

working paper
CBMS-2020-09

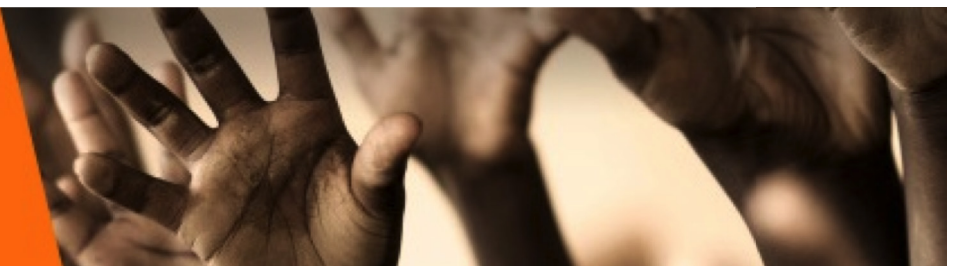
Sustainable Development Goals, Botswana: A Case Study of Gabane Village in Kweneng District

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May 2020



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Sustainable Development Goals, Botswana: A Case Study of Gabane Village in Kweneng District

Abstract

The main objective of the research paper was to use the Community Based Monitoring System (CBMS) methodology to determine progress on achievement of Sustainable Development Goals (SDGs) with a view of localising SDGs to Gabane village. Generally, the results reveal that poverty is prevalent amongst women, youth and children. Specifically, the working poor constitute 40.8% of the people leaving below the poverty line. Noteworthy, is that 50% of children under 5 years of age have no access to pre-primary education. Gabane residents are reluctant to participate in poverty-targeted government programmes as evidenced by a low participation rate. Last but not least, the results show a higher unemployment rate of 23.3 % (ILO or narrow definition) and 29.44% (broad definition) in Gabane. The majority of the unemployed were youth and women. The policy implications of the results are that the government of Botswana should review the current minimum wage legislation to ensure that the minimum wage is aligned to the cost of living so as to ensure decent wages. Finally, in order to ensure that early childhood is rolled out for all under 5s, the government should expedite the implementation of the Education and Training Strategy Sector Plan (ETSSP) of 2015-2020.

JEL: I32, I33, J88

Keywords: Poverty analysis, poverty, welfare and wellbeing.

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Acknowledgements

This research work was carried out with financial and scientific support from the Partnership for Economic Policy (PEP) (www.pep-net.org) with funding from the Department for International Development (DFID) of the United Kingdom (or UK Aid), and the Government of Canada through the International Development Research Center (IDRC).

The authors are also grateful to Bernadette Mandap, Marie Celeste Diouf and Steffie Calubayan for technical support and guidance, as well as to the Department of Surveys and Mapping director for assistance with generating and validating the poverty maps for Gabane village. We extend our gratitude to the leadership of Gabane village (Kgosi and dikgosana), the Village Development Committee, Councillors and the Gabane residents for their support during data collection and Kgotla meetings. University of Botswana Finance Department provided valuable support in terms of management of the grant to which we are grateful. Last but not least, the authors would like to thank Prof Alellie Sobrevinas, Dr. Felix Ankomah Asante, Dr. Nanak Kakwani, Dr Nancy Spence and Dr Sudarno Sumarto among others for valuable comments and suggestions.

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Executive summary

Localizing Sustainable Development Goals (hereafter, SDG) is vital for issues of policy targeting to ensure that “no one is left behind.” In fact, most seventeen SDG (with the exception of Goals 9, 12, 13, 14, and 17) require interconnected strategies at the community level to curb linkages among poverty, unemployment, ill health, and environmental degradation. Botswana, like most developing countries, lacks detailed micro disaggregated data at the household level, making it difficult to localize SDG. With a research grant from the Partnership for Economic Policy (PEP) and technical support from the CBMS Network Office, the University of Botswana undertook this study in Gabane Village, Kweneng District, Botswana in an effort to overcome the challenge of lack of disaggregated data and enable the localization of SDG. This report therefore provides the SDG results of Gabane Village with the hope that policy makers may take stock of how far the Gabane community has fared achieving the SDG—thus improving on issues of policy targeting.

We relied on quantitative data obtained from a census of Gabane Village. The community-based monitoring system (CBMS) methodology was adopted and pilot-tested in Botswana to generate the data necessary to undertake empirical analysis of progress on SDG and to map poverty levels in a study locality (Siphambe, et al., 2018). The CBMS collects and produces disaggregated information at the local level for the use of government units, national agencies, non-governmental organizations, and civil society for planning, program implementation, and monitoring. Data collection took place over a period of two months between February and April 2018 and covered all households in Gabane. The census was carried out by means of a household survey conducted by local enumerators who had been trained on the CBMS module.

The key findings of the study are as follows:

- 344 households in Gabane (795 individuals or 12.77% of the sample) lived below the international poverty line (USD \$1.90).
- 430 households in Gabane (980 individuals or 16% of the sample) lived below the national poverty line.
- 15 individuals (0.22 %) were poor according to the Multidimensional Poverty Index (MPI) in Gabane.
- The majority of the poor individuals were women, youth, and children.
- The working poor constituted 40.8% of the people who lived below the national poverty line.
- There was low participation in government programs by Gabane residents.
- 0.43% of children aged 0-5 were severely underweight whereas 1.01% were underweight.
- 39.52% of the population in Gabane faced moderate hunger and 7.9% faced extreme hunger.
- In Gabane, the main causes of death were diseases of the heart, accidents, diabetes, and complications during pregnancy or childbirth.
- 50% of children under 5 years of age had no access to pre-primary education.
- 91.9% of households in Gabane had access to electricity and 97.2% of households used clean fuels for cooking.
- 99% of households had access to safely managed sanitation and 99.78% had access to safe water.

- The unemployment rate was 23.3% (using the narrow definition) and 29.44% (using the broad definition). The majority of the unemployed were youth and women.
- The proportion of youth (aged 15-24) not in education, employment, or training (hereafter, NEET), expressed in relation to the total population, was 7.8%.

Our recommendations are summarized as follows:

- i) Review labor legislation regarding the current minimum wage rates, which are not currently linked to the cost of living, and which therefore lead to jobs that may not pay decently.
- ii) The government must intensify efforts toward elimination of poverty. The more sustainable way of dealing with poverty is to provide employment opportunities, especially for youth and women. Given that a significant number of people work in the informal sector, an improved business environment will mean better performance of the informal sector.
- iii) Food supplementation for children should be intensified and procedures adopted to make sure it reaches the intended beneficiaries. Knowledge gaps regarding child malnutrition must also be filled so care takers can be advised accordingly.
- iv) Through the Education and Training Strategic Sector Plan (ETSSP) 2015-2020, the government has begun increasing enrollment in early-childhood and pre-primary education. Over time, the plan is intended to improve the quality of education and remedy low pre-primary enrollment. While that has been identified as the policy, implementation has moved very slowly. We recommend that the implementation of this policy be expedited given the urgency of the matter and its results on quality of education. Civil societies, village-development committees, and the government should cooperate to ensure that affordable quality pre-schools are available in all communities.
- v) The government should provide and encourage vocational training for school dropouts (from both primary and secondary school). Vocational training should be aligned to the needs of the market.
- vi) The low participation of Gabane residents in government programs indicates issues of targeting of government programs. We recommend that the government ensure effective and ongoing monitoring and evaluation of these programs to make sure they meet their intended objectives. Awareness of government programs must also be increased, especially in rural areas. This can be done by taking services to the people through annual road shows by different ministries.

1 Introduction

1.1 Context of the study

Botswana is virtually the only country in Africa that has sustained rapid economic growth over an extended period. At independence in 1966, Botswana was transformed from one of the poorest countries in the world to upper-middle-income status in the 1990s. For much of the post-independence period, Botswana has recorded impressive growth rates. Real per-capita income grew by more than 7% a year, an achievement that puts Botswana on par with such “Asian tigers” as Thailand and Korea during the same period. The high growth rate, facilitated by mineral wealth, was carefully nurtured by disciplined fiscal and monetary policies. Unfortunately, the mineral-led economic growth was not matched by an increase in availability of jobs as expected. Rather, the result has been high income inequality and poverty levels not befitting an upper-middle-income economy (United Nations, 2017a). Given this development, Botswana has embarked on initiatives to address poverty, hunger, health, education, gender equality, water, sanitation, energy, the environment, and social justice, leading to the localization of Sustainable Development Goals to highlight the impact, role, and intervention of local institutions and participants in Botswana.

The SDG present an opportunity for Botswana to position its development efforts within a global framework that it and other countries designed. The SDG align with national development frameworks which were expressed in the Botswana Vision 2036 and 11th National Development Plan (NDP 11). This implies that the goals and targets outlined in the SDG have been entirely integrated into national efforts to develop the country as a whole. All seventeen SDGs are relevant to Botswana, excluding Goal 14 which deals with the marine environment (UNICEF, 2015).

The implementation of SDG in Botswana has faced some challenges, the main examples of which were related to lack of financial resources and the absence of high quality disaggregated data that could enable the country to design targeted programs to address poverty (United Nations, 2017a). This study will help in addressing some of these challenges.

We used Community-Based Monitoring System (CBMS) data from all households in the area of interest. These data can be employed to better identify the needs of the people in Gabane, propose relevant policies for local development, and favor the achievement of Sustainable Development Goals. This research is a first attempt to analyze and monitor SDG. One of the goals of this study was to collect data that would enable us to produce an SDG report for the village of Gabane, including multidimensional poverty index and other information that would allow the monitoring of the status of progress on SDG.

1.2 Research questions and objectives

- The general objective of the research is therefore to analyze the socio-economic conditions of the CBMS site in the local monitoring of SDG.
- The specific objectives are:
 - i) To analyze the status of SDG indicators in Gabane Village
 - ii) To propose appropriate policy interventions

2 Methodology and data

The data used in this study are obtained from a census of Gabane Village. The community-based monitoring system (CBMS) methodology was adopted and pilot-tested in Botswana to generate the data necessary to undertake empirical analysis of progress on SDG and to map poverty levels in a study locality (Siphambe, et al., 2018). Gabane village was chosen on the basis of high unemployment (17.4%) in the village during the 2011 Population and Housing Census and also because of its proximity to Gaborone, where the research team was based. During the census period, the village showed one of area's highest unemployment rates.

Data collection took place over a period of two months between February and April 2018 and covered all households in Gabane. The census was carried out by means of a household survey conducted by local enumerators who had been trained on the CBMS module. Data were collected using a household profile questionnaire and community profile questionnaire. Questionnaires were converted into tablet-forms using CBMS APP tools. Using the CBMS APP software, a tablet system of data collection was implemented (Siphambe, et al., 2018).

Moreover, we have determined the multidimensional poverty index (MPI) to analyze the level of household poverty in addition to income poverty. According to Alkire and Santos (2010), the MPI is a measure of acute global poverty. It complements monetary measures of poverty by considering overlapping deprivations that individuals may suffer at the same time. The MPI has three dimensions: health, education, and standard of living. These are measured using ten indicators. Table 15 in the Annex presents the dimensions, indicators, deprivation cut offs, and weights used in the calculation of the MPI.

3 Application and results

3.1 Overview of the Study Area

The overall population recorded in Gabane at the time of our study was 6,842. Gabane is divided into four council wards, whose population was: 2,165 (Gabane South East), 2,056 (Gabane South West), 1,576 (Gabane North West), and 1,045 (Gabane North East).

The total number of households covered was less than the anticipated 4,091 as per the Botswana 2011 Population and Housing Census. This is mainly because there have been household changes since the 2011 census, especially the relocation of students from multi residential units (who, at the time, would have made up a single household. The 2011 Population and Housing Census also included villages classified as associated with Gabane but which were not in the central part of the village; these were excluded from our study for logistical reasons. Consequently, the total number of households included in our study was 2,693. The locality with the highest number of households was Gabane North West (717 or 26.6% of the total).

The data showed more girls and women (56.01%) than boys and men (43.99%) in the study area. Youth (15-39) made up 55.4% of the total population, followed by children under 14 years (22.8%). The elderly (65 +) recorded the lowest percentage (4.2%) of the population.

Of the labor force, 939 of 4,015 individuals (23.3%: narrow definition) were unemployed (those actively seeking work). The rate was higher than the national unemployment rate recorded in 2015-2016 which was estimated at 17.7%. Of the 939 unemployed individuals, 36.95% were men and 63.05% were women.

The CBMS study also investigated people who live with disabilities in Gabane Village and found that ninety people lived with disabilities within the 2,693 households. Of these ninety, fifty-six were men and thirty-four were women. People who live with disabilities included both adults and young people. Because our study concerned unemployment among youth, the number of people who lived with disabilities and who also fell into the youth category was interesting. Our investigation identified twenty-six young people (32%) among the total number of people who lived with disabilities. Of this number, seventeen were young men and nine were young women. Table 1 presents a summarized profile of the Gabane Village locality.

Table 1: Profile of Gabane Village, Botswana

Total population	6842
Number of Households	2693
Youth (15-39) % of total population	55.4%
Unemployed (excluding discouraged job seekers)	939 (23.3%)
People who live with Disabilities	90 (1.3%)

Source: 2018 CBMS Census, Gabane, Botswana.

3.2 CBMS Core Indicators in Gabane Village

Table 16 in the Annex summarizes the CBMS core indicators in our study of Gabane Village.

3.2.1 Goal 1. End poverty in all its forms everywhere

In simple terms, poverty is a condition in which a person or community lacks the financial means and necessities to enjoy a minimum standard of life and well-being that is acceptable in society. Coudouel, Hentschel, and Wodon (2002) acknowledged various definitions and conceptions of well-being but based their work on three aspects of poverty: lack of adequate resources or abilities to meet daily needs; inequality in income distribution, and inequality in consumption. They additionally defined vulnerability as the possibility or risk of being in poverty or of falling deeper into poverty in future.

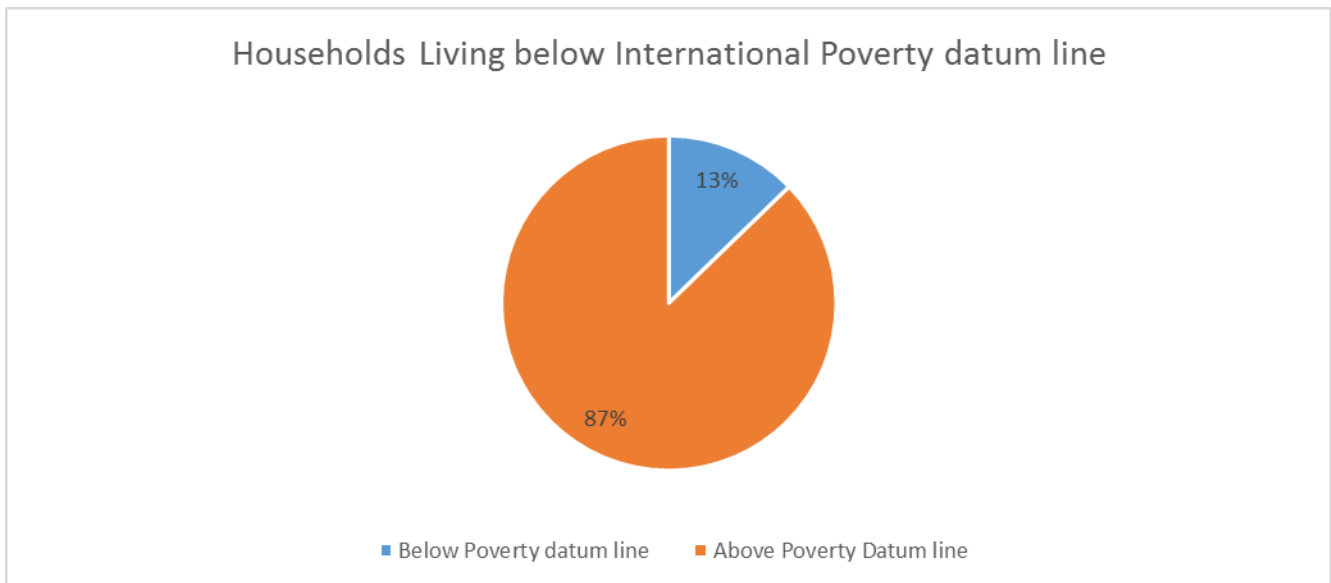
Poverty measurement can assist in determining whether poverty is growing or declining and whether economic growth is benefiting the poor. Developing countries of East Asia have been more successful in reducing poverty than other regions because of the design and implementation of appropriate policies that promoted widespread education, trade, and infrastructure investment (Nallari & Griffith, 2011). In Sub-Saharan Africa, similarly, relevant policies and means for monitoring and evaluating implementation are needed to ensure that a region succeeds in combating poverty.

The poverty incidence is determined by computing the poverty line (PDL), which is based on the cost of a basket of goods and services considered to be necessary and adequate to meet the basic needs of a household (food, clothing, personal items, household goods and services, and shelter, e.g.). The daily/monthly requirements for PDL basket components differ according to sex, age, and household composition (Statistics Botswana, 2018).

Proportion of Population below the International Poverty Line, by Sex, Age, Employment Status, Disability, and Geographical Location

In local currency, the international poverty line (USD \$1.90 per day) is estimated at 19.65 Botswana Pula (P19.65) per day. Because the income data we obtained was for the twelve months preceding our survey, we estimated an annual international poverty line figure of P7147.10 by converting USD \$1.90 per day into Botswana Pula using the average annual exchange rate of P1 = USD \$0.0967. Based on these results (Figure 1), 344 households (12.77%) in Gabane lived below the international poverty line. Furthermore, the results showed that Gabane South West had the highest number of households below the international poverty line (32.8%), and Gabane North East had the lowest (13.4%).

Figure 1: Households that Live below the International Poverty Line in Gabane Village, Botswana

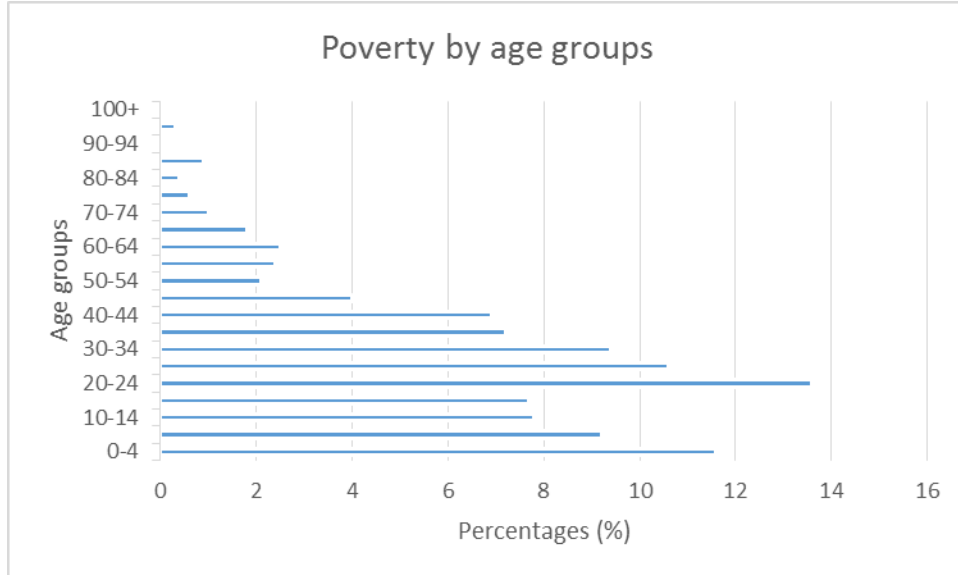


Source: 2018 CBMS Census, Gabane Village, Botswana.

Our poverty data were disaggregated by age, sex, disability, and employment status for the population of Gabane to allow an in-depth look at trends across population. The data showed that out of a population of 6,842, 795 individuals (about 11.6%) lived below the international poverty line. Of the 795 poor individuals, the majority were women (61.5% of the poor), and most poor individuals lived in Gabane South West (36.6%). The finding was in line with national figures which have shown that women in Botswana are more vulnerable to poverty and make up the majority of the unemployed, largely because they have less access to and control over economic resources and skills training (Lesetedi, 2018).

The data further revealed that 8.2% of the poor lived with disabilities. This was cause for concern because the combination of disability and poverty gives those with the greatest needs access to fewer resources. Distribution of poverty by age group showed that youth were most affected by poverty: 13.6% of the 20-24 age group lived below the poverty line. These results were expected because the majority of the young people in this age group were unemployed. The group with the lowest proportion of people living below the poverty line was the elderly. These results are as shown in Figure 2.

Figure 2: Poverty by Age Group, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane Village, Botswana.

With regards to employment status, the data revealed that 407/4,015 individuals in the labor force lived below the international poverty line. Of these, 39.8% were employed, 48.2% were actively seeking work, and only 12% were discouraged job seekers.

The proportion of people living below the poverty line (11.6%) was much higher than the national estimate of 5.8%. The results from the Botswana Multi Topic Household Survey of 2015-2016 showed that the proportion of people living below the international poverty line (extreme poverty) fell from 23.4% in 2002-2003 to 6.4% in 2009-2010 and finally to 5.8% in 2015-2016 (Statistics Botswana, 2018), indicating that poverty had considerably reduced at the national level. Poverty rates may have fallen because Botswana is one of the few countries in Africa that fully funds social assistance programs out of its own resources. Around 4.4% of Botswana's Gross Domestic Product is dedicated to social spending, which has had a significant impact on poverty over the years (World Bank, 2015).

Proportion of Population that Lives below the National Poverty Line, by Gender, Age, Employment Status, Disability, and Geographical Location

The Botswana poverty line was estimated at P880.00 per month in 2009-2010 by Statistics Botswana; this translates to P857.45 per month based on the 2017 cost of living, or the equivalent of P10, 289.40 per annum. Based on this, our results showed that 430 households (16%) in Gabane lived below the national poverty line. Again, Gabane South West had the highest number of households that lived below the national poverty line (33%) and Gabane North East had the lowest (14%).

On an individual level, the data showed that 980 out of 6,842 individuals (or about 14.3%) lived below the national poverty line. According to the Botswana Multi Topic Household Survey of 2015-2016, the proportion of people across the country who lived below the national poverty line was two percentage points higher. In 2009-2010 the proportion of people living below the national poverty line was 19.3% according to the Botswana Core Welfare Indicator survey, showing a decline between 2009-2010 and 2015-2016.

Sex-disaggregated data showed that of the 980 poor individuals in Gabane, 61.3% were women, and the majority of the poor were from Gabane South West (36.9%). A significant proportion (9.3%) of the poor lived with disabilities. Distribution of poverty by age group showed that 20-24-year-olds were most affected by poverty. The data on employment status revealed that of the labor force, 515 out of 4,015 individuals lived below the national poverty line. Of these 515 individuals, 40.8% were employed, 48.5% were actively seeking work, and only 10.6% were discouraged job seekers.

The limitations of interpretation based on the Botswana poverty line include the following. First, the PDL basket currently includes about five categories of commodities and cannot be updated until a price survey is conducted; second, the PDL basket must be made consistent with official cost-of-living indices, meaning that it can only be calculated when price indices are available. Finally, such a detailed PDL basket does not help to achieve accurate poverty statistics (United Nations Development Programme, 2005.)

Proportion of Men, Women, and Children (of All Ages) Who Live in Poverty in All Its Dimensions According to National Definitions

For the village of Gabane, the results showed that 0.22% of the people were MPI-poor (see Table 2). According to the MPI, this means that they were in acute poverty. Most MPI-poor individuals were found in Gabane North East (0.86%) while Gabane North West had no MPI-poor individuals (0%). MPI was low compared to income poverty in Gabane. This may reflect high subsidies in non-income dimensions of poverty such as health, education, and housing (SHHA).

Table 2: MPI by Locality, Gabane Village, Botswana

	Gabane South East	Gabane South West	Gabane North West	Gabane North East	Gabane
Poverty intensity	.39				
MPI poor (number)	2	4	0	9	15
MPI poor (%)	0.09	0.19	0	.86	0.22

Source: 2018 CBMS Census, Gabane Village, Botswana.

Considering the contribution of each indicator to multidimensional poverty (Table 3), we noted that malnutrition contributed more to the multidimensional poverty of people living in Gabane. This is mainly because malnutrition is a significant problem in children under age 5 in Botswana, especially in rural areas (World Bank, 2015). Child school attendance, access to adequate sanitation, assets ownership, and housing each contributed 0% to the multidimensional poverty of people living in Gabane.

In 2008, the then-president of Botswana, Lieutenant General Dr. Seretse Khama Ian Khama, appealed to all those who were able (i.e. individuals, groups, and companies) to help build houses for the needy. Many benefited from this initiative, especially in rural areas.

Table 3: Contribution of Each Indicator to Overall MPI

Dimension	Indicators	Dimension Weights	Indicator Weights		Magnitude	CH Ratio	Weight X CH Ratio	Contribution
Health	Children under 5 years old who died	1/3	1/6	0.17	8	0.00	0.000	0.23
	Malnourished children 0-5 years old (<i>Proxy considered the type of breakfast</i>)		1/6	0.17	14	0.00	0.000	0.40
Education	Edyschooling	1/3	1/6	0.17	7	0.00	0.000	0.20
	Edschattend		1/6	0.17	0	0.00	0.000	0.00
Living Conditions	Households without electricity	1/3	1/18	0.06	9	0.00	0.000	0.09
	Households without access to clean drinking water		1/18	0.06	1	0.00	0.000	0.01
	Households without access to adequate sanitation (<i>uncovered pit, no facility and other</i>)		1/18	0.06	0	0.00	0.000	0.00
	Households living in makeshift housing		1/18	0.06	0	0.00	0.000	0.00
	Household uses dirty cooking fuel-firewood, charcoal and dung		1/18	0.06	8	0.00	0.000	0.08
	Household has no access to information and has no assets related to mobility or livelihood (<i>lacks mobile phone, radio and bicycle</i>)		1/18	0.06	0	0.00	0.000	0.00
	Total population	6,842						
	MPI-poor population	15						
	headcount ratio	0.0021923						
	Intensity (A)	0.3889						
	MPI	0.0008526						

Source: 2018 CBMS Census, Gabane Village, Botswana.

Table 4 shows that most MPI-poor individuals in Gabane were women (53.33%). Moreover, 13.33% of the individuals who were MPI-poor were living with a disability. All individuals who were MPI-poor in Gabane were between the ages of 0 and 14 (children). Lastly, most MPI-poor had never been married (100). No individual who was divorced or separated was MPI-poor.

Table 4: MPI Poor by Selected Socioeconomic Characteristics, Gabane Village, Botswana

	Number	%of MPI Poor
By gender		
Men	7	46.67
Women	8	53.33
By disability		
Living with disability	2	13.33
Living without disability	13	86.67
By citizenship		
Botswana	15	100
Zimbabwe	0	0
Other	0	0
By age group		
0-14	15	100
15-24	0	0
25-34	0	0
35-44	0	0
45-54	0	0
55-64	0	0
65+	0	0
By marital status		
Never Married	4	100
Married		0
Living together		0
Separated		
Divorced		
Widowed		

Source: 2018 CBMS Census, Gabane Village, Botswana.

Proportion of Population Covered by Social Protection Floors/Systems

As noted, Botswana fully funds social-protection programs, and these programs, including the orphan-care program, the destitute program, and the Vulnerable Groups Feeding program, mainly address poverty, either directly or indirectly. To monitor this information, we asked respondents to indicate whether any of the household members had benefitted from any government program. The results are shown in Table 5.

Table 5: Proportion of Households that Benefited from Social-Protection Programs, Gabane Village, Botswana

Program	Proportion of benefiting households (%)
1. Orphan care programme	3.4
2. Destitute persons programme	1.0
3. Vulnerable Groups Feeding programme	1.5
4. School feeding (primary or secondary)	1.5
5. Needy student package	1.5
6. Community home-based care	0.5
7. Remote area development programme (RADP)	0.0
8. Livestock Management and Infrastructure Development	0.0
9. Poverty eradication programme	2.1
10. World War II veteran allowance	0.0
11. Old-age pension	27.5
12. Student allowance	36.7
13. Scholarships/sponsorships	17.0
14. Apprentice programme	0.0
15. Youth development fund	0.5
16. Self-help housing agency (SHHA)	0.1
17. Government voluntary scheme,	0.6
18. National internship programme	2.0
19. Young Farmer's Fund	0.4
20. Tirelo Sechaba	3.4
21. Women's Economic Empowerment (WEE) Programme	0.1

Source: 2018 CBMS Census, Gabane Village, Botswana.

The results showed that social assistance in Gabane was skewed in favor of three programs: student allowance (36.7%), old-age pension (27.5%), and scholarships/sponsorships for tertiary students (17%). It is very likely that most poor people did not benefit from these programs for one reason or another. Targeted programs for the poor cover less than 3% of all potential beneficiaries, which is a cause for concern. Given the high levels of poverty in Gabane, some eligible poor likely did not receive social assistance, perhaps because of targeting problems that could be addressed through more effective management (Seleka, et al., 2007).

It was interesting to examine programs that targeted youth (the Young Farmers Fund and the Youth Development Fund) because our study concerned the employment situation of youth. Our results indicated that these programs covered less than 1% of all potential beneficiaries. This partly explains why many youth in Gabane were unemployed.

Proportion of Population that Lived in Households with Access to Basic Services

Poverty can also be analyzed through access to basic services, including safe drinking water, sanitation, electricity, and shelter. In Gabane, 90.79% of the population had access to basic services. If we included basic education in the list of basic services, then the proportion of the population that had access to basic services fell to 88.72%. This indicator provides a sense of

the progress that has been made toward ensuring that all men and women, in particular the poor and the vulnerable, have equal access to economic resources and to basic services.

Nationally, results were mixed. With regard to safe drinking water and access to basic education, broadly equitable coverage has been achieved; in other basic services, especially sanitation and electricity, major gaps still remain, especially between urban and rural areas (World Bank, 2015).

3.2.2 Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 2 is directed at finding sustainable solutions to end hunger and achieve food security by 2030. The fight against hunger has seen some progress over the past fifteen years, and global trends show that the proportion of starving (malnourished) people declined from 15% in 2000-2002 to 11% in 2014-2016. More than 790 million people in the world still lack regular access to adequate food, however. If this figure is compared to the 930 million people who suffered from hunger between 2000 and 2002, the decline is not significant (United Nations, 2016).

Botswana's Country Global Hunger Index readings showed that the country faced "serious hunger" between 1990 and 2013. However, a slight improvement was recorded in 2013—but not enough for the country to be reclassified from "serious hunger" to "moderate hunger." Botswana's "serious hunger" problems were a policy concern and were not befitting a country with a middle-income status (World Bank, 2015). The results from the most recent Botswana Multi Topic Household Survey (BMTHS) 2015-2016 showed that 38.9% of the population was worried about not having enough food, with the highest prevalence in rural areas (around 50.2% of the population in rural areas were worried). Urban villages and cities/towns followed with 37.5% and 25.2%, respectively, an indication that Botswana still struggles with food inadequacy (Statistics Botswana, 2018).

The results from our study showed that 7.9% of the population of interest faced "extreme hunger" (those who indicated they went to sleep hungry because there was not enough food and those who indicated that they spent the whole day or night without eating anything because there was not enough food). Further, 39.52% faced "moderate hunger" (those who answered yes to any of the four questions related to hunger). These figures show that meeting the target of zero hunger by 2030 might be a challenge unless appropriate policies are put in place.

Botswana's ongoing struggle with food inadequacy implies that the country is also not food secure. Food security is used to determine household welfare, and a typical household is food secure if it can source food needed by members of the household (Pinstrup-Andersen, 2009). Botswana strives for national and household food security and emphasizes the need to intensify food production to meet shortfalls from commercial imports. The country's reliance on food imports is relatively high compared to food exports (World Bank, 2015).

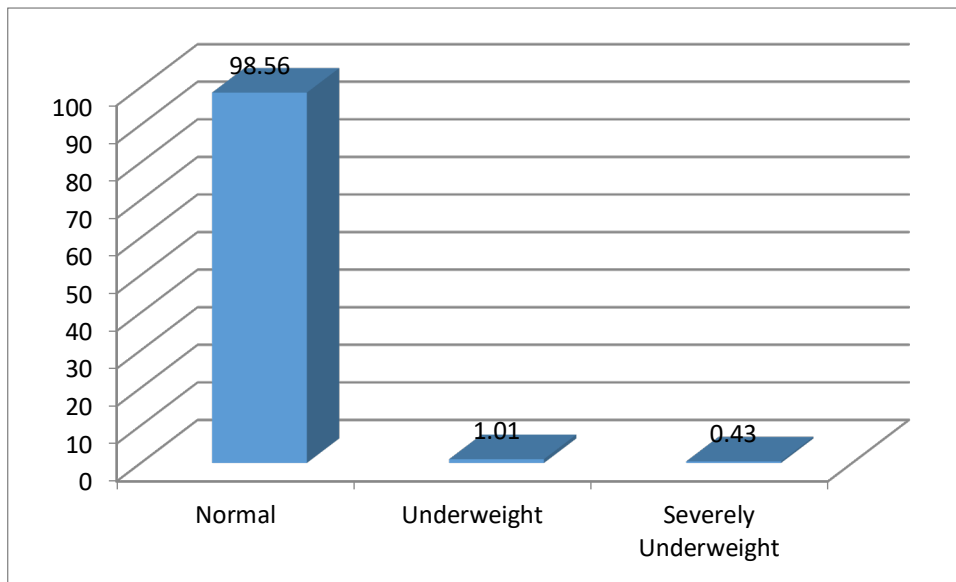
At the national level, widely used indicators of food security include the prevalence of malnutrition. Malnutrition is one of the world's most serious public-health challenges and its human and economic costs disproportionately affect the very poor, women, and children. Botswana's child malnutrition and mortality estimates remain high and are not commensurate with national investments in improving child health and survival. Although progress has been made, Botswana lags behind in reducing the population that suffers from malnutrition (World Bank, 2015).

The poverty assessment by the World Bank in 2015 showed that malnutrition remained a significant problem in children under age 5 in Botswana, especially in rural areas. Within this

age group, malnutrition was evident in children of complementary-feeding age, suggesting that poor diets and hygiene practices are leading contributory factors.

For our study, we created the variable mnutind (for malnutrition). The weight of an underweight child (under 5 years of age) for his or her age is <-2 standard deviations below the median Child Growth Standard of the World Health Organization. Thus, mnutind was measured using low weight for age.¹ Based on this, the results from our study (Figure 3) showed that 1.44% of those under 5 were malnourished (underweight (1.01%), or severely underweight (0.43%).

Figure 3: **Nutritional Status of Children, Gabane Village, Botswana**



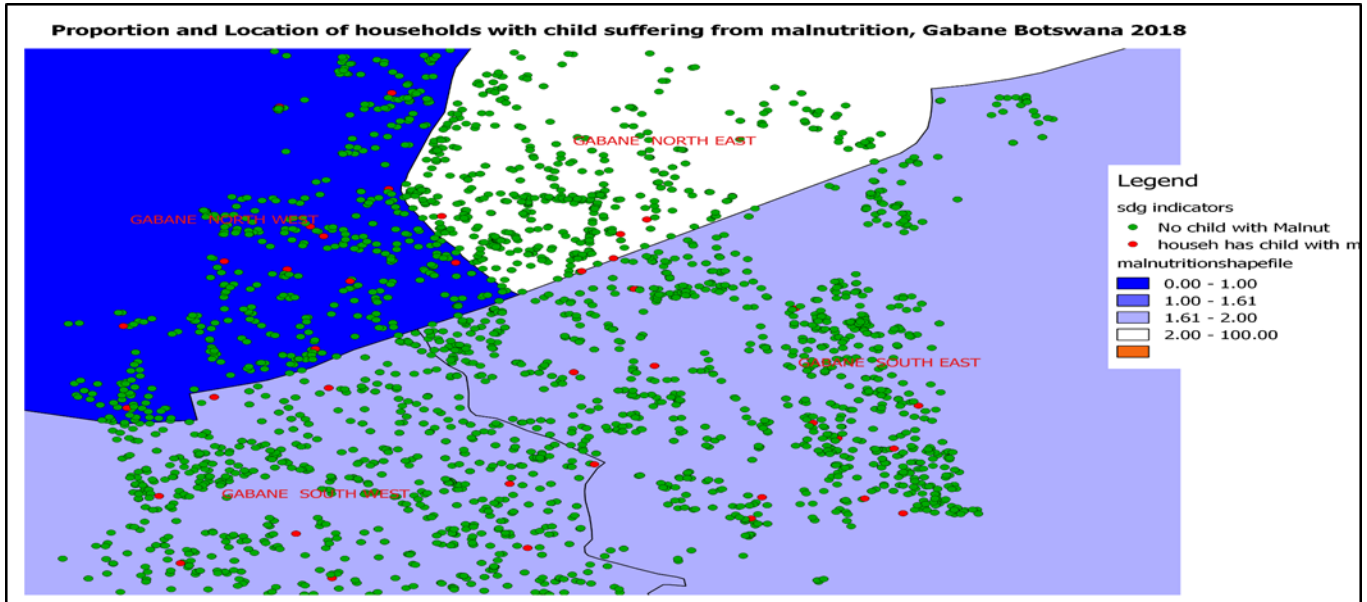
Source: 2018 CBMS Census, Gabane Village, Botswana.

It is important to note, however, that Botswana has implemented several interventions to address malnutrition in the country. These include the School Feeding Programme and the Vulnerable Group Feeding Programme. Gabane Village benefits from both. These programs provide food baskets with locally-sourced foods to beneficiaries (United Nations, 2017a).

The distribution of households with children suffering from malnutrition in Gabane is shown in Figure 4. The map shows that malnutrition was a problem throughout the village, though it was less prevalent in Gabane North East than in other council wards.

Figure 4: **Proportion of Households with Children Who Suffered from Malnutrition, Gabane Village, Botswana**

¹ Each child's weight was recorded from the records of the public-health system, which covers more than 95% of all children. This was then compared to the Child Growth Standards median of the World Health Organization.



Source: 2018 CBMS Census, Gabane, Botswana.

3.2.3 Goal 3. Ensure healthy lives and promote well-being for all at all ages

According to the UN report (2016), many governments have made huge strides in reducing child mortality, improving maternal health, and fighting HIV/AIDS, malaria, and other diseases. The aim of SDG and, in particular, Goal 3 is to achieve universal health coverage and provide access to safe and affordable medicines and vaccines for all. The main health challenges under Goal 3 in Botswana are maternal mortality, HIV- and TB-related deaths, non-communicable diseases, and substance abuse, though the country has achieved a substantial reduction in mother-to-child transmission of HIV.

One challenge that remains is maternal mortality, which Botswana has been unable to reduce significantly. Virtually all maternal deaths in Botswana occur in health facilities (99%). Deaths caused by abortion account for 15% of total maternal deaths (United Nations, 2017a). Table 6 shows results from our study on maternal mortality (complications during pregnancy or childbirth), road accidents, and mortality from non-communicable diseases and so on.

Table 6: Causes of Death, Gabane Village, Botswana

Cause of death	Frequency	Percentage
Diseases of the heart	12	14.29
Diseases of the vascular system	1	1.19
Pneumonia	1	1.19
Tuberculosis	1	1.19
HIV/AIDS	3	3.57
Cancer	3	3.57
Accident (e.g. car accident)	16	19.05
Complications during pregnancy or childbirth	8	9.52
Murder	2	2.38
Diabetes	13	15.48
Diseases of the lungs	1	1.19
Diseases of the Kidney	2	2.38
Other causes, specify	21	25
Total	84	

Source: 2018 CBMS Census, Gabane Village, Botswana.

About 19% of the deaths that occurred in Gabane were the result of motor vehicle accidents; diabetes was the second highest cause of death. One of the targets of Goal 3 is to reduce premature mortality from non-communicable diseases (diabetes, e.g.) by one third through prevention and treatment and to promote mental health and well-being. Some deaths were the result of heart disease or of complications during pregnancy or childbirth (14.29% and 9.52%, respectively). Furthermore, the proportion of all deaths among women aged 15-49 in Gabane that were maternal deaths was 0.3%, which was quite low. If Botswana were to reduce the national maternal mortality rate to less than 70 per 100,000 live births by 2030, the 9.5% of maternal deaths in Gabane would have to be considerably reduced.

Goal 3 also seeks to end preventable deaths of newborns and children under 5, with all countries aiming to reduce neonatal mortality to no more than 12 per 1,000 live births and under-5 mortality to no more than 25 per 1,000 live births. Under-five mortality refers to the probability that a child will die between birth and exactly **5** years of age, expressed per 1,000 live births (UNICEF, 2018).

In Botswana, the mortality rate of children under five in 2015 was 31 per 1,000 live births (World Bank, 2015). While this was much closer to the SDG target of 25 per live births, persistent challenges to child health outcomes have to be resolved in the country. Child deaths continue to occur because of complications among newborns, diarrhea, and pneumonia, among other causes (UNICEF, 2018). Malnutrition was also a significant contributor to deaths of children before their fifth birthday. Analysis of the Gabane data revealed that 3.6% of children died before age five.

One of the limitations that we faced here was that we could not calculate the maternal mortality ratio or the under-five mortality rate for Gabane Village because we had a limited sample. In most cases, these measures were calculated at a national level using population based surveys and records from vital registration.

3.2.4 Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

This goal envisions that, by 2030, Botswana will ensure that all girls and boys have access to quality early-childhood and pre-primary education so that they are ready for primary education.

Over the years, Botswana has made significant progress toward increasing participation in education and training. However, pre-primary education and access to education for students who live with disabilities remained a challenge. In 2015, only about 18% of eligible children (mainly those in urban areas) were enrolled in pre-school programs, indicated a lack of school readiness for many Standard One entrants. The Education and Training Sector Strategic Plan (ETSSP) seeks to increase access to quality education for all by advocating for the introduction of public pre-primary schools that cater to those who cannot afford private pre-primary schools. In order to increase access to pre-primary education, the Ministry of Basic Education recently introduced an orientation program for prospective Standard One pupils along with reception classes in public schools (Republic of Botswana, 2015).

Results from our study showed that 50.14% of preschool-aged children attended preschool, which was of particular concern because Gabane is an urban village (Table 7). Most children were therefore not adequately prepared to enter primary education. This is partly the result of the lack of a government policy on universal access to pre-primary education. Currently, most early-childhood and pre-primary education is provided by private providers, some of which are not of good quality. This raises issues of both access and of quality of education which must be addressed to improve educational outcomes at all levels. Sex-disaggregated data showed that the majority of the children who attended pre-school were girls.

Table 7: Pre-School Attendance, Gabane Village, Botswana

Pre school	Boys	Girls	Total	Percent
Attend	87	94	181	50.14
Do not attend	83	97	180	49.86
Total	170	191	361	

Source: 2018 CBMS Census, Gabane Village, Botswana.

Botswana has achieved very high rates of primary and secondary school enrollment. However, a sizable number of children still do not attend school, and the Ministry of Basic Education has established a Children Out-of-School Unit to address this problem. The official age range for the seven years of primary school in Botswana is from 6 to 12, and the range for the three years of junior secondary is from 13 to 15. According to Statistics Botswana, the net enrollment rate in primary education in 2012 was 88.6%, indicating the exclusion of 11.4% of 6-to-12-year-old children who were expected to be enrolled in primary school. At the secondary level, enrollment was around 61.1%, with girls' enrollment exceeding boys' (World Bank, 2013). Both of these indicators provide a sense of a country's progress in ensuring that all girls and boys complete free, equitable, and high-quality primary and secondary education. Our figures suggest that Botswana has yet to achieve this target.

Our results showed very high rates of enrollment in both primary and secondary schools (Table 8). The enrollment rate in primary education in Gabane was 98.6%, meaning the exclusion of only 1.4% of children aged 6-12 who were expected to be enrolled in primary school. With regard to secondary schools, the enrollment rate was 98%.

Table 8: Primary and Secondary School Enrollment, Gabane Village, Botswana

	Primary	Secondary
Enrolled	689 (98.6%)	243 (98%)
Not Enrolled	10 (1.4%)	5 (2%)
Total	699 (100%)	248 (100%)

Source: 2018 CBMS Census, Gabane Village, Botswana.

Sex-disaggregated data (Table 9) shows that the enrollment of girls exceeded that of boys at both the primary- and secondary-school levels. This was consistent with results from the World Bank (2013) presented above. Differences in school enrollment for boys and girl may be the result of sex ratio at birth rather than differential access to education.

Table 9: Primary and Secondary School Enrollment by Sex, Gabane Village, Botswana

	Boys	Girls	Total
Primary	333 (48.3%)	356 (51.7%)	689 (100)
Secondary	107 (44%)	136 (56%)	243 (100)

Source: 2018 CBMS Census, Gabane Village, Botswana.

Some reasons for the country's failure to reach a 100% enrollment rate include children with special needs, children residing in remote areas, and children with other social needs who may not be reached by the system. Our results showed that individuals who live with disabilities were a significant proportion of students at all levels of education (Table 10), and the proportions were even higher among those who were not enrolled in school. The country should develop targeted policy interventions to improve access to quality basic education to all children, including those with special needs or disabilities. Schools should be made user- and learning-friendly for learners with special needs and or disabilities (Republic of Botswana, 2015).

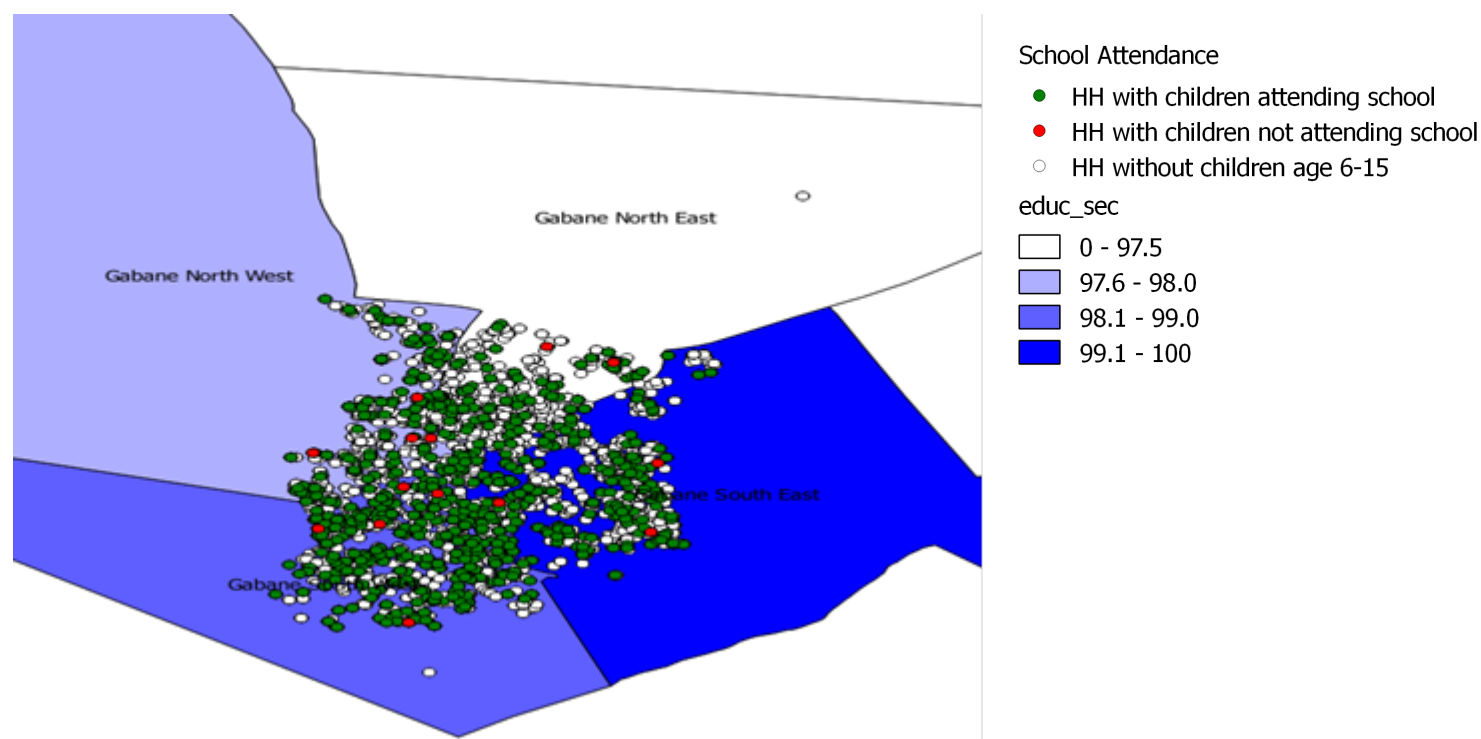
Table 10: Pre-School, Primary, and Secondary School Enrollment by Disability, Gabane Village, Botswana

Pre school	Who live with disability	Who do not live with disability	Total
Enrolled	12 (6.6%)	169 (93.4%)	181 (100)
Not Enrolled	16 (8.9%)	164 (91.1%)	180 (100)
Primary			
Enrolled	37 (5.4%)	652 (94.6%)	689 (100)
Not Enrolled	3 (30%)	7 (70%)	10 (100)
Secondary			
Enrolled	17 (7%)	226 (93%)	243 (100)
Not Enrolled	2 (40%)	3 (60%)	5 (100)

Source: 2018 CBMS Census, Gabane Village, Botswana.

Figure 5 shows the distribution of households with children who attended primary and secondary school in the four council wards in Gabane Village. School attendance was not a problem in Gabane North East and Gabane South East, where there were fewer households with children who were supposed to be in school but were not.

Figure 5: Proportion of Households with Children Who Attended School, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane, Botswana.

3.2.5 Goal 5. Achieve gender equality and empower all women and girls

The goal is intended to ensure that no citizen of Botswana will be disadvantaged in the future as a result of gender, age, religion or creed, color, national or ethnic origin, location, language, or political opinions. The government has offered more opportunities to women because they are poorest (e.g., the labor-based program, *lpelegeng*). The aim has also been to implement youth-empowerment schemes and ensure equitable access by women to appropriate programs and services.

Table 11 shows that gaps remain in the labor-force participation rate, wage equality, and estimated earned income derived from perception surveys, though Botswana was ahead of its neighbors in both women-to-men participation ratios, wage equality, and estimated earned income.² In particular, its high ranking on wage-inequality indicators is likely attributable to the fact that equal pay has been codified into the law, that public awareness of this principle is widespread, and that a relatively strong labor-inspection system has been instituted.³

Since 2013, Botswana has recorded progress in estimated average earnings, and the women-men gap has become significantly lower than in neighboring countries. As shown in Table 11, Botswana drastically improved its ranking on estimated earned income, from 101 in 2013 to 4 in 2016, again outperforming her neighbors. The improvement in estimated average earnings could be attributed to the increase of women in high-skilled, high-paid, and productive jobs. Both Namibia and South Africa recorded decreases in wage equality but showed progress in women's labor-force participation and estimated earned income. Zimbabwe recorded a decrease in women's estimated earned income (World Economic Forum, 2016). Botswana has still not done well in wage equality, however, and registered a decline from a ranking of 7 in 2013 to 33 in 2016.

These results are supported by a study carried out by Kolobe, Bakwena, and Siphambe (2015) which concluded that wage differentials existed in the Botswana labor market. The study found that men earned significantly more than did women. When employing quantile regression, however, the study showed that the wage gap steadily decreased from the low- to the high-income group. The results of a Melley disaggregation showed that the wage gap was prevalent in all income groups and widened from the lowest to the highest income groups (Kolobe, Bakwena & Siphambe, 2015). The study also noted that the nature of the differentials in the informal sector was a function of the sector under consideration. No wage differential was recorded in the public sector, though significant wage gaps were observed in the private sector.

² Estimated women's/men's earnings were derived from data on the ratio of women's non-agricultural wages to men's non-agricultural wages, women's and men's shares of the economically active population, the total populations of women and men, and the GDP per capita in PPP adjusted to U.S. dollars.

³ According to global ILO database, the number of labor inspections in Botswana rose nearly ten times between 2001 and 2011: from 877 to 8,125. The ILO's definition of labor inspection is the physical presence of a labor official in a workplace who inspects conditions of work related to hours, wages, health and safety, welfare, and compliance with child-labor regulations.

Table 11: WEF -Global Gender Gap Index 2016: Disaggregation of Economic Participation and Opportunity Sub-Index by Indicators and Regional Comparators

Indicators	Women	Men	Women-to-Men Ratio	Global Rank
Labor-force-participation rate				
Botswana	76	82	0.93	18
Neighboring countries				
Zimbabwe	78	88	0.89	38
South Africa	50	62	0.81	67
Namibia	57	64	0.89	36
Wage Equality	Survey Data Score *		Women-to-Men Ratio	Global Rank
Botswana	5.06		0.72	33
Neighboring countries				
Zimbabwe	5.00		0.71	35
South Africa	4.33		0.62	86
Namibia	4.57		0.65	64
Estimated Earned Income (PPP US\$)	Women	Men	Women-to-Men Ratio	Global Rank
Botswana	15,130.00	17,070.00	0.89	4
Neighboring countries				
Zimbabwe	1,460.00	2,133.00	0.68	34
South Africa	9,972.00	16,230.00	0.61	62
Namibia	8,638.00	11,345.00	0.76	16

Source: World Economic Forum (2016). *1=complete inequality - 7=complete equality, based on respondents' perceptions.

Botswana has done well in ratifying most international conventions related to gender equity. Important changes include the Abolition of Marital Power Act passed in 2004. This act made women equal to men in marriage, property rights, and guardianship of minor children. Botswana recently signed the Southern African Development Community protocol on gender and development, though earlier reluctance to sign cast some doubt on the country's commitment to gender equality. Cultural practices continue to present challenges with regard to the treatment of women. Occupational segregation in the labor market remains, and women tend to occupy positions and jobs that are stereotypically "women's work." Women, for instance, dominate in occupations such as nursing and primary-school teaching.

Despite these challenges, there has been progress on other fronts, including enrollment in education. Women in Botswana occupy key senior public-sector positions (about 40% of such positions in the public sector; see Mooketsane, 2014). The major challenge, however, has been the participation of women in politics, and the percentage of women in parliament has declined over time. The highest number was reached in 1999 when women were 18% of parliament, but that proportion has not grown since 2004. The expense of parliamentary campaigns and the lack of state funding for political parties have exacerbated the situation. Scholars such as Mooketsane (2014) have also argued that women shy away from politics because of the disrespect and derogatory attitudes of men during campaigns. With this record, Botswana ranks lowest in the whole Southern African Development Community region, and developing women's capacity in political decision-making is crucial.

Table 12: Percentage of Women in Parliament

Year	Total Seats	Seats Held by Women	Percentage of Women
1989	38	2	5
1994	44	4	9
1999	44	8	18
2004	61	7	11
2009	61	4	7
2014	61 ⁴	5	8

Source: Mooketsane (2014) and IEC Records for 2014 Elections. **No data were collected for this goal in the Gabane study.

3.2.6 Goal 6. Ensure availability and sustainable management of water and sanitation for all

This goal envisions that by 2030, Botswana will have achieved:

- a) Universal and fair access to safe and affordable drinking water.
- b) Access to proper sanitation and hygiene for all and end open excretion, concentrating on the needs of women, girls, and the disadvantaged.
- c) Improve the quality of water by reducing pollution, eradicating dumping, and reducing hazardous chemicals and materials, so that the proportion of untreated wastewater reduces by about half, and encouraging recycling and safe reuse globally
- d) Reduce the number of individuals facing water shortages by guaranteeing sustainable supply and drawing of fresh water supply, significantly increasing water use efficiency across all sectors.
- e) Implement assimilated water-resource management at all levels, together with trans-boundary cooperation as applicable
- f) Safeguard and refurbish water-related networks, such as mountains, forests, wetlands, rivers, aquifers, and lakes.

Proportion of Population That Used Safely Managed Drinking Water Services

Though it is a drought-prone country, Botswana has expanded the water system throughout the country over the years. The main sources of water are dams, the most reliable of which lie in the northern part of the country. Water is supplied through the North South Water Carrier (NSC) and, apart from occasional interruptions, most households in Botswana have adequate access to clean and piped water that is properly treated. Table 13 summarized information on access to clean and safe water by household in Gabane. Only 6 out of the 2,693 households did not have access to clean and safe water (0.22% of the total). Nationally, access was 95.8% in 2007. The 0.22% for Gabane was therefore within expectations, though there is still a need to reach 100%.

⁴ Four Parliamentary seats are through a special election process while the other 57 are elected from the 57 constituencies.

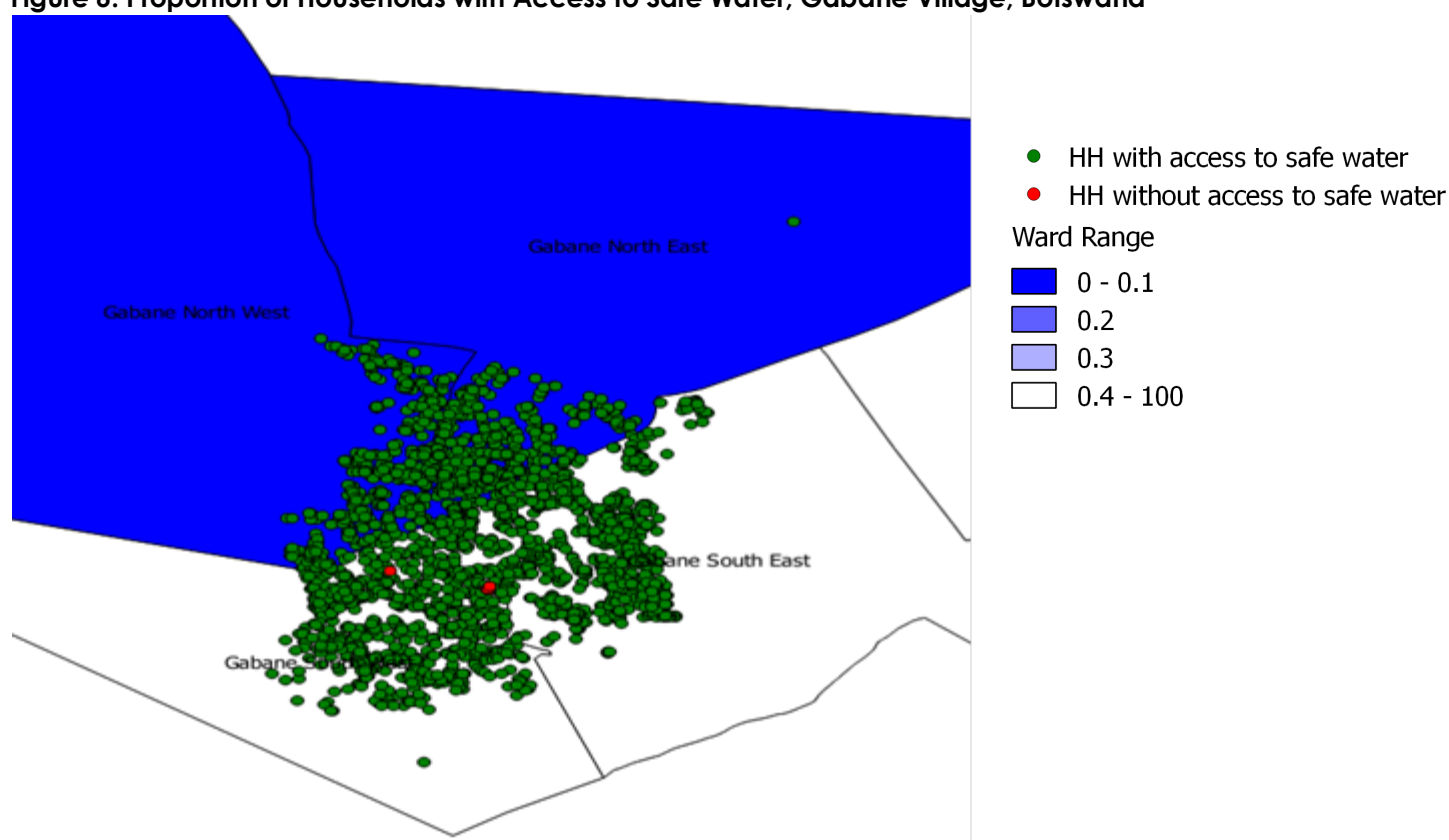
Table 13: Household Access to Clean Water in Gabane Village

Water Access	Frequency	Percentage
Access to clean water	2687	99.78
No access to clean water	6	0.22
Total	2693	100

Source: 2018 CBMS Census, Gabane Village, Botswana.

Figure 6 shows the distribution of households with access to clean and safe water at the council level. The results revealed that Gabane South West was the only council ward that had a problem with access to clean and safe water, and all households that indicated no access to clean and safe water were located there.

Figure 6: Proportion of Households with Access to Safe Water, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane, Botswana.

Proportion of Population That Used Safely Managed Sanitation Services, Including a Hand-Washing Facility with Soap and Water

Most households had water-based toilets and pit latrines, and very few did not have access to safe sanitary facilities (rural areas, especially those that were remote, were the exception). Nationally, access to improved sanitation was estimated at 79.8% in 2007. For Gabane, the number of households with no access to sanitary toilet was 27 (1% of the total; see Table 14). Though the percentage is low, it should be dealt with in order to achieve universal access by 2030. Data on hand-washing facility with soap and water was not available.

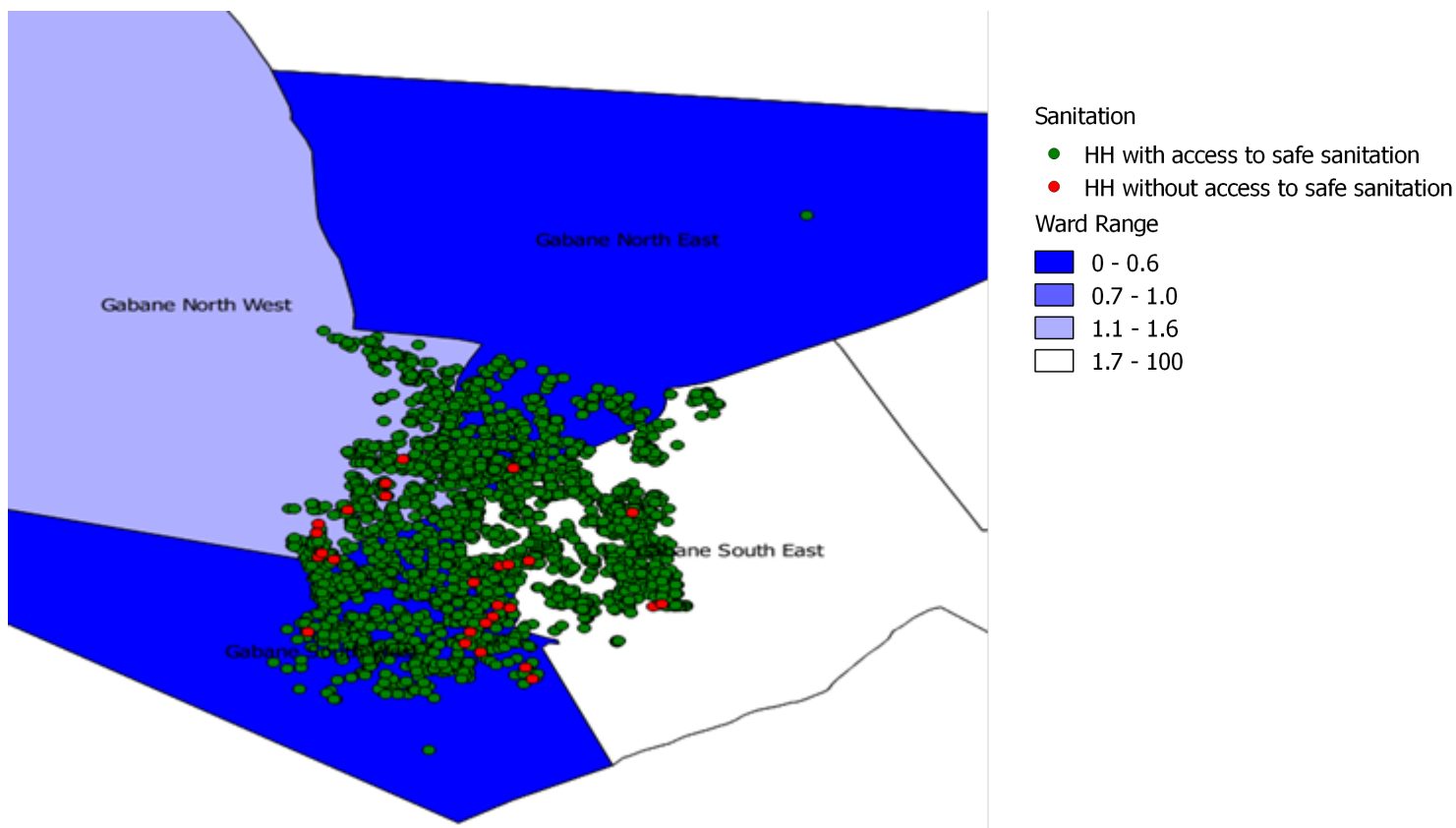
Table 14: Household Access to Sanitary Toilet Facilities in Gabane Village

Sanitary Access	Frequency	percentage
Access to Sanitary Toilet	2666	99
No access to Sanitary Toilet	27	1
Total	2693	

Source: 2018 CBMS Census, Gabane Village, Botswana.

Figure 7 shows the distribution of households with access to safe sanitation in Gabane Village. The results showed that Gabane North East was much better off than the other council wards in access to Sanitation.

Figure 7: Proportion of Households with Access to Safe Sanitation, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane, Botswana.

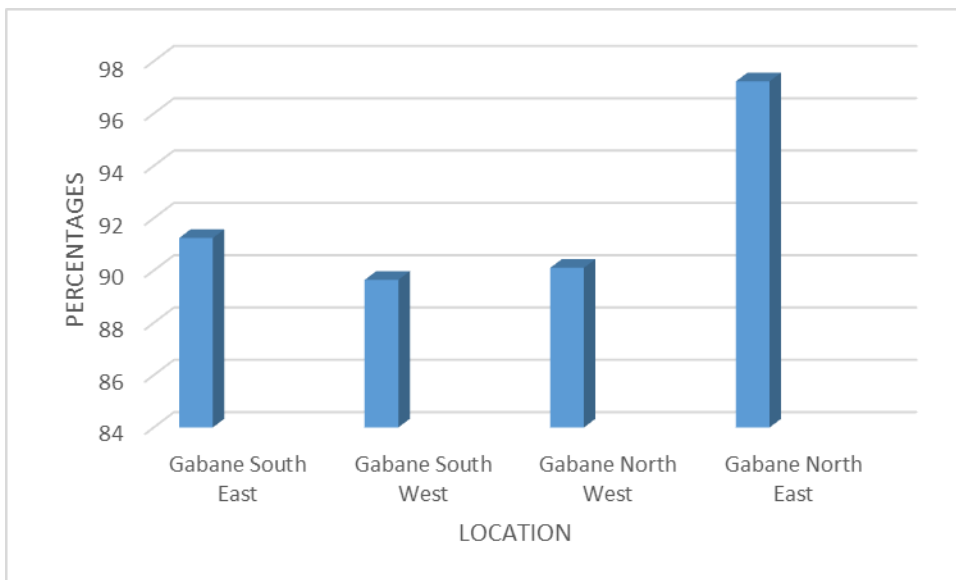
3.2.7 Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Energy plays a major role in economic development and is directly linked to well-being and prosperity across the globe. For developing nations, affordable and reliable energy are of great importance. Reliable energy supports households, industry, modern agriculture, and improved transportation, among other things. These building blocks help people escape poverty and create better lives for themselves ("The Importance of Energy," 2018).

Electricity, in particular, is vital for lighting at night, which affects children studying at home, and for the development of small businesses. Access to clean energy thus becomes essential to addressing poverty. In 2009-2010, the coverage of electricity in Botswana was estimated at 46% (Statistics Botswana, 2011). However, according to the World Bank's Poverty Assessment in 2015, electricity coverage stood at 53.2%, a significant improvement. Electrification was found to be much higher in towns and cities, where it reached an average of 68% (compared to only 9.9% in rural areas; see World Bank, 2015), reflecting clear differences in electrification infrastructure. In recent years, rural electrification has been among the government's top priorities.

The results of our research showed that 91.9% of the households in Gabane had access to electricity, perhaps largely because Gabane is an urban village and had better access to electrification infrastructure. But universal access to affordable, reliable and modern energy services by 2030 still requires addressing the 8.1% that still did not have access to electricity in Gabane. We also found that Gabane South West had the lowest rate of access to electricity (89.64%) as compared to 91.24% in Gabane South East, 90.10% in Gabane North West, and 97.23% in Gabane North East (Figure 8).

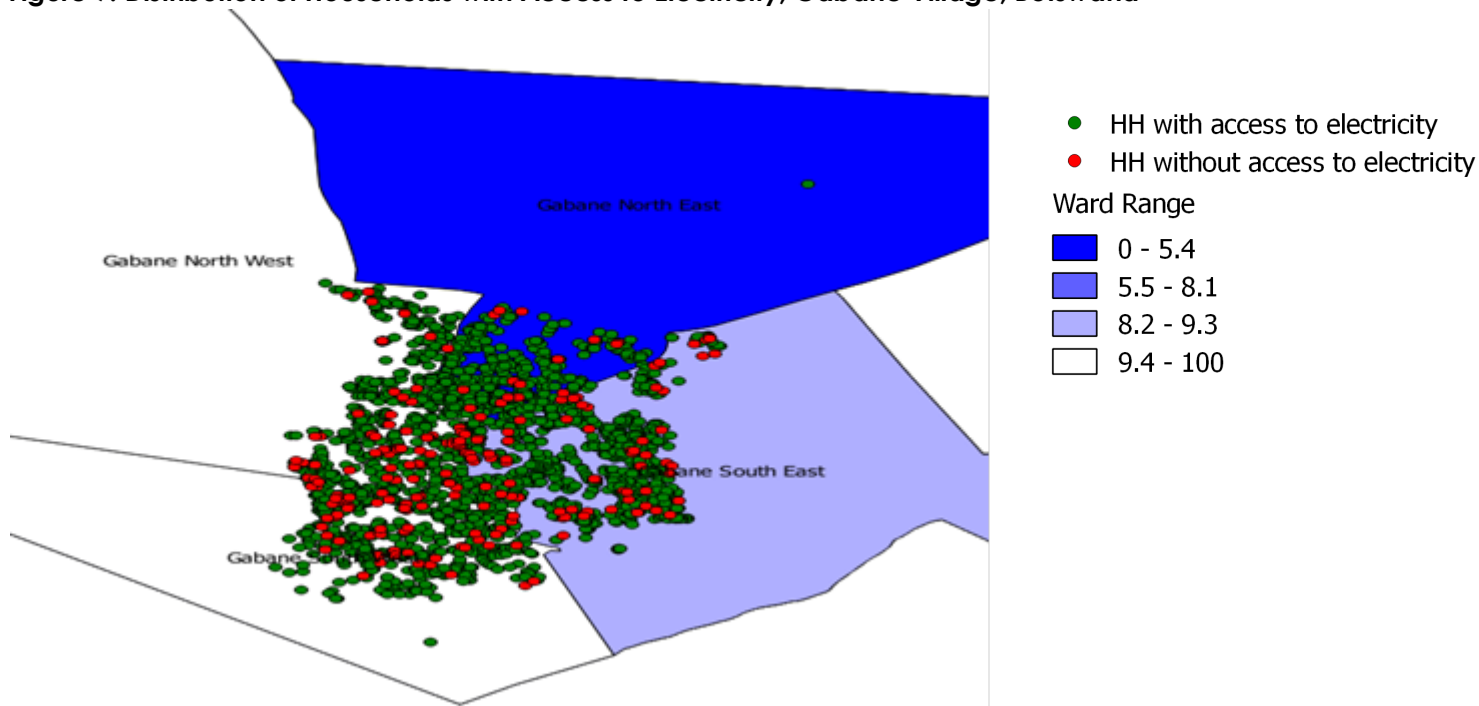
Figure 8: Proportion of Households with Access to Electricity, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane Village, Botswana.

Figure 9 shows the distribution of households with access to electricity in Gabane Village. Lack of access to electricity was a village-wide problem. Gabane North East was better off, however, with fewer households that lacked access to electricity.

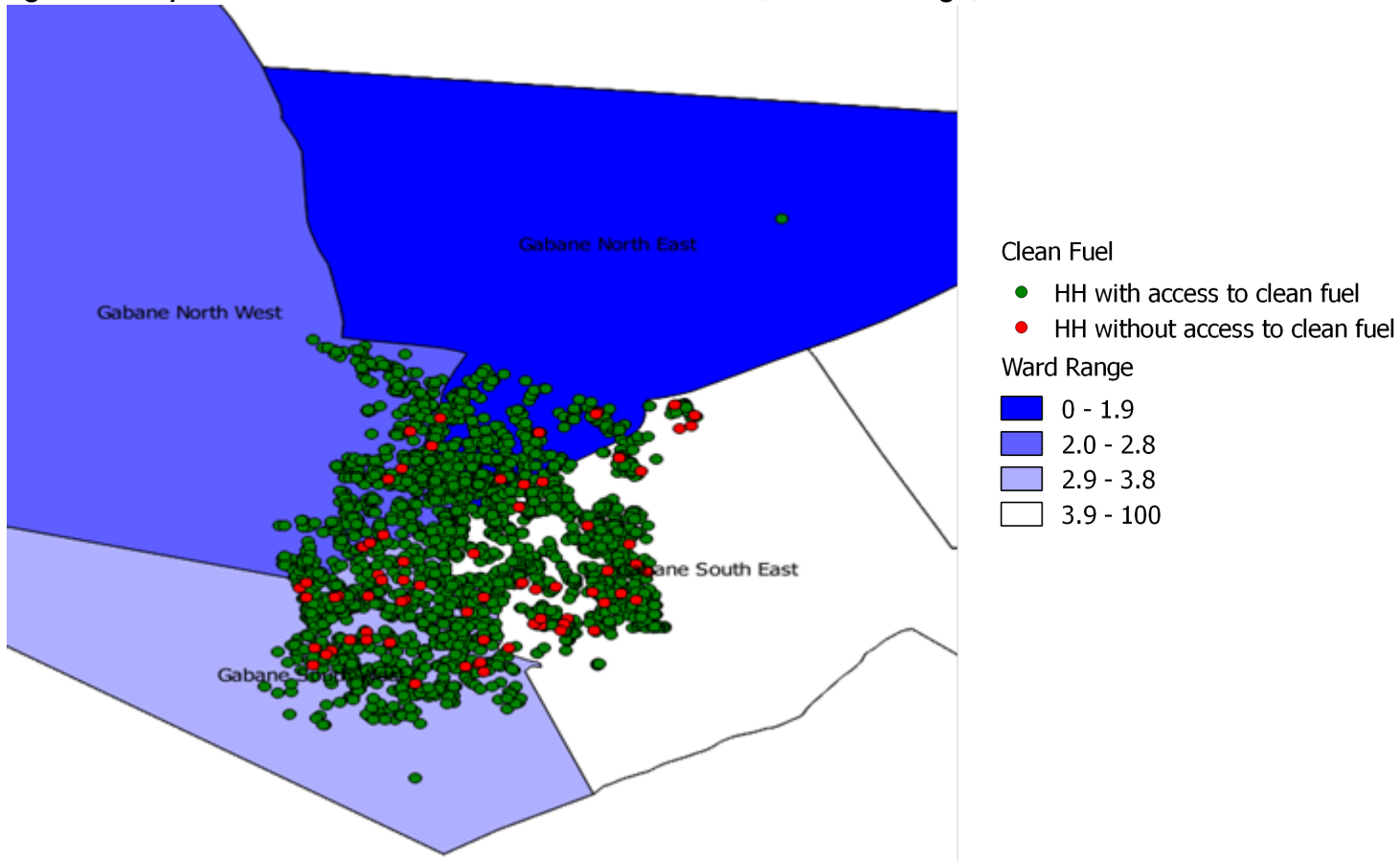
Figure 9: Distribution of Households with Access to Electricity, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane, Botswana.

Last but not least, our research showed that 97.2% of households in Gabane used clean fuels for cooking. A household was considered to lack access to clean fuel if it used such fuels as wood or crop waste for cooking. The distribution of households that used clean fuel is shown in Figure 10. As the map indicates, access to clean fuel was more of a problem in Gabane South West and Gabane South East than in other council wards.

Figure 10: Proportion of Households with Access to Clean Fuel, Gabane Village, Botswana



Source: 2018 CBMS Census, Gabane, Botswana.

3.2.8 Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The unemployment rate is a very important indicator of a country's economic development. Even though a wide range of measures of unemployment are possible, the broad and narrow definitions of unemployment are most often used (Kingdon & Knight, 2000). The narrow definition of unemployed captures unemployed people who sought a job in the reference period (in most cases, a week or month before the survey is conducted). According to the broad definition, the unemployed include the narrowly unemployed and those who sought work but were discouraged or did not search for a job in the reference period. Botswana uses both the narrow and broad definitions of unemployment.

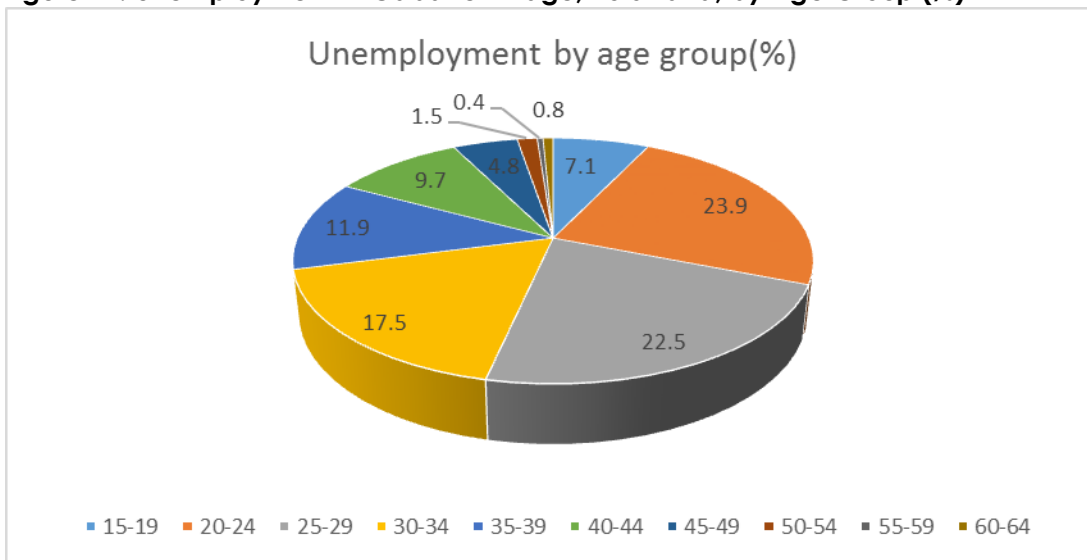
Unemployment Rate, By Sex, Age, and Disability Status

The national unemployment rate (narrow definition) obtained from the recent Botswana Multi Topic Household Survey 2015-2016 was 17.7%-19.1% for women and 16.3% for men. The results of our research have revealed a higher unemployment rate of 23.3% (narrow definition) and 29.44% (broad definition) in Gabane. There were more unemployed women (63%) than men (37%) among total unemployed. This may be partly because women faced gender inequalities and were ranked lower than men in an African culture in which women are still

defined by the traditional role of housewife and are therefore less likely to participate in the labor market (Diraditsile & Ontetse, 2017). There are also fewer job opportunities for women in Botswana.

Distribution of unemployment by age group shows that youth were most affected by unemployment, which was not surprising. The 20-24 age group was most affected by unemployment (23.9%), followed by 25-29-year-olds (unemployment rate = 22.5%; see Figure 11). As already explained, youth in the country did not have required work experience and most had no training beyond formal education. This may also reflect the fact that the educational system, especially vocational education, does not produce graduates with the required skills. Botswana is struggling to create sustainable employment for its youth. Having invested heavily in tertiary education, it has not yet converted its wealth into a diversified economy that creates enough jobs for those that complete school or succeed in further education (UNICEF, 2015). Last but not least, the results showed that only 5.5% of the unemployed were people who lived with disabilities.

Figure 11: Unemployment in Gabane Village, Botswana, by Age Group (%)



Source: 2018 CBMS Census, Gabane Village, Botswana.

Unemployment statistics show that much needs to be done for the county to achieve full and productive employment and decent work for all women and men by 2030.

Proportion of Youth (15-24) Not in Education, Employment, or Training (NEET)

The proportion of 15- to-24-year olds in our study area who were not in NEET, expressed in relation to the total population, was 7.8%. More women (62.36%) found themselves in this situation than men (37.64%). This may be because women were more likely to drop out of school because of pregnancy or other issues, which reduced their chances of completing studies. Women were also less likely to find employment because of limited opportunities and were therefore more likely to engage in transactional sex to earn money. A substantial reduction in the proportion of NEET youth by 2020 means addressing the gaps in education and providing more opportunities for young women (UNICEF, 2015).

Proportion and number of children aged 5-15 engaged in child labor, by sex and age

We collected unemployment data on children aged 5 to 15 in order to capture the extent of child labor in Gabane. The International Labour Organization (2018) defines child labor as work that deprives children of their childhood, their potential, and their dignity, and which is harmful to their physical or mental development. In Botswana, the Employment Act states that no child younger than 15 shall be employed in any capacity, though a child aged 14 years who is not attending school may be employed in light work not harmful to his or her health or development. Those under 18 may not be employed in work underground or at night, in work that is harmful to their health and development, or in work that is dangerous or immoral (Siphambe, Kolobe & Oageng, 2018). The results from our study showed no evidence of child labor in Gabane. This may be the result of government efforts to eliminate child labor. Botswana has ratified ILO Convention No. 182 on the Elimination of the Worst Forms of Child Labour and, through its ministries and through partnerships with non-governmental organizations, has increased campaigns to raise awareness regarding child labour.

3.2.9 Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

In 2014, 30% of urban dwellers in developing regions lived in conditions classified as slums. Relative to other regions, the situation was more prevalent in the sub-Saharan African region (at 55%). Though the percentage of city dwellers living in such conditions has declined over the years, more people around the world still live in slums, which is not beneficial to a country's development. More effort is needed to address this challenge and improve resilience because cities remain magnets for people looking for greater opportunities and a better life (United Nations, 2016).

Little has been done with regards to this goal in Botswana. However, Botswana has begun implementation of the New Urban Agenda (NUA) plan, a twenty-year policy of action on housing and sustainable urban development. The government intends the plan to bring extra attention to inadequate housing as well as to emphasize the channeling of government resources to low-income and vulnerable groups (Pinielo, 2017).

The results from our study showed no evidence of households living in makeshift housing (i.e., slums), informal settlements, or inadequate housing.

4 Conclusions and policy implications

Reflecting the impact of national economic and social policies, Gabane Village has shown progress that is similar to that of the whole country in achieving most Sustainable Development Goals. Income poverty was estimated at 12.77% using the international standard of USD \$1.90 per day, though income poverty for all urban villages was estimated at 6% in 2009-2010. Within Gabane, Gabane South West had the highest poverty rates (33% of households lived below the poverty line). Most of the poor were women and youth. Sixteen percent of 16% of households lived below the national PDL in Gabane, with the highest rates in Gabane South West (33%). Even though a majority of the poor were both actively seeking employment and discouraged, a significant proportion (41%) of the poor were employed. This points to deficits

in decent work and indicates the existence of working poor in Gabane. Unemployment in Gabane was estimated at 23%, higher than the national estimate (17.7%).

Gabane performed relatively well on the Multidimensional Poverty Index, with an index of 0.22%. The scores reflect achievements in education, health, and other non-income variables. More effort is required, however, to move Gabane toward achieving some of the SDG. Weak areas include low enrollment in pre-primary education, nutrition, infant mortality, and other aspects of health for children between 0 and 14 years of age. About 1.4% of children were found to be malnourished in Gabane. There was also an increasing significance of non-communicable diseases such as heart diseases, diabetes, and car accidents, which are now more problematic than HIV/AIDS.

Lack of clean water, energy, sanitation, and decent housing were not a problem in the village of Gabane although, in the spirit of leaving no one behind, the few who remain affected must be addressed.

Botswana has well-developed social-protection programs. In Gabane, assistance programs were skewed toward student allowance (sponsorship for general education), old-age pensions, and scholarships/sponsorship for tertiary students. Targeted programs for poverty and youth covered less than 3% of all potential beneficiaries, indicating potential targeting and efficiency problems in social safety nets in Gabane Village. Programs targeted at youth also cover less than 1% of all potential beneficiaries.

We make a number of policy recommendations intended to address issues identified in the Gabane case study.

1. Though poverty is declining, efforts toward its elimination should be intensified. The more sustainable way of dealing with poverty is to provide employment opportunities, especially for youth and women, which implies the need for policies that increase employment in general. Given the existence of working poor, some of whom may be employed in the informal sector, the business environment of the informal sector should be improved for better performance. Because the minimum wage is not currently linked to the cost of living and, therefore, may lead to jobs that don't provide decent pay, labor legislation is also in need of review.

2. Health remains a challenge, especially with regard to non-communicable diseases and child mortality. These diseases are a function of lifestyles and diet. The problem of food security clearly needs to be tackled. A comprehensive health program to deal with these health challenges is required as is an intensification of food supplementation for children to make sure it reaches the intended beneficiaries. Health education will also assist and should be structured into the education system and made available at health centers.

3. Pre-primary education and access to education, especially for boys and for children who live with disabilities, remains a challenge low enrollment makes clear. To address the issue of low enrollment in pre-primary education, the government has recently begun a process of increasing enrollment in early childhood and pre-primary education through the Education and Training Strategic Sector Plan (ETSSP) 2015-2020. Over time, the plan is intended to improve the quality of education as well as increase pre-primary enrollment. Though the policy goal is clear, implementation has moved very slowly and should be sped up in light of the urgency of the matter and its consequences for the quality of education.

4. The low participation of Gabane residents in social-protection programs points to issues of targeting. This requires continuous review, monitoring, and evaluation so that programs can reach intended beneficiaries.

5. Youth in Gabane do not participate in large numbers in government-designed programs intended to alleviate unemployment and provide economic empowerment. There

is, therefore, a need to intensify efforts through education and other communication means to make youth aware of these opportunities. These programs should also be more accessible and more carefully targeted. At the same time, the general concern that government programs create a dependency syndrome also requires attention. One way to do so is to ensure that program objectives are clear, well-designed and well-targeted, and include precise exit strategies. Means-testing, as a system to identify truly needy Botswana, must be developed.

References

- Alkire, S. and Foster, M.E. (2010): "Acute Multidimensional Poverty: A New Index for Developing Countries," OPHI Working Paper Series No. 38, OPHI.
- Botswana Public Officers Pension Fund (BPOPF) (2019). Annuities. Available at <https://www.bpopf.co.bw/annuities>.
- Coudouel, A., Hentschel, J. S., and Wodon, Q. T. (2002). Poverty Measurement and Analysis. In J. Klugman, Ed., *A Sourcebook for Poverty Reduction Strategies. Volume 1: Core Techniques and Cross-Cutting Issues* (27-74). Washington, DC: The World Bank.
- Diraditsile, K. and Ontetse, M. A. (2017). Lived Experiences and Consequences of Unemployment on Women: An Empirical Study of Unemployed Young Women in Mahalapye, Botswana. *Journal of International Women's Studies*, 18(4), 131-143. Available at <https://www.un.org/sustainabledevelopment/education>.
- Food and Agriculture Association (FAO) (2012). *The State of Food Insecurity in the World 2012. Economic Growth Is Necessary but Not Sufficient to Accelerate Reduction of Hunger and Malnutrition*. Rome, FAO. Available at <http://www.fao.org/3/i3027e/i3027e.pdf>.
- International Labour Organization (ILO) (2017). Unemployment Rate. Available at https://www.ilo.org/ilostat-files/Documents/description_UR_EN.pdf.
- International Labour Organization (ILO) (2018). What is Child Labour? Available at <http://www.ilo.org/ipec/facts/lang--en/index.htm>.
- Kingdon, G. and Knight, J. (2000). *The Incidence of Unemployment in South Africa*. University of Oxford: Centre for the Study of African Economies.
- Kolobe, M., Bakwena, M. and Siphambe, H. (2015). Analysis of Gender Wage Differentials: The Case of Botswana's Labour Market. *Asian-African Journal Economics and Econometrics*, 15(2), 127-146.
- Lesetedi, G. N. (2018). A Theoretical Perspective on Women and Poverty in Botswana. *Journal of International Women's Studies*, 19(5), 193-208.
- Maudeni, T. and Mupedziswa, R. (2017). Social Assistance Programmes in Botswana: Efficiency and Effectiveness. *International Journal of Development and Sustainability*, 6(7), 426-442.
- Modimakwane, D.B., Thobega, M., and Moleele, L.L. (2015). National Education for All (EFA 2015) Review Report: Botswana. Gaborone: Ministry of Education and Skills Development and UNESCO. Available at <https://unesdoc.unesco.org/ark:/48223/pf0000231568>.
- Mooketsane, K. (2014). Gender and Political Representation in Botswana. BIDPA Policy Brief No. 13. Gaborone: Botswana Institute for Development Policy Analysis.
- Nallari, R. and Griffith, B. (2011). *Understanding Growth and Poverty: Theory, Policy and Empirics*. The World Bank Publications No 2281. Washington, D.C. World Bank. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/2281/600570PUB0REPL10Box358306B01PUBLIC1.pdf?sequence=1>.
- Pielke, R. and Bazilian, M. (2013). Defining Energy Access for the World's Poor. *Issues in Science and Technology*, 30(1). Available at <https://issues.org/real>.
- Pinielo, I. (2017, 12 July). Botswana Kick-Starts Action Plan on Housing. Mmegi Online. Available at <http://www.mmegi.bw/index.php?aid=70201&dir=2017/july/12>.
- Pinstrup-Andersen, P. (2009). Food Security: Definition and Measurement. *Food Security*, 1, 5-7.
- Republic of Botswana (2015). *Education and Training Sector Strategic Plan (ETSSP 2015-2020)*. Gaborone: Ministry of Education and Skills Development and UNESCO.

- Seleka, T., Siphambe H., Ntseane, D., Mbere, N., Kerapeletswe, C., and Sharp, C. (2007). Social Safety Nets in Botswana: Administration, Targeting and Sustainability. Botswana Institute for Development Policy Analysis (BIDPA). Gaborone: Light Books.
- Siphambe, H. K., Kolobe, M., and Oageng, I. P (2018) Employment Protection Legislation and Unemployment in Botswana. In S. Amine, Ed., Employment Protection Legislation in Emerging Economies (157-191). USA: IGI Global.
- Siphambe, H., Bakwena M., Setlhare, L., Kolobe, M., Oageng, I., Setlhare, K., and Motswagae, T. (2018). Community Based Monitoring System (CBMS) Design Paper: Case Study of Gabane Village in Kweneng District in Botswana.
- Statistics Botswana (2011). 2009/10 Botswana Core Welfare Indicator Survey. Gaborone, Botswana: Statsbots.org.
- Statistics Botswana (2018). 2015/16 Botswana Multi Topic Household Survey. Gaborone, Botswana: Statsbots.org.
- The Importance of Energy (2018). Imperial Oil Limited. Imperialoil.ca. Available at <https://www.imperialoil.ca/en-CA/Company/About/The-importance-of-energy>.
- UNICEF (2015). Why Are the Sustainable Development Goals Relevant for Botswana? Available at [https://www.unicef.org/botswana/UNICEF_BOOKLET_FOR_PRODUCTION_2_\(2\).compressed.pdf](https://www.unicef.org/botswana/UNICEF_BOOKLET_FOR_PRODUCTION_2_(2).compressed.pdf).
- UNICEF (2017). Basic Indicators. Available at https://www.unicef.org/infobycountry/stats_popup1.html.
- UNICEF (2018). Monitoring the Situation of Children and Women. Available at <https://data.unicef.org/topic/child-survival/under-five-mortality>.
- United Nations (2016). Goal 11: Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable. Available at <https://unstats.un.org/sdgs/report/2016/goal-11>.
- United Nations (2017a). Sustainable Development Knowledge Platform: Voluntary National Review (Botswana). Available at <https://sustainabledevelopment.un.org/memberstates/botswana>.
- United Nations (2017b). WHO/UNICEF Joint Monitoring Programme for Water Supply | Sanitation and Hygiene (JMP). Available at https://www.unwater.org/publication_categories/whounicef-joint-monitoring-programme-for-water-supply-sanitation-hygiene-jmp.
- United Nations Development Programme (2005). Poverty Status Report for Botswana: Incidence, Trends, and Dynamics. Brasilia: International Poverty Centre for Inclusive Growth.
- World Bank (2013). Botswana Social Protection Assessment. World Bank Group.
- World Bank (2015). Botswana Poverty Assessment. Report No. 88473-BW. World Bank Group.
- World Economic Forum (2016). Global Competitive Report 2016/17. Available at <https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1>.
- World Health Organisation (WHO) (2017). Sanitation. Available at <https://www.who.int/en/news-room/fact-sheets/detail/sanitation>.
- World Health Organisation (WHO) (1986). WHO Global Database on Child Growth and Malnutrition. Geneva, Switzerland: WHO Department of Nutrition for Health and Development. Available at <http://www.who.int/nutgrowthdb/en>.

Annex

Table 15: The Dimensions, Indicators, Deprivation Cut Offs, and Weights of the MPI

Dimensions of poverty	Indicator	Deprived if...	Weight
Education	Years of Schooling	no household member aged 12 or older had completed six years of schooling.	1/6
	Child School Attendance	at least one school-aged child was not enrolled in school (including pre-school)	1/6
Health	Child Mortality	any child under 5 had died	1/6
		a household with no women 15-49 was not eligible for the child-mortality indicator	1/3
	Nutrition	a child under 5 was malnourished, underweight or extremely underweight.	1/6
		a household without children aged 0-5 was not eligible for the malnutrition indicator	1/3
Living standard	Electricity	the household had no electricity	1/18
	Sanitation	the household did not have a toilet facility or did not have a closed toilet facility	1/18
	Improved Drinking Water	the household did not have access to clean drinking water: protected spring, unprotected spring, rainwater collection, unprotected dug well, Cart with small tank/drum, Tanker-truck, surface water (river, dam, lake, pond, stream, canal, etc.)	1/18
	Cooking Fuel	the household cooked with wood, charcoal(coal), dung, or crop waste	1/18
	Assets ownership	the household did not own at least one asset for access to information: phone (mobile or fixed), radio, TV AND did not own either one asset for easy mobility: (bicycle, motorbike, motorboat, car, truck or animal wheel cart) OR did not own one asset for livelihood (refrigerator, agricultural land, or livestock (at least one head of cattle or at least one horse or at least two goats or at least two sheep, or at least ten chickens)	1/18
	Housing	the household lived in makeshift housing: roof made of thatch and walls made of mud or poles and reeds	1/18

Table 16: Summary of CBMS Core Indicators, Botswana

Sector	Indicator	Definition (Official)	Definition (Operational)
Income	Proportion of households headed by men/women with income below the poverty line	Poverty is defined as those who lived below P880.00 per month (Statistics Botswana, 2011).	Total number of households headed by men/women with income below the poverty line over total number of households headed by men/women.
Hunger	Proportion of households with inadequate access to food	The FAO defines hunger as the continued inability to obtain enough food (Food and Agriculture Association, 2012).	Total number of households with inadequate food over total number of households
Employment	Proportion of men and women aged 15-64 unemployed	The unemployed are all persons aged 15-64 ⁵ who were: a) without work during the four weeks prior to the survey (that is, were not in paid employment or self-employment); b) currently available for work (were available for paid employment or self-employment during the four weeks prior to the survey); or c) seeking work (had taken specific steps in the four weeks prior to the survey to seek paid employment or self-employment (International Labour Organization, 2017).	Total number of unemployed over the total labor force (employed and unemployed)
Health & Nutrition	Proportion of children between birth and 1 year old who died	Infant mortality rate. Probability of dying between birth and exactly one year of age expressed per 1,000 live births (UNICEF, 2017).	Total number of Children 0-1 year who died over total number of children 0-1 year
	Proportion of children under 5 who died	Under-five mortality rate. Probability of dying between birth and exactly five years of age expressed per 1,000 live births (UNICEF, 2017).	Total number of children aged 0-5 who died over total number of children 0-5
	Proportion of children 0-5 who were moderately or severely underweight	The weight of an underweight child for her or his age is < -2 standard deviations below the WHO Child Growth Standards median (World Health Organisation, 1986).	Total number of children under 5 with low weight for age over total children under 5
Basic Education	Percentage of children 6-12 who were not attending primary school	An action designed to meet "basic learning needs" (Modimakwane, Thobega & Moleele, 2015). Basic Education in Botswana consists of a total of ten years which include seven years of primary school and three years of junior secondary school. The official school starting age is 6	Total number of children 6-12 who were not attending primary school over total number of children aged 6-12
	percentage of children 13-15 who were not attending secondary school		Total number of children 13-15 who were not attending primary school over total number of children 13-15

⁵ According to the Rules of the Botswana Public Officers Pension Fund (2019), early retirement begins at 45 while normal retirement is at age 60. Other employing authorities, however, who are also participants in the BPOPF, have established different early and normal retirement ages.

Social Assistance	Proportion of poor households that did not receive social assistance	Social Assistance is assistance in cash or in kind to persons who lack the means to support themselves and their dependents (Maundeni & Mupedziswa, 2017). Botswana offers several Social assistance programs for targeted groups. Criteria for eligibility depend on the program.	Number of household not accessing social assistance programs over total number of household.
Water & sanitation	Proportion of households without access to safe water supply	Access to an improved water source refers to the percentage of the population that used an improved drinking water source (United Nations, 2017b). Improved drinking water sources include piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).	Total number of households who have no access to piped indoors, piped outdoors, communal tap
	Proportion of households without access to sanitary toilet facilities	A safely managed sanitation service is defined as a toilet or improved latrine, not shared with other households, with a system in place to ensure that excreta are treated or disposed of safely (World Health Organization, 2017).	Total number of households who have no water-sealed or closed pit type of toilet facilities
Access to electricity	Proportion of households without access to electricity	The "initial threshold" for energy access to be 250 kWh per year for rural households and 500 kWh per year for urban households, assuming 5 people per household (Pielke & Bazilian, 2013).	Total number of households who have no access to electricity