performing Arts	16	17	29	28	28

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 5: CONSTRUCTION	
Riggers and Cable Splicers	- Knowledge of Machines & Tools, - rouble Shooting, - Quality Control, - Yacht Rigging and Spar - Maintenance - Spatial awareness
Building and Related Electricians	- Blueprints, operating specialized tools (sanders, nailers) - Moisture testing, - Knowledge Application of adhesives or finishes.
Stonemasons, Stone Cutters, Splitters and Carvers	- Designing, - Traditional Stonework, Building Restoration, Conservation, - Understanding of cement mix process -
Structural Steel Erectors	- Calculating & measuring - Brickwork, - Steel Fixing - Precast knowledge Health & Safety
Steel Fixers	- Calculating & measuring, - Brickwork, - Steel Fixer - Precast - Health & Safety - Attention to Detail
Building and Related Electricians	- Blueprints, operating specialized tools (sanders, nailers), - Moisture testing, - Knowledge Application of adhesives or finishes.
Stonemasons, Stone Cutters, Splitters and Carvers	- Designing Traditional Stonework - Building Restoration - Conservation - Understanding of cement mix process -
Structural Steel Erectors	- Calculating & measuring - Brickwork, - Steel Fixing - Precast knowledge - Health & Safety
Coded Welders	- Designing & Measuring - Cutting of equipment - Pipe Welding & fabrication of stainless steel and aluminium - Safety & Health, -
Steel Fixers	- Calculating & measuring - Brickwork - Steel Fixer - Precast knowledge - Health & Safety
Concrete Placers, Concrete Finishers and Related Workers	- Technical knowledge on concrete materials - Proficiency in operating specialized machinery, - Site preparation and finishing. - Techniques to meet structural and aesthetic standards.

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Time management - Problem Solving	Rigging	240	200	112	150	200
	- Communication - Teamwork - Attention to Detail	Building & electrification	68	103	118	121	130
	- Creativity - Innovation - Teamwork	Specialized construction	20	25	30	40	40
	- Communication - Teamwork - Attention to Detail	Structural erecting	19	14	17	16	17
	- Communication - Teamwork - Attention to Detail	Steel fixing	44	48	47	59	40
	- Communication - Teamwork - Attention to Detail	Building & electrification	68	103	118	121	130
	- Creativity - Innovation - Teamwork	Construction trade	20	25	30	40	40
	- Communication - Teamwork - Attention to Detail	Welding	19	14	17	16	17
	- Passionate - Patient - Attention to Detail - Creativity	Coding & Welding	572	638	719	805	882
	- Communication - Teamwork - Attention to Detail	Steel fixing	44	48	47	59	0
	- Mixing, - Pouring, - Knowledge in levelling concrete	Welding	20	20	20	16	16

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 5: CONSTRUCTION (Continued)	
Instrumentation Technicians	- Proficiency in calibrating instruments (pressure, flow, temperature), - Knowledge in troubleshooting PLC/DCS control systems, - Knowledge in repairing pneumatic/electronic devices
Grass Roof Thatchers	- Understanding of insulating characteristics of grass and other thatching material - Designing & Roof Thatching - Spatial awareness & understanding load bearing capabilities of timber
Special Coaters (water coaters)	- Understanding Flow of coating material - Mixture Techniques - Furniture & protective coating, - Industrial coating membranes
Building Structure Cleaners	- Knowledge in cleaning techniques - Chemical safety and knowledge
Scaffold Erectors	- Understand technical drawings - Calculating heights - Assembling scaffolds - Awareness on Health & Safety
Wood Treaters	- Chemical treatment procedures - Treatment plant operations
Sheet Metal Workers	- Calculating & measuring - Brickwork, - Steel Fixing - Precast knowledge - Health & Safety
Glaziers	- Glass cutting & fabrication - Installation techniques
Carpenters and Shop Fitting	- Precision - Measuring - Designing - Moulding - Roofing - Ability to Work with Hands Joinery - Timber Frame knowledge Attention to Detail - Critical Thinking - Teamwork
Painters	- Paint application techniques - Colour theory and mixing - Material knowledge

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Problem solving - Analytical thinking to diagnose complex system failures, - Attention to detail - Knowledge in calibration	Instrumentation	20	30	40	30	40
	- Innovation - Creativity - Attention to Detail	Traditional /natural thatching	16	16	16	16	16
	- Attention to Detail - Creativity - Innovation	Material designing	10	20	30	40	50
	- Attention to detail - Communication - Time management & organisation	Structural cleaning	30	40	50	55	60
	- Attention to detail - Excellent hand - Eye coordination - Patient & Passionate	Scaffold erecting	12	12	12	20	20
	- Attention to detail, - Teamwork - Adaptability to changing production demand	Wood treatment	10	10	10	10	10
	- Communication - Teamwork - Attention to Detail	Welding	12	44	15	17	18
	- Attention to detail - Safety conscious mindset	Glazing	6	18	22	24	31
	- Attention to Detail - Critical Thinking - Teamwork	Carpentry and fitting	78	80	88	94	98
	- Attention to detail - Communication - Time management - Planning & organisation	Painting	46	37	70	87	90

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 7: ENGINEERING	
Rigging	• Load measurement • Risk management • Health, safety and environment • Rope systems and industrial rope access • Signaling
Fitters and Turners (Millwrights)	• Precision alignment (laser/ dial) of rotating machinery • Pump, gearbox and valve overhaul and tolerancing • Shaft/fabrication machining and threading • Preventive and predictive maintenance (vibration basics) • Hydraulic and pneumatic systems assembly
Chemical Products & Machine Operators	• Start-up/shutdown and normal operations of process units • Field readings, sampling and log-keeping • Permit-to-work, gas testing and isolation verification • Basic equipment checks (pumps, compressors, exchangers) • Emergency response and first-line firefighting
Boilermakers	• Plate development, rolling and structural fabrication • Pressure parts fabrication to code • Oxy-fuel cutting & gouging • Weld distortion control and heat treatment basics • Drawing interpretation and fit-up
Coded Welders	• Certified welding per procedure (6G/6GR pipe and structural) • Materials and consumables control • Weld map reading and traceability • Defect identification and repair techniques • Working in confined/elevated spaces safely
Photovoltaic (PV) Installers	• Basic Electrical Wiring • Electrical Schematic Diagrams • Solar Radiation Process • Connect PV panels • Maintenance
FIELD 10: TOURISM & HOSPITALITY	
Professional Hunter	• Wildlife behavior knowledge • Knowledge on Hunting Equipment
Laundry Machine Operators	• Ability to clean • Ability to operate cleaning • Knowledgeable on equipment • Knowledge of different cleaning methods
Travel Attendants and Travel Stewards	• Understanding Basic first aid • Emergency procedures • Basic knowledge on flight operations

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Team Player - Communication - Leadership - Problem solving	Rigging	15	64	49	65	65
	- Problem-solving - Collaboration - Documentation - Housekeeping and 5S discipline	Mechanical Engineering	85	54	53	43	43
	- Situational awareness and decision-making - Communication - Discipline - Teamwork - Reporting and handover quality	Mechanical Engineering	65	73	29	30	34
	- Quality focus and rework minimization - Team coordination - Adherence and time management - Safety and PPE compliance	Welding and Fabrication	51	92	76	102	102
	- Attention - Consistency - Teamwork	Specialized Welding	47	49	59	63	60
	- Communication - Customer focus - Solutions oriented - Physical stamina - Physical strength	Electrical and Electronics Engineering	85	54	51	39	30
	- Communication - Problem solving - Analytical	Travel and Tourism	34	32	27	23	23
	- Attentive to detail - Time management - Proactive problem solving - Teamwork	Hospitality	22	20	17	13	13
	- Customer Relations - Presentation - Hospitality	Travel and Tourism	65	63	58	41	41

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 10: TOURISM & HOSPITALITY (Continued)	
Food handler	• Culinary Arts • Food Preparation (menu, dishes) • Cooking • Food Safety and Hygiene
Housekeeping Supervisors in Hospitality Operations	• Cleaning and sanitation expertise • Inspection and quality control • Inventory and asset management • Safety & compliance • Admin skills
Professional Guides	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid
Travel Guides/ Tour Guides	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid
Specialised Tour Guides/ Mokoro	• Knowledgeable in Tourism Industry • Basic ICT knowledge
Travel planners	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid
Travel Consultants and Clerks	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid
Certified City Tour guides	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	• Creativity • Innovation • Time management	Culinary Arts	220	240	260	280	300
	• Leadership & team management • Communication and interpersonal skills • Customer Relations • Attentive to detail • Time management	Hospitality	25	22	5	5	5
	• Customer Relations • Presentation • Hospitality	Travel and Tourism	34	32	27	23	23
	• Customer Relations • Presentation • Hospitality	Travel and Tourism	34	32	27	23	23
	• Customer Service • Time Management • Communication • Motivation	Travel and Tourism	34	32	27	23	23
	• Customer Relations • Presentation • Hospitality	Travel and Tourism	65	63	58	41	41
	• Customer Relations • Presentation • Hospitality	Travel and Tourism	65	63	58	41	41
	• Customer Relations • Presentation • Hospitality	Travel and Tourism	34	32	27	23	23

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 10: TOURISM & HOSPITALITY (Continued)	
Certified Cultural Tour guides	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid
Executive Housekeeper	• Cleaning and sanitation expertise • Inspection and quality control • Inventory and asset management • Safety & compliance • Admin skills
Sommeliers / Wine and Beverage specialist	• Beverage expert • Various wine knowledge
Restaurant Managers	• Proficiency in restaurant management software & systems • Financial management • Operational knowledge • Facility maintenance • Sales & marketing
Hotel Receptionists	• General understanding of all the hotel operations
Conference and Event Planners	• Product knowledge • MICE knowledge
Commis Chef	• Basic food preparation • Knife skills • Kitchen safety • Following recipes • Portion control
Barista	• Food safety and hygiene • Inventory control and stock handling • Point-of-sale (POS) system operation • Beverage menu knowledge • Milk steaming and texturing
FIELD 15: SOCIAL SCIENCES	
Youth Resilience Coach	• Vocational guidance • Community profiling • Resilience-building toolkits

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Customer Relations - Presentation - Hospitality	Travel and Tourism	35	32	27	23	23
	- Leadership & team management - Communication and interpersonal skills - Customer Relations - Attentive to detail - Time management	Hospitality	22	20	17	13	13
	- Attention to detail - Communication - Teamwork - Problem solving	Hospitality / Culinary Arts	50	60	70	80	90
	- Leadership and team management - Communication and interpersonal skills - Teamwork - Attentive to detail - Time management	Hospitality Management	26	24	18	10	10
	- Customer care - Communication - Problem solving - Courteous	Hospitality	16	18	29	38	38
	- Time Management - Problem solving - Teamwork	Travel and Tourism	3	5	7	9	9
	- Teamwork - Good communication - Adaptability	Culinary Arts	1240	1260	1320	1380	1440
	- Customer service - Communication - Time management - Teamwork - Professionalism	Hospitality / Culinary Arts	150	170	190	210	230
	- Facilitation of mindset change - Active listening - Conflict resolution	Community Development		300	290	280	280

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 16: TRANSPORT AND LOGISTICS	
Site Lift Operator	- Related Driving - Mechanical
Reach Stacker Operators	Principles of Operation
Forklift Operators	Tyre fitting
Weighbridge Operators	Fire fighting
Bulk Vehicle Operator (Hazardous)	- Safe Vehicle Operation - Conveyancing - Emergency Response Plan, - Basic First Aid and Firefighting of Dangerous Goods
FIELD 17: MANUFACTURING	
Diamond Planner/Marker	- Diamond experience & knowledge - Computer, numerical & geometry - Diamond cutting tools & techniques - Diamond parameters - Diamond sorting classifications & techniques
Diamond Grader	- Technical Skills - Diamond Grading Knowledge - Gemological Equipment Usage - Stone Evaluation - Technical Software - Precision Measurement
Diamond Bruter (Cutter)	- Knowledge of physical characteristics of diamond - Diamond parameters - Computer technological skills - Numerical and geometry skills - Knowledge of cutting machines & types of cutting operation
Diamond Polishers	- Polishing & Cutting Proficiency - Equipment Operation - Gemological Knowledge - Shape Expertise - Quality Control & Inspection - Safety & Maintenance - Mathematical/Analytical Ability
Confectioners	- Chocolate Tempering & Manipulation - Sugar Work & Confectionery - Precision and Measurement - Moulding & Coating - Ingredient Knowledge
Bakery Technician	- Precision Measurement & Scaling - Dough & Ingredient Knowledge - Equipment, Operation & Maintenance - Quality Control & Compliance - Record-Keeping

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Sober Habits - Knowledge of the Environment	Special license	65	64	75	63	63
	Employee Relations	Special license	65	64	75	63	63
	Attention to detail	Special license	65	64	75	6	6
	- Communication - Customer service	Special license	10	10	10	11	11
	- Customer Service - Interpersonal Skills - Time Management,	Special license	10	10	10	11	11
	- Communication Skills - Accuracy - Concentration - Hand-eye coordination - Trust - Resilience	Supply chain	51	87	65	85	95
	- Attention to Detail - Integrity & Ethics - Hand-Eye Coordination	Jewellery Manufacturing	51	87	65	85	95
	- Hand-eye coordination - Patience - Concentration - Credibility - Attention to detail	Diamond Cutting & Polishing	51	87	65	85	95
	- Extreme Attention to Detail - Patience & Focus - Manual Dexterity - Problem-Solving - Integrity & Trustworthiness - Adaptability - Communication & Teamwork	Diamond Cutting & Polishing	51	87	65	85	95
	- Attention to Detail & Artistry - Creativity & Innovation - Time Management & Organization - Problem-Solving - Communication & Teamwork	Culinary Arts/ Bakery and Pastry	250	275	302	332	366
	- Attention to Detail - Time Management - Physical Stamina & Endurance - Problem-Solving & Adaptability - Communication - Teamwork	Bakery Technology	30	33	36	40	44

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 17: MANUFACTURING (Continued)	
Gold/ Silver smith	• Knowledge of Gems, metals • Proficiency with computer-aided design • Researching, evaluating and valuing pieces and materials • Designing new pieces and building moulds • Cleaning and polishing jewellery

Diploma (Technicians and Others)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Meat Inspectors	• Meat inspection • Sampling • Carcass grading • Pathological assessment • Report writing
Irrigation Technicians	• System Optimization • Hydraulics & Water Pressure • System Installation & Repair • Tool Proficiency
Meat Processor	• Meat inspection • Sampling • Carcass grading • Pathological assessment • Report writing
FIELD 2: AVIATION	
Aviation Fuel Technicians	• Jet A-1 handling and filtration/water separation systems • Fuel quality testing (density, conductivity, water tests) • Hydrant/ bowsers operation and refueling procedures • API/ JIG standards application • Health, Safety, Security & Environment controls aircraft fueling
Shift Supervisor	• Shift planning, permit coordination and manpower allocation • KPI tracking and daily production reporting • Incident/near-miss investigation basics • Frontline maintenance coordination • Emergency response leadership
Aircraft Technicians	• Aviation • Geographical Knowledge

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Artistic - Negotiation - Creativity - Integrity - Dexterity	Jewellery design and manufacturing	0	15	20	25	30

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Interpersonal skills - Communication - Attention to detail	Meat safety and Inspection	24	21	19	15	15
	- Communication - Adaptability - Time Management - Problem Solving	Irrigation Technology	23	19	25	26	16
	- Interpersonal skills - Communication - Attention to detail	Meat Processing	76	76	76	76	76
	- Attention to detail and compliance - Communication - Time management - Teamwork and shift handovers - Customer service	Aircraft Maintenance Engineering	0	0	0	6	6
	- People management and coaching - Decision-making and prioritization - Conflict resolution - Communication - Situational awareness	Logistics and Supply	0	0	0	1	1
	- Multitasking - Coordination - Problem solving	Aircraft Engineering	0	0	0	5	5

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 4: CREATIVE INDUSTRIES	
Camera Operators	- Understand shots composition - Knowledge of rules of thirds - Camera holding and focus
Gaffers	Lighting setup and control
Film Make-up artists	Proficiency in make up for different films
FIELD 5: CONSTRUCTION	
Construction Technicians	- Designing & Measuring - Cutting of equipment - Pipe Welding & fabrication of stainless steel and aluminium - Safety & Health,
FIELD 6: EDUCATION AND TRAINING	
Music Teachers	- Proficiency in vocal skills and instruments - Curriculum assessment - Music theory - Curriculum design
Sign Language Instructors	- Proficiency in Sign language - Lesson planning - Assessment of sign language - Technology integration
Vocational and Technical Education Teachers	- Classroom Management - Software - Galileo (Application of Mathematics and Technical) - School inspection tools - Quality Assurance
Local Languages specialist with teaching qualification	- Language proficiency - Literacy and curriculum skills - Technology - Language structure - Pedagogy
FIELD 7: ENGINEERING	
Borehole Mechanic	- Renovation of casing & restoring boreholes - Racing the outside walls of the borehole - Improving water collection and pumping methods - Drilling of new boreholes, procurement of spares and consumables
Control & Instrumentation Technicians	- Installation & maintenance of online instruments - Troubleshooting of Variable Speed Drives and Soft starters. - Calibration of transmitters/ analyzers/ control valves - Loop checks, commissioning and Site & Factory Acceptance Test - Programmable Logic Controller & Distributed Control System interface and diagnostics - Instrument tubing and impulse lines

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Analysis	Film production, cinematography, or broadcasting	31	35	37	40	0
	- Collaboration - Analysis	Electrical engineering, cinematography, film production, and theatrical lighting.	134	105	144	138	0
	- Attention to detail - Time management	cosmetology	97	98	96	98	0
	- Passionate - Patient - Attention to Detail - Creativity	Civil Engineering	137	95	112	51	50
	- Communication - Collaboration - Creativity	Music	75	75	75	75	75
	- Communication - Cultural sensitivity - Emotional Intelligence	Sign Language	50	100	150	200	200
	- Communication - Organising - Resourcefulness - Critical Thinking - Planning	Vocational and Technical Education	200	250	300	350	350
	- Communication skills - Teamwork - Cultural Sensitivity	Humanities – African Languages	25	25	25	25	25
	- Attention to details - Customer care - Analytical thinking - Problem solving	Mechanical Engineering	171	143	186	185	171
	- Attention to detail - Customer care - Team Player - Systematic problem solving - Documentation accuracy - Teamwork - Adaptability - Communication	Electrical and Electronics Engineering	93	100	89	47	93

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 7: ENGINEERING (Continued)	
Renewable Energy Technicians	- Electrical connections - Solar heating systems piping - Solar water heater systems piping - Maintain solar systems - Interpretation
Water Treatment Technicians	- Operation of filtration and chemical dosing - Water quality testing and adjustment - Pumps and valves maintenance basics - Process monitoring & logging - Safety & confined space entry
Fitter and Tanners (Millwrights)	- Precision alignment (laser/ dial) of rotating machinery - Pump, gearbox & valve overhaul and tolerancing - Shaft/fabrication machining & threading - Preventive & predictive maintenance (vibration basics) - Hydraulic & pneumatic systems assembly
Geo-Metallurgy	- Mineralogy & Geology - Mineral extraction & treatment techniques - Evaluation of physical & chemical properties - ICT application - Research & analysis methods/techniques
FIELD 9: HEALTH	
Dental Therapy Technicians	- Diagnostics and Assessment - Clinical Safety & Procedures - Radiography - Restorative Dentistry - Preventive Dentistry
Medical Laboratory Technologists	- Product knowledge - Interpretation of investigations - Sample/specimen collection - Equipment Handling and maintenance - Infection Control
Pharmaceutical Technicians	- Pharmaceutical Product Knowledge - Drug Dosage and prescription knowledge - Drug Regulations & Compliance - Stock Management & Control
Clinical Technologists	- Product knowledge & ISO Standards - Medical Equipment Use and Safety Knowledge - Radiation Safety, Research & Project Management - Ergonomics & Infection Control - Basic Life Support, Equipment Care & Record Keeping - Interpretation of Investigations
General Nurses	- General Patient Assessment and Care - Diagnostic Skills - Medication Administration & Counselling - Basic Life Support & Cardiopulmonary Resuscitation (CPR) - Emergency Care, Patient Safety & Record Keeping

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical Thinking - Communication - Planning and Execution - Customer Focus - Solutions oriented	Energy Innovation and Emerging Technologies	267	289	346	324	324
	- Problem solving - Communication - Teamwork - Attention to detail - Environmental stewardship	Mechanical Engineering	0	0	1	2	2
	- Problem-solving - Collaboration - Documentation	Mechanical Engineering	85	54	51	39	39
	- Analytical - Teamwork - Attention to detail - Innovation	Geomatics	6	6	7	13	13
	- Communication - Attention to Detail - Problem Solving - Analytical - Critical Thinking	Dental Therapy	20	20	20	20	20
	- Analytical & Multitasking - Communication - Critical Thinking - Time management - Decision making	Medical Laboratory Technology	26	9	14	8	8
	- Communication - Critical Thinking - Time management - Problem Solving - Professionalism	Pharmacy Technology	44	57	66	71	80
	- Communication - Attention to detail - Time Management - Decision making - Critical Thinking - Analytical & Multitasking	Clinical Technology	50	43	39	30	30
	- Collaboration & Multitasking - Communication - Time Management - Attention to detail - Problem solving - Decision making	General Nursing	51	28	26	19	25

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Psychiatric Nurses	• Patient Assessment & Care • Diagnostic Skills • Psychotic Medication Administration • Rehabilitation, Counselling & Resource Management • Basic Life Support & CPR
Family Nurse Practitioners	• Advanced Patient Assessment and Care • Diagnostic Tests & Drug Prescription • Minor Surgery • Basic Life Support & CPR • Treatment Planning & Record Keeping
Community Health Nurses	• Community Assessment and Diagnosis • Community Based Screening & Basic Life Support • Research (need assessment) • Holistic Care Planning • Monitoring and Evaluation of Care
Midwives	• Emergency Obstetric Care • Cardiotocography (CTG) use & interpretation • Neonatal resuscitation & basic Life Support • Product knowledge • Computer knowledge
FIELD 10: TOURISM & HOSPITALITY	
Sous Chef	• Cooking techniques • Menu execution • Food safety • Food presentation • Quality assurance
Facility Manager	• Business Development • Facility management • Use of property technology • Asset life cycle plan • Value engineering on existing buildings • Legal framework
Gallery Technicians	• Project Management • Fundraising • Gallery Database • Information and Communication Technology
Monuments guides	• Bird Watching • Mokoro Polling • Night Drive Techniques • Understanding of Species & Inhabitants • Understanding of History • Basic first aid • Linguistic

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical & Communication - Multitasking & Collaboration - Time Management - Attention to Detail - Problem Solving	Psychiatric Nursing	10	21	17	10	10
	- Critical Thinking - Multitasking & collaboration - Communication - Time management - Attention to Detail - Decision making	Family Nurse Practitioner	20	21	18	13	13
	- Analytical & Communication - Multitasking & Collaboration - Time Management - Problem Solving - Advocacy	Community Health Nursing	12	13	13	9	10
	- Communication - Decision making - Compassionate - Observation & Collaboration - Time Management	Midwifery	31	28	25	26	26
	- Leadership - Problem solving - Teamwork	Culinary Arts	220	240	260	280	300
	- Negotiation skills - Marketing - Presentation - Customer service	Real estate management	40	38	35	29	29
	- Written & Verbal Communication - Organisational - Presentation - People management - Creativity - Marketing - Critical Thinking	Arts Management	34	32	27	23	23
	- Customer Relations - Presentation - Hospitality	Travel and Tourism	35	32	27	23	23

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 10: TOURISM & HOSPITALITY (Continued)	
Gastronomy Tour Guides	- Food safety & Hygiene - Knowledge of nutrition - Knowledge in kitchen equipment
Domestic Cleaners and Helpers	- Cleaning & sanitation expertise - Inspection & quality control - Inventory & asset management - Safety & compliance
Food and Beverage Manager	- Serving Techniques - Financial acumen & budgeting - Computers software - Knowledge on food allergies - Operational efficiency - Inventory management - Food & Safety compliance - Menu engineering & planning - Operational planning - Technology proficiency - Point of Sale systems
Hotel Managers	- Proficiency in hotel management software & systems - Financial management - Operational knowledge - Facility maintenance - Sales & marketing - Culture awareness
Station Chef	- Mastery of cooking techniques - Advanced knife skills - Food safety & hygiene - Menu knowledge - Equipment operation - Quality control & plating techniques
Pastry Chef	- Baking techniques - Dessert production - Ingredient measurement & accuracy - Pastry equipment use - Plating & dessert presentation - Food safety and hygiene
Baker	- Baking techniques & decoration - Ingredient knowledge - Presentation skills

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Customer Relations - Presentation - Hospitality - Managerial competencies - Analytical - Organizational skills	Travel and Tourism	35	32	27	23	23
	- Communication & interpersonal skills - Customer Relations - Teamwork - Attentive to detail - Time management - Proactive problem solving - Emotional intelligence	Hospitality	23	20	17	13	13
	- Leadership - Communication - Customer Relations - Teamwork - Attentive to detail - Time management & multiskilling	Hospitality Management	12	12	20	38	38
	- Leadership & team management - Exceptional - Communication & interpersonal skills - Customer Relations - Problem solving - Emotional intelligence	Hospitality Management	12	12	20	38	38
	- Time management - Ability to work under pressure - Teamwork - Communication - Problem solving	Culinary Arts	220	240	250	260	270
	- Attention to detail - Creativity & innovation - Time management - Teamwork - Problem solving - Communication skills	Culinary Arts / Baking and Pastry Arts	100	110	130	150	170
	- Creativity - Precision - Time management	Culinary Arts / Baking and Pastry Arts	100	110	120	130	140

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills	
FIELD 10: TOURISM & HOSPITALITY (Continued)		
Private Chef	- Menu planning - Recipe customisation - Multi-cuisine cooking - Dietary adaptation - Event catering - Beverage pairing	
FIELD 15: SOCIAL SCIENCES		
Social Entrepreneur / New Venture Creator	- SMME business modelling - Financial modelling - Market analysis - Programming front end development - Design & prototype - Engine optimization and digitalization	
Project Officer/Manager	- Project design - Lifecycle management - Stakeholder coordination	
FIELD 16: TRANSPORT AND LOGISTICS		
Gateway Operations Officers	Understanding of customs laws, rules, and regulations.	
Trailer Technicians	Able to do service & repairs on trailers	
Auto Electricians Technicians	Pneumatics	
Accident Investigator	- Fact finding - Data analysis & interpretation - Vehicle dynamics - Accident reconstruction - Crash data retrieval skill (using software)	
Truck Scheduler	- Computer Literacy - Trucking Logistics - Knowledge of Customs Regulations - Fleet Management - Navigation Risk Management	
FIELD 17: MANUFACTURING		
Computer Aided Design (CAD) Technicians	- Software Proficiency: - Drafting & Modeling - Technical Standards - Engineering Knowledge - Data Management	

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Time management - Organising - Creativity and problem solving - Communication - Attention to detail	Culinary Arts	50	60	70	80	90
	- Resilience - Innovation - Change management - Negotiation	Entrepreneurship/ Business Management	175	190	200	210	150
	- Team leadership - Budget oversight - Risk monitoring	Project Management	210	230	240	250	180
	- Communication - Ability to Work Under Pressure - Time Management	Transport & Logistics Management	95	112	51	74	74
	Attention to detail	Mechanical Engineering	138	139	129	87	87
	Fleet Management	Auto Electrical	158	199	122	137	137
	- Communication - Customer relations - Public relations	Investigative Training	100	42	42	42	42
	- Communication - Time Management - Networking - Leadership & Marketing	Transport & Logistics Management	0	0	5	5	5
	- Attention to Detail - Communication - Problem-Solving - Time Management - Spatial Visualization - Collaboration	CAD Technology	51	60	56	53	20

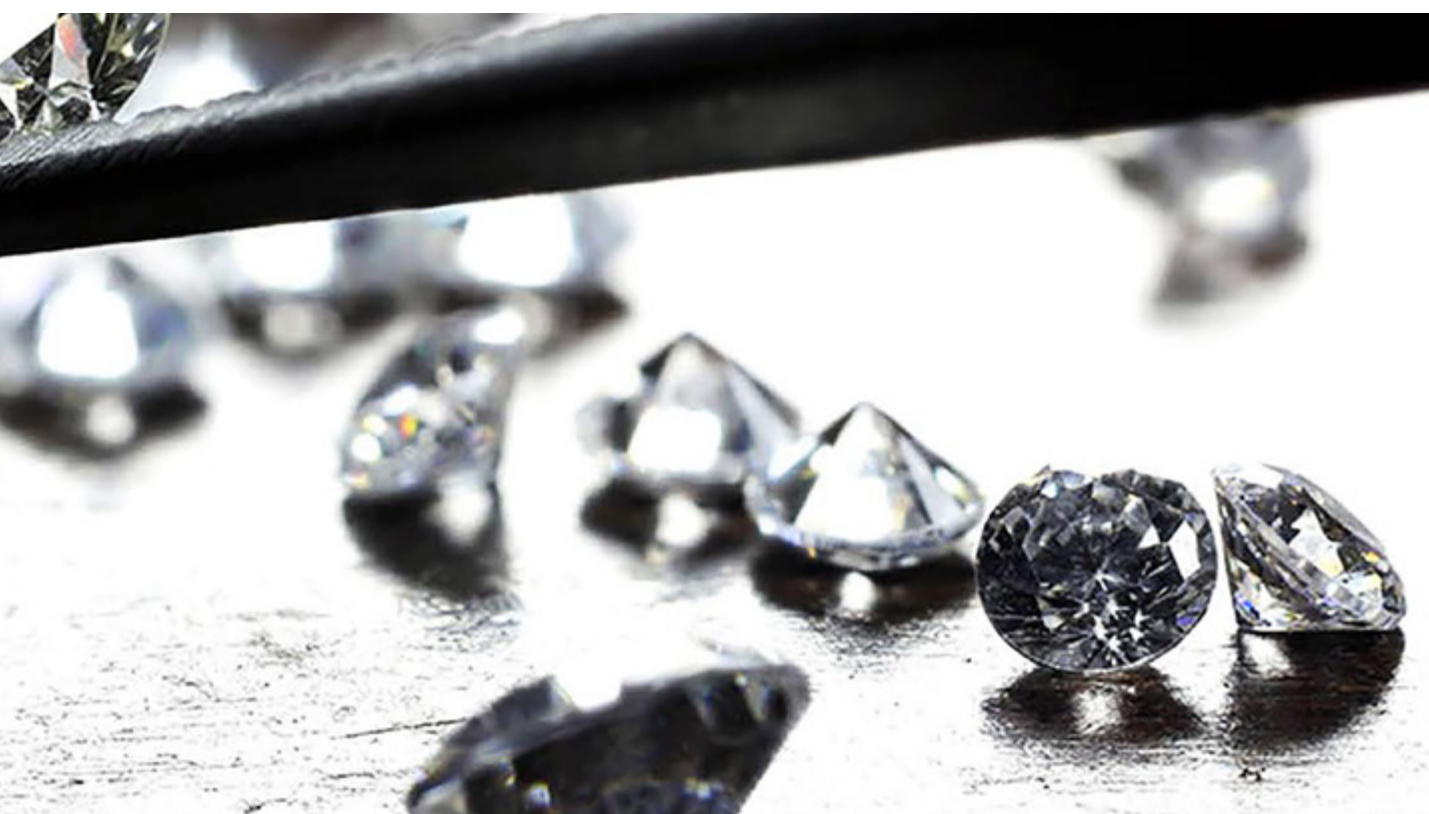
ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 17: MANUFACTURING (Continued)	
Sewing Machine Mechanics	- Machine Expertise - Troubleshooting & Diagnostics - Preventive Maintenance - Tool Proficiency - Repair & Calibration - Machine Setup
Garment packagers	- Garment Finishing & Pressing - Quality Inspection - Packaging Operations - Carton Management - Equipment Operation
Jewellery Technician	- Mechanical Movement Overhaul - Quartz Movement Repair - Micro-mechanical Precision Handling - Tool Proficiency - Time Calibration & Regulation - Diagnosis



	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	• Problem-Solving • Attention to Detail • Communication • Time Management • Adaptability • Physical Stamina • Teamwork	Maintenance, Fitting and Machining	10	15	20	25	30
	• Attention to Detail • Time Management & Speed • Physical Stamina & Agility • Teamwork	Design and Technology	10	15	20	25	30
	• Manual Dexterity and Steadiness • Attention to Detail • Problem-Solving • Customer Service & Communication • Time Management	Jewellery design and manufacturing	0	2	5	8	10



ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Degree (Professionals)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Ecologist	- Species Identification - Habitat Assessment & Management - Data Analysis and Technology - Monitoring techniques - Field Equipment Use - Reporting writing
Range Managers	- Ecological Monitoring & Assessment - Forage & Livestock Management - Range Improvements - Revegetation & Restoration
Meat Scientist	- Animal handling - Anatomy and physiology - Meat characterization - Ultrasound scanning - Knowledge of nutrition, breeding and handling meat quality
Soil Scientist	- Data collection & analysis - Soil physics & Soil genetics - Experimental & practical work - Record management
Food Scientists	- Wide Knowledge of science & Research - Good business, IT, analytical and numerical abilities - Molecular Chemistry & Molecular Biology - Health, safety and hygiene
Food Technologists	- Knowledge of Micro Organism in Food - Quantitative Risk Assessment - Predictive Food Microbiology
FIELD 3: BUSINESS AND FINANCE	
Asset Manager	- Valuing skills - Legal framework - Asset management - Complex deals structuring - Due diligence on transactions
Data Analyst	- Data mining - Analysis and data modelling - Data cleaning - Database management - Data Visualization

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Communication - Analytical - Interpersonal - Teamwork	Ecology	17	17	19	18	18
- Communication - Interpersonal - Critical Thinking - Problem Solving	Range Science	17	17	19	18	17
- Teamwork - Leadership - Analytical skills - Innovative - Assertiveness	Meat Science	27	25	23	20	20
- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Soil Science	10	10	10	10	10
- Resilience - Attention to detail - Communication - Teamwork	Food Science and Technology	10	10	10	10	10
- Innovativeness - Critical Thinking - Analytical Thinking - Results Focused	Food Science and Technology	14	14	14	14	14
- Negotiation skills - Marketing - Presentation - Customer service	Asset Management	11	12	12	11	11
- Problem solving - Communication - Attention to detail	Data Analytics	15	15	15	15	15

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 3: BUSINESS AND FINANCE (Continued)	
Database Administrator	• Networking • Data analytics & Big data • Business intelligence • Knowledge in Customer Resource management systems (CRS)
Property Manager	• Business Development • Facility management • Use of property technology • Asset life cycle plan • Value engineering on existing buildings • Legal framework • Leasing and Tenant Management
Property Developer	• Financial Modelling • Regulatory & Zoning • Risk Management • Market Analysis • Environment & Construction Knowledge
FIELD 4: CREATIVE INDUSTRIES	
Author/Creators	• Proficiency in tools used for drafting, editing, and formatting text • Digital Publishing & Formatting
Animators	• Drawing • Story Telling • Artistic Talent • 2D Drawing • Sketching
Music Arrangers	• Mastery of music notation software • Sequencing, virtual instrument programming • Understanding instrumental/vocal ranges • Music theory and harmony • Mixing and audio editing basics
Music producers	• Proficiency in Digital Audio Workstations (DAWs) • Audio engineering knowledge • Sound design and mastering
Film Props Designers	• Proficiency in Physics • Knowledge of Safety standards
Film Distributors	• Should be able to do market analysis and research. • The ability to analyze and understand trends, audience demographics and competitive landscapes to identify the best distribution strategies

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical - Communication - Problem Solving - Attention to detail	Network Engineering / Computer Science	15	15	15	15	15
	- Negotiation skills - Marketing - Presentation - Customer service - Communication	Real estate management	40	38	35	29	26
	- Attention to Detail - Team Management - Problem-Solving - Critical Thinking - Communication - Customer Service	Real estate management	20	18	16	14	10
	- Adaptability - Creativity - Critical thinking - Determination - Social perceptiveness	Creative Writing	11	12	12	12	0
	- Artistic talent - Communication - Creativity - Time-management	Fine Art/Computer Graphics/Animation	28	38	37	30	0
	- Communication - Organising - Time Management - Collaboration	Performing Arts	16	14	12	12	0
	- Adaptability - Creativity and innovation - Musical talent - Leadership	Performing Arts	16	14	12	12	0
	- Communication - Attention to detail - Critical thinking	Fine Art/3D Design/Theater Production	28	38	37	30	0
	- Networking and relationship - Strong interpersonal skills to build and maintain relationships with filmmakers, studios, exhibitors and digital platforms.	Film Distribution and Marketing	48	33	33	32	0

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 4: CREATIVE INDUSTRIES (Continued)	
Film Producers	- Budgeting and financial management: - Expertise in creating and managing budgets, ensuring that the film stays on financial track and allocating resources efficiently across all stages of production.
Film Directors	Visual storytelling: Expertise in visual composition, camera angles and shot selection to effectively convey the story and emotions on screen.
Film Editors	- Editing Software proficiency: Mastery of Editing software's like Adobe Premiere and DaVinci Resolve - Color Correction and Grading: Able to grade and fix imbalance in colors
Cinematographers/ D.O.P	- Camera Operation. - Must be a lighting expert. - Composition: Strong knowledge of shot composition, framing and use of the rule of thirds
Script Supervisors	- Script Analysis & Breakdown: Breaking down scripts to identify continuity requirements for props, costumes, hair, and make-up, and analyzing scenes for story days. - Continuity Management - Documentation & Reporting - Camera & Technical Knowledge
Script Writers	Script structure and formatting; Mastery of industry-standard script formatting and ability to structure a screenplay effectively, including acts, scenes and dialogue.
Stage Designers	- Safety & Regulatory Standards - Technical Drafting & Construction Knowledge proficiency
Radio Directors	- Broadcast Operations: Understanding signal flow, encoding, and, for modern roles, live streaming protocols - Production Knowledge - Regulatory Compliance: Knowledge of federal broadcasting rules and regulations. - Software & Automation knowledge
FIELD 5: CONSTRUCTION	
Site Agents	- Interpreting complex construction drawings - Proficient use of project management software - Mastery of surveying equipment

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	Leadership and decision making: Should have strong leadership skills to guide the production team, make critical decisions and resolve conflicts effectively to keep the project moving forward.	Film Production	41	46	50	47	0
	Communication: A director must be in a good position to communicate to clearly articulate the vision and expectations to the team and ensure cohesive collaboration.	Film Directing	41	46	50	47	0
	Creative: Must be able to connect shots and sequences in a manner that tells a story.	Film Editing	41	46	50	47	0
	- Communication: able to effectively communicate with director and other technical members - Patience: Must be able to endure retakes and reshoots	Cinematography	41	46	50	47	0
	- Attention to Detail - Multitasking & Organization - Communication & Diplomacy	Creative Writing	11	12	12	12	0
	Creativity and imagination; the ability to generate original ideas and think creatively to develop unique stories and characters.	Theatre and Film	11	12	12	12	0
	- Adaptability - Collaboration - Budgeting and Project Management	Graphic Design/ Fine Arts/Drafting/ fine and performing art	28	38	37	30	0
	- Communication - Creativity - Decision-making - Leadership	Arts management, communications technology or radio directing	28	21	37	25	0
	- Strong leadership - Communication - Problem-solving - Time management	Civil Engineering	20	40	60	60	80

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 5: CONSTRUCTION (Continued)	
Site Foreman	• Reading blueprints/schematics • Knowledge of building regulations • Proficiency with tools and machinery • Knowledge in Project management software
FIELD 6: EDUCATION AND TRAINING	
Local Languages specialist with teaching qualification	• Language proficiency • Literacy and curriculum skills • Technology • Knowledge of grammar • Language structure • Pedagogy • Classroom management
Foreign Language Specialist / Other Language Teachers (Foreign languages)	• Language proficiency in foreign languages • Literacy and curriculum skills • Technology • Knowledge of grammar • Language structure • Pedagogy • Classroom management
Sign Language Instructors	• Proficiency in Sign language • Lesson planning • Assessment of sign language • Technology integration
Special Needs Teachers	• Assessment of learners • Curriculum delivery • Guidance and counselling • ICT & Research • Resource & Performance management • Classroom management • Scribing
Music Teachers	• Proficiency in vocal skills and instruments • Curriculum assessment • Music theory • Curriculum design
Arts Teachers	• Visual arts techniques • Art history • Curriculum design • Digital tools
Education Methods Specialists	• Educational Research • Quality Management in Education • Education Reforms and Curriculum Development

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Effective communication - Strong leadership - Problem-solving - Adaptability	Construction management	100	120	130	85	110
	- Communication skills - Teamwork - Cultural Sensitivity	Humanities – African Languages	20	25	25	25	25
	- Communication skills - Teamwork - Cultural Sensitivity	Foreign languages	85	90	90	90	90
	- Communication - Cultural sensitivity - Emotional Intelligence	Sign Language	15	20	20	20	20
	- Communication - Interpersonal - Presentation - Problem solving - Analytical - Emotional intelligence - Collaboration	Special Needs	150	200	200	200	200
	- Communication - Collaboration - Creativity	Music	125	175	175	175	175
	- Creativity - Collaboration - Awareness - Communication - Cultural awareness	Art / Fine Arts	125	175	175	175	175
	- Attention to detail - Analytical & Collaboration - Time Management - Critical Thinking - Communication - Problem solving	Education	5	10	10	10	10

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 6: EDUCATION AND TRAINING (Continued)	
Specialised Subject Teachers	- Proficiency in subject area - Curriculum delivery (Subject specialist) - Guidance and counselling - ICT - Research - Report and Performance management - Resource management
FIELD 7: ENGINEERING	
Control & Instrumentation Engineers	- Design, modification, installation & programming of Control Systems - Telemetry & Systems integration
Mechatronic Engineers	- Supervisory Control and Data Acquisition (SCADA) - Troubleshooting, test and commissioning - Design, installation and maintenance - Project management - Health and safety process
Chemical Engineers	- Research - Safety procedures - Equipment design and planning - Performance monitoring - Analytical techniques and scale up
Renewable Energy Engineers	- Electrical power systems - Mechanical and Structural Design - Energy Modelling and simulation - Energy storage integration - Environmental and regulatory compliance
Light Engineers	- Lighting calculations - Knowledge of the National Electrical Code (NEC) - Proficiency in lighting consoles - Software Proficiency
Sound Engineers	- Acoustics Knowledge - Audio Equipment Proficiency - Mixing and Mastering - Sound Design and Editing
Signal & Telecommunications Engineers	Locomotive maintenance
Control Systems Engineer	- Designs, develops and installs systems solutions - Implement control Systems - Manages, monitors and maintains instrumentations - Programming

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Interpersonal - Presentation - Public speaking - Problem solving - Analytical	Secondary Education	45	50	50	50	50
	- Attention to details - Customer care - Team Player	Electrical and Electronics Engineering	93	100	89	47	47
	- Communication - Analytical - Leadership - Critical thinking - Result oriented	Mechatronics	116	91	108	108	100
	- Creativity - Ingenuity - Interpersonal - Problem-solving - Eye coordination	Chemical Engineering	0	2	7	14	18
	- Problem solving - Attention to detail - Teamwork and collaboration - Innovation	Electrical Engineering	51	54	62	56	56
	- Creativity - Team player - Self-motivation - Problem solving - Endurance	Light Engineering	13	15	15	14	0
	- Critical Listening - Communication - Attention to Detail	Sound Engineering	38	46	41	32	0
	Computer literacy	Telecommunication Systems	33	34	36	38	38
	- Attention to detail - Troubleshooting - Computer technology - Communication - Planning and organising	Electrical and Electronics Engineering	133	115	120	123	0

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH	
Medical Records Officers	- Medical Reporting & Statistics - Proficiency in Medical Coding & Classification - Clinical Data Analysis & Auditing - Medical Terminology & Documentation Interpretation - Database Management
Patient Experience Officers	- Case Management - Hospital Services - Patient Administration - Research & Health Management - Strategy skills, Project management - Computer literacy
Histotechnologists	- Diagnostic - Interpretation of Test Results - Product Knowledge
Cytotechnologists	- Diagnostic - Interpretation of Test Results - Product Knowledge
Clinical Pharmacists	- Clinical Practice - Product Knowledge - Stock Management and Control - Pharmaceutical Care Services - Legislative Compliance & Research
Virologists	- Diagnostic Assessment - Research - Interpretation of Results - Product knowledge
Occupational Therapists	- Ergonomics - Insurance and workman compensation & Legal Compliance - Mental dysfunction Rehabilitation & Cognitive Therapy - Physical injury rehabilitation - Social Marketing, Application & Product Knowledge
Physical Therapists	- Rehabilitation - Patient Care - Counselling - Monitoring and evaluation of care
Audiologists	- Diagnostics & Assessment - Interpretation of Test Results - Product Knowledge - Counselling - Monitoring and Evaluation

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical - Communication - Professionalism - Attention to Detail - Collaboration	Health Information Management	20	20	16	14	14
	- Communication - Professionalism - Customer Focus - Problem Solving - Collaboration - Decision making	Healthcare Service Management	6	3	5	8	8
	- Analytical & Collaboration - Time Management - Problem Solving - Critical Thinking - Communication	Histotechnology	19	12	13	7	6
	- Analytical & Collaboration - Interpersonal Relations - Time Management - Problem Solving - Communication	Cytotechnologists	13	8	9	4	4
	- Analytical & Collaboration - Communication - Critical Thinking - Time management - Attention to Detail	Pharmacy	12	8	10	10	10
	- Attention to detail - Analytical & Communication - Organisation - Time Management - Problem Solving	Biomedical Science	11	8	10	8	8
	- Attention to detail - Collaboration & Analytical - Problem Solving - Professionalism - Communication & Mentoring	Occupational Therapy	20	10	11	6	6
	- Analytical & Communication - Critical Thinking - Problem Solving - Decision making - Collaboration	Physiotherapy	30	20	13	8	8
	- Analytical & Collaboration - Problem Solving - Critical Thinking - Communication	Audiology	16	9	8	7	8

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Speech & Language Pathologists/Therapists	• Infection control • Instrumental Evaluation • Data Collection & Analysis • Anatomical & Physiological Knowledge • Dysphagia (Swallowing) Management
Environmental Health Officers	• Technical Report Writing • Project Management • Data Analysis
General Nurses	• General patient assessment and care diagnostic • Medication administration & Counselling • Basic Life Support & Cardiopulmonary Resuscitation (CPR) • Emergency care, patient safety & record keeping
Medical Doctor	• Diagnostic & Interpretation • Patient assessment, treatment and care • Minor and Major Surgery • Counselling, Monitoring & Research (clinical audits) • Basic Life Support • Advanced Cardiac Life Support (ACLS) & Emergency Life Saving Procedures
FIELD 12: INFORMATION TECHNOLOGY	
Multimedia Designer	• Graphics and Computer Animations • Mock-ups and Prototypes • Improvement to Graphics • Test Designs.
Digital Designers	• Graphics and Computer Animations • Mock-ups and Prototypes • Improvement to Graphics • Test Designs
Digital Archivists	• Proficiency in digital preservation standards • Metadata creation • Digital asset management systems • Skills in data curation, • Digital Forensics & Security
Mobile Financial Officers	• Development of Value-Added Services • Mobile Financial Services • Fin-Tech (Financial Technologies) • Mobile Application Development
Network Engineers	• Networking & Operating Systems • System Administration • Linux, Active Directory & Cyber Security • Windows Servers, Scripting & Automation • Firewall Network Administration

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Adaptability - Creativity - Critical Thinking - Versatility	Speech-Language Pathology/Therapy	15	11	10	11	11
	- Decision Making - Negotiation - Time Management - Problem Solving - People Management	Environmental Health	13	12	13	8	10
	- Collaboration & multitasking - Communication - Time management - Attention to Detail - Problem Solving - Decision making	General Nursing	40	40	40	40	40
	- Analytical & Communication - Critical Thinking - Multitasking & Collaboration - Time management - Problem Solving - Decision making - Attention to detail	General Medicine	50	55	55	60	60
	- Creativity - Business Acumen - Emotional Intelligence - Critical Thinking - Networking	Software Designing	51	55	46	38	0
	- Creativity - Business Acumen - Emotional Intelligence - Critical Thinking - Networking	Digital Designing	31	35	37	40	0
	- Project Management - Communication - Attention to Detail	Library / Archival Science	69	64	55	46	0
	- Communication - Analytical & Proactive - Time Management - Problem Solving - Professionalism	Business & Finance or Business Computing or Information Systems	15	12	13	12	12
	- Problem solving - Communication - Creativity & Analytical - Time Management - Collaboration	Network Engineering	10	11	13	13	13

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 12: INFORMATION TECHNOLOGY (Continued)	
Network Security Analysts	• Cyber security • Ethical hacking • Internal Assessment / Penetration • Firewall Maintenance and Update • IT Network Infrastructure
Cyber Security Analysts	• Security Operation Analysis • Malware analysis • Information Security Analysis and Management • Vulnerability and Penetration Testing • Incident Response • Data and Privacy
Internet of Things Engineers	• Node.js development skills • Mobile App Development • API Automation and Testing • Information Security • User Interfaces/ User Experience (UI/UX) Design & Cloud Computing
Software Developers	• Application & Web development • Data analytics & Cyber Security • Product Knowledge • Programming/Coding • Software development
Fintech Developers	• Programming & Data Analytics • AI / Machine Learning (ML) • Cybersecurity & Blockchain • Finance Expertise Mathematics & Statistics • Business Administration
Data Scientists	• Data Analytics, Big data & Data visualization • Artificial Intelligence (AI) & Research • Technical Database Technologies • Data Mining & Machine Learning • Programming Business Strategy & Cloud Computing
Data Centre Specialists	• ICT Infrastructure Management • Product Knowledge • IT Physical servers • Network Equipment • Power Systems and HVAC
FIELD 15: SOCIAL SCIENCES	
Urban Planners	• Land use laws and regulations • Research methodologies • Community project management • Assessment of site plans • Project planning, monitoring and evaluation

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical - Communication - Problem Solving - Attention to Detail - Professionalism	Network Security	8	5	4	4	4
	- Analytical - Attention to Detail - Professionalism - Problem Solving - Collaboration - Communication	Cyber Security	20	26	32	30	26
	- Problem Solving - Domain Expertise - Time Management - Business Intelligence - Critical Thinking	Computer Science/ Computer Engineering	8	5	7	8	8
	- Time management - Attention to detail - Professionalism - Analytical & multitasking - Communication - Innovative	Software Engineering/ Computer Science	18	25	18	20	18
	- Communication - Time management - Attention to detail - Analytical - Professionalism	Computer Science	24	27	32	32	30
	- Communication - Analytical & Innovative - Time Management - Professionalism - Attention to Detail - Critical Thinking	Computer Engineering/ Computer Science/ Statistics/ Computer Information Systems/ Data Science	28	15	15	15	15
	- Analytical & Collaboration - Professionalism - Managing Complexity - Time Management	Computer Science/ Information Technology	11	11	12	12	12
	- Analytical - Communication - Decision making - Leadership	Urban and Regional Planning	32	40	51	49	0

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 15: SOCIAL SCIENCES	
Legal Managers	- Legal Technology & Software Proficiency - Data Analysis & Metrics - Project Management - Legal Research & Drafting - Regulatory Compliance
FIELD 16: TRANSPORT AND LOGISTICS	
Customs Clearance Managers	Understanding of customs laws, rules, and regulations.
Dry Port Managers	Terminal Management
Freight Village Managers	Multi Modal Transport & Logistics
Warehousing and Logistics Managers	- Health and safety regulations - Inventory management
Maintenance Managers	Engineering
Workshop Managers	- Engineering - Mechanical and Technical
Terminal Managers	- Terminal Logistics, Customs duties, Tax regulations - Supply Chain Management - Inventory Management.
Technical Managers	- Experience with product development - Project Management - Data Analysis - Implementation of HSEQ systems - Accident Investigation - Disaster management

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Emotional Intelligence (EQ) & Empathy - Leadership & Team Management - Problem-Solving & Critical Thinking - Adaptability & Resilience	Law	33	29	29	30	31
	- Communication - Negotiation - Leadership	Customs Clearing & Freight Forwarding	50	53	55	58	58
	Customers Service	Transport & Logistics Management	10	10	10	11	11
	Mandarin Languages	Transport & Logistics Management	60	63	66	69	69
	- Communication - Problem solving - Adaptability	Transport & Logistics Management	60	63	66	69	69
	Management	Mechanical Engineering	116	91	108	108	108
	- Management - Leadership - Time management	Mechanical Engineering	116	91	108	108	108
	- Management - Leadership - Time management	Transport & Logistics Management	8	9	9	13	13
	- Problem solving - Emotional Intelligence - Entrepreneurship and initiative taking	Mechanical Engineering	116	91	108	108	108

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 17: MANUFACTURING	
Production manager	• Factory workflow process planning • Product roadmap development & production schedules • Inspection & Quality control & Risk management • Efficient assembly process & new technologies • Product Research, Prototyping, Data Analysis and Management • Software proficiencies & use of Gerber Digitizer and Plotter
Spinning Engineers	• Cotton Carding • Spinning process, procedures & waste control • Spinning tools, troubleshooting, repairs & maintenance • IT Knowledge & numerical

Post Graduate Training (Masters, Doctorate, Professionals and Others)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Range Ecologists	• Spatial analysis & modeling • Data analysis & software • Botanical & ecological • Report writing
Food safety specialists	• Food safety regulation • Sample testing • International trade • Report writing
FIELD 3: BUSINESS AND FINANCE	
Forensic Accounting/ Auditors	• Statutory Management • Investigations • Inspections • Research & Analytical
Digital Marketers	• E-advertising • Digital media
System Developers	• Programming language • Software development • Cloud computing • Database management • Testing and debugging • Operating systems and networking

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Interpersonal - Leadership & management - Strategic thinking - Result oriented - Organization & planning	Manufacturing	50	60	73	80	50
	- Teamwork - Communication - Negotiation	Textile Spinning Technology	10	15	14	0	13

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Teamwork - Problem-Solving - Critical thinking	Range Ecology	17	17	19	18	18
	- Interpersonal - Communication - Problem solving - Leadership	Microbial food safety	17	17	19	18	17
	- Communication - Attention to Details - Interpersonal - Decision Making	Forensic Science	30	40	40	45	45
	- Problem solving - Critical thinking - Communication	Business Information System	10	30	35	20	25
	- Personal Mastery - Critical Thinking - Decision Making - Communication Skills - Innovation & Creativity	Computer Science	10	18	25	18	20

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 5: CONSTRUCTION	
Project Managers	- Proficiency in project planning, scheduling - Strong knowledge of building codes, safety regulations, and construction methods, - Ability to interpret blueprints, CAD drawings, and Building Information Modelling (BIM)
FIELD 6: EDUCATION AND TRAINING	
Information Technology Teachers	- Pedagogy - eLearning initiatives
Higher Education Lecturers	- Subject knowledge - Research and Knowledge - Pedagogy - Digital literacy - Entrepreneurship
Special Education Specialist	- Assessment of learners to determine individualised educational needs - Curriculum delivery - Guidance and counselling - ICT & Research - Resource & Performance management - Classroom management - Scribing
Education Psychologist	- Planning - Counselling - Life management skills - Stress Management - Group dynamics
Clinical Technologists Lecturers	- Product knowledge & ISO Standards - Medical equipment use and Safety Knowledge - Radiation Safety, Research & Project Management - Ergonomics & Infection Control - Basic Life Support, Equipment care & Record keeping - Interpretation of investigations
Assistive Technology Specialist	- Technology mastering - Application and reporting - Assessment and evaluation - Instructional techniques - Assistive Technology Practitioner (ATP) Certification

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Leadership - Problem solving - Time management - Adaptability	Project management	806	858	922	989	950
	- Communication - Presentation - Public speaking - Problem solving - Analytical	Information Technology	145	150	150	150	150
	- Supervisory skills - Communication and Facilitation - Leadership - Professionalism - Networking and Industry engagement - Interpersonal Skills - Emotional intelligence	University Education	145	150	150	150	150
	- Communication - Interpersonal - Presentation - Public speaking - Problem solving - Analytical - Emotional intelligence - Collaboration	Special Needs Education	145	50	50	50	50
	- Public speaking - Attention to detail - Analytical & Collaboration - Problem Solving - Communication & Mentoring	Psychology	145	50	50	50	50
	- Communication - Attention to detail - Time Management - Decision making - Critical Thinking - Analytical & Multitasking	Clinical Technology	13	43	39	30	30
	- Patience - Empathy - Clear Communication - Creative problem solving - Attention to detail	Special Education	5	5	5	5	5

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 7: ENGINEERING	
Piping Engineers	• Designing, Installation, commissioning and maintenance • Trouble shooting and calibration • Project Management • Quality Control • Safety awareness
Environmental and Sustainability Engineers	• Environmental Technology Application • Modelling and Simulation • Computer-Aided Design (CAD) • Sustainability Assessment • Environmental Regulations Compliance • Site Assessment & Technical Audits
Ventilation Engineers	• Systems installation, repair and maintenance • Air flow systems and temperature control
Gasification and Fischer Tropsch Technology Specialists	• Gasification kinetics & reactor design • Fischer-Tropsch catalysis & product upgrading • Process simulation & scale-up • Process safety in syngas systems • Operational optimization & energy integration
Refinery and Petrochemical Operations Specialists	• Refinery unit operations (distillation, reforming, hydrotreating) • Catalyst selection & monitoring • Advanced control & optimization • Energy efficiency & debottlenecking • Process safety & environmental compliance
Process Engineers (Metallurgist)	• Process design & simulation basics • Mass/energy balances & heat integration • Process safety & environmental compliance • Commissioning & performance testing • Data analysis & optimization
Commercial Transaction Advisors	• Law/legislation • Commerce, Economics, Auditing • Project and Risk Management • Energy policy, planning and management
Protection Engineers	• Processes and workflows • Designing and testing • Implementation
Geo-Metallurgist	• Mineralogy & Geology • Mineral extraction & treatment techniques • Evaluation physical & chemical properties • ICT application • Research & analysis methods/techniques

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Analytical - Leadership - Teamwork	Mechanical Engineering	0	2	9	34	48
	- Communication - System Thinking - Creativity - Problem solving	Environmental Engineering	12	14	14	13	0
	- Critical Thinking - Communication - Attention to detail - Teamwork	Mechanical Engineering	116	91	108	108	0
	- Research rigor & documentation - Cross-functional collaboration - Analytical thinking - Innovation & continuous learning - Communication	Chemical Engineering	0	0	5	8	8
	- Analytical & systems thinking - Communication - Problem solving - Leadership Documentation & reporting	Chemical Engineering	0	0	4	9	9
	- Systems thinking - Analytical rigor - Communication - Team collaboration	Mechanical Engineering	0	8	21	25	25
	- Negotiation - Commercial acumen - Solution Oriented - Communication	Business and Finance	32	40	51	49	0
	- Persuasive - Attention to detail - Problem Solving - Communication - Team Player	Mechanical Engineering	0	0	6	21	23
	- Analytical - Teamwork - Attention to detail - Innovation	Geo-Metallurgy	24	26	27	33	33

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH	
Clinical Psychologists	• Counselling, Patient Management & Life • Stress Management & Group Dynamics • Research, Assessment & Case Management • Community Mobilisation • Social Marketing & Rehabilitation
Paediatricians	• Basic Life Support • Advanced Cardiac & Trauma Life Support • Pediatric Life Support • Product & Computer knowledge • Research and data analysis
General Surgeons	• Basic Life Support • Advanced Cardiac Life Support • Pediatric & Trauma Life Support • Product & Computer knowledge • Arthroplasty, Endoscopy & Electrocardiogram (ECG) • Hysteroscopy, Counselling & Diagnostics
Obstetrician/ Gynaecologists	• Assessment, Diagnostic & Theatre skills • Infection Control & Counselling • Interpretation of Results • Product knowledge & Patient Management and care • Legal compliance & Monitoring and Evaluation
Psychiatrists	• Assessment, Diagnostic & Interpretation of Results • Risk, Patient Management and care • Counselling • Product knowledge & Legal compliance • Monitoring and Evaluation
Emergency Medicine Physicians	• Advanced Airway Management • Cardiopulmonary Resuscitation (CPR) • Point-of-Care Ultrasound (POCUS) • Trauma Resuscitation • Crisis Management
Clinical Pathologists	• Human Physiology & Anatomy • Laboratory & Molecular analysis • Hematology, Diagnostics & Laboratory safety • Medico legal, Research & Ethics • Biostatistics, Product & Application Knowledge
Public Health Specialists	• Public Health Care • Community assessment, diagnosis • Mass screening & Research (need assessment) • Holistic care planning • Monitoring and evaluation of care

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Analytical & Collaboration - Problem Solving - Professionalism - Communication & Mentoring	Clinical Psychology	20	17	13	11	11
	- Communication - Problem Solving - Critical thinking - Patient Centered	Paediatrics	17	14	11	10	10
	- Communication - Critical thinking - Collaboration - Analytical Thinking - Attention to detail - Decision Making	General Surgery	15	13	12	9	9
	- Attention to detail - Analytical & Collaboration - Time Management - Problem Solving - Communication	Obstetrics/ Gynaecology	22	17	13	12	12
	- Attention to detail - Time Management - Problem Solving - Professionalism - Critical Thinking - Communication	Psychiatry	28	21	16	15	16
	- Attention to Detail - Analytical - Communication - Decision Making - Collaboration	Emergency Medicine	7	6	3	2	2
	- Attention to detail - Time Management - Problem Solving - Critical Thinking - Communication	Clinical Pathology/ Laboratory Medicine	6	5	4	2	2
	- Analytical & Communication - Multitasking & Advocacy - Time management - Problem Solving - Decision making	Public Health	10	10	10	10	10

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Family Medicine Physicians	• Obstetric Care • Resuscitation • Preventive Care & Medicine • Interpretation of results • Physical Examination and Point of Care Testing
Internal Medicine Physicians	• Interpretation of Diagnostic Tests • Airway Management • Pharmacotherapy Management • Patient Data Analysis • Management of Co-morbidities
Family Nurse Practitioners	• Advanced patient assessment and care • Diagnostic tests & Drug Prescription • Minor Surgery • Basic Life Support & Cardiopulmonary Resuscitation (CPR) • Treatment Planning & Record keeping
Psychiatric Nurses	• Patient assessment and care • Diagnostic skills • Psychotic Medication administration • Rehabilitation, Counselling & Resource management • Basic Life Support & Cardiopulmonary Resuscitation (CPR)
Community Health Nurses	• Community assessment and diagnosis • Community based screening & Basic Life Support • Research (need assessment) • Holistic care planning • Monitoring and evaluation of care
Oncology Nurses	• Basic & Advanced Cardiac Life Support • Pediatric & Advanced Trauma Life Support • Advanced Trauma Life Support • Product & Computer knowledge • Perfusion, Blood gas analysis & Waste disposal • Radiation therapy & Chemo pharmacology basics • Cancer patient follow up skills
Paediatric Nurses	• Patient assessment and care & Diagnostic • Basic Life Support • Counselling & Legislative compliance • Evaluation of patient care • Product knowledge, handling and care

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Analytical - Critical Thinking - Collaboration - Problem Solving	Family Medicine	10	10	10	10	10
	- Communication - Critical thinking - Collaboration - Attention to detail - Decision Making	Internal Medicine	12	10	12	8	8
	- Critical Thinking - Multitasking & Collaboration - Communication - Time Management - Attention to Detail	Family Nurse Practitioner	20	21	19	16	13
	- Analytical & Communication - Multitasking & collaboration - Time management - Attention to Detail - Problem Solving	Psychiatric Nursing	10	16	21	16	15
	- Analytical & Communication - Multitasking & Collaboration - Time management - Problem Solving - Collaboration & Advocacy	Community Health Nursing	12	10	7	5	4
	- Collaboration - Critical thinking - Decision making - Attention to detail - Communication	Oncology Nursing	34	21	18	17	13
	- Advocacy & Collaboration - Time Management - Critical Thinking - Communication - Decision making	Paediatric Nursing	10	17	14	11	10

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 12: INFORMATION TECHNOLOGY	
Data Centre Managers	- ICT Infrastructure Management - Product Knowledge
User Interface/User Experience Engineers	- Application Programming - Interface (API) Automation - UX Design/Interaction - Research
Virtual/Mixed Reality Developers	- Video editing & Programming Languages - Machine Learning & Computer Vision - Modelling and Animation, Sound Design, UI/UX design - Computer-aided Design (CAD) - Content creation & Operating Wearables
Mobile App Developers	- Product Knowledge & Payment solutions - Enterprise Resource Planning (ERP) system, M & E - Application Development & Research, Coding and Programming - Cyber security, Data analytics, AI, UI/UX Design
ICT Broadcasting/Postal Policy Specialists	- Project Management - Policy Analysis & Development - Regulatory Compliance - Digital Transformation - Logistics & Operational Management
ICT Contract Specialists	- Proficiency in Contract Lifecycle Management (CLM) Software - Regulatory Compliance - Risk Assessment & Management - ICT Knowledge - Financial Acumen
FIELD 14: SCIENCE AND TECHNOLOGY	
Customs Clearance Managers	Understanding of customs laws, rules, and regulations.
Dry Port Managers	Terminal Management
Freight Village Managers	Multi Modal Transport & Logistics
Warehousing and Logistics Managers	- Health and safety regulations - Inventory management

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical & Collaboration - Professionalism - Managing Complexity - Time Management	Computer Science/ Information Systems/ Information Technology	11	11	12	12	12
	- Analytical - Communication - Problem Solving - Time Management - Critical Thinking	Computer Science/ Computer Systems	10	12	10	13	10
	- Communication - Problem Solving - Analytical & Creativity - Critical Thinking - Decision Making - Collaboration	Software Engineering/ Game Development	8	10	10	14	12
	- Analytical & multitasking - Communication - Critical Thinking - Time management - Attention to Detail - Professionalism	Software Engineering	6	10	10	12	12
	- Problem Solving - Critical Thinking - Communication - Analytical - Collaboration	Public Policy/ Public Administration	3	2	3	4	4
	- Negotiation - Communication - Attention to Detail - Collaboration - Analytical	Commercial or Contract Law	3	2	2	3	3
	- Communication - Negotiation - Leadership	Customs Clearing & Freight Forwarding	50	53	55	58	58
	- Customers Service - Time Management - Attention to detail	Transport & Logistics Management	10	10	10	11	11
	- Mandarin Languages - Time Management - Attention to detail	Transport & Logistics Management	60	63	66	69	69
	- Communication - Problem-solving - Adaptability	Transport & Logistics Management	60	63	66	69	69

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 14: SCIENCE AND TECHNOLOGY (Continued)	
Maintenance Managers	Engineering
Workshop Managers	- Engineering - Mechanical and Technical
Terminal Managers	- Terminal Logistics, Customs duties, Tax regulations - Supply Chain Management - Inventory Management
Technical Managers	- Experience with product development - Project Management - Data Analysis - Implementation of HSEQ systems - Accident Investigation - Disaster management - Entrepreneurship and initiative taking
FIELD 15: SOCIAL SCIENCES	
Monitoring, Evaluation, Accountability and Learning (MEAL) Specialist	- Results-based frameworks - GIS mapping, RCTs, mobile data
Policy Advocacy Strategist	- Legislative scrutiny, SADC/AU policy navigation, AfCFTA frameworks - Diplomatic networking - Ethical intelligence - Situational leadership
Climate-Resilient Project Manager	- Water-Energy-Food-Ecosystems (WEFE) nexus management - Climate risk assessment - Green House Gas (GHG) monitoring
Digital transformation and AI lead	- Gen AI for donor engagement - Cybersecurity - Data handling
Strategic Resource Mobilisation Officer	- Donor mapping - Sustainable fundraising Non-profit tax compliance
ICT Lawyers	- Proficiency in Data Protection & Privacy - Drafting and Negotiating Technology Transactions - Cybersecurity & Risk - E-commerce & Digital Regulation - Intellectual Property
Judges	- Research - Evaluations - Listening and Interpretation - Decision making

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Management - Time Management - Attention to detail	Mechanical Engineering	116	91	108	108	108
	- Management skills - Leadership skills - Time management	Mechanical Engineering	116	91	108	108	108
	- Management skills - Leadership skills - Time management	Transport & Logistics Management	8	9	9	13	13
	- Problem solving - Emotional Intelligence - Time management - Attention to detail	Mechanical Engineering	116	91	108	108	108
	- Communication of complex data - Fostering a “culture of evidence” - strategic judgment	Monitoring and Evaluation	40	50	45	45	40
	- Diplomatic networking - Ethical intelligence - Situational leadership	Public Policy	30	40	35	35	30
	- Multisectoral coordination - Adaptability in crisis - Empathy-led engagement	Environmental Science	50	70	80	85	50
	- Ethical AI governance - Strategic judgement - Digital accountability	Computer Science	40	55	70	80	40
	- Relationship stewardship - Proactive marketing mindset. - Negotiation	Business Management	100	120	125	115	100
	- Analytical - Critical Thinking - Problem Solving - Professionalism - Communication	Technology Law	3	4	3	6	5
	- Critical thinking - Decision making - Listening - Report Writing	Specialised Law	63	60	64	71	68

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 17: MANUFACTURING	
Mould Designer/Maker	- Computer Numerical Control Programming - Material science & design skills - Mechanical manufacturing process & micro devices fabrication - Technical drawing & numerical analysis
Production manager	- Factory workflow process planning - Product roadmap development & production schedules - Inspection & Quality control & Risk management - Efficient assembly process & new technologies - Product Research, Prototyping, Data Analysis and Management - Software proficiencies & use of Gerber Digitizer and Plotter
Quality Assurance Managers	- Quality control processes & regulatory procedures - Safety Knowledge, standards and procedures - Quality Management System
Operations Managers	- Supply chain & logistics management - Resource management, - Plant operation procedures & processes - Safety, health & environment
Project Commissioning Specialists	- Projects Management - Procurement-supply chain - Systems Commissioning and Integration - Risk allocation - Costing/Financing
FIELD 16: TRANSPORT AND LOGISTICS	
Transport/Operations Managers	Information Technology
Transportation Safety Managers	- Transportation regulations Risk assessment - Safety management

Professional Training (Certification)

Occupations	Technical Skills
FIELD 3: BUSINESS AND FINANCE	
Chartered Accountants	- Taxation - Big data analysis - Public sector accounting - Accounting and auditing computerized packages

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Customer care - Team Player	Jewellery design and manufacturing	0	5	8	8	10
	- Communication - Leadership & management - Strategic thinking - Result oriented - Organising & planning	Manufacturing	55	60	73	80	50
	- Communication - Attention to detail - Analytical	Quality Management	44	58	60	0	52
	- Strategic thinking - Result oriented - Problem solving - Time Management	Finance and Business	22	29	30	0	26
	- Analytical Thinking - Effective Communication - Negotiation - Planning and Execution - Managing Change	Project Management	13	15	15	14	0
	- Customer Service - Time management	Transport & Logistics Management	49	25	45	48	48
	- Management skills - Leadership skills - Time management	Transport & Logistics Management	35	38	38	39	39

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Attention to detail - Leadership - Report writing - Analytical	BICA/ACCA/CIMA	78	83	85	93	93

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 3: BUSINESS AND FINANCE (Continued)	
Investment Analyst/Advisors	- Financial Analysis - Company valuation - Financial modelling - Portfolio management - Data Analysis
Financial Planner	- Financial planning - Research - Investment - Economics - Risk management
Financial Engineer	- Financial Analysis - Company Valuation - Financial Modelling - Portfolio Management - Fintech Skills
FIELD 12: INFORMATION TECHNOLOGY	
Ethical Hackers	- Information technology - Networking - Scripting - Penetration testing - Linux & Wireless Technologies
Information Security Managers	- Risk Management - IT systems Operation - Incident management
IT Risk Managers	- Risk assessment and Management - Planning & Research - Product Knowledge - Computer Systems & Computer Programming Languages - Regulatory compliance
IT Business Analysts	- Office Applications & Operating Systems - Software Testing & Research - Programming Languages & Databases - Software Development Methods - Documentation & Project Management
Digital Forensics Experts	- Evidence collection & preservation - Digital forensics - Coding, Scoping & Script Writing - Interpretation of IT Programs - Crypto language & Programs knowledge

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Assertive - Interpersonal - Communication Skills - Meticulous - Negotiation Skills	Chartered Financial Analysis (CFA)	11	12	12	11	11
	- Business acumen - Adaptable - Decisiveness - Negotiation skills - Attention to details	Chartered Financial Analysis (CFA)	10	12	15	16	16
	- Assertive - Interpersonal - Communication Skills - Meticulous - Negotiation Skills	Chartered Financial Analysis (CFA)	64	54	72	73	73
	- Critical thinking - Problem solving - Creativity & Analytical - Active learning - Professionalism	Ethical Hacking	18	21	21	26	26
	- Critical thinking - Problem solving - Creativity - Influential	Certificate in Information Security Management (CISM)	8	7	7	6	6
	- Collaboration - Critical thinking - Analytical - Problem Solving - Time management - Communication	IT Risk Management and Assessment	6	4	4	5	5
	- Communication - Problem Solving - Analytical - Critical Thinking - Decision Making	Certifications (Entry Certificate in Business Analysis (ECBA) or Certification of Capability in Business Analysis (CCBA) or Certified Business Analysis Professional (CBAP)	9	7	7	9	9
	- Creativity - Analytical thinking - Problem solving - Communication - Professionalism - Time Management	Information Technology Forensics or Certified Information Security System Professional (CISSP), or Certified Information Security Manager (CISM) or Certified Information Security Auditor (CISA)	24	26	30	31	31

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations	Technical Skills
FIELD 12: INFORMATION TECHNOLOGY (Continued)	
Information Security Engineers/Architects	• Cyber Security & Programming • Operating Systems & Network Security • Cloud security • Cisco/Fortinet/palo alto expert skills • Networking & Scripting
Database Administrators	• Networking • Data analytics & big data • Business intelligence • Customer Resource management system
Data Centre Engineers	• Programming • Networking • Cloud security • Cyber security • DevOps & Database
Cloud Computing Engineers	• Cloud Services & Cloud Security • DevOps & Networking • Programming Languages • Operating Systems & Databases • Knowledge of Containers • Cloud Architecture • IT Administration
IT Quality Assurance Specialists	• Node.js Development & System testing • Quality assurance terminology, methods & tools • Database management • Quality Engineer (CQE) & Quality Auditor
Network Security Specialists	• Advanced Networking • Cyber Security & Programming • Operating Systems & Network Security • Cloud security & Scripting
Core Network Specialists	• Advanced Networking • Planning • Internet Protocol (IP) • Level Design • Implementation Support
Block Chain Developers	• Blockchain Technology • Product Engineering & Programming • Cryptography & Security • Distributed Systems and peer-to-peer networking • Algorithms & Data Structures • Smart Contracts- knowledge
ICT Infrastructure Managers	• Networking • Data Organisation • Business Administration • Project Management

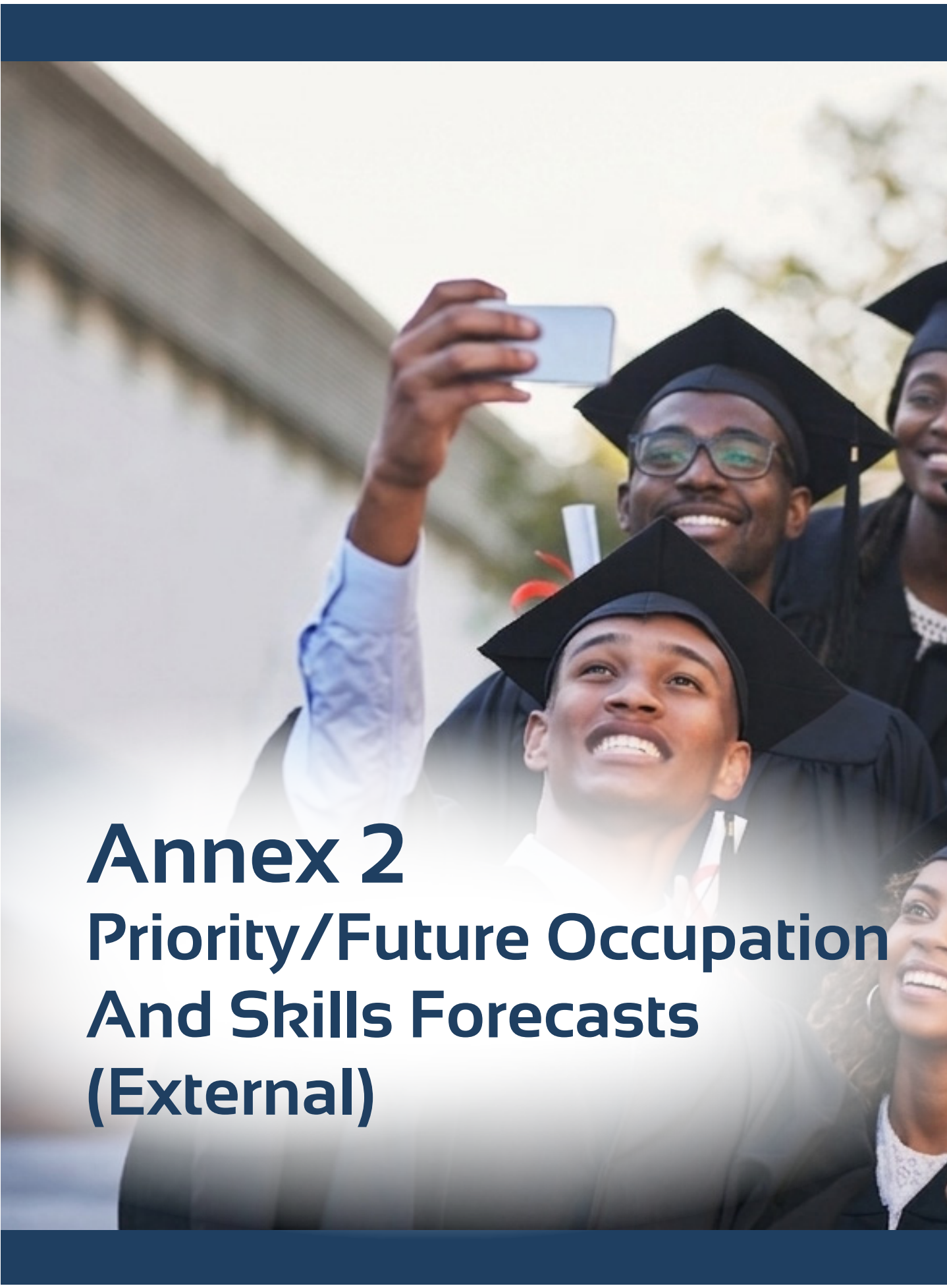
	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical skills - Creativity - Problem solving - Critical thinking	Ethical hacking/ Certified Information Security Manager (CISM) /CISSP/ CISA	27	29	31	26	26
	- Analytical - Communication - Problem Solving - Attention to detail	Security Certifications / Cisco Certified Network Associate (CCNA)	5	8	10	12	10
	- Problem solving - Critical thinking - Customer service - Communication - Analytical	Professional certifications (Dell /Cisco/AWS Microsoft, Google Cloud)	10	13	17	18	18
	- Communication - Critical thinking - Analytical Thinking - Time Management - Collaboration	Industry Certifications (AWS/Microsoft AZURE/ Google Cloud)	10	16	18	20	20
	- Attention to detail - Problem Solving - Communication - Decision making - Analytical - Critical Thinking	Certified Quality Engineer (CQE) or Certified Quality Auditor (CQA) or Six Sigma	9	6	4	4	4
	- Analytical - Creativity - Problem solving - Critical thinking	Ethical hacking/Certified Information Security Manager (CISM)/CISSP/ CISA	9	5	4	7	7
	- Organising - Problem solving - Analytical & Creativity - Critical thinking - Collaboration	CCIE/Juniper/Huawei/ Fortinet/NSE 7	7	4	3	3	3
	- Communication - Collaboration - Time Management - Agility to change - Creativity	Certified Blockchain Developer, Ethereum Developer Certification	10	10	11	12	8
	- Critical thinking - Problem solving - Analytical - Collaboration - Decision making	Cisco Certified Network Associate (CCNA) or Cisco Certified Design Expert (CCDE) or Computing Technology Industry Association (CompTIA ITF+) or CompTIA A+)	8	5	7	7	7

ANNEX 1:

Priority/Future Occupation and Skills Forecasts (Local) (continued)

Occupations		Technical Skills
FIELD 12: INFORMATION TECHNOLOGY (Continued)		
ICT Project Managers	• Software Development Lifecycles • Cybersecurity Basics • Network Infrastructure • Data Structures • Project Management Methodologies • Agile, Scrum, Kanban, or Waterfall.	
Cyber Security Experts/ Specialists	• Ethical Hacking • Programming and Scripting • Networking & System Administration • IoT Security • Database & Data Security • Cloud Security and Management	
Information Systems Auditors	• Audit Planning • Risk Assessment • Evidence collection and preservation • IT systems operation	

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Critical Thinking - Analytical	Agile/Scrum Certifications or Project Management Professional	2	2	2	3	3
	- Analytical & Agility - Problem Solving - Time Management - Attention to Detail - Professionalism	CompTIA Security+ or SSCP (Systems Security Certified Practitioner) or CISSP (Certified Information Systems Security Professional) or CISM (Certified Information Security Manager) or GIAC certifications.	18	29	31	32	34
	- Problem Solving - Analytical - Communication	CISA Certification	11	12	12	11	12



Annex 2

Priority/Future Occupation And Skills Forecasts (External)



ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Diploma (Technicians and Others)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Dairy Technicians	- Food safety principles - Food regulations and legislation - Dairy manufacturing specifications - Food packaging - Food labelling
FIELD 2: AVIATION	
Helicopter Pilots	- Flying - Technosavy - Mechanical
Helicopter Instructors	- Flying - Technosavy - Mechanical
Aviation Specialists - Operations	- Aviation systems - Regulations - Aviation safety protocols
FIELD 9: HEALTH	
Oral Hygienists	- Periodontal Assessment and Therapy - Dental Radiography - Infection Control - Diagnostic Procedures - Local Anesthesia and Pain Management
Nuclear Medicine Technicians	- Usage of standard Tech 99m (Technetium 99m procedures) - Radiation protection principles in nuclear medicine
Cathlab Technicians	- Product knowledge & ISO Standards - Radiation & Equipment Safety and Research - Ergonomics (Patient handling) & Basic Life Support - Application Knowledge & Infection Control - Diagnostic Imaging and reasoning
Orthopaedic Technologists	- Patient handling, management and care - Product knowledge (equipment) - Designing, manufacturing and fitting of Prosthetics & Orthotics - Material and equipment knowledge in Prosthetics & Orthotics - Anatomical, Physiological & Pathological Knowledge - Biomechanical knowledge
Biomedical Technicians	- Product knowledge and care (equipment assembly and usage) - Resource management - Medical Equipment Repair

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Proactive - Time management - Problem solving	Food Science Technology	67	66	76	74	74
	- Customer Service - Communication - Safety	Helicopter flying	10	10	10	10	10
	- Customer Service - Communication - Safety	Helicopter flying	2	2	2	2	2
	- Communication - Adaptability - Emotional intelligence	Aviation Management	0	2	2	2	2
	- Collaboration - Attention to Detail - Analytical - Communication - Decision Making	Dental Hygiene	10	10	10	10	10
	- Critical Thinking - Multitasking & collaboration - Time management - Attention to Detail - Problem Solving	Nuclear Medicine	5	11	6	4	4
	- Communication - Problem Solving - Collaboration & Analytical - Time Management - Decision making	Cardiovascular Technology	4	4	4	4	4
	- Analytical & Communication - Critical Thinking - Multitasking & Collaboration - Time management - Problem Solving	Orthopaedic Technology	13	9	7	10	8
	- Critical Thinking - Multitasking & collaboration - Time management - Problem Solving - Decision making	Biomedical Equipment Technology	60	54	38	32	30

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 15: SOCIAL SCIENCES	
Fire fighters	• Firetrucks and other emergency vehicles driving • Fire Strategies • First Aid • Rescue Tactics and equipment
FIELD 16: TRANSPORT AND LOGISTICS	
Mechatronic Technicians	• Diagnostic • Mechanical
Locomotive Technicians	• Diesel Engine Maintenance and repair • Electrical systems troubleshooting • Mechanical Fabrication and Repair • Hydraulic & Pneumatic Systems • Diagnostic testing • Blueprint and Schematic reading • Regulatory Compliance • Preventive maintenance • Computer Literacy
Wagon Technicians	• Hoisting and lifting • Wagon maintenance
Service Technicians	• Troubleshooting Support • Problem-solving Skills • Safety Culture.
Trailer Air System Technicians	• Air systems diagnostics & trouble shooting • Repair & maintenance of air systems • Air suspension & ancillary systems • Technical knowledge & compliance
Hydraulic Technicians	• CAD software. • Basic mechanical engineering knowledge. • Ability to read and understand blueprints. • Welding, metal fabrication, and electrical assembly.

Degree (Professionals)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Seed technologists	• Seed production • Seed identification • Seed processing • Seed certification • Record management

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Compassion - Decision-making - Mental preparedness - Physical stamina and strength	Fire Science & Behaviour	31	32	32	37	38
	- Critical thinker - Adaptability	Mechatronics	116	91	108	108	108
	- Attention to Detail - Communication - Safety -Oriented - Teamwork - Customer - Physical fitness and Stamina	Mechanical Engineering	38	39	29	37	37
	- Analytical thinking - Time management	Mechanical Engineering	38	39	29	37	37
	- Physical Dexterity - Timeliness and Efficiency - People management - Respect for Property	Mechanical Engineering	38	39	29	37	37
	- Communication - Teamwork - Timeliness - Efficiency - Customer service	Mechanical Engineering	38	39	29	37	37
	- Coping and adapting - Working under intense pressure	Mechanical Engineering	138	139	129	87	37

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Seed Science	24	21	19	15	12

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 1: AGRICULTURE (Continued)	
Scientific officers	- Analytical chemistry - Molecular Biology & Biochemistry - Data Analysis & Bioinformatics - Experimental Design & Research - Compliance & Safety
Climate Scientists	- Programming & Data Analysis - Climate Modeling & Simulation - Geospatial Analysis (GIS) - Remote Sensing & Meteorology - Statistical Methods
Post-harvest Technologists	- Food processing - Food technology - Post- harvest pest & diseases control - Crop yield maximization - Record management
Meteorologist	- Computer Modeling and Programming - Remote Sensing and Data Analysis - Geographic Information Systems - Scientific Software
Aqua-culturist	- Research - Data handling & analysis - Policy & strategy development - Water quality - Scientific report writing
Fire Impact Assessors	- Fire science - Risk evaluation - Emergency planning - Digital literacy
Seed Technologist	- Seed production - Seed identification - Seed processing - Seed certification - Record management
FIELD 2: AVIATION	
Aviation Inspectors	- Technical Aviation Knowledge & Aircraft Systems - Digital & Emerging Aviation
Aviation Specialists	- Technical Aviation Knowledge & Aircraft Systems - Digital & Emerging Aviation - Risk & Emergency Handling
FIELD 3: BUSINESS AND FINANCE	
Actuaries	- Digital skills - Research - Mortality modelling - Catastrophe modelling - Historic modelling - Stochastic modelling - Risk management

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Communication - Teamwork - Adaptability - Problem solving	Biochemistry	17	17	19	18	18
- Communication - Critical thinking - Attention to detail	Meteorology	5	4	4	4	3
- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Harvest horticulture and grain production	17	17	19	18	17
- Communication - Analytical Thinking - Attention to Detail	Meteorology	12	12	12	11	10
- Presentation - Communication - Attention to detail - Problem solving - Teamwork	Aquaculture	17	17	19	18	18
- Communication - Problem solving - Attention to detail - Adaptability - Interpersonal	Fire Risk Assessment	20	18	16	14	12
- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Seed Technology	24	21	19	15	13
- Critical Thinking - Attention to detail	Aircraft Maintenance Technology	116	91	108	108	108
- Decision Making - Attention to detail - Leadership - Communication	Aviation Management & Technology	2	2	2	2	2
- Business acumen - Adaptable - Decisiveness - Negotiation - Attention to details	Actuarial Science	12	19	20	23	23

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 4: CREATIVE INDUSTRIES	
Illustrators	- Technical & Specialized Illustration - Traditional & Digital Techniques - Editorial & Publishing - Sketching - Composition and Layout - Technical Drawing Types - File Optimization
Creative Coding Specialists	- Computer Programming - Visual Arts - Understanding motion graphics - Application Programming Interfaces (API) integration for data visualization
Curators	- Proficiency in collection management systems - Database management - Digital asset management - Knowledge of conservation techniques
Copyright Specialists	- Planning and Coordination - Interpretation of Policies and Procedures - Written and Oral Communication - Computer and Software Knowledge
FIELD 6: EDUCATION AND TRAINING	
FIELD 7: ENGINEERING	
Traffic Safety Engineers	- Transport Design - Accident investigation - Highway Safety Standards
Aircraft Engineers	- Aviation - Geographical Knowledge
FIELD 9: HEALTH	
Dentists	- Hand-eye coordination - Fine motor skills - Ability to analyse X-rays, scan, and examine teeth, gums, and oral tissues - Proficiency in operating modern dental equipment - Understanding of dental anatomy - Anesthetics, and pharmaceutical applications
Dental Therapist	- Diagnostics and Assessment - Clinical Safety and Procedures - Oral Surgery and Pain Management - Restorative Dentistry - Preventive Dentistry
Dental Laboratory Technicians	- Digital and CAD/CAM Proficiency - Traditional Laboratory Techniques - Infection control - Quality control analysis - Compliance

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
• Creativity and Originality • Adaptability and Flexibility • Communication • Collaboration/Teamwork	Digital illustration	28	38	37	30	30
	Software engineering	13	14	25	30	30
	Art History or Archaeology or Museum Studies	69	64	59	46	46
	Software Engineering	77	81	107	99	99
• Project management • Analytical • Communication • Time management	Civil Engineering	38	46	41	32	32
	Aircraft Engineering	0	5	5	5	5
• Communication Skills • Attention to Detail • Patience and Stamina • Critical Thinking • Problem-Solving	Dentistry	20	20	20	20	20
	Dental Technology	10	10	10	10	10
	Dental Laboratory Technology	10	10	7	5	4

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Oral Hygienists	- Periodontal Assessment and Therapy - Dental Radiography - Infection Control - Diagnostic Procedures - Local Anesthesia and Pain Management - Pediatric Magnetic Resonance Imaging (MRI) imaging
Radiographers	- Radiation safety & basic life support - Product knowledge & Echocardiography - Radiology Information System (RIS) administration - Pediatric Magnetic Resonance Imaging (MRI) - Cath lab imaging & General X-ray - CT Imaging, clinical application & MRI imaging
Sonographers	- Radiation safety & Basic life support - Equipment or product knowledge - RIS administration & Research - Interpretation of ultrasound scan - Obstetric ultrasound & general ultrasound
Biochemists	- Biological Processes - Chemical techniques - Research and Ethics - Product knowledge - Application knowledge
Dietitians	- Nutritional Counselling - Patient Care - Monitoring and evaluation of care - Legal compliance
Prosthetists & Orthotists	- Infection Control - Diagnostic Imaging and Casting - Treatment Planning - Anatomical Knowledge - Record Keeping
Optometrists	- Eye examination - Refraction and prescribing - Ocular Health management - Contact lense fitting
Biomedical Engineers	- Product knowledge & ISO Standards - Equipment Safety Knowledge - Radiation Safety - Engineering management systems - Research & Project Management
Medical Instrumentation Specialists	- Product knowledge, Management and Care - Handling and assembly

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
• Problem solving • Critical Thinking • Communication • Attention to Detail • Collaboration	Dental Hygiene	3	3	3	3	3
• Analytical & Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Radiography	58	49	39	34	30
• Analysis • Attention to detail • Empathy • Adaptable and flexible • Teamwork	Diagnostic Medical Sonography	62	56	46	38	34
• Attention to detail • Analytical • Time Management • Critical Thinking • Communication	Biochemistry	10	8	7	8	8
• Analytical & Communication • Multitasking & Collaboration • Time management • Problem Solving • Decision making	Dietetics	20	20	20	25	25
• Empathy • Communication • Problem Solving • Attention to detail	Clinical Prosthetics & Orthotics	10	5	5	5	5
• Patient education • Attention to detail • Accuracy	Optometry	10	10	5	5	0
• Communication • Problem Solving • Collaboration • Time Management • Decision making	Biomedical Engineering	46	41	29	18	16
• Attention to detail • Analytical & Communication • Multitasking & Collaboration • Time management • Decision making	Medical Instrumentation	25	21	20	10	10

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Midwives	- Emergency Obstetric Care - Cardiotocography (CTG) use and interpretation - Neonatal resuscitation & basic Life Support - Product knowledge - Computer knowledge
Psychiatric Nurses	- Patient assessment and care - Diagnostic skills - Psychotic Medication administration - Rehabilitation, Counselling & Resource management - Basic Life Support & Cardiopulmonary Resuscitation
Family Nurse Practitioners	- Advanced patient assessment and care - Diagnostic tests & Drug Prescription - Minor Surgery - Basic Life Support & Cardiopulmonary Resuscitation - Treatment Planning & Record keeping
Trauma Nurses	- Basic Life Support & Intermediate trauma life support - Advanced Cardiac Life Support - ECG Interpretation - ABG (blood gas interpretation) - ICD 10 coding & Product knowledge
Ophthalmology Nurses	- Eye Assessment & Diagnostic ophthalmic tests - Ophthalmic surgical skills - Triage and manage patients - Prescribe & administer eye medications - Ophthalmic Equipment Handling & care
Community Health Nurses	- Community assessment and diagnosis - Community based screening & Basic Life Support - Research (need assessment) - Holistic care planning - Monitoring and evaluation of care
ENT Nurses	- Patient assessment and care - Diagnostic & Interpretation skills - Counselling & Evaluation of patient care - Product Knowledge
Theatre Nurses	- Basic Life Support & Intermediate trauma life support - Advanced Cardiac Life Support - ECG Interpretation - ABG (blood gas interpretation) - ICD 10 coding & Product knowledge
Palliative Care Nurses	- Basic Life Support - Pain management - Patient and family education

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
• Communication • Decision making • Compassionate • Observation & Collaboration • Time Management	Midwifery	200	250	300	300	250
• Analytical & Communication • Multitasking & Collaboration • Time management • Attention to Detail • Problem Solving	Psychiatric Nursing	20	25	20	20	25
• Critical Thinking • Multitasking & collaboration • Communication • Time management • Attention to Detail • Decision making	Family Nurse Practitioner	20	25	15	20	20
• Analytical & Collaboration • Time Management • Problem Solving • Communication • Attention to details	Trauma Nursing	15	16	17	11	8
• Analytical & Communication • Multitasking & Collaboration • Attention to Detail • Problem Solving • Decision making	Ophthalmology Nursing	9	10	10	8	7
• Analytical & Communication • Multitasking & Collaboration • Time management • Problem Solving • Decision making • Collaboration & Advocacy	Community Health Nursing	12	10	10	10	8
• Analytical & Communication • Multitasking & Collaboration • Problem Solving • Decision making • Attention to detail	Ear Nose and Throat (ENT) Nursing	4	6	6	7	6
• Analytical & Collaboration • Time Management • Problem Solving • Professionalism • Communication	Theatre Nursing	6	9	8	13	12
• Analytical & Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Palliative Care Nursing	4	6	6	8	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Endocrinology Nurses	• Basic Life Support • Diabetic management • Product knowledge
Orthopedic Nurses	• Basic Life Support & Advanced Cardiac Life Support • ECG Interpretation • Intermediate trauma life support • ABG (blood gas interpretation) • ICD 10 coding & Product knowledge
Occupational Health Nurses	• Product knowledge • Environmental Assessment • Safety Compliance • Basic Life Support
Wound Care Nurses	• Product Knowledge and management • Patient assessment, handling and care • Counselling • Infection control • Evaluation of patient care
Paediatric Intensive Care Nurses	• Basic Life Support • Advanced Cardiac & Trauma Life Support • Pediatric Life Support • Product & Computer knowledge • Perfusion & Blood gas analysis • Clinical application knowledge
Critical Care Nurses	• Basic Life Support • Advanced Cardiac & Trauma Life Support • Pediatric Life Support • Product & Computer knowledge • Blood gas analysis & Equipment Handling
Neo-natal Intensive Care Specialised Nurses	• Basic Life Support • Pediatric, Advanced Cardiac & Life Trauma Support • Product & Computer knowledge • Perfusion & Blood gas analysis • Clinical application knowledge
Anaesthetic Nurses	• Advanced Cardiac Life Support • Pain management • Airway management • Cardiopulmonary Resuscitation
Perfusionists (Nurse Technicians)	• Basic Life Support • Product Knowledge • Patient Management and care • Equipment Handling and care

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Analytical & Collaboration - Time Management - Problem Solving - Critical Thinking - Communication	Endocrinology Nursing	2	3	3	7	7
- Analytical & Collaboration - Time Management - Problem Solving - Critical Thinking - Communication	Orthopedic Nursing	2	5	2	8	8
- Analytical & Communication - Multitasking & Collaboration - Time management - Attention to Detail - Decision making	Occupational Health Nursing	4	8	5	10	10
- Analytical & Communication - Collaboration - Time management - Problem Solving - Decision making - Attention to detail	Wound Care Nursing	7	7	8	12	10
- Collaboration - Critical thinking - Decision making - Attention to detail - Communication	Paediatric Intensive Care Nursing	7	11	10	15	12
- Critical thinking - Collaboration - Decision making - Attention to detail - Communication	Critical Care Nursing	7	4	14	13	12
- Collaboration - Critical thinking - Decision making - Attention to detail - Communication	Neo-natal Intensive Care Nursing	3	8	6	9	9
- Collaboration - Time Management - Problem Solving - Professionalism	Anaesthetic Nursing	10	9	10	15	15
- Analytical & Collaboration - Time Management - Problem Solving - Critical Thinking - Communication	Cardiovascular Perfusion	2	6	4	4	4

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Theatre Nurses (Cardiac & Urology)	• Patient preparation, assessment (Diagnostic) & care • Medication administration • Theatre skills • Counselling • Evaluation of patient care
ICU Nurses	• Advanced Cardiac Life Support • Patient & Critical Care • Life Support & Cardiopulmonary Resuscitation (CPR) • Trauma Management & Medical Telemetry • Patient / Family Education & Instruction
Cardiac/ Coronary Nurses	• Patient assessment and care & Diagnostic • Basic Life Support & Cardiopulmonary Resuscitation • Medication administration & Theatre • Counselling & Evaluation of Patient Care
Child Health / Paediatric Nurses	• Patient Assessment and Care & Diagnostic • Basic Life Support • Counselling & Legislative Compliance • Evaluation of Patient Care • Product knowledge, handling and care
Neo-natal Care Nurses	• Neonatal resuscitation • Basic Life Support and Pediatric Life Support • Product knowledge • Computer knowledge
Geriatric Nurses	• Patient assessment and care & Diagnostic • Counselling, rehabilitation & palliative care • Medication administration • Evaluation of patient care • Infection Control
Nephrology Nurses	• Patient assessment and care & Diagnostic • Counselling, rehabilitation & palliative Care • Medication administration • Evaluation of patient care • Infection Control • Pre & post management of neurosurgical procedures & emergencies
Oncology Nurses	• Basic & Advanced Cardiac Life Support • Pediatric & Advanced Trauma Life Support • Product & Computer knowledge • Perfusion, Blood gas analysis & Waste disposal. • Radiation therapy & Chemo pharmacology basics • Cancer patient follow up skills
Infection Prevention and Control Nurses	• Infection Prevention, Management and Control • Patient assessment, Risk assessment mitigation • Legislative compliance • Epidemiology and surveillance • Emerging technologies & Quality Assurance

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
• Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Theatre Nursing	14	14	15	12	12
• Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	ICU Nursing	20	21	18	14	14
• Analytical & Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Cardiac/ Coronary Nursing	20	17	13	12	12
• Advocacy & Collaboration • Time Management • Problem Solving • Critical Thinking • Communication • Decision making	Paediatric Nursing	31	23	18	17	17
• Collaboration • Critical thinking • Decision making • Attention to detail • Communication	Neo-natal Care Nursing	3	5	4	8	8
• Advocacy & Collaboration • Time Management • Problem Solving • Analytical • Communication • Decision making	Geriatric Nursing	43	15	13	16	16
• Collaboration • Time Management • Problem Solving • Communication • Decision making	Nephrology Nursing	46	16	14	14	14
• Collaboration • Critical thinking • Decision making • Attention to detail • Communication • Collaboration • Time Management	Oncology Nursing	34	18	12	12	12
• Analytical & Collaboration • Problem Solving • Critical Thinking • Communication • Decision making	Infection Prevention and Control Nursing	47	21	16	15	15

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 10: TOURISM & HOSPITALITY	
Executive Chef	- Menu design - Nutrition - Recipe development - Kitchen operations - Food safety and hygiene - Cost control - Global and local cuisines - Staff training - Computer skills
Culinary Content Creator / Food Stylist	- Food photography - Videography - Computer skills - Social media strategy - Graphic design - Food presentation and plating
Product Development Chef	- Recipe formulation and standardisation - Menu engineering - Sensory evaluation techniques - Food safety - Quality control - Costing - Ingredient functionality - Food processing
FIELD 12: INFORMATION TECHNOLOGY	
Machine Learning Engineers	- Applied Mathematics - Programming Languages - Data Modelling - Probability and Statistics - Software Engineering - Domain Expertise
Data Architect	- Data visualization and Migration - Data Analytics & Big data - Artificial Intelligence (AI) & Research - Data and Database Management - Compliance and Governance - Data Modelling
Data Engineers	- Data Analytics, Big data & Data visualization - Data Mining & Machine Learning - Software Development - Data Integration
Robotics Engineers	- Mathematics and Science - Programming - Electric Soldering - Artificial Intelligence - Machine Learning & Data Science

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Leadership - Team management - Communication and interpersonal skills - Creativity - Critical thinking - Customer focus	Culinary Arts	130	130	140	150	160
	Culinary Arts / Media / Digital Marketing / Hospitality	110	110	130	150	170
	Culinary Arts / Food Science / Hospitality Management	50	50	60	70	80
- Communication - Problem Solving - Time Management - Business Intelligence - Critical Thinking	Machine Learning	16	21	25	26	26
	Data Engineering	5	5	5	5	5
	Data Engineering/ Software Engineering	10	8	8	6	6
	Robotics Engineering/ Robotics and Artificial Intelligence	20	29	31	35	35

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 16: TRANSPORT AND LOGISTICS	
Traffic Safety Analysts	• Traffic control • Proficiency with Highway Capacity Software (HCS) • Transportation planning
Permanent Way Designers and Inspectors	• Permanent – Way maintenance • Construction of track and associated structures • Surveying • Use of software – AutoCAD, Civil design, MS projects • Track inspection • Disaster management • Project Management • Safety

Post Graduate Training (Masters, Doctorate & Others)

Occupations	Technical Skills
FIELD 1: AGRICULTURE	
Agronomists	• Grain physiology • Crop phenology • Crop husbandry • Farming systems • Record management
Senior Researchers	• Instrumentation Mastery • Spectroscopy & Structure Identification • Micro-nutrient & Contaminant Analysis • Soil & Plant Biochemistry • Agrochemical Formulation • Environmental Fate & Toxicology • Chemical Modeling
Soil Scientists	• Data collection & analysis • Soil physics • Soil genetics • Experimental and practical work • Record management
One health Specialist	• health of people, animals and ecosystems • Food safety • Food risk management • Environmental risk analysis • Advanced statistical methods • Report writing
Entomologist	• Insect Identification • Anatomy and Physiology • Pest Management • Geographic Information System • Bioassays • Research

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Project management - Construction knowledge - Analytical - Communication - Time management	Transport Planning	38	46	41	32	32
- Computer literacy - Communication skills - Supervisory skills - Analytical skills - Mental agility	Permanent Way Engineer- ing	116	91	108	108	32

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Crop Science	16	14	13	11	9
- Communication - Leadership - Analytical - Attention to detail	Biochemistry	12	11	13	12	10
- Communication - Attention to detail - Analytical - Leadership - Interpersonal	Soil Science	10	10	10	10	10
- Communication - Teamwork - Leadership - Problem solving - Analytical - Presentation	Veterinary Epidemiology and Public Health	15	17	17	16	15
- Innovative - Assertiveness - Presentation - Communication - Analytical	Entomology	12	11	10	10	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 1: AGRICULTURE (Continued)	
Animal geneticist	• DNA sequencing • Genomic analysis • Bio informatics
Bee Pathologist	• Research • Bee health • Data handling & analysis • Policy & strategy development • Scientific report writing
Microbiologist	• Aseptic Technique • Microbial Culturing & Isolation • Microscopic Examination & Staining • Molecular Biology and Genetics • Data Analysis
Plant Pathologist	• Plant anatomy and physiology • Plant diseases treatment and control • Laboratory diagnostics • Research
Hydrometeorologists	• Hydrological & Meteorological Modeling • Flood Forecasting & Monitoring • Geospatial Analysis (GIS) • Data Analysis & Processing • Remote Sensing & Instrumentation • Field Surveys & Monitoring
Molecular Biologists	• Nucleic Acid Manipulation • Plant Tissue Culture & Transformation • Amplification & Sequencing • Molecular Cloning • Cell Culture & Protein Analysis • Bioinformatics
Agro-meteorologist	• Agrometeorological Monitoring • Report Writing • Automatic Weather Stations • Meteorological Analysis and Modeling • Spatial Data Analysis
Biotechnologists	• Tissue culture • Knowledge of different biochemical tests • Flow cytometry & Microscopy • Molecular analysis
Veterinary surgeons	• Research and development • Good Manufacturing Practice • Laboratory Practice (BLP) • Pharmaceutical Quality Assurance • Risk management • Legal and regulatory procedures

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Teamwork - Leadership - Innovative	Animal genetics	5	5	5	5	5
	- Presentation - Communication - Analytical	Bee Pathology	12	11	10	10	10
	- Communication - Problem-Solving	Microbiology	5	5	5	5	5
	- Teamwork - Analytical skills - Innovative - Assertiveness - Problem solving	Plant Pathology	17	17	19	18	17
	- Communication - Problem-Solving - Attention to Detail - Teamwork	Agricultural meteorology	5	4	4	4	4
	- Communication - Problem-Solving - Critical thinking - Attention	Molecular Biology/ Genetic engineering	25	27	25	23	22
	- Communication - Problem-Solving - Critical thinking	Agricultural meteorology	5	4	4	4	4
	- Teamwork - Leadership - Analytical - Innovative - Assertiveness	Biotechnology	5	5	5	5	5
	- Record keeping - Team effectiveness - Communication - Planning & Coordination	Veterinary Medicine & Surgery	5	5	5	5	5

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills	
FIELD 1: AGRICULTURE (Continued)		
Animal Welfare Specialist	- Animal behavior - Policy development - Socio economic assessment - Animal welfare and risk assessment	
Animal Bio Statistician	- Research - Policy & strategy development - Scientific report writing - Writing skills	
FIELD 2: AVIATION		
Flight Operations Managers	- Aviation - Geographical Knowledge	
FIELD 3: BUSINESS AND FINANCE		
Tax Specialist	- Taxation - Big data analysis - Tax Management - Tax law	
Fintech Analyst	- Online Trading Services - Forex Trading - Research Skills - Complaints Handling - Market Surveillance	
Underwriter	- Generic Medical background - Engineering background - Mathematics and statistics - Risk management - Analytical skills	
Commercial Transaction Advisors	- Law/legislation - Commerce, Economics, Auditing - Project & Risk Management - Energy policy, planning & management	
FIELD 4: CREATIVE INDUSTRIES		
Arts Managers	- Marketing - Legal knowledge - Specific production knowledge - Financial & Administrative Expertise	
FIELD 6: EDUCATION AND TRAINING		
Rehabilitation Psychologists	- Counselling, Patient Management & Life skills - Stress Management & Group Dynamics - Research, Assessment & Case Management - Social Marketing & Rehabilitation	

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Problem -solving - Analytical	Animal Welfare	17	17	19	18	19
	- Presentation - Communication - Analytical	Biometry	12	19	20	23	25
	- Multitasking - Coordination - Problem solving	Transport & Logistics Management	15	15	15	15	15
	- Communication - Attention to detail - Leadership - Analytical	Taxation	25	29	28	27	27
	- Communication - Attention to Details - Interpersonal - Decision Making	Financial Technology	20	22	24	26	28
	- Adaptable - Decisiveness - Negotiation - Attention to details - Relationship management	Underwriting	25	29	28	27	27
	- Negotiation Skill - Commercial acumen - Solution Oriented - Communication	Business and Finance	56	74	44	58	58
	- Leadership & Teamwork - Communication - Organising - Creativity & Vision	Art administration/ history and management	53	47	46	44	0
	- Attention to detail - Analytical & Collaboration - Problem Solving - Professionalism - Communication & Mentoring	Rehabilitation Psychology	20	20	20	20	20

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 6: EDUCATION AND TRAINING (Continued)	
Speech and Language Therapist	• Counselling & Diagnostic • Speech dysfunction Rehabilitation • Cognitive Therapy & Injury rehabilitation • Medico legal Compliance • Speech assessment
Addiction Specialist	• Clinical assessment and diagnosis • Treatment planning and modalities • Case management and documentation • Medical and pharmacological knowledge
Counselling Psychologist	• Psychological assessment and diagnosis • Evidence based therapeutic intervention • Professional and clinical administration • Technical adaptability • Therapeutic Micro skills
Psychometrician	• Statistical analysis and Program • Psychometric analysis • Test development and validation • Scaling and equating • Research methodology
FIELD 7: ENGINEERING	
Hydrogeologists	• Groundwater Modelling & Analysis • Fieldwork & Monitoring • Data Management & Software • Hydrogeology & Geology Knowledge • Environmental Regulation • Technical Reporting
FIELD 9: HEALTH	
Child Psychologists	• Child psychology knowledge • Child development milestones • Psychotherapy
Neuro Psychologists	• Neuro Psychology knowledge • Neuropsychological assessment & testing • Psychometric principles • Clinical diagnosis & case formulation
Rehabilitation Psychologists	• Evidence-Based Therapeutic Interventions • Case management & consultation • Medical and Rehabilitation Knowledge • Advanced Psychological and Neuropsychological Assessment • Psychopharmacology

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Time Management - Critical Thinking - Communication - Problem solving	Speech Language Pathology	20	20	20	20	20
	- Interpersonal communication - Cognitive and operational skills - Emotional intelligence and resilience	Pharmacology/ Neurobiology	5	5	5	5	5
	- Active listening - Empathy - Compassion - Interpersonal communication and non-verbal communication - Adaptability	Counselling Psychology	10	10	10	10	10
	- Analytical thinking - Attention to detail - Collaboration - Problem solving - Communication	Quantitative Psychology	10	10	10	10	10
	- Analytical & Critical Thinking - Communication - Project Management - Adaptability & Independence - Attention to Detail	Hydrogeology	29	18	21	12	0
	- Communication - Attention to detail - Critical thinking - People management	Child/Developmental Psychology	23	19	14	12	10
	- Communication - Collaboration - Attention to detail - Critical thinking - People management	Neuropsychology	10	9	8	8	8
	- Collaboration - Communication - Critical Thinking - Problem Solving - Decision Making	Psychology (Behavioural Sciences/ Rehabilitation Studies)	22	17	13	15	15

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Forensic Psychologists	• Forensic assessment & evaluation • Crisis intervention & management • Forensic Report Writing • Legal knowledge • Data analysis, behavioral analysis and profiling
Anaesthetists	• Basic Life Support • Advanced Cardiac Life Support • Ultrasound techniques • Nerve Block • Product knowledge
Oncologists	• Interpretation • Product & Computer knowledge • Safety & Waste Management • Counselling • Delivery of cancer treatment techniques
Radiologists	• Interpretation of images • Diagnostic • Interventional • Technology and clinical application knowledge • Research
Paediatric Surgeons	• Assessment & Diagnostic • Theatre skills, Infection Control & Counselling • Interpretation of Results • Pediatric management and care • Product knowledge and care • Legal compliance
Neurosurgeons	• Assessment & Diagnostic • Theatre, Infection Control & Counselling • Interpretation of Results • Product knowledge and care • Patient Management & Legal compliance
Cardiovascular Surgeons	• Assessment, Diagnostic & Theatre • Infection Control & Counselling • Interpretation of Results • Product knowledge, Patient Management and care • Legal compliance & Monitoring and Evaluation
Medical Oncologists	• Diagnostic and Assessment Skills • Clinical Pharmacology • Management of Acute Complications • Bone Marrow Aspiration and Biopsy • Clinical Pharmacology
Surgical Oncologists	• Assessment, Diagnostic & Interpretation of results • Theatre, Infection Control & Counselling • Product knowledge and care • Patient Management and care • Legal compliance & Monitoring and Evaluation

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	• Attention to Detail • Communication • Critical Thinking • Collaboration • Decision Making	Forensic Psychology	20	15	12	11	11
	• Collaboration • Critical thinking • Decision making • Attention to detail • Communication	Anaesthesia	14	12	9	8	8
	• Collaboration & Analytical • Decision making • Attention to detail • Communication • Problem solving	Oncology	21	18	17	13	13
	• Analytical & Communication • Critical thinking • Decision Making • Innovation • Problem Solving	Radiology	16	13	10	9	9
	• Attention to detail • Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Paediatric Surgery	10	8	6	5	5
	• Attention to detail • Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Neurosurgery	8	7	5	5	5
	• Attention to detail • Organisation skills • Collaboration • Time Management • Communication	Cardiovascular Surgery	7	6	6	5	5
	• Critical thinking • Collaboration • Communication • Attention to Detail	Medical Oncology	32	21	18	16	14
	• Attention to detail • Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Surgical Oncology	23	20	19	14	12

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Radiation Oncologists	- Basics of 3D treatment technique - Radiation safety - Radiobiology
Intensivists	- Advanced Cardio & Vascular life support - Basic life support - Pediatric life support - Advanced & Trauma life support - Adult life support
Maxillofacial Specialists	- Infection Control - Patient Management and care - Prosthodontics & Medico legal 3D Imaging and modelling - Facial Prosthesis & Implant treatment
Urologists	- Diagnostic & Interpretation of results - Product Knowledge - Counselling, Patient Management and care - Infection Control & Theatre
Nephrologists	- Transplantation management - Management of dialysis & emergencies - Extra corporeal therapies - Neurosurgery instrumentation - Pre & post management of neurosurgical procedures & emergencies
Palliative Care Specialists	- Pharmacological Expertise - Management of Access Devices/Ventilation - Comprehensive Assessment and Diagnosis - Paracentesis - Palliative Sedation
Geriatricians	- Understanding the Aging Process - Diagnostic Testing Interpretation - Palliative and End-of-Life Care - Multimorbidity Management - Management of geriatric syndromes
Occupational Medicine Practitioners	- Product Knowledge - Environmental / Workplace Assessment - Risk Management & Control - Basic Life Support - Medico Legal Compliance
Infection Prevention Specialists	- Medico Legal Compliance & Contract Management - Sample Collection - Infection Management and Control - Diagnostic, Patient assessment and care - Treatment and Management of Infectious Diseases

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	• People management • Communication • Attention to Detail • Problem Solving	Radiation Oncology	23	20	15	13	12
	• Attention to detail • Analytical • Interpersonal Relations • Time Management • Problem Solving	Medicine (Critical Care Medicine)	12	10	12	8	6
	• Analytical • Interpersonal Relations • Time Management • Problem Solving • Decision making	Oral and Maxillofacial Surgery	3	3	2	2	2
	• Analytical & Communication • Time Management • Problem Solving • Professionalism • Critical Thinking	Urology	8	7	5	3	3
	• Attention to detail • Collaboration • Time Management • Problem Solving • Critical Thinking • Communication	Nephrology	15	13	12	9	8
	• Team Leadership • Adaptability • Decision Making • Communication • Attention to Detail	Palliative Care	5	5	5	5	5
	• Communication • Problem Solving • Interpersonal Relations • Patience • Collaboration	Geriatrics	5	5	5	5	5
	• Communication • Analytical • Collaboration • Problem solving • Decision making	Occupational Medicine	12	10	7	7	6
	• Collaboration • Interpersonal Relations • Time Management • Problem Solving • Communication	Infection Prevention & Epidemiology	10	8	8	6	5

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Cardiologists	• Pharmacology • Cardiovascular Physiology and Anatomy • Comprehensive Cardiovascular Assessment • Cardiac Catheterization • Diagnostic Imaging and Interpretation
Endoscopic Surgeon	• Anatomical Recognition • Complication Management • Imaging Interpretation • Hemostasis Management • Energy Device Usage
Gastroenterologists and Hepatobiliary Surgeons	• Diagnostic and Therapeutic Upper/Lower GI Endoscopy • Advanced Imaging Interpretation • Management of Complications • Paracentesis • Minimally Invasive/Robotic Surgery
Ophthalmologists	• Acute Eye Casualty Management • Visual-Spatial Awareness • Laser Therapy • Diagnostic and Examination Skills • Diagnostic Imaging and Interpretation
Podiatrists	• Foot care • Knowledge in foot diseases and their management
Colorectal Surgeons	• General surgeon skills • Surgical skills (for specific condition)
Paediatric Cardiac Surgeons	• Knowledge of general surgery • Pediatric cardiac surgery
Plastic & Reconstructive Surgeons	• Knowledge of general surgery • Plastic surgical skills
Transplant Surgeons (Renal, Liver, Cardiac, Pulmonary/ Lung)	• General surgery • Knowledge of specific transplant surgery
Cardiac Anaesthesiologists	• General anesthesia • Knowledge in Cardiac anesthesiology
Rheumatologists	• General medicine • Internal medicine • Rheumatology skills

Soft Skills	Area of Study	Estimates				
		2025	2026	2027	2028	2029
• Attention to Detail • Collaboration • Leadership • Critical Thinking • Analytical	Cardiology	15	13	12	9	8
• Problem Solving • Analytical • Leadership • Critical Thinking • Collaboration	Gastroenterology	11	9	7	6	6
• Attention to Detail • Leadership • Analytical • Decision making • Collaboration	Gastroenterology and Hepatobiliary Surgery	6	5	6	4	4
• Attention to detail • Analytical • Communication • Collaboration • Critical thinking	Ophthalmology	11	9	7	6	6
• Communication • Collaboration • Attention to detail • Critical thinking	Podiatry	4	4	3	3	3
• Communication • Collaboration • Attention to detail • Critical thinking	Colorectal Surgery	10	8	6	5	4
• Communication • Collaboration • Attention to detail • Critical thinking	Paediatric Cardiac Surgery	8	7	5	5	5
• Communication • Collaboration • Attention to detail • Critical thinking	Plastic & Reconstructive Surgery	2	2	2	1	1
• Communication • Collaboration • Attention to detail • Critical thinking	Transplant Surgery (Renal, Liver, Cardiac, Pulmonary/ Lung)	7	6	5	4	3
• Communication • Collaboration • Attention to detail • Critical thinking	Cardiac Anaesthesiology	5	4	5	4	3
• Communication • Collaboration • Attention to detail • Critical thinking	Rheumatology	14	12	11	9	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Fetomaternal Medicine Specialists	- Diagnostic & treatment - Advanced ultrasound & imaging - Invasive diagnostic & therapeutic procedures - Management of high-risk pregnancies
Urogynaecologists	- Assessment, Diagnostic & treatment - Surgical, Gynaecology & obstetrics
Neurologists	- Comprehensive Neurological Assessment - Lumbar Puncture (LP) - Neurophysiology Interpretation - Chronic Disease Management and Counseling - Neuroimaging Analysis
Clinical Hematologists	- Research and Evidence-Based Practice - Pharmacology - Therapeutic apheresis procedures - Patient Assessment - Performing bone marrow aspirates and trephine biopsies
Bone Marrow Transplant Surgeons	- Pre-Transplant Evaluation - Regulatory Compliance - Complication Management - Infection Management - Bone Marrow Harvesting
Cardiac Surgeons	- Open Heart Surgery Proficiency - Cardiopulmonary Bypass Management - Imaging Interpretation - Heart Transplant and Mechanical Circulatory Support - Minimally Invasive and Robotic Surgery
Orthopedists	- Musculoskeletal Physical Examination - Joint Replacement - Fracture Management - Post-operative Management - Neurological Assessment
Teleradiology Specialists	- Image Interpretation Proficiency - Rapid Diagnosis and Reporting - Adherence to Clinical Protocols - Cybersecurity and Data Privacy - Digital Imaging Software Proficiency
Oral and Maxillofacial Prosthetists	- Treatment Planning - Intra- and Extra-oral Evaluation - Prosthetic Design and Fabrication - Obturator Construction - Stereophotogrammetry/Imaging

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Collaboration - Attention to detail - Critical thinking	Fetomaternal Medicine	13	11	10	8	6
	- Communication - Collaboration - Attention to detail - Critical thinking	Urogynaecology	7	6	7	5	5
	- Attention to detail - Analytical - Communication - Collaboration - Critical thinking	Neurology	11	9	9	7	6
	- Teamwork - Communication - Decision Making - Analytical - Attention to Detail	Hematology	10	8	11	7	7
	- Analytical - Collaboration - Communication - Attention to Detail - Leadership	Bone Marrow Transplant Surgery	5	4	3	3	2
	- Attention to Detail - Decision Making - Critical Thinking - Collaboration - Leadership	Cardiac Surgery	7	6	5	4	4
	- Communication - Collaboration - Analytical Thinking - Decision Making - Attention to Detail	Orthopedics	10	8	6	5	4
	- Attention to Detail - Collaboration - Communication - Decision Making - Analytical	Teleradiology	6	5	4	2	2
	- Analytical - Communication - Critical Thinking - Attention to Detail - Decision Making	Prosthodontics	4	3	3	2	2

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Forensic Odontologists	- Maxilla/Mandible Resection - Bite Mark and Trauma Analysis - Radiographic Interpretation - Forensic Photography - Post-Mortem Examination
Oral and Maxillofacial Surgeons	- Biopsy and Diagnosis Chronic Pain Management - Diagnostic Imaging Interpretation - Facial Reconstruction - Dentoalveolar Surgery
Prosthodontist	- General dentistry - Crown therapy knowledge - Advanced restorative & prosthetic procedures
Orthodontists	- Knowledge of Anatomy - Clinical Diagnosis & treatment planning - Orthodontic appliance fitting & adjustment - Digital technology proficiency - Advanced treatment modalities
Oral Medicine Specialists	- General Dentistry - Systemic Disease Correlation - Complex case management
Periodontist	- General dentistry - Gums disease knowledge
Pedodontist/Pediatric Dentists	- Trauma Management - Sedation and Special Needs Care - Examination & Diagnosis
Oral Radiologists	- Orthodontic Assessment - Diagnostic Interpretation and Analysis - Radiation Protection Regulations - Positioning and Technique - Endodontic Evaluation
Oral Pathologists	- Comprehensive Oral Examination - Histopathology Analysis - Pathology Report Writing - Patient Care and Clinical Management - Molecular Diagnostics
Endodontists	- Pain Management - Canal Negotiation and Instrumentation - Diagnostic Testing - Imaging Interpretation - Access Cavity Preparation

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Leadership - Analytical - Attention to Detail - Professionalism	Forensic Odontology	5	4	4	4	3
	- Attention to Detail - Multitasking - Communication - Leadership - Analytical	Oral and Maxillofacial Surgery	3	7	3	3	2
	- Communication - Collaboration - Attention to Detail - Critical thinking	Prosthodontics	5	9	5	3	2
	- Communication - Collaboration - Attention to Detail - Critical thinking	Orthodontics	3	7	3	3	3
	- Communication - Attention to detail - Problem solving - Decision making	Oral Medicine	4	4	3	2	2
	- Communication - Collaboration - Attention to Detail - Critical thinking	Periodontics	5	10	3	4	4
	- Communication - Problem Solving - Adaptability - Decision Making - Patience	Pediatric Dentistry	9	12	5	6	5
	- Analytical - Communication - Critical Thinking - Attention to Detail - Decision Making	Oral and Maxillofacial Radiology	4	5	4	2	2
	- Analytical - Communication - Critical Thinking - Attention to Detail - Problem Solving	Oral and Maxillofacial Pathology	3	3	2	2	2
	- Analytical - Communication - Critical Thinking - Attention to Detail - Multitasking	Endodontics	8	12	6	6	4

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Community Dentists	• Pain Management • Preventive and Periodontal Care • Restorative Procedures • Sterilization and Safety • Diagnostic Skills
Therapeutic Radiographers	• Radiation Safety & Diagnostic Imaging • Therapeutic Interventions • Interpretation of Results • Radiotherapy & Product Knowledge • Basic Life Support • Application, equipment knowledge and consumables
Diagnostic Radiographers	• Diagnostic imaging • Interpretation of results
Medical Physicists	• Biological Processes • chemical techniques • Research and Ethics • product knowledge • Application knowledge
Geriatric Pharmacists	• Regulatory, Product & Regulatory Knowledge • Formularies • Medication & Patient Safety • Infection Control & Research • Pharmacokinetics and Pharmacodynamics in adults
Pediatric Pharmacists	• Regulatory, Product & Regulatory Knowledge • Formularies • Medication & Patient Safety • Infection Control & Research • Pharmacokinetics and Pharmacodynamics in children
Nutritional Support Pharmacists	• Regulatory, Product Knowledge & Formularies • Medication & Patient Safety • Regulatory knowledge, Infection Control & Research • Waste Management, Pharmacokinetics • Knowledge of Specialised Nutrition Support • Genetics & Toxicity monitoring
Nuclear Pharmacists	• Regulatory, Product & Regulatory Knowledge • Formularies • Medication & Patient Safety • Pharmacokinetics, Research and Ethics • Knowledge of nuclear Medicines
Oncology Clinical Pharmacists	• Product Knowledge & Formularies • Medication Safety & Regulatory knowledge • Patient Safety, Infection Control & Research • Waste Management • Pharmacokinetics, Palliative care & Toxicity monitoring

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical - Communication - Critical Thinking - Attention to Detail - Multitasking	Community Dentistry/ Dental Public Health	12	17	8	3	2
	- Analytical & Communication - Critical Thinking - Multitasking & Collaboration - Problem Solving - Decision making	Radiography and Oncology	61	50	41	35	30
	- Analytical & Communication - Critical Thinking - Collaboration - Time management - Decision making	Diagnostic Radiography or Medical Imaging	62	57	42	35	30
	- Analytical & Collaboration - Organisation skills - Time Management - Problem Solving - Critical Thinking	Medical Physics	4	3	3	2	2
	- Attention to Detail - Collaboration - Professionalism - Critical Thinking - Communication	Geriatric Pharmacy	10	6	5	7	6
	- Attention to Detail - Collaboration - Professionalism - Critical Thinking - Communication	Pediatric Pharmacy	10	6	5	7	6
	- Attention to Detail - Time Management - Problem Solving - Critical Thinking - Decision making - Multitasking	Nutritional Support Pharmacy	6	7	11	8	8
	- Attention to Detail - Collaboration - Time Management - Critical Thinking - Communication	Nuclear Pharmacy	10	6	4	8	6
	- Attention to Detail - Analytical & Multitasking - Time Management - Communication - Decision making	Oncology Pharmacy	10	9	8	9	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Endocrinology Dietitian/ Nutritionists	• Laboratory Value Interpretation • Physical Examination/Assessment • Nutritional Screening • Drug-Nutrient Interaction Knowledge • Electronic Health Records
Paediatric Nutritionists	• Clinical Pharmacology • Biochemical Interpretation • Complex Case Calculation • Allergy Management • Nutritional Screening
Public Health Nutritionist/ Nutrition Policy Advisors	• Population Nutritional Assessments • Biochemical Data Interpretation • Food-Drug Interaction Knowledge • Epidemiological Skills • Program Evaluation
Epidemiologist/Nutrition Scientists	• Nutritional Status Evaluation • Dietary Data Collection • Nutrigenomics/Microbes • Knowledge of Medical Nutrition Therapy • Translation of Research Findings to Policy
Paediatric Occupational Therapists	• Comprehensive developmental assessment (motor, sensory, cognitive, socio-emotional) • Early intervention strategies for developmental delays • Sensory integration techniques • Activities of Daily Living (ADL) training for children • Family-centered care and caregiver coaching • Evidence-based documentation and outcome measurement
Psychiatric Occupational Therapist	• Comprehensive psychosocial assessment and evaluation. • Psychiatric rehabilitation planning and implementation • Cognitive-behavioral intervention techniques • Group therapy facilitation and activity programming • Documentation, outcome measurement, and evidence-based reporting
Neurology Occupational Therapists	• Advanced Neuro-Rehabilitation Assessment (motor, sensory, cognitive) • Neuroplasticity-based intervention planning • Functional Electrical Stimulation (FES) application • Assistive Technology Integration for neurological conditions • Caregiver and family training for long-term management
Paediatric Physiotherapists	• Observational Diagnosis • Neurodevelopmental Techniques • Educating on Family-Centered Care • Knowledge of Legislation & Advocacy • Play-Based Therapy

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical - Communication - Critical Thinking - Attention to Detail - Decision Making	Dietetics (Endocrinology)	3	3	3	3	3
	- Attention to Detail - Communication - Analytical - Decision Making - Problem Solving	Dietetics (Neonatology/ Pediatrics)	3	3	3	3	3
	- Attention to Detail - Analytical - Communication - Time Management - Problem Solving	Nutrition and Dietetics	3	4	4	3	3
	- Analytical - Communication - Attention to Detail - Teamwork - Decision Making	Nutrition Epidemiology	2	2	2	2	2
	- Communication - Analytical - Attention to Detail - Creativity - Collaboration - Cultural sensitivity	Occupational Therapy (Paediatrics)	5	5	5	5	5
	- Communication - Patience - Analytical - Attention to Detail - Creativity - Resilience - Adaptability	Occupational Therapy (Psychiatry)	5	5	5	5	5
	- Communication - Patience - Analytical - Attention to Detail - Professionalism - Collaboration - Adaptability	Occupational Therapy (Neurology)	5	5	5	5	5
	- Communication - Patience - Analytical - Attention to Detail - Creativity	Paediatric Physiotherapy	10	5	5	5	3

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Orthopaedic Physiotherapists	• Musculoskeletal Assessment • Imaging Interpretation • Orthotics and Bracing • Evidence-Based Practice • Application of Joint Mobilization and Manipulation Techniques
Chest Physiotherapists/ Cardiopulmonary Physiotherapists	• Interpretation of Investigations • Patient Education and Safety • Auscultation • Functional Capacity Assessment • Non-Invasive Ventilation (NIV)
Geriatric Physiotherapists	• Physiology of aging • Pharmacological Awareness • Exercise Prescription for Aging • Neurorehabilitation
Sports Physical Therapists	• Clinical Assessment and Diagnosis • Manual Therapy Techniques • Exercise prescription and Rehabilitation • Acute Injury management • Injury prevention strategies
Neurological Physiotherapists	• Neuro-Developmental Treatment • Comprehensive Neurological Assessment • Rehabilitation and Treatment Interventions • Individualized Treatment Planning • Orthotic Prescription
Paediatric Audiologists	• Paediatric Diagnostic Testing Proficiency • Developing Treatment Plans • Knowledge of Paediatric Auditory Disorders • Knowledge of Embryology of the Ear • Documentation and Record Keeping
Vestibular Audiologists	• Knowledge of Vestibular Pathologies & Pathophysiology • Vestibular/Balance Assessment and Treatment • Vestibular Rehabilitation • Patient Counselling & Education • Developing Treatment Plans
Paediatric Speech Therapists	• Assessment and diagnosis of communication, speech, language and literacy disorders • Treatment & management of literacy communication, speech & language disorders • Evidence-based treatment planning • Augmentative and Alternative Communication (AAC) • Aural Rehabilitation • Early intervention

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Analytical - Problem Solving - Attention to Detail - Leadership	Orthopaedic Physiotherapy	10	5	5	5	5
	- Analytical - Communication - Attention to Detail - Collaboration - Decision Making	Physiotherapy (Pulmonary Rehabilitation)	5	5	5	2	2
	- Communication - Attention to Detail - Decision Making - Teamwork - Problem Solving	Geriatric Physical Therapy	5	5	5	2	2
	- Collaboration - Decision making - Communication - Agility	Physiotherapy (Sports)	5	5	5	5	5
	- Teamwork - Attention to detail - Communication - Decision Making - Multitasking	Physiotherapy (Neurology)	10	5	5	5	5
	- Critical Thinking - Attention to Detail - Creativity - Communication - Adaptability & Flexibility - Problem Solving - Collaboration	Audiology (Paediatric)	10	5	5	5	5
	- Time Management - Problem-Solving - Communication - Adaptability & Flexibility - Attention to Detail - Collaboration	Clinical Audiology (Vestibular)	5	5	5	2	2
	- Critical Thinking - Time management - Communication - Adaptability - Decision-making	Speech-Language Pathology (Paediatric)	10	5	5	5	5

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Speech & Language Therapist (Dysphagia)	- Comprehensive Clinical Swallowing Assessment - Instrumental Assessment Interpretation - Neurology and Neurophysiology - Pathophysiology - Tracheostomy/Ventilation Management:
Adult Speech & Language Therapists	- Assessment and Diagnosis - Treatment Planning - Swallowing Therapy - Research - Use of Alternative and Augmentative Communication (AAC) systems
Paediatric Optometrists	- Eye examination - Refraction and prescribing - Ocular Health management - Proficiency with Diagnostic instruments - Pharmacology Knowledge - Cycloplegic Refraction
Low Vision Optometrists	- Visual acuity testing - Eye examination - Refraction and prescribing - Ocular Health management - Contact lense fitting - Proficiency with Diagnostic instruments and Pharmacology
Neuro Optometrists	- Neurological fiend testing - Advanced Ocular Health management - Proficiency with Diagnostic instruments and Pharmacology - Papillary Function evaluation - Specialized lens prescription - Neuro-optometry rehabilitation
Upper Limb Prosthetists	- Neuro muscular disorder - Clinical Rehabilitation - Electronics knowledge - Software and programming
Lower Limb Prosthetists	- Neuro muscular disorder - Clinical Rehabilitation - Software and programming
Spinal Orthotist	- Neuro muscular disorder - Clinical Rehabilitation - Software and programming
Lower Limb Orthotist	- Neuro muscular disorder - Clinical Rehabilitation - Software and programming
Health Informatics Specialists	- ICD 10 Coding - Digital Health Literacy - Firewall Cyber Security - Data Protection Models - Programming

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Patience - Creativity - Verbal and written communication - Time management - Dependability	Speech-Language Pathology (Dysphagia)	5	5	5	5	5
	- Patience - Creativity - Communication - Time management - Dependability	Speech-Language Pathology	5	5	5	5	5
	- Patience - Collaboration - Attention to Detail - Creativity - Communication	Optometry in Paediatrics & Binocular Vision	5	5	5	5	5
	- Collaboration - Attention to Detail - Creativity - Communication - Analytical	Optometry in Vision Rehabilitation	5	5	3	3	2
	- Collaboration - Attention to Detail - Creativity - Communication - Problem Solving	Optometry in Neurology	5	5	3	3	2
	- Collaboration - Research - Leadership - Communication	Upper Limb Prosthetics	2	2	2	2	2
	- Collaboration - Leadership - Communication	Lower Limb Prosthetics	2	2	2	2	2
	- Collaboration - Communication - Leadership	Spinal Orthotics	2	2	2	2	2
	- Communication - Collaboration - Leadership	Lower Limb Orthotics	2	2	2	2	2
	- Analytical & Collaboration - Time Management - Problem Solving - Communication	Health Informatics	6	4	5	8	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Bioinformatics Specialists	• Research • Programming • Application Knowledge • Genetics • Immunology
Medical Economists	• Research • Project Management • Monitoring and Evaluation • Planning & Budgeting • Forecasting/Projection
Medical Facilities/Healthcare Architects	• Facility planning and design • Health and Safety • Legislative Compliance • Risk assessment and mitigation • Programme & Engineering Management
Midwives	• Emergency Obstetric Care • Cardiotocography (CTG) use and interpretation • Neonatal resuscitation & basic Life Support • Product knowledge • Computer knowledge
Trauma Nurses	• Basic Life Support & Intermediate trauma life support • Advanced Cardiac Life Support • ECG Interpretation • ABG (blood gas interpretation) • ICD 10 coding & Product knowledge
Theatre Nurses	• Basic Life Support & Intermediate trauma life support • Advanced Cardiac Life Support • ECG Interpretation • ABG (blood gas interpretation) • ICD 10 coding & Product knowledge
Ophthalmology Nurses	• Eye Assessment & Diagnostic ophthalmic tests • Ophthalmic surgical skills • Triage and manage patients • Prescribe and administer eye medications • Ophthalmic Equipment Handling and care
Infection Control Nurses	• Infection Prevention, Management and Control • Patient assessment, Risk assessment mitigation • Legislative compliance • Epidemiology and surveillance • Emerging technologies & Quality Assurance
Anaesthetic Nurses	• Advanced Cardiac Life Support • Pain management • Airway management. • Cardiopulmonary Resuscitation
Critical Care Nurses	• Basic Life Support • Advanced Cardiac & Trauma Life Support • Pediatric Life Support • Product & Computer knowledge • Blood gas analysis & Equipment Handling

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Attention to detail - Analytical - Communication - Time Management - Problem Solving	Bioinformatics	6	3	5	7	6
	- Analytical - Critical Thinking - Problem Solving - Collaboration - Communication	Medical Economics	2	2	2	2	2
	- Analytical & Communication - Time management - Problem Solving - Decision making - Collaboration	Health Care Design & Engineering	4	1	3	4	3
	- Communication - Decision making - Compassionate - Observation & Collaboration - Time Management	Midwifery	30	35	28	24	21
	- Analytical & Collaboration - Time Management - Problem Solving - Communication - Attention to details	Trauma Nursing	15	12	9	7	7
	- Analytical & Collaboration - Time Management - Problem Solving - Professionalism - Communication	Theatre Nursing	14	7	5	6	5
	- Analytical & Communication - Multitasking & Collaboration - Attention to Detail - Problem Solving - Decision making	Ophthalmology Nursing	8	11	9	7	6
	- Analytical & Collaboration - Problem Solving - Critical Thinking - Communication - Decision Making	Infection Control Nursing	8	10	8	9	6
	- Analytical & Communication - Collaboration - Time Management - Problem Solving	Anaesthetic Nursing	15	14	12	9	8
	- Critical Thinking - Collaboration - Decision Making - Attention to Detail - Communication	Critical Care Nursing	10	12	10	12	8

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 9: HEALTH (Continued)	
Geriatric Nurses	• Patient assessment and care & Diagnostic • Counselling, Rehabilitation & Palliative Care • Medication administration • Evaluation of patient care • Infection Control
Neonatal Nurses	• Neonatal resuscitation • Basic Life Support and Pediatric Life Support • Product knowledge • Computer knowledge
Occupational Health Nurses	• Product knowledge • Environmental Assessment • Safety Compliance • Basic Life Support
Palliative Care Nurses	• Basic Life Support • Pain management • Patient and family education
FIELD 12: INFORMATION AND TECHNOLOGY	
Digital Transformation Managers	• Human resource management • Entrepreneurship & informatics • Open and big data • Fintech • Cyber security & Data analytics
Big Data Analysts	• Programming Languages • Data Science & ML/AI • Quantitative Analysis & Cloud Computing • SQL & NoSQL databases • Data Mining, Data Structure and Algorithms • Interpretation and Visualization
FIELD 15: SOCIAL SCIENCES	
Energy Economists	• Energy market modeling & forecasting • Cost-benefit & policy impact analysis • Pricing mechanisms & regulation • Data analytics & visualization • Scenario planning (low-carbon transitions)
Healthcare Economists	• Research • Project Management • Monitoring and Evaluation

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Advocacy & Collaboration - Time Management - Problem Solving - Analytical & Communication - Decision Making	Geriatric Nursing	10	9	8	9	7
	- Collaboration - Critical Thinking - Decision Making - Attention to Detail - Communication	Neonatal Nursing	6	8	6	6	4
	- Analytical & Communication - Multitasking & Collaboration - Time Management - Attention to Detail - Decision Making	Occupational Health Nursing	8	9	8	7	5
	- Analytical & Collaboration - Time Management - Problem Solving - Critical Thinking - Communication	Palliative Care Nursing	4	6	5	5	4
	- Problem Solving - Analytical & Innovation - Communication - Collaboration - Time Management	Digital Transformation Management	12	12	12	12	12
	- Analytical - Communication - Time management - Attention to detail - Professionalism	Data Analytics	28	12	12	12	12
	- Strategic thinking - Communication - Stakeholder engagement - Critical thinking - Report writing	Economics	0	2	2	3	3
	- Analytical - Critical Thinking - Problem Solving - Collaboration - Communication	Health Economics	2	1	2	2	1

ANNEX 2:

Priority/Future Occupation and Skills Forecasts (External) (continued)

Occupations	Technical Skills
FIELD 15: SOCIAL SCIENCES (Continued)	
Project Commissioning Specialists	- Projects Management - Procurement-supply chain - Systems Commissioning and Integration - Risk allocation - Costing/Financing
Regulatory Affairs Specialist	- Legal procedure and processes - Legal writing & interpretation of law - Knowledge of policies and regulations - Good Manufacturing Practice - Quality Management System - Supply chain management & project management
Aviation and Transport Lawyers	- Knowledge of aviation laws and regulations - Litigation support

Professional Training (Certification)

Occupations	Technical Skills
FIELD 12: INFORMATION TECHNOLOGY	
Artificial Intelligence Engineers	- Programming - Linear Algebra, Probability, and Statistics - Spark and Big Data Technologies - Algorithms & Frameworks - Data Lakes
Cyber Risk Managers	- Cyber security - Risk management - Incident Response and Management
Energy Auditors	- Analysis - Design - Capital cost estimation - Engineering and technology - Project delivery and management

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Analytical Thinking - Effective Communication - Negotiation - Planning and Execution - Managing Change	Project Management	13	15	15	14	14
	- Decision-making - Persuasion and leadership - Attention to detail - Adaptable	Law	7	3	3	3	3
	- Conflict resolution - Negotiation skills - Problem solving	Law (Transport)	32	40	51	49	49

	Soft Skills	Area of Study	Estimates				
			2025	2026	2027	2028	2029
	- Communication - Problem Solving - Domain Expertise - Time Management - Business Intelligence - Communication	Azure AI Engineers Associate or IBM AI Engineering Professional Certificate or Data Lakes Machine Learning	31	33	36	38	38
	- Decisive - Inquisitive - Eager to Learn - Trend Analysis	IBM Cybersecurity Analytics or Professional Certificate or Google Cybersecurity Professional Certificate or Certified Risk Management or CISSP, or CISA	2	2	3	5	5
	- Customer services - Communication - Analytics - Attention to details	Energy Management System (EnMS)	0	5	5	4	4

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