Republic of Namibia

National Human Resources Plan

2010 - 2025

Republic of Namibia

National Human Resources Plan
2010 - 2025

Office of the President
National Planning Commission
October 2012

ISBN: 978-99945-0-065-9

ACKNOWLEDGEMENTS

The development of the National Human Resources Plan would not have been possible without the support, cooperation and participation of partners, stakeholders and experts. The assistance, advice and contributions of the following are hereby gratefully acknowledged:

The African Development Bank

The members of the **Core Working Group on Human Resource Planning and Capacity Building Assessment:**

- Bank of Namibia
- Chamber of Mines of Namibia
- Employment Equity Commission
- International University of Management
- Ministry of Education
- Ministry of Finance
- Ministry of Home Affairs and Immigration
- Ministry of Labour and Social Welfare
- Ministry of Trade and Industry
- Ministry of Youth, National Service, Sports and Culture
- Namibia Chamber of Commerce and Industry
- Namibia College of Open Learning
- Namibia Employers Federation
- Namibia Non- Governmental Organisation Forum
- Namibia Qualifications Authority
- Namibia Statistics Agency
- Namibia Training Authority
- National Council of Higher Education
- National Planning Commission
- National Union of Namibian Workers
- National Youth Council
- Office of the Prime Minister
- Polytechnic of Namibia
- Trade Union Congress of Namibia
- University of Namibia

Stakeholders who participated in the national consultations and who provided the requested data.

The **Consortium for International Development in Education** (CIDE).

The **National Human Resources Plan project staff** at the National Planning Commission.

PREFACE

At independence (in 1990), the Government of the Republic of Namibia realised that inadequate human resources development was a serious obstacle to sustainable economic development and has since been emphasising the need for quality human capital. For many years, the country has been importing skilled and experienced human capital to fill the gaps that exist in the labour market.

In 2004, Namibia adopted a Long Term Perspective Plan, Vision 2030. Under this Vision, the country would operate a totally integrated, unified, flexible and high quality education and training system that would prepare Namibian learners to take advantage of the rapidly changing global environment. The ultimate objective is to balance the supply and demand in the labour market so as to achieve full employment in the economy. This is thus the key factor to Namibia's Vision of becoming a *prosperous and industrialised nation, developed by her human resources, enjoying peace, harmony and political stability,* by 2030.

Inspired and guided by the national vision statement, Namibia has undertaken to reform to its overall national development strategy. Vision 2030 sets a target that, by 2030, *Namibia should join the ranks of high income countries and afford all its citizens a quality of life that is comparable to that of the developed world*. With emphasis on enhanced quality of life for all, Vision 2030 calls for rapid *economic growth* to be accompanied by *equitable social development*. These twin goals of growth with equity are to be pursued within a broader strategic framework of transforming the economy into a knowledge-based economy.

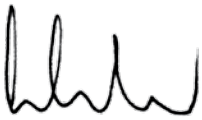
Human resources development and institutional capacity building have been identified as some of the prerequisite strategic objectives for achieving the Vision, and for the implementation of the National Development Plans. The demand for qualified human resources in Namibia is high and will become even more intense in response to economic growth. However, the paucity of skilled labour hinders effective and efficient programme and project delivery.

This National Human Resources Plan is therefore designed to provide a comprehensive overview of the human resource situation in our country; the policy parameters and the strategic directions; and the implementation, monitoring and

evaluation frameworks for sustainable human resources planning.

In summary, the National Human Resources Plan and its associated implementation tools shall guide the Government, private sector, civic organisations and training institutions on how to invest into industries with high growth and employment potential and into critical skills to meet the current and emerging developmental challenges. We should all read it, understand the contents and engage each other in productive partnerships that will promote employment creation and employability of the people of Namibia.

Together we can make Vision 2030 a reality!



Tom K. Alweendo
Director General
National Planning Commission

List of Abbreviations

AfDB	African Development Bank
AODSOM	Alberta's Occupational Demand and Supply Outlook Models
CBS	Central Bureau of Statistics
COSDEC	Community Skills Development Centre
EEZ	Exclusive Economic Zone
EMIS	Education Management Information System
ETSIP	Education and Training Sector Improvement Programme
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GRN	Government of the Republic of Namibia
HEI	Higher Education Institution
HR	Human Resources
HRD	Human Resources Development
HRDC	Human Resources Development Council
HRP	Human Resource Planning
ICT	Information and Communication Technology
IMF	International Monetary Fund
IPPR	Institute of Public Policy Research
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification
IUM	International University of Management
KAYEC	Katutura Youth Enterprise Centre
LED	Local Economic Development
LFPR	Labour Force Participation Rate
LFS	Labour Force Survey
LMIS	Labour Market Information System
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goal
MEWG	Macro-Economic Working Group
NAMBIC	Namibian Business and Investment Climate
NAMCOL	Namibian College of Open Learning
NAMFI	Namibia Maritime Fisheries Institute
NCCI	Namibia Chamber of Commerce and Industry

NCHE	National Council for Higher Education
NDP2	Second National Development Plan
NDP3	Third National Development Plan
NEF	Namibian Employers' Federation
NHRP	National Human Resources Plan
NIDS	Namibia Intercensal Demographic Survey
NIMT	Namibia Institute of Mining and Technology
NLFS	Namibia Labour Force Survey
NMA	Namibian Manufacturers Association
NODSOM	Namibia's Occupational Demand and Supply Outlook Model
NOSA	National Occupational Safety Association
NPC	National Planning Commission
NQA	Namibia Qualifications Authority
NQF	National Qualifications Framework
NTA	Namibia Training Authority
ODSOM	Occupational Demand and Supply Outlook Model
OECD	Organization for Economic Cooperation and Development
OVTC	Okakarara Vocational Training Centre
PLAR	Prior Learning Assessment and Recognition
PoN	Polytechnic of Namibia
R&D	Research and Development
RVTC	Rundu Vocational Training Centre
SME	Small and Medium Enterprises
SMME	Small, Medium and Micro Enterprise
SNA	System of National Accounts
SSC-DF	Social Security Commission Development Fund
TIPEEG	Targeted Intervention Programme for Employment and Economic Growth
TVET	Technical Vocational Education and Training
UNAM	University of Namibia
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
VET	Vocational Education and Training
VTC	Vocational Training Centre
VVTC	Valombola Vocational Training Centre
WVTC	Windhoek Vocational Training Centre
ZVTC	Zambezi Vocational Training Centre

Executive Summary

In 2004 Namibia adopted a long-term perspective plan, namely Vision 2030, which serves as a basis for planning the country's future. It sets the macro-economic framework and the long-term targets through which the vision of Namibia's society is to be achieved. The "Vision" stipulates that Namibia, by 2030, will transition into an industrialized and globally competitive country of equal opportunity, realizing its maximum growth potential in a sustainable manner, with improved quality of life for all Namibians. In order to achieve this ambitious goal, Namibia needs to develop human capital and build institutional capacity to absorb the labour force necessary to meet the demands of the economy, and address the problem of human resources skills shortages across all industrial sectors.

Namibia shows signs of constant growth in secondary and tertiary industries indicating its capacity to sustain an industrial economy. Tertiary industries are the biggest contributors to employment thus indicating the potential for an up-skilling of the labour force. Various Government initiatives, combined with its commitment to creating a favourable business climate, with adequate social justice policies, are strong foundations for the country's economic development. However, these signs of opportunities are threatened by a number of social (unequal distribution of resources among regions, widespread poverty and inequality, etc.) and economic issues (persisting labour market segmentation, unfair competition with other countries in the region, worldwide recession, etc.). Namibia's potential for economic and employment growth is further hindered by the existence of mismatches between supply and demand of skilled workers; the opportunity cost of employment; labour regulations; low level of labour productivity in the manufacturing sector; insufficient investment in sustainable rural development; and gender, age and geographic disparities in terms of employment, disfavouring women, youth and rural populations.

In order to support the economic growth of the country, Namibia has been investing extensively in the education system by ensuring free access to primary and secondary education, expanding the secondary schools system by allowing enrolment in vocational education at the end of the junior secondary phase and by establishing entrepreneurship training. Important initiatives were put in place to enhance access, quality and efficiency of the educational system. Nevertheless, human resources development in Namibia

still faces important challenges that have a negative impact on student persistence and success, learning outcomes and the preparedness of VTC and university graduates for the high-skilled job market. In addition, the higher education and vocational training systems have a limited capacity to absorb learners. This is clearly seen by the low participation rates in higher education and its limited capacity to directly contribute to knowledge creation.

It is in this context that the Government of the Republic of Namibia (GRN) set the foundations to provide the country with the necessary roadmap to respond to the structural mismatch between skills and available jobs by formulating the National Human Resources Plan (NHRP). The NHRP is the instrument of choice for Namibia to directly address unemployment and skills shortages, and hence contribute to the competitiveness of domestic firms for increased private sector growth and improved performance. As summed up in the Macro-economic Framework for the years 2011/12 – 2013/14, the policy challenge is to tailor the NHRP to the labour market demand, improve the quality of educational and training outcomes, and invest substantively in research and development (R&D). The NHRP addresses the skills deficit alongside the need to diversify the economy. This is a very important distinction as it puts education and training at the centre of human capital development.

The NHRP is largely based on Namibia's Occupational Demand and Supply Outlook Model (NODSOM) which allows forecasting of occupational gaps over time with the objective of providing an integrated accounting framework to analyse the status and evolution of the labour market. By quantifying occupational gaps, NODSOM can provide useful clues with regards to identifying and understanding major labour market trends and issues requiring policy attention within the planning process. NODSOM provides information for employers, employees, employment agencies and policymakers, thus facilitating a labour market balance while reducing adjustment costs and enhancing capacity for productivity and competitiveness. Additionally, it also helps create the path to ensure that workers are employed in occupations that correspond to their skill level. This is a key step in transitioning to an industrialized economy and ultimately reducing socioeconomic barriers to employment. On the public side of the spectrum, occupational forecasting informs social investment in education and social welfare.

The gap analysis figures generated from NODSOM indicate major shortages that are most critical in occupations requiring trade training and professions in the hard sciences. This is aggravated by the existing constraints in both the VET system and the higher education system. The VET system is currently not adequately geared

to meet current and future labour market demands for skills due to its limited access (with annual enrolment averages of 2,000 students), its focus on traditional trades[1], inefficient allocation of resources, the under preparedness of students and the lack of experienced instructors to promote competence based learning.

The university sector also requires investment at all levels to bring education up to standard for the required economic growth. Overall investment should be targeted towards greater access, industry relevant curriculum review, upgrade in teaching methods, and, most of all, development of research capacity. This is consistent with the findings in the 2011 Global Competitiveness Report which ranked Namibia at 113th out of 142 countries in higher education and training. The ability of the country to perform applied research in critical areas such as agriculture, fisheries, geology, information technology and manufacturing is severely hampered by the lack of qualified graduates in engineering, biology, chemistry, mathematics and information technology.

Furthermore, since most of the demand for professionals appears to be in the public sector (health, education, social services, extraterritorial organizations), it is important to strengthen university links to the private sector either through internship programmes (co-op) or applied research, to induce demand for a qualified supply. In other words, as the private sector gains from university professionals, they are more likely to hire locally when it comes to higher-level positions. This is quite relevant when considering employers with multinational links where higher-level positions are usually recruited from developed countries. The idea here is to slowly reverse that trend by improving the quality of local professionals.

The NHRP proposes intervention strategies formulated for the short term (1-5 years), the medium term (6-10 years) and the long term (11-15 years), under the categories of:

1. Institutional and Policy development.
2. Data management and information dissemination.
3. Improvement of the efficiency and effectiveness of the education and training system.
4. Prioritisation of critical occupations for human resources planning.
5. Addressing unemployment and employability skills.

1 Auto-mechanics, Diesel Mechanics, Boiler Making, Welder/Fabricator, Office Administration, Junior Computer Technician, Fitting and Turning, Joining and Cabinet Making, Air-Conditioning and Refrigeration, Turner Machinist, Electrical Installation, International Computer Driving License, Plumbing and Pipefitting, Radio and TV (Electronics).

Table of Contents

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE NATIONAL HUMAN RESOURCES PLAN

1.1. Formulation of a National Human Resources Plan: A Response to National Development Goals

In the eighties, structural reforms were introduced to promote development by attaining macro-economic stability in developing countries. Supported by policies to minimize fiscal deficit, inflation and tariffs and maximise market liberalisation, structural reforms were supposed to bring economic growth. In turn, economic growth was expected to bring employment and contribute to poverty reduction. By the late nineties however, this formula proved to be insufficient. The experience in Sub-Saharan Africa for instance, shows that economic growth at a macroeconomic level, does not translate into employment and poverty reduction. Namibia, for example, implemented structural reforms along the lines of macroeconomic stability, improving its growth rates during the 2000s. However, unemployment, measured in strict terms[2], increased from 20.2 percent in 2000 to 37.6 percent according to the 2008 Labour Force Survey.

In response to mismatches between economic growth and employment, Namibia put forward, in 2004, a country vision changing the paradigm for development. In the words of the founding President Dr. Sam Nujoma, concern for the population and its economic and social well-being, is now at the centre of Namibia's Vision for 2030. By placing economic growth side by side to equitable social development, Vision 2030 calls for a human capital development strategy to transition into an industrialized and globally competitive country of equal opportunity, realizing its maximum growth potential in a sustainable manner, with improved quality of life for all Namibians. Vision 2030 serves as a basis for planning Namibia's future and sets the macro-economic framework and the long-term targets through which the vision of Namibia's society is to be achieved.

To become an industrialized country, Namibia will need to address the problem of skills shortages across all sectors of the economy. The issue of Namibia's skills imbalances has been well documented in the past years. Both the 2009 and 2011 Namibian Business and Investment Climate Surveys (NAMBIC), conducted

2 Information refers to unemployment using the strict definition of being without work, available for work and seeking work.

on behalf of the Namibia Chamber of Commerce (NCCI) and the Namibian Manufacturers Association (NMA), found that for businesses employing more than six people, the scarcity of skilled labour was named as the biggest obstacle to business growth. The 2011-2012 Global Competitiveness Report rated Namibia as 134th (out of 142 countries) for "availability of scientists and engineers" and stated that an inadequately educated workforce was the most problematic factor for doing business in the country.

Drawing from the Second National Development Plan (NDP2) and the national commitment to the Millennium Development Goals (MDGs), the Third National Development Plan (NDP3) covering the period from 2007/08 to 2011/12, aims at preparing Namibians not only to take advantage of a rapidly changing global environment, but also to actively participate in it. Linkages between economic development and employment require an intricate understanding of the labour-market structure. Namibia inherited from its colonial past, and particularly from apartheid policies, a skewed distribution of wealth, a huge skills deficit, and a highly segmented labour market. A study commissioned by the Namibian Employers' Federation (2010) surveyed employers' perceptions and experiences regarding skills deficit and found that 96 percent of employers across various sectors agreed that Namibia is experiencing a skills shortage with 51 percent of them qualifying such shortage as severe. Shortages are more prominent when employers require specialized or professional skills. These findings are consistent with the NDP3 call for the public sector, in collaboration with the private sector, civic organizations and development partners, to develop human capital and build institutional capacity to absorb the labour force necessary to meet the demands of the Namibian economy. In particular, the National Planning Commission (NPC) targets in its Strategic Plan 2010 – 2014 period, a comprehensive National Human Resources Plan (NHRP) to provide the roadmap to respond to Namibia's structural mismatch between skills and available jobs.

The NHRP is thus the instrument of choice for Namibia to directly address unemployment and skills shortages, and hence contribute to competitiveness of domestic firms for increased private sector growth and improved performance. As summed up in the Macro-economic Framework for the 2011/12 – 2013/14, the policy challenge is to tailor the NHRP to the labour market demand, improve the quality of educational and training outcomes and invest substantively in research and development (R&D).

With a clear focus on labour-market demand as a point of departure, NHRP

specifically targets sectors with high potential for employment growth such as tourism, livestock farming, fishing, manufacturing and mining. Planning for these sectors' labour demands involves not only matching skills training with actual jobs, but also integrating initiatives acknowledging the role small, medium and micro enterprises (SMMEs) play in job creation. Finally, the plan also forecasts the human capital needed to advance Namibia's aim of becoming a knowledge based economy through technology, research and innovation. The overarching objective of the NHRP is fourfold:

1. **To identify sectors with high potential for employment creation and economic growth;**
2. **To identify and develop the skills and qualifications required in the labour-market by sector and sub-sector of the economy and by timeframes.**
3. **To develop the technical skills, managerial skills and technological know-how required to start SMMEs in those sectors where there is clear opportunities to participate in value chains and channels.**
4. **To develop the knowledge required to achieve the country's long-term vision of developing a knowledge-based society.**

By differentiating supply and demand mismatches from technology, research and innovation gaps, the NHRP will address the skills deficit alongside the need to diversify the economy. This is a very important distinction as it places education and training at the centre of human capital development. Furthermore, the NDP3 implicitly hints at a differentiated strategy for education, suggesting the need to strengthen adult learning, vocational education, higher education, continuing learning and lifelong learning. Briefly, adult learning strategies would target employability for people with low education attainment; vocational education would target full employment for people with secondary schooling or relevant experience; higher education would aim at professional education and applied research to create a knowledge base that would contribute to employment generation; and continuing learning would allow for bringing peoples' skills up to the level required in a changing environment.

Lifelong learning strategies deserve special attention as they concern education in the broader sense of the term. Lifelong learning emphasizes the human capacity of wanting to learn, which includes the development of general and applied skills and knowledge, social values and interpersonal skills and personal qualities (mind, body and spirit). These four pillars are based on the understanding that skills, knowledge and attributes are acquired in various contexts, including at home, in the community, at school and at work.

In view of a wider context of human development, the NHRP will address gaps and mismatches between supply and demand in the labour market by taking up the challenge of eliminating barriers to opportunity, employment and productivity. Analysis of the current employment situation in Namibia shows that the bulk of the economically active (74.3 percent) are employed in the informal sector, adding to a highly segmented labour market along the lines of gender, age and geographic location (rural versus urban). Undoubtedly, the Namibian NHRP should address these barriers in order to tackle unemployment and ultimately poverty. Such targeted human resources planning, is inevitably tied to employment creation policies and Government initiatives.

1.2. Linking Human Resources Planning to National Development Goals

Productive and competitive human resources and institutions is a key result area associated with the third objective of Vision 2030 and is linked to the other seven objectives (Figure 1). Hence, while the Human Resources Plan (HRP) should ultimately create the roadmap for achieving this result, it can only do so by taking into account the developments and progress in other key result areas.

Figure 1: Third National Development Plan: Key Result Areas

Source: Third National Development Plan (NDP3) - 2007/08-2011/12

While Namibia transforms into an industrialised and ultimately a knowledge-based economy, it is important to have a clear picture of what the current demands are, quantify and qualify labour shortages, strategise around mismatches and build on achievements. In other words, human resources planning is advantageous as long as it allows for visible results at different stages that are linked to developmental goals. For example, in a staged approach, the first stage (5 year strategic framework) should strategise to meet urgent skill gaps and address non-structural barriers to employment, mostly referring to information gaps and mismatches. Moreover, this stage should strategise around capacity building for the knowledge-based economy. A second stage (10 year strategic framework) would focus on developing skills in active knowledge economy sectors, while strategizing on SMMEs as sources of sustainable productivity at a smaller scale. A third stage (15 year strategic framework) will build on the previous two, aiming at a diversified labour force responding to an economy where employment is distributed along the lines of productivity and competitiveness in the primary, secondary and tertiary sectors of the economy.

In all three stages the NHRP aligns to key result areas leading to Vision 2030. Ultimately the NHRP should link to any employment policy framework promoting jobs in priority competitive sectors, advancing a multi-stake holder coordination and participation working framework, promoting social justice and fighting inequalities, and move from high unemployment to full employment thus advocating for a transition from informal to formal employment.

1.3. The Human Resources Planning Framework

Planning at a national level requires a collective and integrated effort among different key actors. As such, a NHRP can be defined as a coordinated action to tackle the many policy levers - education, employment, labour and industry, internal migration, social, economic and fiscal - that affect career lifecycles. Accordingly, human resources planning requires bringing together the different branches of the government, the private sector, the education and training sector, the professional/occupational sector, including employer associations and community based organizations.

While National Human Resources Plans are embedded in the context where they are produced, there are processes that are commonly used to frame the development, implementation, monitoring and evaluation of the plan. A framework

for human resources planning at a national level typically consists of several processes including needs-based analysis, policy planning and decision making, development of required human resources policies, action planning, implementation and monitoring & evaluation.

During the needs-based analysis phase, the government body responsible for National Human Resources Planning adopts an approach to anticipate current and emerging trends based on demographic, cultural and geographic factors. This is advanced through in depth analysis and triangulation of data including:

1. *Supply analysis:* In depth analysis of the workforce and their current skills set.
2. *Demand analysis*: In depth analysis of the skills needed in the future in terms of competencies (including taking into account new skills resulting from a changing economy requiring flexibility).
3. *Gap analysis between supply and demand*: Identifies the gaps between current human resources supply and the current and future demand of human resources. A gap analysis displays the shortages and surpluses of personnel by sector.

Policy planning and decision making is built on the needs-based analysis and involves key stakeholders to establish a coordination strategy for human resources planning, promote ongoing representation of other key stakeholders and identify key actors to participate in the development of a comprehensive National Human Resources Plan. Governments provide the necessary **Human Resources Policies** for strategies to be feasible and for the plan to lead to a more flexible environment of human resources training. In partnership with the education and training sector, employers and communities; they provide opportunities for re-entry and advanced training, career development and continuing professional development in response to ongoing employment trends.

The NHRP is operationed by putting together an Action Plan which contains clear performance indicators over time. Furthermore, the NHRP and the action plans have clear implementation paths over time including monitoring and evaluation mechanisms to adjust action plans based on results.

The framework for National Human Resources Planning should be viewed as a system where the continuous flow between processes, allows for a constant learning in the process of planning.

Box 1: Human Resources Planning Experiences from Other Countries

Experiences from other countries reveal the adoption of different models for human resources planning at a national level. For example, while Botswana, South Africa and Mauritius adopted a long term - centralized model, Canada and the UK implemented a short term - decentralized one. There is no formula to determine which model is better, but there are some criteria to assess before deciding whether the planning should be short (1 - 2 years), middle (3 to 5 years), long term (6 years or more), or a combination of long and short term planning. Legal and institutional capacity along with regulatory frameworks will determine the planning range. As a general rule, countries with little or no institutional framework and infrastructure for Human Resources Planning need to integrate capacity and capability building into the planning which involves policy making and, sometimes, legislation revisions. In this case, planning will usually be long term and specify short and middle terms to achieve specific results. Botswana, Mauritius and South Africa have all gone this route. While Namibia could go this route, it is important to note that Vision 2030 is already a long-term framework aiming at different objectives that directly relate to a Human Resources Plan.

The short/middle term models have the advantage of setting achievable goals that force planners to look at what is possible in the current state of affairs. Hence, when pursuing a long-term human resources plan, it is important that stages are clear, concise, and achievable. Here it is important to clearly differentiate sectors. The UK and Canadian "hands-off" models allow for sectors to decide on their own planning according to their own demand/supply analysis. This is feasible not only because the rules of the productivity and competitiveness game are clear but also because sectors have an advanced level of self-regulation and autonomy.

Overall, what appears to be extremely helpful in any approach, is the availability of occupations for forecasting the human resources plans. For example, in Canada, forecasts are updated every year by jurisdiction and sector and provide annual information not only to policy makers but also to employees and employers, streamlining planning around similar objectives. Benefits from the use of forecasting in human resources planning include:

1. Achieving labour market balance.
2. Reducing adjustment costs.
3. Increasing productivity and efficiency.
4. Reducing social and economic problems arising from labour market imbalances (e.g. a shortage of doctors, social problems associated with high unemployment.)
5. Ensuring that workers are employed in occupations that correspond to their skill level resulting in significant productivity and efficiency gains.
6. Improving personal and public investment decisions, particularly pertaining to investments in education and training.

Based on the experiences in Canada, there are several factors that ought to be taken into account for human resources plans to become useful and reliable tools for different stakeholders. These include ensuring that:

1. Forecasts depend on sound macro-economic scenarios.
2. Technological change is taken into account and measured in terms of labour-capital substitution and new skills demands.
3. Different stakeholders are involved in the human resources planning process to guarantee:
   - constant flow of information;
   - commitment to human resources development goals;
   - working partnerships;
   - accountability and transparency of labour market information.

Finally, since planning involves both reinforcing what is working and addressing what is not, it is important to differentiate development from compensatory measures. For example, strategies to increase employability of the unemployed should be different from strategies to meet skills shortages in new developing sectors of the economy.

All in all, the plan should reflect the participation of key stakeholders creating a unique roadmap for a country. Whichever model a government follows, the starting point is always the analysis of current and future human resources supply and demand tied in with economic trends.

CHAPTER 2: NATIONAL SITUATION ANALYSIS

2.1 Economic Growth and Employment

2.1.1 Overview of the Economy

Namibia is classified as an upper-middle income country. The International Monetary Fund (IMF), in 2010, ranked Namibia as 99th among 183 countries with a GDP per capita of 6,954 international dollars. The 2011 IMF ranking of countries in the world, classified by their gross domestic product per capita at nominal value, gives Namibia's GDP per capita as being 5,652 US$. It ranked 81st out of 183 countries. In comparison, there are three sub-Saharan countries placed above Namibia, namely Botswana ($7,627, ranked 67th) Mauritius ($7,593, ranked 68th); and South Africa ($7,158, ranked 71st).

Namibia's GDP achieved an average growth rate of 4.7 percent for the period 2001-2010. It experienced a decline in 2009 (-0.4 percent) due to the global recession and a significant decrease in GDP growth rates of primary industries (-24.1 percent), particularly diamond mining (-50.8 percent). The economy recovered well in 2010 recording a robust growth of 6.6 percent. The diamond-mining sub-sector recovered in 2010 recording an increase of 34.9 percent in real value added. Other manufacturing sub-sectors registered a growth of 21.4 percent in real value, mainly resulting from the diamond cutting and polishing sub-sector that performed better in 2010. The construction of the Caprivi interconnector link also contributed to the strong recovery of the construction industry in 2010 (from -3.1 percent in 2009 to 10.8 percent growth rate in 2010).

While economic growth is expected to reflect in employment, and furthermore in poverty reduction, there are important challenges that convolute this relationship. As shown in Table 1, the contribution of an industry to the national GDP is not proportional to its contribution to employment. Industry's productivity and competitiveness, along with the supply of skilled workers in relation to demand, population density, transportation costs and labour regulations all affect employment (African Economic Outlook, 2011). Taking a closer look at the specific data displayed in Table 1, it is interesting to note that the agriculture sector is the largest employer (15.9 percent) at a national level. However, the agriculture, forestry, fishing and fish processing on board industries, lost close to 100,000 jobs between 1997 and 2008.

Table 1: Comparison between industries' contribution to GDP and to employment

Industry	% Contribution to GDP (2008)			% Contribution to Employment			Net Gain / Loss in Employment 1997 - 2008	% Change 1997 - 2008
	2000	2004	2008	2000	2004	2008		
Agriculture and Forestry	6.1	5.3	4.1	29.3	26.6	15.9	-94,111	-64.1
Fishing and Fish Processing on Board	4.6	3.7	3.3	1.8	3.3	0.4	-5,453	-80.5
Mining and Quarrying	9.9	9.7	16.1	0.9	2.0	2.7	-	-
Primary Industries	**20.7**	**18.7**	**23.5**	**32.0**	**31.9**	**19.0**	**-**	**-**
Manufacturing	11.7	12.5	12.9	5.3	6.2	6.3	-5,022	-19.1
Electricity and Water	1.9	2.1	2.2	1.0	1.6	1.6		
Construction	2.0	2.7	3.9	5.0	5.1	7.0	3,515	17.8
Secondary Industries	**15.5**	**17.3**	**19.0**	**11.3**	**12.8**	**15.0**	**-**	**-**
Wholesale and Retail Trade, Repairs	9.9	10.9	10.5	9.0	14.0	15.0	16,348	48.3
Hotels and Restaurants	1.6	1.8	1.8	1.8	3.4	3.4	8,329	278.7
Transport and Communication	4.4	5.6	4.7	3.3	4.1	4.7	-	-
Financial Intermediation	3.6	4.0	3.9	1.1	2.0	2.7	-	-
Real Estate and Business Services	8.9	9.2	7.4	9.1	2.4	4.5	-	-
Public Administration and Defence	9.8	9.0	8.4	5.7	8.0	8.4	5,685	25.8
Education	7.9	7.8	7.1	7.1	8.1	8.6	4,489	18.7
Health & Social Work	5.2	4.2	3.1	3.0	3.6	4.2	3,018	27.6
Community, Social and Personal Service Activities	4.1	3.6	3.0	10.7	3.3	3.4	-	-
Private Household with Employed Persons	0.9	0.8	0.7	5.1	6.2	10.9	7,424	26.0
Tertiary Industries	**56.3**	**56.9**	**50.6**	**56.1**	**55.1**	**65.9**	**-**	**-**

Source: 2000; 2004; 2008 Namibia Labour Force Survey (Ministry of Labour and Social Welfare), and National Accounts 2010 (Central Bureau of Statistics).

Overall, sectors that have a capacity to absorb more unskilled and semi-skilled labour are the ones that tend to sustainably contribute to employment. These include: agriculture and forestry, wholesale and retail trade and private household with employed persons. While it may seem reasonable to reinforce those industries that contribute to employment, it is important to take into account working conditions along with other structural variables to achieve a balance between employment and workforce productivity. While figures on workforce productivity are not available for Namibia, looking at employment trends reinforces the idea that GDP growth should not be the sole indicator to assess potential employment; workforce productivity should also be taken into account. The supply side of the equation gives a more complete picture of the economic and employment situation.

2.1.2 Labour Force Characteristics

In 2008, the labour force population in Namibia totalled 959,216 people. The majority (53.3 percent) was female. Almost half of the labour force was economically active a (total of 531,043 people), giving a participation rate[3] of 55.4 percent. Females represented 46 percent of the active labour force.

The 2008 Labour Force Survey estimated that 331,444 persons were employed bringing the overall employment rate[4] for the working age population to 34.6 percent. This rate compares unfavourably with the 65.8 percent for Sub-Saharan Africa and the world average of 60.9 percent.

Table 2: Employed persons by type of work place and sex

	Female (%)	Male (%)	Total (%)
Government	26.9	16.4	20.9
Parastatal	5.9	11.1	8.9
Private Enterprise	38.0	61.0	51.1
Non-profit organization	1.9	1.2	1.5
Cooperative	3.3	3.3	3.3
Private household	23.8	6.7	14.1
Other	0.2	0.2	0.3

Source: 2008 Namibia Labour Force Survey (Ministry of Labour and Social Welfare)

Out of the total of employed persons, 51.1 percent work for private enterprises, 20.9 percent for government, and 14.1 percent for private households. This indicates the importance of private sector development to increase employment levels in the formal sector.

Employment rates for Males are higher (41.6 percent) than that of Females (28.5 percent) even though women outnumber men in the working age population. A striking factor in this composition is the growing trend of women entrepreneurs. A recent World Bank report indicates that women entrepreneurs, while operating their businesses effectively, are concentrated in the informal, micro, low-growth and low profit areas recommending a shift to higher-value-added activities. Overall, the informal sector employs the bulk of the economically active (74.3 percent).

The dominance of the informal sector is not the only factor contributing to the distorted structure of the labour market. Unemployment is highly related to geographic location, gender and age. In 2008, rural unemployment was 64.9 percent and unemployment among rural

3 The (current) labour force participation rate (LFPR), or the economic activity rate, is the proportion of the working age population (15 years and above) which is economically active, i.e. either employed or unemployed and actively seeking work.

4 The employment rate refers to the proportion of the working age population that is employed.

women was 72.1 percent, compared to unemployment among all women which was 58.4 percent. Overall two thirds of the employed labour force works in towns or cities. As with women, young people also struggle to find jobs, experiencing an alarming unemployment rate of 68 percent. The fact that 60 percent of youth are "first time unemployed" suggests the presence of barriers in the transition from school to work. For instance, most unemployed youths have obtained some level of education with the majority attaining at least secondary school. There are also a number that have specialized training but still remain unemployed.

In the past decade, broad unemployment rates[5] have soared from 33.8 percent in 2000 to 51.2 percent in 2008. Of a total of 347,237 unemployed people, 57 percent are actively seeking work. Several factors are thought to exacerbate unemployment. The first one has to do with a mismatch between job creation and the labour force. For instance, from 1997 to 2008, the formal sector lost nearly 70,000 jobs while between 240,000 to 300,000 new job seekers entered the labour-market. Secondly, economic activity by industry and its capacity to generate jobs is constrained by structural barriers that affect investment and competitiveness. For instance, Namibia's ranking in the World Bank Doing Business index has declined to 78 points in 2011 from 66 in 2009. While infrastructure and financial market development creates the conditions for competitiveness, Namibia's labour market lacks enough flexibility to unleash the potential of its workforce. The inadequately educated workforce is identified as the most problematic factor for investing in Namibia.

Results from the 2008 Labour Force Survey, provide evidence that higher levels of educational attainment reduce the rate of unemployment (Table 3). Unemployment rates for Namibians with qualifications beyond secondary education are lower than those with only secondary education and below. The majority of employed persons have attained junior secondary school (31.8 percent). While, most of those employed persons with no education (52.1 percent) and with primary school education (27.0 percent) are in agriculture, those with junior and senior secondary education (20.5 percent and 18 percent respectively) dominate wholesale and retail trade and repair of motor vehicles. Employed persons with university degree are mostly employed in the education industry (23.7 percent), while post graduate degree holders are employed in health and social work (23.5 percent).

5 The broad measure of unemployment regards all those without jobs, who are available for work and looked or did not look for work. It is inclusive of all unemployed, whether they made attempts to look for work or not.

Table 3: Employed persons by highest level of education attained and industry

Industry	No Education (%)	Primary School (%)	Junior Sec School (%)	Senior Sec School (%)	Education after Std 10* (%)	University (%)	Post graduate Degree (%)	Teachers' Training (%)	Not Reported (%)
Agriculture	**52.1**	**27.0**	**10.2**	5.5	6.6	5.0	0.7	2.6	**12.3**
Fishing	0.0	0.3	0.3	1.0	0.0	0.0	0.4	0.0	0.0
Mining and Quarrying	1.6	1.9	1.9	4.7	4.6	2.4	5.5	0.0	6.1
Manufacturing	4.1	8.2	7.3	6.2	4.0	2.6	2.0	1.2	5.0
Electricity, Gas & Water	0.8	1.4	1.7	2.1	2.9	1.2	2.9	0.0	0.0
Construction	5.1	10.2	8.8	4.0	**8.3**	4.4	3.0	0.7	1.6
Wholesale and Retail Trade, Repair of motor vehicles	**8.5**	**14.0**	**20.5**	**18.0**	5.5	5.7	4.2	1.5	8.9
Hotels and Restaurants	1.6	2.9	4.7	4.2	1.8	0.7	1.3	1.3	0.0
Transport, Storage and Communication	1.4	3.3	4.8	7.0	3.9	8.8	4.9	0.9	**13.6**
Financial Intermediation	0.0	0.3	0.7	5.7	**8.1**	**13.6**	8.7	1.5	0.0
Real Estate, Renting and Business Activities	4.1	2.9	3.7	5.7	5.5	**10.8**	10.6	1.7	5.8
Public Administration, Defence & Social Security	3.5	6.2	9.1	**12.2**	7.0	7.6	**11.7**	1.6	12.2
Education	1.7	1.8	3.5	**7.3**	**30.6**	**23.7**	**18.5**	**84.0**	7.2
Health and Social Work	0.9	1.4	3.5	6.2	5.8	9.1	**23.5**	0.8	10.4
Other Community, Social & Personal Services	1.9	2.7	3.4	5.0	4.8	4.3	2.2	1.5	1.2
Private Households with employed persons	**12.7**	**15.2**	**15.8**	4.9	0.6	0.0	0.0	0.0	**15.5**
Extra-territorial Organizations	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Not recorded	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.7	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: 2008 Namibia Labour Force Survey (Ministry of Labour and Social Welfare)

(Note)***Standard 10 is currently Grade 12**

In addition, employed persons with no education or primary school education, dominate elementary occupations followed by those in skilled agriculture and fishery workers and craft and trade workers (Table 4). By contrast, occupations such as professionals, legislators and senior managers are dominated by employed persons with a university or post graduate degree. As for technicians and professional, a majority attained post Standard 10 (Grade 12) education (senior secondary).

Table 4: Employed persons by highest level of education attained and occupation

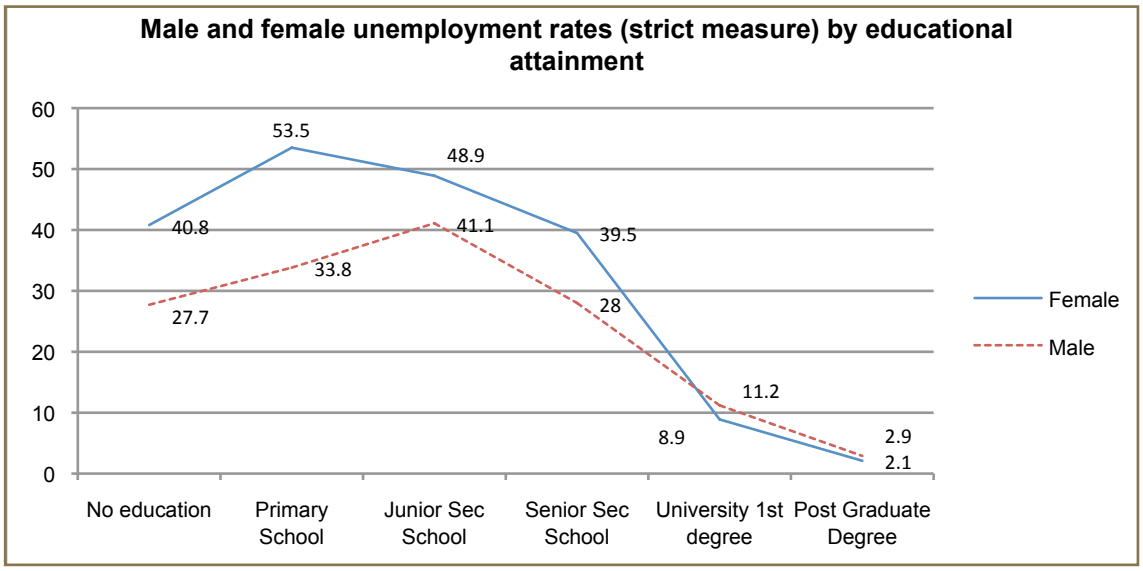
Occupation	No Education (%)	Primary School (%)	Junior Sec School (%)	Senior Sec School (%)	Education after Std10* (%)	University (%)	Post graduate Degree (%)	Teachers' Training (%)	Not Reported (%)
Legislators, senior officials & managers	1.5	1.7	3.9	6.1	11.9	21.1	20.1	3.8	8.8
Professionals	0.2	0.5	1.8	8.5	26.9	32.7	42.0	80.0	14.3
Technicians & Associate professionals	0.5	1.2	3.4	11.8	21.7	20.8	20.3	10.0	3.6
Clerks	0.1	1.6	5.7	16.4	11.0	11.4	6.8	0.7	1.2
Services, shops & market sales workers	12.9	16.2	25.6	20.8	5.5	6.9	4.2	0.5	30.2
Skilled agricultural & fishery workers	24.9	14.5	6.3	4.2	3.5	2.1	0.7	2.0	4.9
Craft & Trade workers	17.0	21.8	18.7	12.0	13.8	3.1	4.3	0.7	4.4
Plant & Machine operators & Assemblers	2.8	5.4	7.2	6.3	2.8	1.9	0.0	0.0	11.8
Elementary occupations	40.2	35.7	26.9	12.6	2.9	0.0	0.0	1.6	19.8
Armed forces	0.0	1.0	0.4	1.4	0.0	0.0	1.5	0.0	0.9
Not recorded	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: 2008 Namibia Labour Force Survey (Ministry of Labour and Social Welfare)

*(Note)***Standard 10 is currently Grade 12**

In Namibia, education also determines gender disparities, the higher the educational attainment the narrower the gap between male and female employment. As shown in Figure 2 unemployment rates and gender gaps decrease with increased educational attainment.

Figure 2: Unemployment and Education Attainment by Sex



Source: 2008 Namibia Labour Force Survey (Ministry of Labour and Social Welfare).

2.1.3 Economic Development and Labour Market

As a result of Namibia's distorted economic structure (highly segmented and largely informal), the labour market is not able to absorb the vast numbers of unemployed and under-employed into the mainstream economy, even in the presence of growth. Several policy initiatives are addressing structural constraints by targeting fiscal policy, labour regulation and incentives to encourage investment.

Fiscal policy

Namibia's budget performance in the past fiscal years, along with its contained inflation (within SADC target of 10 percent), and its close to optimal savings and investment ratios, gives some fiscal room to invest in human resources. During the past years public expenditure has been directed to addressing health and education constraints, agricultural output in quantity and quality to guarantee food security and infrastructure development and diversification of the economic sectors where a competitive advantage exists.

The Need for Growth in the Manufacturing Sector

Transforming Namibia into an industrialized country of equal opportunities, which is globally competitive, is a basic goal of Vision 2030. One of the best ways to achieve

this goal is to expand the manufacturing base of the country. The economy must attain growth of approximately 6 percent per year to reach the goals of Vision 2030. This translates in the manufacturing sector having to achieve a growth rate of more than 7 percent annually to support this target.

Manufacturing growth is a vehicle for economic growth as it has a very high multiplier effect in the economy. For every N$1 spend on manufacturing development, an additional N$1.5 – N$2.5 (depending on the sub-sector of manufacturing) is generated in the rest of the economy through products and services provided to the manufacturing sector. Thus, expanding the manufacturing sector is an important contributing factor to developing the economy of a country.

In 2009, the Namibian Manufacturers Association (NMA) participated in the process of drafting an Industrial Policy for the Ministry of Trade and Industry and an important contribution of the NMA to the Industrial Policy was its draft Manufacturing Strategy Framework. Pending implementation in 2012, this Framework is aimed at strengthening the sector through fiscal incentives, industry development monitoring mechanisms, public-private partnerships and performance-based incentives. All these initiatives are only feasible if Namibia is able to provide high standards tertiary, technical and business education. Hence the Industrial Policy recognizes the importance of the development of vocational skills and the promotion of apprenticeships and internships as a means of "bridging the gap between classroom training and the requirements of the real work environment". Furthermore, the Manufacturing Strategy Framework stresses the importance of incentive mechanisms for manufacturers to train employees up to global standards and eliminate barriers for skill transfer to the local workforce. Therefore, the private sector is asked to take ownership and increase its contribution to skills development, because ultimately it is the private sector that benefits from a skilled pool.

The Draft Manufacturing Strategy considers beneficiation of local raw materials, the mariculture industry and the development of SMEs:

1. Beneficiation of local raw materials

One of the easiest and most effective ways to induce further manufacturing growth and diversify the export product mix of Namibia will be to add value to local raw materials. A way of doing this is by investing in the beneficiation of resources. Based on the fact that the production of raw materials, and particularly of diamonds, will continue to expand and contribute to the Namibian economy, it is important to foresee value addition strategies especially through local beneficiation. A 2010 research makes the

case for local diamond beneficiation as a feasible proposition within a structured framework. Based on the analysis of supply and demand patterns in the world diamond market, it appears that a balance between rough exports and local beneficiation is essential in order to secure a bigger stake in the global market. The feasibility of a balanced strategy relies on incentive strategies for investors and the removal of barriers for local manufacturers to create a sustainable downstream industry. Not surprisingly, the Draft Manufacturing Strategy Framework considers beneficiation of local raw materials through public/ private partnership one of the key priority sectors along with the development of the mariculture industry and the transversal SME sector.

2. *The need for a fund to industrialize Fish Processing, Mariculture, and Aquaculture*

Namibia has one of the most productive fishing grounds, based on the Benguela Current System, one of the four eastern boundary upwelling systems in the world. Namibia's 200 nautical mile Exclusive Economic Zone's (EEZs) commercial biomass contains about 20 different species. The country exports 90 percent of its production and since domestic consumption is limited, growth in the industry relies in opening new markets to facilitate the diversification and value addition policies in the fisheries processing sector. Aquaculture and Mariculture are considered key areas to enhance food security, generate income, improve rural livelihood and incentivise self-sustaining businesses. Public and private investments along with research are crucial to develop this sector. In the past five years, the Government and international cooperation have directed their funds to initiatives in the fishery sector. These include the Norwegian, Icelandic and European Union cooperation agreements.

3. *Promotion of Small and Medium Enterprises*

SMEs in Namibia are believed to contribute about 12 percent to the country's GDP and employ about 20 percent of the country's workforce. The current and potential contributions that SMEs can make to the Namibian economy namely, providing employment and income opportunities, alleviating poverty, reducing gender based income gaps, driving technological innovation and diversification of production processes call for greater government support and a more conducive environment in which they can operate. Consequently, the development of the SME sector needs to effectively address constraints impeding SME development, such as access to affordable finance, access to appropriate and productive technology lack of managerial and financial skills, and lack of business know how and business linkages.

Momentum for the Agricultural Sector

Namibia is not self-sufficient in food and imports about 80 percent of its annual food requirements. There is a pressing need to expand agriculture as a means of creating employment, reducing rural poverty and heightening food security for the country. These needs are creating momentum to restore the country's agricultural vocation. The agricultural sector can increase contribution to GDP by utilizing its capacity to absorb unskilled labour for activities to upgrade and maintain agriculture infrastructure, while the sector develops agro-based industries for local, regional and international markets. Food production, agro-based industries and expansion of the livestock sector will in turn promote employment and poverty reduction. Furthermore, this will support and facilitate structural transformation and diversification for sustainable economic growth and development, which is the foundation for Vision 2030.

The government has expanded investment into horticultural development, to increase the contribution of agriculture to the country's GDP, through the implementation of its Green Scheme policy. Such a policy is expected to lead to the industrialization of the Namibian agricultural sector. The Green Scheme project components, implemented in areas of potential in the country, aim to build capacities by fully training the small-scale beneficiaries to independently handle irrigation, management and marketing of target crops.

Different initiatives focusing on the development and industrialization of the agricultural sector are consistent with the need to involve the public and private sectors. In general, the government's role is the continuous creation of a favourable business climate and an environment for job creation by the private sector, including education and training. Public sector investment in production, storage and marketing, infrastructure expansion and development, creates an enabling environment for private sector to expand its enterprises and operations.

Prospects for Sustained Growth in Tourism Sector

Growth in the travel and tourism economy is forecasted to increase from 5.9 percent in 2008 to 7.7 percent annually over the next 10 years. Travel and tourism is expected to support 32,000 jobs directly (7.4 percent of total employment) in 2011, and is expected to increase to 66,000 jobs (11.3 percent) by 2021, rising by 7.6 percent per year. With such prospects for Namibia, adequate planning offers vast opportunities for development, particularly in rural areas, where unemployment hits the hardest.

Tied to agriculture and education, the US-based Millennium Challenge Corporation (MCC) is providing some US$305 million to develop the tourism sector. Almost a quarter of the funds will be utilized in eco-tourism initiatives. The major focus of the MCC tourism funding is the Etosha National Park. Sustainability tourism in the park

is pursued through developing capacity of communal conservancies to attract investments in eco-tourism and capture a greater share of the revenue generated by tourism in Namibia.

Enabling Sectors

The semi-industrialization and industrialization of the economy will demand the development of enabling sectors including health, education, social services, water and electricity and transportation. For the future, it is recommended that the government and the private sector invest in developing institutional and human capacity to respond to the challenges of sustaining an industrialized economy.

Challenges for a National Human Resources Plan in Namibia

One of the biggest challenges governments face when making decisions towards developing their workforce and bridging labour market supply and demand gaps, is that of responding to actual and projected needs based on the input of the employer sector. In developing economies, most of the sectors' contribution to employment is hindered by two factors, namely sectors' low contribution to employment and qualified labour force shortages. Therefore, human resources planning in Namibia will have to go hand-in-hand with economic development plans to ensure that education and training investments return in the form of increased employment. Investments in tourism and agriculture seem to be more likely to produce a real demand for which the education and training sectors ought to be prepared. In other sectors, including the enabling ones, employers ought to participate in the planning process in order to assure goals, strategies and targets are feasible and measurable against the Vision 2030's overall purpose.

2.1.4 Conclusion on Economic Growth and Employment

Namibia shows signs of constant growth in secondary and tertiary industries indicating its capacity to sustain an industrial economy. Tertiary industries are the biggest contributors to employment which also indicate the potential for an up-skilling of the labour force. The country's enabling sectors (health, education, social services, water and electricity and transportation), as well as manufacturing, agriculture and tourism sectors are also expected to sustain the growth of the Namibian economy and continue to significantly contribute to employment. Moreover, eliminating barriers to micro-credits had a stimulating effect on investments in SMEs which favours the unemployed population. Various government initiatives (such as the implementation of the Industrial Policy Framework or the promotion of partnerships between the public and private sectors) and its commitment to creating a favourable business climate, with adequate social justice policies, are strong foundations for the country's economic development.

However, these opportunities are threatened by various social (unequal distribution of resources among regions, widespread poverty and inequality) and economic issues such as the persisting labour market segmentation, and unfair competition with other countries in the region (mostly in the manufacturing sector with South Africa) and the worldwide recession. Furthermore, Namibia's potential for economic and employment growth is mainly hindered by the existence of mismatches between supply and demand of skilled workers, the opportunity cost of employment, labour regulations, the low level of labour productivity in the manufacturing sector, the insufficient investment in sustainable rural development; and gender, age and geographic disparities in terms of employment, disfavouring women, youth and rural populations.

2.2. Human Resources Development

2.2.1. The Education System

The Namibian Constitution, 1990 (Act No 1 of 1990) and the Education Act, 2001 (Act No 16 of 2001) regulate the education system, which includes both formal and non-formal education. Formal education comprises seven years in primary schooling, three years in junior secondary, two years in senior secondary, three/four years in vocational training and four years in Polytechnic or University (under graduate degree).

The non-formal education provides training to adults and out-of-school youth through initiatives such as:

- The National Literacy Programme in Namibia
- The Namibian College of Open Learning (NAMCOL) a state-supported educational institution, established by an act of parliament which provides study opportunities for adults and out-of-school youth.

Primary Education

The lower and upper primary education levels last 7 years. It is free and compulsory for children between the age of 6 and 16. In 2010, 415,000 learners were enrolled. Although near-universal access has been attained the number of children attending school has dropped to about 92 percent in the last three years.

Contributory reasons for the drop in enrolment at primary level are that:

- In some regions of the country, schools are very far away and transportation is not provided.
- Parents have to buy school uniforms, learning materials and others. In times of rising unemployment these indirect costs are becoming a burden for many.

In the first three grades, classes are provided in the mother tongue of the majority of the learners. The switch to English as the medium of instruction begins in grade four so that starting with grade five all teaching

is undertaken in English. The major issue with primary education seems to be the poor quality of lessons. This is in turn directly connected to the poor education of the majority of the teachers.

Secondary Education

The junior secondary and senior secondary levels last three and two years respectively. In 2010, 132,257 learners were enrolled in the junior secondary phase and 41,003 learners in the senior secondary phase, a total of 173,260 learners. At the end of the junior secondary phase, learners can enrol in senior secondary or in vocational education while at the end of senior secondary, learners can enrol in higher or vocational education. With the Primary School Leaving Certificate, a person can choose between secondary or competency based skills training in a Community Skills Development Centre (COSDEC). Enrolment in Grade 10 to 12 is constantly growing as shown in Table 5.

Table 5: Enrolment in Grade 10 to 12 between 2007 and 2010

Level of Education	2007	2008	2009	2010
Grade 10	32,291	36,660	36,220	33,959
Grade 11	16,977	17,376	20,690	21,054
Grade 12	16,737	16,025	17,249	19,949
Total	**66,005**	**70,061**	**74,159**	**74,962**

Source: 2007; 2008; 2009, 2010 Education Statistics (Ministry of Education)

An estimated 30,000 young people leave school each year before the start of Grade 12. The number of Grade 12 learners obtaining the entry requirements for university is quite low at approximately 7,000 in 2010. Secondary education is characterized by a curriculum overload, sub-standard examination results, poor teaching competencies and weak school management.

To promote enrolment in Vocational Training Centres (VTC) or the establishment of a business, entrepreneurship training is offered through junior secondary schools, vocational training institutions and Multi-purpose Youth Resource Centres. At senior secondary, economics and business studies, office administration, keyboard application, home economics, fashion and fabric, agriculture and computer studies, are amongst the programmes offered, building on entrepreneurship for junior secondary training.

Vocational Education and Training (VET)

Within the Vocational and Training Act of 2008, the Namibia Training Authority (NTA) oversees the management and implementation of VET under the direction of employers and related stakeholders (State and unions). The government has opted for an open-entry system to VET programmes, which allows for recognition

of prior learning and enhanced articulation between Community Skills Development Centres (COSDEC and youth skills training centres), VET providers and institutions of higher learning. In 2010, 9,018 persons were enrolled in VET.

Table 6: Enrolment in VTCs between 2007 and 2010

Institution	2007	2008	2009	2010
Windhoek Vocational Training Centre (WVTC)	510	673	796	795
Rundu Vocational Training Centre (RVTC)	254	238	308	525
Valombola Vocational Training Centre (VVTC)	418	454	318	536
Zambezi Vocational Training Centre (ZVTC)	63	138	N.A	110
Okakarara Vocational Training Centre (OVTC)	330	326	376	294
DAPP Vocational School	81	108	150	108
Katutura Youth Enterprise Centre (KAYEC)	626	489	1,203	N.A
Community Skills Development Centres (COSDEC)	1,126	1,708	1,993	1,735
Namibia Maritime Fisheries Institute (NAMFI)	N.A	67	59	93
Namwater	N.A	N.A	195	202
Nampower	15	24	25	27
Namibia Institute of Mining and Technology (NIMT)	918	1,124	1,583	2,409
St. Charles Lwanga Major Seminary	27	44	36	37
National Health Training Centre	N.A	8	48	31
NICE/Wolwedans	N.A	15	32	186
Philipi Trust Namibia	N.A	348	459	241
Shadonai Beauty School	N.A	88	125	176
National Occupational Safety Association Namibia (NOSA)	N.A	206	236	392
International Training College Lingua	302	405	461	621
ILSA Independent College	N.A	243	275	470
Helmut Bleks Foundation	N.A	N.A	N.A	30
Total	**4,670**	**6,706**	**8,678**	**9,018**

Source: Vocational Training Centres 2011

*(Note)***N.A - Not Available**

VTCs in Namibia consist of both state and privately managed institutions. The Ministry of Education currently manages six VTC's. Others also include, Ehafo VTC for disabled people (Office of the Prime Minister) and The Namibia Fisheries Institute (Ministry of Fisheries and Marine Resources). Some privately managed institutions are, Namibia Institute of Mining and Technology, National Occupational Safety Association Namibia.

The VET system is implemented with the intention of addressing skills shortages in the country, particularly technical skills at artisan level. Indeed, the NTA offers 45 qualifications of three/four years, among which: Auto-mechanics, Diesel Mechanics, Boiler making, Welder/Fabricator, Office Administration, Junior Computer Technician, Fitting and Turning, Joining and Cabinet Making, Air-Conditioning and Refrigeration, Turner Machinist, Electrical

Installation, International Computer Driving License, Plumbing and Pipefitting, Radio and TV (Electronics).

VTC programmes are currently developed based on competency-based training.

Official vocational training facilities are still quite new in Namibia. Until a few years ago, vocational training was not yet in the focus of the Ministry of Education and substantially underfunded. Even though this has changed recently, most vocational training is still carried out informally in the enterprises without any formal diploma issued for the learner or quality standards being set. Consequently, the NTA initiated an advertising campaign to promote the value of vocational training and to encourage more women to take trades training leading to good careers and jobs in the economy. The objective is also to increase the percentage of women taking vocational training programmes, particularly in trades traditionally occupied by men (such as motor mechanics, welders, plumbing and pipefitting).

COSDECs and youth skills training centres, offer one-year bridging courses that cater the entry requirements to the Grade 10 and 12 learners who could not get admission to higher levels of learning. These institutions provide training for people with little or no formal schooling aiming to respond to immediate community needs and promote self-employment. In 2011, they enrolled 1,452 trainees of which 59 percent were women.

Higher Education

In order to delimit the field of Higher Education in Namibia, it is necessary to refer to the accrediting institutions: The Namibia Qualifications Authority (NQA) and The National Council for Higher Education (NCHE).

The NQA is a statutory body established by the Namibia Qualifications Authority Act No 29 of 1996. The NQA is committed to the promotion of quality education and training in Namibia through the development and management of a comprehensive and flexible National Qualifications Framework (NQF). Quality is also promoted by the NQA through the accreditation of education and training providers in Namibia and their courses. The NQA assists the development of Namibia through putting in place systems and opportunities that allows all people to develop to their fullest potential without being hindered by unnecessary obstacles and barriers.

The NQF has 10 levels with certificates from level 1 to 8, diplomas from level 5 to 8, degrees at level 7, bachelor honours and professional bachelor's degree at level 8, master's degree at level 9 and a doctoral degree at level 10 being the highest NQF level descriptor.

Volumes of NQF Qualifications:

- A Certificate must have a minimum of 40 NQF credits.
- A Diploma must have a minimum of 120 NQF credits.
- A Bachelor's degree must have a minimum of 360 NQF credits.
- An Honours and Professional must have a minimum of 480 NQF credits.
- A Master's degree must have a minimum of 240 NQF credits at level 9.
- A Doctoral degree must have a minimum of 360 credits all at level 10.

On the other hand, the National Council for Higher Education (NCHE) was established by Act of Parliament (Act No. 26 of 2003) to advise the government on issues related to higher education. The NCHE objectives are:

- to promote the establishment of a co-ordinated higher education system,
- to promote the access of students to higher education institutions, and
- quality assurance in higher education; as well as
- to advise on the allocation of moneys to public higher education institutions.

Pursuant to the Higher Education Act, the NCHE is responsible for:

- accrediting with the concurrence of the Namibia Qualifications Authority (NQA), programmes of higher education provided at higher education institutions;
- monitoring the quality assurance mechanisms of higher education institutions;
- taking measures to promote access of students to higher education institutions;
- undertaking such research with regard to its objects as it may think necessary or as the Minister of Education may require;
- advising the Minister of Education on its own accord or at request from the Minister on :
  1. the structure of the higher education system in general;
  2. quality promotion and quality assurance in higher education;
  3. the allocation of public moneys to higher education institutions;
  4. the governance of higher education institutions;
  5. any other aspect related to higher education;
- performing such other functions as may be entrusted to the NCHE by or under this Act.

Currently, the accredited Higher Education Institutions (HEI) are:

1. University of Namibia (UNAM) - Public
2. Polytechnic of Namibia (PoN) - Public

6 In April 2008, UNAM integrated the Neudamm and Ogongo Colleges of Agriculture into its Faculty of Agriculture and Natural Resources.
7 In April 2010,Namibia's four National Colleges of Education (Windhoek, Ongwediva, Rundu and Caprivi Colleges of Education) merged into the Faculty of Education of the UNAM, following a Cabinet Resolution.

3. International University of Management (IUM) - Private
4. Headstart Mercy Montessori Teachers' Training College - Private

Table 7 shows the enrolment figures for the three higher education institutions in Namibia for the four year period 2007-2010 with total enrolment of 27,850 in 2010.

Table 7: Enrolment in Major Higher Education Institutions between 2007 and 2010

Institutions	2007	2008	2009	2010
University of Namibia (UNAM)	3,028	7,828[6]	10,100	11,745[7]
Polytechnic of Namibia (PoN)	8,278	11,367	13,096	13,786
International University of Management (IUM)	858	1,049	1,302	2,319
Enrolment	**12,164**	**20,244**	**24,498**	**27,850**

Sources: UNAM, PoN, IUM, 2011

In-service Training: At institutional level, public and private institutions provide in-service training (qualifying and non-qualifying) opportunities to their employees. A number of private service providers exist in the country and offer training to both public and private sector employees. Recognising the need to improve the quality of public service provision, the government established a civil service training institution, the Namibian Institute for Public Administration and Management (NIPAM) in 2010. NIPAM addresses civil service skills needs in central, regional and local government organisations and state owned enterprises.

2.2.2 Education and Training - The Participation and Efficiency Issues

In proportional terms, the correlation between employment and education seems promising. However, the number of people reaching higher levels of education is quite low. Namibia has gone a long way by improving participation and retention in primary school with 86.8 percent surviving grade 5 in 2010 (compared to 75 percent in 1991). The school life expectancy is almost 11 years and the literacy rate amongst Namibians between the ages of 15 and 24 has risen to 94 percent. However, primary schooling gains are vulnerable to

8 Almost 20,000 students in 2009 left school during this phase which represents 41 percent of the total number of learners who left school in that year.

9 The national average in Mathematics, English, Biology, Physical Science, and Geography, is below 50 percent in both Junior and Secondary Certificate. In fact, in the case of English, Biology, and Geography, performance has declined from 2006 to 2010

poverty conditions. For instance primary completion rates have gone down from 91 percent in 2000 to 84 percent in 2010. This and other health indicators have brought Namibia from a ranking of 111 in 2006 to a ranking of 114 in 2011 in the Health and Primary Education pillar of competitiveness, as defined in the Global Competitiveness Report.

Participation in secondary schools is significantly less than in primary schools. Around 39 percent of males and 32.2 percent of females enrol in secondary schools with a graduation rate of approximately 18 percent. An estimated 30,000 finish junior secondary and secondary school. The UNAM and Polytechnic are estimated to enrol 4,000 people each year, with the vocational training centres taking in about 2,800 people. All in all, Higher Education and Vocational Training enrol about 3 percent of the school age cohort. High dropout rates in the Junior Secondary phase[8] along with poor performance in the Namibia Junior and Secondary School Certificates[9] constitute the biggest barriers for youth to access higher levels of education. This is consistent with the findings of the latest World Forum (2011) Global Competitiveness Report which indicated that Namibia ranked 113th out of 142 countries in Higher education and training. Furthermore, Namibia ranked very low in five important areas. These include quality of mathematics and science education (121st), quality of educational system (122nd), availability of research and training services (128th), quality of management schools (129th) and availability of scientists and engineers (134th).

Higher Education is also not adequately prepared to respond to the challenges of a changing socio-economic environment. The higher education sector faces the challenges of recruiting and retaining Namibians who hold a post graduate level qualification. This is particularly true for the sciences, ICTs and engineering where most of the research and innovation output is expected. With not enough graduates in these fields and with no capacity to offer competitive salaries compared to the public and private sector, universities have limited capacity to produce and reproduce knowledge that is fast evolving. In the vocational sector, the capacity is limited and education still requires the standardization of qualifications linked to a national qualifications framework.

Namibia introduced a reform to the education sector targeting education for the knowledge-based economy by improving access, quality and coverage in all education levels, specifically vocational, tertiary education and lifelong learning. The Education and Training Sector Improvement Programme (ETSIP) has introduced some managerial tools to assess programming and delivery performance. The targets set by ETSIP for performance have not been met. This mainly lies in the limited capacity to

prepare students to persist and succeed in their learning. Flaws at one level, affect the capacity development of the next one causing investment inefficiencies (more investment in compensatory programmes and less in competence based learning and knowledge production). As a result, higher levels of education while offering relevant programmes do not produce the quantity and quality of qualified artisans, technicians and professionals.

The limited capacity of the tertiary system to absorb learners, along with low education attainments, is the number one factor contributing to an inadequately qualified workforce. A poorly educated workforce has a major impact on the distribution of the returns of investment and the sustainability of income levels.

2.2.3 Conclusion on Human Resources Development

Namibia has been investing extensively in the educational system by ensuring free access to primary and secondary education, expanding the secondary school system by allowing enrolment in vocational education at the end of the junior secondary phase and establishing entrepreneurship training. The open-entry system to VET programmes (which allows for recognition of prior learning), the National Qualifications Framework and the accreditation system for higher education, the training solutions for people with little or no formal schooling and the open-learning for adults and out-of-school youth are also amongst the efforts put in place to enhance access, quality and efficiency of the educational system. Furthermore, recognizing the importance of skills enhancement, the government has made provision to increase skills transfer from expatriates employed in the country to Namibians, in order to build capacity in the country. Unfortunately, sustainable understudy and skills transfer programmes are not yet fully operational.

Despite the improvements education and training environment, human resources development still faces a number of challenges in Namibia, critical being:

i) the opportunity costs of schooling;
ii) insufficient quality assurance at all levels of education;
iii) the disparities between urban and rural education;
iv) the lack of training in mathematics and science (especially at a vocational level);
v) the poorly trained instructors in the vocational system and
vi) the inadequate attention to soft-skills development.

These challenges have a negative impact on student persistence and success, learning outcomes and preparedness for VTC and university graduates for the high-skilled job market. In addition, the higher education and vocational training systems have a limited capacity to absorb learners, which is especially shown by the low participation rates in higher education and its low capacity to directly contribute to knowledge

creation. The impact of HIV/AIDS on education participation rates is a further challenge, as well as the threat of decreased investment in education happening before Namibia is able to develop the required capacity to address the problems of quality and efficiency of the educational system.

2.3. Competitiveness: Namibia's Position in the Region and the World

Classical economists evaluated the competitiveness amongst nations using statistics on the factors of production: land, capital, natural resources and labour. Ricardo's famous theory on comparative advantage, which is still used today, was indeed an early attempt to understand how nations compete. However, economists later came to realize that facts regarding production alone could not explain everything. In a global economy, political and legal, educational, socio-cultural and economic dimensions are integral to competitiveness. For instance the World Economic Forum defines competitiveness *as the set of institutions, policies, and factors that determine the level of productivity of a country.* The level of productivity, in turn, sets the level of prosperity that can be earned by an economy. The working assumption is that increased productivity increases wages and advances development. To sustain development, economy sectors need to efficiently develop processes to improve quality, which involves wage rises, without increasing prices. According to the Forum, at this point competitiveness is increasingly driven by higher education and training, efficient goods markets, well-functioning labour markets, developed financial markets, the ability to harness the benefits of existing technologies, and a large domestic and/or foreign market.

Competitiveness principles manifest differently in different economies. As countries move along the development path, wages tend to increase, and in order to sustain a higher income, labour productivity must increase. There are three stages of development, namely, factor efficiency and innovation-driven. Namibia has moved into an efficiency-driven stage (Stage 2 out of 3) of development, when it must begin to develop more efficient production processes and increase product quality to sustain wage levels without increasing prices. To do so, Namibia needs to monitor the different dimensions of competitiveness and make the necessary adjustments to keep up with a cost-efficient production and move into an innovative stage (stage 3) before 2030.

In the 2011 Global Competitiveness Index (GCI) rankings by the World Economic Forum, Namibia scored high in a number of dimensions where it is ranked within the top 30 countries of the world. Market efficiency, financial market development, infrastructure, macro-economic environment and institutions; are all dimensions where Namibia has

strengths on which the country should capitalize. In contrast, Namibia ranked in the bottom 30 countries worldwide in over 20 competitiveness dimensions. Health and primary education, higher education and training, business sophistication, market size, technological readiness, and innovation are the dimensions that hinder Namibia's competitiveness worldwide. Strengths and weaknesses combined positioned Namibia 83rd in the world ranking of 142 countries. With respect to overall competitiveness ranking, Namibia dropped nine positions on the 2011-2012 Global Competitiveness Report, compared to 74th out of 139 countries in the previous ranking. Furthermore, Namibia has become less competitive over the past five years in basic requirements, efficiency enhancers, and innovation and sophistication factors. For four years in a row, an inadequately educated workforce was rated as being the most serious problem facing companies wishing to do business in Namibia.

2.3.1 Namibia's Performance Compared to other Countries in the Region

Comparing Namibia to five other neighbouring countries in southern Africa, in overall competitiveness, Namibia ranks behind South Africa (50th), Mauritius (54th), and Botswana (80th) but is well ahead of Zambia and Angola. Table 8 displays results by competitive dimension.

Table 8: Namibia's competitiveness rankings compared to other Southern African Countries and Switzerland

Overall Ranking and 12 Pillars	*Botswana*	*Angola*	*Zambia*	*Namibia*	*Mauritius*	*South Africa*	*Switzerland*
Overall Rank/142 countries	80	139	113	83	54	50	1
Scores for Each Pillar of Competitiveness							
Basic requirements							
Institutions	4.87	2.91	3.90	4.50	4.54	4.36	5.78
Infrastructure	3.48	1.89	2.78	4.22	4.33	4.02	6.15
Macroeconomic Environment	4.60	4.23	4.43	4.86	4.64	4.96	6.28
Health & Primary education	4.46	2.89	3.97	4.64	5.81	3.96	6.53
Efficiency Enhancers							
Higher Education & Training	3.72	1.91	3.03	3.19	4.17	4.03	5.80
Goods Market Efficiency	4.22	3.21	4.27	4.21	4.75	4.68	5.24
Labour Market Efficiency	4.55	3.96	3.97	4.48	4.38	4.06	5.95
Financial Market Development	4.44	2.67	4.34	4.57	4.49	5.48	5.35
Technological Readiness	3.12	2.65	2.96	3.25	3.76	3.60	6.30
Market Size	2.95	3.83	2.64	2.51	2.71	4.81	4.51
Innovation and sophistication factors							
Business Sophistication	3.49	2.42	3.61	3.56	4.27	4.32	5.82
Innovation	3.04	2.05	3.18	2.94	2.96	3.53	5.77

Source: The World Economic Forum (2011)

Namibia compares negatively with South Africa in higher education and training. The more Namibia falls behind South Africa, the more likelihood for well-educated Namibians to continue their studies and find work in South Africa, which could possibly result in a brain drain. In looking at higher education and training competitiveness, South Africa should be factored in the pursuit of comparative advantages.

Vision 2030 stipulates that Namibia, by 2030, will be transformed into an industrialized country of equal opportunity, which is globally competitive, realizing its maximum growth potential in a sustainable manner, with improved quality of life for all Namibians. But, how will Namibia become more "competitive" on the world stage and advance to the list of countries that are at Stage 3 of development? Human resources planning is definitely an imperative to respond to the challenges of sustaining competitiveness.

2.3.2 Conclusion on Namibia's Competitiveness

Namibia's high Global Competitiveness ranking in indicators related to market efficiency, financial market development, infrastructure and macroeconomic institutions are competitive advantages that the country could capitalize on in the global market. However, the level of competitiveness is weakened by the country's decrease in indicators regarding education, business sophistication, market size, technological readiness and innovation.

Even with the low barriers to capital flows and foreign investment and the small government interference in wages and prices, the country's weaknesses could possibly induce brain drain and discourage foreign direct investments, especially when considering the severe lack of skilled labour which is only attracting investors requiring low skilled or unskilled labour.

All in all, Namibia's actual and potential economic growth, development, and competitiveness in relationship with its current capacity to effectively manage labour market demands, displays a complex situation that requires a balanced approach to human resources planning. A balanced approach implies looking at different labour market demands at different scales. This means that the vision of becoming an industrialized country and participating in the knowledge-based economy should not dismiss opportunities for growth in the non and semi-industrial sectors that absorb more labour.

CHAPTER 3: NAMIBIA'S OCCUPATIONAL DEMAND AND SUPPLY OUTLOOK MODEL

Namibia's Occupational Demand and Supply Outlook Model (NODSOM) is a tool developed by the National Planning Commission (NPC) in 2011, to forecast occupational gaps over time with the objective of providing an integrated accounting framework to analyse the situation and evolution of the labour market. The Model is based on the latest official data available (e.g. 2001 Population and Housing Census, 2004 and 2008 Namibia Labour Force Survey, 2009-2010 Namibia Household Income and Expenditure Survey, Macro-economic Framework 2012/2013 to 2014/2015, etc.) and will be regularly updated.

The main components of NODSOM are occupational demand, occupational supply, and imbalances forecast or outlook. The collection and input of supply and demand data brings valid and consistent information, allowing for a comparative analysis of labour supply and labour demand to estimate occupational imbalances (shortages and surpluses) within the Namibian economy until 2025. By quantifying occupational gaps, NODSOM can provide useful clues with regards to identifying and understanding major labour market trends and issues requiring policy attention within the planning process.

From a planning point of view, the results of the model can be seen as being the first steps in a process designed to make decisions on much needed long term strategies and policies. In the first instance the NPC can use the gap analysis results to develop human resources plans that focus on eliminating skill-gaps. The ultimate goal is to develop and implement a sound human resources plan and move the country towards Vision 2030.

3.1. Rationale for Human Resources Demand and Supply Outlook Models

Several variables intervene in the dynamics of employment that ought to be taken into account when assessing real gaps between supply and demand of skilled workers. Considering the direction Namibia is taking towards sustainable development in the primary, secondary and tertiary sectors of the economy, the need to address unemployment and underemployment, and the aim of becoming an industrialized and vital knowledge economy; shortages cannot be seen simply in terms of job vacancies but as skills mismatches. In other words, the real challenge of labour needs assessment lies in analysing and predicting occupational trends achieving greater consistency and

coordination in labour supply and demand modelling to feed human resources planning processes nationwide. Furthermore, with an unemployment rate of 51.2 percent in 2008, there is also a crucial need to make a distinction between mismatches, on one side, and insufficient demand for labour, on the other side.

NODSOM provides information for employers, employees, employment agencies, and policymakers, facilitating a labour market balance while reducing adjustment costs and enhancing capacity for productivity and competitiveness. Additionally, it helps create the path to ensure that workers are employed in occupations that correspond to their skill level. This is a key step in transitioning to an industrialized market and ultimately reducing socio-economic barriers to employment. On the public side of the spectrum, occupational forecasting informs social investment in education and social welfare.

Like all modelling tools, to forecast supply and demand mismatches, the challenge is to integrate feedback mechanisms between supply and demand. NODSOM however, allows for integrating ongoing labour market analysis, information from specific surveys, and even experts advice. In doing so, the negative impact resulting from the scarcity of information and the possible weaknesses in available information is reduced and forecasts take into account impacts due to short-term business cycle fluctuations or longer-term structural developments in the economy, including technological progress, demographic change and globalization.

3.2. Components of Namibia's Occupational Demand and Supply Outlook Model

The main components of NODSOM (Figure 3) are occupational demand, occupational supply, and imbalances forecast or outlook.

Occupational demand (see A in Figure 3) refers to the number of workers required by employers for an occupation in Namibia. By definition it includes the number of workers employed as well as the number of vacant positions available for this occupation. In the context of occupational forecasting, it specifically refers to the demand for new workers due to economic growth (expansion demand), and employers' requirements to replace workers leaving their occupations (replacement demand).

Occupational supply (see B in Figure 3) refers to ongoing availability of qualified workers for an occupation in Namibia. It consists of school leavers (people who have left and will leave the formal training system, either after graduating or dropping out of the system), re-entrants (people who re-enter the occupation's labour market after a period of inactivity), and people in the labour force actively seeking work. It is

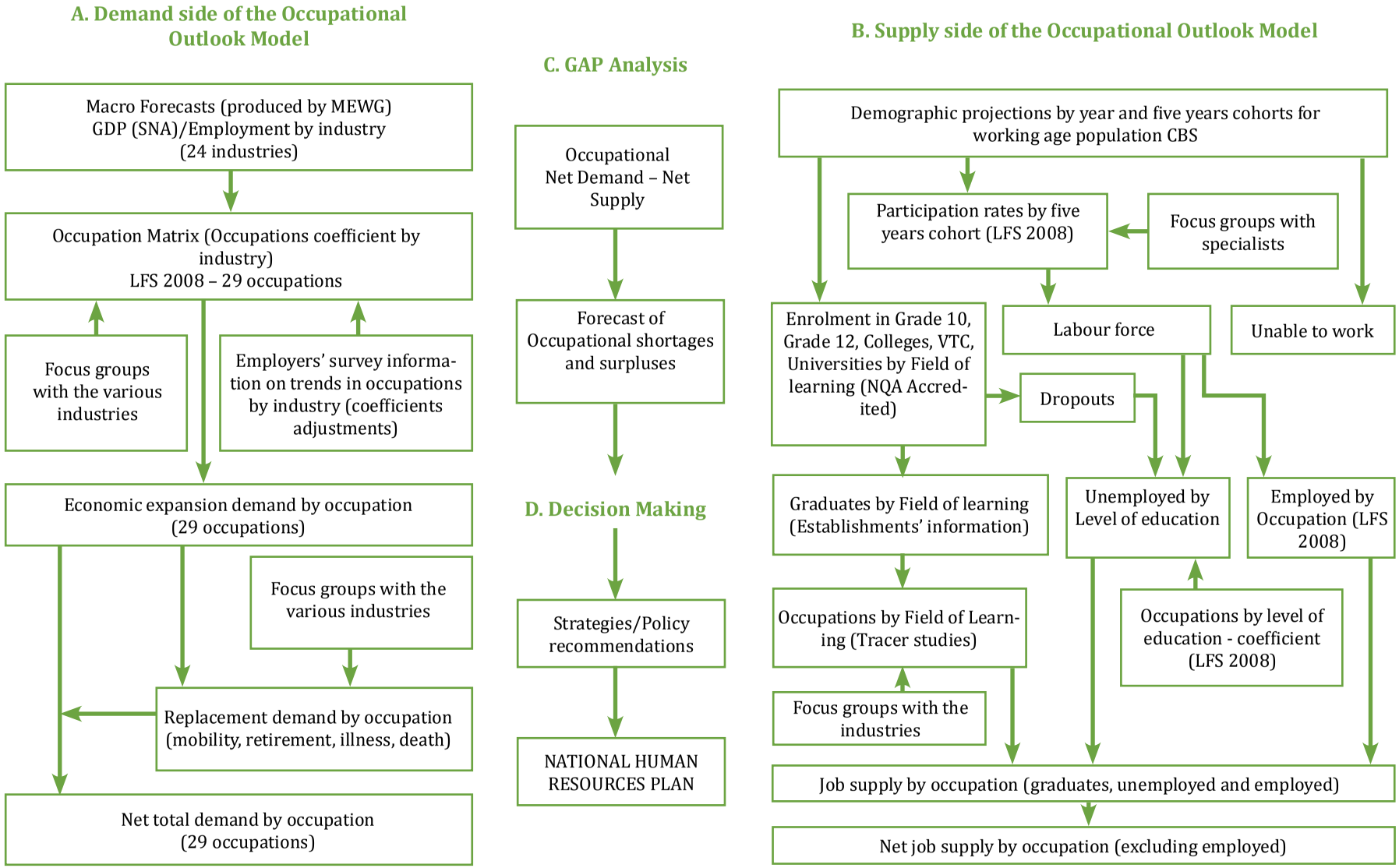
important to stress here that availability, qualification as well as an understanding of skills and competency levels are required in the model to enable forecasting.

Forecasting requires understanding labour market imbalances by comparing the supply of and demand for workers in different occupations (see C in Figure 3). This comparison provides insight into whether imbalances are attributable to business cycles or to structural factors, such as technological change, socio-economic factors or inefficient education investment. Specific information in this respect facilitates decision-making processes to eliminate or reduce imbalances over time. In other words, forecasting feeds human resources planning, allowing for governments to decide on the mechanisms for human resources development in a timely manner and for businesses to plan their operations in view of training and retraining programmes and other pro-employment and pro-growth policies.

Overall, the benefits of using NODSOM can be summarized as follows:

- It will enable the Government to project the demand and supply for all key occupations in the country for the period from 2012 to 2025.
- It will provide data to enable the government, on an annual basis, to identify or calculate imbalances between demand and supply for specific occupations and more accurately identify skill shortages in occupational groups.
- With knowledge of specific labour market imbalances, the Government can plan more effectively for the future and focus on industries or sectors where the needs are most pressing. For example, using the results from the model, the government can make better-informed decisions on which education and training programmes should be offered (as new programmes), which ones should be expanded, and which ones should be phased out or modernized to fit the needs of an evolving employment market.
- Results will also guide government policies and decisions on dealing with labour market issues/challenges such as deciding to make greater investments in specific human resources development projects/activities that will enhance development of a particular industry or generate employment in a particular region of the country.

Figure 3: Namibia's Occupational Demand and Supply Outlook Model (NODSOM)



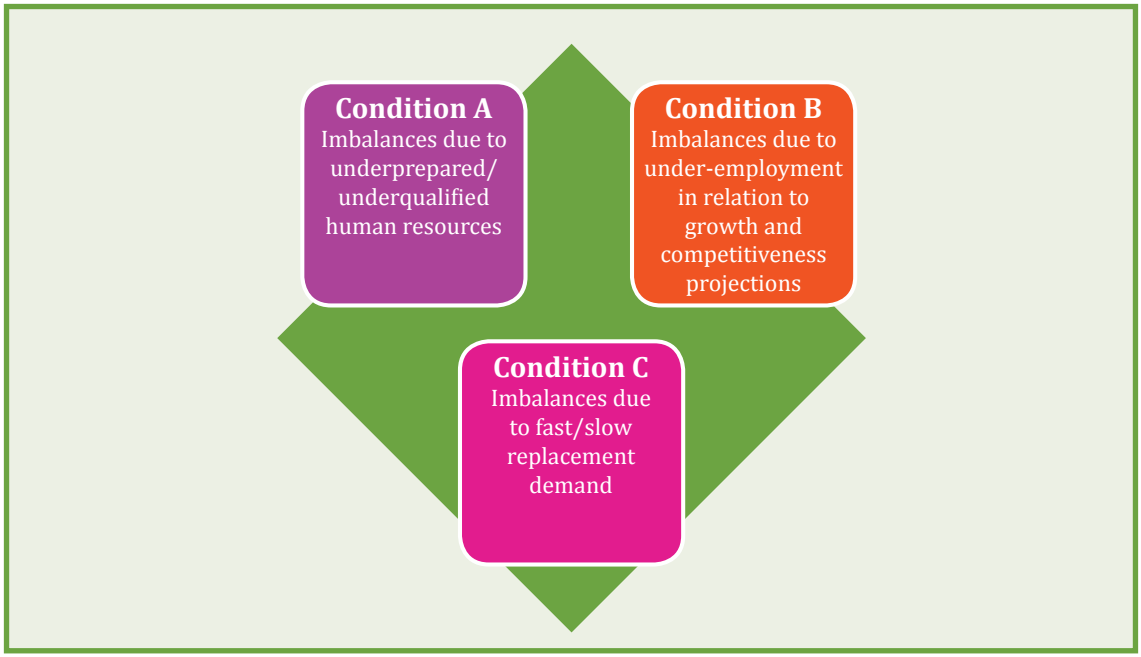
3.3. Utilisation of Supply and Demand Data Gaps for Decision Making

The analysis of current and projected labour shortages and surpluses requires a wider discussion to better understand the figures displayed by Namibia's ODSOM and to flag areas where there is an urgent need for skills development, and/or areas where incentives are required to promote wider employment. The frame for this wider discussion is the National Human Resources Plan (See D in Figure 3).

To make the best use of data in relation to development goals, it is important to involve key stakeholders in the process of planning at the data collection and input stage to conduct demand and supply assessments. The involvement of key sectors will create more opportunity for data accuracy to obtain more reliable forecasts.

Once stakeholders are formally involved in data collection and analysis, quality results would stimulate their continued participation in long range planning and investments in human resources development and business productivity. As exemplified in the following illustration (Figure 4), data from Namibia's ODSOM allow for determining sources of imbalances. This is just an example of how data can be dealt with to strategise and target skills gaps and unemployment levels in the short, middle and long term. Stakeholders will ultimately define the criteria to prioritize areas of intervention and strategise accordingly.

Figure 4: Grouping NODSOM Results (gaps analysis) by Socio-economic Conditions (sample criteria)



Strategies and targets designed to respond to demand gaps need to prioritise the sectors where shortages are more prominent. (Condition A in figure 4) and where economic growth is imperative to move towards an industrialized economy (Condition B in figure 4). Given Namibia's unemployment figures, it is also a priority to target those sectors that are employment rich and that have the capacity to absorb qualified or semi-qualified unemployed jobseekers (Conditions B and C in figure 4). In theory, Conditions A, B and C in figure 4 can be targeted by improving educational and training systems, introducing new training schemes and creating incentives for industries to partner in employment targets and re-train existing employees and unemployed people.

When designing strategies to respond to demand and supply gaps it is also crucial to take into account the informal sector and the subsistence economy. This requires availability of comprehensive data. In this respect, the 2011 Population and Housing Census and the 2012 Labour Force Survey may provide more information to responsibly target the informal sector and subsistence economy.

CHAPTER 4: LABOUR MARKET DEMAND AND SUPPLY

4.1 Labour Market Demand

Namibia´s post-colonial context has significantly hampered the new government's capacity to sustain a durable and redistributive trade-off between the imperatives of economic growth and the demands for greater social equality. The growth of trade unionism among semi-skilled black workers and the resulting collective regulation of work, rising wages and increased job security coincided with an expansion in forms of employment that are unorganised, underpaid and poorly regulated. That is, the increasingly differentiated integration of the various segments of the labour market into the systems of production and regulation has had the effect of incorporating some while marginalizing others. The choice confronting the state, employers and trade unions is between a low-wage, low-skill, deregulated and fragmented framework which emphasizes the need to attract foreign investment and reduce social spending; and a high-wage, high-skill, framework in which employee participation and training are seen as vital for increasing the productivity of the economy. An unbalanced focus in production over consumption and the promotion of flexible forms of organization erode the basis for a high wage, high skill route to economic competitiveness. The challenge to level the playing field remains in the marrying of labour market flexibility cost-cutting, greater social equality and employment security. Undoubtedly a balanced approach requires the development of a tripartite relationship between employers, trade unions and government.

The following section presents a description of the current and future human resources requirements of the Namibian economy based on the output from the NODSOM. The assumptions underlying these projections are presented in Box 2.

Box 2: Assumptions underlying the baseline scenario of Namibia's ODSOM

The baseline scenario is a forecast of the various indicators according to the most likely future behaviour of the explanatory variables used in the model. It integrates all the available information and uses conservative hypothesis with regard to the parameters for which no information about future behaviour is available.

On the **demand side of NODSOM**, the starting point is a **macroeconomic forecast** of the GDP by industry. The Minister of Finance provided this forecast in the March 2012 Budget, for the period 2007-2016. The GDP from 2017 to 2025 was estimated using the 2012 to 2016 average yearly growth rate.

The **employment forecast** was calculated using a constant productivity growth hypothesis across the 14 major industries. An annual growth rate of 1.7% was selected. It is similar to the growth rate calculated by ILO for South Africa and to the average annual growth rate of labour productivity in the European Union from 2000 to 2006. Using 2010 as a starting year and the National Household Income and Expenditure Survey (NHIES) data for employment by industry for 2010, together with GDP level for that year, it is possible to derive a recursive formula through labour productivity growth formula that will relate the level of employment to that of the preceding one for the forecast horizon.

On the **supply side of the model**, the two main variables to be estimated are the number of graduates and the number of unemployed. People looking for new job opportunities will come from these two sources in the model. The starting point of the supply model is the Working Age Population (15 years and older). This information is available from the 2001 Census, by 5-years cohort, and the Namibia Statistics Agency who will provides the required forecasts by 5-year cohort up to 2025.

To estimate **unemployment by year**, the labour force level has to be estimated and the number of unemployed for a given year will be the difference between the labour force level for that year and the employed number of people for the same year provided by the demand side of the model. Labour force estimation is done by using the 2008 LFS participation rates by 5-years group of age in the Working Age Population and it was postulated that these participation rates will stay the same throughout the whole forecast horizon.

The **post-secondary level educational institutions** provided the student enrolment and graduation data for the most recent years of data availability starting with year 2007. Information regarding secondary education institution (Grade 10 to 12) is taken from the Education Ministry Information System (EMIS). For tertiary level of education institutions (UNAM, IUM and Polytechnic), the latest strategic plans are used to produce total enrolment forecasts.

In each case, the level of the estimated enrolment presented in the strategic plan is adjusted to actual data and the strategic plan growth rates are used to project total enrolment to 2025. After that, historical shares by field of study in each institution are used to project enrolment accordingly. Graduation levels by field of study in each institution are projected using historical graduation rates.

An allocation matrix of graduates to occupation based on content **analysis between field of study and occupation skill** needs was built. This allocation is postulated to remain the same through the whole forecast horizon. A similar procedure is used to estimate enrolment and graduation in the vocational training system. All the certified VTCs and other Colleges accredited by the NTA provided information. This was aggregated by field of learning and subsequent forecasts to 2025 were produced. Total enrolment in VTC and Colleges is estimated as a fraction (about 23%) of Grade 12 graduation level, which is used as a proxy for the number of secondary school students that are enrolled in vocational training. Total output of graduates from these institutions is estimated as a share of enrolment based on the latest actual graduation rates by field of learning. Finally, for the student population, allocation of vocational training institutions to occupations is done using an allocation matrix from field of learning to occupations built by relating specific training with specific occupation description for the whole forecasting period.

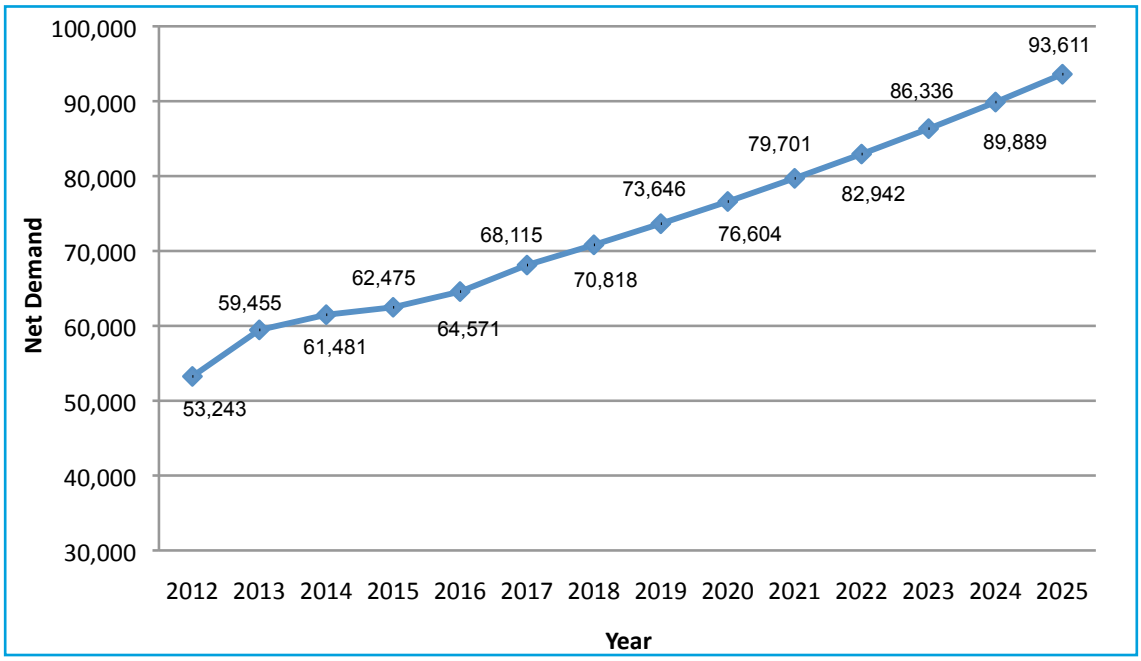
The 2008 LFS distribution of school attainment of the unemployed is used together with the total estimate number of unemployed for each year to produce yearly estimations of the unemployed according to their potential level of school attainment up to 2025. The profile of occupational employment of the employed by highest level of school attainment is used as an estimation tool.

However, some adjustments were made. First, since the number of jobs available in the Armed force is regulated and jobs as Legislators or corporate managers are not usually directly available to the unemployed, the probability for an unemployed person to occupy any of these occupations is shown as equal to zero and their values from the 2008 NLFS are equally shared between other occupation categories for that school attainment. Then, given that in the 2008 LFS a large portion of the employed were classified as “Not reported” with regard to their occupation (more than 50% in many cases for lower school attainment individuals), that proportion is also allocated between other occupations for any school attainment. To make this allocation, the fact that the 2008 LFS revealed that more than 97% of the unemployed have a Junior Secondary School diploma or less was taken into account. Moreover, more than 70% of the unemployed have been unemployed for more than 2 years. This means that most may not be qualified for jobs other than unskilled ones (except for higher educated). The resulting matrix is used to allocate yearly the unemployed to potential occupation in order to estimate the potential number of job seekers by occupation coming from the unemployed. The total number of job seekers, useful for the final gap analysis in the model, is the sum of graduates and unemployed estimates for a given year.

4.1.1 Future Human Resources Requirements

Considering the dynamics of labour in every industry and taking into account, both expansion and replacement variables, steady growth in net demand is projected from 2012 to 2025 estimated at a yearly average of 5.6 percent.

Figure 5: Total Net Demand Projection 2012-2025



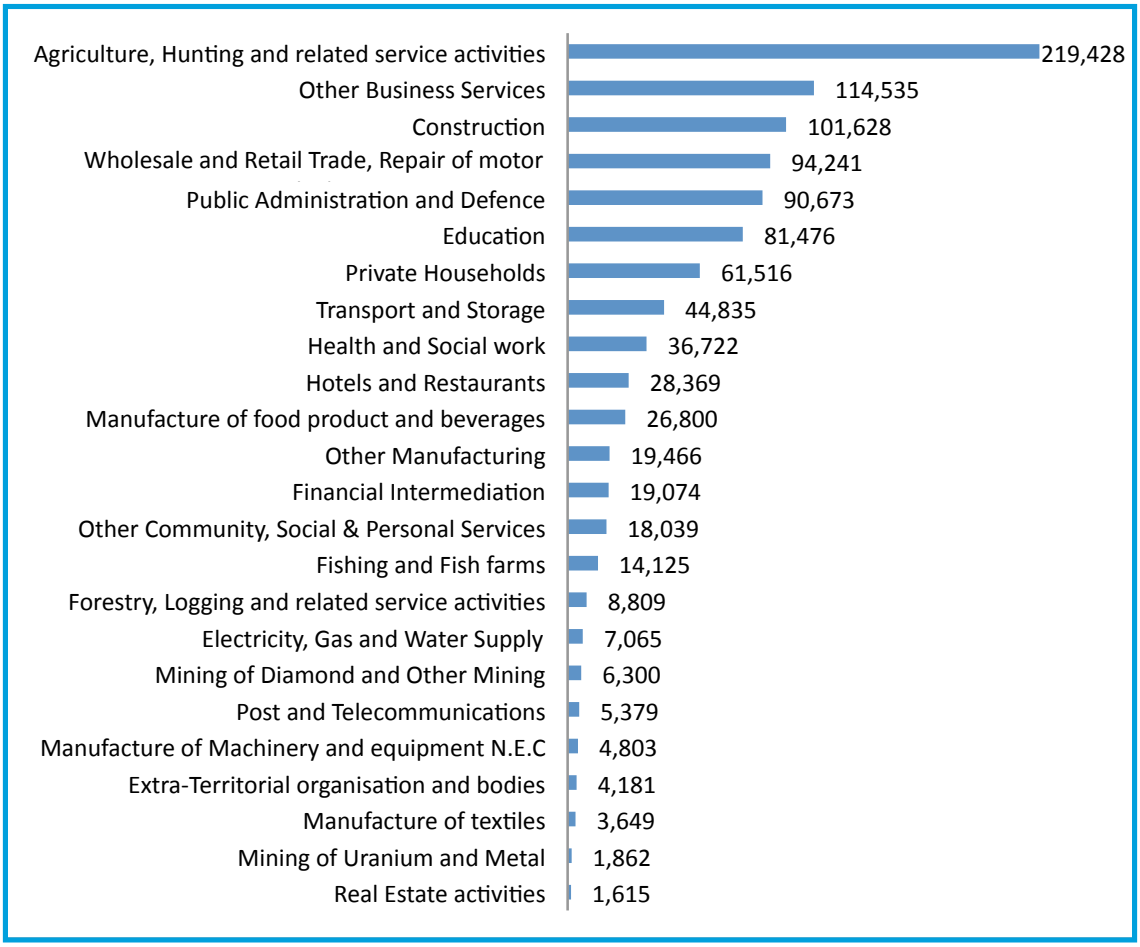
Source: NODSOM 2012

Projections by sub-sector indicate that Agriculture[10] will continue to be the biggest contributor to employment with a net demand of 228,237 jobs for a share of 22.3 percent of all jobs between 2012 and 2025. Furthermore, Agriculture will contribute 91.1 percent of all jobs in the primary industry. Other significant contributors to employment will be sub-sectors in the tertiary industries mainly under the categories of real estate, renting and business activities, public administration and defence, wholesale and retail trade, repair of motor vehicles, education and private households, contributing 58.7 percent of all jobs in the next fourteen years. The secondary industry will contribute to 16 percent of all jobs, most of which are in the construction and manufacturing sectors.

Figure 6 displays the net demand by sub-sector between 2012 and 2025.

10 The Agriculture sector includes agriculture, hunting and related service activities and forestry, logging and related service activities industrial subcategories.

Figure 6: Net Demand by sub-sector 2012 and 2025



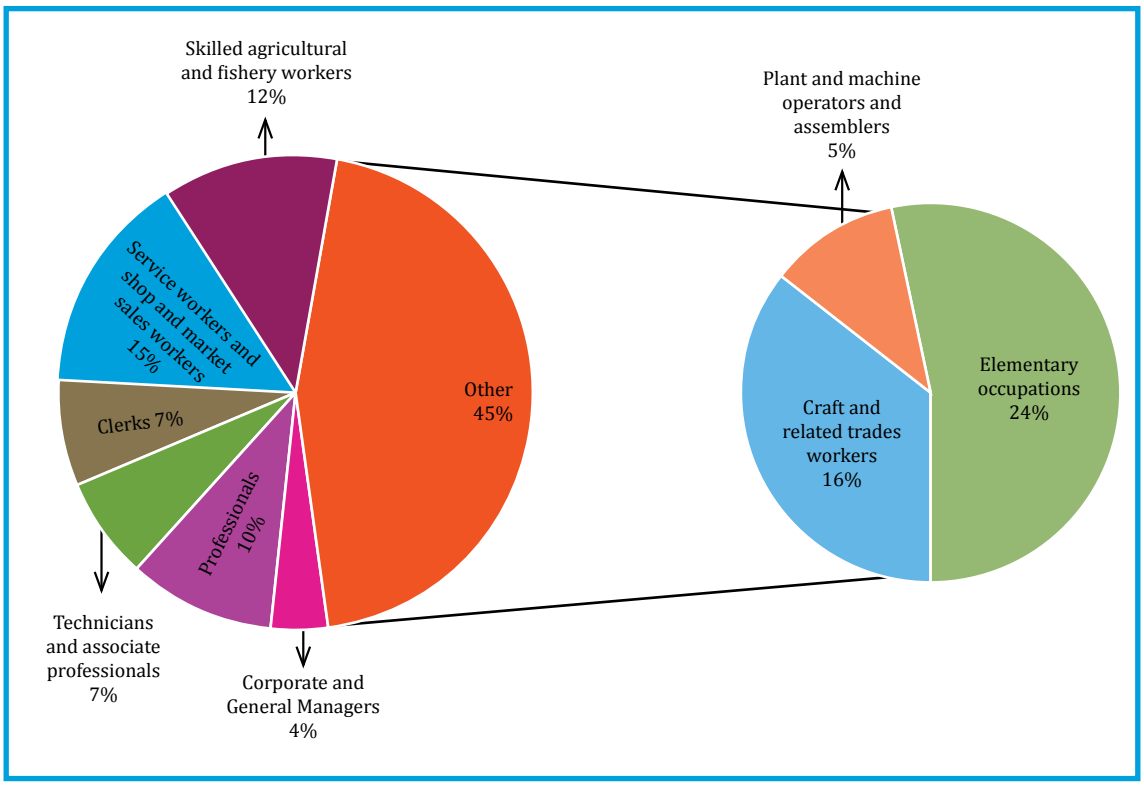
Source: NODSOM 2012

When looking at net demand by industry in short, medium and long term (i.e., 2012-2016, 2017-21 and 2022-25), it is interesting to note that the share of employment amongst industries continues to be the same. In other words, if one ranks industry sector by number of jobs each year between 2012 and 2025, the order remains invariable. This is likely to change if investment stimulus and labour regulations to be implemented in the short-term have an impact on employment generation.

Figures and trends on net demand by occupation project most jobs in elementary occupations. These include plant and machine operators and assemblers, craft and related trades workers and skilled agricultural and fishery workers. As shown in figure 7, just by following net demand trends one cannot foresee a transition to an industrialized/knowledge-based economy where the demand for professionals and technicians would trend upwards intersecting other categories going downwards. This could be explained by the importance of the informal sector in the Namibian economy, which drives the demand for elementary occupations.

Taking a closer look at the net demand forecast for the next fourteen years (2012-2025), the majority of the jobs (45 percent) will continue to be in the trades and elementary occupations (see figure 7) in the primary and secondary sectors. Compared to the 2008 NLFS numbers, the forecasts suggest a decreased demand for services, shops and market sales workers (from 18.4 percent to 15 percent), plant and machine operators and assemblers (from 5.4 percent to 5 percent), and corporate and general managers (from 5.1 percent to 4 percent). Jobs in elementary occupations, craft and related trades and clerks will remain stable (respectively from 23.4 percent to 24 percent, from 16 percent to 16 percent and from 6.9 percent to 7 percent). The increased demand will be witnessed for skilled agricultural and fishery workers (from 8.8 percent to 12 percent), for professionals (from 8.7 percent to 10 percent); and technicians and associated professionals (from 6.5 percent to 7 percent).

Figure 7: Share of Total Net Demand Projected 2012-2025



Source: NODSOM 2012

The occupational share of the total net demand is not projected to change significantly in the two periods between 2017-2021 and 2022-2025. As shown in Table 9, the share appears to remain more or less the same for most occupations. Note that between 2016 and 2020 there is a slight increase in the proportion of jobs for craft and related trades workers (from 15.7 percent between 2012 and 2016 to 17.1 between 2021 and 2025). There is also a slight decrease in the number of jobs for skilled agriculture workers (from 12.4 percent between 2012 and 2016 to 10.8 percent between 2021 and 2025). These figures are likely to change due to projected economic development in the agriculture and manufacturing sectors.

Table 9: Share of Net Demand by Occupation 2012-2025

Occupation	Net Demand					
	2012-2016		2017-2021		2022-2025	
	Number	%	Number	%	Number	%
Corporate and General Managers	11,564	3.9%	14,511	4.0%	14,099	4.0%
Professionals	29,175	9.7%	36,355	9.9%	35,545	10.1%
Technicians and associate professionals	20,275	6.8%	25,386	6.9%	24,801	7.1%
Clerks	21,340	7.1%	26,814	7.3%	26,133	7.4%
Service workers and shop and market sales workers	44,716	14.9%	55,621	15.2%	53,508	15.2%
Skilled agricultural and fishery workers	37,199	12.4%	42,650	11.6%	37,957	10.8%
Craft and related trades workers	47,181	15.7%	59,727	16.3%	60,089	17.1%
Plant and machine operators and assemblers	14,009	4.7%	18,058	4.9%	18,082	5.2%
Elementary occupations	74,352	24.8%	87,882	23.9%	80,682	23.0%
Total	**299,811**	**100%**	**367,004**	**100%**	**350,896**	**100%**

Source: NODSOM 2012

When looking at the forecast for occupational demand by sector in the next fourteen years (Table 9), one can infer that, occupations crosscut various industry sectors, suggesting a diversified demand along the lines of qualifications. Further information is required to confirm how diversified different industries are regarding correspondence of positions and salaries to experience and qualifications. Table 10 presents the proportion of jobs in each occupation by industry sector between 2012 and 2025. Highlighted in shades are the industries where the number of jobs in a particular occupation is significant when compared to the average number of jobs in that industry[11].

11 Number of jobs is considered significant for a particular occupation when it exceeds the average number of jobs in the industry.

Table 10: Proportion of jobs in each occupation by industry from 2012-2025

Occupations / Industry Sector	Corporate and General managers	Professionals	Technicians and associate professionals	Clerks	Service workers and shop and market sales workers	Skilled agricultural and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Agriculture	4.6%	0.1%	3.0%	2.8%	1.9%	88.5%	5.0%	9.4%	42.0%
Fishing and Fish Farms	0.3%	0.3%	2.0%	0.1%	0.4%	7.0%	0.7%	1.0%	0.8%
Mining and Quarrying	0.8%	0.2%	0.5%	0.9%	0.2%	0.04%	2.0%	3.3%	0.6%
Manufacturing	4.7%	1.7%	3.2%	4.9%	1.9%	0.8%	15.1%	9.7%	4.6%
Electricity, Gas and Water Supply	0.5%	0.3%	1.0%	0.5%	0.2%	0.1%	2.0%	1.9%	0.3%
Construction	6.6%	1.5%	2.5%	3.1%	0.5%	0.1%	47.3%	6.5%	4.3%
Wholesale and Retail Trade, Repair of motor vehicles	17.1%	1.2%	3.0%	14.7%	25.9%	0.003%	14.0%	5.1%	3.2%
Hotels and Restaurants	4.7%	0.2%	1.0%	3.2%	9.2%	0.7%	0.7%	1.0%	2.7%
Transport, Storage and Communication	8.9%	1.3%	6.6%	6.5%	1.9%	0.0%	2.1%	50.4%	1.8%
Financial Intermediation	5.7%	2.0%	7.2%	9.3%	1.2%	0.0%	0.1%	0.2%	0.3%
Real Estate, Renting and Business Activities	32.8%	21.8%	22.5%	25.4%	12.3%	0.4%	7.8%	2.0%	5.4%
Public Administration and Defence	4.8%	6.0%	10.0%	15.1%	35.1%	0.1%	0.7%	3.9%	3.0%
Education	4.9%	49.7%	16.0%	5.3%	2.2%	0.0%	0.4%	1.0%	4.0%
Health and Social work	1.1%	11.0%	15.3%	4.9%	1.5%	0.1%	0.1%	2.9%	2.8%
Other Community, Social & Personal Services	1.6%	1.4%	2.4%	2.2%	2.5%	0.1%	1.5%	1.5%	2.2%
Private Households	0.3%	0.2%	0.2%	0.3%	3.2%	1.9%	0.5%	0.3%	21.7%
Extra-Territorial organisation and bodies	0.4%	0.9%	3.3%	0.7%	0.1%	0.0%	0.0%	0.0%	0.1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

The shaded areas are: Industries where the number of available jobs for a particular occupation is significant when compared to the average number of jobs within that industry

Source: NODSOM 2012

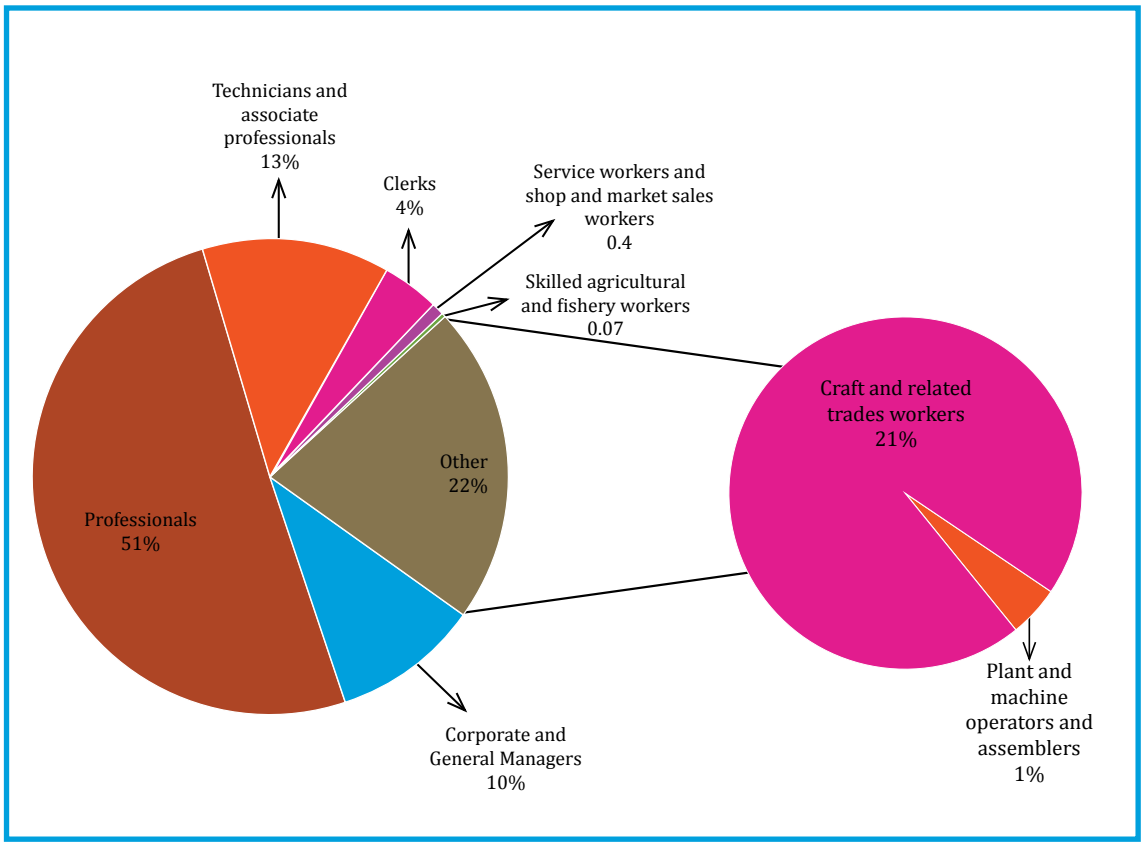
4.2. Labour Market Supply

4.2.1 Current Supply of Human Resources by Major Occupations

Forecasts regarding supply shortages differ when taking into account the unemployed. Given the information gaps regarding the unemployed and their job readiness, the following analysis focuses on the supply of workers based on demographic projections by year and enrolment dynamics by fields of learning. This information gives a clear picture of human resources supply from the local education and training institutions.

As shown in Figure 8, 22 percent of the labour supply is comprised of workers in plant and machine operators and assemblers and craft and related trades workers compared to 21 percent demand in these occupations (see figure 7). On the other hand, professionals constitute 51 percent of labour supply while demand is at only 10 percent. As will be seen later in this Chapter, there is indeed a shortage of professionals, but just in specific areas such as hard sciences.

Figure 8: Net Job Supply by Occupation



Source: NODSOM 2012

4.3. Gap Analysis

4.3.1 Shortages/Surpluses in Key Occupations

The data used for calculating supply in Namibia's ODSOM gives two scenarios for understanding shortages. The first scenario looks at supply of new employees (e.g. human resources provided by the local education training institutions); the second scenario includes the unemployed. As is expected, numbers are significantly different in each scenarios.

Box 3: Scenario 1 - Supply of human resources excluding the unemployed

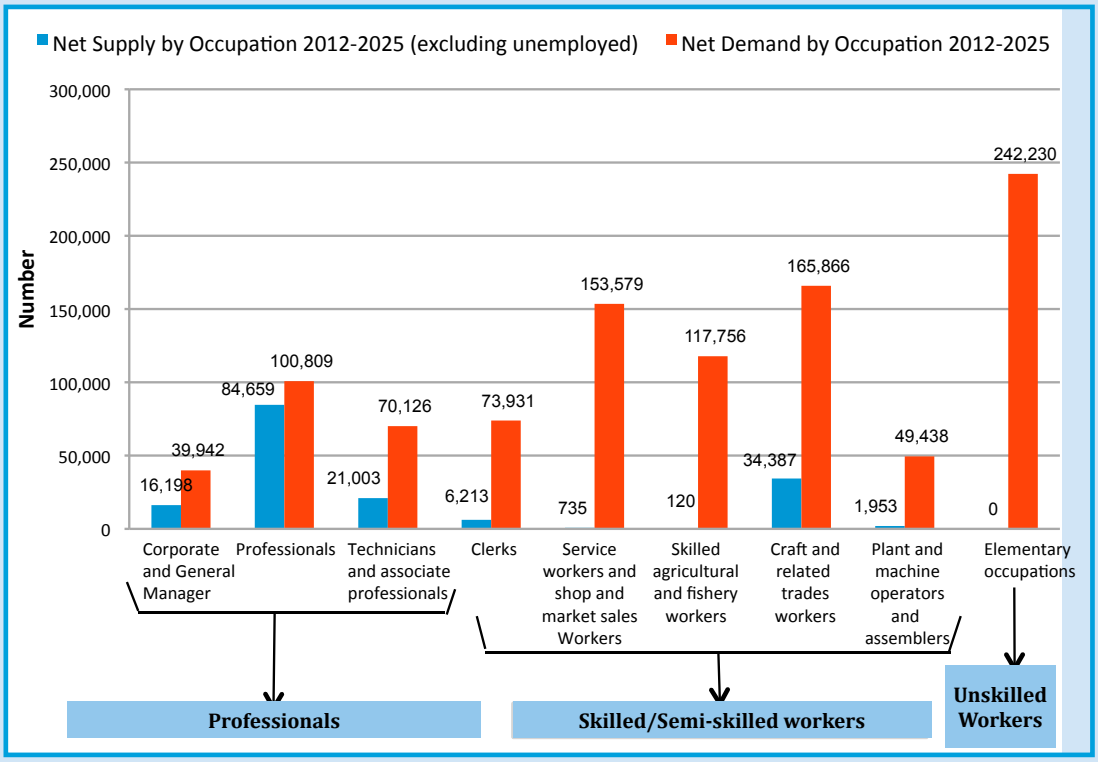
Under existing conditions, supply is unlikely to meet demand in all occupations when excluding the unemployed. As shown on the following graph, there are shortages of professionals (mainly technicians and associate professionals) whereas critical shortages are also found in elementary occupations, followed by occupations requiring skilled workers (clerks, service workers and shop and market sales workers, skilled agricultural and fishery workers, craft and related trades workers and plant and machine operators and assemblers). This points to the urgency for addressing shortages through the development and/or improvement of vocational training, along with the introduction of initiatives connecting the training and education with the labour market.

A careful attention should be given to elementary occupations, which continues to represent the bulk of employment considering the importance of the informal sector for the Namibian economy. However, it is worth mentioning that the level of shortage is explained by the fact that, traditionally, the educational system does not supply for such occupations. Rather, they are usually supplied by unemployed, dropouts (who did not complete their training) and/or school leavers (who left the educational system with a Grade 10 or 12 qualifications).

Although the supply, data excluding the unemployed, suggest that annual output of workers is not sufficient to meet the demand, further investigations should be conducted before making decisions on which training programmes should be increased/decreased in Namibia for the short, medium and long term. These investigations should:

a. Thoroughly examine the profile of the unemployed with respect to the occupations in demand.
b. Consult with the sectoral committees to analyse the industries various specific skills requirements.

Figure 9: Labour Demand and Supply 2012-2025 excluding the unemployed



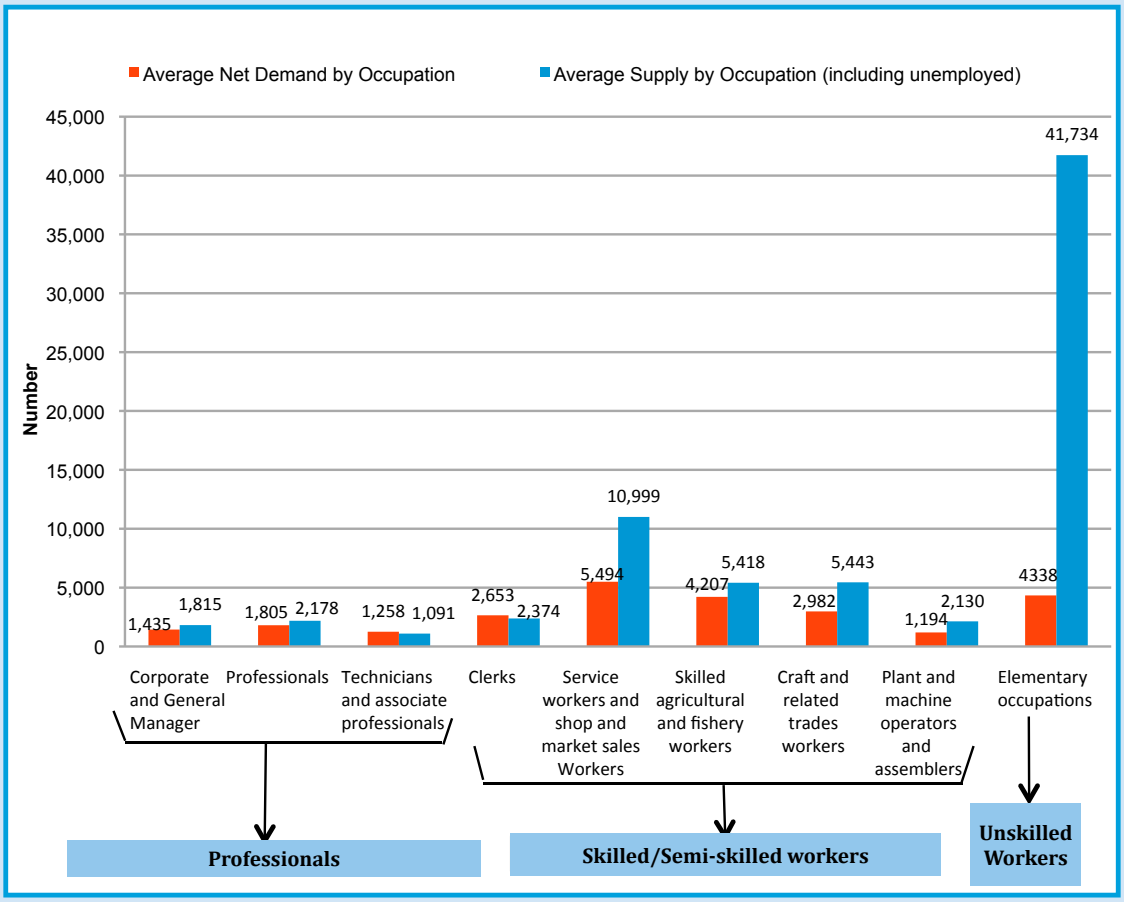
Source: NODSOM 2012

Box 4: Scenario 2 - Supply of human resources including the unemployed

As previously stated, at this juncture it is important to gather information regarding the current stock of skills, knowledge and abilities in the vast pool of the unemployed. If, as suggested by the data, there is a stock of qualified professionals/skilled workers to fill current demand, then the problem of unemployment might be less about supply and more about insufficient employment generation.

Thereby, if the unemployed are taken into account, the supply exceeds the demand for almost every occupation, except for technicians and associate professionals and clerks for which the shortage is insignificant (an average of 200 positions for the period between 2012 and 2025).

Figure 10: Average[12] Labour Demand and Supply 2012-2025 including the unemployed



Source: NODSOM 2012

12 If the unemployed are taken into account, the gap analysis should be based on average data for demand and supply. This is due to the fact that the stock of unemployed is not necessarily new, year after year.

This scenario helps to put in perspective the projected imbalances of the Namibian labour force, especially for the elementary occupations which are usually supplied by the unemployed population. However, it assumes full-employment of qualified individuals. Given the lack of information to make this assumption, it is more accurate to look at the numbers without taking into account the unemployed. While scenarios based on this data may exaggerate the shortages, they give a clearer picture of the actual supply as proposed in the model, that is, of the flow of people into the labour force.

When looking into occupation categories (rather than occupation groups) under the first scenario (Table 11), figures reveal that critical shortages are likely to persist in the supply of skilled workers, mainly models, salespersons and demonstrators, market oriented skilled agricultural and fishery worker, metal, machinery and related trade workers, Other craft and related trades workers and to a certain extent office clerks. The training institutions are currently not supplying the labour market with personal and protective service workers, subsistence agricultural and fishery workers and drivers and mobile equipment operators which contribute to worsening the skilled workers shortages, when considering the projected net demand under those occupations.

As for the professional category, on average, the shortages are not as significant, but are most likely to occur for the teaching professionals and the life science and health professionals.

Shortages are likely to worsen if investment increases generating expected jobs in industries where economic growth paired, with employment, is most expected, that is:

1. **Agro-industry,**
2. **Mining and quarrying**
3. **Manufacturing**
4. **Tourism**
5. **Business services**

Table 11: Demand and Supply[13] by major occupations from 2012 to 2025

OCCUPATIONS	2012-2016				2017-2021				2022-2025			
	Demand	Supply	Demand less Supply	Demand Supply Ratio	Demand	Supply	Demand less Supply	Demand Supply Ratio	Demand	Supply	Demand less Supply	Demand Supply Ratio
Corporate Managers	5,769	2,561	3,208	2.3	7,275	3,467	3,808	2.1	7,116	3,632	3,484	2.0
General Managers	5,795	1,677	4,117	3.5	7,237	2,344	4,892	3.1	6,983	2,516	4,467	2.8
Physical, Mathematical and Engineering Science Professionals	3,971	3,004	966	1.3	4,953	4,110	843	1.2	4,823	4,359	463	1.1
Life Science and Health Professionals	3,120	1,006	2,113	3.1	3,877	1,352	2,525	2.9	3,798	1,404	2,394	2.7
Teaching Professionals	14,073	3,190	10,883	4.4	17,601	4,186	13,414	4.2	17,366	4,271	13,095	4.1
Other Professionals	8,011	14,821	-6,810	0.5	9,925	20,826	-10,901	0.5	9,559	22,128	-12,569	0.4
Physical and Engineering Science associate Professionals	4,689	1,532	3,156	3.1	5,868	1,696	4,172	3.5	5,711	1,457	4,253	3.9
Life Science and Health Associate Professionals	3,749	1,705	2,044	2.2	4,618	2,348	2,271	2.0	4,480	2,482	1,998	1.8
Teaching Associate Professionals	3,922	0	3,922	-	4,930	0	4,930	-	4,870	0	4,870	-
Other Associate Professional	7,916	3,269	4,647	2.4	9,970	3,545	6,425	2.8	9,741	2,969	6,772	3.3
Office Clerks	15,252	1,195	14,058	12.8	19,118	1,293	17,825	14.8	18,665	1,079	17,586	17.3
Customer Service Clerks	6,088	886	5,202	6.9	7,696	959	6,737	8.0	7,467	801	6,667	9.3
Personal and Protective Service Workers	27,244	0	27,244	-	33,820	0	33,820	-	32,746	0	32,746	-
Models, Salespersons and Demonstrators	17,472	246	17,226	71.0	21,801	266	21,535	81.9	20,763	222	20,540	93.4
Market oriented skilled agricultural and fishery worker	18,324	40	18,284	457.6	21,015	43	20,972	485.1	18,716	36	18,680	517.4
Subsistence agricultural and Fishery workers	18,875	0	18,875	-	21,634	0	21,634	-	19,241	0	19,241	-
Mining and Building trade workers	25,913	10,824	15,089	2.4	33,265	11,711	21,554	2.8	34,579	9,779	24,800	3.5

13 Excluding unemployed

Table 11: Demand and Supply[13] by major occupations from 2012 to 2025 (continued)

Metal, Machinery and related trade workers	9,050	327	8,723	27.7	11,256	354	10,902	31.8	10,856	296	10,561	36.7
Precision, Handicraft, printing and related trade workers	2,397	327	2,070	7.3	3,032	354	2,678	8.6	3,016	296	2,721	10.2
Other craft and related trades workers	9,820	40	9,780	245.2	12,175	43	12,131	281.0	11,638	36	11,601	321.7
Stationary Plant and related operators	608	327	281	1.9	729	354	375	2.1	685	296	390	2.3
Machine operators and Assemblers	1,188	327	861	3.6	1,475	354	1,121	4.2	1,438	296	1,142	4.9
Drivers and mobile equipment operators	12,212	0	12,212	-	15,854	0	15,854	-	15,959	0	15,959	-
General Labourers, not specified	2,997	0	2,997	-	3,692	0	3,692	-	3,585	0	3,585	-
Sales and services elementary occupations	39,689	0	39,689	-	47,153	0	47,153	-	43,392	0	43,392	-
Agricultural, fishery and related labourers	24,556	0	24,556	-	28,346	0	28,346	-	25,357	0	25,357	-
Labourers in Mining, Construction, Manufacturing and Transport	7,110	0	7,110	-	8,691	0	8,691	-	8,348	0	8,348	-
Total	**299,811**	**47,307**	**252,504**	**-**	**367,004**	**59,606**	**307,399**	**-**	**350,896**	**58,354**	**292,542**	**-**

Source: NODSOM 2012

* **A negative number denotes that the job supply (formed by graduates and unemployed) is greater than the job demand for a given occupation.**

4.3.2. Conclusion

Supply and demand figures point to major shortages that are most critical in occupations requiring trades training and professions in the hard sciences. This is aggravated by the existing constraints in both the VET system and the higher education system.

The VET system is currently not adequately geared to meet current and future labour market demands for skills due to its limited access (with enrolment averages of 7,000 students over the period of 2007-2010), its focus on traditional trades[14], the inefficient allocation of resources, the under preparedness of students, and the lack of experienced instructors to promote competence based learning.

As stated in the situation analysis, the university sector also requires investment at all levels to bring education up to standard for the required economic growth. Overall investment should be targeted towards greater access, industry relevant curriculum review, upgrade in teaching methods, and, most of all, development of research capacity. This is consistent with the findings of the latest World Forum (2011) Global Competitiveness Report which indicated Namibia as ranked 113th out of 142 countries in Higher education and training. Furthermore, Namibia ranked very low in five important areas, these are: quality of mathematics and science education (121st), quality of educational system (122nd), availability of research and training services (128th), quality of management schools (129th) and availability of scientists and engineers (134th). The ability of the country to perform applied research in critical areas such as agriculture, fisheries, geology, information technology and manufacturing is severely hampered by the lack of graduates in engineering, biology, chemistry, mathematics and information technology.

Furthermore, since most of the demand for professionals appears to be in the public sector (health, education, social services, extra-territorial organizations), it is important to introduce university links to the private sector either through internship programming or applied research, to induce demand for a qualified supply. In other words, as the private sector gains from university professionals, they are more likely to hire locally when it comes to higher-level positions. This is quite relevant when considering employers with multinational links where higher-level positions are usually recruited from developed countries. The idea here is to slowly reverse that trend by increasing the quality of local professionals.

14 Auto-mechanics, Diesel Mechanics, Boilermaker, Welder/Fabricator, Office Administration, Junior Computer Technician, Fitting and Turning, Joining and Cabinet Making, Air-Conditioning and Refrigeration, Turner Machinist, Electrical Installation, International Computer Driving License, Plumbing and Pipefitting, Radio and TV (Electronics).

CHAPTER 5: INTERVENTION STRATEGIES

The previous chapters describe the current and projected economic situation and the mismatch between economic growth and employment that has resulted in an unacceptably high unemployment rate. Namibia will capitalise on the projected economic growth through ensuring that its citizens are suitably skilled to take advantage of job creation and employment opportunities and fully participate in society. The gap analysis of the labour market with respect to human resources demand and supply provides insight into the dynamics underlying employment and unemployment and points to specific occupations where shortages exist and are projected to continue. There are serious constraints in the education and training system that if not addressed may hinder the achievement of the forecasted economic growth, reduction in unemployment figures and the realisation of an industrialised Namibia and ultimately a knowledge-based economy.

The National Human Resources Plan informed by data from the Namibian Occupational Demand and Supply Outlook Model (NODSOM) puts forward intervention strategies to address the identified gaps. These strategies have been formulated for the short term (1-5 years), the medium term (6-10 years) and the long term (11-15 years) under the categories of:

1. Institutions and policy development
2. Data management and information dissemination
3. Improving efficiency and effectiveness of the education and training system
4. Prioritization of critical occupations for human resources planning
5. Addressing unemployment and employability skills.

The achievement of the objectives set out in the plan will require concerted and sustained effort and effective collaboration between stakeholders under the guidance and coordination of the National Planning Commission.

5.1. Institutionalization of Human Resources Planning

The sustainability of Human Resources Planning relies first and foremost on the institutionalization of planning including the models for monitoring the labour market and mechanisms to monitor and evaluate the performance of every component of the strategy. However, even when a structure is in place, there is still a need to integrate processes in order for

planning to become a routine practice. Processes are activity flows that involve actors whose participation is described in the overall terms of the plan. Participants by activity ultimately translate the plan in operational terms. For this reason, the coordination of human resources planning links different components or actors of the system in a network. Each party has a certain degree of autonomy to adapt goals, strategies and initiatives to the particular needs that their organizations deal with.

Thus, the role of the National Planning Commission will be to ensure:

- Formulation of broad policy objectives, financing and governance models and strategies relating to human resources development in the country.
- Mobilization of funding for human resources development.
- The effective integration of human resources development into national development planning.

A process-based organization of the system is proposed as follows:

1. A National Human Resources Development Plan, aligned to the National Human Resources Plan, should be developed and implemented by the Ministry of Education. Such policy will formalize the participation and accountability of different actors at different stages of the Human Resources Plan.
2. The National Planning Commission will have a team in place, comprised of expertise such as statisticians/ demographers, economists, social scientists, labour market analysts and human resources planning and policy analysts to produce research as relevant to the stage of planning.
3. The National Planning Commission will establish and formalize the participation of sectoral working groups to provide qualitative and quantitative information on their labour market.
4. The Ministry of Education will ensure the production, by training and education institutions, of strategic plans aligned to the national plan and the monitoring thereof.
5. The Ministry of Labour and Social Welfare (building on the Namibian Occupational Supply and Demand Outlook Model, demand and supply analysis) will move towards the full establishment of an integrated Labour Market Information System providing information to all constituents.

Overall, national human resources planning and development in the country will be guided and led by the National Planning Commission. The NPC will promote optimal participation of all stakeholders in the planning and monitoring and evaluation of human resources planning activities. This body will ensure that the policies of Government, the needs of civil society, the programmes of educational institutions,

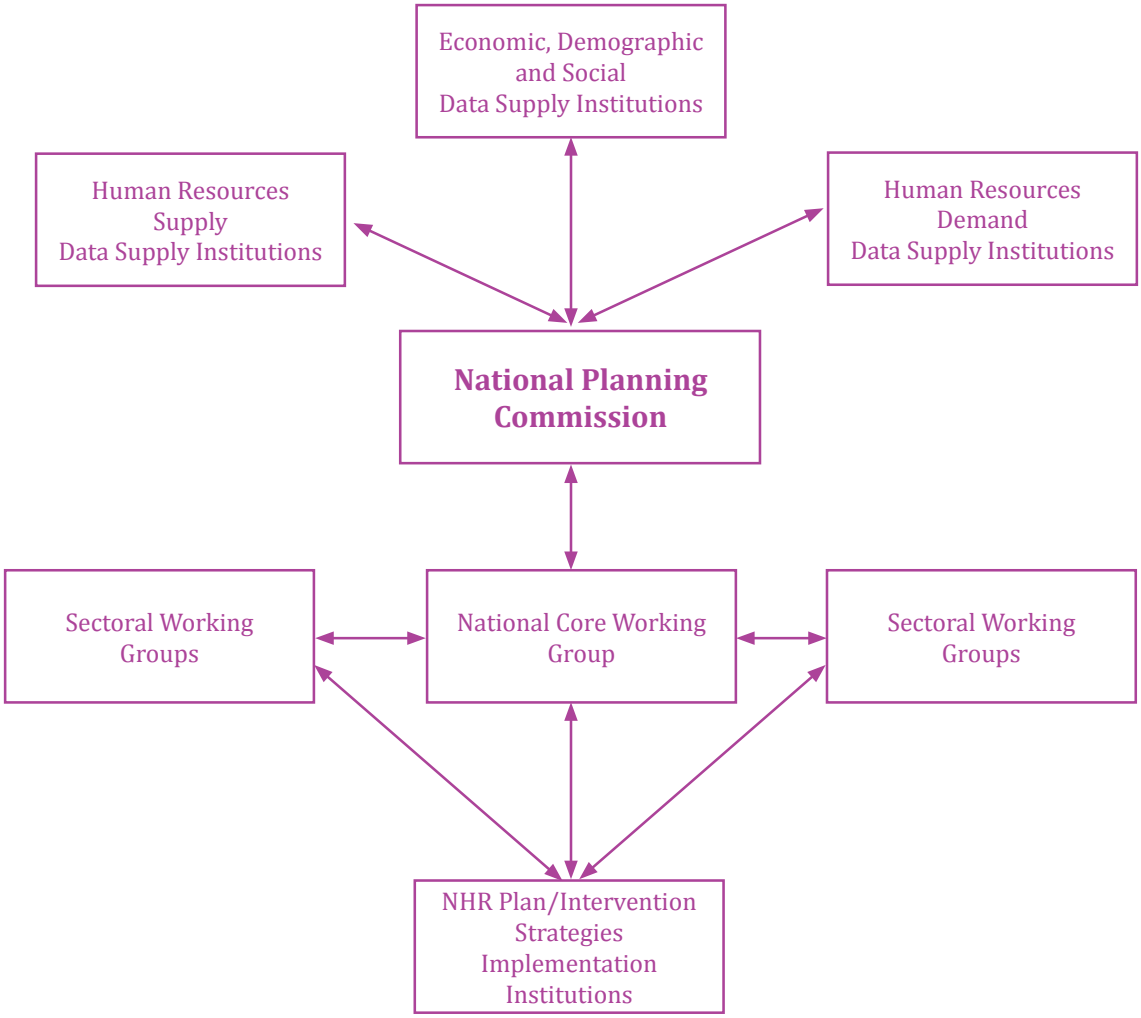
and the initiatives of businesses and industries are better aligned and work together in a coordinated way to enhance Namibia's human resources capabilities and workforce productivity. The organizational structure (figure 11) allows for information to flow on a regular basis between the various components and groups. Information (where possible disaggregated by gender, age and region) from sectoral working groups will feed the NODSOM, which in turn will inform educational and training institutions on the types of programmes and skills development that should be offered to students to match labour market demands.

The employers are important stakeholders in this system and the sectoral working groups will provide qualitative and quantitative needed information to them. The NTA has already established eleven (11) industrial sectoral committees, with five in operation by 2011. It is encouraged that this initiative be pursued. The existing National Core Working Group on National Human Resources Planning and Capacity Building Assessment will be strengthened with sectoral working group representation.

These working groups, which will include representation from the industrial sectoral committees established under the NTA, will ensure that the sector stakeholders outline their needs and take into account the specificity of their industry in specific regions. The mandate of the sectoral working groups should address the problems facing each sector with availability of non skilled, semi skilled, skilled and highly skilled workers and professionals.

Their mandate will cover the entire spectrum of the demand and supply side of the model. These working groups will also allow for a full participation of employers in the implementation of the National Human Resource Plan and will serve as links between the Plan and its implementation at sectoral and national level.

Figure 11: Data and Information Coordination for National Human Resources Planning



Box 5: Intervention Plan - Institutionalization of Human Resources Planning

Based on the principles for sustainable Namibian Human Resources Planning, the intervention plan related to Institutionalization of the planning activity relies on establishing a process-based HR planning organization. Coordination and information constraints are perhaps the first challenge to tackle in the human resources plan.

Intervention	Description of the intervention
Short term - Year 1-5	
Establish the process – based NHRDP organization	Strengthen the Human Resources Planning Coordination function within NPC.
	Formulate and adopt a Human Resources Development Plan
	Strengthen the national core working group for human resources planning and establish sectoral working groups with appropriate reporting structures.

5.2 Data Management and Information Dissemination

Information on the supply of qualified Human Resources coming from universities, the polytechnic and vocational training centres is scattered. Each institution is keeping its own incomplete database and most are supply-driven in their approach towards programme planning with scant efforts made to measure the external effectiveness of the education and training provided. Very few tracer studies have been conducted to obtain feedback on the outcomes of the education and training such as whether the graduates have obtained jobs, whether employers are satisfied with the quality of the graduates, salary levels for graduates, the methods used for job searching, etc. Moreover, most of the Higher and Technical and Vocational Institutions, the universities especially, are faced with a situation where demand for places by far exceeds the institution's capacity. Hence, there is little compulsion to measure the external efficiency of the different education and training programmes.

NODSOM, developed for the forecasting of Human Resources requirements based on GDP forecasts and employment by industry and occupations, will provide valuable information on the labour market, which can be used as broad indicators for planning purposes. As proposed in the process based organization of human resources planning, information flows will be complemented with sectoral information. This information will be produced on a regular basis in order to capture more refined and up-to-date information on the evolution of particular industries and localities. Besides indicators on employment by occupations, it is important to capture information on the evolution of wages to enable comprehensive assessment of the labour market. Together these tools will yield more reliable information on the demand for labour (i.e. enterprises of 5 employees and more, micro enterprises and non-formal ones) and serve as a guide for the planning of education and training. However, it should be pointed out that, irrespective of the methodology used and the rigor applied while conducting the sectoral studies, there would be some knowledge that is not formally organized, which is likely to remain un-captured. It is, therefore, essential that validation with stakeholders from industry is carried out with a view to capturing qualitative information. It is equally important that there is a shared understanding and appreciation of the evolution of the labour market in order to ensure that policy measures and plans to address skill shortages are jointly owned by the major stakeholders.

Similarly, regular and systematic tracer studies will be carried out by higher and technical and vocational education institutions to inform, not only their own strategic plans, but also to guide policy makers, planners, parents and students in

their decision-making process. Statistics on education, with regard to enrolment, drop out and pass rates should be produced systematically, to inform the supply side of the model.

It is of the utmost importance that education and training institutions develop communication strategies to provide end users, parents, students and employers, with information on the outcome of the education and training provided. They need to provide information on the profiles and the competencies of the graduated students, the type of jobs they will be trained for and the employment prospects. This information must be centrally processed and adjusted continuously. It is essential that employers have a precise idea of the competencies and skills to expect when choosing a graduate to fill a job, and the students, of the opportunities when selecting a training programme.

Comparing demand (sector-driven) and supply provides useful information, which can help labour markets operate more efficiently and improve labour market outcomes. The information and analysis will be useful to policy makers and planners to identify areas where skills are in high demand. It will also be useful to managers of education and training institutions as it would improve their understanding of the nature and extent of the demand for skills. This will guide future expansion/ contraction of training programmes.

The interaction of all constitutive elements of the Human Resources Plan should eventually lead to the creation of a Labour Market Information System (LMIS) which opens up the information flow to the public at large. In addition to helping managers and planners set priorities and plan human resources development activities over time, a LMIS will provides job seekers, graduates, students, employers, career and policy makers with access to the labour market information they require to make informed decisions and plan for the future.

Students, for example, can learn about the kind of skills needed to obtain a job in the future and about the demand for workers in a particular occupation. Having this information will guide them in making suitable career decisions and selecting the most appropriate education and training programme.

An optimal LMIS should provide the following information and data:

1. Core labour force statistics
2. Demand data (skill requirements for specific occupations, jobs in high demand, occupations with good job prospects, trends in employment demand, industry and economic forecasts of job openings, etc.).
3. Supply data (occupational supply)
4. Occupational characteristics (profiles of major occupations in the economy providing information on main

duties, education/training and skill requirements, employment prospects and special skills/abilities of each occupation).

5. Crosswalks and links that connect different data sets such as occupational education and training requirements, training programme information, industry human resource demands, employment prospects, nationally and regionally and web sites for obtaining more relevant information.

In order to ensure transition towards a LMIS and make information and analysis available to labour market actors, institutional arrangements are needed with further defined roles and responsibilities. Accordingly, the NHRP should depart with strengthening the capacity of NODSOM to produce accurate and reliable forecasts. Once the essential information feeds the model, NHRP can move towards making information available to actors that will eventually feed the system as well from the bottom up.

Box 6: Intervention Plan - Data Management and Information Dissemination

The creation of a LMIS will unleash Namibia's employment potential by creating the possibility for end users to access key information and make rational choices. The challenge is to ensure all sources of data stream into user-friendly information regarding career pathways, training and education opportunities, and occupation profiles over time. Ideally, the LMIS should provide the following information:

1. *Population and Labour Force (all variables by age, sex, region, and urban/rural).*
2. *Employment and Unemployment (all variables by age, sex, region, and urban/rural).*
3. *Wages and Earnings (all variables by industry, occupation, sex, and region).*
4. *Labour Demand and Supply (NODSOM).*
5. *Labour internal mobility.*
6. *Emigration.*
7. *Industrial Relations (trade unions by industry, disputes, collective bargaining, etc.).*
8. *Employment in Informal Sector including wages and earnings (all variables by type of business activity, industry and occupation).*
9. *Training and Education programmes (competencies) and employment prospects.*

Moving towards a LMIS will allow for targeting the unemployed, the informal sector and wider opportunities for self-employment and SMEs start-ups.

Intervention	Description of the intervention
Short term Year 1-5	
Establish information management systems	Establish mechanisms and reporting systems for collecting, centralising and integrating labour market information.
	Maintain and enhance NODSOM.
	Develop and operationalise an integrated Labour Market Information System (LMIS).

5.3 Improving Efficiency and Effectiveness of the Education and Training System

5.3.1 Apprenticeship Training

The present technical and vocational education and training system is primarily geared towards the provision of pre-employment training for Grade 10 to 12 students. The main implementing agencies are the Ministry of Education, Namibia Training Authority and COSDECs. The training offered is institution-based, with very few links with industry. The cost of such training is usually very high and increasing the intake capacity requires substantial additional resources. Such training is often limited by the availability of adequate equipment and qualified instructors, resulting in a greater emphasis on learning theory at the expense of practical, work-related training.

The financing of Technical Vocational Education and Training (TVET) is very reliant on resources made available by government. This acts as a serious constraint in the expansion and diversification of the training programmes offered. In order to sustain economic development and improve productivity and competitiveness, greater emphasis must be given to skills development. The Namibia Training Authority (NTA) is actively involved, in collaboration with industry, in the development of unit standards, which serve as guidelines for the curriculum, delivery and evaluation of training. In order to give a new impetus to the development of TVET, it is critically important to involve the employers from the private sector and the state owned enterprises in the delivery of training.

One of the modes of training which has proved to be very effective is the apprenticeship system and especially the one based on the German Dual System, whereby the apprentice spends about four days in industry, under the supervision of a master crafts person and one day in a training centre. This yields a good mix of practical on-the-job training along with the theoretical component. It also has the advantage of ensuring that the learner is trained on equipment and technology currently in use in industry. The learner is also exposed to real work conditions. They acquire, besides technical skills, such skills as learning how to work in a team, time management, problem solving, and being disciplined and responsible at work which all are valuable skills sought by employers.

An appropriate apprenticeship system for training must be developed with the active collaboration of the private sector. The implementation of such an apprenticeship system will change the dynamics of the relationship between the private sector and training institutions and result in new public-private partnerships aimed at enhancing and raising the skills

and productivity of the workforce. The apprenticeship system will be implemented within the VET system.

An appropriate legal framework will be put in place, which incorporates the principle of tripartism. It is essential, however, that a great degree of flexibility is provided for in order to encourage employers to be actively involved in the system. The apprentice scheme should provide for appropriate training of the master crafts persons who will be called upon to supervise the learners in the enterprise.

Education and training institutions should also prepare the students to access the labour market. Apprenticeship is a key factor in achieving this goal. However, other initiatives have to be put in place to improve student placement. The education and training institutions have to include in their curriculum job searching skills acquisition. The overall goal is for students to be able to prepare curriculum vitae, identify job opportunities, contact potential employers, prepare for and go through an interview process, network, etc. These skills will allow for graduates to be better prepared to access their first job.

The efforts invested by the education and training institutions in preparing the students to find their first job will often not be enough to ensure the graduates' placement in the labour market. Some barriers to the market for new graduates are often very difficult and reduce their chances of getting access. At times, additional assistance may need to be provided by the Government to help with placement of new graduates.

5.3.2 Education and Training System

In the short term, human resources development will focus on improving the skills and productivity of workers in specific occupations and industries critical to the country's economic and social advancements. Long term improvement however, will depend on how the sub-systems, (early childhood education, primary, secondary, tertiary and technical and vocational education and training) perform. Hence, the human resources development plan should integrate all the measures and programmes aimed at improving the education and training system. Indeed, a well performing education and training system constitutes the core element of a sound and forward looking human resources development strategy.

It is also crucial that the education system allows for more suppleness. It should allow for the majority of the drop-outs to re-enter the formal system to complete their secondary education (over 94 percent of the unemployed do not have a Grade 10 qualification). It should also encourage the passage from vocational and technical training to university for those who choose to pursue another career path.

The ETSIP has identified key areas of reforms in the education and training system which should form an integral part of the human resources development plan.

Box 7: Intervention Plan – Improvement of the Efficiency and Effectiveness of the Education and Training System

The long-term purpose of the NHRP is to meet the labour needs for an industrialized knowledge-based economy. Therefore, efficient Human Resources Planning should focus on the skills required to meet a changing economy for which higher and vocational education and lifelong learning strategies are required.

Intervention	Description of the intervention
Short term Year 1- 5	
Linking education and training output to labour market demand	Link funding for education and training and skills development to national priorities.
	Ensure that strategic planning in education and training institutions is responsive to labour market shortages.
	Promote partnerships between education and training providers and employer sectors for the development of apprenticeship, co-operative and internship programmes.
	Identify and implement strategies for fast-tracking the development of new education and training programmes to meet identified occupational shortages.
Medium-term Year 6 -10	
Linking education and training output to labour market demand	Introduce co-op systems for Higher Education in collaboration with the employer sector.
	Continue to improve the quality and infrastructure of Vocational Education and Training provision to ensure responsiveness to the needs of the economy.
Long-term Year 11 - 15	
Prepare the workforce for a knowledge based economy	The Secondary education institutions should promote partnerships with tertiary institutions and employers to nurture talent at a young age to increase their participation in higher education.
	Support tertiary institutions in the development and implementation of applied research plans.
	Strengthen partnerships between education and training providers and the private sector for the development of applied research and business incubators.
	Support international partnerships amongst universities in the areas of research, curriculum and staff and student development.
Continue implementing lifelong learning	Enhance/improve lifelong learning programmes to include: ➢ work-related training ➢ personal development ➢ active citizenship.
Improve open/distance learning	Strengthen open/ distance learning to improve both access to and diversity of education and training opportunities.
Address skills shortages in the formal labour market	Identify and strengthen institutions offering programmes relevant to knowledge economy labour needs.
	Reinforce programmes with high potential to feed Namibia's industrialized economy.

5.4. Prioritisation of Critical Occupational Skills

Besides setting up the organization of Human Resources Planning through the National Planning Commission and addressing information gaps by formalizing partnerships, there are clear indicators of labour shortages, stemming from NODSOM analysis, that require immediate attention. Therefore, as a first step, shortages should be targeted in the occupations shown in box 8.

Box 8: Priority Occupational Category by Industry

Occupational Category	Subcategory	Industry / sector
Professionals	Financial practitioners Physicists Chemists Mathematicians Engineers Health professionals Social work and Community work professionals	Business activities Public administration Education Health Community services Extra-territorial organization
Skilled agricultural and Fishery workers	Market oriented skilled workers	Agriculture, fishing, and food processing manufacturing industries
Service workers and shop and market sales workers	Personal and protective service worker, sales-persons and demonstrators (customer service workers)	Wholesale and retail trade industries Hotels and restaurants Other service oriented industries
Craft and related trades workers	Mining and building trade workers. Metal, machinery, precision, handicraft, printing and other craft and related trades workers	Agriculture (agro industry), fisheries. Mining and quarrying, electricity, gas, water supply Construction industries Service industries related to repair of motor vehicles
Plant and machine operators and assemblers	Stationary plant and related operators, and machine operators and assemblers	Agriculture (agro industries), mining and quarrying Manufacturing Electricity, gas and water supply, and Transport storage and communication

Box 9: Intervention Plan - Priority Occupations for Human Resources Planning

The ultimate objective of the NHRP is to address labour skills shortages in the short, medium and long term.

Intervention	Description of the intervention
Short term Year 1-5	
Address labour market supply shortages and information gaps in the formal and non-formal sectors	Identify and include programmes to address priority occupational skills in NDP4.
	Ministry of Education should ensure that tracer studies are undertaken and extend their use to all education and training institutions.
	With input from employers, qualify information on labour shortages by field of learning with respect to required skills.
	Increase access to and improve the quality of education and training of higher education students in hard sciences (engineering, physics, chemistry, mathematics and information technology).
	The MoE student loan system should take into account in its allocation process the priorities identified in the NHRP
	Increase access to and improve the quality of training of vocational and technical students in trades and occupations critical to economic growth and expansion in key sectors.
	Encouraging employers to invest in the training of their employees with a view to upgrading their skills to meet changing technological needs of the labour market.
	Prior learning recognition strategies to fast-track access to education and training and employment.
	Creating pathways (articulation) between TVET and general education and university sector to facilitate career progression.
Medium Term Year 6-10	
Address labour market supply shortages and information gaps in the formal and non-formal sectors	Assess labour shortages for years 6-10 of the Plan. Update targets in priority education and training institution. Support strategic planning for all education and training institutions. Introduce framework for Prior Learning Assessment and Recognition (PLAR).
Long-term Year 11 to 15	
Address shortages in the formal labour market	Assess shortages for years 11-15 of the Plan with special attention given to forecasts in the knowledge economy.

5.5. Addressing Unemployment and Employability skills

Addressing unemployment and employability skills is also a crucial step where plans should effectively be developed and implemented to support Namibia's economic growth.

Box 10: Addressing unemployment and employability skills

The NHRP sets the bases for effective planning, aiming to target unemployment, formalise informal businesses, support SME's start-ups and address labour shortages in the formal labour market.

Intervention	Description of the intervention
Short term Year 1-5	
Develop and implement a plan to target the unemployed	Establish baseline for the unemployed (by sex, region, education attainment, previous experience).
	Establish partnerships with employers to develop relevant programmes and address unemployment.
	Set targets to reach the unemployed in partnership with employers. Develop and implement outreach strategies.
	Develop and implement upgrading programmes. Link employment programmes such as TIPEEG with training and upgrading.
Mid-term Year 6 to 10	
Develop and implement a plan to target the unemployed	Assess the contribution of programmes to employment/self-employment and income.
Develop and implement a plan to formalise informal businesses	Identify value added activities in the informal sector for development.
	Design and implement training initiatives tailored to improve employability and self-employment.
	Develop and implement outreach strategies.
	Assess the contribution of programmes.
Develop and implement a framework for SME's start-ups	Establish partnerships with relevant community based organizations involved in SME projects.
	Develop a plan to support training processes for new and upcoming enterprises.
	Deliver training programmes.

5.6 Monitoring and Evaluation

A specific strategy for monitoring and evaluating the NHRP strategies will need to be developed and must be linked to specific operational plans derived from the NHRP. The following guidelines should be considered when implementing the plan:

1. Each strategy in the NHRP should be expanded by conducting a situation analysis, which should link tasks to results/outcomes.
2. A detailed Monitoring and Evaluation plan should be drawn up for each term (short, medium, long) of the NHRP. Accordingly, implementers will decide what to monitor and evaluate as well as the best processes by which to go about it.
3. Operational plans by activity should clearly indicate who is ultimately responsible for each activity, the budget estimates, the timeline for completion, the expected outputs and outcomes, the beneficiaries and appropriate indicators.

Monitoring and evaluation should be understood as a complete system within a given project and should be planned, managed and funded accordingly. The system development should take into account the following components: design of the system, involvement of stakeholders in monitoring and evaluation activities, processes for gathering and managing information; data collection and analysis, associated costs, reporting and use of the information generated and communication and dissemination strategies.

Evaluation reports should assess the impact and continuously highlight both successes and failures as well as unintentional positive or negative effects. Since indicators are rarely sufficient for acquiring a complete picture regarding an intervention, qualitative information is usually needed to clarify why a specific situation has arisen, the context of the intervention and the contextual meaning of the changes that have occurred.

Bibliography

AfDB, OECD, UNDP, UNECA. (2011). African Economic Outlook: Namibia. From http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Namibia.pdf

African Development Bank Group. (2011). Data Portal. From http://dataportal.afdb.org/DataQuery.aspx

Asemota, O.O. Building Namibia for Competitiveness through Open and Distance Learning: A Critical Review Polytechnic of Namibia. From http://ir.polytechnic.edu.na/bitstream/10628/49/4/Asemota.%20Building%20Namibia%20for%20competitiveness%20through%20open%20and%20distance%20learning.pdf

Bank of Namibia (2011). *Quarterly Bulletin . (*Vol. 20, No. 2) Windhoek

Bank of Namibia (2011). *Economic Outlook.* Windhoek.

Botswana. (2009). *National human resource development strategy: Realizing our potentials.* Ministry of Education and Skills Development.

Cohen, J. (2011). *ETSIP Mid-term Review (Final Version), Senior Secondary Education*, MCC Education Adviser.

Fischer, G. (2010). *The Namibian Education System*. Friedrich Ebert Stiftung Windhoek, Namibia. From http://www.fesnam.org/pdf/2010/TheNamibianEducationalSystem.pdf

Food and Agriculture Organization (2011). *Fishery and aquaculture country profiles: Namibia*. From http://www.fao.org/fishery/countrysector/FI-CP_NA/en

Gawanab, Alex Clive. (2010). *The need for the beneficiation of Namibian diamond exports and its impact on economic performance.* From http://hdl.handle.net/10019.1/8582

Hal, V. 1992. *Microeconomic Analysis*, 3rd Ed., W.W. Norton & Company, Inc. New York.

Heita, D. (2011) *Industrial policy suggests pragmatic reforms. New Era. Nov 23*. From *http://www.newera.com.na/article.php?articleid=41798&title=Industrial%20policy%20suggests%20pragmatic%20reforms*

ILO (2009), *The informal economy in Africa. Promoting transition to formality: Challenges and strategies,* ILO, Geneva.

Klerck, G. (2008). *Industrial relations in Namibia since independence: Between neo-liberalism and neo-corporatism? Employee Relations*, pg. 355-371

Lapeyre, F., Kanyense, G. (2011). *Report of the exploratory mission to Namibia on employment policy: Policy environment assessment* . International Labour Organization.

Links, F. (2010). *Namibia's Skills Deficits: Cross-sectoral perceptions and experiences*. Research Associate Institute for Public Policy Research (IPPR) Commissioned by Namibian Employers' Federation (NEF). From http://www.ipmnamibia.org/resources/docs/SkillsResearchDeficit.pdf

Marope, M. (2005). *Namibia human capital and knowledge development for economic growth with equity.* The World Bank.

Mauritius (2009). *Education and human resources strategy plan 2008-2020,* Ministry of Education, Culture and Human Resources.

Namibia. (2011). *Macroeconomic framework for the 2011/12 – 2013/14 medium term expenditure framework.* Ministry of Finance. Windhoek.

Namibia. (2006) *Namibia occupational skills assessment survey.* Directorate of Labour Market Services, Ministry of Labour and Social Services (Windhoek, Namibia). Windhoek.

Namibia. (2010). *Namibia labour force survey 2008*. Directorate of Labour Market Services. Ministry of Labour and Social Welfare. Windhoek

Namibia. (2006). *Namibia labour force survey 2004*. Directorate of Labour Market Services. Ministry of Labour and Social Welfare. Windhoek.

Namibia. (2002). *Namibia labour force survey 2000*. Directorate of Labour Market Services. Ministry of Labour and Social Welfare. Windhoek.

Namibia. *Namibia's Industrial Policy*. Ministry of Trade and Industry.

Naanda, R. (2010). *The integration of identified employability skills into the Namibian Vocational and Training curriculum.* PhD Thesis, Faculty of Education, Stellenbosch University.

NAMBIC. (2011). *Namibian business and investment climate survey*. Institute for Public Policy Research, Windhoek.

Namibian. (2004). *Namibia Vision 2030. Policy framework for long-term national development*. Office of the President. Windhoek.

Namibian Manufacturers Association (2009). *Draft manufacturing strategy framework.* Available from http://www.nmanamibia.com/

Namibia Manufacturers Association. Manufacturing in Namibia. From http://www.nmanamibia.com/pdf/manufacturing%20in%20Namibia.pdf

Namibia. (2006). *2003 /2004 Namibia household income and expenditure survey, Main Report.* Central Bureau of Statistics, National Planning Commission. Windhoek.

Namibia. (2011). *National accounts Tables 2000-2010,* Central Bureau of Statistics, National Planning Commission. Windhoek.

Namibia. (2008). *Third National Development Plan NDP3 - 2007/08-2011/12*
Office of the President - National Planning Commission. Windhoek.

Namibia. (2011). *Targeted intervention program for employment and economic growth*. National Planning Commission Office of the President. Windhoek.

Namibia. (2012). *Namibia's occupational demand and supply outlook model*. National Planning Commission Office of the President. Windhoek

Seneviratne, A. (2010). *Sources of economic growth: employment creation, poverty reduction and accelerating investment: results driven input for informed policy and strategy formulation.*, National Planning Commission, Office of The President. Windhoek.

Shaketange, L.; Nitschke, J.(2008). *A Country report in preparation for the sixth international conference on adult education.*

Shejavali, N. (2007). *SMEs in Namibia, recommendations to address the challenges and constraints faced by small and medium enterprises in the Namibian economy.* Research Paper, Windhoek.
South. (2009). *Human resource development strategy for South Africa (HRD-SA) 2010-2030.*

Sustainable Tourism Network of Africa (2010).*Namibia Gets US$70 Million Ecotourism Grant*. From http://www.sustainabletourismnetwork.co.za/2010/01/namibia-gets-us70-million-ecotourism-grant/

The British Council (2007). *Education Market Intelligence: Namibia Market Introduction* From http://www.britishcouncil.org/eumd-information-background-namibia.htm

The Norwegian Council for Africa (2011). Namibia: Unemployment, a National crisis. http://www.afrika.no/Detailed/19938.html

The World Bank (2011). Africa Competitiveness Report 2011.From http://siteresources.worldbank.org/INTAFRICA/Resources/The_Africa_Competitiveness_Report_2011.pdf

The World Bank. Country Data. From http://data.worldbank.org/country/namibia Last accessed on January 4, 2011

The World Bank. (2011). Doing Business: Namibia. From http://www.doingbusiness.org/~/media/fpdkm/doing%20business/documents/profiles/country/NAM.pdf

The World Bank (2011). World Development Indicators Database. From http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?&CF=&REPORT_ID=9147&REQUEST_TYPE=VIEWADVANCED

The World Bank (2011). Primary Dataset. From http://timetric.com/dataset/worldbank/

United Nations Educational, Scientific and Cultural Organization (2011). Education For All Global Monitoring Report. From http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/pdf/gmr2011-efa-development-index.pdf

United Nations Educational, Scientific and Cultural Organization (UNESCO). www.unesco.org/ delors/index.html.

World Economic Forum (2010). *The global competitiveness report 2010-2011.*(Geneva, Switzerland), 250-251.

World Economic Forum (2011). *The global competitiveness report 2011-2012.*(Geneva, Switzerland), 270-271.

World Travel and Tourism Council (2011). Namibia Key Facts at a Glance. From http://www.wttc.org/research/economic-impact-research/country-reports/n/namibia/

Annex 1: Sub-Occupational Categories

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
GROUP 1: LEGISLATORS, SENIOR OFFICIALS AND MANAGERS		
LEGISLATORS AND SENIOR OFFICIALS	**Legislators**	Legislators
	Senior Government Officials	Senior government officials
	Traditional Chiefs And Heads Of Villages	Traditional chiefs and heads of villages
	Senior Officials Of Special-Interest Organisations	Senior officials of political-party organisations
		Senior officials of employers', workers' and other economic-interest organisations
		Senior officials of humanitarian and other special-interest organisations
CORPORATE MANAGERS	**Directors And Chief Executives**	Directors and chief executives
	Production and Operations Department Managers	Production and operations department managers in agriculture, hunting, forestry and fishing
		Production and operations department managers in manufacturing
		Production and operations department managers in construction
		Production and operations department managers in wholesale and retail trade
		Production and operations department managers in restaurants and hotels
		Production and operations department managers in transport, storage and communications
		Production and operations department managers in transport, storage and communications
		Production and operations department managers in business services
		Production and operations department managers in personal care, cleaning and related services
		Production and operations department managers not elsewhere classified
	Other Department Managers	Finance and administration department managers
		Personnel and industrial relations department managers
		Sales and marketing department managers
		Advertising and public relations department managers
		Supply and distribution department managers
		Computing services department managers
		Research and development department managers
		Other department managers not elsewhere classified

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
GENERAL MANAGERS	**General Managers**	General managers in agriculture, hunting, forestry/ and fishing
		General managers in manufacturing
		General managers in construction
		General managers in wholesale and retail trade
		General managers of restaurants and hotels
		General managers in transport, storage and communications
		General managers of business services
		General managers in personal care, cleaning and related services
		General managers not elsewhere classified
GROUP 2: PROFESSIONALS		
PHYSICAL, MATHEMATICAL AND ENGINEERING SCIENCE PROFESSIONALS	**Physicists, Chemists And Related Professionals**	Physicists and astronomers
		Meteorologists
		Chemists
		Geologists and geophysicists
	Mathematicians, Statisticians And Related Professionals	Mathematicians and related professionals
		Statisticians
	Computing Professionals	Computer systems designers and analysts
		Computer programmers
		Computing professionals not elsewhere classified
	Architects, Engineers And Related Professionals	Architects, town and traffic planners
		Civil engineers
		Electrical engineers
		Electronics and telecommunications engineers
		Mechanical engineers
		Chemical engineers
		Mining engineers, metallurgists and related professionals
		Cartographers and surveyors
		Architects, engineers and related professionals not elsewhere classified
LIFE SCIENCE AND HEALTH PROFESSIONALS	**Life Science Professionals**	Biologists, botanists, zoologists and related professionals
		Pharmacologists, pathologists and related professionals
		Agronomists and related professionals
	Health Professionals (Except Nursing)	Medical doctors
		Dentists
		Veterinarians
		Pharmacists
		Health professionals (except nursing) not elsewhere classified
	Nursing And Midwifery Professionals	Nursing and midwifery professionals

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
TEACHING PROFESSIONALS	College, University And Higher Education Teaching Professionals	College, university and higher education teaching professionals
	Secondary Education Teaching Professionals	Secondary education teaching professionals
	Primary And Pre-Primary Education Teaching Professionals	Primary education teaching professionals
		Pre-primary education teaching professionals
	Special Education Teaching Professionals	Special education teaching professionals
	Other Teaching Professionals	Education methods specialists
		School inspectors
		Other teaching professionals not elsewhere classified
OTHER PROFESSIONALS	Business Professionals	Accountants
		Personnel and careers professionals
		Business professionals not elsewhere classified
	Legal Professionals	Lawyers
		Judges
		Legal professionals not elsewhere classified
	Archivists, Librarians And Related Information Professionals	Archivists and curators
		Librarians and related information professionals
	Social Science And Related Professionals	Economists
		Sociologists, anthropologists and related professionals
		Philosophers, historians and political scientists
		Philologists, translators and interpreters
		Psychologists
		Social work professionals
	Writers And Creative Or Performing Artists	Authors, journalists and other writers
		Sculptors, painters and related artists
		Composers, musicians and singers
		Choreographers and dancers
		Film, stage and related actors and directors
	Religious Professionals	Religious professionals

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
GROUP 3: TECHNICIANS AND ASSOCIATE PROFESSIONALS		
PHYSICAL AND ENGINEERING SCIENCE ASSOCIATE PROFESSIONALS	**Physical And Engineering Science Technicians**	Chemical and physical science technicians
		Civil engineering technicians
		Electrical engineering technicians
		Electronics and telecommunications engineering technicians
		Mechanical engineering technicians
		Chemical engineering technicians
		Mining and metallurgical technicians
		Draughtspersons
		Physical and engineering science technicians not elsewhere classified
	Computer Associate Professionals	Computer assistants
		Computer equipment operators
		Industrial robot controllers
	Optical And Electronic Equipment Operators	Photographers and image and sound recording equipment operators
		Broadcasting and telecommunications equipment operators
		Medical equipment operators
		Optical and electronic equipment operators not elsewhere classified
	Ship And Aircraft Controllers And Technicians	Ships' engineers
		Ships' deck officers and pilots
		Aircraft pilots and related associate professionals
		Air traffic controllers
		Air traffic safety technicians
	Safety And Quality Inspectors	Building and fire inspectors
		Safety, health and quality inspectors
LIFE SCIENCE AND HEALTH ASSOCIATE PROFESSIONALS	**Life Science Technicians And Related Associate Professionals**	Life science technicians
		Agronomy and forestry technicians
		Farming and forestry advisers
	Modern Health Associate Professionals (Except Nursing)	Medical assistants
		Sanitarians
		Dieticians and nutritionists
		Optometrists and opticians
		Dental assistants
		Physiotherapists and related associate professionals
		Veterinary assistants
		Pharmaceutical assistants
		Modern health associate professionals (except nursing) not elsewhere classified
	Nursing and Midwifery Associate Professionals	Nursing associate professionals
		Midwifery associate professionals
	Traditional Medicine Practitioners And Faith Healers	Traditional medicine practitioners
		Faith healers

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
TEACHING ASSOCIATE PROFESSIONALS	Primary Education Teaching Associate Professionals	Primary education teaching associate professionals
	Pre-Primary Education Teaching Associate Professionals	Pre-primary education teaching associate professionals
	Special Education Teaching Associate Professionals	Special education teaching associate professionals
	Other Teaching Associate Professionals	Other teaching associate professionals
OTHER ASSOCIATE PROFESSIONALS	Finance And Sales Associate Professionals	Securities and finance dealers and brokers
		Insurance representatives
		Estate agents
		Travel consultants and organisers
		Technical and commercial sales representatives
		Buyers
		Appraisers, valuers and auctioneers
		Finance and sales associate professionals not elsewhere classified
	Business Services Agents And Trade Brokers	Trade brokers
		Clearing and forwarding agents
		Employment agents and labour contractors
		Business services agents and trade brokers not elsewhere classified
	Administrative Associate Professionals	Administrative secretaries and related associate professionals
		Legal and related business associate professionals
		Bookkeepers
		Statistical, mathematical and related associate professionals
		Administrative associate professionals not elsewhere classified
	Customs, Tax And Related Government Associate Professionals	Customs and border inspectors
		Government tax and excise officials
		Government social benefits officials
		Government licensing officials
		Customs, tax and related government associate professionals not elsewhere classified
	Police Inspectors And Detectives	Police inspectors and detectives
	Social Work Associate Professionals	Social work associate professionals
	Artistic, Entertainment And Sports Associate Professionals	Decorators and commercial designers
		Radio, television and other announcers
		Street, night-club and related musicians, singers and dancers
		Clowns, magicians, acrobats and related associate professionals
		Athletes, sportspersons and related associate professionals
	Religious Associate Professionals	Religious associate professionals

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
GROUP4: CLERKS		
OFFICE CLERKS	**Secretaries And Keyboard-Operating Clerks**	Stenographers and typists
		Word-processor and related operators
		Data entry operators
		Calculating-machine operators
		Secretaries
	Numerical Clerks	Accounting and bookkeeping clerks
		Statistical and finance clerks
	Material-Recording And Transport Clerks	Stock clerks
		Production clerks
		Transport clerks
	Library, Mail And Related Clerks	Library and filing clerks
		Mail carriers and sorting clerks
		Coding, proof-reading and related clerks
		Scribes and related workers
	Other Office Clerks	Other office clerks
CUSTOMER SERVICES CLERKS	**Cashiers, Tellers And Related Clerks**	Cashiers and ticket clerks
		Tellers and other counter clerks
		Bookmakers and croupiers
		Pawnbrokers and money-lenders
		Debt-collectors and related workers
	Client Information Clerks	Travel agency and related clerks
		Receptionists and information clerks
		Telephone switchboard operators
GROUP 5: SERVICE WORKERS AND SHOP AND MARKET SALES WORKERS		
PERSONAL AND PROTECTIVE SERVICES WORKERS	**Travel Attendants And Related Workers**	Travel attendants and travel stewards
		Transport conductors
		Travel guides
	Housekeeping And Restaurant Services Workers	Housekeepers and related workers
		Cooks
		Waiters, waitresses and bartenders
	Personal Care And Related Workers	Child-care workers
		Institution-based personal care workers
		Home-based personal care workers
		Personal care and related workers not elsewhere classified
	Other Personal Services Workers	Hairdressers, barbers, beauticians and related workers
		Companions and valets
		Undertakers and embalmers
		Other personal services workers not elsewhere classified
	Astrologers, Fortune-Tellers And Related Workers	Astrologers and related workers
		Fortune-tellers, palmists and related workers
	Protective Services Workers	Fire-fighters
		Police officers
		Prison guards
		Protective services workers not elsewhere classified

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
MODELS, SALESPERSONS AND DEMONSTRATORS	Fashion And Other Models	Fashion and other models
	Shop Salespersons And Demonstrators	Shop salespersons and demonstrators
	Stall And Market Salespersons	Stall and market salespersons
GROUP 6: SKILLED AGRICULTURAL AND FISHERY WORKERS		
MARKET-ORIENTED SKILLED AGRICULTURAL AND FISHERY WORKERS	Market Gardeners And Crop Growers	Field crop and vegetable growers
		Tree and shrub crop growers
		Gardeners, horticultural and nursery growers
		Mixed-crop growers
	Market-Oriented Animal Producers And Related Workers	Dairy and livestock producers
		Poultry producers
		Apiarists and sericulturists
		Mixed-animal producers
		Market-oriented animal producers and related workers not elsewhere classified
	Market-Oriented Crop And Animal Producers	Market-oriented crop and animal producers
	Forestry And Related Workers	Forestry workers and loggers
		Charcoal burners and related workers
	Fishery Workers, Hunters And Trappers	Aquatic-life cultivation workers
		Inland and coastal waters fishery workers
		Deep-sea fishery workers
		Hunters and trappers
SUBSISTENCE AGRICULTURAL AND FISHERY WORKERS	Subsistence Agricultural And Fishery Workers	Subsistence agricultural and fishery workers
GROUP 7: CRAFT AND RELATED TRADES WORKERS		
EXTRACTION AND BUILDING TRADES WORKERS	Miners, Shotfirers, Stone Cutters And Carvers	Miners and quarry workers
		Shotfirers and blasters
		Stone splitters, cutters and carvers
	Building Frame And Related Trades Workers	Builders, traditional materials
		Bricklayers and stonemasons
		Concrete placers, concrete finishers and related workers
		Carpenters and joiners
		Building frame and related trades workers not elsewhere classified
	Building Finishers And Related Trades Workers	Roofers
		Floor layers and tile setters
		Plasterers
		Insulation workers
		Glaziers
		Plumbers and pipe fitters
		Building and related electricians
	Painters, Building Structure Cleaners And Related Trades Workers	Painters and related workers
		Varnishers and related painters
		Building structure cleaners

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
METAL, MACHINERY AND RELATED TRADES WORKERS	Metal Moulders, Welders, Sheet-Metal Workers, Structural- Metal Preparers, And Related Trades Workers	Metal moulders and coremakers
		Welders and flamecutters
		Sheet metal workers
		Structural-metal preparers and erectors
		Riggers and cable splicers
		Underwater workers
	Blacksmiths, Tool-Makers And Related Trades Workers	Blacksmiths, hammer-smiths and forging-press workers
		Tool-makers and related workers
		Machine-tool setters and setter-operators
		Metal wheel-grinders, polishers and tool sharpeners
	Machinery Mechanics And Fitters	Motor vehicle mechanics and fitters
		Aircraft engine mechanics and fitters
		Agricultural- or industrial-machinery mechanics and fitters
	Electrical And Electronic Equipment Mechanics And Fitters	Electrical mechanics and fitters
		Electronics fitters
		Electronics mechanics and servicers
		Telegraph and telephone installers and servicers
		Electrical line installers, repairers and cable jointers
PRECISION, HANDICRAFT, PRINTING AND RELATED TRADES WORKERS	Precision Workers In Metal And Related Materials	Precision-instrument makers and repairers
		Musical instrument makers and tuners
		Jewellery and precious-metal workers
	Potters, Glass-Makers And Related Trades Workers	Abrasive wheel formers, potters and related workers
		Glass makers, cutters, grinders and finishers
		Glass engravers and etchers
		Glass, ceramics and related decorative painters
	Handicraft Workers In Wood, Textile, Leather And Related Materials	Handicraft workers in wood and related materials
		Handicraft workers in textile, leather and related materials
	Printing And Related Trades Workers	Compositors, typesetters and related workers
		Stereotypers and electrotypers
		Printing engravers and etchers
		Photographic and related workers
		Bookbinders and related workers
		Silk-screen, block and textile printers

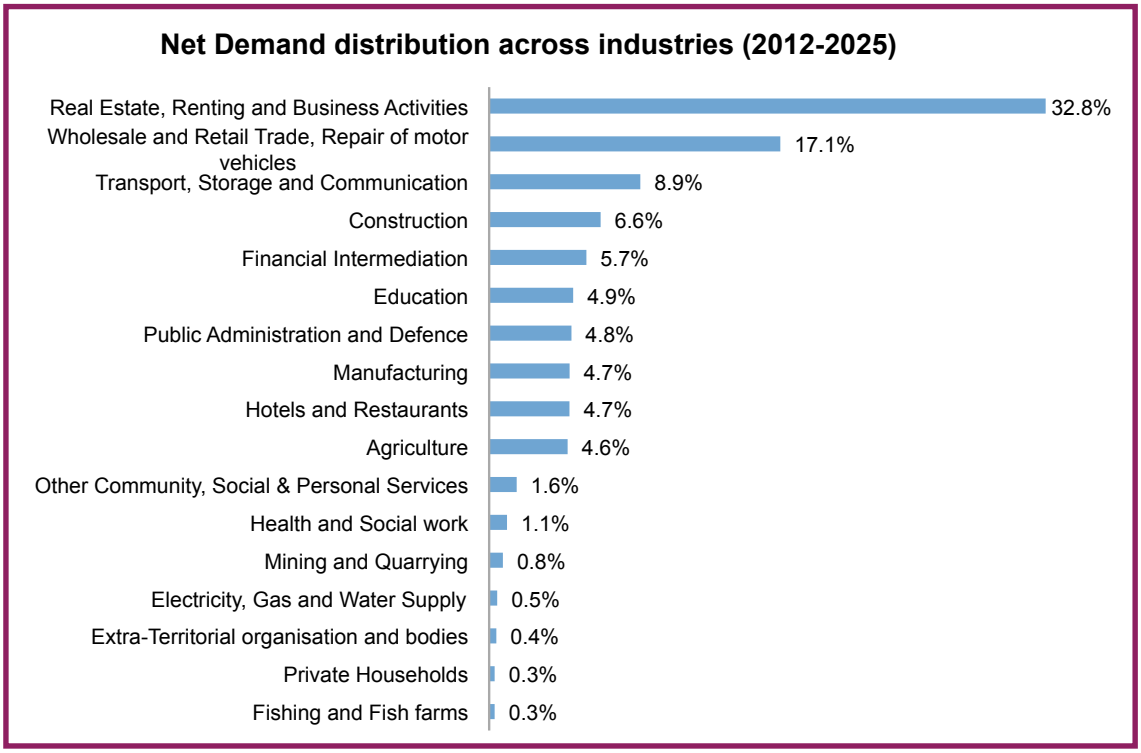
MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
OTHER CRAFT AND RELATED TRADES WORKERS	Food Processing And Related Trades Workers	Butchers, fishmongers and related food preparers
		Bakers, pastry-cooks and confectionery makers
		Dairy-products makers
		Fruit, vegetable and related preservers
		Food and beverage tasters and graders
		Tobacco preparers and products makers
	Wood Treaters, Cabinet-Makers And Related Trades Workers	Wood treaters
		Cabinet makers and related workers
		Woodworking machine setters and setter-operators
		Basketry weavers, brush makers and related workers
	Textile, Garment And Related Trades Workers	Fibre preparers
		Weavers, knitters and related workers
		Tailors, dressmakers and hatters
		Furriers and related workers
		Textile, leather and related pattern-makers and cutters
		Sewers, embroiderers and related workers
		Upholsterers and related workers
	Pelt, Leather And Shoemaking Trades Workers	Pelt dressers, tanners and fellmongers
		Shoe-makers and related workers
GROUP 8: PLANT AND MACHINE OPERATORS AND ASSEMBLERS		
STATIONARY-PLANT AND RELATED OPERATORS	Mining- And Mineral-Processing-Plant Operators	Mining-plant operators
		Mineral-ore- and stone-processing-plant operators
		Well drillers and borers and related workers
	Metal-Processing-Plant Operators	Ore and metal furnace operators
		Metal melters, casters and rolling-mill operators
		Metal-heat-treating-plant operators
		Metal drawers and extruders
	Glass, Ceramics And Related Plant Operators	Glass and ceramics kiln and related machine operators
		Glass, ceramics and related plant operators not elsewhere classified
	Wood-Processing- And Papermaking-Plant Operators	Wood-processing-plant operators
		Paper-pulp plant operators
		Papermaking-plant operators
	Chemical-Processing-Plant Operators	Crushing-, grinding- and chemical-mixing-machinery operators
		Chemical-heat-treating-plant operators
		Chemical-filtering- and separating-equipment operators
		Chemical-still and reactor operators (except petroleum and natural gas)
		Petroleum- and natural-gas-refining-plant operators
		Chemical-processing-plant operators not elsewhere classified
	Power-Production And Related Plant Operators	Power-production plant operators
		Steam-engine and boiler operators
		Incinerator, water-treatment and related plant operators
	Automated-Assembly-Line And Industrial-Robot Operators	Automated-assembly-line operators
		Industrial-robot operators

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
MACHINE OPERATORS AND ASSEMBLERS	Metal- And Mineral-Products Machine Operators	Machine-tool operators
		Cement and other mineral products machine operators
	Chemical-Products Machine Operators	Pharmaceutical- and toiletry-products machine operators
		Ammunition- and explosive-products machine operators
		Metal finishing-, plating- and coating-machine operators
		Photographic-products machine operators
		Chemical-products machine operators not elsewhere classified
	Rubber- And Plastic-Products Machine Operators	Rubber-products machine operators
		Plastic-products machine operators
	Wood-Products Machine Operators	Wood-products machine operators
	Printing-, Binding- And Paper-Products Machine Operators	Printing-machine operators
		Bookbinding-machine operators
		Paper-products machine operators
	Textile-, Fur- And Leather-Products Machine Operators	Fibre-preparing-, spinning- and winding-machine operators
		Weaving- and knitting-machine operators
		Sewing-machine operators
		Bleaching-, dyeing- and cleaning-machine operators
		Fur and leather-preparing-machine operators
		Shoemaking- and related machine operators
		Textile-, fur- and leather-products machine operators not elsewhere classified
	Food And Related Products Machine Operators	Meat- and fish-processing-machine operators
		Dairy-products machine operators
		Grain- and spice-milling-machine operators
		Baked-goods, cereal and chocolate-products machine operators
		Fruit-, vegetable- and nut-processing-machine operators
		Sugar production machine operators
		Tea-, coffee-, and cocoa-processing-machine operators
		Brewers, wine and other beverage machine operators
		Tobacco production machine operators
	Assemblers	Mechanical-machinery assemblers
		Electrical-equipment assemblers
		Metal-, rubber- and plastic-products assemblers
		Wood and related products assemblers
		Paperboard, textile and related products assemblers
	Other Machine Operators And Assemblers	Other machine operators and assemblers

MAJOR GROUP OF OCCUPATIONS	OCCUPATIONAL TITLE	SUB-OCCUPATIONAL TITLE
DRIVERS AND MOBILE-PLANT OPERATORS	Locomotive-Engine Drivers And Related Workers	Locomotive-engine drivers
		Railway brakers, signallers and shunters
	Motor-Vehicle Drivers	Motor-cycle drivers
		Car, taxi and van drivers
		Bus and tram drivers
		Heavy-truck and lorry drivers
	Agricultural And Other Mobile-Plant Operators	Motorised farm and forestry plant operators
		Earth-moving- and related plant operators
		Crane, hoist and related plant operators
		Lifting-truck operators
	Ships' Deck Crews And Related Workers	Ships' deck crews and related workers
GROUP 9: ELEMENTARY OCCUPATIONS		
SALES AND SERVICES ELEMENTARY OCCUPATIONS	Street Vendors And Related Workers	Street food vendors
		Street vendors, non-food products
		Door-to-door and telephone salespersons
	Shoe Cleaning And Other Street Services Elementary Occupations	Shoe cleaning and other street services elementary occupations
	Domestic And Related Helpers, Cleaners And Launderers	Domestic helpers and cleaners
		Helpers and cleaners in offices, hotels and other establishments
		Hand-launderers and pressers
	Building Caretakers, Window And Related Cleaners	Building caretakers
		Vehicle, window and related cleaners
	Messengers, Porters, Doorkeepers And Related Workers	Messengers, package and luggage porters and deliverers
		Doorkeepers, watchpersons and related workers
		Vending-machine money collectors, meter readers and related workers
	Garbage Collectors And Related Labourers	Garbage collectors
		Sweepers and related labourers
AGRICULTURAL, FISHERY AND RELATED LABOURERS	Agricultural, Fishery And Related Labourers	Farm-hands and labourers
		Forestry labourers
		Fishery, hunting and trapping labourers
LABOURERS IN MINING, CONSTRUCTION, MANUFACTURING AND TRANSPORT	Mining And Construction Labourers	Mining and quarrying labourers
		Construction and maintenance labourers: roads, dams and similar constructions
		Building construction labourers
	Manufacturing Labourers	Assembling labourers
		Hand packers and other manufacturing labourers
	Transport Labourers And Freight Handlers	Hand or pedal vehicle drivers
		Drivers of animal-drawn vehicles and machinery
		Freight handlers

Source: International Labour Organization

ANNEX 2: GAP ANALYSIS RESULTS FOR CORPORATE AND GENERAL MANAGERS (2012-2025)



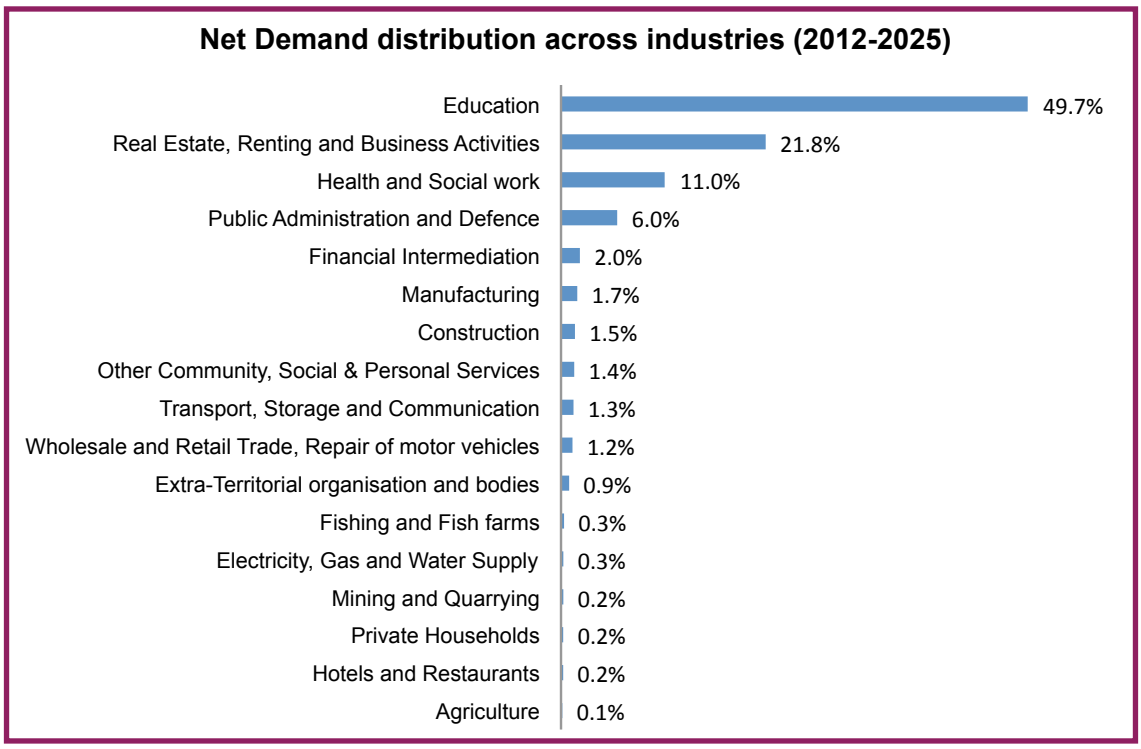
Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply[15]
2012	1,995	717	1,278	2.78
2013	2,193	800	1,394	2.74
2014	2,279	850	1,429	2.68
2015	2,500	906	1,593	2.76
2016	2,597	965	1,632	2.69
2017	2,659	1,019	1,640	2.61
2018	2,775	1,089	1,686	2.55
2019	2,896	1,159	1,738	2.50
2020	3,024	1,233	1,791	2.45
2021	3,157	1,312	1,845	2.41
2022	3,297	1,396	1,901	2.36
2023	3,444	1,486	1,958	2.32
2024	3,598	1,582	2,016	2.27
2025	3,760	1,684	2,075	2.23

Source: NODSOM (Supply Outlook Model 2012)

15 The ratio represents the relationship between Net Demand and Net Supply. For example, in 2012 the Net Demand of Corporate and General Manager represents 3 times the Net Supply provided by the training institutions for the same occupation.

ANNEX 3: GAP ANALYSIS RESULTS FOR PROFESSIONALS (2012-2025)

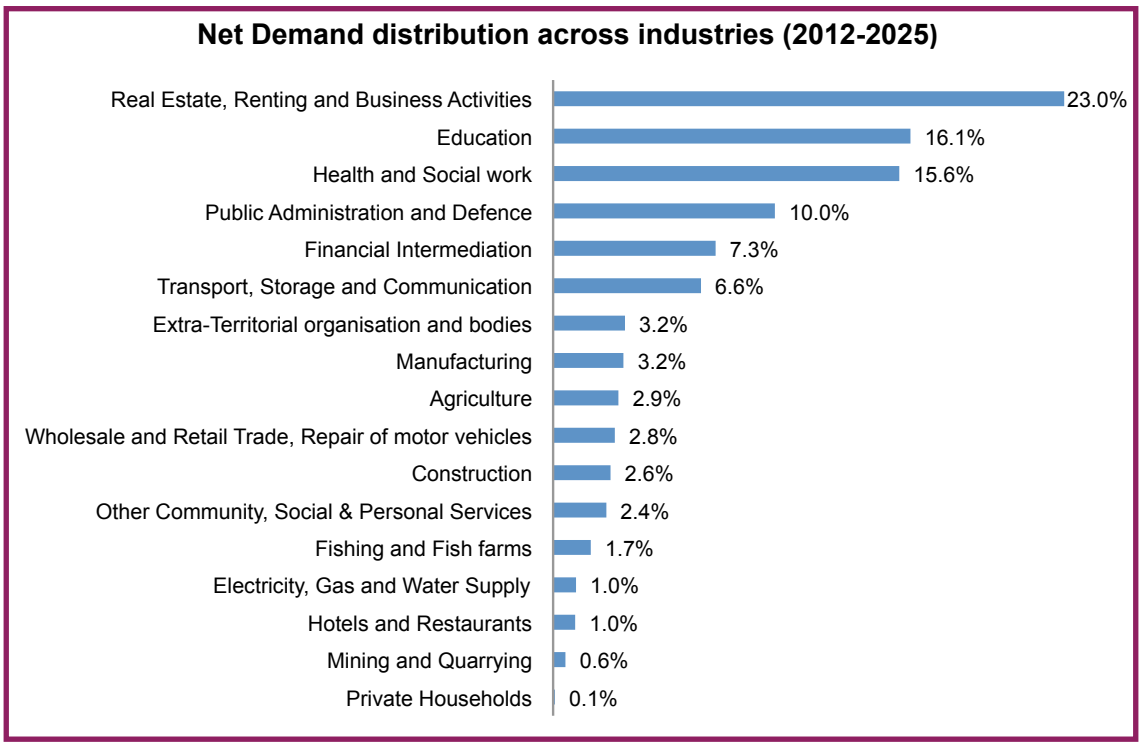


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	5,326	3,799	1,526	1.40
2013	5,717	4,208	1,509	1.36
2014	6,013	4,470	1,544	1.35
2015	6,003	4,761	1,242	1.26
2016	6,117	4,785	1,332	1.28
2017	6,638	5,353	1,285	1.24
2018	6,940	5,713	1,227	1.21
2019	7,256	6,075	1,181	1.19
2020	7,587	6,461	1,126	1.17
2021	7,934	6,872	1,062	1.15
2022	8,297	7,310	987	1.14
2023	8,678	7,776	901	1.12
2024	9,076	8,273	803	1.10
2025	9,494	8,803	691	1.08

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 4: GAP ANALYSIS RESULTS FOR TECHNICIANS AND ASSOCIATE PROFESSIONALS (2012-2025)

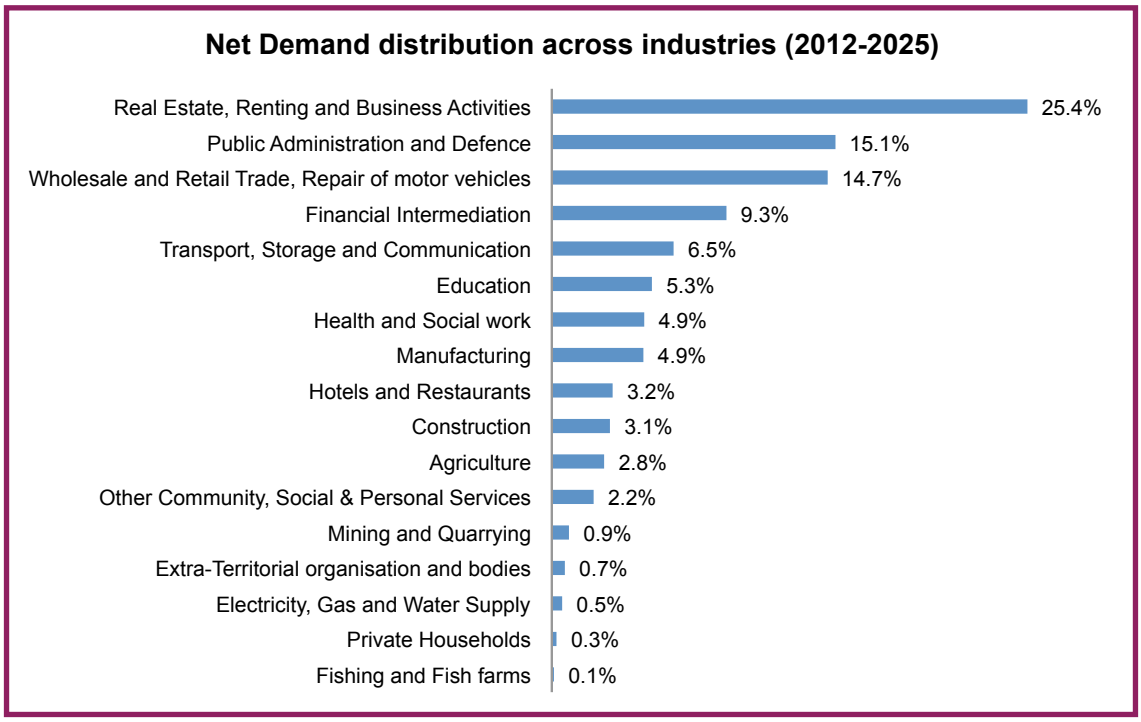


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	3,603	1,188	2,415	3.03
2013	3,933	1,270	2,663	3.10
2014	4,127	1,313	2,814	3.14
2015	4,253	1,347	2,905	3.16
2016	4,360	1,388	2,971	3.14
2017	4,639	1,438	3,201	3.23
2018	4,848	1,485	3,363	3.26
2019	5,067	1,515	3,552	3.34
2020	5,296	1,555	3,741	3.41
2021	5,537	1,596	3,941	3.47
2022	5,789	1,642	4,148	3.53
2023	6,054	1,695	4,360	3.57
2024	6,333	1,754	4,579	3.61
2025	6,624	1,818	4,807	3.64

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 5: GAP ANALYSIS RESULTS FOR CLERKS (2012-2025)

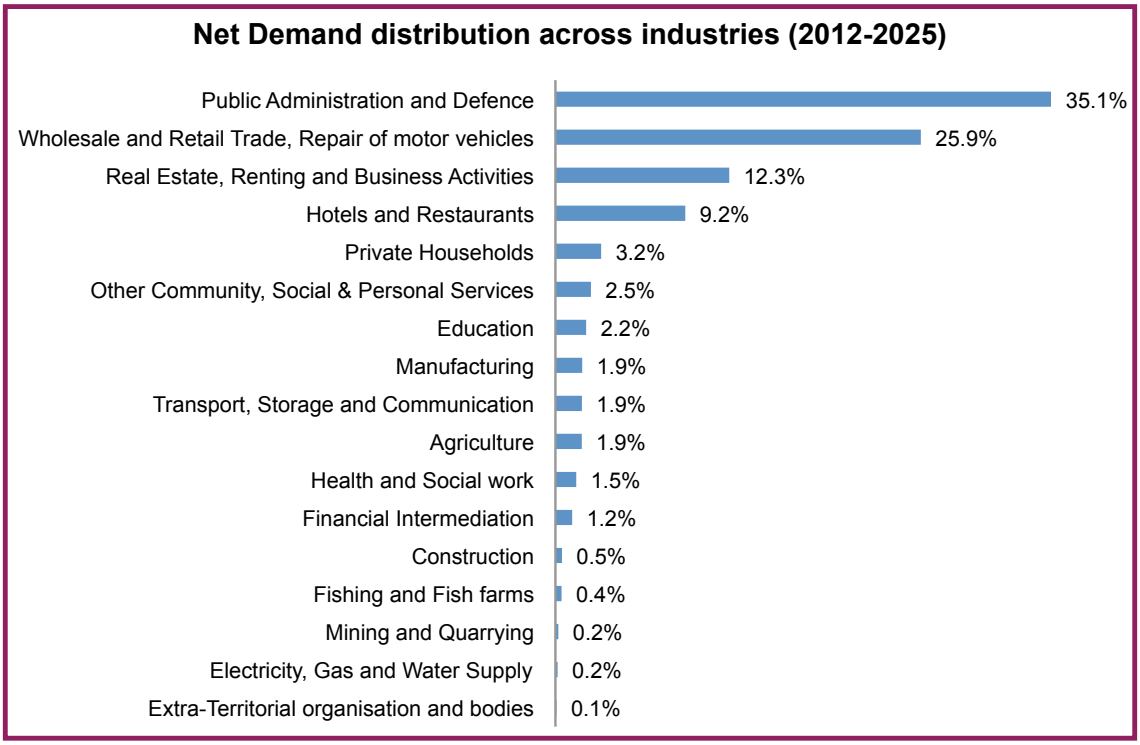


Source: NODSOM 2012

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	3,710	397	3,313	9.35
2013	4,070	410	3,660	9.92
2014	4,272	419	3,853	10.19
2015	4,568	424	4,144	10.78
2016	4,720	431	4,289	10.96
2017	4,905	443	4,462	11.07
2018	5,123	450	4,674	11.39
2019	5,352	450	4,902	11.90
2020	5,591	453	5,138	12.34
2021	5,842	456	5,386	12.82
2022	6,105	460	5,646	13.28
2023	6,382	466	5,916	13.70
2024	6,671	473	6,198	14.10
2025	6,975	481	6,493	14.49

Source: NODSOM 2012

ANNEX 6: GAP ANALYSIS RESULTS FOR SERVICES WORKERS AND SHOP AND MARKET (2012-2025)

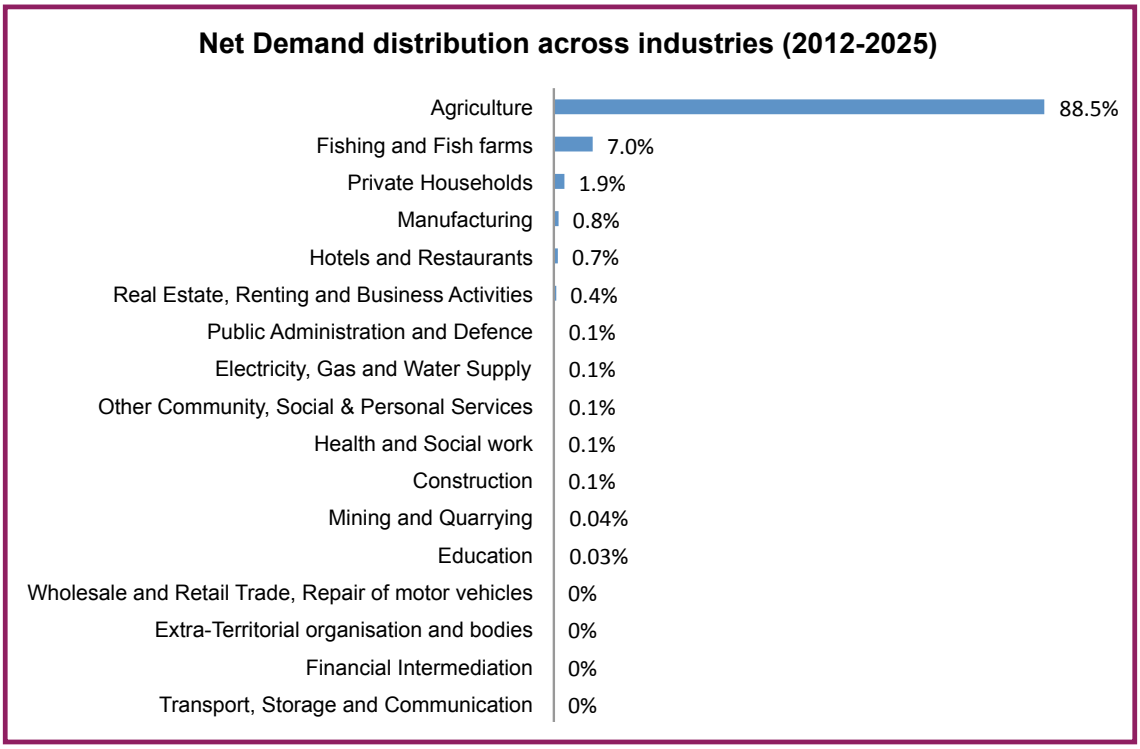


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	7,692	47	7,645	163.83
2013	8,611	49	8,563	177.46
2014	9,151	50	9,101	184.45
2015	9,466	50	9,416	188.87
2016	9,797	51	9,746	192.41
2017	10,234	52	10,182	195.21
2018	10,660	53	10,607	200.46
2019	11,105	53	11,051	208.82
2020	11,569	54	11,515	215.84
2021	12,054	54	12,000	223.60
2022	12,560	54	12,506	231.01
2023	13,089	55	13,034	237.63
2024	13,641	56	13,585	243.74
2025	14,218	57	14,161	249.74

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 7: GAP ANALYSIS RESULTS FOR SKILLED AGRICULTURAL AND FISHERY WORKERS (2012-2025)

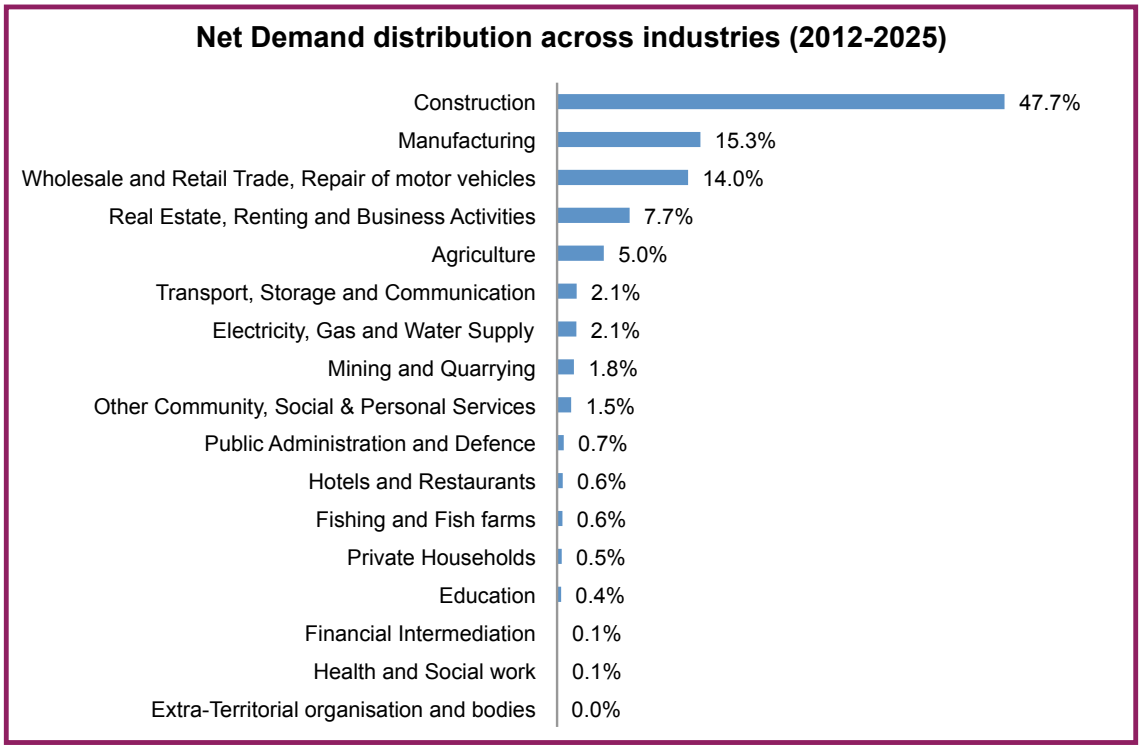


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	6,523	8	6,515	853.93
2013	7,490	8	7,483	948.74
2014	7,527	8	7,519	932.50
2015	7,645	8	7,637	937.53
2016	8,014	8	8,006	967.39
2017	8,131	9	8,123	953.26
2018	8,326	9	8,317	962.28
2019	8,525	9	8,516	985.32
2020	8,729	9	8,721	1000.99
2021	8,939	9	8,930	1019.13
2022	9,153	9	9,145	1034.74
2023	9,374	9	9,365	1045.94
2024	9,599	9	9,590	1054.20
2025	9,831	9	9,821	1061.29

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 8: GAP ANALYSIS RESULTS FOR CRAFT AND RELATED TRADES WORKERS (2012-2025)

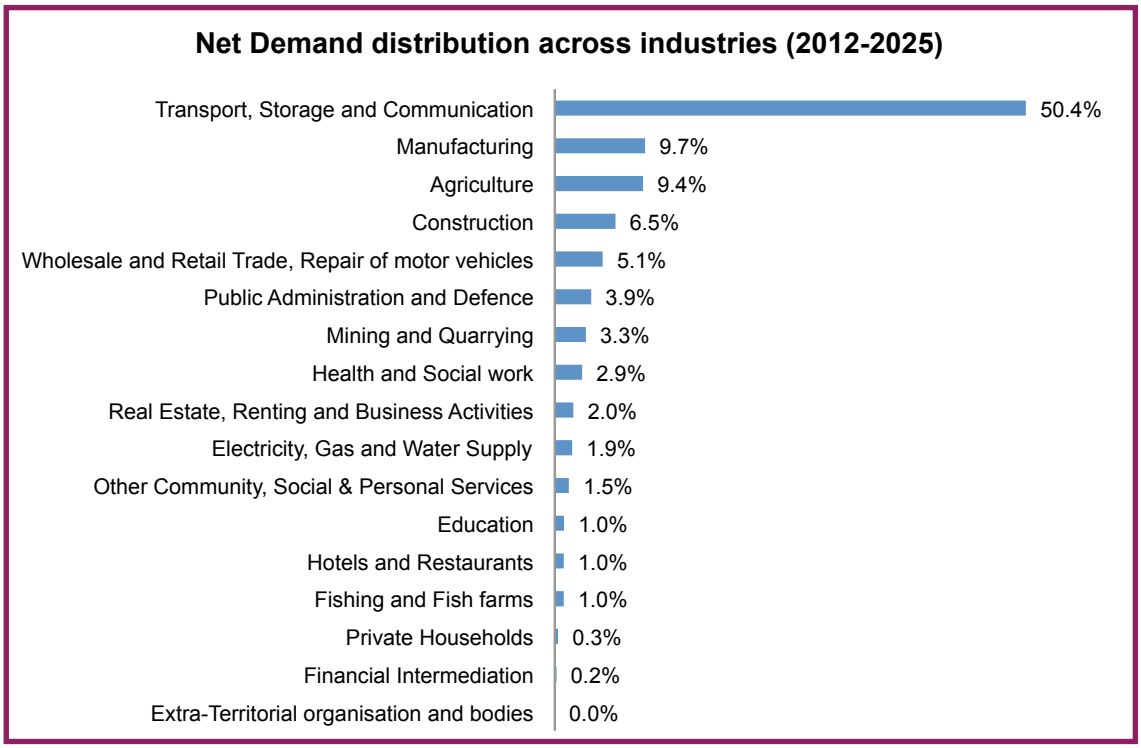


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	8,903	2,197	6,706	4.05
2013	9,546	2,271	7,275	4.20
2014	9,753	2,322	7,431	4.20
2015	9,388	2,346	7,043	4.00
2016	9,591	2,383	7,208	4.02
2017	10,772	2,454	8,318	4.39
2018	11,326	2,489	8,837	4.55
2019	11,912	2,489	9,423	4.79
2020	12,531	2,508	10,023	5.00
2021	13,186	2,523	10,663	5.23
2022	13,879	2,545	11,335	5.45
2023	14,613	2,578	12,035	5.67
2024	15,388	2,619	12,769	5.88
2025	16,209	2,664	13,545	6.08

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 9: GAP ANALYSIS RESULTS FOR PLANT AND MACHINE OPERATIONS AND ASSEMBLERS (2012-2025)

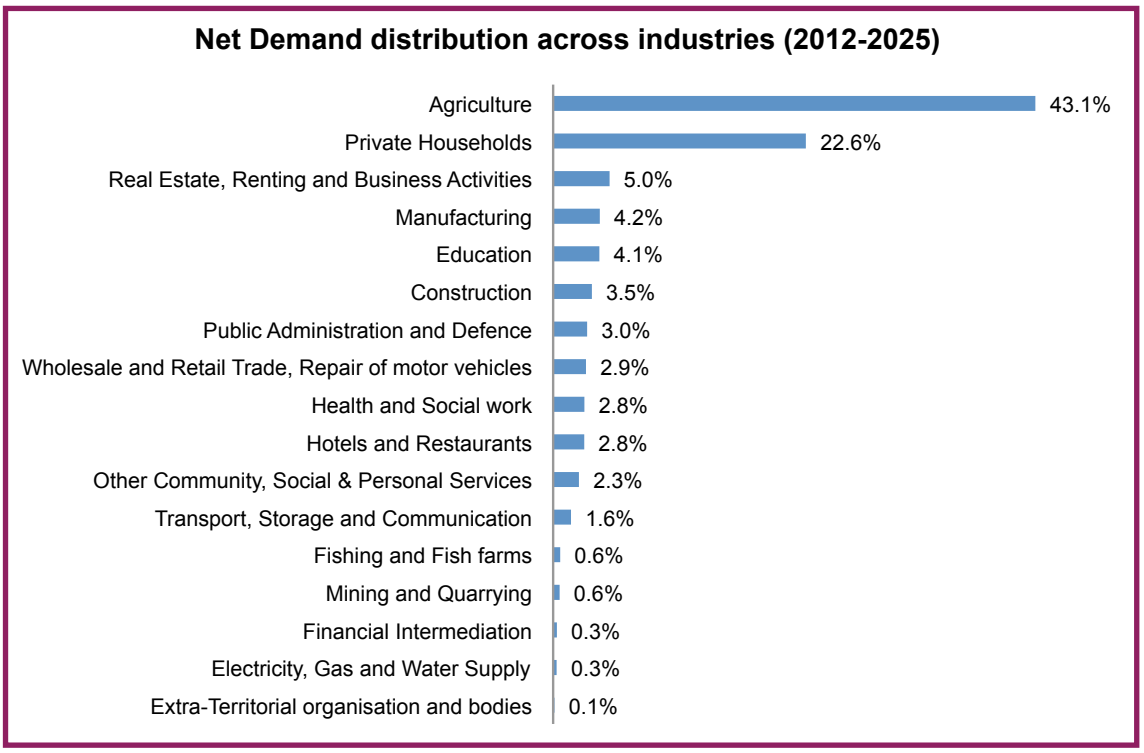


Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	2,382	125	2,257	19.08
2013	2,797	129	2,668	21.68
2014	2,941	132	2,809	22.30
2015	2,882	133	2,749	21.63
2016	3,007	135	2,872	22.21
2017	3,265	139	3,126	23.43
2018	3,429	141	3,287	24.25
2019	3,602	141	3,460	25.48
2020	3,784	142	3,642	26.56
2021	3,978	143	3,835	27.76
2022	4,183	145	4,038	28.94
2023	4,399	146	4,253	30.04
2024	4,629	149	4,480	31.11
2025	4,872	151	4,720	32.19

Source: NODSOM (Supply Outlook Model 2012)

ANNEX 10: GAP ANALYSIS RESULTS FOR ELEMENTARY OCCUPATIONS (2012-2025)



Source: NODSOM (Demand Outlook Model 2012)

	Net Demand	Net Supply (excluding unemployed)	Demand less Supply	Ratio Demand on Supply
2012	12,895	0	12,895	-
2013	14,821	0	14,821	-
2014	15,114	0	15,114	-
2015	15,464	0	15,464	-
2016	16,058	0	16,058	-
2017	16,532	0	16,532	-
2018	17,035	0	17,035	-
2019	17,557	0	17,557	-
2020	18,098	0	18,098	-
2021	18,659	0	18,659	-
2022	19,241	0	19,241	-
2023	19,845	0	19,845	-
2024	20,472	0	20,472	-
2025	21,123	0	21,123	-

Source: NODSOM (Supply Outlook Model 2012)

National Planning Commission
Government Office Park
Luther Street
Private Bag 13356
Windhoek
Tel.: +264 61 283 4111
Website: www.npc.gov.na