



The value of forest and range resources for poverty reduction, economic diversification and trade

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Abbreviations

AGOA	African Growth Opportunity Act
ALDEP	Arable Lands Development Programme
ARAP	Accelerated Rain-fed Arable Programme
BCWIS	Botswana Core Welfare Indicator Survey
BEDIA	Botswana Export Development and Investment Authority
BIDPA	Botswana Institute for Development Policy Analysis
BNLS	Botswana Namibia Lesotho and South Africa
CAR	Centre for Applied Research
CBNRM	Community Based Natural Resource Management
CBOs	Community Based Organisations
CEDA	Citizen Entrepreneurial Development Agency
DEA	Department of Environmental Affairs
DFRR	Department of Forestry and Range Resources
DTC	Diamond Trading Centre
EDD	Economic Diversification Drive
EFTA	European Free Trade Association
EU	European Union
FAP	Financial Assistance Policy
FDI	Foreign Direct Investment
FDI	Foreign Direct Investment
FRR	Forest and Range Resource
FRRs	Forest and Range Resources
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GEV	Gross Economic Value
GNI	Gross National Income
HDI	Human Development Index

IDP	Industrial Development Policy
IMF	International Monetary Fund
IP	Industrial Policy
JICA	Japan International Cooperation Agency
LEA	Local Entrepreneurial Agency
LG117	Labour Based Public Works Programme
MFD	Ministry of Finance and Development Planning
NDP	National Development Plan
NESC	National Electricity Standard Cost
NEV	Net Economic Value
NSPR	National Strategy for Poverty Reduction
PC	Per Capita
PDL	Poverty Datum Line
RADP	Remote Area Development Programme
SACU	Southern African Customs Union
SACUA	Southern African Customs Union Agreement
SADC EPA	South African Development Community Economic Partnership Agreement
SADC FTA	South African Development Community Free Trade Agreement
SADC	Southern African Development Community
SB	Statistics Botswana
SMMEs	Small Micro and Medium Enterprises
UMIC	Upper Middle-Income Country
UNDP	United Nations Development Programme
US	United States
US\$	American Dollar
USA	United States of America
WTO	World Trade Organisation

1 The economic value of forest and range resources

1.1 Introduction

The importance of veld products or Forest and Range Resources (FRRs) for rural livelihoods has long been recognised in Botswana (see e.g. Rural Income Distribution Survey 1974/75); however, the FRR have rarely been valued. Therefore, the government of Botswana through the Department of Forestry and Range Resources (DFFR) and the Japan International Cooperation Agency (JICA) contracted the Centre for Applied Research (CAR) in 2017 to carry out a study on 'Economic Valuation of Forest and Range Resources'. The objectives of the study were to:

1. Assess the socio-economic status of the rural population in selected villages;
2. Assess the levels of utilisation by and availability of FRR to local communities and distribution of benefits in and around the villages; and to
3. Determine the direct use value of FRR.

The study comprised a survey in six villages countrywide and a rapid literature assessment. The study focused on nine FRRs: morula, mmilo, morama bean, phane, grapple plant, thatching grass, palm leaves, wood products and firewood¹. Table 1 shows the availability of FRR in the surveyed villages. Thatching grass, firewood and wood products were harvested across all villages; morula was harvested in four villages; phane in three, while morama, mmilo and grapple were harvested in two villages. Palm leaves are only harvested in Gweta.

Table 1: FRR availability by village

	Gweta	Lerala	Palla Road	Chobokwane	Tsetseng	Kumakwane
Firewood	X	X	X	X	X	X
Thatching grass class A²	X	X	X			
Thatching³ grass class B	X	X	X	X	X	X
Phane	X	X	X			
Morula	X	X	X			X
Mmilo			X			X
Palm Leaves	X					
Grapple				X	X	
Wood products	X	X	X	X	X	X
Morama				X	X	
Total # of FRRs	7	6	7	5	5	5

Source: CAR, 2017.

¹ The research took place in two zones (1 & 2). The villages were purposely selected in accordance with the availability of the nine FRR in consultation with DFFR. Zone 1 villages were Gweta, Lerala and Palla Road in the Central District while Chobokwane, Tsetseng and Kumakwane in the Kweneng and Ghanzi district were selected in zone 2. The sampling procedure was systematic and guided by field maps produced from google. A total of 289 interviews were conducted in zone 1, and 255 interviews were conducted in zone 2. Data were collected from DFFR stations, selected individuals in the villages and retail shops. The data were entered and analysed in Excel spreadsheets.

² Good quality grass species i.e. Mokamakama (*Cymbopogon plurinoides*) and Motshikiri (*Eragrostis pallens*)

³ Poor quality grass i.e. Tshikitshane (*Stipagrostis uniplumis*)

To determine the direct use value of FRRs, the gross and net economic returns for all resources were determined. Revenue variables included the amount harvested and the local price or the price of substitutes for each resource. Cost variables included labour, equipment and transport. More details can be found in CAR, 2017.

1.2 Socio-economic status of FRR collectors

All the surveyed villages are rural except for Kumakwane which is near the capital city Gaborone. Households depend on a range of economic activities for their livelihoods. Formal employment, livestock husbandry, arable farming, FRR collection, informal employment⁴ and government welfare programmes⁵ were identified as the main livelihood sources. Analysis was carried out to identify the most important sources of livelihood and to determine the significance of FRRs for livelihoods. Table 1 shows the rankings of livelihood sources according to the most important, second most important and third most important livelihood source per village. Arable farming is the most important in zone 1 while informal employment is the most important source of livelihood in zone 2. Formal employment is the most important source of livelihood in Kumakwane due to its proximity to the capital Gaborone. While FRR (FRR) collection is never the most important livelihood source, it is always the second and third most important source. Clearly, FRR are essential for rural livelihoods.

Table 2: Importance of livelihood sources by survey village

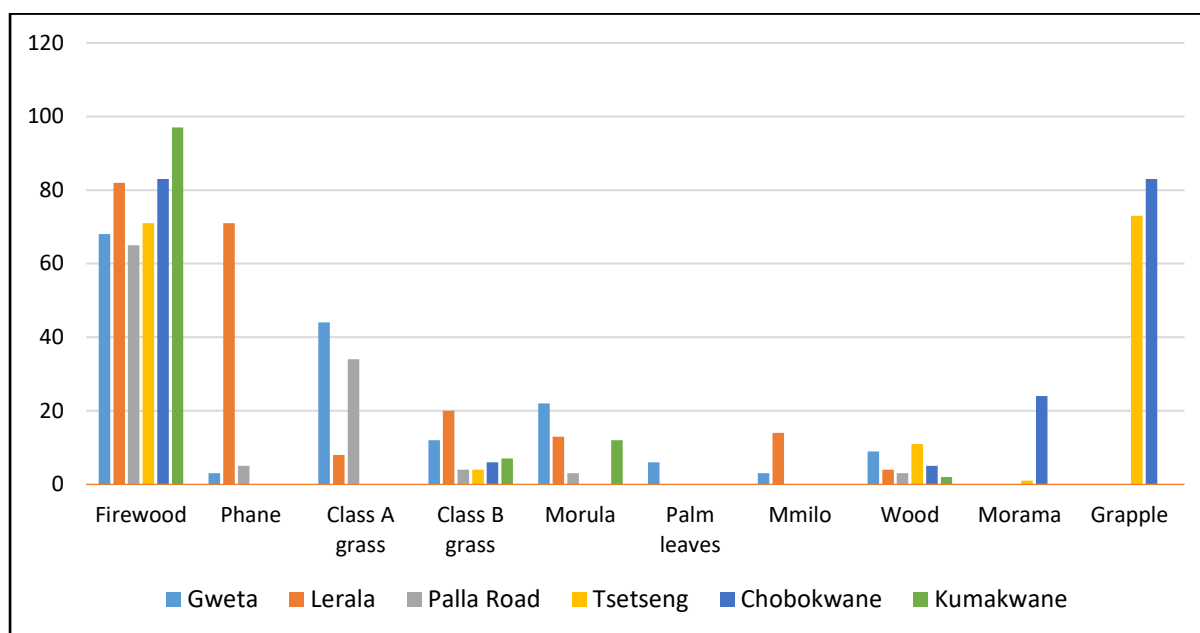
Village	Most important livelihood	Second most important livelihood	Third most important livelihood
Zone 1 villages			
Gweta	Arable farming	FRR collection	FRR collection
Lerala	Arable farming	FRR collection	FRR collection
Palla Road	Informal employment	FRR collection	FRR collection
Zone 2 villages			
Tsetseng	Informal employment	FRR collection	FRR collection
Chobokwane	Informal employment	FRR collection	FRR collection
Kumakwane	Formal employment	FRR collection	FRR collection

Source: CAR, 2017

Figure 1 shows the extent of household participation in the collection of FRR. Firewood is the most collected resource across villages and households. Grapple and phane are collected by most households in villages where the resources are available. Palm leaves, mmilo and morama are the least collected.

⁴ Including lpelegeng, piece work jobs.

⁵ Including Old age pensions, destitute programmes, war veterans' pensions

Figure 1: FRR collectors by village and FRR (as % of households)

Source: CAR, 2017.

FRR collection is most important for 45 years plus female-headed households with limited education. Table 3 shows the percentage of women involved in collection of FRRs. The majority of FRR collectors is female. For example, of all the collectors of phane in Lerala, 78% were women while most mmilo (86%), grapple (73.5%) and morula (89.5%) was also collected by more women across all villages. Firewood is collected almost equally by females and males, but women typically collect head loads, while men collect by donkey carts. Wood products are the only FRR which is collected mostly by men in all the villages except for Kumakwane. On average women, are more involved in collection of morula and less involved in collection of wood across all villages.

Table 3: Women involved in the collection of FRRs by village (as % of collectors)

	Gweta	Palla Road	Chobokwane	Kumakwane	Lerala	Tsetseng	Average % of collectors
Firewood	50	45	56	53	50	38	48.7
Grapple			73			74	73.5
Grass	76	67	86	100	86	71	81
Mmilo		100		72			86
Morama			57			100	78.5
Morula	90	100		68	100		89.5
Palm Leaves	86						86
Phane	75	75			78		76
Wood products	8	0	33	75	33	14	27.2

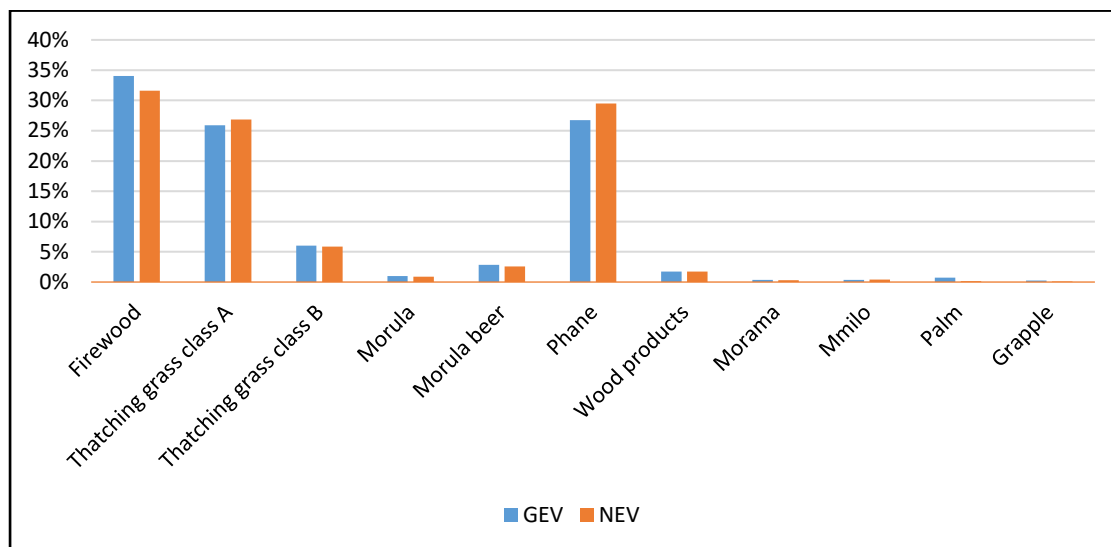
Source: CAR, 2017.

1.3 The direct use value of FRR

The gross economic value (GEV) of FRRs is determined by resource availability (i.e. no value if the resource does not occur around the village), size of village (i.e. larger villages have more potential collectors), and the participation rate of households (the higher the participation rate, the larger the number of collectors). The net economic value (NEV) is determined by the revenues minus the costs of harvesting. Transport costs and labour are the biggest cost items; the costs of equipment are modest. Most households use their own labour and basic equipment.

Figure 2 below shows the gross and net economic value contribution of each FRR to the total FRR value of all villages together. Firewood, thatching grass class A⁶ and phane are the most important resources by value. Firewood is most valuable; over 90% of the collected firewood is used within the households. In contrast, thatching grass class A and phane are mostly sold, contributing 25-30% of the aggregate village economic value. Morula, mmilo, palm and grapple almost contribute insignificantly by value to the villages. However, these FRR can be important for individual villages (e.g. grapple for Chobokwane).

Figure 2: Resource value as % of total of 6 village values)



Note: GEV = gross economic value; NEV = net economic value

Source: CAR, 2017.

Figure 3 shows the annual economic value of FRRs by village. The FRR value in Gweta and Lerela are much higher than in the other villages due to the large village size and good availability of valuable FRR (e.g. phane, type A thatching grass, and morula for beer brewing). The difference between gross and net values is modest, due to the use of simple harvesting methods with own household resources. This makes access to FRR easy (also because most can be freely collected from communal areas).

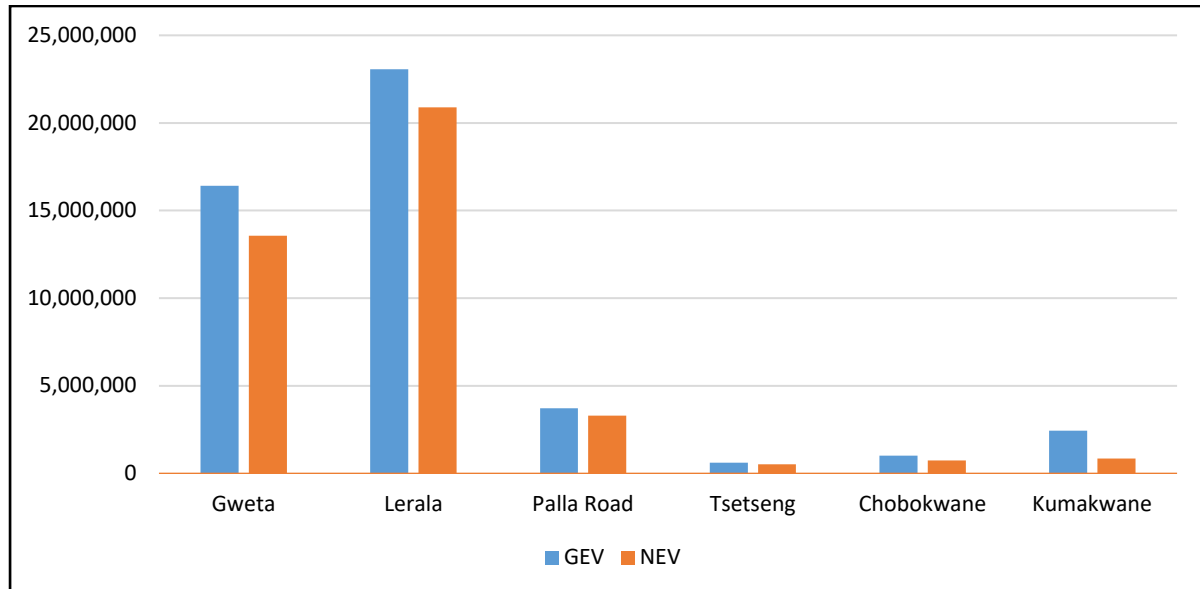
Figure 4 shows the net economic value per harvesting household as a percentage of the average rural household income⁷. Class A grass and phane in Lerela contribute more than 60% and 40% of the average household income respectively. The results indicate that these resources are very important for livelihoods and could become more important with commercialisation and value addition. Morula

⁶ Preferred grass species such as Mokamakama.

⁷ The current average monthly household income for rural areas is at P2 397.21 (Statistics Botswana, 2018).

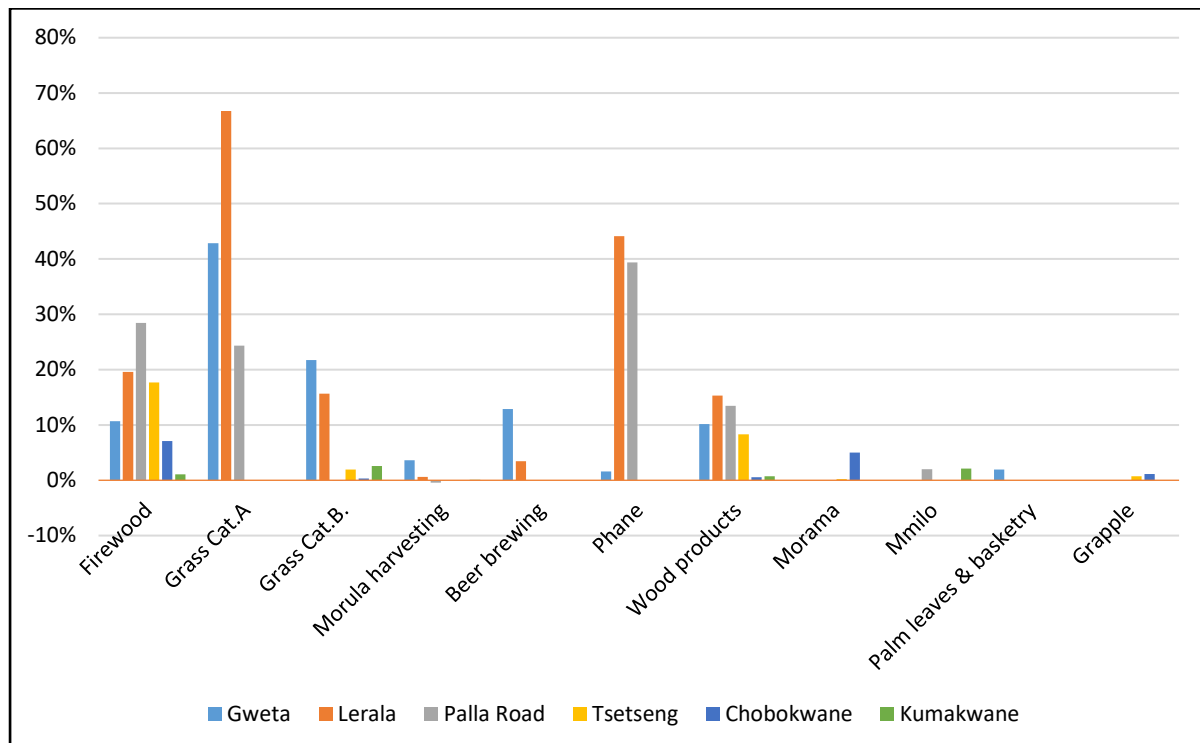
harvesting and class B⁸ grass show negative economic values in Pala road because morula is mostly used for beer brewing rather direct selling while class B grass fetch lower prices in the market and is typically used for subsistence purposes.

Figure 3: Annual economic value by village (Pula; 2016-17)



Source: CAR, 2017.

Figure 4: Net economic value per harvesting household (% of average rural household income)



Source: CAR, 2017.

⁸ Less preferred grass species normally for subsistence use

Table 4 shows the net average FRR income per harvesting or value adding household. Thatching grass “A” and phane generate the highest values. Even though some of the FRRs like grapple may not be contributing significantly to the aggregate value of FRRs in all villages, they may be very important in the villages that they are collected. For example, morama bean is important for households in Chobokwane as it contributes about P1 039 to the village annual household income. Wood products also contribute around P1, 719 to collecting households in Tsetseng. This is despite the fact that two FRR (wood and morama) contribute less than 5% to the aggregate value of FRRs in all villages. Village specific interventions are necessary when dealing with the promotion of FRRs in Botswana.

Table 4: Average FRR annual income per harvesting/value adding household by village and resource (Pula; 2016-17)

	Gweta	Lerala	Palla Road	Tsetseng	Chobokwane	Kumakwane
Firewood	2,204	4,053	5,885	3,652	1,465	222
Grass Cat.A	8,870	13,805	5,036			
Grass Cat.B.	4,491	3,240	-5	403	69	531
Morula harvesting	745	130	-91			4
Beer brewing	3,533	750				
Phane	330	9,134	8,146			
Wood products	2,097	3,167	2,780	1,719	120	149
Morama				38	1,039	
Mmilo			414			432
Palm leaves	405					
Grapple				151	234	

Source: CAR, 2017.

Table 5 further shows that morama is the second most important resource after firewood in Chobokwane with grapple being the third most important resource. Grapple is also the second most important resource in Tsetseng with wood products being the third most important after firewood. The results show that even though other FRRs may be contributing little to the aggregate value of FRRs in all villages, they are important in individual villages. Providing relevant intervention for resources like grapple and morama, through propagation, creation of new markets is very important for villages like Tsetseng and Chobokwane.

Table 5: Most important resources per village (value contribution to household livelihoods)

Village	Most important FRR	Second Most Important FRR	Third Most important FRR
Zone 1 Villages			
Gweta	Grass Cat. A	Grass Cat. B	Firewood
Lerala	Phane	Firewood	Grass Cat. A
Palla Road	Firewood	Grass cat. A	Phane
Zone 2 villages			
Tsetseng	Firewood	Grapple	Wood products
Chobokwane	Firewood	Morama	Grapple
Kumakwane	Firewood	Mmilo	Grass Cat. B

Source: CAR, 2017.

1.4 Availability and utilisation of FRR by village

FRRs are used to improve household livelihoods. Table 6 shows for each of the nine FRR their availability, and utilisation by village.

Thatching grass class A, phane, and palm leaves are only available in zone 1 (palm leaves only in Gweta). Firewood, wood, thatching grass class B are found in all villages while grapple and morama resources only grow in zone 2 in the Kweneng and Ghanzi district. Morula and Mmilo are available in both zones.

FRR availability is mostly, except wood products and firewood which are available year around. Most resources are available in one or two summer seasons, but the distribution patterns and availability between seasons or months vary. The resources are directly correlated to rainfall as a key production input. Little rain or floods may affect harvesting of some of the resources. It should be noted that FRRs like grapple, morama and phane are still widely available and currently sustainable due to the relatively low harvested amounts. Thatching grass is at risk because of the occurrence of unsustainable harvesting practices such as uprooting.

Table 6 shows that firewood is the most widely collected resource: 86% of all households collect firewood, and 92% of the collected for own use. Firewood is only sold in three villages being Gweta, Lerala and Kumakwane. It is used as a substitute or in combination with other energy sources. The least collected resources are wood products and palm leaves with only 6% of total households collecting.

In terms of commercialisation, phane, palm leaves, grapple and morula are mostly collected for sale and for beer brewing. Mmilo, thatching grass A and morama are used domestically and sold in (almost) equal proportions while firewood, thatching grass B and wood products are mostly for domestic use. Almost half of the collected wood is used for domestic purposes while all the palms leaves are. In brief, FRR contribute in kind and in cash to rural livelihoods, but each FRR makes a distinct contribution.

There is little value addition to and processing of almost all resources. A meagre 7.7% of the collected morula is processed into beer but all palm leaves are processed into baskets for sale. There are no established industries for processing and value addition of the resources. Community Based Organisations (CBOs) directly involved in FRRs show little to no impact on household livelihoods according to the survey results.

The three villages in zone 1 have a combined net annual economic FRR value of P37.7 million, and the three villages in zone 2 have a combined net economic FRR value of 'only' P2.0 million. The difference is due to the small six of zone 2 villages and more limited resource availability.

Table 6: Levels of resource collection/utilisation among selected villages

FRR	Village/s collected	Total % of households collecting	Total % processing	Use of FRR and % use	Annual Estimated harvest in kg/all collecting villages
Mmilo	Palla Road, Kumakwane	10%	None	Sale (50%)	10,842
Firewood	All villages	85.7%	None	Domestic (92%)	24,878,665
Thatching grass class A	Palla Road, Lerala, Gweta	29.8%	None	Domestic (50%)	1,835,952
Thatching grass class B	All villages	9.7%	None	Domestic (90%)	108,910
Phane	Gweta, Lerala, Palla Road	27.3%	None	Sale (87%)	401,534
Grapple	Tsetseng, Chobokwane	48.3%	None	Sale (99%)	6,227
Morula	Gweta, Lerala, Palla Road, Kumakwane	12.9%	7.7%	Sale (99%)	445,419
Wood	All villages	6%	None	Domestic (60%)	510,013
Palm leaves	Gweta	6%	100%	Sale (100%)	17,600
Morama	Tsetseng, Chobokwane	16%	None	Sale (63%)	19,810

Source: CAR, 2017.

1.4 Summary

FRRs are important for rural household livelihoods. FRR are still widely available, free the collection costs are low. In other words, the threshold for the FRR sub-sector is low. It is therefore not surprising that FRR are the most important second and third livelihood source in the six surveyed villages. Most of the (rural) households are dependent on FRRs for survival, particularly female-headed households. FRR contribute to rural livelihoods with cash (phane, grapple, morula, good quality thatching grass, palm leaves, mmilo and morama) and/or in kind (firewood, poorer quality thatching grass, wood products and mmilo) to the wellbeing of families. Despite their importance for livelihoods, development and land use planning largely neglect FRRs as a sub-sector of agriculture. While FRR are an integral part of Community Based Natural Resource Management (CBNRM) policy, the three CBOs in the surveyed villages are not very active with FRR collection and processing. In cases such as grapple and morula, collection of FRRs is well below regeneration levels. There is scope to increase the livelihood and overall economic value of FRR. The FRR sector could contribute significantly to economic diversification with adequate support from the corporate (e.g. phane) and public sectors.

It is essential that with the possible growth of the sector, FRR sustainability is maintained and monitored. In most cases (e.g. grapple and morama), FRR harvesting is below the annual regeneration. Environmental sustainability seems ensured provided that proper harvesting methods are being used. It is a concern that some harvesters of grass appear to uproot the grass completely; in addition, live wood is cut and collected.

The collection of some veld products is arduous work with low returns (given the current prices). Therefore, households switch to government support programmes such as Ipelegeng as soon as opportunities arise.

Most FRRs like phane have a commercial potential, but commercialisation is currently very limited. No phane is being processed or packaged domestically. Most is sold directly to traders who export phane to South Africa. Morula is most widely processed as beer, oil, soap etc. Generally, households are not actively involved in commercialisation of FRRs. There are no established formal internal and external markets for FRRs. There are also less recorded activities that enhance sustainability and commercialisation of FRRs like cultivation.

Given the importance of FRR for rural livelihoods, questions arise as to:

- a. How important is FRR collection for poverty reduction and what options exist to enhance its contribution to poverty reduction?
- b. How can FRR contribute to economic diversification at the national and rural levels?
- c. How can FRR be developed through domestic and international trade?

These questions are examined in the next three chapters: poverty reduction (2), economic diversification (3) and trade (4).

2. Poverty in Botswana

2.1 Introduction

Botswana has developed from one of the world's poorest countries in 1966 to an upper middle-income country. The per capita (p.c) income is estimated to be US\$7 240 (Upper Middle-Income Countries [UMIC] average: \$7 926; World Bank 2016). In terms of human development, Botswana has attained medium human development levels: Botswana is ranked 108 out of 188 countries (United Nations Development Programme [UNDP], 2016). The country's ranking on human development is 33 positions lower than for p.c. income. Compared to the global ranking for Gross National Income (GNI) p.c., the country's Human Development Index (HDI) ranking is 33 positions lower, reflecting important social sustainability issues. If income inequality (also called relative poverty) is considered, the HDI would be ranked 23 positions lower. This shows that income inequality in Botswana is high and higher than in most countries (CAR *et al.*, 2017). This chapter seeks to assess the poverty situation in Botswana and to see how FRR can influence poverty and which opportunities they offer to reduce poverty.

The traditional description of poverty focuses on income or consumption levels. However, poverty is broader, and needs to cover achievements in education and health as well as vulnerability and exposure to risk (World Bank, 2000). In its report themed "Attacking Poverty", the World Bank terms poverty as "pronounced deprivation in well-being" (World Bank, 2000, p.15). Deprivation, in turn, has many dimensions:

- Material deprivation (low income/consumption);
- Capability deprivation (especially access to education and health);
- Participatory deprivation (lack of 'voices' and power); and
- Vulnerability and exposure to risk.

Poverty can also be conceptualised in terms of choices. Poverty is associated with lack of choice, arising from low income or low human capacities (Todaro, 1968; Jefferis, 1997). Low-income groups need to spend most, if not all, income on basic needs, and have little or no choice in other spending patterns. Most cannot save, or accumulate assets, both of which would offer choices for the future.

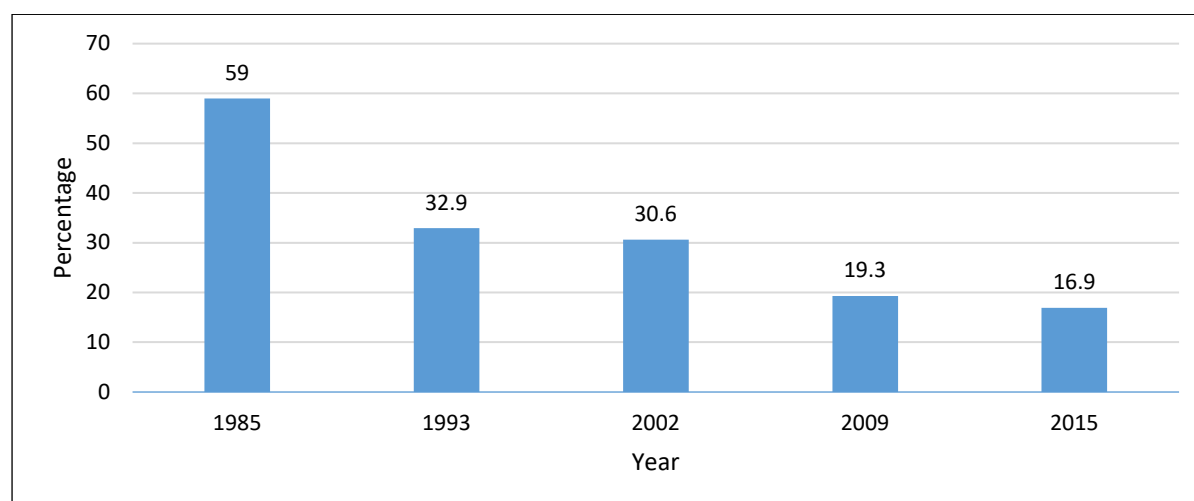
In most cases poverty in Botswana is measured using the cost of basic needs approach. The Poverty Datum Line (PDL) indicates the required income to meet basic needs and is quantified using basic commodities like, food, clothing, personal items, household goods and housing. If the income of an individual or household is below the PDL, the household or individual is considered poor. PDL is calculated, considering factors like household size, gender, age and region. The PDL is used to calculate the *poverty incidence* (i.e. how many individuals or households live below the PDL), *severity of poverty* and the *poverty gap* shortfall (i.e. how big is the gap between the income and the PDL) (Central Statistics Office, 2003; Statistics Botswana, 2018). *Income inequality* compares income levels of different income group and not related to the PDL. It is commonly measured with the Gini ratio, which compares the percentage of the country's income accrued with the percentage of households in a particular income group. If the income distribution is completely equal, the Gini ratio is 0; the closer the Gini ratio is to 1, the greater the income inequality.

2.2 Poverty levels in Botswana

2.2.1 Poverty Incidence

Statistics Botswana has assessed poverty levels and trends every ten years since the mid-1980s. Figure 5 shows the long-term trend in the incidence of poverty. The incidence of poverty has declined sharply since the 1980s, but in 2015 over 330 000 people still live in poverty⁹. This suggests that economic growth may be necessary to reduce poverty, but it is not enough to eradicate poverty. Poverty is higher at the individual level (16.3%) as compared to household level (9%). Poverty is highest in rural areas, i.e. 24% of rural people live in poverty compared to the national average of 16.3% (Statistics Botswana, 2018).

Figure 5: Trend in the incidence of poverty in Botswana (1985 – 2015).



Source: Central Statistics Office, 1995; Statistics Botswana, 2013 & 2015.

The incidence of poverty (or near poverty) does limit people's perspectives. Country wide, 39% of the people worry about having enough food (as many as half of the rural population). Nationally, 62% of the people feel that their income is below the minimum required for a decent living (68% in rural areas). Thirty five percent consider their living conditions below the average (48% in rural areas).

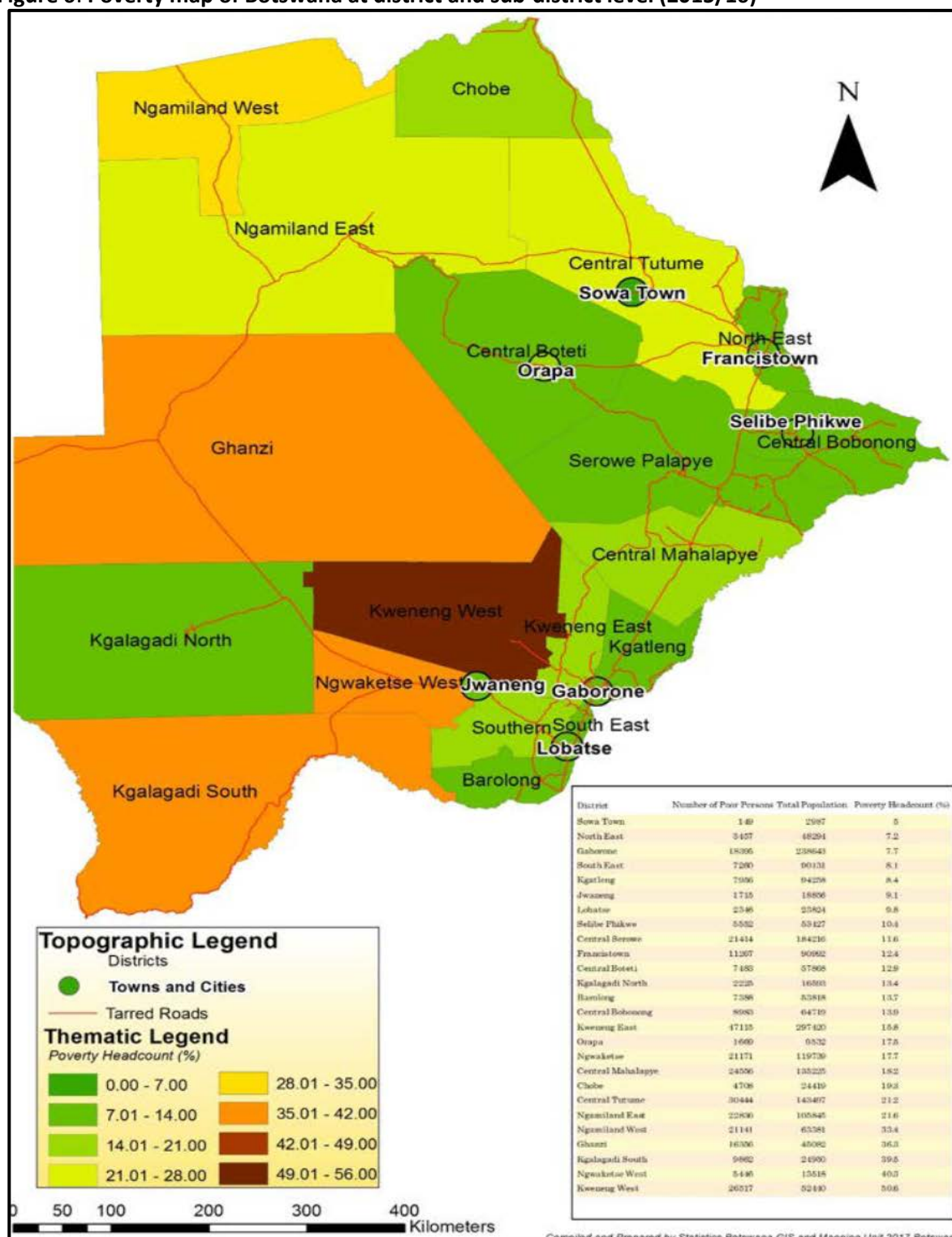
Poverty varies by district. Figure 6 shows the incidence of poverty by district. Poverty levels are highest in Kweneng West. Generally, poverty is higher in western Botswana and in northern parts of central District. Poverty is lower around Gaborone, Francistown and the Okavango Delta and Chobe. In terms of the surveyed FRR villages, most experience poverty in the range of 35-42%. Tsetseng is located in a 'high poverty zone (49-56%) while Kumakwane is in the zone of 28-35% poverty level. In brief, the surveyed villages have high levels of poverty (over 35%) and therefore better use of FRR can contribute to much needed poverty reduction (e.g. *morama*, *kgengwe*, *grapple*, and other FRRs).

2.2.2 Poverty gap and severity

The severity of poverty and poverty gap have slightly decreased in both rural and urban areas (Statistics Botswana [SB], 2018). The poverty gap declined from 4.7% in urban areas for 2009/10 to 3.1% in 2015/16. In rural areas the poverty gap is double that from urban areas, but it also reduced (Table 7). A similar pattern emerges for the severity of poverty. It means that FRR in rural areas can target poverty reduction by a decline in the incidence of poverty and reduction of the gap and severity of poverty, e.g. to the national average.

⁹ Unfortunately, the brief does not give figures for the PDL (SB, 2018).

Figure 6: Poverty map of Botswana at district and sub-district level (2015/16)



Source: Statistics Botswana, 2018.

Table 7: Poverty gap and severity of poverty in Botswana (2009/10-2015/16)

	Poverty Gap		Severity of poverty	
	2009/2010	2015/2016	2009/2010	2015/2016
Urban	4.7	3.1	2.0	0.3
Rural	8.2	6.5	1.2	0.6
National	6.2	4.2	0.8	0.4

Source: Statistics Botswana, 2018.

2.3 Demographic characteristics of the poor

Age

According to the 2002/03 Botswana Core Welfare Indicators Survey (BCWIS), the old and young tend to be more often very poor. Between 2002/3 and 2009/10 national poverty declined from 31 to 19% and the decline occurred across all age groups. Poverty for children aged 0-5 years declined from more than 40% in 2002/3 survey to 25% in the 2009/10 survey. Major declines in poverty are found across all age groups in the 2009/10 BCWIS survey, leading to similar poverty rates in all age groups.

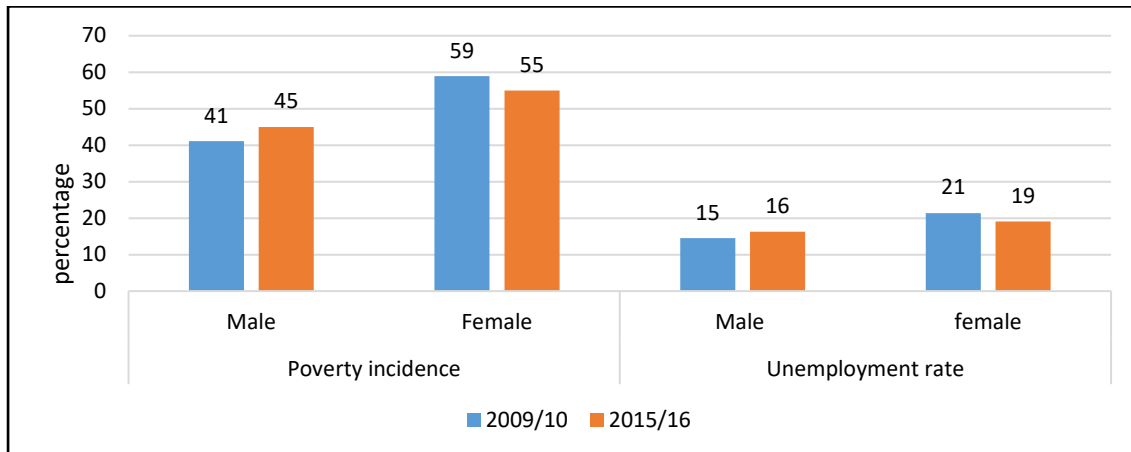
Gender

Nationally, 55 % of poor households are female-headed while 45 % are male-headed indicating that poverty incidence is slightly higher in female-headed households for the year 2015/16 (see figure 7). The gap has narrowed slightly from 2009/10 where 59 % of poor households were female headed. Lekobane and Mooketsane (2013) reported slower declines of poverty among female-headed households than male-headed households. For example, poverty among married female-headed households declined by 8.6 % from 2002/03 to 2009/10 while that of male-headed households declined by 10.9%. The results are similar for divorced/separated household heads. In 2002/03 67 percent of the separated/divorced poor households were female headed households and the number grew to 86.4% in 2009/10. According to the report, the share of female headed households among the total poor households headed by the widowed increased from 88.9% to 94.3 percent from 2002/03 to 2009/10. This is because that in most cases the separated/divorced women often remain with the custody of the children. . . Furthermore, women are more common amongst all poor self-employed, poor unemployed people and poor people working in own land/ cattle. For example, the incidence of poverty among self-employed males decreased by 10.4 percent from 2002/03 to 2009/10 compared to 7.1 among self-employed females. The incidence of poverty for male-headed households working in own land/ cattle post decreased by 21.4 percent compared to female- headed households in the same period. The feminization of poverty among different groups of women calls for more targeted approaches in poverty reduction. CAR (2017), reports that women, especially in rural areas are more involved in collection and processing of most FRR products like, grapple, morama, morula, morula beer, basket weaving and other products. Promotion of these products will eventually lead to decreases in poverty especially in rural areas.

Education

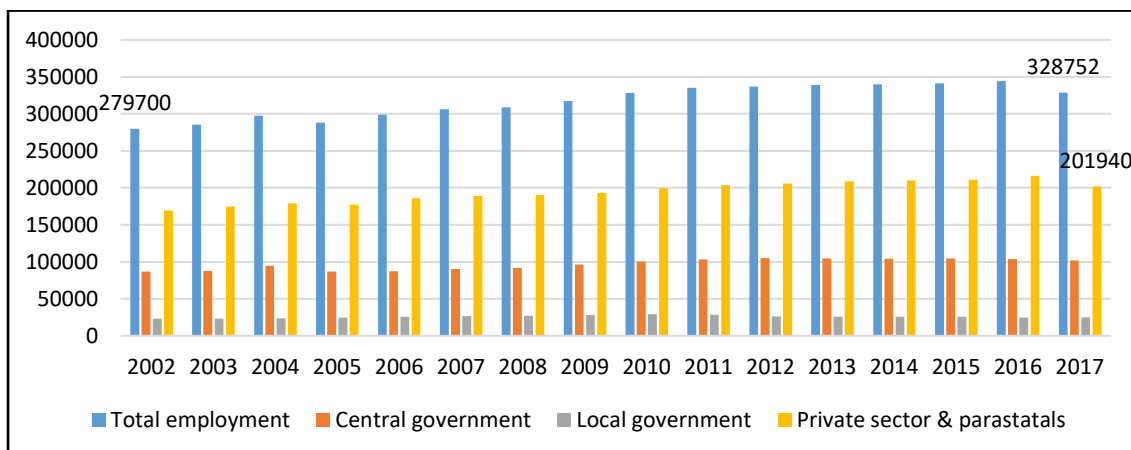
Education increases chances of employment and other wealth accumulation means like venturing into business, hence decreasing chances of poverty. Households or persons with limited education are the most likely to be poverty trapped. Low education is associated with higher poverty chances (Lekobane and Seleka, 2014; Jefferis and Kelly, 1999). This particularly applies to rural areas, where there are incidences of poor education and higher number of school drop-outs.

Figure 7: National poverty and unemployment rate by gender



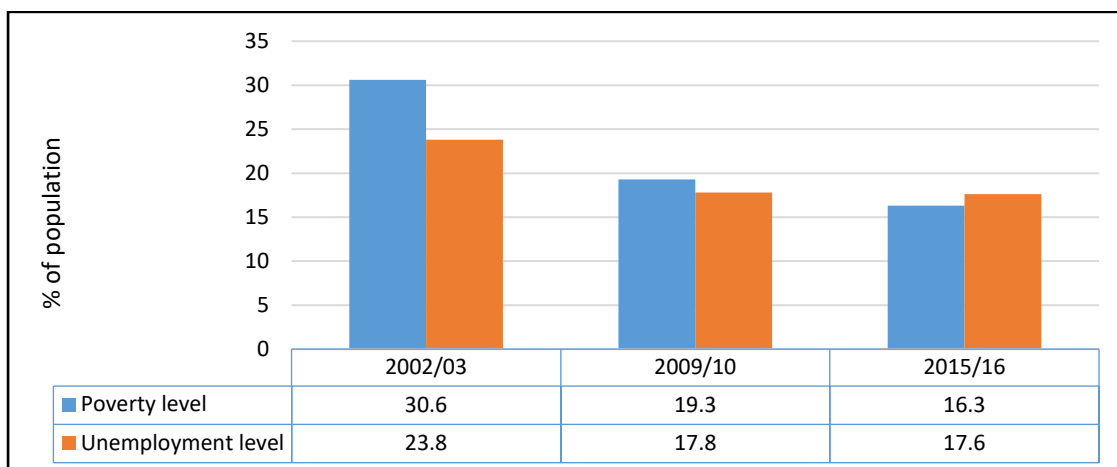
Source: Statistics Botswana, 2017.

Figure 8: Trend in formal employment (2002-2017)



Source: Statistics Botswana, formal employment surveys

Figure 9: Poverty and unemployment rates (2002/03 -2015/16)



Source: Statistics Botswana, 2013 & 2015

Unemployment

Employment is the most preferred livelihood source, and unemployment is strongly associated with poverty (Figure 9). Formal employment has increased slowly since 2002, but it decreased in 2017 due to closure of several mines (Figure 8). The loss of job opportunities has adversely affected households.

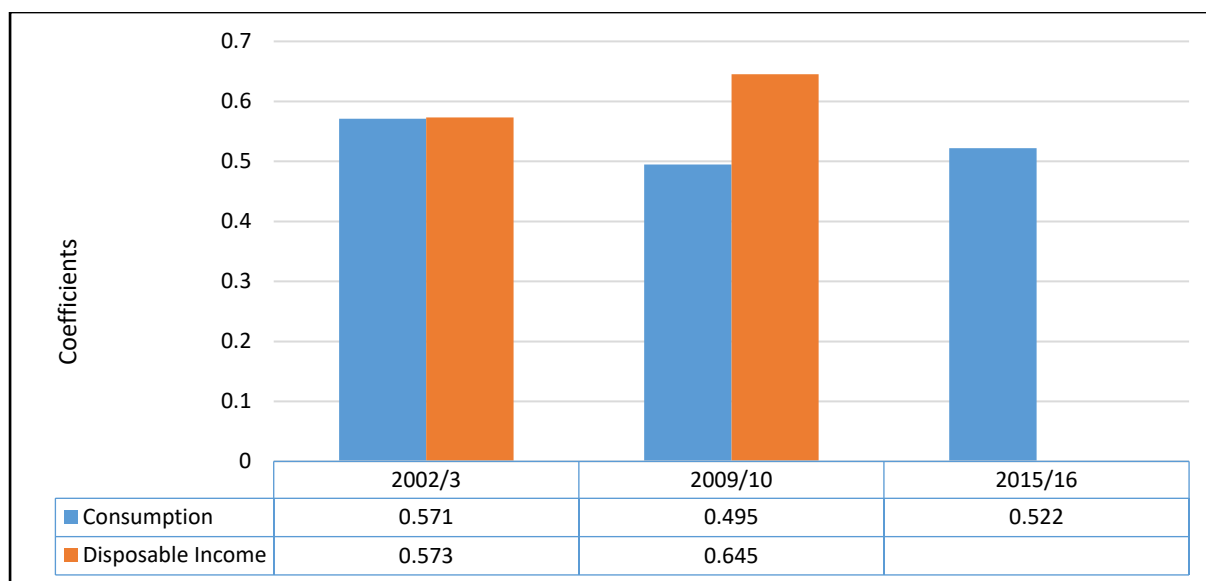
Location

Poverty levels, gaps and severity are higher in rural areas. However, the latest poverty assessment shows that poverty in urban areas is increasing (even though it is lower than in rural areas due to weaknesses of the rural economy). Rural poverty remains virtually the same while poverty in urban villages has decreased (SB, 2018).

2.4 Income inequality in Botswana

Botswana has among the highest inequality in the world (International Monetary Fund [IMF], 2012). There is still a growing disparity in disposable income in Botswana as evidenced by figure 9. The richer are getting richer while the poor are getting poorer. Disposable income poverty grew from 2002/03 to 2009/10. Also, the national consumption inequality has increased from 2009/10 to 2015/16 despite national declines in poverty (Figure 10). The results have a bearing on achievement of inclusive growth and sustainable development.

Figure 10: National Gini Coefficients (2002/03 - 2015/16)



Source: Statistics Botswana, 2018.

2.5 Access to basic services and amenities

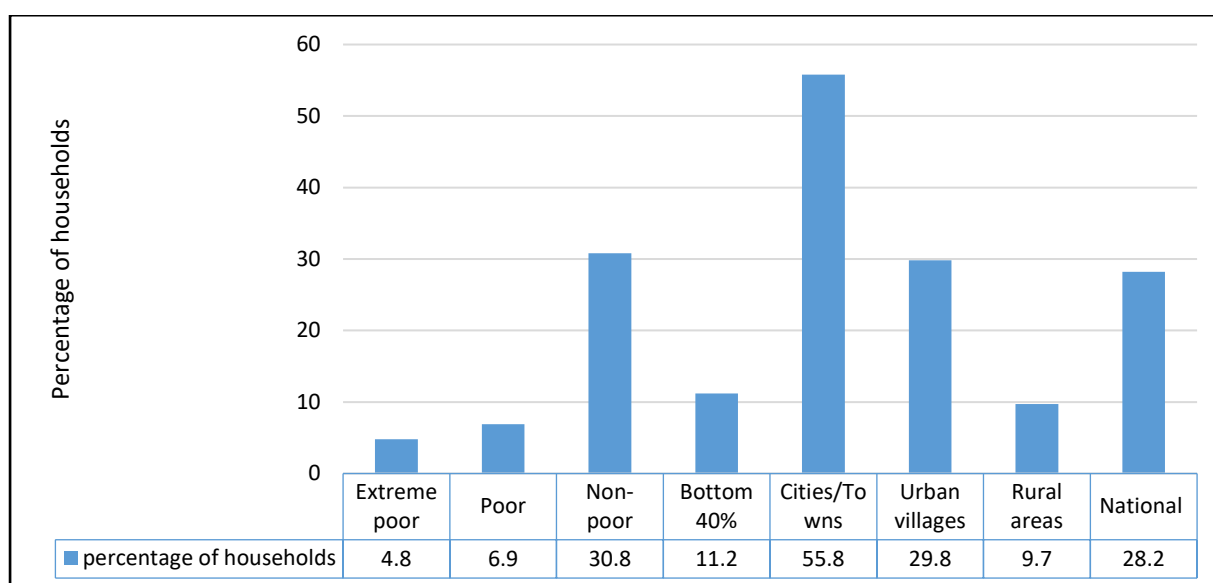
Botswana has made significant strides in infrastructure development and access to basic services over the years. Basic services like education and health have a bearing on the incidence of poverty (Ditlhong, 1997). Access to education for the general population, health, water, electricity and housing has been increasing. For, example the 2015 Botswana poverty assessment report by the World Bank shows an increase of people with access to tapped drinking water from 1981 to 2001. Access to water stood at more than 80% of the population in 2001 from just under 50% in 1981. In 2012 access to water increased to 89% of the population. Access to any available water source stood at 97% in 2012.

However, disparities exist between rural and urban areas in Botswana. According to Statistics Botswana (2014) In 2011, about 64% of households were connected to safe drinking water in towns and villages while only around 22% in rural villages and 4.5% of households in rural localities were connected to safe drinking water. Access to safe drinking water in rural villages and rural localities fell way below the national average of around 91% indicating higher differences in access to basic services between rural and urban areas in Botswana.

Access to electricity has increased over the years yet more still needs to be done. The country's access to electricity was at around 45.4 % in 2009/10. The urban area was at 68% while the rural area was at 9.9%. This is well below the National Development (NDP) 10 target of 60% electrification for rural areas and 80% national electrification. The introduction of the National Electricity Standard Cost (NESC) to reduce the standard cost to P5 000 for households is a key measure to improve access to electricity in Botswana.

Despite major strides on provision of other basic services, Botswana still experiences some challenges on the provision of sanitation. Figure 11 shows access to flush toilets by poverty status and location. Access to flush toilets remains low among the poor. Access to flush toilets was less than 5.3 % for the poorest 10% and less than 64.6% for the richest 10 percent in 2009/10 (see figure 11).

Figure 11: Access to flush toilets by poverty status and geographical location (2009/10)



Source: World Bank, 2015.

2.6 Poverty reduction strategies in Botswana

Poverty reduction and alleviation have always been central to government policy objectives despite continuous poverty incidences and income inequalities. Poverty eradication is entrenched in the theme for NDP 11: *“Inclusive growth for the realisation of sustainable employment creation and poverty eradication”* and therefore all the thematic areas and elements of the plan are geared towards ultimately making the country free of extreme poverty and inequality. Similarly, one of the pillars of National Vision 2036 speaks directly to poverty related issues – *“Human and social development”*. In 2003, a strategy was crafted to address poverty reduction in the (National Strategy for Poverty Reduction [NSPR]; Ministry of Finance and Development Planning [MFDP], 2003). The overall strategic focus of the NSPR has the following components:

1. *Providing opportunities for sustainable livelihoods.* This involves the development and implementation of broad-based initiatives for economic growth and employment creation. Key policies include sound macro-economic management, economic diversification and citizen empowerment initiatives;
2. *Enhancing the capabilities of the poor* through social investment in services and infrastructure (schools, hospital, water, roads, etc.) to promote economic growth and improve wellbeing;
3. *Provision of social safety nets*, for those unable to take advantage of expanded employment opportunities, government provides well-targeted social safety nets to prevent people facing specific risks and vulnerabilities from falling into adverse poverty;
4. *Promoting participation by the poor* through strengthening their organisation and delivery capacity, enabling them to influence local government and policymaking;
5. *Strengthening institutional capacity* at both central and local government level, to formulate policy and effectively manage anti-poverty initiatives.

The strategy also recognises the importance of fighting HIV/AIDS, which is seen as a threat to achievement of economic growth and social advancement.

The first set of poverty-reduction policies focused on promotion of broad-based economic participation to be realised through economic incentives for employment creation, income generation, economic empowerment and entrepreneurial development (see for example, Siphambe, 2007).

The government's strategy under assistance of entrepreneurs was to help encourage diversification, stimulate growth and create employment for the disadvantaged groups. Programmes under the intervention included among others; Financial Assistance Policy (FAP), Small Micro and Medium Enterprises (SMMEs), Citizen Entrepreneurial Development Agency, Local Entrepreneurial Agency (LEA) and youth programmes. On government programmes, over the years the government introduced and developed programmes like Accelerated Rain-fed Arable programme (ARAP), Remote Area Development Programme (RADP), Arable Lands Development Programme (ALDEP) and Labour Based Public Works Programme (LG117). The government programmes mostly targeted rural areas. The aim was to increase rural food levels and rural income in order to reduce incidences of poverty. Other Economic Empowerment Policy Programmes include: localisation policy; Credit Guarantee Schemes; reservation policy; preference under public procurement; privatisation policy; Micro Finance Business Scheme; Citizen Entrepreneurial Mortgage Assistance Equity Fund and the Economic Diversification Drive (EDD) (Republic of Botswana, 2012).

There are other policy interventions, particularly under local and rural development such as the National Policy on Rural Development, Remote Area Development Programme and Community Based Strategy for Rural Development, Community Based Strategy for Rural Development and the Community Based Natural Resource Management policy.

Social safety nets are another set of government initiatives for poverty reduction. They are used as short-term measures for poverty alleviation, while the long-term objective is to empower the poor and reduce dependency on government support (World Bank, 2015). These are summarised as follows (World Bank, 2015):

- a. Destitute Programme: support for very low-income households in the form of a monthly food basket and financial allowance;
- b. Old Age Pension: monthly payment to all adults aged 65 and over;
- c. Ipelegeng: public works employment scheme for low-income adults;

- d. Orphan and Vulnerable Child Care Allowance: payments to carers of orphans and vulnerable children; and
- e. Education allowances: payments to students in higher education institutions.

The World Bank (2015) concluded that while government spending on social protection is comprehensive, its efficiency can be improved. Botswana spends a reasonable proportion of national income (4.4% of Gross Domestic Product [GDP]) on social protection, but targeting is inadequate, as many beneficiaries are non-poor.

SB (2018) concluded that government assistance has reduced poverty significantly. Without government assistance, an extra 170 000 people would be poor

2.7 Summary

Although poverty has declined over time, it remains a major challenge, particularly in rural areas. Poverty is most common in rural villages in western and Botswana and northern parts of Central District. Government assistance has decreased poverty by around a third. This is laudable on the part of government but created dependency on the same government and it is uncertain whether these efforts are sustainable. The World Bank argues that government assistance needs to be better targeted and made more efficient.

In view of the poverty situation, FRR can play a major role in poverty reduction in the most poverty afflicted areas. FRR are mostly found in the same rural areas (e.g. morama in Tsetseng and Chobokwane). This can take the form of increased harvesting, value additions through processing, packaging and storage, as well as linking rural economies with domestic and export markets.

3 Economic diversification in Botswana

3.1 Introduction

Botswana has been heavily dependent upon mineral wealth for growth and development since the early 1970s. The discovery of diamonds¹⁰ in the early 1970s has helped the country attain rapid economic growth and development. According to the NDP 9 & 11, the country recorded an average annual growth of 9.2 percent in the period 1975/1976 to 1995/1996 and 8.7 percent for the period up to 2007/2008. After the global recession of 2008, growth has slowed down considerably (3.8% since 2009/10 – 2015/16. Economic growth has led to a gross national income per capita of US\$6 750 (World bank, 2016).

The reliance on diamonds for economic growth has resulted in several problems in the economy:

- a. Diamond production is capital-intensive, and has not resulted in significant direct employment creation and livelihood improvements; and
- b. As non-renewable resources, diamonds are not ‘for ever’, and revenues are dependent on global market conditions.

The dependency on diamonds has created a vulnerable economy, as evident in negative growth during global recessions. It may also have contributed to neglect of other economic sectors, especially the agricultural sector, which has stagnated and failed to modernise and transform. Agriculture now contributes less than 5% to GDP, and its stagnation has contributed to lack of rural development and rural poverty.

This chapter reviews the country’s economic structure and progress achieved with economic diversification. It examines how the FRR subsector can contribute to economic diversification within the agricultural sector.

3.2 Economic growth and diversification

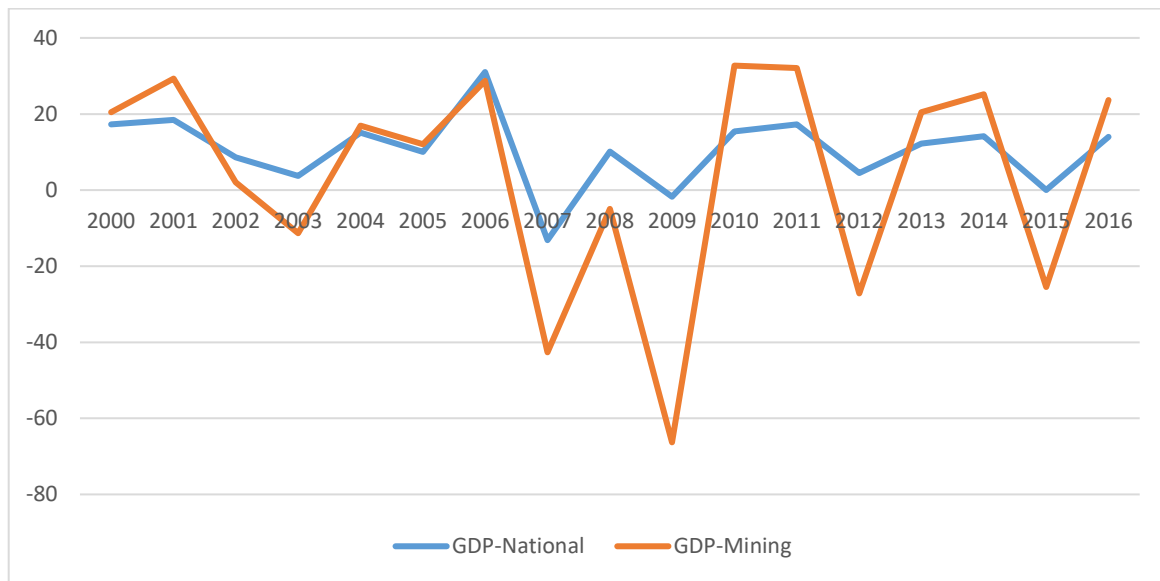
Positive but slowing economic growth

In the past few decades, Botswana was among the best performing economies in the world (Sekwati, 2010). Diamond mining, including the renegotiated agreements, played a major role in the growth of its Gross Domestic Product (GDP). Also, the renegotiations of the Southern African Customs Union Agreement (SACUA) in 1969, and later in 2000 have contributed to economic growth and increased government revenues.¹¹ These events have contributed significantly to the country’s economy over the last decades (Grynberg & Motswapong 2012).

Figure 12 shows the trend in GDP growth and that of the mining sector. The mining sector remains the major contributor to GDP over the years, but its share of GDP has decreased from 49% in 1985/86 to 32% in 2008/9. The reliance on mineral resources impacted the country negatively and exposed it to external market and financial shocks. For instance, the diamond mines temporarily closed in the first half of 2009, causing an economic recession with negative GDP growth in 2009 (Figure 12). This also led to a budget and balance of payments deficits (see NDP 10).

¹⁰ Minerals other than diamonds have contributed much less to economic growth.

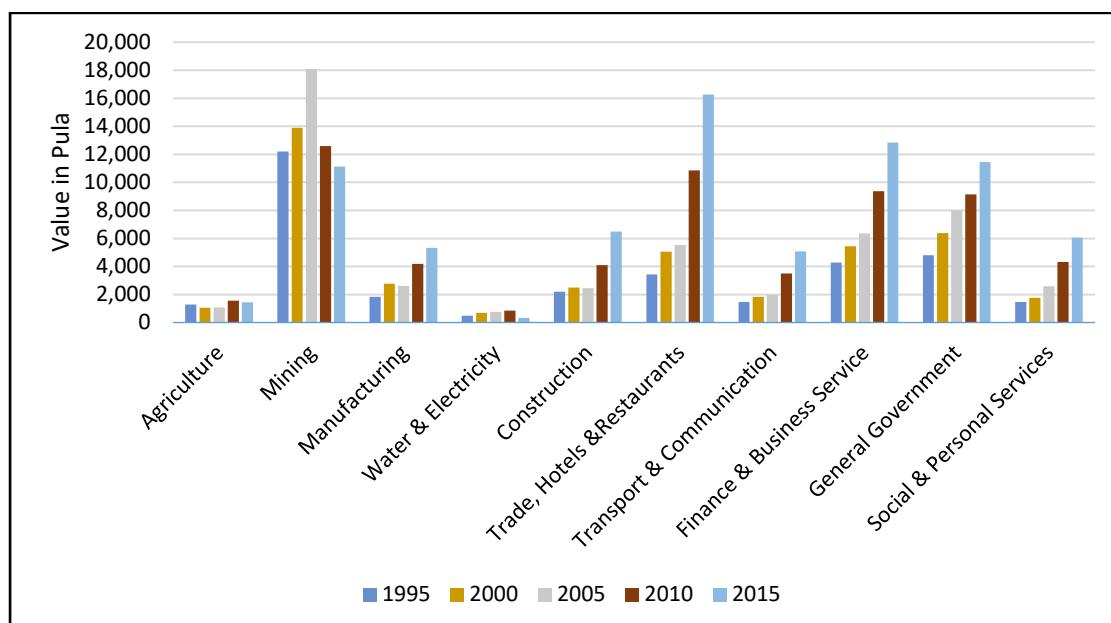
¹¹ The apartheid regime increased the share of Southern African Customs Union (SACU) revenue to Botswana in 1969; rebalancing of benefits of SACU in 2000 favoured Botswana (and Lesotho & Swaziland).

Figure 12: GDP growth per annum (2000 to 2016; as %)

Source: based on Bank of Botswana, 2016.

Economic diversification progress

Figure 13 and table 8 shows the contribution of each sector of the economy to the overall GDP since 1995. Figure 13 shows significant changes in sectoral contributions to GDP. While the mining sector lost ground after 2005, the service sector contributed more. Sectors like hospitality (hotels and restaurants) which are linked to the tourism industry are doing well in terms of efforts of diversifying the economy. Other services industry like finance sector registered higher growths in 2015 (Figure 13). Agriculture consistently performs poorly, and it has failed to grow. Agricultural revival and diversification within the agricultural sector could lead to growth of the sector, local economic development and diversification of the economy.

Figure 13: Trend in value added by economic sector (constant 2006 million Pula)

Source: Statistics Botswana, various years.

Table 8: Sectoral share of GDP growth and average value-added growth rate during (as % from 2009/10-2015/16)

Economic Activity/Sector	Sectoral share of GDP during the period 2009-2016	Average Growth Rate during the period 2009-2016
Trade, Hotels and Restaurants	24.6	7.9
Banks, Insurance & Business	21.2	6.2
Government	22.5	4.4
Construction	9.5	9.1
Social and Personal Services	8.9	7.2
Transport & Communications	8.3	8.4
Mining	30.2	-3.6
Manufacturing	8.8	4.3
Agriculture	3.6	-0.1
Water & Electricity	-0.2	-5.3

Source: Ministry of Finance and Economic Development, 2017.

The above shows that the country's economy is diversifying, but there is need to accelerate diversification to reduce the country's economic vulnerability and to prepare for the post-diamond era.

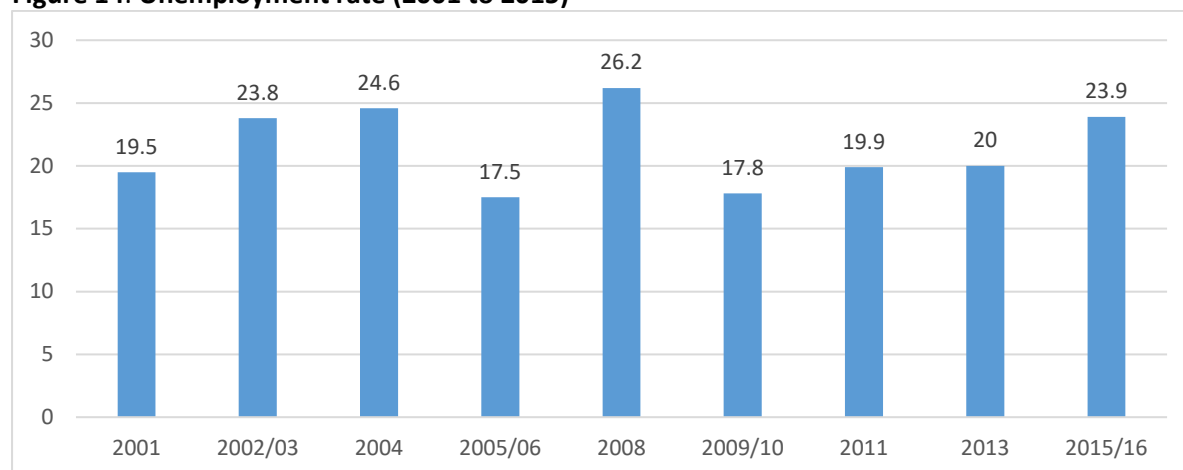
3.3 Impacts of mineral dependency

Limited rural development

The mining sector is capital intensive, and it has limited links with the surrounding rural economy. Minerals are mostly exported, and many inputs into the sector are imported or obtained from urban Botswana. For example, the economic valuation for the Makgadikgadi wetlands shows that the mining sector is important for the national economy, but much less for the local economy (CAR and Department of Environmental Affairs [DEA], 2010). This valuation found that agriculture remains the cornerstone of rural economies.

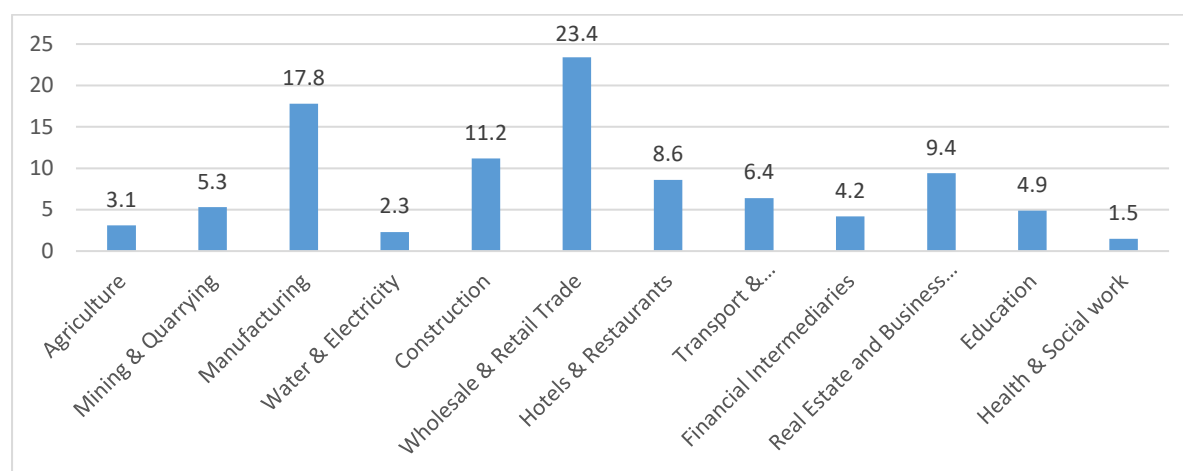
Slow increase in formal employment

The mineral sector has not generated sufficient direct employment to absorb the rapidly growing labour force resulting in persistent high unemployment rates of 17 to 25% (Figure 14). The labour intensity of mining is low compared to other sectors (Table 5). Mining requires 0.0004 jobs to produce Pula 1 million value added; in contrast government requires 0.009 jobs to produce the same value added. Formal employment has increased slowly to over 300 000, with almost a third of the jobs in the public sector (Figure 7 above).

Figure 14: Unemployment rate (2001 to 2015)¹²

Source: Statistics Botswana, 2016

Figure 15 shows levels of diversification of formal employment creation by sector or economic activity. Wholesale & retail trade were the largest employers from 2012 to 2017 contributing an average of 23.4 percent to total employment. Manufacturing and construction are the second and third largest contributors to employment respectively at 17.8 and 11.2 percent. Other sectors of the economy like the agricultural sector have low percentage contribution to GDP despite existing opportunities for value addition, processing and establishment of new markets. Expanding beneficiation of natural resources to other sectors of the economy can lead creation of employment in the country. FRRs for example have the potential to create jobs through trade, value addition, processing and increased collection. However, collection of FRR is often labour intensive and therefore it creates informal employment and contribute to livelihoods. This is important given the limits of formal employment. A main constraint is the low returns, which make many FRRs unattractive as compared to social welfare programmes.

Figure 15: Formal employment by sector (as % of total private sector & parastatal employment; 2012 to 2017)

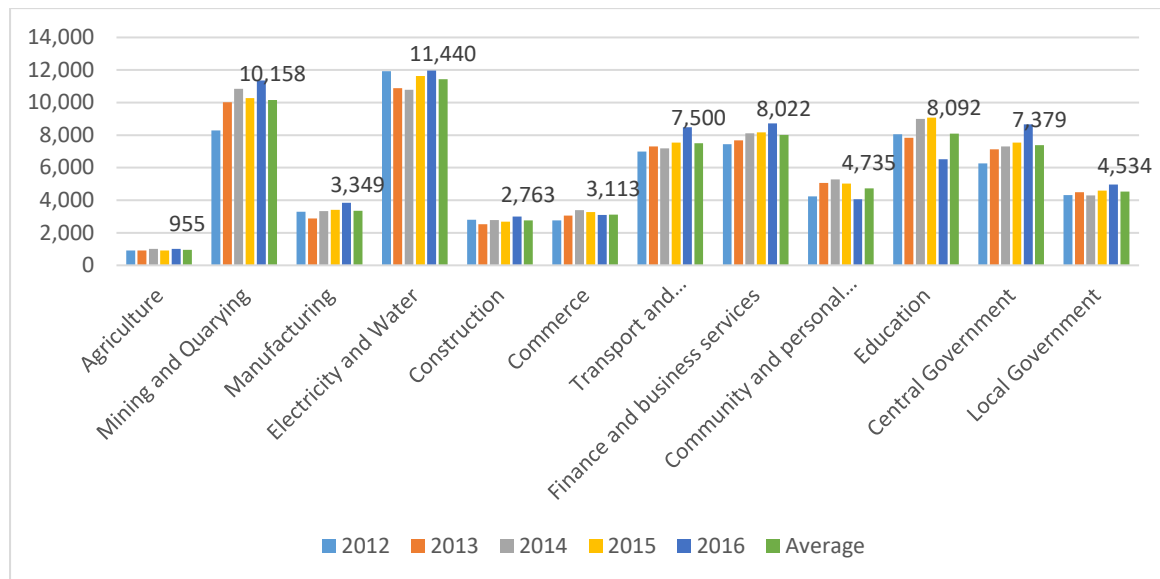
Source: Statistics Botswana, 2016.

¹² The figures do not include Ipelegeng as a form of employment. If Ipelegeng is included the unemployment figure would be 6.2% lower in 2015/16.

Different sectoral wages

Figure 16 shows that the mining and utilities sectors pay the highest average wage in the period 2012-16. Agriculture pays the lowest wage at an average of P955 per month from 2012 to 2016. Informal employees in agriculture, the majority of which live in rural areas, receive even less the average price of P955. In 2014 around 22 243 workers were informally employed as agricultural labourers earning an average of P780 per month. Low agricultural wages contribute to a weak rural economy and high rural poverty. Agricultural growth and diversification will improve the rural economy. Improvement of subsectors like FRRs can boost rural economic growth.

Figure 16: Monthly average wage by sector (2012-2016)



Source: Bank of Botswana, 2016

3.4 Strategies towards economic diversification

Over the past two decades, Botswana has emphasised diversifying its economy “beyond and away from dependence upon diamonds”, through stimulating new sources of economic growth that can move the economy forward in the future. Different strategies and policies for development together with strong institutions has pushed the economic growth. These strategies and policies among others include; *the Industrial Policy of 1974 (IP)* and *the 1984 Industrial Development policy (IDP)* and *the 2010 Diversification Strategy*. IP and IDP promoted industrialisation (see L. Sekwati), encouraging import substitution and local production. However, there was strong competition due to the liberalisation of regional markets (e.g. SACU and the Southern African Development Community (SADC) protocol on trade). In response to the challenges, the government adopted a new industrial policy that aimed at improving the level of exports through support and development of enterprises and SMMEs that have seen the resurgence of programmes and institutions such as the Local Enterprise Agency (LEA), the Citizen Entrepreneurial Development Agency (CEDA) and the Botswana Export Development and Investment Authority (BEDIA).

In 2010, the government adopted a diversification strategy (Ministry of Trade and Industry, 2014). The strategy was based on sectoral development & business, export development & promotion, Investment and finance, quality control standards and promotion, technological development, innovation & transfer, research and development and entrepreneurial development. The strategy emphasizes more on (NDP11) beneficiation of mineral resources to create diversification within the

mineral sector, cluster development through identification of clusters where Botswana has a comparative advantage. Building of special economic zones that will drive the economy and provide forward and backward linkages for economic growth and employment creation.

Other strategy intentions include growing SMMEs & the informal sector and promotion of local economic development. The country is also committed to diversification through research, innovation and development, and sustainable management of natural resources and major programmes in key sectors such as mining, agriculture, energy, water, manufacturing, and tourism. Ease of doing business and export-led growth and increase in domestic expenditure and employment are all necessary key instruments for growth and diversification. The NDP 11 strategy on diversification also recognises the need for government to encourage prudent management and conservation of natural and cultural resources for sustained equitable benefits. The state intends to address environmental threats and harness indigenous knowledge on agriculture, health care, food care and natural resource management for economic growth and employment creation.

Even though the strategies have contributed to economic diversification and employment diversification, more needs to be done. Targeted sectors for diversification like the agricultural sector perform poorly. Also, the government is still to achieve meaningful results on issues like beneficiation, establishment of economic zones, cluster development and overall industrialisation.

3.5 Summary

Botswana's economy is diversifying away from the mining sector, through growth of tourism and the financial sectors. The agricultural sector has not grown and diversified. Due to its enclave nature, the mining sector has made limited contributions to rural development and livelihoods. The financial sector is mostly urban-based, and the tourism sector is concentrated in the Okavango and Chobe areas, and has yet to diversify to other parts of the country and generate more local benefits, for example through CBNRM. The FRR subsector can contribute to agricultural growth and diversification and benefit local livelihoods through adding value to their collection through packaging, storage, cultivation and processing.

4 Botswana's international trade

4.1 Introduction

Botswana has an open economy, i.e. exports and imports are large as compared to the Gross Domestic Product (GDP). Botswana has sustained a positive balance of payments (i.e. exports more than imports) over the last decades, largely due to the mineral exports (Statistics Botswana, 2018; Bank of Botswana, 2016). The positive balance of payments has helped the country to import food to compensate for the low domestic food production, to import fuel to sustain economic growth and to invest in built capital¹³. However, the reliance on diamonds for a positive national current account has seen the country struggle to maintain a positive balance of payments when diamond exports decreased (Bank of Botswana, 2016).

The country needs other export products and services, and it needs to promote import substitution (e.g. domestic food production) to maintain a healthy balance of payment.

Therefore, the country needs review and exploit the export potential of other products such as FRR. Products like FRRs are mostly traded in the domestic market¹⁴, are often harvested below their regeneration level, and some have the commercial export potential. The survey found a NEV (Net Economic Value)/ household of P5 230/annum of the 9 FRR. If one would assume that this figure applies to all rural households, the NEV in rural areas could be around P1 billion. As FRR are location specific, the assumption may not be correct. Nonetheless, it can be assumed that FRR annual values for rural areas amount to several hundreds of millions of Pula. In other words, FRR represent significant value for the domestic and export market.

In this chapter, we assess Botswana's trade patterns (4.2 and 4.3) and assess opportunities for diversification of exports through FRRs.

4.2 Overall commodity trade trends

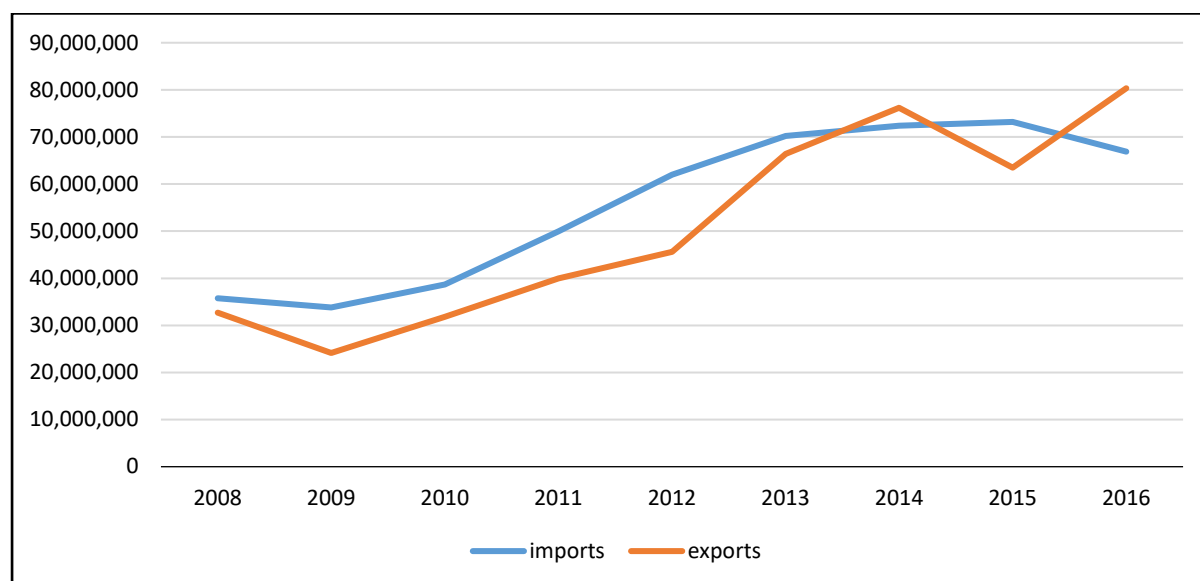
Botswana has maintained a positive balance of payments between periods of the discovery of diamonds and the global recession. However, the country has struggled to maintain a positive trade account since the global recession as diamonds were highly affected by the global recession (Figure 17). Botswana's exports have remained vulnerable due to the dependence on diamonds despite several attempts/initiatives to promote industrialisation and export-led growth (see Botswana Industrial Development Policy, 2014).

In figure 17, trends in Botswana exports & imports and overall balance of payments (current account: export minus imports) are shown. Imports grew steadily, but at a slower pace with a decline in 2016. Exports also grew but showed several dips when the diamond market was depressed. The current account was negative in 2014 and 2016 as the international demand for diamonds decreased, compelling Botswana to cut back diamond production and produce (Jefferis *et al.*, 2015).

¹³ Botswana has managed to invest heavily on infrastructure. Botswana infrastructure development was ranked 10th in Africa (African Development Bank, 2016).

¹⁴ Currently, only phane worms and some grapple are exported. Products such as morula, morama, palm leaves, firewood are used or sold locally.

Figure 17: Trends in Botswana commodity exports and imports (2008 to 2016; in Pula; current values).



Source: Statistics Botswana, 2008 – 2016.

The slow recovery of the diamond market led to a negative balance of payments (current account) from around 2008 to around mid-2013¹⁵

4.3 Import and export commodities

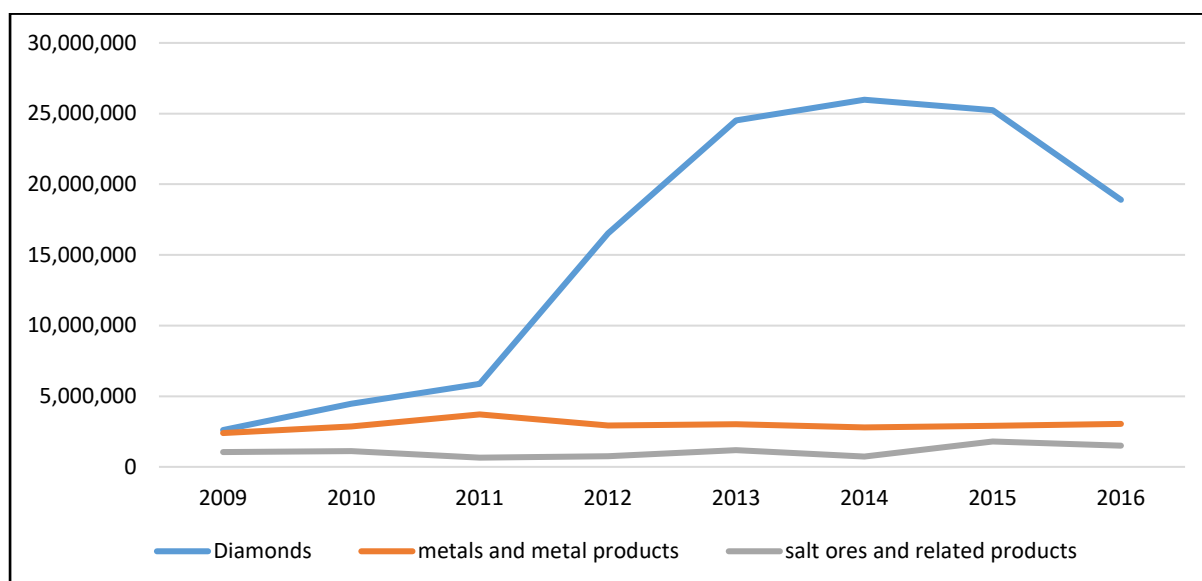
4.3.1 Imported commodities

Since Botswana hosts the diamond trade centre (DTC), diamonds have come the largest import commodity as DTC processes diamonds from all over the world. Below, the main import commodities are discussed.

Minerals and mineral products

Figure 18 shows the trend in mineral and mineral products imports as a percentage of total imports from 2009 to 2016. Diamonds are the leading import commodities among mineral commodities and the leading imports commodities among all imported commodities in Botswana. Diamond imports have been growing since the relocation of the diamond trading centre from London to Botswana and the growth of the polishing and cutting industry in 2011. The diamond imports decreased from over P25 million in 2013-15 to less than P20 million in 2016 due to market weaknesses. Imports of other mineral products are relatively lower at below P5 million; this is probably due to the small industrial sector in Botswana. The country exports most of the non-diamond minerals without much beneficiation.

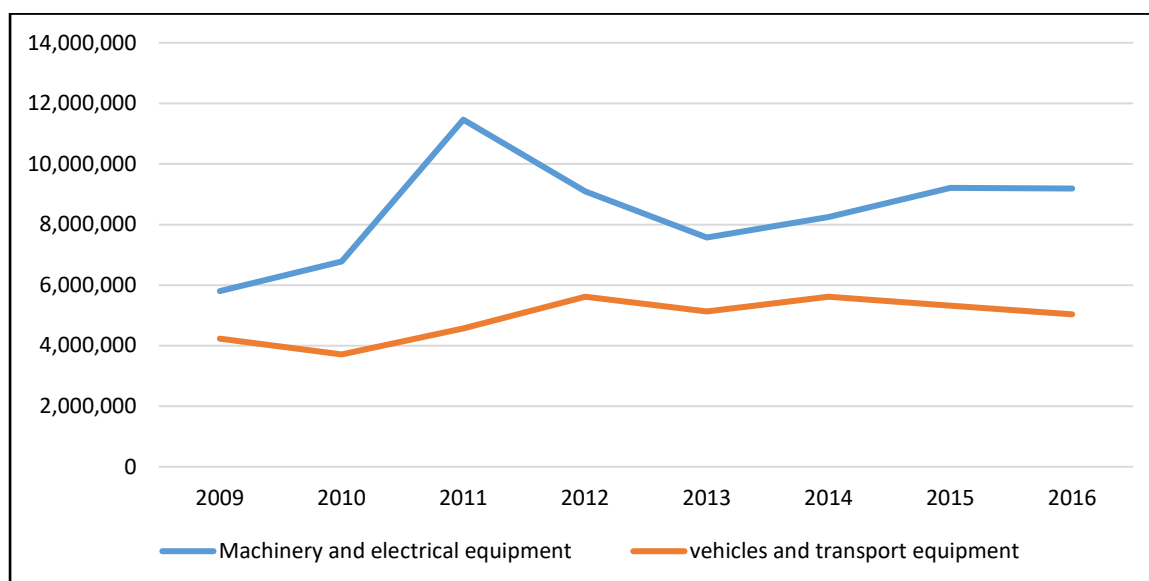
¹⁵ . Fortunately, the balance of payments for the services sector maintained a positive outlook from 2008 to 2016 (Bank of Botswana data). However, the data cannot be relied upon as it is inconsistent due to changes in methodologies (also see Jefferis, 2012).

Figure 18: Trends the value of mineral imports (Pula; 2009 to 2016)

Source: Statistics Botswana, 2009 to 2016.

Machinery, vehicles and equipment (Electrical & Transport)

Figure 19 shows percentage imported machinery, vehicles and equipment (electrical & transport) to total import commodities in Botswana. Machinery and Electrical equipment were the highest import commodities in Botswana from 2009 to around 2011. The imported machinery and equipment were highest at around P11 million in 2011 and the total value from 2009 to 2016 was around P67 Million. The imported machinery was mostly for mines and power generation (due to electricity supply deficits during the same period). Import of vehicles is also relatively higher compared to other import commodities in Botswana.

Figure 19: Trends in value of machinery, vehicles and equipment imports (Pula; 2009 - 2016)

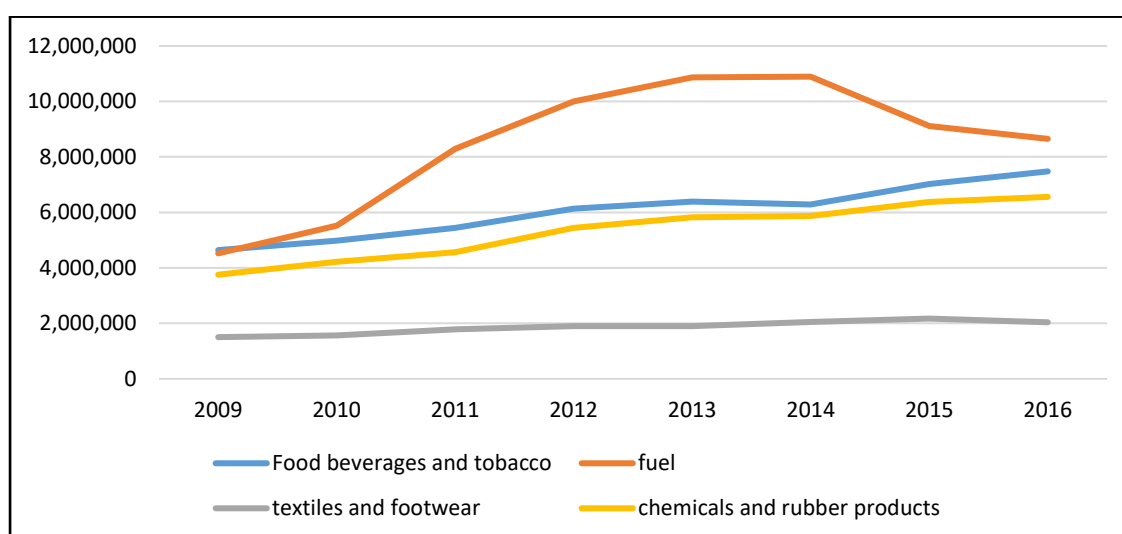
Source: Statistics Botswana, 2009 to 2016.

Major agricultural products, textile, fuel, chemicals and rubber products

Food beverages and tobacco are the fourth highest import commodities by value from 2009 to 2011 relatively lower than other products like fuel, machinery and diamonds (Figure 20). South Africa remains the major source of food in Southern African Customs Uni

on (SACU). Fuel is the largest import commodity after diamonds in Botswana with a value of around P68 million from 2009 to 2016 and an annual average of around P 8 million. Strengthening and diversification of the agricultural sector would positively affect trade (higher exports and lower imports).

Figure 20: Trends in the value of agricultural products, textile, fuel, chemicals and rubber products imports (Pula; 2009 - 2016)

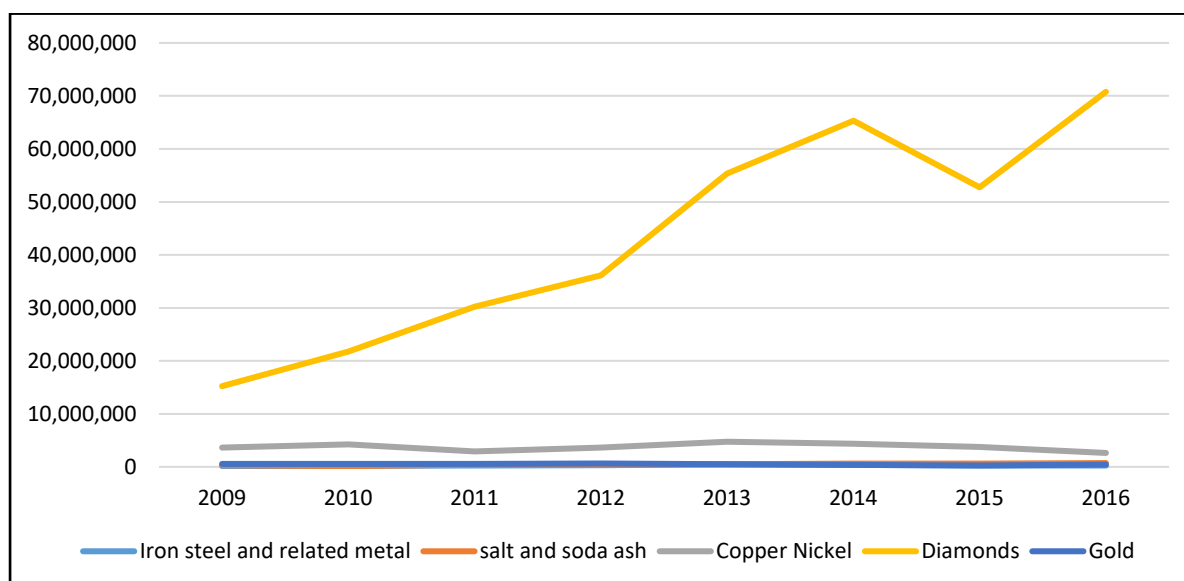


Source: Statistics Botswana, 2009 to 2016.

4.3.2 Export commodities

Minerals

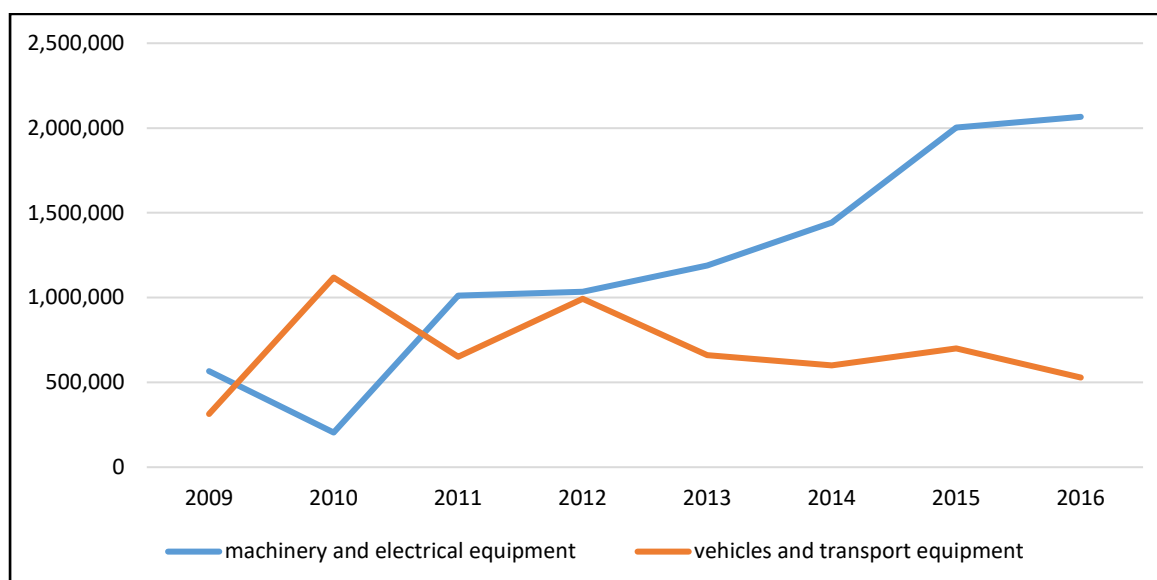
Diamonds are by far the most important export good of Botswana. Figure 21 shows the value of mineral exports (gold, diamonds, salt & soda ash, iron steel & related metals and copper nickel) 2009 to 2016 in Botswana. Diamonds contributed around 81% to total exports from 2009 to 2016 making a total value of P348 Million. On annual bases diamonds contributed around P43 million per year from 2009 to 2016. Other commodities (other minerals include) had a combined share of just 9% of all exports from 2009 to 2016. Other mineral commodities have been struggling in terms of their contribution to total exports due to factors like lower prices and lack of beneficiation activities. Opportunities exist for beneficiation and export of other products like salt and soda ash which can be differentiated into many industrial and household products.

Figure 21: Trends in the value of mineral exports (Pula; 2009 to 2016)

Source: Statistics Botswana, 2009 – 2016.

Machinery, Vehicles and Equipment (electrical and transport)

Figure 22 shows trend in the share of machinery, vehicles and equipment of total exports. Machinery and electrical equipment exports have been increasing over the years for example, registering an increase of around 80% from P204 438 in 2010 to around P1 011 080 in 2011 moving from its contribution of around 0.5% to total exports to around 2.5% of all exports. In 2016 Machinery and electrical equipment contributed around P2 066 000 to Botswana's GDP.

Figure 22: Trends in value of machinery, vehicles and equipment (Pula: 2009 to 2016)

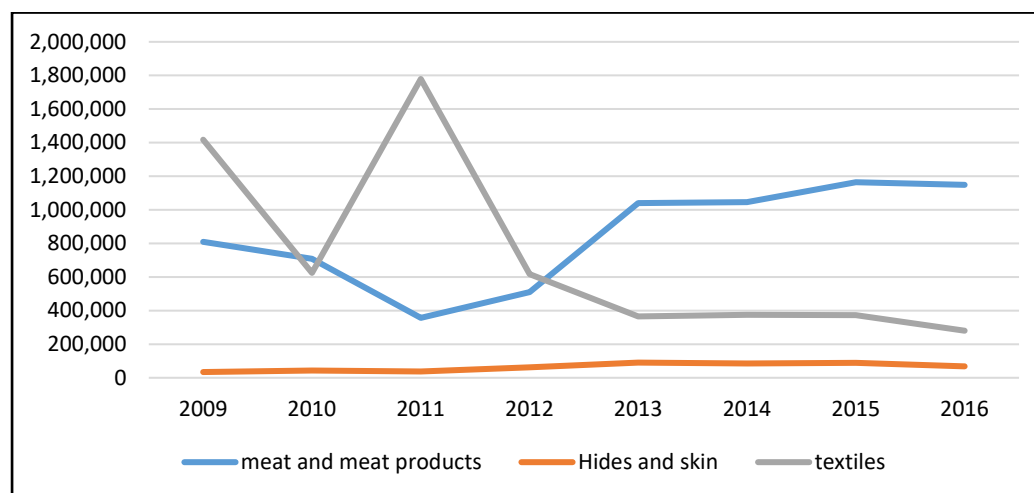
Source: Statistics Botswana, 2009 to 2016.

Major agricultural products and textiles

Figure 23 shows trend in export of major agricultural commodities and textiles from 2009 to 2016 in Botswana. Beef is Botswana's only agricultural export good to the European Union (EU) (Meyn, 2007).

The country has a beef quota with duty free access on its exports of meat to the EU, which is usually unable to meet. In other words, there are opportunities to export more to the EU. Challenges include livestock diseases and veterinary controls (Foot and mouth disease in 2009-10 and a deficient beef tracing system in 2011). The country has since resumed exporting beef to the EU in July 2012. Botswana is exploring alternative markets which is important for boosting trade.

Figure 23: Trend in the value of major agricultural products and textiles exports (Pula; 2009 to 2016)



Source: Statistics Botswana (2009 – 2016)

4.4 Import and export markets

Botswana imports mostly from SACU, in particular from South Africa. The second major import destination is the European Union. In recent years, imports from Asia have overtaken imports from the EU. Principal imports from Asia include diamonds and chemical products (India).

In terms of export destinations, around a third of the value goes to Asia. Most of the exports directed to Asia are diamonds as they heavily dominate Botswana's exports. The other markets for locally produced goods are South Africa (13%), Zimbabwe (9%) and Namibia (4%) (Botswana Investment and Trade Centre [BITC], 2016). Little is exported to the USA and to other African countries (around 3% each).

4.5 Trade regime, agreements and market opportunities

According to the national trade policy, Botswana pursues trade policy negotiations with strategic bilateral, regional and multilateral trading partners to access market opportunities for available exports commodities and also to access a wide variety of import products for the country. The policy interventions in Botswana's trade sector reinforce the country's seriousness in its export-led strategy and economic diversification.

Botswana has entered into bilateral, regional and multilateral trade agreements which have had an impact not only on trade policy but also on the domestic framework for doing business. These are discussed below.

Southern African Customs Union

SACU is the cornerstone for Botswana's trade policy framework. This agreement, first signed in 1910, establishes a customs union between Botswana, Lesotho, Namibia, Swaziland (BLNS) and South Africa.

SACU member states share a common revenue pool emanating from all customs, excises and all additional duties from the common customs area according to the revenue sharing formula. The customs union is also responsible for other trade related issues like anti-dumping; countervailing and safeguarding of duties on goods imported from outside SACU; and rebates, refunds, or duty drawbacks (SACU, 2016). SACU has also concluded several trade agreements with for example the European Free Trade Association (EFTA), South American Customs Union and India. The negotiations and agreements create a framework for improved trade between Botswana and the rest of the world and hence creating opportunities for local and emerging exports. As shown earlier, SACU is the country's largest source of imports and destination for non- traditional exports.

Southern African Development Community

Botswana continues to develop an agenda for higher regional integration to create market opportunities for its export commodities and to increase access to a wide range of quality import goods and services at affordable prices. Botswana is a signatory to the SADC Protocol on trade (1996) that seeks to liberalise intra-regional trade through the elimination of internal trade barriers (SADC, 2000). Botswana is also a member of the SADC Free Trade Agreement (SADC FTA). Through this commitment for higher regional integration, Botswana has also signed the SADC Economic Partnership Agreement (SADC EPA) and under this agreement, the EU grants Botswana 100% access to its market. SADC EPA also offers flexible rules of origin, which favours the development of new value chains. For example, the agreement allows for fruits harvested in one SADC country to be processed and packaged in another SADC country. The agreement also offers opportunities for import of similar raw products for processing to the EU. Botswana also has bilateral agreements with SADC countries like Malawi and Zimbabwe which allows for preferential exchange of goods and services.

World Trade Organisation

Botswana is one of the founding members of World Trade Organisation (WTO). WTO is the only organisation that deals with regulation of international trade. WTO has provided a framework for bilateral, multilateral, regional and international trade agreements. (WTO, 2014). WTO have extended its focus from mere border control issues to issues such as trade in services, intellectual property rights, product standards, investment policy, trade defence measures and agricultural policy. WTO has created a global forum for trade liberalisation through cutting of tariffs, liberalization of trade in services, expansion of the rule of law and intellectual property protection among others. In line with the WTO's objective of reducing barriers to trade, member states are expected to notify the WTO about regulations and other trade-related measures that they (intend to) apply.

The African Growth Opportunity Act (AGOA)

AGOA is a unilateral trade preference program that aims to establish trade and investment relationships between the USA and selected sub-Saharan African countries. AGOA grants duty-free access to selected exports from eligible countries. The act encourages investment in African countries through Foreign Direct Investment (FDI) in listed products. The United States of America through AGOA has developed several initiatives to help African countries utilize the existing market. Some of the initiatives were to:

- a. encourage and assist eligible countries to develop strategies for the AGOA market;
- b. assist regional speciality foods companies by advising them on the requirements for US market and providing market exposure.

The act also slightly relaxes the applicable Rules of Origin allowing for creation of regional value chains within member countries for export. Botswana has developed an AGOA country strategy to benefit more from the US market. The USA is an underutilised market by Botswana, involving mostly diamonds. Other products like leather products are exported, but exports are not growing. The act

offers export opportunities for game, processed agricultural products and FRR. Optimising regional value chains can also help Botswana and southern Africa to export speciality foods, involving baked goods, ingredients, beverages, condiments, cereal, game, sauces, snacks and spreads (this sector was valued at US\$ 120.5 billion in 2016).

Niche Markets

Niche markets depend largely on customer choice, specifications and preferences, unique species or product, technology and regulations in the importing country. Botswana has potential niches in products and services like range beef, organically produced commodities, fair trade, FRRs, cultural tourism, medicinal tourism; however, the country is hardly exploiting the niche market potential. Ecotourism is the only niche market that is actively accessed. The country should use existing agreements like AGOA to search for market opportunities for speciality products such as FRR. Farmers and producer organisations need to weigh the benefits of niche markets (i.e. a premium price) and the extra production costs (i.e. certification costs and regular auditing). Figure 24 shows examples of niche markets that can be used by Botswana for some of its FRR.

Figure 24: Certified niche markets for coffee and bananas



Source: own pictures.

4.6 Summary

Diamonds remain the largest export product, causing balance of payment problems during global recessions. Diamond beneficiation has altered international trade patterns as diamond imports rose and exports increased due to value addition and larger volumes.

Given the small domestic market, future economic growth needs to be export led. This requires that the country fully utilises the potential of existing preferential trade agreements (e.g. beef exports to the EU) and that producers can compete in the global markets. Economic diversification, including development of regional value chains, is important to support exports in the post diamond era. FRR

may increase exports of raw FRR such as grapple and phane, and -better- of processed FRR. There is also potential for import substitution, for example by the production of morula juice, FRR fruits and vegetables. Existing trade agreements appear under-utilised and the opportunities of global niche markets (often with a premium price) need to be analysed and better exploited.

Further support measures include:

- a. Improve agricultural and rural infrastructure. Infrastructure such as water, roads, telecommunications and electricity connectivity can develop the informal sector and the agricultural sector in rural areas for possible backward and forward linkages in the economy;
- b. Improve the business of FRRs. Capacity building of Community-Based Natural Resources Management (CBNRM) communities and involvement of the private sector for financing, technology development and skills transfer into the sector can improve business of FRRs. Most FRRs are still abundant and have a potential for value addition;
- c. Make the FRR sector attractive to foreign investors and improve capacities of labour for FRRs and agriculture. Improve the business climate, including improving permit systems and improving labour productivity; and
- d. Exploit niche and emerging markets for FRRs. Markets for organic products such as FRRs exist and are growing. Comparative advantage in local FRRs will likely see growth.

5 Synthesis and conclusions

FRR are undervalued in development and land use planning. As a result, their potential for poverty reduction, economic diversification and trade diversification is underutilised. All of these are government priorities.

Forest and range resources are essential for rural livelihood security, mostly as the most important second and third livelihood source. In this way, they already augment livelihoods and they increase livelihood security: 'firewood protects us from poverty'. It is not necessarily an alternative to modern energy sources such as gas and electricity but can also complement these. FRR support livelihoods in two ways:

- a. Domestic use within the collecting households (in particular firewood); and
- b. Generation of cash through sales or processing of FRR (e.g. phane, grapple, morula, thatching grass, and morama).

FRR are valuable. In absolute terms, firewood, good quality thatching grass and phane had the highest economic value in 6 villages that were surveyed (Chobokwane, Gweta, Kumakwane, Lerala, Palla Road and Tsetseng). However, other FRR are valuable at the level of individual villages (e.g. morama and grapple in Chobokwane).

FRR collection contributes to poverty reduction, especially among women. However, there is significant potential to further reduce poverty by:

- i. Increased collection (subject to sustainability) through an increase in the number of collectors and increased amounts collected per harvester;
- ii. Value addition to FRR (e.g. through processing and packaging). Processing is currently very limited;
- iii. Proper storage and marketing to avoid seasonal over supply and shortage and even out the price; and
- iv. Cultivation of valuable FRR in the arable fields (e.g. integrated farming). Attempts have been made to cultivate morama, but efforts have not yet yielded positive results (e.g. in Tsetseng).

FRR are mostly collected in rural areas and by women, so the FRR sub-sector can reduce rural poverty and poverty among women. FRR can assist with the reduction of the poverty incidence, reduced the poverty gap and severity. More support is needed for CBNRM communities to integrate FRR in their revenue generating activities.

Botswana has made progress with the diversification of its economy but needs to intensify efforts to be prepared for the post diamond era. Agriculture has stagnated for decades, but the sector could become an important contributor to diversification and rural development. Currently, diversification has been concentrated in the service industry, which is mostly urban based. Tourism has been a rural growth sector in specific areas such as the Delta and Chobe, with to-date limited positive impacts on surrounding rural areas, and again CBNMR with joint ventures between communities and private companies. The FRR sub sector can contribute to agricultural diversification and growth and in doing so contribute to diversification of rural development, particularly if FRR collection will be accompanied by processing and rural industrialisation.

Several FRRs offer export opportunities, e.g. phane, grapple, morama and good quality thatching grass. Other could contribute to import substitution such as juices and vegetables. While the overall

amounts would be small compared to total imports and exports, FRR could make a modest contribution to maintaining a positive trade balance for commodities, which is particularly valuable when the diamond market is depressed.

FRR statistics are necessary to give the sector the recognition it deserves. Currently, no regular statistics are compiled. Annual Agricultural Statistics need to be expanded with a FRR section (or non-conventional crops); national accounts need to include FRR as a sub-sector of agriculture (non-conventional crops), employment statistics¹⁶, poverty surveys (5 to 10-year intervals) need to include the contribution of FRR to livelihoods, and annual trade statistics need to include exports and imports of non-conventional crops. DFRR need to establish a data base with information about issued permits, amounts harvested, sold, trade and exported. More data on other important FRRs will help in monitoring the sector. Recognising the sector as an economic activity is key to providing relevant information for M & E.

For policy and decision makers, a limited number of indicators should show the performance and impact of the sector on economic growth, poverty and livelihoods, economic diversification and trade. It is important to add to existing or planned indicator frameworks to minimise the extra efforts involved. This refers to indicator frameworks for NDP11, Vision 2036 and the National Strategy on Sustainable Development (NSSD). These are rooted in four sustainability pillars, and the following are mostly subsets of the framework indicators.

- a. Sustainable economic development & diversification;
 - i. Annual growth of FRR value added/ GDP and FRR processing;
 - ii. FRR value added (including processing) as % of non-mining GDP;
 - iii. FRR and FRR processed products exports (absolute value and as % of total exports);
 - iv. Growth in FRR and FRR processed food production.
- b. Sustainable social and human development:
 - i. Contribution of FRR to rural livelihoods;
 - ii. FRR household value as % of rural PDL;
 - iii. Employment in the FRR sub sector.
- c. Sustainable environmental development:
 - i. Harvest/regeneration by specific FRR;
 - ii. Number of FRR species on IUCN Red list of threatened species; and
 - iii. Number of CBNRM projects actively involved in FRR activities and associated revenues.
- d. Sustainable governance:
 - i. Effectiveness of FRR legislation and policies;
 - ii. Compliance with legislation and policies;
 - iii. Participation and effectiveness of non-state institutions in FRR governance.

The data base needs to evolve, but it is important that relevant new national surveys include FRR explicitly. Only then will the sector's importance and performance be better documented.

¹⁶ For example, data for the informal sector survey only include two FRRs being, Phane and Wild berries under the agriculture section

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