

Executive summary

For informed decision-making on reducing poverty and inequality in the country, and for monitoring poverty when policies are implemented, reliable and valid methods of measuring and mapping poverty are essential. This report examines four different ways in which poverty can be measured in South Africa at present, and presents the findings from each method, mainly using existing Stats SA data sets.

In particular, this report shows the extent of poverty in specific geographical areas, by means of a series of poverty maps. These maps are merely an example of what can actually be mapped electronically. It is possible, using census data, to depict poverty through maps according to different measurements, for example household expenditure, or the need for infrastructure or better access to employment opportunities. These maps can be drawn at the level of small areas such as a village or suburb, enabling better targeting of programmes to address the complex issues that result in poverty.

Chapter 1

The introductory chapter outlines the challenges faced by those engaged in the measurement of the complex phenomenon of poverty. It gives an overview of the methodological approaches used in the following chapters, with a critique of the strengths and limitations of each.

Chapter 2

The second chapter examines ways in which census and survey data can be combined to construct a poverty map of South Africa. This map can be constructed at various levels, including provincial, district council, magisterial district, local authority, village or suburb level, or even smaller levels. Monthly household expenditure, as indicated in the 1995 income and expenditure survey (IES), formed the basis for measuring poverty in this approach. For explanatory aspects of poverty, for example educational attainment and access to services, the IES data were merged with data from the 1995 annual October household survey (OHS), since both surveys visited the same households, and then compared with equivalent data from Census '96. A series of regression analyses was carried out, using annual household expenditure as the dependent variable, and the poverty-related variables common to the OHS and the census as the explanatory variables, to impute expenditure values for each household in the census.

- The poorest province, in terms of average monthly household expenditure, was Eastern Cape, followed by Free State and then Northern Province. The wealthiest province was Gauteng, followed by Western Cape.
- The poorest district council, using this method, was the Wild Coast, followed by the Kei District Council (both in Eastern Cape), while the wealthiest was the four metropolitan councils in Gauteng (treated as one unit) followed by the Cape Metropolitan Council.
- The poorest magisterial district in the country was Elliotdale, followed by Willowvale, both in the Eastern Cape, while the wealthiest in terms of monthly household expenditure was Pietersburg in Northern Province followed by Germiston and Pretoria in Gauteng, Soutpansberg in Northern Province and then Bellville in the Western Cape.

Chapter 3

The third chapter describes how two Stats SA indices – the household infrastructure index and the household circumstances index – were constructed to measure the extent of under-development in different parts of South Africa, using both the data from Census '96, and the imputed expenditure values described above. These development indices can also be calculated and mapped at the various levels of geography mentioned above, adding new dimensions to the ways in which poverty can be examined.

The indicators taken into account for the two indices were:

- (a) formal housing (brick dwellings, flats, townhouses, backyard rooms etc.);
- (b) electricity for lighting from a public authority or supply company;
- (c) tap water inside the dwelling;
- (d) a flush or a chemical toilet;
- (e) a telephone in the dwelling or a cellular 'phone;
- (f) refuse removal at least once a week by a local or district authority;
- (g) level of education of the head of household;
- (h) average monthly household expenditure;
- (i) unemployment rate (expanded definition);
- (j) average household size; and
- (k) the proportion of children in the household under the age of five years.

These indicators were entered into a principal components factor analysis, and the two indices were isolated by means of this analysis.

The number of households in each geographical component was then also taken into account (the square root of the number of households found within each area was built into the calculation).

The ranking order of provinces for these two indices is as follows:

The household infrastructure index

- The province most in need of infrastructural development such as clean water and sanitation is Eastern Cape, followed by Northern Province, KwaZulu-Natal, North West, Mpumalanga and Free State.
- The province with the least need for such development, with its sparse population of households, is Northern Cape, followed by Western Cape and Gauteng.

The household circumstances index

- The province most in need of improvement of life circumstances such as employment creation and family planning was again Eastern Cape, followed this time by KwaZulu-Natal and then Northern Province.
- Gauteng, with its large number of households, and large proportion of people moving into the area in search of work, ranks fourth in need according to this index, followed by Mpumalanga, North West, Free State, Western and Northern Cape.

The use of these different indices, in addition to monthly household expenditure, gives a differentiated picture of poverty. The first index points to the meeting of basic needs, while the second is related to empowerment.

Chapter 4

This chapter examines the issue of inequality of *earned monetary income*, based on responses given to four consecutive OHSs (1995-1998). It does not take into account other income sources. The Gini coefficient, which forms the basic measurement tool of this paper, is a widely used method of calculating income inequality. It ranges between 0 and 1. The closer the coefficient gets to 1, *the greater the inequality*.

In general, the findings show that:

- Earned monetary income continues to be unequally distributed by population group and gender. This inequality is confirmed by a second technique, namely a Dikhanov diagram, which was applied to the OHS 1998 findings.
- The pattern found over the four years reflects a possible increase in the extent of inequality between rich and poor during this time.
- This possible increase applies to both self-employed people and employees. It also applies within each population group and by gender. For example, the inequality between the richest and the poorest Africans seems to be increasing, as well as between the richest and poorest coloured and white people. Inequality of income between men and women is also showing signs of increasing.

Mapping of inequality by small area, as an aspect of poverty, is not yet complete at this stage, but should be possible in the near future, as and when more small area data on inequality of income become available.

Chapter 5

This chapter discusses the way in which a social accounting matrix (SAM), based on household income, is calculated. The SAM integrates economic statistics across the country, since it is an extension of input-output tables calculated for national accounts, but the emphasis is on households rather than institutions. A SAM shows the relationship between income generation and consumption at a household level.

In South Africa, SAMs were previously calculated for 1978, 1988 and 1993.

- In 1993, the SAM showed that the per capita income for African households was approximately one-fifth of the per capita income for white households. This was an improvement from 1978, according to the SAM, when per capita income for African households was one-tenth of that for white households.
- A new SAM, based on the United Nations modifications in 1993 to the System of National Accounts (SNA), and using population counts from Census '96, is presently being undertaken, and should be released in 2003.

In the longer term, it should be possible to map data from SAMs, at least at provincial level.

Conclusion

Each of these measurements can be used, either on their own or in combination with each other, to examine different aspects of poverty, including inequality and under-development, and changes in living conditions and life circumstances of South Africans over time.

The user should determine which method of calculating poverty best suits the particular requirements of a specific policy and its implementation. For example, the Department of Labour may need to use different poverty measures from those used by the Department of Housing, which may in turn differ from indices needed for monitoring the implementation of the Rural Development Strategy.

The mapping of poverty according to different approaches should also add to our understanding of poverty as a multi-dimensional phenomenon.

Stats SA can produce maps at any level, from a national picture to small area level, on diverse aspects of poverty, according to the specific requirements of a particular user.