

**BOTSWANA**

# **POVERTY MEASUREMENT IN BOTSWANA**

**by**

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## Poverty measurement in Botswana

### 1. Introduction

1. A lot is documented about the protracted debate regarding the definition of poverty and its dimensions. In spite of the debate, there is however overwhelming consensus that poverty does exist and is indeed undesirable. In recognition of the latter concern many governments are making concerted efforts to counter poverty. This is important because any development initiatives aimed at the socio-economic welfare of a country's total population must embody a poverty reduction strategy.

2. Poverty and poverty alleviation have long been issues of major concern to the Government of Botswana. The development plans pursued at the dawn of independence bear testimony to that. Having taken a conscious decision to focus on the productive mining sector with the idea that other sectors will be developed through the "trickle down effect", it was expedient to put in place, at the earliest stages of development, programmes to aid the redistribution of revenues accruing to that sector. The trickle down strategy of development may not necessarily ensure an equitable distribution of the nation's income. In recognition of that, the 1970-75 National Development Plan (NDP) stated that one of the Government objective was "the promotion of an equitable distribution of income, in particular by reducing income differentials between the urban and the rural sectors".

3. The concern of the disparities in development between urban and rural was further echoed by the late President Sir Seretse Khama in a message marking the fifth anniversary of independence in 1971 when he stated:

"Unless we introduce clear and consistent policies which provide for social justice, development will enrich a minority of our citizens and leave the lives of the majority practically untouched.... We must make every effort to ensure that our strategy is based on social justice and this means that rural development must have a high priority."

4. In view of the demand for baseline data for planning purposes in the mid-70s, the Central Statistics Office (CSO) conducted the Rural Income Distribution Survey (RIDS) in 1974/5 with financial assistance from the World Bank. Data from the survey were used to assess the sources and level of incomes of rural households.

### 2. Poverty Studies in Botswana

5. The results of the 1974/5 RIDS enabled a first attempt to study poverty in Botswana. The results of the poverty analysis were presented as an appendix to the RIDS report. In 1976 another study was conducted, with coverage restricted to the four main towns. Although the 1976 study adopted the same method as the earlier one, the point of departure was in the assessment of what constituted the minimum levels of sustenance.

6. During the period between the RIDS and the 1985/6 HIES there were no reliable benchmark data for poverty assessment purposes. Consequently, it took eleven years to update the 1974/5 poverty datum line. While in 1978/79 a HIES was conducted alongside a migration survey, the results of the

survey were not satisfactory and hence were not published. The third poverty study was conducted in 1989 following the release of the 1985/6 Household Income and Expenditure Survey (HIES) results. The 1989 study covered urban and rural areas and divided the country into six regions to allow for regional comparison of the extent of poverty. It must be noted, however, that the boundaries for these regions were rather arbitrary though.

7. All the poverty studies surveys mentioned above were conducted by the Central Statistics Office. The fourth poverty study was done late 1996 following the release of the 1993/4 HIES report earlier the same year. The Rural Development Co-ordination Division of the Ministry of Finance and Development Planning contracted the Botswana Institute for Development Policy Analysis (BIDPA) to update the 1989 poverty datum line, and also review the effectiveness of poverty alleviation policies. The results of the study, conducted in collaboration with the CSO, have just been released. To the extent that some poverty alleviation policies had to be evaluated, the BIDPA study not only looked at the characteristics of the poor but also made an effort to enumerate the underlying causes of poverty.

8. The first three poverty studies used total income per household to derive the percentage of households below the poverty datum line. However, because of the concern that income is more susceptible to under-reporting than consumption, the BIDPA study used consumption per household instead. Apart from the concern about under-reporting of income, consumption is considered to enable a comparison of actual consumption with the threshold consumption level as reflected by the PDL. In spite of the concern relating to under-reporting of income, results show that poverty is less when using income than with consumption. Perhaps this may be due to the fact that some high income households have low consumption because they are saving - therefore being wrongly misclassified as being poor.

### 3. Poverty Method

9. Poverty studies carried out in Botswana adopted the absolute poverty measurement approach; putting more emphasis on capabilities rather than basic needs or basic rights. The premise<sup>1</sup> was essentially that individuals should have the capability to feed and clothe themselves; should be able to work if they wish; should be housed in a manner not prejudicial to health; should be able to enjoy education; and should be able to take their place in society. All these must be achieved at a very minimum cost. Suffice it to note that in deriving what was considered to be the core dimensions of poverty, CSO was quite aware of the problems of objectively measuring the implicit basket.

#### 3.1 Poverty Basket

10. On the basis of the capabilities cited above, a basket of goods and services for individuals and the household (as an entity) was established. The Botswana poverty basket broadly comprises; food, clothing, personal items, household goods, shelter, and a few other items. Determining the specific requirements for each individual was not an easy task since that depended on the age and sex of each person. The household requirements depended on the household size and age groups of members.

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<sup>1</sup> The BIDPA study rephrased the premise to read "Poverty is the inability to meet basic nutritional, health, education, shelter, social and recreational needs, and is closely related to choice. In spite of the BIDPA working definition, they have however used the same basket and methodology adopted by the CSO.

### 3.1.1 Food Items

11. Food is usually the least contentious component of the poverty basket. However, this does not presuppose that the calculation of the requirements is a straight forward matter. The amount allocated to an individual was the minimum necessary to maintain physical health. A table of the food requirements was prepared with assistance from nutritionists in the Ministry of Health. The table provides what is considered the ideal diet - balanced in terms of calories and other nutrients. Analysing the food consumption pattern from the HIES showed that the food households consumed was often different from the ideal diet. Not only was the actual food consumed different, but in some instances it turned out to be more expensive and nutritionally deficient. For example among the commodities consumed by the low income groups (1985/6 HIES) beer of some form stood out as being of major importance. Similarly, the consumption of fizzy drinks was high in the desert areas<sup>2</sup>. Neither of the two items is part of the ideal diet.

12. The issues noted above raises the dilemma as to whether to impose the cheap ideal diet which may not be available in some regions, or to use the actual (albeit expensive) diet. The final food table was essentially a compromise between the consumption pattern from the HIES and the ideal diet. For instance, while the food table gives the requirement for meat, the relative expenditure for beef, goat/mutton, chicken and fish from the HIES were used to arrive at a kilogram of meat.

### 3.1.2 Non-Food items.

13. The treatment of the non-food component of the poverty basket is not usually an easy matter. It is for this very reason that many studies derive the component indirectly, by multiplying the food cost by some factor. Notwithstanding the simplicity of the indirect method, the rather crude estimate of the non-food tends to undermine the importance of some commodities. To the extent that food is considered the baseline for the basket, this may suggest that households or individuals have more appreciation of food over other items. While food may be necessary for survival, a healthy diet may not prevent a person from falling ill. For instance shelter from rain and cold is also necessary for health.

14. CSO's approach in dealing with the non-food items was to consider the level below which it was impractical to live in a society - a bare minimum level. For all the items considered here, quality is not of any importance at all but something very basic. A question which immediately comes to mind is "what is basic?" The bottom line was simply that it must be a level below which it is practically impossible to live.

15. It stands to reason that a person living in a civilised society must dress in a way which allows him/her to take part in social life. Putting aside the legal part of clothing, there are some cultural dimensions attached to clothing. For instance, the setswana culture dictates that a man must wear a jacket at a funeral or to be allowed to speak at a public meeting (Kgotla). Taking all these issues into consideration, the poverty studies made an allowance for basic clothing. With regard to the quantity, the bottom line was that "there must be one to wash and one to wear/repair".

16. The treatment of housing was to cost a basic house from among those considered to be the norm in a given area. For instance in the rural areas of Botswana thatched huts with reeds, poles or mud walls (or a combination of these) are the norm. Apart from the cost of the builder, building materials

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<sup>2</sup> There is no acute shortage of water in the desert and therefore it should not be assumed that fizzy drinks were used as substitutes for water.

could be gathered from the veld for free, implying zero cost for materials. For a given household the number of huts depended on the household size, treating young children as half adults. With regard to housing in towns, thatched huts are not common despite there being no legislation against such cheap structures. Rather than impose a mud hut to town households, rental of single room or a basic 2 ½ roomed house<sup>3</sup> (depending on the household size) was assumed.

17. The requirement for household goods (e.g. cooking utensils) was a function of the household size, again taking young children as half adults. With regard to personal items, the allocation followed the same rationale of bare minimum. Personal items included all items that are neither food nor clothing and could be conveniently allocated to an individual. Included in the list of personal items are health, hygiene, and personal household goods (bathing soap, toothbrush, plates, etc.).

18. Among the exclusions from the poverty basket were things like toys, soft drinks, snacks, beds, socks, furniture, electricity, entertainment, saving, etc. to list just a few. Also there is no allowance for travelling; it is assumed that all journeys are made on foot. Some of the exclusions are indeed important for a meaningful life. The general opinion in Botswana is that the basket is very harsh. However, poverty studies in the region feel that the basket is too generous.

19. One major issue relating to non-food items is the life span in terms of the number of months they are expected to last. It was important to establish the life span as accurately as possible since it is the factor upon which the monthly cost of a commodity largely depends. Increasing (decreasing) the life of an item decreases (increases) the cost. Average life spans obtained from sample of households interviewed were used. Indeed there is a lot of subjectivity in the estimation process.

20. Although deciding the constituent items of the basket is not entirely an objective exercise, it is hoped that the criteria employed draw as close to an objective as possible. Furthermore, maintaining the same basket over time should enable a fair assessment of the poverty level since the results are based on the same scale. To that extent, therefore, the subjectivity of the basket should not be a major concern.

### 3.1.3 Pricing the basket

21. Items in the basket are priced through a country-wide exercise designed specially for the PDL. This is important, primarily because prices from the cost-of-living index are not sufficiently detailed for PDL purposes. In pricing the PDL basket, small quantities are priced, because it is assumed that poor people can not afford large quantities. Furthermore, the lowest reasonable prices or the lowest price at which an item is readily available is used. The reasoning was that at the low income level people behave more rationally and hence do care about prices.

22. In view of the short time frame within which results were required, the 1996 poverty study could not collect prices for the PDL basket. Instead, the 1989 PDL prices were adjusted using the Consumer Price Index (CPI). The food index was used to adjust the food basket while for non-food items the overall index was used. Having noted that the CPI index is not sufficiently detailed for PDL purposes, at best this was just a crude estimation.

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<sup>3</sup> These have neither a bathroom nor a flush toilet. A pit latrine is assumed to be sufficient although not quite hygienic.

23. Suffice it to say that in the 1989 poverty study, prices for the PDL basket were collected in 1989 whereas the incomes were from the 1985/6 HIES (February 1986 was the mid period). Incomes were adjusted using the CPI to equate them to the 1989 level. Some users argue that perhaps it was more appropriate to deflate the 1989 prices to 1986 level. Whichever option is chosen, one has to accept the inherent deficiencies in the data.

### 3. Source of Data

24. Apart from prices, which are collected through a separate exercise, the HIES provides benchmark data for poverty analysis. Having mentioned that the poverty threshold is compared with income (or consumption as a proxy for income), there is a need to look at the reliability of the income data. This is very important because an underestimation of income overstates the percentage of poor households.

25. The concept of income includes both cash and income in kind. Cash income includes earnings, unearned cash, business profit, gifts and cash remittances. On the other hand income in kind covers non-cash earnings, own produce, goods from gathering, non-cash gifts (e.g. food rations) and remittances. Households do not only receive but also give out goods to other households. In view of that, income outgoing (which includes tax) is deducted from the total income to derive what is termed “disposable income”, the income to compare with the threshold poverty level. The two HIES made no attempt to estimate the income from owner-occupied dwellings. However, this part of income should not affect the incomes of the poor significantly moreover that most households who own houses reside in rural areas where thatched huts are the norm. It must be noted that there is increasing pressure to estimate the income from owner-occupied dwellings especially for national accounting purposes

26. For most practical purposes, the HIES data are fairly reliable. The level of under-reporting of income and expenditure is that expected in a survey of the same nature. However the under-reporting of commodities such as alcohol and tobacco needs some mention. Reported expenditure on alcohol in the 1993/4 HIES was less than that for soft drinks; this was just not true. This may have emanated from the fact that smoking and drinking are social habits for which participation is viewed negatively in the society. Therefore the likelihood for under-reporting of such items is quite high. While these may be the main candidates for under-reporting, there are many more. Using imports and local production figures it was possible to estimate fairly accurately the level of consumption of many commodities.

27. Pricing of non-marketed commodities especially those acquired from hunting or gathering may lead to an upward bias. The usage or consumption of some of the items (e.g. firewood) is not consistent with the reported value in money terms. An upward bias may result due to the fact that the value reported is that for the nearest market rather than the specific area where the commodity may be over abundant to the extent that it is almost valueless.

28. Botswana is a drought prone country and therefore the fragile subsistence agriculture, the backbone for rural households, is frequently affected by drought spells. Changes in the incomes of poor households (predominantly in rural areas) is closely linked to the performance of the agricultural sector. The effect of the drought on the income levels of the rural households is often very immense. As a result, if an income and expenditure survey is conducted during a drought period incomes for rural households may be very low. The 1985/6 HIES was conducted at the tail end of a long drought period. Whether the resulting income could be considered to be an underestimation or just low figures

(albeit accurate) is another matter. The important thing is that comparing the poverty threshold with such incomes could be misleading especially when poverty studies are not conducted frequently. To the extent that it is not always easy to establish the level of poverty resulting just from the drought, this is indeed a matter deserving some attention.

#### **4. Living Conditions**

29. Statistics for monitoring living conditions or the quality of life are closely linked and play a complementary role to poverty studies. In 1996 the CSO took the initiative to analyse the two HIES (1993/4 and 1985/6) and 1991 Census results to assess changes in living conditions in Botswana between 1986 and 1994<sup>4</sup>. Among the subjects covered were household income and consumption; household resources for production and income earning; health, education; household size and relations; housing conditions and amenities; and transport and communications. Other areas to be explored in future include victimisation by crime, medical care, and nutrition. With the current plans of conducting a HIES at six year intervals, the assessment of living conditions will be more frequent.

#### **5. Poverty measurement in SADC Region**

30. In an effort to address poverty in the sub-region, the Southern Africa Development Community (SADC<sup>5</sup>) took a major step to synthesise the individual initiatives of member countries. A workshop was held in Namibia in July 1996, the main aim being to share experiences on poverty measurement and living conditions assessment. A major achievement of the workshop was the establishment of core dimensions for statistics on poverty and living conditions in the region. In regard to poverty measures, the workshop agreed that the baseline for comparison should be the food component of the basket. There was no consensus reached about what should constitute the non-food component of the basket. Member countries are to decide on the scope of the non-food component depending on their needs.

#### **6. Poverty Alleviation Policies**

31. As mentioned in the introductory note, Botswana's development strategy focuses more on the mining sector, with the idea that the resulting revenues will develop other sectors. In order to address the issue of equity in income distribution, a number of policies have been put in place. While most of the programmes are aimed at the ordinary citizen (not necessarily the poor), in some respect they implicitly address poverty. Only a few programmes were designed specifically for the poor and thus explicitly address poverty. Among the first group is the Financial Assistance Policy (for small scale citizen enterprises), Basic Education programme, Adult Literacy Programme, and Vulnerable groups (e.g. remote area dwellers programme). The objective of these programmes was to build sustainable income-earning opportunities for low income households. Programmes which are directly aimed at alleviating poverty include the Arable Lands Development Programme (for subsistence agriculture), Destitutes Programme, drought Labour Based Public Works (employment creation for a basic wage during drought spells). In October 1996 the government introduced the old age pensions for all elderly

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<sup>4</sup> The results are contained in the report "Living Conditions In Botswana: 1986 to 1994" published in 1996.

<sup>5</sup> SADC comprise Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.



citizens aged 65 and above. Through such programmes the government commitment to alleviate poverty is clearly manifested.

## 7. Appendix

Poverty Indicators (based on consumption per household)

	<b>P<sub>0</sub></b>	<b>P<sub>1</sub></b>	<b>P<sub>2</sub></b>
1985/6	0.49	0.22	0.13
1993/4	0.37	0.16	0.09

Poverty Indicators (based on income per household)

	<b>P<sub>0</sub></b>	<b>P<sub>1</sub></b>	<b>P<sub>2</sub></b>
1985/6	0.46	0.23	0.18
1993/4	0.33	0.14	0.08

GINI Coefficient by strata

	<b>Cash income</b>		<b>Cash + In kind income</b>	
	1985/6	1993/4	1985/6	1993/4
Towns	0.563	0.548	0.536	0.539
Urban villages	-	0.552	-	0.451
Rural	0.674	0.599	0.477	0.414
<u>All</u>	<u>0.703</u>	<u>0.638</u>	<u>0.556</u>	<u>0.537</u>

Source: 1985/6 and 1993/4 HIES reports, CSO

Income enjoyed poorest, middle and richest households/persons in Botswana

	Poorest 40%	Middle 40%	Richest 20%
1985/6 (based on households)	10.7	27.8	61.5
1993/94 (based on persons)	11.6	29.1	59.3
1993/4 (based on households)	9.4	29.4	61.2

Source: 1985/6 and 1993/4 HIES reports, CSO

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