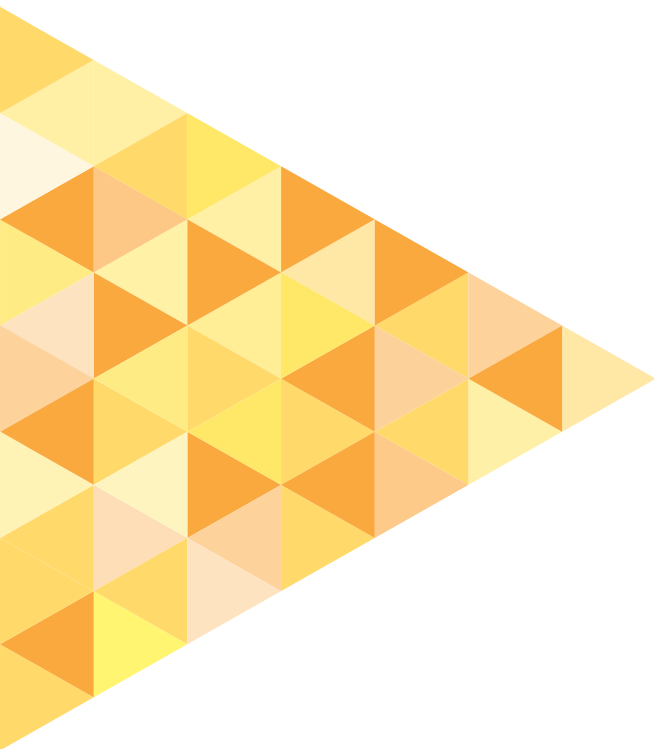


Sara Koobonye

TVET in Botswana: a case study on its ability to develop demand-driven and competence-based skills for the labour market



Koobonye, Sara: TEVT in Botswana : a case study on its ability to develop demand-driven and competence-based skills for the labour market. Version 1.0 Bonn, 2020

The master thesis for obtaining the master's degree (MA) in International Education Management was completed at the Ludwigsburg University of Education and Helwan University Cairo, Egypt.

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Version 1.0
April 2020

Publisher:
Federal Institute for Vocational Education and Training
Robert-Schuman-Platz 3

D-53175 Bonn
Web: www.bibb.de
Internet: www.vet-repository.info
E-Mail: repository@bibb.de



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Bibliographic information from the German National Library

The German National Library catalogues this publication in the German National Bibliography:
urn:nbn:de:0035-vetrepository-776689-5



**TVET IN BOTSWANA:
A CASE STUDY ON ITS ABILITY TO DEVELOP
DEMAND-DRIVEN AND COMPETENCE-BASED SKILLS
FOR THE LABOUR MARKET**

A Thesis Submitted in Partial Fulfilment of the Requirements
for the Degree of Master of Arts in International Education Management

by

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Module D2 – Educational Systems and Capacity Building

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Second Supervisor: Dr. Reem Derbala

PREFACE

By promoting thesis work, the Federal Institute for Vocational Education and Training (BIBB) offers students the possibility to work on up-to-date, relevant topics in vocational education and training practice and research, to gain an insight into the work of the Federal Institute and to contribute to specific projects. The present piece of work was conducted in cooperation with Division 3.1 at the Federal Institute for Vocational Education and Training.

It was with interest and pleasure that we were involved in supervising the work, not least because interest in the African continent has significantly increased over the last few years when it comes to vocational education and training cooperation. Yet, at the same time, developments in many African vocational education and training systems have received little attention in the literature. The present work thus contributes to closing this gap. It will also serve as an important basis for a subsequent country study on Botswana in the International Handbook of Vocational Education and Training.

In January 2020, the research results were presented to senior employees at the Human Resource Development Council in Botswana. The fact that the contents and results of the work were met with great interest in Botswana by the vocational education and training administration can be considered as an indication of the work's relevance and quality.

Hubert Ertl

Director of Research / Vice President

Federal Institute for Vocational Education and Training (BIBB)

ABSTRACT

Botswana has turned out as an exemplary development success amongst other African countries. Despite its commendable development, there is still high youth unemployment rate. This master thesis examines Botswana's TVET system in terms of its ability to develop competence-based skills that are relevant for the needs and demands of the labour market. Due to the lack of research in Botswana, this case study had an exploratory character.

The demand orientation on the needs of the labour market is organised by a sector committee that determines the developments and what kind of programmes will be required in the upcoming five years.

One of the significant findings of this research is the correlation between political engagement and society's appreciation of TVET. Due to a neglect of TVET in political decision making, physical resources in schools are outdated and do not meet the standards of industry. As a consequence, students learn the techniques on old models. Compared to other countries, Botswanan TVET students are sometimes not competitive with other nations in Africa and globally. Therefore, it may be the perfect time for political authorities to invest in reforming the system. Several recommendations have been made. Most important factor is adequate funding of TVET.

Self-employment as a means of job creation is highly encouraged and through various programmes supported. By these programmes, unemployed youth and early school-dropouts find access to further education and training.

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TABLE OF ABBREVIATIONS

BCP	Botswana Congress Party
BDP	Bechuanaland/Botswana Democratic Party
BGCSE	Botswana General Certificate of Secondary Education
BNVQF	Botswana National Vocational Qualification Framework
BOTA	Botswana Training Authority
BQA	Botswana Qualification Authority
BTEP	Botswana Technical Education Programme
BURS	Botswana Unified Revenues Service
COSC	Cambridge Overseas School Certificate
CTE	Career and Technical Education
DCEC	Directorate on Corruption and Economic Crime
DVET	Department of Vocational Education and Training
ECE	Early Childhood Education
ETP	Education and Training Provider
ETSSP	Education and Training Sector Strategic Plan
FDI	Foreign Direct Investment
FET	Further Education and Training
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit/ German Corporation for International Cooperation
GNI	Gross National Income
HRDC	Human Resource Development Council
HRDF	Human Resource Development Fund
JCE	Junior Certificate Examination
MELSD	Ministry of Employment, Labour Productivity and Skills Development
MLGRD	Ministry of Local Government and Rural Development
MOBE	Ministry of Basic Education
MOESD	Ministry of Education and Skills Development
MOTE	Ministry of Tertiary Education

NCC	National Craft Certificate
NCQF	National Credit and Qualification Framework
NDP	National Development Plan
NER	Net Enrolment Rate
NHRDS	National Human Resource Development Strategy
NPE	National Policy on Education
NPVET	National Policy on Vocational Education and Training
NTAC	National TVET Advisory Committee
OECD	Organisation for Economic Co-operation and Development
PSLE	Primary School Leaving Examination
RNPE	Revised National Policy on Education
SADC	Southern African Development Community
SDP	Social Democratic Programme
TEC	Tertiary Examination Council
TEI	Tertiary Education Institute
TVET	Technical and Vocational Education and Training
UDC	Umbrella for Democratic Change
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNESCO-IBE	International Bureau of Education of United Nations Educational, Scientific and Cultural Organisation
UNESCO-UNEVOC	International Centre for Technical and Vocational Education and Training of United Nations Educational, Scientific and Cultural Organisation
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
VTET	Vocational and Technical Education and Training

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INTRODUCTION

Botswana has turned out as an exemplary development success amongst other African countries. When gaining independence from being a British protectorate in 1966, it was one of the poorest countries worldwide. Due to the discovery of diamonds and its prudent management, Botswana has been amongst the fastest growing economies with a growth rate of five percent on an average. Today, it is acknowledged as an upper-middle income country by the World Bank. It is one of the most politically stable nations in Africa with a multi-party democracy. The largest investment in the annual state budget is dispensed for education.

Despite its commendable development, there are still many challenges to face. Botswana's economy depends strongly on its mining sector and the exportation of diamonds. As a consequence, Botswana is vulnerable to global financial crisis. Another current challenge is the high youth unemployment rate. There are two emergences contributing to this challenge. Firstly, the increase of the educated unemployed youth who graduate from university but don't find employment. On that account it is found out that there is a mismatch between demands of labour market and the acquired skills of graduates. Secondly, the high number of students not entering upper secondary education.

Taking the Technical and Vocational Education and Training (TVET) into perspective, Botswana's society generally has a low perception of TVET and the programmes are often referred to as an "education of failures". When possible, most students would prefer to study at a university. Yet, strengthening the TVET system could be a useful measure to address the mentioned challenges, especially when the TVET systems focuses on development of competences and has a strong link to industry.

Therefore, this master thesis looks at Botswana's TVET system in terms of its ability to develop competence-based skills that are relevant for the needs and demands of the labour market. A general approach is pursued with the focal point on Botswana's ability, whether the established structures support the development of skills that meet the demands of labour market.

Design of thesis

This thesis is divided into a theoretical (Part One) and practical approach (Part Two and Three).

Part One firstly gives an overview, what TVET generally stands for, how the term is used and what the main characteristics are. Botswana's historical development influences much of today's proceedings in politics, economy and social life. Specific background information about Botswana is given in the second chapter to understand the foundation of education and TVET system better. TVET is usually linked up with the general educational system, which is explained in the third chapter before Botswana's TVET system is introduced in the fourth chapter.

These four first chapters build a theoretical foundation for the research. Part Two describes the research methodology. The methods selected, are reasoned (chapter 5) and then described in more detail (chapter 6).

In the final Part Three, the findings of the research through interviews are presented and interpreted. The results of all the interviews are presented in chapter 7. Those results are discussed and given an outlook in the chapter 8 before coming to the conclusion of the whole thesis in chapter 9.

Literature review

By looking at the literature, there was no universal definition of TVET. In different parts of the world, the definition of the term varied but the general meaning was maintained. As Botswana generally applies the term TVET, it was also used throughout this thesis. For a general overview, the website of the International Centre for Technical and Vocational Education and Training of United Nations Educational, Scientific and Cultural Organisation (UNESCO-UNEVOC) was significant as it was linked to several definitions. For the definition of a competence-based TVET, an article by A.H. Baraki, W. Negash and M. Asfaw from Ethiopia was chosen as foundation, as their introduction was applicable beyond Ethiopian context.

For the country specific overview, several perspectives were taken into consideration. When possible, Botswana publications were used. This was especially true for numbers, e.g. Statistics Botswana or Botswana Labour Market Observatory. Important governmental publications were also the Vision 2036¹ and the current National Development Plan (NDP 11²). The website of Botswana government was not useful due to outdated and insufficient information.

Very often, it was difficult to find literature available from Botswana online. It was mostly scientists or organisations from outside who wrote about Botswana. Important sources hereby were several departments of the United Nations, such as United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations International Children's Emergency Fund (UNICEF) or United Nations Population Fund (UNFPA) as well as World Bank Group and World Economic Forum. Sometimes, statistical numbers differed from each other. Usually, and if applicable, numbers of Statistics Botswana were chosen as reference. Further sources were from Germany (Bertelsmann Transformation Index of 2018) or other African countries (South Africa, Uganda). In 2005, when Botswana celebrated 40 years of independence, the German Friedrich-Ebert-Foundation published a book with several articles written by local specialists.

The most important source used to describe the Educational System of Botswana was the Botswana Education and Training Sector Strategic Plan (ETSSP 2015-2020). In addition, publications from UNICEF or the International Bureau of Education (UNESCO-IBE) were used.

The same applies to the TVET system. Hereby, it is important to mention, that the latest publication that describes the Botswanan TVET system in detail is from 2012, when the TVET was still under responsibility of Botswana Training Authority (BOTA). This has

¹ In 1996, "Vision 2016" was developed as Botswana's strategy to propel its socio-economic and political development into a competitive, winning and prosperous nation 50 years after independence. The "Vision 2036" is a follow-up, focusing on prosperity for all.

² The current NDP 11 runs from 1 April 2017 until 31 March 2023. Its aim is the transformation of the nation into a knowledge-driven economy, whereby the improvement of the quality of labour force is done by education.

changed in 2013, when the statutory bodies Botswana Qualification Authority (BQA) and Human Resource Development Council (HRDC) replaced the old structure.

Currently, the TVET system is in a transition, which there is hardly any substantial literature about its progress. Significant sources are newsletter and annual reports of HRDC and BQA. In December 2018, a delegation from Germany visited Botswana and for this trip, Dr. Janis Vossiek prepared an exploratory report which gave an overview about the recent developments.

Vossiek mentioned in his report the lack of research about TVET in Botswana. During the period of this research, it was possible to visit the library of Botswana Qualification Authority (BQA). There were hardly books published from Botswana, but international literature, especially from German perspective.

Due to the shortage of research about TVET in Botswana, a qualitative approach was chosen for this thesis. Several expert interviews were conducted, two as guideline-based interviews (one face-to-face, one telephone interview), three e-interviews via e-mail questionnaire. The methods are described in detail in chapter 5 and 6.

The orally conducted interviews were recorded via phone and then transcribed word for word. The transcription can be found in the appendix. Before the interviews had taken place, the role of interviewee was clarified as well as the purpose of research. The e-interviews are also found in appendix true to original; grammar and spelling mistakes are kept as it was received.

PART ONE: THEORY

1. Understanding TVET

Technical and Vocational Education and Training (TVET) is the predominant term that describes the kind of education and training which is related to and prepares for employment. This term was established at the world congress on TVET in Seoul in 1999. There are regional differences, where other descriptions are rather used, such as career and technical education (CTE; USA), further education and training (FET; United Kingdom) or Vocational and technical education and training (VTET; South-East Asia).

TVET is a comprehensive term that implies a “range of learning experiences which are relevant to the world of work” (UNESCO-UNEVOC, 2006, p. 15) by providing employment-related trainings and courses in order to enable competent future employees. One common definition of TVET is from UNESCO (1984):

Those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life (UNESCO, 1984).

This definition mentions both knowledge development (study of technologies and related sciences) and skills development (acquisition of practical skills and attitudes) in order to be able to apply acquired knowledge for a certain occupation. This is related to the definition of Organisation for Economic Co-operation and Development (OECD) from 2009, which emphasises the general aim of being prepared for a particular job for which the training program is designed (Field, Hoeckel, Kis, & Kuczera, 2009, p. 108). Over the years, this definition by UNESCO has been developed further. At their General Conference in 2015 in Paris, a revised understanding of TVET was proposed:

[...] TVET, as part of lifelong learning, can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development which may lead to qualifications. TVET also includes a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET (UNESCO, 2015).

In addition to the interaction of employment-related knowledge and skills development, this explanation defines three levels of TVET: secondary, post-secondary and tertiary level. It furthermore stresses the value of lifelong learning. In this context, TVET can also be divided in three different target groups:

- 1) young people who completed their basic education, but have not yet entered employment sector are eligible for *initial training*
- 2) adults who are already in the labour market can take part in *continuing education and training*, which leads to personal, flexible and/or vocational competencies
- 3) unemployed persons who are currently looking for employment and are prepared through *training*.

Focus in this thesis will be on the first and partly third target group.

There is a huge variety on how initial training is designed in one country. A general classification by Raffe (1993) distinguishes three types: provider-based, work-based and a combination of two models. Provider-based systems are school-based programmes that provide entry-level skills for workers. In contrast, responsibility for skills development in work-based models is mainly on industry (Bauer & Gessler, 2016, p. 49).

Combined school- and work-based models are defined by the OECD as follows:

In combined school and work-based programmes, instruction is shared between school and the workplace, although instruction may take place primarily in the workplace. Programmes are classified as combined school and work-based if less than 75 per cent of the curriculum is presented in the school environment or through distance education. Programmes that are more than 90 per cent work-based are excluded (OECD, 2003).

Statistics show that countries with a combined or dual TVET system tend to be more resistant to youth unemployment in times of economic crises, as education and employment system are interlinked with each other (Bauer & Gessler, 2016, p. 50). School-leavers who are in the transition of entering into the labour market are in a critical situation due to a lack of work experience and vulnerability to macroeconomic cyclical developments. The dual system creates early employment conditions and has a tremendous positive influence on later employment career (Brzinsky-Fay, 2017).

In the 1990s, general knowledge-based education in schools was not regarded anymore as adequate in order to equip youth with significant skills for work life. A need was recognized to make TVET demand-driven and redirect its goal regarding competences and capabilities rather than educational attainment. As a consequence, skills development through TVET has become more important and especially in developed countries, outcome-based respectively competence-based TVET has become focus of attention (Baraki, Worku, & Asfaw, 2016).

Competence is defined as the capacity of know-how, skills, qualification or knowledge, which one individual is able to apply in order to perform. Competence-based TVET focuses on the acquirement of capacities in the workplace. It is mostly set up in modules with specific learning outcomes that are based on standards set by employers due to demands of the world of work. More important than completion of study years are learning outcomes and the learners' competence, which requires the establishment of conducive conditions and opportunities. Assessment is based both on knowledge and especially on demonstration of the competences in actual situations (Baraki et al., 2016; UNESCO-UNEVOC, 2014).

Through competence-based TVET, it is possible to link demands of the world of work better to supply-side and be responsive to workforce needs and challenges. This is seen as significant for the development of African countries. A World Bank paper on TVET of 1992 mentioned the ability of demand-driven training to generate good returns provided there are sound macroeconomic policies that support creation of new jobs and employment of TVET graduates. Demand-driven TVET is regarded as a preparation for occupational fields and supports students to participate effectively in the world of work (Baraki et al., 2016).

2. Botswana: Country Specific Context

Botswana is a landlocked country, surrounded by South Africa, Namibia, Zimbabwe and Zambia. Having been a British protectorate, it has developed since its independence in 1966 from one of the poorest and least developed nations in the world to an upper middle-income country. The discovery of diamonds within its borders shortly after independence is one of the major reasons to this development.

2.1 History and Culture

Botswana's first inhabitants were the Basarwa, also known as Bushmen: a tribe of nomadic hunters and gatherers. Even today they continue living in remote areas, which makes Botswana the "home of the last peoples to supposedly subsist almost entirely by hunting and gathering" (Denbow & Thebe, 2006, p. 26). Later, different groups of Bantu³ people migrated into the area of Botswana and settled with their livestock. They had knowledge in building construction, agriculture, and creating iron implements. As a consequence of the migrations during that time, more than 20 ethnic groups live in Botswana today. The most dominant language is Setswana, spoken by 80 percent as first language, and set as official language together with English (Denbow & Thebe, 2006).

In the late 18th and early 19th century the Tswana tribes migrated into the territory and became rulers in the area (Robinson, 2009, p. 1). The regiment of Tswana chieftain can be described as democratic, as their paramount chiefs (*dikgosi*) did not rule in an autocratic way but followed democratic principles (Maundeni, 2005, p. 80). A significant institution that was established to govern Tswana communities was the *kgotla*, a public gathering, where the chiefs communicated directly with the men of their community. Economic and political issues that have been of importance to the community and family were discussed based on the right to freedom of expression. The *kgosi* could hereby test "public acceptance of matters already discussed in private with his counsellors and advisers" (Denbow & Thebe, 2006, p. 21).

In the mid-19th century, when Europe began to colonize the African continent, Tswana territories were faced by different expanding movements: the Boer states from the South and Cecil Rhodes from the North-East (Robinson, 2009, p. 1). Tswana chiefs and resident expatriate missionaries pled with the British government for protection. Those pleas were only heard, when Germany took possession of South West Africa (Namibia) under the Treaty of Berlin in 1884. Britain wanted to block Germany's further expansion in southern Africa and declared the territory as British protectorate in 1885 and from that time on called Bechuanaland (Denbow & Thebe, 2006, p. 30).

As a protectorate, the British Administration was the overriding authority and represented by a District Commissioner in every reserve. The *kgosi* was subject to this authority. He controlled the affairs of each nation and was responsible with his office "for land tenure, educational arrangements, licensing, collection of taxes, administering justice within certain limits, and various other duties" (Williams, 2006, p. 28).

Britain was not interested in investing in the protectorate. There were plans for transferring the administration of Bechuanaland to the British South Africa Company, a

³ Bantu is a collective term for about 400 different ethnicities of Southern and central Africa, due to their similarities in their languages. Different Bantu groups don't necessarily have a shared identity.

privately-held economic association managed by Cecil Rhodes. This development was not desired by the people of Bechuanaland. Therefore, three *digkosi* – Bathoen I of Bangwaketse, Sebele I of Bakwena and Khama III of Bangwato – travelled to London and petitioned in person to the British crown not to do the transference (Denbow & Thebe, 2006, p. 30). The protectorate remained under British crown; however, it was still seen as temporarily expedient and would be transferred to Rhodesia, respectively to South Africa after 1910. As a consequence, the administrative capital of Bechuanaland was Mafikeng, which was located outside the territory in South Africa (Parsons, 2019).

In the late 1950s, the first formal political parties had been formed in order to demonstrate discontentment with the British regime: the Bechuanaland Federal Party (BFP) of Leetile Raditladi, founded in 1959, was not successful and only short-lived. In 1960, two activists of anti-apartheid protests and members of the African National Congress⁴ in South Africa, Motsami Mpho and Philip Matante, formed the Bechuanaland Peoples Party (BPP), that sought for immediate independence. A more conservative party was founded in 1962 as Bechuanaland Democratic Party (BDP) led by Sir Seretse Khama, the uncrowned *kgosi* of Bangwato⁵ tribe. The British then started to push for a political change. Gaborone was established as the new administrative capital. The first election took place in 1965, which was won by Sir Seretse Khama's BDP. Only a year later, independence was declared, and Bechuanaland became the Republic of Botswana with Khama as the first president (Denbow & Thebe, 2006, p. 32; Parsons, 2019).

When Botswana became independent, it was one of the poorest African nations and amongst the least developed countries worldwide. It was still financially dependent on Britain for the first five years of independence (Moyo, 2016; Parsons, 2019). Shortly after independence in 1967, diamonds were found and due to its prudent management, Botswana has been one of the fastest growing economies and is currently rated as a upper middle-income country by the World Bank (Donner, Hartmann, Schwarz, & Steinkamp, 2018, p. 5; Moyo, 2016, p. 155).

2.2 Politics

Botswana has established a well-functioning constitutional democracy for more than 50 years (Moyo, 2016, p. 154) and is seen as "Africa's longest standing multiparty democracy" (Donner et al., 2018, p. 5). There are free and non-violent elections in line with its constitution. In virtue of constitution, fundamental rights and freedoms are guaranteed including equal protection of the law for all persons. Botswana has not experienced any insurgencies or civil conflicts in its post-colonial history (Mbabazi, 2018; Ministry of Finance and Development Planning Botswana, 2016).

The first election took place in 1965 and since then the Botswana Democratic Party⁶ (BDP) has been the leading party, providing all five presidents. Current president

⁴ ANC; Nelson Mandela was member of this party

⁵ Due to his marriage to a white English woman, Khama had to live in exile for six years, as it caused conflicts with white settler politicians, especially in South Africa. Although majority of the Bangwato chose him as their king, Khama renounced kingship to be replaced by a council, for the sake of tribal unity.

⁶ In its beginning, the party was called Bechuanaland Democratic Party

is Dr. Mokgweetsi Masisi, who succeeded Ian Khama in April 2018, who resigned after ten years in office⁷.

During the election in 2014, BDP recorded its lowest popular vote with 47 percent. The major contributing factor to these results was the alliance of three opposition parties⁸ in 2012, called Umbrella for Democratic Change (UDC), as they received 30 percent of the votes. Despite having built a political alliance, each party continued to have its own individual identity. Another opposition party, Botswana Congress Party (BCP), received 20 percent of popular votes. In 2017, UDC and BCP entered into a coalition with a Social Democratic Programme (SDP) as a framework of their policy (Donner et al., 2018, pp. 11-12). Although this coalition got more votes, it did not win the elections in October 2019 against BDP.

Botswana has established a republic with division of power by executive, parliamentary and judicial branches by implementing a “modified Westminster constitutional framework” (Denbow & Thebe, 2006, p. 23). Besides this, traditional, nonelected authorities (*dikgosi*) continued to reign with reduced powers on a local level. They are also part of the legislative and have an advising role to parliamentary decisions. This has established a peaceful co-existence between traditional and modern political institutes (Denbow & Thebe, 2006).

Legislature consists of the National Assembly with a total of 61 members who are elected for five years and of the *Ntlo ya dikgosi* (house of chiefs) with 35 traditional leaders. Since decisions are made in the National Assembly, *Ntlo ya dikgosi* acts as an advisory body to the parliament. The *dikgosi* do not have any legislative or veto power. They need to be consulted especially in the case of revision or amendment of the constitution. Furthermore, any case that affects tribal affairs, customary laws and administration of customary court needs to go through *Ntlo ya dikgosi* before discussion in the National Assembly (Ministry of Finance and Development Planning Botswana, 2016, p. 2).

The *Judiciary* branch is an independent arm of the government. Its tasks are to resolve disputes by interpreting the laws as well as to ensure legislative and executive branches act according to the constitution. The highest and final court is the Court of Appeal, followed by the High Court, Magistrates Courts and Industrial Courts. Due to their “accessibility, simple procedures and lower costs” (ibid.), about 80 percent of all cases are dealt with in a traditional way by the *kgosi* at the *kgotla*, who decides accordingly to customary law (ibid.).

The head of *executive* power is the president of the republic, who is elected for five years and acts as chairman for the cabinet. The president nominates the vice president who is approved by members of parliament and he selects ministers out of members of National Assembly. Permanent Secretaries act as administrative heads of Ministries; the Permanent Secretary to the President functions as the head of Public Service (ibid.).

⁷ Ian Khama, son of the first president Sir Seretse Khama, succeeded Festus Mogae as president in April 2008. Due to Botswana law, a president is restricted to serving two five-year terms. Khamas period finished therefore at the end of March 2018. In this case, the vice president automatically fills the post until next election.

⁸ Botswana Movement for Democracy (BMD), Botswana National Front (BNF) and Botswana People's Party (BPP).

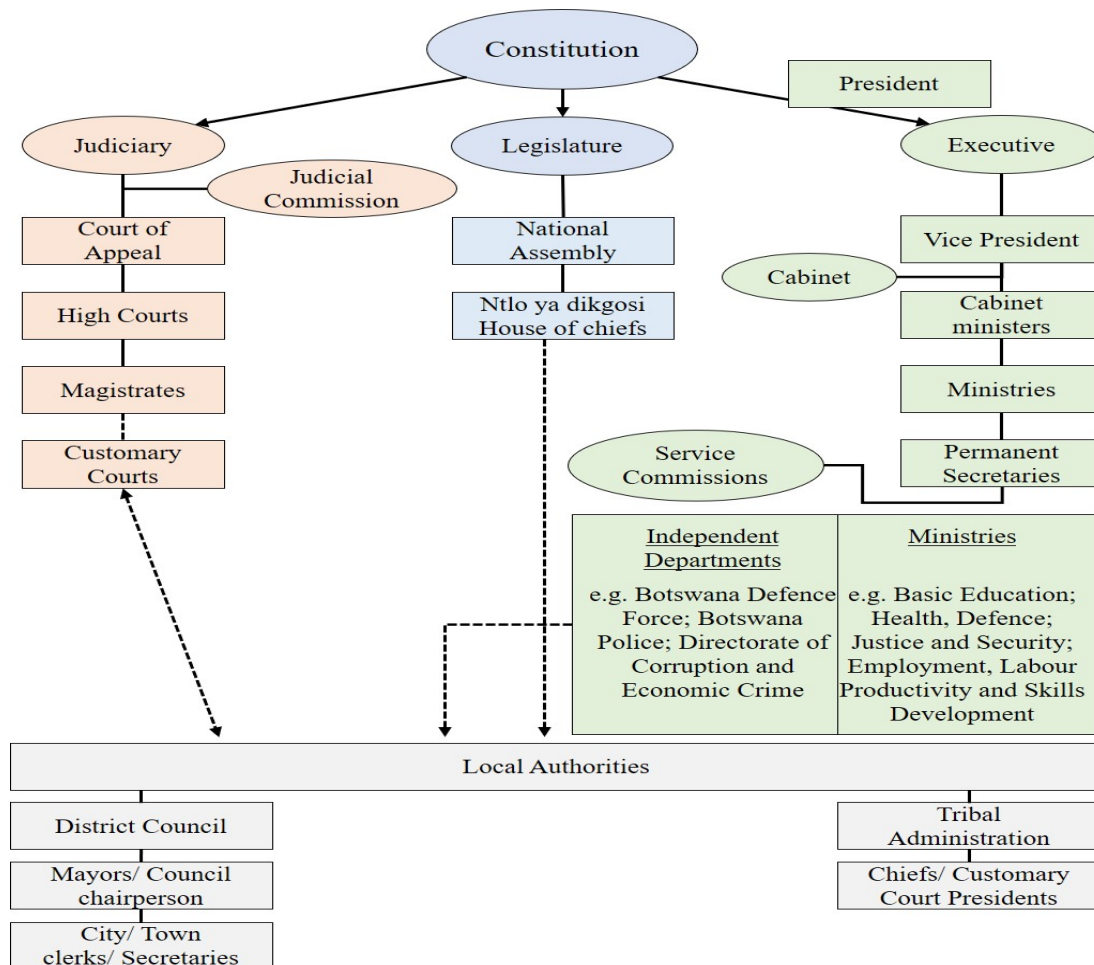


Figure 1: Botswana Government Organisational Chart, own diagram based on Ministry of Finance and Development Planning Botswana, 2016, p. 3.

In 1980, Botswana was one of the founding members of the Southern African Development Community⁹ (SADC), an inter-governmental organisation with 15 members in Southern (and partly East) Africa¹⁰. Its aim is “to promote sustainable and equitable economic growth and socio-economic development through efficient productive systems, deeper co-operation and integration, good governance and durable peace and security” (SADC, 2012) among its member states. There is also free trade and a customs union. Despite being an economic community, there are collaborations in the fight against socio-economic barriers, such as poverty, inequality, unemployment and HIV/AIDS (see chapter 2.3). Furthermore, they strive for a common Qualification Framework in Education.

The government of Botswana has been committing itself to national development. For the 50-year celebration of independence, Vision 2016 was designed as a long-term development guidance. This has been continued with Vision 2036. Broad-based National Development Plans (NDP), aim at the diversification of the economy, as Botswana’s

⁹ First named: The Southern African Development Co-ordination Conference (SADCC).

¹⁰ Member states are: Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, United Republic of Tanzania, Zambia, Zimbabwe.

(monocultural) economy depends mainly on raw diamond production and exports (Moyo, 2016, p. 154).

Compared to other African nations, Botswana has a low and stable level of corruption and is with a score of 61 percent the second least corrupt in Africa. During Ian Khama's presidency, private newspapers reported on several cases of politicians and senior public officials who used political, legal or technical loopholes. The key organisation in the fight against corruption is the Directorate on Corruption and Economic Crime (DCEC). Yet, as the head of the organisation is appointed by the president, its independence is questioned (Donner et al., 2018, p. 10).

2.3 Social aspects

With a population of about 2.2 million on an area of 581,730 square metres, Botswana is a sparsely populated country with one of the lowest population densities (4 people per sq km) worldwide. The population is growing by 1.8 percent and the fertility rate is with 2.9 births per woman. At independence, fertility rate was with around six births per woman. A continuous growth of population is expected, despite a decline of population growth and fertility rate. There will be an estimated 3.4 million people living in 2050.

Botswana's population is relatively young with a median age of 24 years. One third of the population is younger than 15 years old, and only 5.4 percent is older than 65. Due to declines in fertility and mortality¹¹ over the past fifty years, the age-structure, although currently only with little to no changes, has shifted towards more people in the economically productive age group (Statistics Botswana, 2017; UNFPA, 2018).

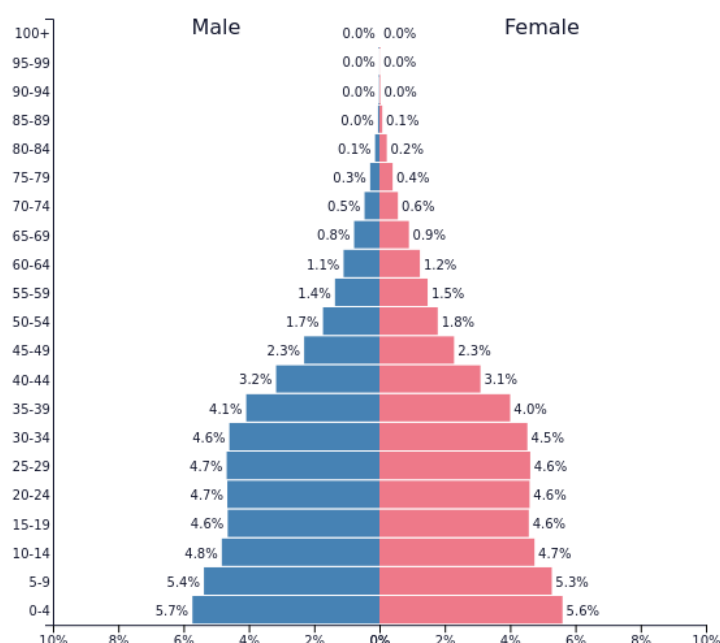


Figure 2: Population pyramid of Botswana 2018 (PopulationPyramid.net, 2018)

Almost two thirds of the population live in urban areas (urban villages and towns/cities). Within a short period, Botswana experienced huge urbanisation, due to economic growth. In 1971, less than ten percent lived in urban areas. Despite living in

¹¹ Infant Mortality Rate: 38 per 1000 births; Under 5 Mortality Rate: 56 per 1000 births (2017)

urban areas, many citizens keep a strong connection to rural areas, e.g. by owning land and cattle posts. The main challenge concerning urbanisation is the “over-dominance of Gaborone” (UNFPA, 2018, p. 14). The capital city is the main urban centre for both commercial and administrative purposes. Compared to other areas, there are more job opportunities and a better infrastructure, also concerning public services or social amenities. Urban migration concentrates mostly on areas around Gaborone, which leads to other challenges, such as adequate infrastructure, employment and sustainable environmental management: “Enhancing the socio-economic infrastructure and livelihood opportunities in other urban centres will be central to re-engineering the role of urbanisation in Botswana’s development trajectory” (UNFPA, 2018, p. 14).

Botswana invests about eight percent of its gross domestic product (GDP) into education. It has with around 22 percent the largest share of the total annual public budget, which is above the international average. The literacy rate is about 87.7 percent for people above 15 years. The age group of 15 to 24 years has a literacy rate of 97.7 percent, while in the age group of 65 years and older only 40.7 percent are literate (UNESCO-UIS, n.d.).

There is free education at primary and secondary level. A cost-sharing modality in secondary education has been introduced. Parents contribute ten percent of the unit cost. Yet, a student cannot be denied access to education due to lack of funds. At tertiary level, students receive a mixture of loans and grants. Despite its high investment in education, there are some serious spending inefficiencies, as 90 percent of the education budget is allocated to salaries and other recurrent items. As an upper middle-income country, Botswana no longer receives most of the external funds and relies on domestic resources (UNICEF, 2018).

People’s standards of living have increased due to investment in health programmes and infrastructure. According to the World Bank, life expectancy at birth is currently 66.8 years. Already in 1990, life expectancy was 64 years. Due to the effects of HIV/AIDS, it decreased to 49 years in 2002. Botswana has a broad healthcare network; nearly everyone (95%) can reach a health facility within eight kilometres. The major provider of health services is the public sector, which pays two third of all expenditures in health (UNFPA, 2018).

According to the Global Gender Gap Report, Botswana has improved over the past 12 years and is currently ranked 55 out of 149 countries with a score of 0.715¹². Especially in educational attainment as well as health and survival, there was no significant difference. In tertiary education, women’s enrolment is higher than that of men. In economic participation and opportunity, Botswana has upgraded significantly. There is still room for improvement, especially on wage equality and management positions. The only area that Botswana performs under global average is political empowerment. Women are 9.5 percent inadequately represented in parliament and Botswana is on the 126th rank (World Economic Forum, 2018).

Despite many positive aspects in the development of Botswana, there are certain social risks that are still present in the country.

¹² 0.00= imparity; 1.00= parity

- *Poverty*: despite being an upper middle-income country, 16.3 percent (2015/2016) still live below Botswana's Poverty Datum Line¹³. It has been significantly reduced during the past decade (2002/2003: 30.6 %). The rate of people living in absolute poverty¹⁴ has decreased from 23.4 percent (2002/2003) to 5.8 percent in 2015/2016. Looking at absolute numbers, there was an increase of absolute poverty in urban villages between 2009/2010 (40,602) and 2015/2016 (46,356), although the proportion was reduced (Statistics Botswana, 2016).
- *Inequality*: related to poverty, (income) inequality is another major social challenge. Inequality is measured by the Gini Coefficient¹⁵, which is at 60.5. In the last survey (2015/2016), the consumption has increased, which indicates a raise of inequality, both in urban and rural areas (Statistics Botswana, 2016).
- *Unemployment*: 18.1 percent of population were unemployed in 2017. Among youth, it was even more serious. More than one third (35.7 %) of people in the age group 15-24 years did not have a job (The Global Economy, 2018). Job creation is only done sluggishly. There is the challenge of educated unemployed youth, which means many graduates from university do not find employment, due to a mismatch between acquired skills and demands of the economy. They are not sufficiently prepared for labour market (Fasih, Hoftijzer, Siphambe, & Okurut, 2014).
- *HIV/AIDS*: one out of five persons (21.9 %) is affected by this sexual transmitted disease, which is the third highest prevalence rate worldwide. Among the working age group (15-49 years), HIV has a prevalence of 22.8 percent. There has been some improvement over the past decade, as in 2005, the prevalence rate was 25.4 percent. Botswana is highly committed to the fight against HIV and provides people living with HIV with antiretroviral treatment (ART) for free. A challenge is the reduction of external donors since Botswana is classified an upper middle-income country (Avert, 2018).

2.4 Economy

As already mentioned, Botswana has been one of the poorest nations worldwide during independence with a gross national income (GNI) per capita of 90 USD. Thirty years later, Botswana was acknowledged an upper middle-income country by World Bank. In 2017, GNI per capita was 6,730 USD. Between 1966 and 1999, annual growth rate was about 9 percent averaged (Moyo, 2016, p. 155). Over the last decade, the economy has been growing, averaging five percent per annum, making Botswana one of the fastest growing economies worldwide (Mbabazi, 2018, p. 6). The country achieved "a modest level of socioeconomic development" (Donner et al., 2018, p. 13). While there have been only twelve kilometres of paved roads in the first years after independence, more than 7,800 kilometres have been paved by 2008 (Koitsiwe, 2018, p. 9).

This is due to discoveries of diamonds shortly after independence and its prudent management from the beginning. First diamonds were discovered in Bangwato area,

¹³ Poverty Datum Line (PDL) is based on the basic requirements for food, clothing, personal items, household goods & services and shelter.

¹⁴ below 1.90 \$ per day

¹⁵ This index measures the level of disparity in income or wealth distribution between rich and poor people in a nation. 0= complete equality; 100=complete inequality.

which is in the territory of the first president and former *kgosi*, Sir Seretse Khama. Yet, mineral rights have been declared state property and revenues invested effectively in social and infrastructural services for the good of the whole nation. Botswana was third-largest producer of diamonds in 2017 (second in terms of wealth/money). The private sector hereby has been playing a significant role. After discoveries of diamonds in 1967, Botswana government and De Beers, a company experienced in mining in South Africa, Namibia and Angola, entered into a unique and successful partnership. They agreed to share all revenues fifty-fifty. In the late 1970s after discovery in new places with more value, the Botswana government renegotiated and now received 60 percent of revenues. This has led to a jointly owned company DEBSWANA that shares equal membership. The chairmanship of the board rotates between the two partners. In 2007, Diamond Trading Company, a subsidiary company of De Beers based in London, was relocated to Gaborone (Mbabazi, 2018, p. 9).

Botswana's economic growth depends especially on 1) mining (diamonds), 2) tourism and 3) cattle farming (beef export). In the past, agriculture industry, especially livestock (cattle) farming, used to be largest sector with 30 percent of the GDP. With the emergence of mining production, its importance has diminished significantly. During the past decades, there has been a notable growth in the third sector, especially in tourism. Considering employment, the largest sector in 2017 was the third sector (services) with 59.4 percent, followed by agriculture with 25.7 percent and industry with 14.9 percent (KPMG, 2017). Yet, more than half of employees work in the public sector¹⁶. In its Vision 2036, Botswana strives for being a knowledge-based economy in order to support socio-economic development and therefore aims to develop its education, training and skills development system (Government of Botswana, 2016).

Botswana's economic growth is precarious and uncertain due to its high dependence on minerals and the mining sector. It is a highly export-oriented economy, relying on a single product. As seen during last global economic crises, Botswana is vulnerable to global market developments. Furthermore, revenues of diamond export activities contribute to the government's own income and therefore are not usable for long-term projects (African Health Observatory, n.d.; Makoni, 2015).

For the past 50 years, Botswana missed the opportunity to establish broad-based economic growth. Forecasts say, diamond revenues will begin to decrease in the coming decade, as opencast mining will be exhausted and needs to be replaced by underground mining, which is more expensive (Koitsiwe, 2018). Botswana aims to facilitate sustainable and long-term growth by strengthening diversification through the private sector. That way, new job opportunities would be generated (Ministry of Finance and Development Planning Botswana, 2016, p. 58). However, domestic financial markets still need to develop further to enable an increase in additional investment capital (stock and bond markets). Another challenge is the reduced pool of labour due to the high prevalence of HIV/AIDS among the working age group (Makoni, 2015, p. 171).

¹⁶ According to Formal Sector Employment Survey (March 2016) by Statistics Botswana: Local Government (22 %), Central Government (25 %), Parastatal Sector (5 %).

Besides the domestic private sector, the Botswana government is interested in attracting foreign direct investment (FDI), as this was significant for economic transformation after independence. Levels of FDI are rather low and not seen as a “stable source of longterm (sic) funding for infrastructural or other permanent future projects” (Makoni, 2015, p. 166). Mining is the only sector that enables FDI. Private sector investments have been displaced by the government’s high contribution.

According to the Job Vacancy Database Report of July to September 2018, vacant jobs were especially advertised in the field of Agriculture, Hunting and Forestry (19.9%), Construction (17.2%), Education (14.5%) and Manufacturing (5.3%). Furthermore, the report shows the number of job vacancies that have been publicly advertised by occupation¹⁷. Most vacancies in demand were Legislators, Administrators and Managers (366) and Professionals (353). For those kinds of positions, a study degree of a tertiary education institute is required. There is also a need of elementary occupations (266), Technicians and Associate Professionals (187), Crafted and related Trade Workers (102) as well as of Plant machine Operators and Assemblers (54) (Botswana Labour Market Observatory, 2018).

This shows the demand of TVET graduates is almost as high as of university graduates. Yet, there is a general aspiration within society to enter university, while TVET programmes are not as popular. The following two chapters will give an introduction on the educational system in Botswana, first focusing on general education, second on TVET system.

3. Botswana: Overview on General Educational system

When Botswana achieved its independence there were 251 primary schools, nine secondary schools, two primary teacher training colleges, one trade school and no university. At independence, only 20 percent of school age group were enrolled in primary school, and only eight percent of school age group proceeded to secondary school (SACMEQ, n.d.).

Since independence, Botswana’s educational system has been transformed notably. Although education in Botswana is not compulsory, nine out of ten children have been enrolled in primary school in 2017. There is no significant difference between cities, urban villages and rural areas. A different picture is shown with attendance of secondary school. Net enrolment rate¹⁸ (NER) is 51.2 percent. Hereby, 58.2 percent live in cities and towns, but only 42.5 percent in rural areas (Statistics Botswana, 2017, p. 21).

Education has been a priority of investment since its beginnings. First president, Sir Seretse Khama, and other leaders desired an inclusive education system that everyone was able to access. He laid the foundation of peaceful co-existence among different ethnic groups of the nation with the National Policy on Education (NPE) in 1977 (Makwinja, 2017, p. 45). This policy was also known as education for *kagisano* (social harmony), as it

¹⁷ Occupations are divided in nine fields based on the International Standard Classification of Occupations (ISCO-08).

¹⁸ Number of children enrolled in a particular level of education, expressed as a percentage of the total population in that age group

was based on the four principles democracy, development, self-reliance and unity. The ideal education system was considered to produce a society that reflects national principles and pursues social harmony (UNESCO-IBE, 2010).

The NPE was revised in 1994. With the first policy, Botswana moved away from the education system of British rulers, which was only accessible by the elite. The Revised National Policy on Education (RNPE) aimed to prepare the nation in the transition from an economy that was based on agriculture towards an industrial economy (Makwinja, 2017, p. 46). Education should relate to the world of work and therefore pre-vocational and practical orientation for all subjects were regarded as necessity. Problem solving skills, teamwork, critical thinking and interpersonal skills were considered as relevant for the development of economy. Especially technological skills were crucial for a technology-oriented economy (Molwane, 2000).

Access to basic education was recognized as fundamental human right by Botswana government (UNESCO-IBE, 2010). A system of automatic promotion was introduced. Students may continue with secondary school despite having failed final exams of primary school. A National Examination Council was implemented and with the introduction of Botswana General Certificate of Secondary Education (BGCSE) as university entrance qualification, another action away from Cambridge Overseas School Certificate (COSC) was taken (Akoojee, 2005, p. 15).

The legal framework for the development of education is the Education Act, which was introduced in 1966 and revised in order to react on various changes in education policy. There are also other regulations, such as the Botswana Qualification Authority Act, Tertiary Education Act or Botswana Examinations Act as well as Vision 2036 and NDP 11.

In order to address key challenges, such as low rates of inclusion, poor secondary to tertiary transition rates and mismatch between skills and labour force needs, the Education and Training Sector Strategic Plan (ETSSP) from 2015 to 2020 gives guidance on investments in education sector, by identifying priorities and goals. With this strategy comes along a shift towards an outcome-based education that involves curricula, teaching methods and assessment. Yet, the ETSSP does not provide detailed priority setting and therefore nor clear guideline for process of implementation (UNICEF, 2018, p. 2).

During the past, Ministry of Education and Skills Development (MOESD) and the Ministry of Local Government and Rural Development (MLGRD) has been responsible for educational issues. A major rearrangement took place in 2016. Ministry of Education was divided into Ministry of Basic Education (MOBE) and Ministry of Tertiary Education, Research and Technology (MOTE). Skills Development has been added to Ministry of Employment, Labour and Skills Development (MELSD).

MOBE's responsibility has been pre-primary, primary and secondary education, while MOTTE deals with tertiary education institutes, student scholarships, teacher training and partly with vocational and technical education at diploma level. Department of Skills Development takes care of TVET at certificate level (UNICEF, 2018, pp. 3-4).

The general education system in Botswana is comparable to other Anglophone countries in sub-Saharan Africa. Pre-primary Education (2 years) is mostly offered by private sector, while primary (7 years), secondary (3 years junior and 2 years senior secondary) and tertiary education are dominated by public sector.

TVET is part of upper secondary and post-secondary education. Therefore, students may join a TVET programme either after ten years of basic education, which is usually an artisan programme or after twelve years of general education with the possibility to enter a technician programme (UNESCO-UNEVOC, 2012).

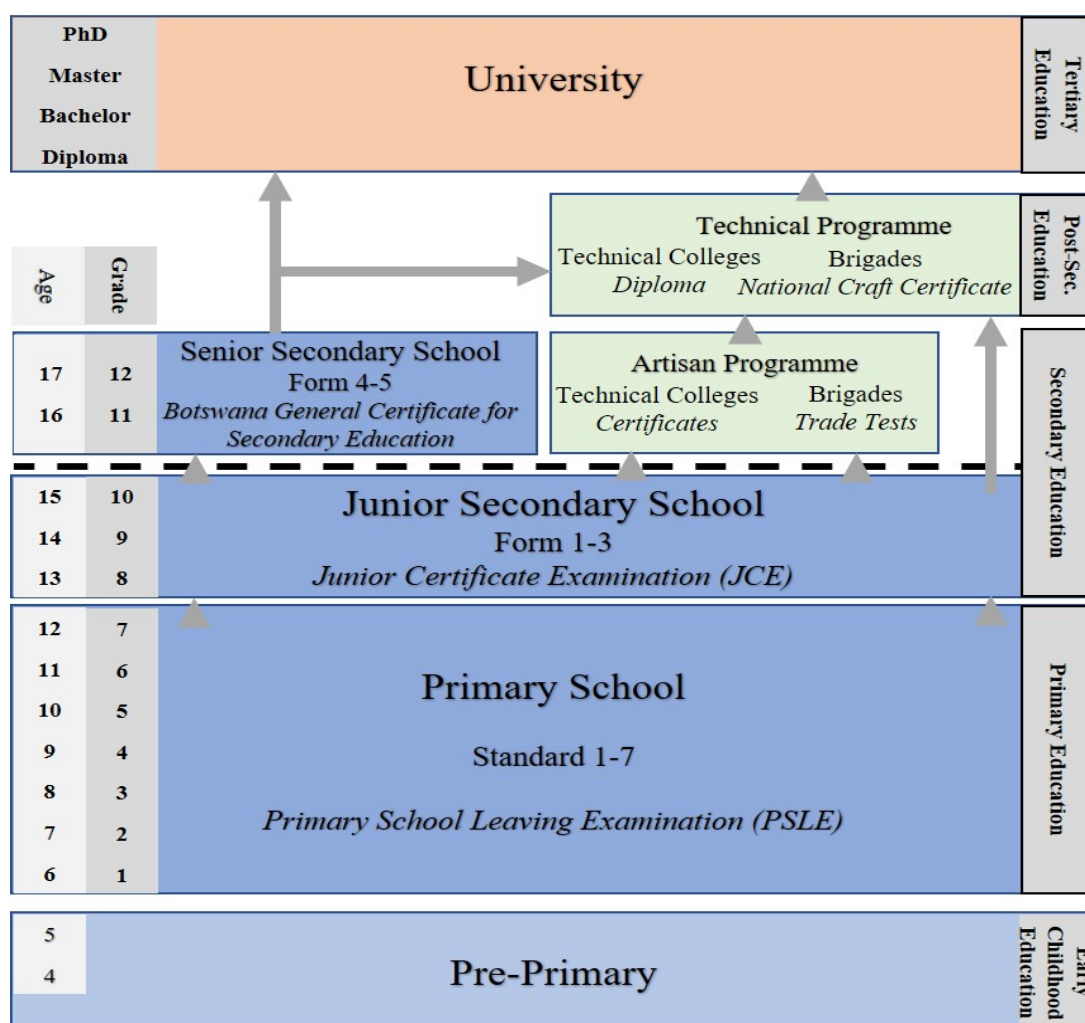


Figure 3: Educational System Botswana; own diagram based on Vossiek, 2018 and UNESCO-UNEVOC, 2012

3.1 Early Childhood and Pre-Primary Education

Provision of care for new-born babies and children was historically responsibility of Ministry of Health. There was no guidance by any policy before 1977 for developing Early Childhood Education (ECE) and it was not on the political agenda. Early Childhood Care and Development was provided mostly by non-governmental sector, such as churches, Red Cross, women's groups or private individuals. In 1977, a multi-sectoral Reference Committee was established and eventually in 1980, a National Policy on day-care centres provided guidance for the ECE sector and linked pre-school education more to the formal education system.

ECE includes programmes for children from zero to six years of age, which is divided in early stimulation and baby care (0-2/2.5 years of age), play school respectively day care or nursery (2.5/3-4 years) and pre-primary education (4-6 years). The majority of pre-school activities is still run by the private sector (UNESCO-IBE, 2010).

Pre-primary learning has significant influence on a child's development. Children who have visited pre-school education activities, have been advantageous later in formal school education. However, there is a lack of access to such programmes. Net enrolment rate of three to five years old was 19.5 percent in 2014 (Republic of Botswana, 2015). To increase access to pre-school education and prepare children for learning an orientation programme of six weeks was introduced for expected Standard 1 pupils in all public primary schools in 2012. 15 percent of the primary school implemented a one-year reception programme in 2013 (Republic of Botswana, 2015, p. 23).

3.2 Basic Education

Basic Education includes seven years of primary schools (Standard 1-7) and three year of junior secondary school (Form 1-3). It starts at age six, however children until ten years of age are allowed to enter primary school. This is important to give access to education to everyone, especially also in rural areas and marginalized communities (Republic of Botswana, 2015, p. 24).

The seven years of primary school are divided in lower primary from Standard 1 to 4 and upper primary from Standard 5 to 7. During lower primary, there is a broad subject package. At the end of Standard 4, a local administered attainment test takes place, which shows the performance in numeracy as well as in basic literacy skills both in English and Setswana. As from Standard 5 on, language of instruction will switch from Setswana to English, this attainment test is an important indicator. According to results, it is decided, whether a pupil can move on or needs to repeat. In upper primary, focus is on developing skills for junior secondary school. At the end of Standard 7 is the Primary School Leaving Examinations (PSLE), which assesses performances in the five subjects Setswana, English, mathematics, science and social studies. It used to be a selection test; however, with the introduction of automatic promotion, it serves as a criterion-referenced achievement test (UNESCO-IBE, 2010).

Despite automation promotion, participation in Junior secondary school is lower than in primary education, which was 90.2 percent net enrolment rate in 2017 (93.2 percent in 2014). In secondary education, including upper secondary level, it is 51.2 percent, hereby NER of 15-year-old students is 74.6 percent (Statistics Botswana, 2017; UNICEF, 2018).

After ten years of basic education, students take part in the JCE at the end of Junior secondary school. It's a norm-referenced achievement test. Only those pupils who pass the examination are allowed to continue with senior secondary school. According to Botswana Examination Council, about one third of the students failed in their Junior Certificate Examinations (JCE) in 2016 and 2017. There is a little improvement in 2018 (28 percent). In 2012, failing rate of JCE was 23.7 percent.

3.3 Upper Secondary Education

Senior secondary schools are a two-year post-basic education programme (Form 4-5). Transition rate from Junior secondary education in 2015 was 67.3 percent (2010: 54 %) (Statistics Botswana, 2015, p. 12). Due to opening of new schools in four towns, attendance rate could be increased (Ministry of Finance and Development Planning Botswana, 2016a).

The Botswana General Certificate of Secondary Education (BGCSE) curriculum prepares pupils either for university or world of work and therefore has a broad practically orientated curriculum including academic, technical and commercial subjects (UNESCO-IBE, 2010).

The university entrance qualification is given by the final BGCSE exams. The ETSSP 2015-2020 states a steady decrease of academic performances, especially in science, but also mathematics and English. It has slightly improved since 2013, yet only 28.47 percent of the students got a C or better in 2017. Half of the students did not achieve a D and failed (Botswana Examination Council, 2017). In order to access university, one needs at least a C in six subjects. Another possibility is to enter a TVET programme either at a brigade or technical college.

3.4. Tertiary Education

Tertiary Education in Botswana has encountered a remarkable increase in the past years. University of Botswana used to be the only tertiary education institute (TEI) for a long time. Recently, other public and private colleges and universities have been established.

About two third (64.28 %) of pupils from secondary schools transitioned into TEI in academic year 2014/2015. Hereby, 34.62 percent at public and 29.66 percent at private institutes. 57.4 percent had been enrolled in public TEI and 42.6 percent private TEI, which was a new record for private institutions and shows the uprising of private sector in higher education (Human Resource Development Council; Statistics Botswana, 2015). Students at tertiary level receive a monthly allowance by Ministry of Tertiary Education through a grant loan scheme. This applies for enrolment in both public and private institutes (UNICEF, 2018).

Academic programmes on tertiary level are divided in to undergraduate (Bachelor), graduate (Master) and post-graduate (PhD) studies. For secondary school leavers with lower performance, there is the possibility for Diploma courses before entering a bachelor's degree.

4. Botswana: Overview on TVET system

4.1 Development and perception in society

Botswana's TVET is a few years older than independence due to two different developments. In 1962, the first formal Botswana Training Centre was conducted by Ministry of Labour and supported by Special Commonwealth Assistance Programme. This way, artisans and administrative staff were trained in order to prepare the nation for independence (Atchoarena & Delluc, 2001, p. 183).

1963 was the beginning of the Brigades movement by South African Patrick van Rensburg as a response to high unemployment rate of primary school leavers. The community-based programme provided skills-training opportunities through theory, practice and on-the-job-training. Produced goods and services, such as car mechanic, electrics, construction and livestock rearing, were sold to community, which in rural areas were

mainly the few industries available. Brigades encouraged especially small-scale entrepreneurs (Akoojee, 2005, p. 24).

The first government technical college was opened in 1987. Over the years, the TVET sector has grown, especially in the private sector. Under Ministry of Education and Skills Development (MOESD), the Department of Vocational Education and Training (DVET) had a coordinating role (du Plessis, Vermeulen, van der Walt, & Maekela, 2015).

Yet, policies for legal guidance of TVET have not been developed for a long time. Although the first NPE acknowledged the importance of skills development, it was the RNPE in 1994, which set the first impulse to develop the National Policy on Vocational Education and Training (NPVET) under supervision of Ministry of Education and Skills Development and Ministry of Labour and Home Affairs in 1997. More than 200 people including representatives of government, employer, employees and other interested parties took part in the discussion. The RNPE had identified several challenges in vocational training, e.g. poor funding, lack of integration of different types poor status of system (BQA, 2016). By NPVET, vocational education and training was placed at the same level as an academic education and its different types were integrated into a comprehensive system (UNESCO-UNEVOC, 2012, p. 5).

To coordinate all operations of vocational training and implement a comprehensive system, the statutory body Botswana Training Authority (BOTA) was established in 2000 by the Vocational Training Act No. 22 of 1998 under responsibility of the Ministry of Labour and Home Affairs. Its task was accreditation, monitoring and registration of both public and private training institutes. The aim of this new organisation was the participation of all stakeholders (Akoojee, 2005).

With the establishment of BOTA, the development of training standards took place as well as the registration of qualifications in the Botswana National Vocational Qualification Framework (BNVQF). By the end of the financial year 2009/2010, 284 vocational training institutions were registered. Three years later, there were 367 institutions with 3457 learning programmes (BQA, 2016).

A new period of upheaval started in 2013 when BNVQF was replaced by the outcome-based National Credit and Qualification Framework (NCQF). Different from BNVQF, the new NCQF has combined all national qualifications and created a classification system that covers general, TVET and tertiary education sector (UNESCO-UNEVOC, 2012).

Further reforms have taken place after the establishment of Botswana Qualification Authority (BQA) as replacement of BOTA and Human Resource Development Council (HRDC) of Tertiary Examination Council (TEC). Due to reorganisation of Ministries in 2016, responsibilities have changed and TVET is mainly part of MELSD and MOTE. The reform is still in the transition process, as not all institutions have been re-accredited yet by the new framework. The responsibility for curriculum development has not been clarified yet as well as the development of a national standard for vocational qualifications.

Despite recent efforts, Botswana's TVET system has an image problem within the society. Tertiary education is the preferred option of continuous education for students as well as for their families. In addition, public funding of tertiary education is much

higher. There is a bigger budget and higher salaries for teachers as well as loans for students (Vossiek, 2018). The TVET system is often perceived as “deficit system without defined pathways” (Republic of Botswana, 2015, p. 30).

4.2 Governance and Financing

Responsible Ministry for TVET sector on certificate level is MELSD and on diploma level MOTE. Ministry of Health is involved for health programmes.

Due to the recommendations of the National Human Resource Development Strategy (NHRDS) to eliminate “overlapping mandates and duplication of services” (Human Resource Development Council, n.d., p. 2), two new statutory bodies, BQA and HRDC were established by law and replaced BOTA and TEC.

By the Botswana Qualification Authority Act No. 24 of 2013, BQA is responsible for the provision and maintenance of the NCQF as well as for the coordination and development of the quality assurance system for all levels of education, training and skills development. Every education and training provider (ETP) needs to register their learning programmes with BQA. Only after accreditation, ETPs are allowed to offer the programme. Accreditation is valid for five years before it needs to be renewed.

HRDC, which is authorized by Human Resource Development Council Act No. 17 of 2013, plays an important role in the development of the TVET system. It gives policy advice concerning issues of National Human Resource Development. Furthermore, it coordinates the implementation NHRDS and takes care of workplace learning as well as the Human Resource Development Fund (HRDF).

The HRDF is a training levy which was established to promote skill development by a levy grant system. Hereby, companies that have an annual employer’s turnover of more than one million pula (93,000 USD), pay a levy. Incurred costs for training employees are reimbursed by this fund when training is accredited by BQA respectively similar regulatory body if outside of Botswana (Human Resource Development Council, n.d.).

Further funds for TVET come from governmental education budget. Currently, there is no available statistics on how much is spent for TVET sub-sector. Budget allocation for 2015/2016 was 5.41 million Pula, which is adequate to 4.9 percent of education budget. In the ETSSP budget planning, an increase was planned of 7.6 percent of education budget until 2018/2019. For the years 2019/2020 (6.6 %) and 2020/2021 (5.4 %), proportion of budget for sub-sector TVET would decrease. In general, proportion of TVET budget is significantly lower than of tertiary (29 %) and secondary (33.7 %) education, although expenses are approximately 30 percent higher than with general education due to equipment needed for work-based learning. As Botswana only has limited industrial bases, simulations or if possible, industry-ready classrooms need to be provided (Republic of Botswana, 2015).

4.3 Structure of TVET system

TVET in Botswana takes place at secondary and post-secondary level. Students can enter a TVET programme either after ten or twelve years of general education. Students with ten years of basic education usually start an artisan programme while students with senior secondary education do a technician programme (UNESCO-UNEVOC, 2012, p. 7).

Brigades offer skills certificate programmes, which are designed for school leavers with preference for a vocational career. Lowest level is Trade Test C, followed by Trade Test B. After accomplishing Trade Test B level, one can continue with a trade certificate programme in 17 trades, which will lead to National Craft Certificate (NCC) (UNESCO-UNEVOC, 2012, p. 8).

In 2001, the Botswana Technical Education Programme (BTEP) was introduced, which enforced work-based learning through cooperation with employers and industry. Entrepreneurship education is hereby an integral part of every BTEP course. In 17 vocational areas, trainings take place at four different levels, foundation being the lowest, then certificate, followed by advanced certificate and diploma.

The NCQF describes ten levels, whereby the first level is completion of primary school and tenth level is PhD position. The TVET system ranges from level three to six, whereby level three to five complies with different levels of certificates and level six is adequate to diploma level. The following table gives an overview about the structure:

Level	General Education	TVET	Tertiary Education
10			PhD
9			Masters (e.g. M.Sc., M.A, M.Ed.)
8			Bachelor of Hons, Post-Graduate Diploma
7			Bachelor (e.g. B.Sc., B.A., B.Ed.)
6		Diploma	Diploma
5		Certificate V (e.g. NCC; advanced certificate)	
4	BGCSE	Certificate IV (e.g. Trade Test B, certificate)	
3		Certificate III (e.g. Trade Test C, foundation)	
2	JSE		
1	PSLE		

Figure 4: Structure of NCQF; own diagram based on Botswana Qualification Authority

4.4 Challenges

ETSSP 2015-2020 reported about several challenges that the TVET sector has faced. Firstly, the TVET sector is quite isolated from general education. As a consequence, enrolment in TVET programmes is quite low. Many school leavers after junior secondary school do not enter TVET, but would be rather “in the streets”. At the same time, the utilization rate of facilities is lower than aimed. There were 45 public TVET institutions registered in 2015, but utilization was only 61 percent. NDP 10 had aimed for 80 percent.

Another reason for the low utilization was staff shortage. There is a high demand for technical skills amongst the teachers in TVET sector. Only 27 percent of registered trainers with BOTA had a teaching qualification. End of 2015, there were 475 registered teachers, however 300 only had a provisional registration. Salaries in TVET sector are lower than at tertiary education level.

Poor work ethic among staff and students cause a low performance of TVET students. According to ETSSP 2015-2020, average pass rates are below 50 percent. Further reasons are seen in poor management and resources, as facilities and equipment are often of poor quality.

PART TWO: RESEARCH METHODOLOGY

Botswana is currently in a transition process with the aim to build an outcome-based TVET system that meets the demands of economy. This research focuses on the current status of development and its challenges.

Following questions guided the research:

1. What is the current state of the TVET system in Botswana?
2. To what extent do offered programmes meet the needs of labour market?
3. What effect does TVET have on major policy concerns, e.g. youth unemployment or early school drop out?
4. What is needed to develop a demand-driven and competence-based TVET system?

5. Selection of methods

Main focus of the research on a macro level was to analyse the effects and responsiveness to labour market from political point of view. Therefore, the qualitative method was used to collect data by conducting interviews through different media.

In preparation of the research, it was intended to conduct two guideline-based interviews face to face with experts at BQA and HRDC. A visit of a Brigade was planned to get a personal insight and observe practical implementation of TVET.

However, the original plan needed to be adapted because the period that was possible to do the research on site in Botswana was very short. In addition, the bureaucratic process in order to be allowed to conduct interviews needed more time. As a consequence, the conduction of oral interviews was not possible in every case. Yet, both BQA and HRDC agreed on responding to the questions via email. HRDC later asked about the possibility of a telephone interview, which was agreed on.

It was also not possible to visit a Brigade, due to the need of ministerial permission. As a consequence, contact to the Department of Skills Development of the Ministry of Employment, Labour Productivity and Skills Development (MELSD) was established and further interview partners were found in the process. In order to not neglect the practical perspective, an e-interview with a former TVET student of a Brigade was conducted.

Therefore, following data had been collected:

- BQA: e-interview
- HRDC: guideline-based telephone interview
- MELSD I: guideline-based face-to-face interview
- MELSD II: e-interview
- Brigade student: e-interview

Oral interviews had been the preferred option, as it usually enables a greater variety of answers and the possibility to deepen certain topics by additional questions. Nevertheless, the prepared questionnaires with open questions made it possible to receive answers from different perspectives.

6. Description of methods

This research aimed at exploring the current status of TVET system in Botswana, the challenges it is facing and the needs to develop and strengthen the system. There is hardly any research done about TVET in Botswana. Therefore, a qualitative approach was chosen to gain understanding and determine underlying motivations, reasons and opinions. Interviewees are seen as experts of their field. By the use of open and unbiased questions, they were welcomed to share their points of view.

Hereby, two kind of experts have been asked. Due to focus on macro level, representatives of political institutes in the development of TVET system were main priority. Employees in responsible positions of *BQA*, *HRDC* and *MELSD* were interviewed. Their insights have been very important to understand the current reforms as well as challenges that are faced on political level. A further perspective was considered by a *former Brigade student* who experienced first-hand the significance and practicability of Botswana's TVET system.

Due to limitation of time, it was not possible to gain the insight into a Brigade to observe equipment or meet with TVET teachers. In this context, the perspective of the student was of great value to comprehend political decision making implemented in practice.

6.1 Guideline-based face-to-face interview

This conducted interview had a semi-structured form that encouraged the participant to share his personal perspective on TVET system. To be able to compare answers to other interviews, a list of questions had been developed beforehand. It was paid attention that questions were unbiased and did not suggest anything but gave full space of exploration to the interviewee.

Semi-structured interviews are flexible and can be changed in the process of conversation. It is possible to ask additional questions to deepen the insights. This form of interview allows the interviewee to share personal view based on the participant's professional context and experiences in TVET system (Edwards & Holland, 2013, p. 29).

There have been some disturbances in the process of conducting the face to face interview. The day before, it was agreed with a different person to conduct the interview and the questions were shared, so he could prepare. The following day was then unexpectedly a busy day, so he transferred to his colleague who is also a professional in the same field. Though he was not introduced to this research, he did provide useful insights. Questions were prepared considering the other person's position. Further questions could have been asked if the role of the new interviewee had been clearer from the beginning.

Another limitation was the setting of the ad hoc interview. There was no extra room available in which the interview could have been conducted. It took place in a shared office with two other employees who continued doing their work and also received phone calls while the interview took place. The distraction level therefore was quite high. Despite these unfavourable circumstances, the results of the interview were of great value for the research.

6.2 Guideline-based telephone interview

The telephone interview is from its structure comparable to the face-to-face interview as described in chapter 6.1. The exchange takes place synchronously, as opposed to the e-interview but is able to be conducted despite the geographical distance (Edwards & Holland, 2013, p. 48).

The participant was a manager in the field of work planning at HRDC. In preparation of the interview, several questions were sent beforehand and she could prepare herself for the interview. There were no limitations found in the implementation of this method.

6.3 e-Interview

Due to adaption to circumstances, further perspectives were collected by questionnaires sent out via email. Depending on the role of receiver, certain questions were individualized. This way, BQA received slightly different questions than MELSD. Especially as interviewees were persons of responsibility, they had a busy schedule. The e-interview enabled the collection of knowledge from different experts of one institute as questionnaires were distributed amongst the colleagues.

The email interview is not constrained by time and location. The exchange takes place asynchronously and makes it possible for respondent to reply according to their schedule. The answers are less spontaneous and usually more profound as interviewees may take more time, which “often encourages more descriptive and well thought out replies” (Lewis, 2006 in: Edwards & Holland, 2013, p. 49).

The questionnaires had a similar structure as guideline-based interview by asking open and unbiased questions that gave room to experts’ knowledge and experiences. Yet, this method had certain limitations as structure of question was not flexible and adaptable. There was no possibility to re-adjust or ask additional questions, in case a deeper knowledge is required. The advice of Edwards and Holland (2013) “not to send all of the questions at once” (p. 50) was not practical in this case due to time limitation to conduct research as well as the schedule of interviewees.

As already mentioned, it was not possible to first hand visit a Brigade. However, a former TVET student was willing to share his perspective and experiences. This was also done in written form. The same advantages of time and location flexibility took place here as well as its limitations. Yet, in this case, it was possible to re-ask certain questions after initial questionnaire was answered and therefore broaden the insights.

6.4 Overview about interviews

Following interviews were conducted in the process. The name in first column will be used in chapter 7 and 8 to distinguish the participants’ statements.

BQA	joint responses of several representatives of Botswana Qualification Authority
HRDC	guideline-based phone interview with representative of Human Resource Development Council
MELSD I	guideline-based face-to-face with representative of Ministry of Employment, Labour Productivity and Skills Development
MELSD II	joint responses of several representatives of Ministry of Employment, Labour Productivity and Skills Development
Student	former Brigade student in Automechanic Department (2015-2017)

Table 1: Overview and description of all interview participants

6.4 Analysis of the interviews

The interview and questionnaires for representatives of public institutes in TVET system had a similar structure and majority of questions were asked to all responding parties. This was to ensure comparability of the answers. Certain questions were asked based on to their field of expertise. Especially HRDC was asked about the responsiveness to labour market and perspective to workforce.

The interviews of BQA, HRDC and MELSD focused on political point of view and are considered as equivalent. Written and oral interviews were weighed as equal. The interview with the former student in Automechanic Department of a Brigade focused on personal experience and practical perspective of TVET system. He was enrolled in a TVET programme for two years before he moved to Europe. His reflections gave an additional view to put in relation to the others statements.

The data from all interviews were grouped in three head categories each having three subcategories. The categories A and B also have sub-subcategories. The head categories were built deductively before interviews took place, while the subcategories were adapted based on the interview material.

Head category	Subcategory	Sub-subcategories
A: Current state of TVET in Botswana	A1: Scope of TVET	A1.1: definition A1.2: role
	A2: Perceptions of TVET	A2.1: society A2.2: future A2.3: other
	A3: Current reform	A3.1: causes A3.2: NCQF A3.3: aims
B: Responsiveness to labour market	B4: Work based-learning	B4.1: significance B4.2: regulations B4.3: practical experience
	B5: Programme development	B5.1: skills development B5.2: curriculum dev. B5.3: labour market orientation
	B6: Labour market situation	B6.1: employment B6.2: unemployment B6.3: self-employment
C: Development of TVET system	C7: Resources	-
	C8: Participation of stakeholders	-
	C9: Further remarks	-

Table 2: Presentation of head, sub- and sub-subcategories

Each subcategory is analysed individually in single subchapters. Relevant statements of different participants are related to each other in each category. Agreements and contradictions are pointed out between the statements. At the end of chapter 7, important results were summarized. The interpretation of the findings can be found in chapter 8. It is furthermore important to mention that the words labour market and industry were used interchangeably by the participants and therefore also in this study.

PART THREE: RESEARCH FINDINGS

7. Results

7.1 Head category A Current state of TVET system

7.1.1 Subcategory A1: Scope of TVET

The intention of this category was to see, whether all experts have the same understanding of TVET. Furthermore, the role of institutes was enquired in order to comprehend the meaning of certain statements in the process of the interviews.

All participants except of the *former Brigade student* were asked to define TVET in Botswana and describe their institute's role. Significant statements about the definition and role are listed below in table 3.

Participant	Perspectives on the scope	
	<i>Definition</i>	<i>role</i>
BQA	Education, training and learning programmes that provide knowledge, skills and competencies relevant for employment or self-employment (Botswana Qualification Act).	(1) To quality assure Education and Training Providers, qualifications, learning programmes, assessors and moderators by registration, accreditation and recognition according to NCQF. (2) To improve quality of education and training with the involvement of all stakeholders to ensure relevance, equity and access.
HRDC	(1) Learning experiences with focus on the employability and preparation to world of work. (2) Scope of TVET contains mostly formal education and training which is offered at Brigades, technical colleges and sometimes at industry.	(1) To provide policy advice on all matter related to skills development. (2) To function as a coordinator or regulator through National TVET Advisory Committee. (3) To administer the training levy.
MELSD I	(1) Differentiation between vocational and technical area due to education level: - Vocational: certificate level, brigade, technical colleges - Technical: diploma level, technical colleges (2) Distinction in kind of courses (full-time course, apprenticeship course) is in the future not relevant anymore as change to competence-based training.	(1) To develop the skills (2) To ensure access and equity to institutions (3) Ministerial responsibilities divided between MELSD (certificate level) and MOTE (diploma level) according to this differentiation.

MELSD II	“TVET in Botswana encompasses the following: - skills level training, both formal and non-formal - life-long training as an integral part of overall human resource development - public institutional training, employer-based training, and the private training institutions - training for both the formal and informal sectors of the economy including self-employment”.	To ensure development and availability of highly skilled and productive labour force.
Student	N/A	N/A

Table 3: Participants’ responses on the scope

BQA referred to the legal Botswana Qualification Act in order to describe TVET. Definition of *MELSD II* had the broadest scope by including non-formal training as part of TVET, while *HRDC* focused mainly on formal programmes offered at Brigades or Technical Colleges. These programmes would lead to employability and preparation to the world of work. Focus of the interview with *MELSD I* was on the differentiation of the vocational and technical area, which differ in their type of school and educational level. Brigades were in the vocational area with rather full-time courses up to certificate level and technical colleges offered rather apprenticeship courses up to diploma level. In the future, there would be competence-based training for both Brigades and technical colleges on certificate and diploma level. This distinction of the educational levels was also relevant for ministerial responsibilities between MELSD and MOTE.

The definitions demonstrated a broad scope of TVET. One common ground of all participants was the overall objective: preparation for employment respectively self-employment. There was one inconsistency about the question of whether non-formal programmes were included in the definition.

The described roles in both interviews of *MELSD I* and *II* were alike in their statement about ensuring skills development. Perspective of *MELSD I* hereby was to offer students different pathways of careers while *MELSD II* focused on delivery of skilled labour force for economy. *BQA*’s role was connected to its mandate to ensure quality assurance and management. *HRDC* mentioned various roles: advising, coordinating and administering.

7.1.2 Subcategory A2: Perceptions of TVET

This category brings the focus to the question of how TVET is perceived, it is further divided into society’s, other and future perspectives. The statements of the five participants are presented in table 4.

Every participant responded to the first sub-subcategory. *BQA* added the economics’ point of view and the *former Brigade student* was asked about his own opinion.

MELSD I when asked as well as BQA and HRDC shared their personal opinions on how the perception in society may change in the future.

Participant	Perspectives on perceptions		
	<i>Society</i>	<i>other</i>	<i>future</i>
BQA	General perception that TVET is for those who cannot find admission into universities.	(1) "TVET is considered the driver of the economy. Most sectors of the economy benefit from the TVET skills". (2) "TVET is also key in the informal sector and a great source of income for most families".	Negative perception may change due to introduction of the NCQF.
HRDC	Negative perception for years: TVET was something for the under-achievers in high school.	For a long time, TVET was neglected by politics due to traditional mindset.	Change is already seen due to availability of government sponsorship.
MELSD I	Brigades/TVET were for people who have failed. Students with better grades in BGCSE would rather go for universities.	N/A	Change of perception depends on remuneration, as artisan jobs are lowly paid.
MELSD II	Skills and talent development become more popular due to high rate of unemployment.	N/A	N/A
Student	(1) TVET is a last and only resort for students who did not make it into universities. (2) Due to low perception, there are still children below 18 roaming in the streets.	(1) Balance in education is needed for a country's good self-sustenance and continual development. (2) "Good technical vocational education is just purposeful as universities, and none of the two should appear to be better than the other".	N/A

		(3) “The only solution to aid the slow development of the country”.	
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Table 4: Participants’ responses on the perceptions about TVET

A general low perception and stigmatization of TVET in society, e.g. by being a programme for under-achievers, was seen throughout all interviews. TVET was often linked to being the last option for young people when the pathway to university was closed. *MELSD I* mentioned also the low salary of Brigade graduates. *MELSD II* believed that people acknowledged TVET now more due to the consequences of high unemployment.

According to *HRDC*, a traditional mindset was also prevalent in politics and TVET was neglected for a long time. In contrast, *BQA* mentioned the importance of TVET as “driver of economy” and economic sectors as beneficiaries. As stated by *former Brigade student*, TVET should be considered equal to university education as both systems pursue different purposes of the same value. In his opinion, self-sustenance of a country depended on balance in education.

Concerning the future development, *BQA* and *MELSD I* mentioned a possibility of change. According to *BQA*, the foundation was already laid due to the implementation of the NCQF, while for *MELSD I* remuneration of lowly paid artisan jobs was the crucial point for better appreciation. *HRDC* already noticed a positive change in the mindset due to the fact that government sponsorship was made available for TVET programmes.

7.1.3 Subcategory A3: Current reform

Botswana currently undergoes a shift in the TVET system since the implementation of the new framework NCQF. Table 5 shows the responses of *BQA*, *HRDC*, *MELSD I* and *II*. The *former Brigade student* was not asked about the current reform. The statements were divided into: causes of change, the implementation of NCQF and the aim of reform. With the exception of *HRDC* that was not asked about the NCQF, all perspectives were answered by all four participants.

Participant	Perspectives on current reform		
	<i>causes</i>	<i>NCQF</i>	<i>aim</i>
BQA	There is a need of TVET system to address - Quality and Relevance, - Equity and Access, and - Accountability.	Implementation took place in 2017 and is at formative stage. Focus of first two years was on establishment of systems and capacity building of different stakeholders. The major challenges include: - capacity constraints by ETPs	(1) Meeting required skills and provision of skilled graduates able to participate in the global market (p. 74, l. 62-64). (2) Following topics are aimed to be tackled: - Improvement of quality, relevance

		and warding bodies - inadequate expertise -qualification frameworks.	stakeholder participation, perception of TVET - Increase of TVET pathways - Produce job ready graduates - Strengthen professional competency of staff - Optimum utilization of TVET resources.
HRDC	TVET was neglected for a long time and is in need of improvement.	N/A	Implementation of strategies to overcome poverty and create employment.
MELSD I	There is a lack of certain skills in Botswana which is why foreigners are rather employed.	Implementation is in transition and not all ETP meet standards yet.	Implementation of a competence-based system, away from the knowledge-based method.
MELSD II	Botswana's aspiration is to become a knowledge-based economy and that acquired skills will fit needs of industry worldwide.	(1) Implementation is at "infant stage following its development". (2) "There is still a need for capacity building and establishment of Monitoring and Evaluation Structures in the implementation of the system by all stakeholders".	Graduates are ready for employment and fit for industry.
Student	N/A	N/A	N/A

Table 5: Participants' responses on the current reform

Various reasons were mentioned that caused the current developments in TVET system. Responses of *BQA* and *MELSD II* were future oriented, considering where the system was supposed to head to, while *HRDC* and *MELSD I* referred to the weak points of the past. *BQA* with its background of quality management focused on addressing quality, relevance, access, equity and accountability. *MELSD II's* prospect was the aspiration to establish a knowledge-based economy as well as the importance of matching acquired skills to needs of industry. *HRDC* mentioned the neglect of TVET in the past, while *MELSD I* saw the reason in the import of foreign skilled labour for certain areas as Botswana's labour force lacked the skills.

The implementation of the NCQF took place in 2017 according to *BQA*. All participants agreed to the fact that the implementation was still in process and not yet completed. *BQA* explained the first two years were used to put the system in place and qualify stakeholders. The registration of qualifications and accreditation of learning programmes according to new framework has already started. *MELSD I* admitted that not all ETPs have met yet the new standards. According to *MELSD II*, there was need for capacity building, which also *BQA* acknowledged both for ETP and also developers, as there was inadequate expertise about qualification standards. There was no further explanation how capacities were intended to be built. A further necessary implementation according to *MELSD II* was the establishment of Monitoring and Evaluation Structures, yet there was no further explanation to this either.

Different aspects were addressed when talking about the aim of the reform. First one was the new focus on competences rather than on knowledge, as stated by *MELSD I*. *BQA* and *MELSD II* mentioned the fulfilling and supplying of industry's needs as a main field of attention. A superior aim stated by HRDC was to overcome poverty and create employment.

7.2 Head category B Responsiveness to labour market

7.2.1 Subcategory B4: Work-based learning

This category is about the importance and implementation of work-based learning in Botswana. The scope of work-based learning contains all kinds of work placement opportunities, such as internships or apprenticeships. The statements of all participants are stated in table 6. It is divided into three sub-subcategories: first one is about the significance, which every participant mentioned. The second and third column concern the implementation from a regulative and from a practical point of view.

A difference can be seen between the responses in written form of the e-interviews (*BQA*, *MELSD II*) and of the oral interviews (*HRDC*, *MELSD I*). *HRDC* and *MELSD I* shared more about the challenges in practice, while the responses of *BQA* and *MELSD II* referred to regulations without practical implementation. The *former Brigade student's* perspective was based on practical experience.

Participants	Perspectives on work-based learning.		
	significance	Regulations	practical experience
BQA	Work-based learning is very important as it ensures the implementation of knowledge and skills acquired in classroom environment. By learning in work environment, students gain the requested work experience and skills.	(1) Due to requirements of registration and accreditation, ETPs are expected to provide work-based learning and ensure link to learned theory and proper assessment. (2) Internship should be incorporated.	N/A

HRDC	(1) Work-based learning is very important as it ensures relevance of the programmes for industry. (2) It also keeps the students up to date and appreciative with the technological advancements in industry, as resources in learning institutes are often outdated.	(1) There is a training levy available, which refunds companies when they train their employees. HRDC aims to extend the target group of this levy on apprenticeship and internships. (2) Commonwealth of Learning Canada will be engaged to develop a framework for work placements, which will guide institutions.	(1) There is a lack of sufficient opportunities for workplace experience. (2) Work-based learning exists, but it is not well structured. (3) High-skilled staff from industry are not trained to teach and advise, which provides problems for the quality of teaching, quality assurance and assessment.
MELSD I	Work-based learning is very important as it enables to be self-employed or work in other countries.	Companies need to commit themselves to work-based learning, it is not mandatory, but a possibility of rebate through HRDC.	(1) Work-based learning takes place on minimal scale, mostly at bigger companies. (2) There is only little industry in Botswana to absorb all students. (3) There is the need of import foreign skilled staff due to insufficient competencies among Botswana.
MELSD II	Work-based learning is important as through working environment knowledge and skills are acquired that are relevant to the needs of a particular industry.	"Work-based learning is a pre-requisite in the system. The students are assessed and must earn credits for that component".	N/A
Student	(1) Work-based learning is very important due to development and upgrading of equipment and systems. (2) The fact that highly qualified technicians from South Africa need to be imported for certain projects is	N/A	(1) Work-based learning did not take part as desired. (2) Fresh graduates needed to learn everything from beginning, when being employed. (3) Internships were not mandatory and

	a sign of how important work-based learning is.		one needed to find them on its own. (4) There is a lack of highly qualified technicians in Botswana.
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Table 6: Participants' responses on work-based learning

Uniformly, all interviewees agreed on the high significance of work-based learning as part of learning experiences and preparation to labour market. It enabled the students to keep up with technological advancements of industry, as stated by *HRDC*. According to *HRDC*, the Canadian association Commonwealth of Learning would soon be engaged in order to develop a framework for all kind of work placements, which would guide institutions in what they have to do.

Both *MELSD II* and *BQA* mentioned work-based learning as a pre-requisite respectively a requirement for the accreditation as ETP. *MELSD II* admitted work-based learning took part only on a minimal scale, as it was not mandatory for companies. It was mostly offered by big companies. There was also a training levy available, which rebated companies with an annual turnover of more than one million Pula when they invested in their employee's development. *HRDC* started a process to expand the levy on internships and apprenticeships, but it has not been finalised yet.

Looking at the practical side, both *HRDC* and *MELSD I* mentioned the shortage of industry during the oral interviews. This caused insufficient work placement opportunities as not all students could be absorbed. In addition to that, highly skilled staff at industry were not trained to teach and advise and therefore diminished quality of teaching and assessment, according to *HRDC*. The *former Brigade student* mentioned a strong theoretical orientation in TVET and work-based learning was not highly implemented. As a consequence, fresh graduates would need to learn from the beginning after being employed. The lack of work-based learning was in the opinion of *BQA* and the *former Brigade student* linked to a lack of highly skilled local staff and as a result skilled labour from neighbouring countries had to be imported for certain activities.

7.2.2 Subcategory B5: Programme development

This category took into consideration the strengths and weaknesses of TVET programmes and looked at the needs necessary to develop relevant skills and enable students being ready for labour market. This category is divided in skills development, curriculum development and orientation on labour market. The statements are seen in table 7.

All participants stated their perspectives of skills and curriculum development, exceptions were that the *former Brigade student* did not respond on skills and *MELSD I* on curriculum development. Labour market orientation was answered by *HRDC* and *MELSD I* from structural point of view and the *former Brigade student* from the perspective of his own experience.

Participants	Perspectives on programme development		
	<i>skills development</i>	<i>curriculum development</i>	<i>labour market orientation</i>
BQA	Acquisition of required skills takes place through work-based learning.	(1) "The programme, modes of teaching and learning, facilities, teachers and industry should support programme delivery and skills development". (2) Industry and professional bodies in regulated sector should be involved in curriculum development.	N/A
HRDC	(1) Technical and vocational skills as well as academic competences are emphasised. (2) NDP 11: Skills that are identified as critical and relevant for economy need to be retooled for both teachers and students. (3) A draft TVET policy is made to ensure skills development is in line with activities of other countries. (4) There is a teacher training wing at Francistown College of Vocational Education and Training, where teacher from Brigades and technical colleges are upskilled.	(1) NDP 11: Curriculum need to be revised. (2) Industry is involved in the development, because the programme curriculum has to be relevant to the developments of labour market and in line with the industry's needs.	(1) The needs of job market are failed to be met. (2) There is low engagement with industry. (3) GIZ started an Artisan Training Programme, that support teachers to get industrial experience. (4) NTAC as committee including various stakeholder was established to coordinate and intervene.
MELSD I	(1) TVET students from neighbouring countries are more competent. (2) Soft skills, such as communication and	N/A	The sector committee of HRDC determines about relevant training programmes for the coming five years.

	teamwork need to be developed.		
MELSD II	Developed skills need to fit the needs of industry worldwide.	The development of outcome-based curriculum takes place with focus on regional and global comparability.	N/A
Student	N/A	(1) Curriculum in Automechanic Department has never been updated due to neglect of politics. (2) Quality of education is improved when curriculum development addresses processes that are relevant to development in industry.	(1) Students are prepared for jobs, but system needs to be updated based on market.

Table 7: Participants' responses on programme development

One factor mentioned explicitly by *HRDC* and *MELSD II* was the importance to link skills development with the needs of industry. *HRDC* distinguished technical and vocational skills as well as academic competences. Important key word was technical advancements in industry. With reference to NDP 11, *HRDC* stated the need of retooling for both teachers and students. Hereby, teachers could be upskilled at Francistown College for Vocational Education and Training. *MELSD I* saw the importance of skills development by comparing Botswana with neighbouring countries, which were considered as more competent. Hereby, the development of soft skills was seen as a necessity. For *BQA*, skills development was directly linked to work-based learning. Furthermore, the modes of teaching and learning were significant for programme delivery and skills development.

The importance of curriculum development was emphasised by *BQA*. The *former Brigade student* shared his personal experience from Automotive Department with an ancient British curriculum that had never been updated. This neglect by political authorities was one of his strongest concerns. By addressing processes which were relevant to advancements in industry, development of curriculum played an important role for the quality of education. Through the other participants' statements, it was made clear that a political change concerning TVET had arisen. *HRDC* referred in this context to the NDP 11 with the need to revise curriculum according to the needs of industry. *MELSD II* stated that the development of outcome-based curriculum took already place with the aim of international comparability. *BQA* mentioned the need to involve industry and professional bodies the curriculum development. According to *HRDC*, industry was already involved in the process.

Yet, *HRDC* stated a low engagement of industry. The National TVET Advisory Committee was established and included industry and other stakeholders to coordinate the

TVET system and intervene. According to *MELSD I*, the sector committee at *HRDC* in direct contact with industry determined the relevance of training programmes and decided on which programmes should run in the upcoming five years. The interviews did not give an answer on how these programmes were selected and how those interventions impact the industry. An example of best practice was mentioned that GIZ started an Artisan Training Programme to support TVET teachers to gain industrial experience. This helped teachers to stay in touch with technical advancements. The *former Brigade student* remarked that although students were prepared for jobs, there was a need to update the system and teachers because of the developments of the market.

7.2.3 Subcategory B6: Labour market situation

This category focused on the labour market situation after TVET students have graduated, since youth unemployment is a huge issue in Botswana. It is divided into employment, youth unemployment and self-employment. Statements about the employment situation were from *HRDC* and *MELSD I*. Youth unemployment as a target of TVET was touched explicitly by *HRDC*. Hereby, *HRDC* consulted with representatives of industry before the interview took place. The topic of self-employment was elaborated by every participant in one way or another. The results are seen in table 8.

Participant	Perspectives on labour market situation		
	<i>employment</i>	<i>youth unemployment</i>	<i>self-employment</i>
BQA	N/A	N/A	Training for self-employment is part of definition.
HRDC	(1) Graduates from technical colleges perform better than university graduates, as university graduates are more into theory while technical college graduate are more hands-on. (2) The same applies to Brigade graduates, yet they have a lower degree, which is why technical college students are preferred.	(1) TVET wants to target youth unemployment and those who have maybe left school for diverse reasons. (2) Unemployed youth is not reached through formal structure but through youth-based programmes and training workshops, because there are certain requirements for formal TVET. (3) There are short courses to be up-skilled and enabled to start a business.	(1) Self-employment is very much encouraged due to limited industry. (2) There are government programmes with youth funding available to start a business. (3) There are also entrepreneurship seminars and training workshops for unemployed youth.
MELSD I	There are many Brigades and few technical colleges. For	N/A	(1) Learners should start having a mindset of self-employment.

	graduates from technical it is easier to find permanent and pensionable jobs, in contrast to Brigade graduates who are often given a tender for e.g. three years.		(2) To be self-employed after graduation would reduce many social and economic issues.
MELSD II	N/A	N/A	Training for self-employment is part of definition.
Students	N/A	N/A	There were lessons in Business English, accounting and bookkeeping. To run a business, one would need additional courses.

Table 8: Participants' responses on labour market situation

Before the interview took place, *HRDC* confirmed with industry about employment situation of TVET graduates. Due to theoretical orientation of university students, graduates from technical colleges would perform better in the job, as they were more hands-on. This also applied to Brigade students, yet the educational level was lower than of technical colleges, which would make students from technical colleges more favourable. *MELSD I* also pointed out differences in employment of Brigade graduates and graduates from technical colleges. It would be more difficult for Brigade graduates to find a permanent and pensionable employment. They were rather given a tender for some time, e.g. a project period.

Youth unemployment and early school dropout were confirmed as target groups by *HRDC*. However, they were rather reached through non-formal youth-based programmes and training workshops with the possibility to be upskilled by a short course. The aim was to enable them to start their own businesses.

Self-employment was seen throughout the interviews as a high virtue and was very much encouraged. One major factor hereby were limited opportunities at industry level. *MELSD I* emphasised the importance of encouraging and preparing students for self-employment, which would reduce things on social and economic level. Therefore, entrepreneurship was embedded in training programmes, which the *former Brigade student* also admitted. He stated that Business English, bookkeeping and accounting were taught at a basic level. To strive for starting and owning a business, one would need additional courses. According to *HRDC*, there were youth programmes that support young people in starting and running a business.

7.3 Head category C Development of TVET system

7.3.1 Subcategory C7: Resources

Resources are an important factor for the successful development. There is no further subdivision done. All participants except *MELSD II* mentioned about resources in the interviews, which is stated in table 9 below.

Participants	Perspectives on resources
BQA	Minimum quality standards for registration and accreditation acquire adequate physical resources and appropriately qualified human resources.
HRDC	(1) Resources in training institutions are outdated. (2) Mining sector opened its workshop for students to gain experience in technical advancements. (3) One of major challenge is the inadequate funding of TVET.
MELSD I	(1) Resources are expensive: - Lectures need to be “upped”. - There is need of facilities, equipment and machinery. (2) Government need to ensure the same standard in all training institutions.
MELSD II	N/A
Student	Equipment and teaching aids were not up to the standard according to world of work.

Table 9: Participants’ responses on resources

Two kind of resources were mentioned in the interviews: human resources like teachers and physical resources like facilities, equipment and machinery. *BQA* stated the importance of adequate physical and appropriately qualified human resources in order to meet minimum quality standards. Investment costs of these resources were expensive. With the intended implementation of a competence-based (modular) training system, these costs would increase even more according to *MELSD I*.

Both *HRDC* and the *former Brigade student* talked about outdated school’s equipment and teaching aids which did not meet the standards. Furthermore, there was inadequate funding of TVET. *MELSD I* mentioned in this regard the danger that some TVET schools would not meet the standards, while other might lack some equipment. It should be the government’s responsibility to ensure same standards in all schools according to *MELSD I*.

7.3.2 Subcategory C8: Participation of stakeholders

TVET is not an individual exposure but it takes several key players to contribute in order to run successfully. Table 10 shows statements about the participation of stakeholders mentioned in the interviews by all five participants.

Participants	Perspectives on participation of stakeholders
BQA	(1) There is the need of active involvement of industry and professional bodies in regulated sector in curriculum development and delivery. (2) The bond between ETP and industry should be strengthened, e.g. in the assistance of facilitation and offering of internships. (3) Teachers are involved in the development of instruments and tools for the reforms and that their capacity will be built to implement the developments.
HRDC	(1) There is the need of involvement of all stakeholders through collaboration between industry, institutions and government. (2) Participation of stakeholders is happening, but it is not well coordinated. (3) Involvement of industry in development processes are important in order to develop a system that is relevant to industry. (4) Incentifying industry for participating in TVET would take the country somewhere.
MELSD I	There is need for cohesion in which every stakeholder, e.g. HRDC, BQA and BSCTP has to play its part in the development of a competence-based and demand-driven system.
MELSD II	(1) There is a need of participation of all stakeholders in the process of the development of the system. (2) There should be some incentives for participating industry. (3) TVET teachers are involved through the development of the outcome-based curriculum, assessment and moderation.
Student	Staying up to date with the market by involving companies and most of the private sector in education) is something that can help.

Table 10: Participants' responses on the participation of stakeholders

Throughout the interviews of *BQA*, *HRDC*, *MELSD I* and *MELSD II*, the participation of all stakeholders was crucial for the development of a competence-based TVET system with relevance to the labour market. As *MELSD I* stated, several key players, e.g. HRDC and BQA needed to play their part. It was desired by all interviewees to especially increase the involvement of the industry, e.g. with curriculum development and delivery. Furthermore, *BQA* saw the need to strengthen the bond between ETP and industry, e.g. in facilitation but also by offering work placements. Since the TVET system consisted of fragmentation, HRDC established the NTAC, through which various stakeholders have started to work together. *HRDC* admitted at a later point in the interview there was a lack of structure in the participation of stakeholders.

Another group of stakeholders were teachers. They were important for the implementation of the reform, as stated by *BQA*. According to *MELSD II*, they would be involved in the development of outcome-based curricula together with assessment and moderation. *BQA* expected teachers' involvement in development of instruments and tools. There was no further explanation about the implementation and challenges from any interviewee.

7.3.3 Subcategory C9: Further remarks

This category contains several remarks of the interviews that could not be allocated to one of the other subcategories. They are listed in table 11.

Participants	Further remarks
BQA	TVET should be packaged in a manner that appeals to all types of learners.
HRDC	Implementation of career counselling could help to change the mindset of young people towards TVET.
MELSD I	The frameworks from Botswana, South Africa and Zambia are compared with each other. Next step is the development of a SADC framework.
MELSD II	N/A
Student	TVET is not linked to general education. One needs to find out him/herself about the possibilities.

Table 11: Participants' further remarks

The international aspect was seen with several aspects and on different topics. In addition, *MELSD I* mentioned the desire to develop a SADC framework for education and maybe even an African wide framework. It was already started comparing Botswanan, South African and Zambian frameworks with each other. Another statement was connected to internationalization. The desire was to be connected with other countries, e.g. Germany to establish exchange programmes and learn from each other.

HRDC would like to see the establishment of career counselling, which could impact positively the recognition of TVET in society and change young people's mindset and help young people to enter TVET programmes more easily.

The *former Brigade student* mentioned TVET was not linked to secondary school, which interrupted a smooth transition for those who failed or did not well in BGCSE. One had to find out about the possibilities of TVET by him/herself, which was compounded by the fact that it was perceived poorly in society.

7.4 Summary of relevant results

The different interviews gave a clear picture about the negative association TVET held in society. In contrast were positive statements from the *former Brigade student* ("The only solution to aid the slow development of the country") and *BQA* ("driver of economy") that revealed a significant importance of the TVET for the country's development. A traditional mindset has been carried in politics and neglected the development. The lack of investing in TVET, reinforced a negative impact on society's awareness. On the other hand, political investment, e.g. government sponsorship towards TVET students recently contributed to a more positive image.

Resources and the participation of stakeholders were considered as the two fundamental needs in the TVET system. There were two kind of resources mentioned: teachers (human resources) and facilities, equipment and machinery (physical resources). Challenges identified were high costs of resources and a possible gap in how TVET schools were equipped. According to *HRDC*, there was inadequate funding of TVET.

The participation of stakeholders was strongly desired, especially the involvement of the industry was emphasised. Some examples were industry's involvement in curriculum development, delivery of curriculum and facilitation of work placement opportunities. *HRDC* stated the situation of TVET as a fragmentation, which was why *NTAC* got established. Although certain steps had already been taken, the industry's engagement was still low. One of the ideas to increase industry's participation was to give incentives.

The *former Brigade student* considered work-based learning as the core of development. All other participants agreed as well on its high significance: on the one hand to gain work experience, on the other hand to keep up to date with technological advancements. Yet a deviation between theory (regulations) and practical implementation could be seen through the statements. Although work-based learning was implemented as a pre-requisite in accreditation process, it only occurred on minimum level. One of the reasons mentioned was the shortage of industry where work-based learning could take place. Furthermore, work-based learning was not mandatory for industry. In the opinion of *MELSD I*, companies need to commit themselves to offer work-based learning, while *MELSD II* mentioned that industry's participation should be legislated. Another difficulty was that high-skilled employees at industry were not trained to teach and assess, which minimised the quality of teaching. Also, teachers needed to be retooled, which was possible at the Francistown College of Vocational Education and Training.

Closely related to work-based learning was skills development. Work-based learning was the place, where the acquisition of skills took place. Despite mentioning the need for soft skills development, none of the interviews gave a specific answer to what kind of skills were needed in industry. The emphasis was on the general importance of developing relevant skills. Another point mentioned was that the development of competence-based skills required many resources which were up to date with market trends.

Skills development played also an important part in the current curriculum development process. Curriculum development had been the most affected by the neglect. With the new reform, it was aimed to implement outcome-based curricula. The focus would no longer be on what students should know but on what they were able to do. The participation of industry was highly desired in all interviews of *BQA*, *HRDC* and *MELSD I and II*. According to *HRDC*, industry was already involved, as well as the educational institutions. The interviews did not answer the question, who was responsible for the process of curriculum development and whether the curricula would be nation-wide appointed and valid for all schools.

BQA and *MELSD II* mentioned training for employment or self-employment in their definitions. The employment situation for students from technical colleges was described as better compared to *Brigade* graduates, who worked mostly in low paid artisan jobs, which were often not on permanent and pensionable basis. Industry appreciated the more hands-on experience of TVET students compared to theory-oriented university graduates. Besides looking for employment at industry, it was explicitly mentioned by *HRDC* and *MELSD I* that self-employment was highly encouraged and supported. *MELSD I* stated entrepreneurship was embedded in training programmes, which the *former Brigade student* agreed on to a certain extent. *HRDC* added the availability of youth funding programmes that support self-employment. There were further training workshops and entrepreneurship seminars. These programmes were also available for unemployed

youth and students who dropped out of school early. They were rather not reached by formal TVET programmes, as certain requirements would be needed, but through these programmes. Due to short courses, they had the possibility to be upskilled and through those programmes they were enabled to start their own business.

The *former Brigade student* mentioned furthermore that TVET was not linked to general school education, which was why there was no smooth transition. *HRDC* stated the idea to implement career counselling and therefore create more recognition and appreciation for the TVET system and easier entry into the programmes.

Figure 5 presents the relations between the subcategories according to the results of the interviews.

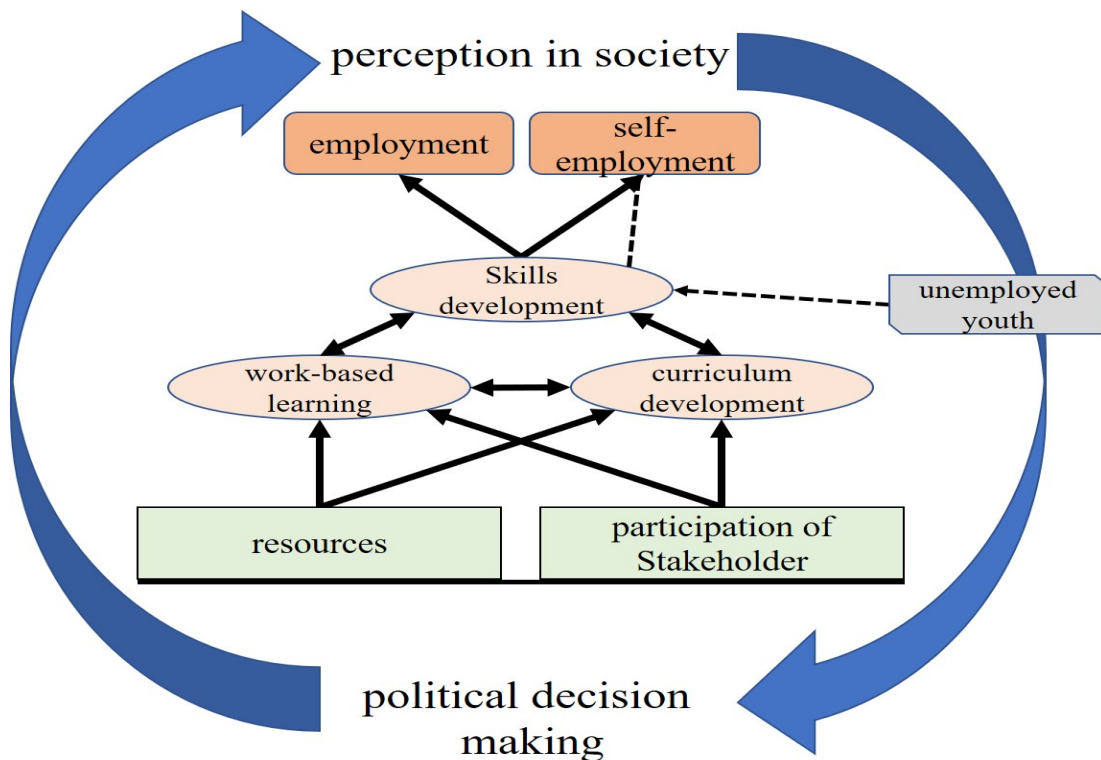


Figure 5: Relations between the subcategories

8. Discussion

This chapter will discuss and interpret the results found and described in the previous chapter. There have not been any studies done in Botswana in relation to this research to be used as a reference. When applicable other documents, e.g. continental strategies from African Union were used. Priority of this chapter was to find answers on the question, whether Botswana's system was able to develop competence-based skills that are relevant for the labour market together with recommendations for improvement. The four guiding questions, mentioned in chapter 5, will give a guideline of the discussion.

8.1 Current state of TVET system

The TVET system in Botswana is in a phase of transition and therefore responses of participants from *BQA*, *HRDC* and both *MELSD* are placed in this interphase. The *former Brigade student* used to study in a Brigade from 2015-2017. His experiences fell within this period of change, yet at an earlier stage. The responses of the interviews tell a lot about the weaknesses of the system, e.g. shortage of industry. Furthermore, wishes are expressed, what would need to be improved, e.g. better involvement of industry in development processes. Only *HRDC* mentions explicitly positive examples of the present.

The factor of how TVET is perceived especially in society has been crucial. The system can only be as good as people recognize its quality. Otherwise, it will not be utilized to its fullest. By analysing the responses, the image problem, presented in chapter 4.1, is clearly shown. Hereby, a correlation between the society's and political perception can be seen. Not only was there a negative perception in society, but also a neglect in politics. At the same time, all statements concerning a positive trend are related to political actions: government sponsorship, implementation of NCQF and dependency on remuneration.

According to these results, it can be said, that the reinforcement of the TVET system is first of all a political task. The objectives of current reforms require huge investments and underline the importance of Botswanan government to act, e.g. through adequate funding (*HRDC*) or securing same standards of equipment in schools (*MELSD I*). Subsequent to the interview, it was asked at *MELSD* for current statistics about the budget spent on TVET compared to university, which was not answered. Taking into consideration Vossiek's report (chapter 4.1) that there is a bigger budget for tertiary education together with higher salaries for teachers, the lower recognition is still present.

Another topic mentioned is the isolation of TVET system from general education. This was one of the challenges named in chapter 4.4 with reference to ETSSP. In the interview, this statement is confirmed by the *former Brigade student*. *HRDC* mentioned the idea of establishing career counselling in secondary school to raise the recognition of TVET in society and also simplify the transition that more young people enter TVET programmes. This is seen as an important factor, which could loosen the strong orientation on university pathway and market non-academic career opportunities for the right target group.

8.2 Meeting the needs of labour market

Due to the fact that the current shift is still in the process and not all ETP meet yet the standards of the new outcome-based NCQF, it is not possible to evaluate the programmes on how they meet the needs of industry. The responses of participants from *BQA*, *HRDC* and both *MELSD* are future oriented, which can be seen with a frequent statement that acquired skills should meet the needs of labour market. Since the focus of this research is on the macro level, it was looked into the general structure of TVET system, whether it supports the development of relevant skills for the labour market. It was not focused on specific needs of industry.

One important installation is the sector committee mentioned by *MELSD I*, which is tied to *HRDC*. This committee looks at the developments in the industry and determines accordingly what kind of programmes are needed in the upcoming five years. *HRDC* did

not comment on this committee. No other details are known about the process and challenges and therefore cannot further be discussed.

The NCQF lays a first foundation for the reorganisation of the TVET system and is a significant implementation for meeting the needs of the labour market. In addition to the framework, Botswana is in the process of outcome-based curriculum development. In contrast to a traditional curriculum that focuses on transmission of knowledge, an outcome-based curriculum is aligned to what a learner should be able to know and do and describes clearly the competencies the learner should achieve at the end. The term “outcome-based” often is interchangeable used with “competence-based”. Outcome-based curriculum development depends on the contribution of different stakeholders (Tuck, 2007). In this context, the involvement of industry in curriculum development was desired, which indicates a low and insufficient engagement in the present. Although *HRDC* mentioned their involvement, none of the participants went more into details about who was involved and responsible for the development process. As a result, this research was limited in its statements about the developing of outcome-based curricula and a further research with exclusive focus on the situation of curriculum development in Botswana is recommended. The scientific support in this substantial process is of high value for setting up a system of high quality.

Another significant element was the implementation of work-based learning. According to *BQA* and *MELSD II* work-based learning is a pre-requisite in the accreditation and assessment. Despite the prevailing regulations, there is a gap in the practical implementation, due to insufficient opportunities at industry. Three reasons were mentioned during the interviews on why there were no sufficient opportunities: 1) There was no big industry in the country, 2) work-based learning was not mandatory for industry and 3) work-based learning was not well-structured.

The first point needs statistical research to check the validity of this statement. Botswana has a small population and there is only a small number of TVET students. As the current situation can hardly be changed, the second and third reason are much more relevant for the creation of sufficient workplace opportunities.

Taking into consideration the opportunities at industry, *MELSD II* suggested the idea of creating incentives. This was also a recommendation of African Union’s strategy to revitalize TVET in Africa (African Union, 2007). *HRDC* together with Botswana Unified Revenues Service (BURS) is already responsible for a training levy, which rebates companies that train their employees. Currently, *HRDC* started the political process to expand the levy on to internships and apprenticeship trainings, but it has not been finalized yet. As the training levy targeted first of all bigger companies with an annual turnover of more than one million Pula, it should be considered, whether other standards are possible for work placements.

The third reason was mentioned by *HRDC*, without describing closer the current structure. A statement of the *former Brigade student* showed that internships only took place when a student him/herself organized it. A suggestion to improve this issue came from *MELSD II* which stated that the participation of industry should be legislated. *MELSD I* approved the fact that the Ministry did not supervise the industry in the matter of work-based learning. Neighbouring country South Africa implemented the Skills Development Act in 1998, which regulates workplace-based learning (South Africa, 1998). Botswana

will soon get the international support by Commonwealth of Learning Canada in the development of a policy framework and implementation guidelines for student internship and apprenticeship training.

Another challenge concerning work-based learning were inadequate teaching skills of industrial employees. Especially with work-based learning taking place in the industry, skilled staff is needed to be trained at their workplace to relate their knowledge to students. Taking Germany as an example with its well established dual TVET system whereby students learn in TVET school and at employer in equal shares, it is legally defined that employers are only allowed to train students, when there is at least one employee certified as training instructor. This way, it is guaranteed that students are well taken care of during work placement (Hauptausschuss (BIBB), 2009). The German TVET system is not comparable to Botswana's system, especially in terms of the size of industry. Yet, it is believed that skilled labour, which is trained to teach and advise trainees during their internship enhance the quality of learning and skills development.

Furthermore, there is a lack of industrial experiences from TVET teachers. In this regard, *HRDC* mentioned a current GIZ project that enabled TVET teachers the possibility to go out to industry for two weeks. The teacher's feedback was quite positive. Such projects enhanced teachers' capacity and strengthened their quality of teaching tremendously. *HRDC* acknowledged the positive impact of this project and stated the possibility of this programme to be later absorbed by government institutions. This should be considered nation-wide. Another option for teachers to be upskilled were the courses at Francistown College of Vocational Education and Training. Yet, there was no further statement about the content and utilisation.

The importance of involving different stakeholders, especially the engagement of industry, in the process of relevant skills development was often emphasised throughout the interviews. *HRDC* described the current situation as fragmented and established as a consequence the National TVET Advisory Committee (NTAC). The interview did not give more detailed information, whether their aspiration was successful or where challenges in the collaboration were. Therefore, no further evaluation can be made on this point.

8.3 Employment situation and reaching unemployed youth

The employment situation for TVET graduates was mostly elaborated by *HRDC* which is always in direct contact with industry. Graduates from technical colleges have the best opportunities and are even preferred over theory-oriented university students. Yet, Brigade students have a hard time finding permanent and pensionable employment. Another point mentioned by *MELSD I* is the fact that due to the lower degree level, many artisan jobs, which are carried out by Brigade students, are low-paid jobs.

The statements raised further questions about the causes of the precarious employment situation for Brigade graduates: Was there a stereotypical thinking and stigmatization in industry about Brigades? Were there enough job opportunities for Brigade students? These questions cannot be answered in this thesis and need to be directly addressed to representatives of industry. Subsequent to the interview, *HRDC* was asked about the current statistics on the transition of graduates from TVET into employment compared to university graduates, which could not be answered. The Job Vacancy Data-

base Report, introduced in chapter 2.4, was too vague in order to make correct evaluation. Job creation is a high priority of Botswanan government. It would be important to compile further statistics and research about the employment situation, as this would reveal possible causes of unemployment and would also be insightful for the development of TVET programmes that meet the demands of labour market.

The shortage of industry and therefore limited opportunities lead to the encouragement of self-employment. This is seen on the whole continent. The continental strategy for TVET strives for the development of “job creators” instead of “job seekers” (African Union, n.d.). Basics in entrepreneurship are taught in TVET programmes. *HRDC* mentioned youth funding programmes that are available to support in the process. There are no numbers mentioned on how many graduates go that way and how these programmes are used. This would be the topic of a specific research.

These programmes are also available for unemployed youth and school drop-outs. According to *HRDC*, youth unemployment was to be targeted through TVET. At first appearance, it was surprising that this target group was not aimed to be reached through formal TVET programmes but rather through non-formal youth-based funding programmes, which *HRDC* did not see per se as part of the TVET scope. However, the “Continental Education Strategy for Africa 2016-2025” describes a paradigm shift on the continent towards a holistic approach including formal, non-formal and informal types of training (African Union Commission, 2016). African Union’s strategy to revitalize TVET describes the advantages of non-formal TVET: short duration, occupation-specific approach acquisition of practical skills for direct employment (African Union, 2007). This is especially a good opportunity for students who dropped out of school. Besides youth programmes, there are short courses offered at Brigades and technical colleges in which students could be upskilled. According to African Union’s Strategy, both formal and non-formal systems should be governed by one coordination body, which is the case with BQA. Therefore, although they might not end up in formal TVET programmes, Botswana established a system, which gives this target group the opportunity to develop themselves. Yet, there was no research specifically done amongst this target group, which would be recommendable in order to examine, how this target group is addressed by such programmes and what are possibilities and weaknesses of the TVET system concerning youth unemployment.

8.4 Development of demand-driven and competence-based TVET system

Two areas have been carved out as fundamental for the development of a competence-based and demand-driven TVET system: resources and participation of stakeholders.

In comparison to the traditional method, the costs of outcome-based TVET are very high. Besides human resources, there is a high need of physical resources. As stated by both *HRDC* and the *former Brigade student*, the resources are outdated and do not meet the standards of industry due to lack of investments in the past and inadequate funding in the present.

The inadequacy of resources, such as facilities, equipment and infrastructure have an impact on curriculum implementation (Kigwilu & Akala, 2017). There cannot be a debate, whether investment must be done or not. With the aim to establish an outcome-

based TVET education, the decision has already been made. The NCQF demands certain pre-requisites that many schools are not able to meet. As a consequence, even more efforts are needed to bring the system up to standard comparable to other countries. The danger hereby is a disparity between schools that meet the standards and those which do not. It is therefore seen as the government's responsibility that all public TVET schools in the whole country meet certain minimum standards in order to enable similar precondition for all students. Yet, there are 36 public Brigades and eight public technical colleges, which requires prudent management of resources. It needs expertise to set up a plan on how to ensure that there is adequate equipment and machinery throughout the country.

One (short-term) solution could be the closer collaboration with industry by using their workshops. An example of good practice is mentioned by *HRDC* that a mine opened its workshop for TVET schools so that students experience the latest technologies and learn to work with new equipment. This example is of interest also in other sectors. It furthermore strengthens the bond between ETPs and industry, which is highly desired.

Throughout all interviews, the participation of stakeholders played a decisive role. Mostly mentioned is the involvement of industry, which indicates a low engagement in the past. Also, other stakeholders need to play their part, e.g. *BQA* in quality management, *HRDC* in advisory role. Another stakeholder group are teachers, which were rather left out in the conducted interviews and only mentioned upon request. According to *BQA* and *MELSD II*, they are involved in the development process, e.g. of tools and instruments, outcome-based curriculum, assessment, moderation. Teachers have a significant role in the realization of the reform and quality of teaching due to their direct interactions and relationships with the students. TVET teacher are considered the backbone of national development (Bukit, 2012, p. 120). Therefore, their role should not be underestimated in the process. *BQA* mentioned the aim of building teachers' capacity for the implementation of developments. Neither *BQA* nor *MELSD II* explained how capacity is built and how they are involved in the process of curriculum development and therefore cannot further be analysed.

8.5 Recommendations

HRDC named several examples of positive implementations, e.g. the establishment of NTAC that shapes the development of the TVET system and includes significant stakeholders. There are furthermore pilot projects such as GIZ project for teachers to gain industrial experiences or the opening of a workshop in the mining sector for students. Another important development as mentioned by *MELSD I* is the sector committee of *HRDC*, that determines relevant TVET programmes in line with demands of industry.

Besides the positive aspects, certain recommendations can be made for the development of Botswana's TVET system that are relevant to the needs of the labour market. Many recommendations, based on the findings of this research, are related to political decisions, it is strongly recommended to increase political engagement especially in following aspects:

- *Investment in physical resources*: A competence-based and demand-driven TVET is in need of many physical resources, that meet the current standards of industry. This applies to all TVET schools across the country. It is strongly recommended to

get an overview and set up a plan for prudent management in the investment of equipment, machinery and infrastructure. One possibility before schools are equipped could be the usage of workshops of industry, which would also strengthen the bond between ETPs and industry.

- *Investment in human resources:* Human resources take care of the students' skills development. These are teachers in TVET schools and instructors at industry. Both types need to be trained regularly. For teachers, it is proposed to implement similar programmes to the GIZ Artisan Training Programme throughout the country in order to ensure industrial experience by TVET teachers. For industry, it is suggested to offer Train the Trainer courses for instructors that ensure basic skills in imparting of knowledge and skills during internships or apprenticeship positions.
- *Creation of work placement opportunities:* In order to ensure sufficient opportunities for practical experience in industry, it is recommended to create incentives for companies that provide work placement opportunities for TVET students regardless of the size and turnover of the company. One convenient approach is the expansion of the training levy, which HRDC already looks into.
A recommendation to overcome the shortage of industry is to look for collaborations with neighbouring countries, such as South Africa concerning the provision of Botswanan TVET students to gain practical experience. Such as there are international exchange opportunities for university students, this may be established for TVET programmes as well.
- *Establishment of career counselling:* One way to link TVET closer to general education is the provision of career counselling and events on vocational orientation for students in secondary school. This may raise the recognition of TVET and decrease the number of students "on the streets".

To strengthen Botswana's TVET system, the outcomes need to be favourable for all stakeholders, including industry, politics, teacher, students, parents etc. This research has an explorative character. Therefore, there is a need for further research, which is able to point out weaknesses and possible solutions for improvement. Following research areas are suggested:

- outcome-based curriculum development
- employment situation of TVET graduates, including causes of unemployment and the usage of self-employment after completing a TVET programme (formal and non-formal)
- unemployed youth as one of the target groups of TVET

9. Conclusion

This thesis aimed at examining Botswana's TVET system with the question, whether it is able to develop competence-based skills relevant for the labour market among TVET students. In this regard, it is to say that TVET in Botswana is in a phase of transition with the very same purpose to establish an outcome-based system. Certain elements have been implemented already, such as the NCQF. Yet, the transition is not yet completed and therefore certain implementations are still needed.

Botswana laid the first foundation of an outcome-based system by the implementation of the NCQF. One significant factor in the development of competence-based skills is work-based learning. It is considered as one of the pre-requisites of this framework, that ETPs need to produce for (re-)accreditation. The demand orientation on the needs of the labour market is organised by a sector committee that determines the developments and what kind of programmes will be required in the upcoming five years.

Yet, also two years after the implementation of the NCQF took place, the process is not yet completed. Several reasons can be mentioned here, such as a lack of expertise in framework development. One of the major factors is seen in a lack of resources. Due to a neglect of TVET in political decision making, schools' equipment, machinery and facilities are outdated and do not meet the standards of industry. Many schools do not have the means to implement the requirements.

Curriculums have not been updated in the past to the developments of the market and even in the present, new curriculums have not been implemented. As a consequence, students learned the techniques on old models. Considering moreover the fact that many teachers lack industrial experience, it shows that a new framework alone is not enough to bring change and develop significant and relevant skills so students are fully qualified to work in the industry. Basic knowledge is taught, however, in comparison to other countries, Botswanan TVET students fall behind and are not competitive with other nations in Africa and globally.

Therefore, it is the best time for politics to invest in reforming the system. Several recommendations have been made. Most important factor is adequate funding of TVET. Public TVET schools depend on the financial support of politics. As long as schools lack the needed resources and infrastructure, the quality of the programmes will be stagnant. Due to the longstanding neglect there is even more a need to develop a plan on how both technical colleges and Brigades throughout the country can be adequately equipped. Not only physical, but also human resources are required for qualitative skills development of TVET students. Besides TVET teachers in schools, instructors at industry need to be trained for their tasks.

The core of competence-based TVET is the implementation of work-based learning, which requires possibilities of work placements for all students. However, there are insufficient opportunities, which may be caused by several reasons. It is important to do an analysis of causes and find convenient solutions that strengthen the realization of skills development. One example is the expansion of the training levy on internships and apprenticeship positions, which is already enforced by HRDC. With a lack of local industry, new ideas need to be embraced and thought of outside the box. It is the desire to develop a Qualification Framework valid for SADC region. In that context, it might be possible in the future to collaborate with Southern African companies to offer work placements.

One of the significant findings of this research is the correlation between political engagement and society's appreciation of TVET. Despite its potential of being a driving force of economy, its perception in the society is low. Not only was TVET perceived in society as something for under-achievers, but also a traditional mindset in political decision-making lead to the neglect instead of investment. Recent changes, such as government sponsorship for TVET students are but a first step in the right direction. All the

more, the government is asked to not only plan the reform, but also invest in the development. By implication, the appreciation in the society will follow.

Through TVET, one of Botswana's high objective to create jobs, can be achieved. Self-employment is highly encouraged and through various programmes supported. By these programmes, unemployed youth and early school-dropouts could find access to further education and training. Access and equity are key objectives for TVET. The promotion of self-employment should not be the only priority. The employment situation of especially Brigade graduates is another focus to be regarded.

To sum up, it can be said that with the current reforms Botswana is able to develop a system based on competences and relevant to labour market. However, there are still a lot of investments to be made to reach that goal.

The research in this master thesis has been an exploratory study due to the lack of research in this field in Botswana. The target was to examine the general structure of TVET, which is why many fields have been opened up for further research. In other areas, Botswana is already looking for solutions and invited international expertise for support. Learning from others was already a success story after independence. This way, Botswana may continue to grow and establish an economy that people who are not academic oriented are able to shape and contribute.

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