

HUMAN AND SOCIAL DYNAMICS (HSD) RESEARCH SEMINAR SERIES

# MEASURING MULTIPLE DEPRIVATION AT A SMALL AREA LEVEL IN SOUTH AFRICA:

# A springboard for tackling deprivation in the Eastern Cape

16 October 2014

Seminar Report

Programme to Support Pro-Poor Policy Development



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**DEPARTMENT OF SCIENCE AND TECHNOLOGY RESEARCH SEMINAR**

**MEASURING MULTIPLE DEPRIVATION AT A SMALL AREA LEVEL IN SOUTH AFRICA:  
A SPRINGBOARD FOR TACKLING DEPRIVATION IN THE EASTERN CAPE**

**Hosted by**

**The Human Sciences Research Council (HSRC)  
Southern African Social Policy Research Institute (SASPRI)  
Institute of Social and Economic Research (ISER) Rhodes University  
Programme to Support Pro-Poor Policy Development**

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## **ACRONYMS AND ABBREVIATIONS**

|         |   |
|---------|---|
| A       | Answer  |
| DST     | Department of Science and Technology                          |
| DSD     | Department of Social Development                              |
| EC      | Eastern Cape Province   |
| ECD     | Early Childhood Development                                   |
| HSRC    | Human Sciences Research Council                               |
| ID 2010 | English Indices of Deprivation 2010                           |
| ISER    | Institute of Social and Economic Research (Rhodes University) |
| KZN     | KwaZulu Natal Province  |
| NPO     | Non-Profit Organisation                                       |
| PDL     | Poverty Datum Line  |
| MLL     | Minimum Living Level  |
| MRC     | Medical Research Council                                      |
| NDP4    | National Development Plan Four (Namibia)                      |
| NIMD    | Namibian Index of Multiple Deprivation                        |
| NPHC    | Namibian Population and Housing Census                        |
| NPO     | Non-Profit Organisation                                       |
| PYLL    | Potential Years of Life Lost                                  |
| Q&A     | Questions and Answers   |
| Q       | Question  |
| SAIMD   | South African Index of Multiple Deprivation                   |
| SASAS   | South African Social Attitudes Survey                         |
| SASPRI  | Southern African Social Policy Research Institute             |
| SASSA   | South African Social Security Agency                          |
| StatsSA | Statistics South Africa                                       |
| UCT     | University of Cape Town                                       |
| UFH     | University of Fort Hare                                       |
| UNDP    | United Nations Development Programme                          |

## **PREFACE: THE PURPOSE OF DST RESEARCH SEMINARS**

The Department of Science and Technology (DST) Human and Social Dynamics (HSD) Research Seminar Series is designed to: (i) showcase research and knowledge production in the Social Sciences and Humanities (SSH) which is generated by the National System of Innovation (NSI); (ii) serve as a vehicle for disseminating research evidence to wider and diverse audiences; (iii) operate as a platform for the sharing of local and international expertise and experience; and (iv) promote research and knowledge production in the Humanities that benefits and enhances the NSI.

The HSD Research Seminar Series aims to:

- Disseminate scientific research findings and transmit a body of new knowledge (through an interactive process of critical dialogue and collegial critique) to the SSH research community and other interested actors in the NSI;
- Provide an avenue for rated and other researchers, including researchers from rural-based universities to engage in knowledge dialogues across faculties and with other interested actors in the NSI;
- Present and discuss new and ongoing research, identify research gaps, and suggest new research agendas in SSH with a view to forging closer links between the research communities in these fields;
- Reinforce the visibility of SSH research to the higher education and science council sector;
- Enhance wider public understanding of the SSH, including the value and status of both individual and team-based research; and
- Strategically promote, develop, and coordinate collaborative and interdisciplinary research within and between Higher Education Institutions and Science Councils.

## **EXECUTIVE SUMMARY**

This Science Seminar formed part of a series facilitated by the Department of Science and Technology aimed at wider dissemination and application of research in the social sciences and humanities. The seminars bring together local and international researchers to discuss the latest research, identify research gaps, suggest new research agendas and explore potential policy relevance. The seminar was attended by representatives of national and provincial government, researchers from several South African universities and research organisations, and experts on multiple deprivation from Namibia and the UK.

The South African Index of Multiple Deprivation (SAIMD) 2011 is the latest in a series of indices of multiple deprivation that have been developed using census data to profile multiple deprivation at sub-municipal level. The original South African study (2001) at ward level was followed by a sub-ward or 'datazone' level index for 2001 and updates to 2007 at municipal and datazone levels. In the UK, where indices of multiple deprivation have been in use since the 1970s, indices were originally census based but in recent years administrative data is increasingly used and this allows more frequent updating of the indices.

By analysing not only the overall index of multiple deprivation but also its component domains (e.g. material, employment, education or living environment deprivation) we are able to 'unpack' the nature of deprivation. This differs from economic indicators of poverty, which merely tell us that people are poor, whereas multiple deprivation indicators tell us in what ways they are poor. By documenting the spatial distribution at small-area level, policymakers can effectively target resources and policies to address specific needs and complement mainstream services.

The seminar began with a presentation by Wiseman Magasela, Deputy Director General, Department of Social Development, who shared the DSD experience of using SAIMD for policy development and policy implementation. SAIMD was used to identify areas needing intervention, households were then profiled and referrals made to the relevant government departments for specific interventions. An innovation was the principle of 'localized universalization' prompted by SAIMD. Essentially, this implies that there is no need for a means test when SAIMD shows that everyone in a certain area is poor. Any inclusion error is small enough to be unimportant when compared to the administration costs of the means test. He concluded that SAIMD is an important resource for DSD and other government departments.

Gemma Wright, Michael Noble and Wanga Zembe of the Southern African Social Policy Research Institute (SASPRI) provided a theoretical overview of SAIMD and then showed some examples of its distribution. SAIMD is a theoretically driven model but it is very data dependent and the spatial representation is a valuable tool. The 10 most deprived local municipalities all fall within the Eastern Cape (EC) or KwaZulu-Natal (KZN) and for the EC, all are in the former homeland of Transkei. Eight of the 10 least-deprived municipalities are in the Western Cape or Gauteng with one in each of the Northern Cape and Mpumalanga. The 20 most deprived wards all fall in KZN and EC, with 85 per cent of them in the former Transkei. Mapping clearly highlights former homelands as areas of maximum deprivation and Gauteng and the Western Cape show the least deprivation.

Since income poverty is widely used it is useful to compare income poverty with multiple deprivation. There is a strong correlation between the two measures but we should not just use income poverty because this does not identify *what* people lack in the way that SAIMD can, e.g. whether it is water or sanitation that people lack.

Analysis of the 2001 and 2011 SAIMD led to the following conclusions.

- The spatial patterns of deprivation were not markedly different in 2011 from 2001.
- There has been an improvement in absolute terms but this is not shared equally across all areas.
- In absolute and relative terms the rural former homeland areas still bear the brunt of multiple deprivation (and income poverty).
- The SAIMD 2011 provides a useful tool to identify areas for policy prioritisation.

Johannes Ashipala of the Namibian National Planning Commission described the development and use of the Namibian Index of Multiple Deprivation (NIMD), which is based on 2001 and 2011 census data and produced at regional, constituency and datazone levels. NIMD includes five dimensions of deprivation, namely, material deprivation, employment deprivation, health deprivation, education deprivation and living environment deprivation. Comparing data zones (smaller areas) with constituencies (larger) shows that there are pockets of multiple deprivation within constituencies. Tracking national changes in deprivation from 2001 to 2011 shows declining material deprivation (- 6.6 per cent), increase in employment deprivation (6.1 per cent), minimal decline for educational deprivation (0.1) and a small decline for environmental deprivation (-4.7 per cent). With so little change over the past 10 years the Vision 2030 targets may be unachievable. Ashipala concluded that NIMD can be used to prioritize resource allocation according to regional and constituency developmental needs and improve service delivery by targeting the most deprived areas.

Tom Smith of Oxford Consultants for Social Inclusion provided information on the history of multiple deprivation indices in the UK. During the 2000s, indices of deprivation were used to direct area-based programmes utilising one to two per cent of government spending focused on deprived areas, which amounts to about £5 - 10 billion (R88 - 176 billion). This was aligned with a renewed emphasis on evidence-based policy. The English Index of Multiple Deprivation is based on seven domains: income, employment, education, skills and training, health deprivation and disability, crime, barriers to housing and services, and living environment deprivation. A single overview indicator is then produced to show how areas compare for deprivation levels.

Census is a rich source of small area data but it is only updated every 10 years. In the UK, supplementing the census with administrative data, such as school examinations or benefit payments, provides rich detail on a wide variety of issues relevant to deprivation. Allocation of central government funding to local services is primarily based on demographics (similar to the equitable share approach in South Africa) but there is substantial 'top up' funding allocated using deprivation indicators. The indices of deprivation have become a driver for increased use of evidence-based policy and resulted in widespread better use of data and analysis.

Finally, David McLennan of the University of Oxford discussed the challenges and value of including crime data in the national index of deprivation. Crime has been included in the UK index since 2004 and there is potential to do the same in South Africa. Crime is an important dimension of deprivation because its impacts can be economic, physical and psychological and can prevent people going about their normal activities. Crime data is very sensitive but the process was enabled in the UK through very rigorous data sharing agreements. Once this was done, the National Index of Deprivation allowed crime data to be mapped at the local level for the first time. Inclusion of crime could greatly strengthen the SAIMD but there are issues around data quality that must be resolved first. Several collaborative projects are under way between the University of Oxford, the HSRC and others to explore links between crime, poverty and inequality in South Africa.

SAIMD does not yet have all the answers but it often shows what needs to be explored in more depth. It can be an area-level explanatory variable when looking at particular issues. The discussion identified a number of areas where further research is required and these are summarised in this report and in the Research Brief published separately.

The seminar provided strong evidence that SAIMD has the potential to answer crucial social policy questions by defining the problem, identifying the social groups involved and describing their location. This is closely aligned with a rights-based policy approach to dealing with poverty and inequality through redistribution. SAIMD 2011 is a resource for policymakers which show where deprivation remediation efforts need to be focused.

## **INTRODUCTION**

Drawing on experiences of using indices of multiple deprivation to inform policy development in both developed and developing countries, this workshop sought to share knowledge about the recently constructed ward-level South African Index of Multiple Deprivation (SAIMD) 2011, with a particular focus on the Eastern Cape. Taking into account experiences from Namibia and the United Kingdom the workshop highlighted ways in which the SAIMD can be used to inform policy making, and ways in which it could be updated in future years by drawing from other data sources.

## **BACKGROUND**

SAIMD 2011 is a ward-level measure of multiple deprivation. It comprises a weighted aggregate of four domains or dimensions of deprivation: material deprivation, employment deprivation, education deprivation and living environment deprivation, and was developed to facilitate sub-municipal analysis of multiple deprivation and its component domains (Noble et al., 2013). The SAIMD 2011 is the latest in a series of indices of multiple deprivation for South and southern Africa that have been developed using census data to profile multiple deprivation at sub-municipal level. The original South African study for 2001 was at ward level (e.g. Noble et al., 2006 and 2010) and was undertaken in collaboration with the HSRC. It was followed by a series of further refinements to develop a sub-ward or 'datazone' level index for 2001 (e.g. Noble and Wright, 2013), a series of child focused indices (e.g. Barnes et al., 2009), as well as updates to 2007 at municipal and datazone levels.

The ward and datazone level indices 2001 have been used in many ways by national and provincial government including targeting areas to promote the take-up of the Child Support Grant, prioritising wards for specific antipoverty interventions and in the case of the City of Johannesburg, as part of the mechanism to target its indigency policy. Specific reports utilising the indices have been developed for several provinces and also for the City of Johannesburg.

Spatial patterns of poverty and multiple deprivation are not random. The spatial distribution reflects the outcome of a number of dynamic social processes and factors which include migration, availability and cost of living space, community preferences, current and historical policies. The latter is particularly important in South Africa where the spatial legacy of apartheid means that poor South Africans are concentrated spatially and tend to reside either in formerly racially segregated 'townships' around cities created or confirmed as a result of the Group Areas Acts 1950-1966, or in former homelands created in colonial times and further promulgated under the Bantu Authorities Act 1951. The Eastern Cape contains the most deprived former homeland – the former Transkei - (Noble and Wright, 2013).

By documenting this spatial distribution at small-area level, policymakers can effectively target resources and policies to complement mainstream services. This process can be further enhanced by analysing not only the overall index of multiple deprivation but also the component domains and so obtain a more nuanced picture.

The design of small-area indices of multiple deprivation for resource-allocation has a long history. For example, at least since the mid-1960s the aim of creating an index (or indices) to measure deprivation at the local level, to identify priority areas and target programmes more effectively, has been a consistent feature of UK government policy. At times, these indices have been concerned with specific areas of policy, e.g. education or health, but since the 1980s a national index of 'multiple deprivation' at the local level has been developed to direct programmes and resources to deprived areas. The availability of the national decennial census in an electronic form with data from the enumeration district through to national level clearly contributed to this development. In the component countries of the UK (England, Scotland, Wales and Northern Ireland) Indices composed of distinct *domains* of deprivation began to emerge in the late 1990s.

Early indices in the UK were, as currently in South Africa, based entirely on the decennial census population. However, with the increasing availability of administrative data there has been a shift from census data to administrative data which has allowed more regular updating of the picture.

Indeed, in the most recently completed English Indices of Deprivation 2010 (ID 2010) all but three indicators were sourced from administrative data (McLennan et al., 2011). The English ID 2010 is currently being updated and, despite the availability of the 2011 Census, is not heavily dependent on census data. This move towards administrative data is something which could be explored further in relation to South and southern Africa.

In addition to experiences in developed countries, it is instructive to look at experiences in other developing countries. The Southern African Social Policy Research Institute (SASPRI) has recently worked with the United National Development Programme and the Namibian National Planning Commission to develop a Namibian Index of Multiple Deprivation 2011 (NIMD 2011) based on the 2011 census. This builds on earlier work using the 2001 Census (Noble et al., 2011a and 2011b). By using comparable indicators, where possible, change over time can be analysed and the drivers of such change in terms of policy interventions examined. The Namibian experience provides examples of measurement of change over time at small area level, as well as ways in which the NIMD has been and is proposed to be used within Namibian government.

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Noble, M., Zembe, W., Wright, G. and Avenell, D. (2013) *Multiple Deprivation and Income Poverty at Small Area Level in South Africa in 2011*, Cape Town: SASPRI.

### **THE PARTICIPANTS**

This seminar brought together researchers and role players from academic institutions and government departments. Participants included representatives from the Presidency; the National Departments for Science & Technology and Social Development; Provincial Premiers' Departments; and other Provincial Departments; Rhodes University; University of Cape Town; University of Venda; University of the Western Cape; the Southern African Social Policy Research Institute; the Medical Research Council; and the Human Sciences Research Council. International delegates represented the National Planning Commission of the Republic of Namibia; Oxford Consultants for Social Inclusion; and the United Nations Development Programme. There were 56 participants (see Appendix 4 for details).

## **THE SEMINAR**

Please refer to Appendix 4 for PowerPoint slides used in the presentations.

### **WELCOME AND INTRODUCTION**

Prof. Robert van Niekerk, Director of the Institute for Social and Economic Research (ISER) at Rhodes University, welcomed the participants and explained that the seminar was a collaborative venture between the Southern African Social Policy Research Institute (SASPRI) and ISER in partnership with the Department of Science and Technology, the Presidency's Pro-poor Policy Unit and the HSRC.

Van Niekerk highlighted the pioneering work done by Michael Noble and Gemma Wright over many years. The policy debate has reached a point where we can target resources more effectively against the unacceptable current situation and work towards the kind of society that is embedded in the constitution. The South African Index of Multiple Deprivation couples local level social transformation with overall societal change. In addition the seminar was to draw on expertise from other countries in both the North and the South allowing an important comparative dimension.

### **SESSION 1**

#### **THE IMPORTANCE OF THE SAIMD FOR POLICY DEVELOPMENT AND POLICY IMPLEMENTATION**

*Dr Wiseman Magasela, Deputy Director General, Department of Social Development*

Dr Magasela shared a government department's experiences of how SAIMD has been used for policy development and policy implementation. He pointed out that there need to be separate processes for policy development, its implementation and then review.

Historically, poverty measurement in South Africa was characterised by a lack of data and what was available was incomplete and poorly integrated. There was also a deliberate obscuring of facts about living conditions for blacks. The post-apartheid social and economic challenges have to be addressed.

In the past poverty measurement was mostly based on income measures. Initially, there were various Poverty Datum Lines (PDL) and then the Household Subsistence Level (HSL) and later the Minimum Living Level (MLL). There are a thus 'myriad of poverty lines' based on income being used in South Africa but there is no *official* national poverty line.

This situation highlighted the potential of the SAIMD as a policy development tool. The crucial policy questions were: defining the problem, identifying the social groups involved and the geographic location of social problems. Examples follow of where and how the Department of Social Development (DSD) has used SAIMD.

#### *Application of the SAIMD in Social Development policy and implementation*

The 'War on Poverty' was launched by the Presidency in 2008 at Jacobsdal. This government programme was based on asking the question of whether poverty was increasing or decreasing. They needed to establish the facts in order to help government departments respond to areas that needed urgent intervention. SAIMD was used to identify areas needing intervention, households were profiled and then referrals made to the relevant government departments such as Home Affairs, the South African Social Security Agency (SASSA), Health, Local Government etc. Examples include issuing birth certificates for children that were not getting benefits or getting an affidavit that would allow immediate access to social grants while other documents were being prepared.

#### *The take up of social grants*

Take up of social grants is regarded as the most effective anti-poverty measure of this government and we therefore needed to make sure that people in deprived areas were receiving grants. The lack of infrastructure caused challenges but the Integrated Community Registration Outreach Programme used mobile facilities in rural areas for grants registration and processing.

An innovation was the principle of 'localized universalization' prompted by SAIMD. Essentially, this implies that there is no need for a means test when SAIMD shows that everyone in a certain area is poor. This is not a written policy but is used by SASSA and any inclusion error is small enough to be unimportant when compared to the administration costs of the means test.

*The Non-Profit sector*

Many billions of Rand are provided to non-profit organisations (NPO) but there is a strong urban bias in their distribution and they were not reaching the most deprived areas. The DSD imposed a transformation of the NPO sector using SAIMD to identify areas requiring NPO support.

*Implementing Early Childhood Development (ECD) policy*

DSD conducted a national audit of ECD centres through which DSD can determine what infrastructure and trained personnel is needed. Again SAIMD is crucial in the implementation of ECD by identifying areas where multiple deprivation exists.

*Building partnerships with other organisations*

As part of the work with NPOs the SAIMD has forced DSD to work with traditional leaders and faith-based organisations. Since most of the deprived areas are within the former homelands partnership with traditional authorities was essential for access to land and other resources for development initiatives.

*Radical socio-economic transformation*

The question then arose regarding how to use social grants for local social and economic development, potentially through *collective local action*. Social cooperatives can be used to produce food for ECD centres.

Many small towns survive on transfers from social grants and this is the main income flow into these small towns. There is a 'conveyor belt' scenario in which 70 per cent of the grants are used within four hours. Merchants then supply household goods, predominantly food, to rural families. DSD provides R120 billion every year in social grants and we need to look at the longer term effect of this investment. The department was forced by this idea of radical socio-economic transformation to look at how to get better outcomes from the social grants. The focus is on the former homeland areas identified by SAIMD.

These examples demonstrate how relevant and how important SAIMD has been for DSD without even mentioning other departments.

## **QUESTIONS AND ANSWERS (Q&A)**

**Q: Gemma Wright, SASPRI.** These are fascinating examples of the use of the index. How was the figure that 70 per cent of social grants are used within four hours obtained? Money usually moves out of the area all too quickly.

**A:** On pay day there is a festival atmosphere in a place like Port St Johns. When the grants are delivered food is purchased, loans are paid and these things cannot be postponed. By the month end there are many types of things that are needed.

**Q: John Ashipala, National Planning Commission Namibia.** Can you elaborate please on the reasons why you did household profiles? Also, why did you look for better outcomes for the Social Grants?

**A:** We did not have household level information because most information is aggregated at national or provincial level. Household Profiling was needed to see what was going on in specific households and it led to other benefits. The Department of Human Settlements merely talks about the number of dwellings built and SASSA reports how many grants have been distributed but these profiles forced us to ask about the net transfer of government funds to poor households. We can give a household a grant, free schooling, a feeding scheme and provide exempt basic services but they are still in poverty. This profiling compels us to ask whether there are different ways to do this. DSD argues that social

housing should provide a way for people to obtain viable skills and ensure long term provision of housing through training people, instead of enriching a few private enterprises. The more complete picture provided by household analysis is better than using national aggregates. We need to know how grants have assisted and what were the positive outcomes on, for example, nutrition over a period.

**Comment: Priscilla Monyayi, University of Fort Hare (UFH).** I am glad to hear that there is a move from grants to a development perspective. The idea of social cooperatives is interesting and UFH would like to partner with such activities. The money goes out to the urban centres too quickly and does not benefit the rural areas.

**A:** There is strong resistance in government with regard to the value of grants. Some see it as a drain on the fiscus and potentially creating dependency. It is an ideological issue despite research that shows differently. Exploring possibilities for a value driven utilisation of grants is something we cannot avoid. Government does not operate on the basis of evidence alone but primarily on politics.

**Q: Bongani Matomela, Office of Premier Eastern Cape.** How have the grants benefitted rural communities? One of the surveys in the Eastern Cape found that 70-80 per cent of local distributors are not from the local communities so beneficiation is not local. Do you have information on this?

**A:** We have seen that in small towns the politics of the middle man applies. Mielie meal can be bought from the supplier cutting out the middle men but we cannot have cooperatives for every product. There is value in building a buying cooperative for certain products with a transport and delivery system which would bypass the middle men. Packaging can cost as much as the product itself and all these things need to be considered. For fresh produce we are working with agriculture and traditional authorities to identify local produce. The intention is to get 15 per cent of the Social Grant payments to be used in this way, increasing over time. Non-South African merchants are not the target.

**Q: Bongani Matomela, Office of Premier Eastern Cape.** How did DSD come up with interventions after the household survey? ECD was part of this but education as an intervention for poverty is not conventional social work. How do we use education as a catalyst for development?

**A:** The level of subsidy for ECD is R15 per child per day which is too low but we have come from nowhere. Quality education is needed but if we are to transform the country ECD is the place to start, with the best nutrition possible, allowing children to be raised in an intellectually stimulating environment. The greater impact will create a different generation in the future.

**Q: Yanga Zembe, Health Systems Research Unit, MRC.** You have explained how effectively SAIMD is being used by DSD but what are we doing to ensure that it is used by other departments such as Education and Health? Poverty effects vulnerability to disease but is it poverty or inequality that leads to illness? How should we disseminate this information to make sure that it is more widely used?

**A:** The Department of Health uses the Health Systems Trust for most of their data and policy development but they do the Demographic and Health Surveys themselves. SAIMD is being used by others, e.g. the Department of Agriculture also does household profiling. The Department of Education is using it for profiling schools to determine where to place no fee schools.

**Q: Katherine Hall, Children's Institute, UCT.** I am interested in this idea of 'localised universalisation'. What difference does it make? Does it need to be discussed in policy circles as a future pattern?

Geographical targeting based on SAIMD is likely to be in the same areas where social cooperatives are to be started and it is possible that these could adversely affect those involved. If pensioners invested their grant successfully they could potentially exclude themselves from the grant.

**A:** This is not a policy position but it is what is happening in practice. We are not looking at this situation because it will be a highly developed local economy that would bring families beyond the threshold for the means test cut off. Collectives will produce some income but we have not

considered this yet. We do not see cooperatives bringing in more than R25 000 per year and this should not act as a disincentive. We do not anticipate building 'off ramps' from Social Grants but the aim is to augment people's quality of life.

**Q: Derek Davids, HSRC.** You mentioned encouraging NPOs to move to rural areas but Community Advice Officers provide important legal and social services in urban areas. In Orange Farm there is just one person doing this and it is the only point of access to the Social Grant system. What will DSD do to improve access for those urban communities?

**A:** We are not closing down NPOs just because they are urban based. SAIMD tells us that the former homeland areas are where the need is greatest but there are few registered NPOs in these areas. We then ask the NPO sector to assist government to make sure that the Orange Farm Advice Office continues but at the same time there must be functioning NPOs in rural areas. If we do not change these patterns according to the prompts of SAIMD it means that the apartheid patterns of disadvantage will persist.

## **SESSION 2**

### **INTRODUCTION BY THE CHAIR FOR THIS SESSION, BEN ROBERTS, RESEARCH SPECIALIST, HSRC**

Ben Roberts noted the usefulness of reviewing SAIMD and how it has evolved over time. This multi-dimensional examination of poverty goes beyond the previous diffuse national picture to what is now the very small geographic level with comparisons across the country being possible. A question to consider is 'How can indices of multiple deprivation be used in the future?' It would be good to see greater availability and use of administrative data that would allow more regular updates and increased use for area-based targeting. Drawing on the Namibian experience it will be useful to see how we can promote IMD uptake beyond southern Africa to the rest of the world. There is potential for similar small area work using different types of data to construct, for example, new types of inequality measures. It could also be used to link up different types of data such as household surveys of attitudes to inequality and small area measures of deprivation to inequality.

### **INTRODUCING THE SOUTH AFRICAN INDEX OF MULTIPLE DEPRIVATION 2011**

**Prof. Gemma Wright, SASPRI**

*Concepts of deprivation, multiple deprivation and poverty*

There are a variety of concepts of poverty, which include notions of survival, the capabilities approach, the livelihoods approach, the quality of life approach, and absolute and relative poverty debates. All of these conceptualisations have their own aetiologies and academic discourses which straddle economics, social policy, development studies, and sociology.

Townsend (1979, p31) emphasised concepts of relative poverty and participation in society. 'Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions which are customary, or at least widely encouraged or approved, in societies to which they belong. Their resources are so seriously below those commanded by the average family or individual that they are in effect excluded from ordinary living patterns, customs and activities.'

Later, Townsend (1987) wrote about multi-dimensional deprivation in the following terms. 'Deprivation may be defined as a state of observable and demonstrable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs. The idea has come to be applied to conditions (that is, physical, environmental and social states or circumstances) rather than resources and to specific and not only general circumstances, and therefore can be distinguished from the concept of poverty.' Taking this notion further, Townsend states that 'people may not fall below the majority's standard of living but they may fall below what could be the majority's standard - given a better redistribution of resources or a reorganisation of

institutions in that society.’ This resonates with the idea that we should not lose sight of a better society which is not constrained by the current institutions.

**Prof Michael Noble, SASPRI**

*The South African Indices of Multiple Deprivation 2001-2011*

Indices of Multiple Deprivation (IMD) have a long history in many developed countries. Some indices were initially used for targeting education interventions. The relative measure of multiple deprivation at the small area level, covering the entire country consistently through census data began in 1971. Although this is a theoretically driven model it is data dependent.

The primary purpose was to target anti-poverty initiatives to *complement* mainstream policies and not to substitute for them. The spatial component is vital because different areas are not the same. In South Africa there is a spatial inheritance of colonialism, segregation and apartheid. The IMD inform allocation of resources for poverty alleviation based on the actual circumstances of people rather than merely on the basis of demography. IMD has synergy with a rights-based policy approach to dealing with poverty and inequality through redistribution.

The development of the SAIMD is summarised in Table 1.

**Table 1 Development of South African Indices of Deprivation**

|   |
|---|
| Provincial Index of Multiple Deprivation 2001 at ward level                               |
| South African Index of Multiple Deprivation 2001 at Datazone level                        |
| Municipality level Indices of Multiple Deprivation 2001 and 2007                          |
| Modelled South African Index of Multiple Deprivation 2007 at Datazone level               |
| Municipality level South African Index of Multiple Deprivation for Children 2001 and 2007 |
| South African Index of Multiple Deprivation for Children 2001 at Datazone level           |
| South African Index of Multiple Deprivation 2011 at Ward level                            |

We have drawn on Townsend’s 1987 formulation of multiple deprivation. It is a relative concept with many dimensions, experienced by individuals and is expressed at area level with relative measures such as ranking. We have always advocated that individual measures are worthwhile in their own right. It is possible to state deprivation in quite simple terms; for example, a percentage of the population in a particular area experiences a particular domain of deprivation while another percentage experiences another domain. The individual domains are worthwhile measures in their own right and in areas such as Limpopo and the Eastern Cape we are drilling down in specific domains in more detail.

There are several steps that we have to go through to develop the model of multiple deprivation at small area level.

1. Dimensions of deprivation must be clearly identified.
2. Dimensions must be measured as accurately as possible with indicators that pass certain tests of fitness.
3. Problems of unacceptable standard error must be dealt with.
4. Indicators must be combined to form domains in such a way as to best measure the construct in question.
5. Domain scores must be capable of being ranked to generate a relative picture of that form of deprivation.
6. Domain scores must be standardised by ranking and transformed in a way that allows their weighted combination into an overall index.
7. Appropriate domain weights should be selected.

In South Africa the census information is collected at enumeration area level which is an ‘input geography’ based on what could be covered in one day by one enumerator. This information is then aggregated up to various spatial levels. The UK now uses an ‘output geography’ so that each household is geocoded and after the census the geographical structures are defined.

Combining variables into an index has to be done in such a way that success in one domain does not override deprivation in another, i.e. the measures are cumulative and should not cancel one other out.

**Dr Wanga Zembe, SASPRI**

*The SAIMD 2011 at provincial, local municipality and ward level*

The domains and indicators used to construct the SAIMD are shown in Table 2.

**Table 2 SAIMD 2011 Domains and Indicators<sup>1</sup>**

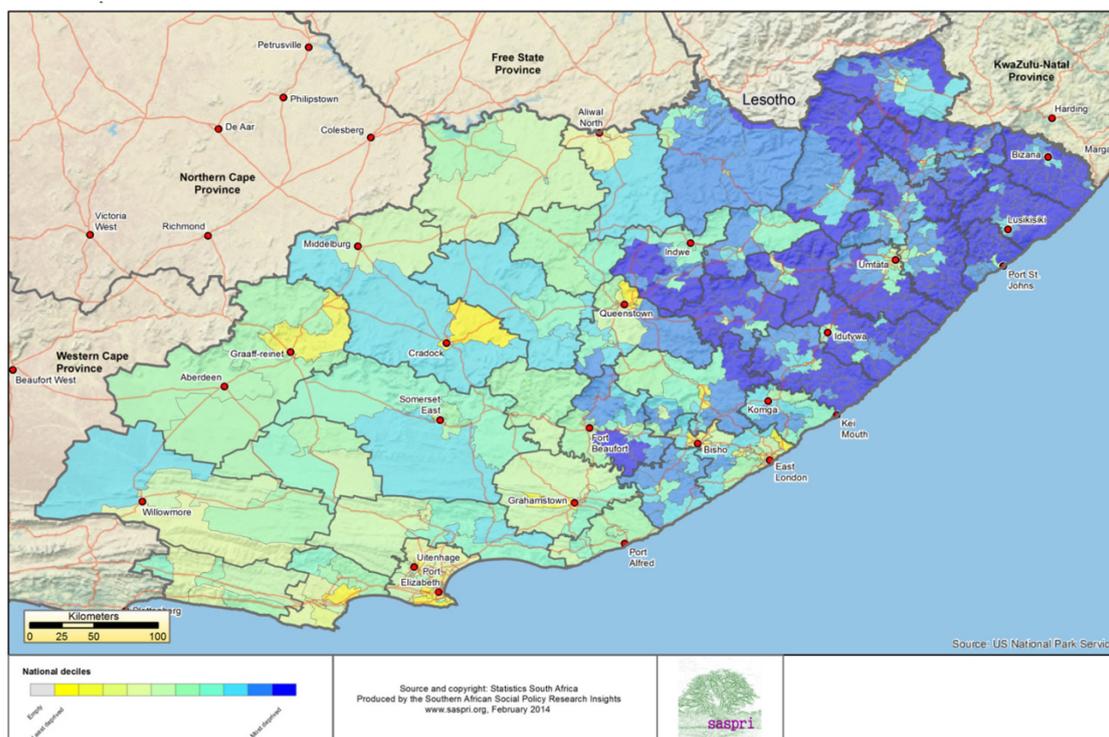
| The SAIMD 2011 contains 4 domains which were each constructed at ward level:  |  |  |   |
|---|--|--|---|
| Material Deprivation Domain   | Employment Deprivation Domain  | Education Deprivation Domain   | Living Environment Deprivation Domain   |
| % households with: <ul style="list-style-type: none"> <li>• no fridge; or</li> <li>• no cell and no landline; or</li> <li>• no TV and no radio</li> </ul> | % working age people who are: <ul style="list-style-type: none"> <li>• unemployed (official definition); or</li> <li>• unemployed (discouraged)</li> </ul> | % 18-64 year olds who: <ul style="list-style-type: none"> <li>• have no schooling at secondary level or above</li> </ul> | % total population who: <ul style="list-style-type: none"> <li>• have inadequate water supply; or</li> <li>• have inadequate sanitation; or</li> <li>• do not use electricity as main source for lighting; or</li> <li>• live in a shack</li> </ul> |
| Each domain score was standardised and transformed to a common distribution and then combined with equal weights (i.e. 25% per domain)                    |  |  |   |

Rates of deprivation are highest in the Eastern Cape (EC) for material and employment deprivation; the Northern Cape is highest for Education deprivation and Limpopo for Living Environment. Interquartile ranges at provincial level were best in the Western Cape and Gauteng with a relatively compact range. The range is wider in the EC which has the most deprived ward nationally (Port St Johns) and the eleventh least deprived ward in Buffalo City. Therefore the level of inequality in EC is high. Many of the wards are skewed to the most deprived end of the spectrum.

The 10 most deprived local municipalities all fall within EC or KwaZulu-Natal (KZN). For the EC all are in the former homeland of Transkei. Eight of the 10 least-deprived municipalities are in the Western Cape or Gauteng with one in each of the Northern Cape and Mpumalanga. The 20 most deprived wards all fall in KZN and EC, with 85 per cent of them in the former Transkei.

The Western Cape mostly has little deprivation and although there are pockets of deprivation these are nowhere near as severe as other provinces. Mapping clearly highlights former homelands as areas of maximum deprivation. Figure 1 shows areas of most deprivation in dark blue and least deprivation in yellow. The correlation of the dark blue areas with the boundaries of the former Transkei and, to a somewhat lesser extent the former Ciskei, is very apparent. Limpopo shows the highest environmental deprivation.

<sup>1</sup> Noble, M., Zembe, W., Wright, G. and Avenell, D. (2013) *Multiple Deprivation and Income Poverty at Small Area Level in South Africa in 2011*, Cape Town: SASPRI.



**Figure 1 Ward-level SAID 2011 Eastern Cape Province. Dark blue = most deprived, Yellow = least deprived**

**Prof Michael Noble, SASPRI**

*Income poverty at ward level*

Most people still use income poverty so it is useful to compare this with multiple deprivation indices. The commonest measure for income poverty, although there is no national standard, is that developed by Hoogeveen & Özler (2006) which uses published (Superstar) ward level tables of household income and household size. The 'lower bound' poverty line was R604 and the 'upper bound' poverty line R1 113 per capita per month in 2011.

The methodology is quite involved because census data is collected in banded form and household income is calculated from bands using the logarithmic mean. With no access to underlying data points income by household can be calculated to find the proportion of people falling below the Hoogeveen & Özler poverty line. Despite the methodological imprecision there is a good match for the census and aggregated data methods (Figure 2).

The lower bound poverty line is commonly used even though it appears unacceptably low. The 20 poorest local municipalities show a familiar story with most being in the Eastern Cape and KZN with one in North West and one in Limpopo. When examining the percentage of wards per decile for the lower bound poverty line, there are no poorest wards in Western Cape and Gauteng, 21.5 per cent in the Eastern Cape and 19.2 per cent in KZN.

The ward level map of income poverty rates for KZN follows the pattern shown by multiple deprivation mapping which highlights the former Kwa-Zulu homeland (which was very fragmented) (Figure 3). The map for EC is not quite so clear as SAIMD but the correlation is 0.8944 for lower bound income poverty. However, despite good correlation we cannot just use income poverty because this does not identify *what* people lack in the way that SAIMD can, e.g. whether it is water or sanitation that people lack.

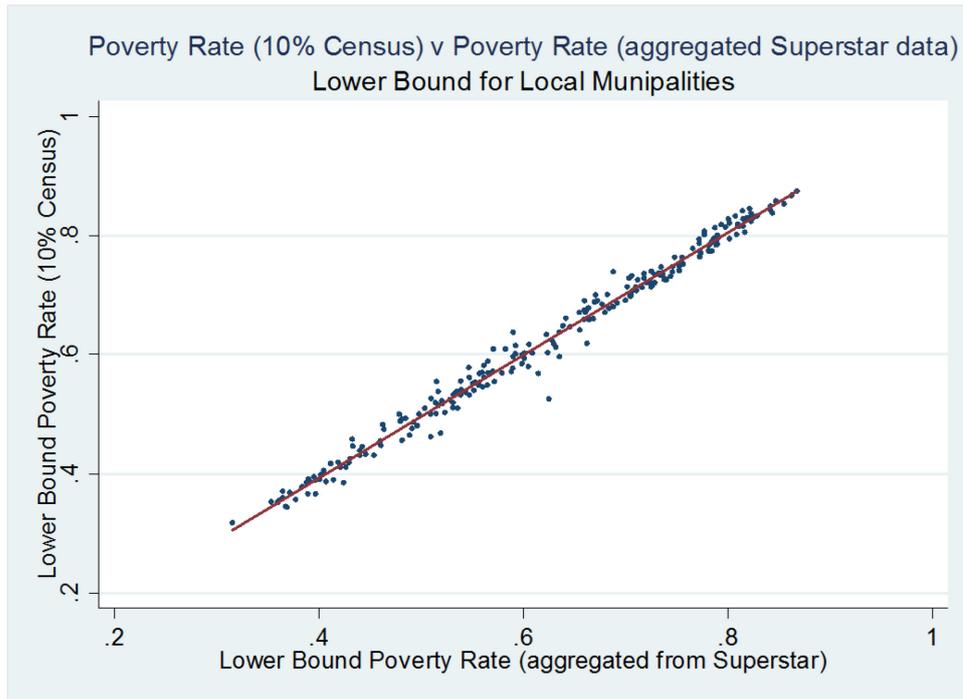


Figure 2 Scatter plot of Poverty Rate from 10% Census against Poverty Rate from aggregated Superstar data (rho=0.9930)

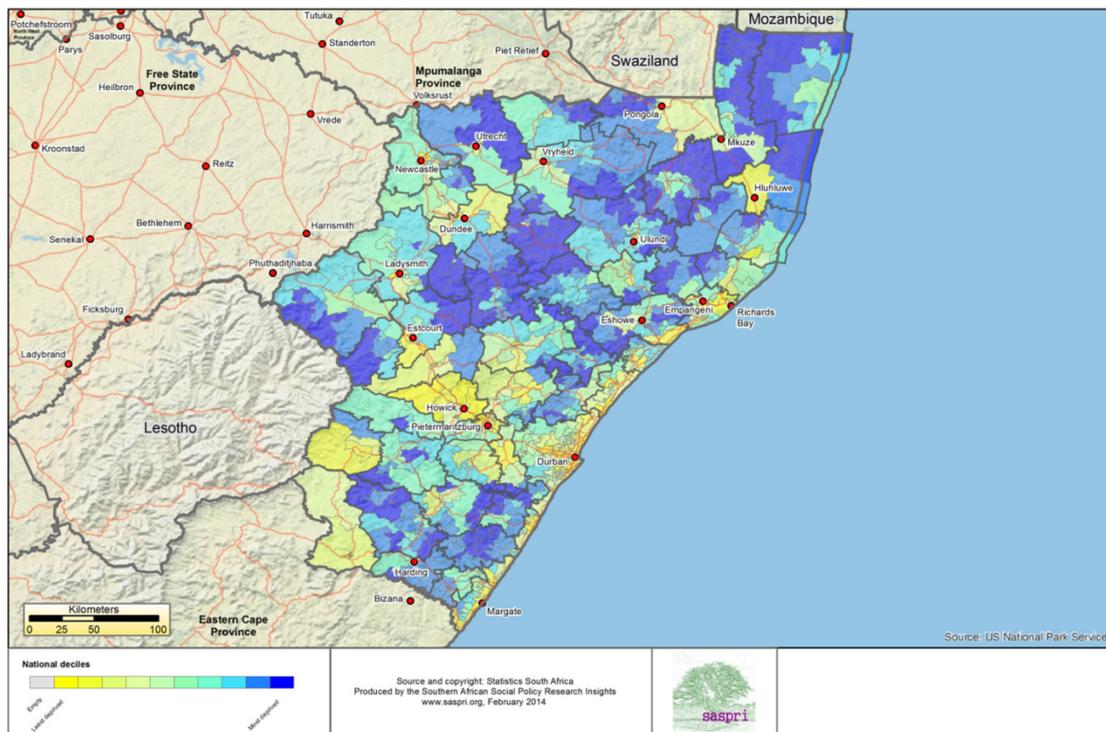


Figure 3 Ward level Income Poverty rates 2011 (poverty line R604 per capita per month) Kwa-Zulu Natal Province. Dark blue = most deprived, Yellow = least deprived

When we look at the change in deprivation between 2001 to 2011, the rates have decreased but it is not even and the former homelands are lagging behind.

The SAIMD has been used for national and international diagnostic evaluation, targeting resources, academic uses. It provides a springboard for future research and helps to move from merely describing the 'what and where' of poverty to the 'how and why'. Tracking change over time is important.

In conclusion:

- The spatial patterns of deprivation were not markedly different in 2011 from 2001.
- There has been an improvement in absolute terms but this is not shared equally across all areas.
- In absolute and relative terms the rural former homeland areas still bear the brunt of multiple deprivation (and income poverty).
- The SAIMD 2011 provides a useful tool to identify areas for policy prioritisation.

## **Q&A**

**Q: John Kruger, Planning Commission.** In terms of trends over time from 2001 to 2011, you only provide an aggregate number and do not provide figures for the different domains. Is there a reason for this? Also, if we look at the UCT Multiple Deprivation poverty index they found the incidence of poverty came down from 37 per cent in 1993 to 8 per cent in 2001 but your data does not seem to show a similar decline between 2001 and 2011. Why is this?

**A:** Changes over time are not expressed at domain level because there have been large changes in some of the domains. There was a health domain that included Years of Potential Life Lost (YPLL) which was not available in 2011. We also took out income from the income and material deprivation domain. This was because we have become more purist and wanted to capture deprivation which is 'a lack of something' as opposed to income, which is the 'means to avoiding lack'. So it is partly a lack of data and partly an improvement of our conceptual clarity over time. We now we have an income measure and a deprivation measure for future work.

As for the national poverty measure going down from to 37 % to 8%, it just doesn't seem credible to me. It is a different measure and is perhaps a more acute measure of very severe multiple deprivation and is not the percentage in particular dimensions. Do you think the poverty level in South Africa is really 8%?

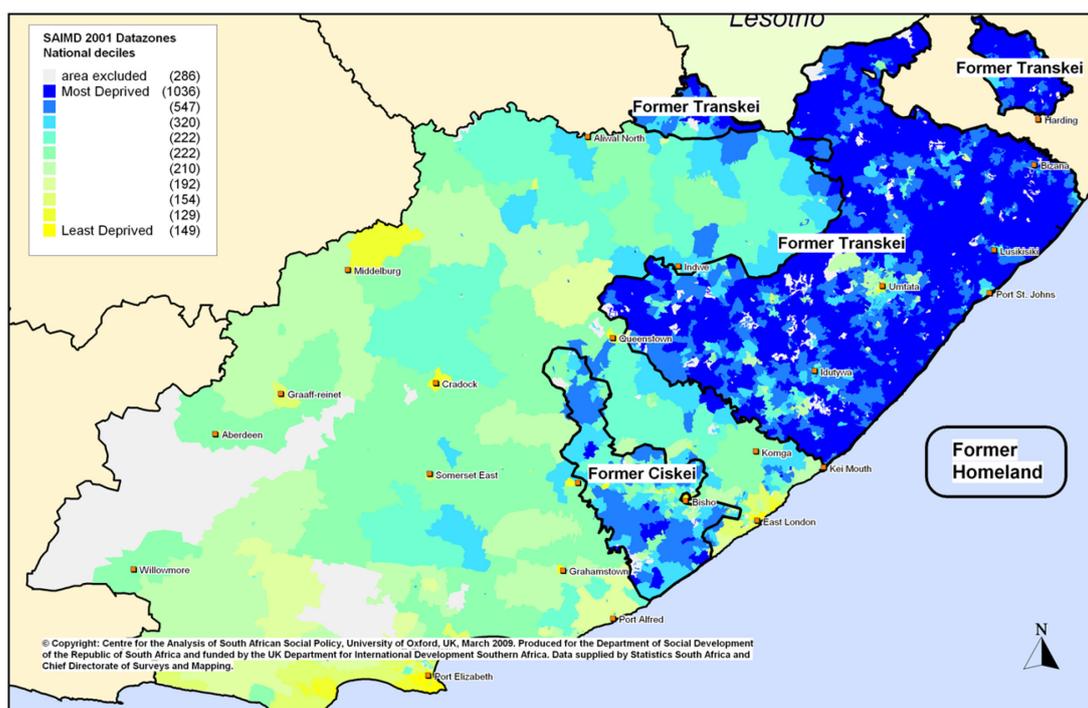
**Q: Katherine Hall, Children's Institute, UCT.** I was struck by the inter-quartile (IQ) ranges shown. One might expect the IQ ranges to expand over time and not remain as tight. Is it time to look at the range of equality at the local level which, if it increases, may be a good thing?

**A:** Is inequality always a bad thing and is equality always a good thing? We looked at Gini coefficients at spatial level and in the EC the Gini coefficient is very low for South Africa, at about 0.4., while for Cape Town it is around 0.8. You would not say the former Transkei is doing better than Cape Town or Johannesburg. It looks better on the basis of Gini coefficient but the people are actually all equally poor. Stretching out the IQ range is generally a sign of things getting better.

## THE FORMER HOMELANDS: FOCUSING ON THE EASTERN CAPE

**Prof. Gemma Wright, SASPRI**

We have been struck by the prominence of the former homelands in the story of multiple deprivation in South Africa and are now devoting more attention to it. The datazone level analysis for SAIMD in 2001 allows a closer look at the sub ward level and this shows even more clearly that the most deprived areas were the former homelands (Figure 4). Using the 2011 population weighted average ward rank of the SAIMD showed that all 10 of the most deprived local municipalities fell in either the former Transkei or former KwaZulu homelands. Similarly the 20 most deprived wards all fall in these two former homelands.



**Figure 4 SAIMD 2001 at Datazone level - Eastern Cape with boundaries of former Transkei and Former Ciskei. Dark blue = most deprived, Yellow = least deprived**

**Dr Wanga Zembe, SASPRI**

When comparing the four domains of the 2011 SAIMD in the former homelands with the rest of South Africa, the homelands are much worse off (There is a similar story for income poverty in former homelands in 2011. For the lower bound of R604, income poverty in former homelands was 73 per cent compared to 46 per cent in the rest of South Africa.

### Conclusion

Deprivation and income poverty remain much worse in the former homelands and are significantly higher than the rest of South Africa. While there has been some absolute improvement between 2001 and 2011 the rates of multiple deprivation and income poverty are still unacceptably high. This is particularly true for the former Transkei. This evidence should send a strong message to policymakers and researchers about where the attention needs to be focused, i.e. on the former homelands in general and former Transkei in particular.

Table 3). This is particularly evident for environmental deprivation which is 73.7 per cent in former homelands compared with 27.6 per cent in the rest of South Africa.

There is a similar story for income poverty in former homelands in 2011. For the lower bound of R604, income poverty in former homelands was 73 per cent compared to 46 per cent in the rest of South Africa.

*Conclusion*

Deprivation and income poverty remain much worse in the former homelands and are significantly higher than the rest of South Africa. While there has been some absolute improvement between 2001 and 2011 the rates of multiple deprivation and income poverty are still unacceptably high. This is particularly true for the former Transkei. This evidence should send a strong message to policymakers and researchers about where the attention needs to be focused, i.e. on the former homelands in general and former Transkei in particular.

**Table 3 Deprivation in the former homelands in 2011**

|                             | Province containing greater part of former homeland | Material Deprivation % | Employment Deprivation % | Education Deprivation % | Living Environment Deprivation % |
|-----------------------------|---|------------------------|--------------------------|-------------------------|----------------------------------|
| Former Bophuthatswana       | North West  | 38.1                   | 46.8                     | 26.0                    | 67.0                             |
| Former Ciskei               | Eastern Cape  | 41.5                   | 56.2                     | 24.3                    | 50.5                             |
| Former Gazankulu            | Limpopo   | 36.9                   | 58.3                     | 28.9                    | 77.6                             |
| Former KaNgwane             | Mpumalanga  | 33.7                   | 47.2                     | 29.1                    | 71.4                             |
| Former KwaNdebele           | Mpumalanga  | 29.0                   | 45.9                     | 27.6                    | 65.0                             |
| Former KwaZulu              | KwaZulu-Natal                                       | 48.7                   | 54.5                     | 27.0                    | 67.4                             |
| Former Lebowa               | Limpopo   | 38.7                   | 57.2                     | 23.3                    | 81.9                             |
| Former Qwa Qwa              | Free State  | 36.8                   | 56.0                     | 22.8                    | 61.4                             |
| Former Transkei             | Eastern Cape  | 69.0                   | 58.4                     | 37.2                    | 87.8                             |
| Former Venda                | Limpopo   | 36.9                   | 54.5                     | 24.0                    | 77.0                             |
|                             |   |                        |                          |                         |                                  |
| <b>All former homelands</b> |   | <b>46.4</b>            | <b>53.8</b>              | <b>28.0</b>             | <b>73.7</b>                      |
|                             |   |                        |                          |                         |                                  |
| <b>Rest of South Africa</b> |   | <b>33.0</b>            | <b>30.1</b>              | <b>17.9</b>             | <b>27.6</b>                      |
|                             |   |                        |                          |                         |                                  |
| <b>All South Africa</b>     |   | <b>37.1</b>            | <b>36.0</b>              | <b>20.9</b>             | <b>43.8</b>                      |

**Q&A**

**Q: John Kruger, Planning Commission.** There is some good progress evident nationally for the education domain, i.e. from 30.2 per cent in 2001 to 17.6 per cent in 2011, and in Transkei it improved from 56.9 per cent to 37.2 per cent. You use measures that do not address educational quality in any way but only measure attainment; I would like to know why you do not assess quality.

**A:** We are simply measuring the stock of attainment of secondary education in the adult population. Due to a high level of school attendance and low life expectancy we have seen great improvements on the education domain. But there are vital issues of quality looking beyond mere attainment of matric that are being explored by other academics.

**A:** The census is effectively the only source of small area information and even if we could get data on matric to ward level there is no consistency in the matric qualification across the country. It therefore becomes vitally important to look at administrative data and we will speak about education attainment in more detail later.

**A:** In its present form the census does not allow us to measure education quality. There is a need for research on this.

**Comment: Bongani Matomela, Premier's Office EC.** The presentation is trying to reflect the actual information but we need to go beyond just having data because it does not show the how and why. Since 1994 we do not have separate data to monitor change. What was the picture between 1994 and 2001? When you transform institutions this creates some problems and if you examine this it may answer the how and why.

**A:** The 1996 census perhaps offers some opportunities to explore this but we have not done this.

**Q: Mastoera Sadan, Presidency.** The 20 year review looked at children and bears out the story in the Eastern Cape and Kwa-Zulu natal. What has happened in the EC with the reduction of remittances and what is the role of the child support grant? With infrastructure the poor provinces lose out and this is reflected in the living environment domain for water and electricity. Is this an issue of state capacity or state failure and in particular the failure of local government?

**Q: Wiseman Magasela, DSD.** What kind of comment can we make regarding the work on the SAIMD considering the fact that former homelands have multiple deprivation; what does it tell us when we look at the 2011 census? There is extensive migration and Gauteng, for example, gained nearly 1 million people. We cannot assume all of them got jobs or moved into acceptable living conditions. KZN lost 550 000 and the Western Cape gained 534 000. What has the effect of this been on the wealthier provinces? A dynamic of deprivation may be emerging in the non-former homeland provinces because of this migration.

**Q: Ojijo Odhiambo, UNDP.** First there should be an appreciation of the limitation of the index. In Namibia quality of education was an issue especially when attendance rates are high. Do they have to read and write? Attainment markers do not measure quality. There is a Southern African assessment on numeracy and literacy; is it possible to combine data from different sources to provide a better index? If we limit ourselves to census data we are going to be limited.

**A:** We hope to pick on some of these issues this afternoon when we will discuss the use of administrative data to complement census data. Quality of education is still a political issue. Repeal of the Bantu Education act did not make the structures go away. We can have national standards but it becomes very political when people are accused of not teaching to the necessary standards.

**A:** We do not suggest that SAMDI is a panacea; it is more the 'tip of the iceberg' showing what needs to be explored in more depth. It can be an area level explanatory variable when looking at particular issues. In the UK health sector the English index is used to weight salaries so that doctors get paid more if they work in highly deprived areas. This may help to avoid the situation we have here where people leave deprived areas as soon as they have qualified.

**Comment: Monde Makiwane, HSRC.** Many people living in metropolitan areas straddle the metro and their place of origin. We need to look at life cycle factors. The young go to metros to work and people return home when elderly or ill. We should not assume the census is telling the whole story.

**Comment: Bongani Matomela, Premier's Office EC.** How have data influenced policy and resource allocation from 1994 to today? Resources were allocated to the former homelands according to population through various mechanisms such as the equitable share but with changing population in the 2011 census this will change.

**A:** How resources are allocated is vitally important, especially when addressing the question of whether the issue is one of state capacity or state failure. Migration is often the result of desperation as people seek new opportunities. If we provide those resources that people lack they might not move to urban areas.

A: The migration cycles will continue to happen if we do not address this. This is the springboard. Spatial patterns, migration patterns and resource allocation are bits of the same puzzle that are needed to produce effective policy for the former homelands to be developed.

**Q: John Kruger, Planning Commission.** You show that the geography of poverty has not changed. Are there any wards that have transformed?

A: We are looking for both success stories and failures but more of this will be covered by the presentation on Namibia. Further examination of success stories is on the agenda but has not been done yet.

**Q: Robert van Niekerk, ISER.** Does this not call for an audit of our policy interventions to see why some have failed? 'Localised universalism' should be tried more systematically and then evaluated to see if a change is produced. We are still using a post neo-liberal approach to policy making and need more bold approaches. Norway has the highest level of human development indicators and we need to find out how we can get there. We need to find out what the best country models are and to identify the most cost-effective approaches.

### **SESSION 3**

#### **THE NAMIBIAN INDICES OF MULTIPLE DEPRIVATION 2001 AND 2011 AND THEIR USES**

**Mr Johannes Ashipala, National Planning Commission, Namibia and Mr Ojijo Odhiambo, UNDP Regional Bureau for Africa**

Namibia has set ambitious development targets in its Vision 2030 plan; these include 6 per cent GDP growth, an unemployment rate of 2.3 per cent and a Gini coefficient of 0.3 by 2030. To put that into perspective, currently economic growth is around 4.5 per cent, unemployment is about 30 per cent and the Gini coefficient is 0.58, but in 15 years' time we would want to be a developed country. The fourth National Development Plan (NDP4) is a five year plan of action which began in 2012 and this added the creation of over 90 000 jobs and reducing extreme poverty to less than 10 per cent (from the current 15 per cent). Education and health have been identified as the primary enablers of development.

The first Namibian Index of Multiple Deprivation (NIMD) was created in 2010 in Khomas Region, which includes the capital, using data from the 2001 Namibian Population and Housing Census (NPHC). NIMD includes five dimensions of deprivation, namely, material deprivation, employment deprivation, health deprivation, education deprivation and living environment deprivation. It is now produced at regional, constituency and datazone levels using the 2001 and 2011 NPHC.

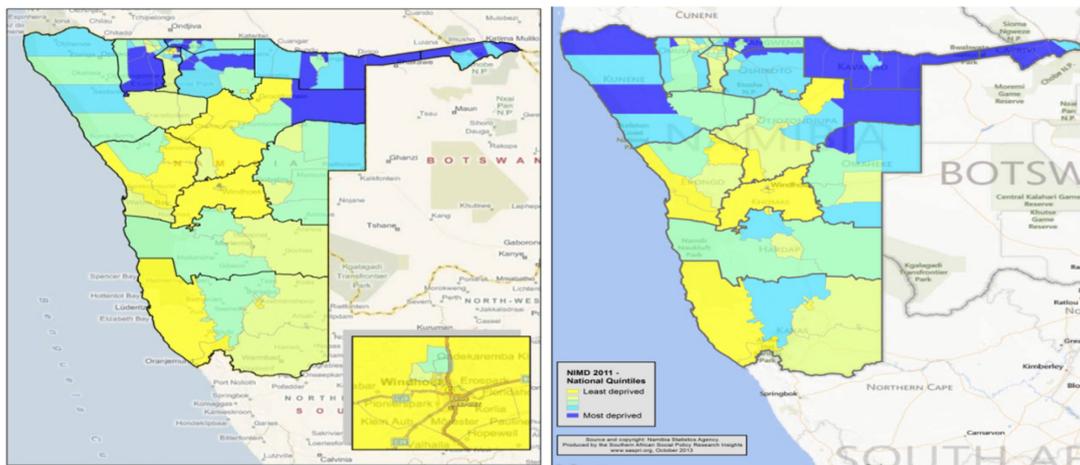
Material deprivation is defined as the population without access to TV or radio or cell phone or telephone (not fridge as in SAIMD); employment deprivation is the percentage of the population between 15 and 59 that is unemployed; health deprivation includes potential years of life lost (PYLL); education deprivation is those aged 15 to 59 without secondary education or who are illiterate; and environmental deprivation includes access to electricity for lighting or paraffin or solar energy, sanitation using flush or pit latrine, and access to safe drinking water within 200m. Overcrowding is defined as the number of households with more than 3 people sharing a room.

Tracking national changes in deprivation from 2001 to 2011 show declining material deprivation (- 6.6 per cent), increase in employment deprivation (6.1 per cent), minimal decline for educational deprivation (0.1) and a small decline for environmental deprivation (-4.7 per cent). With so little change over the past 10 years the Vision 2030 targets may be unachievable.

Mapping NIMD shows more severely deprived areas in 2011 than in 2001 but the 20 most deprived constituencies in 2011 did not feature in the top 20 in 2001 (Figure 5). More than 50 per cent of the most deprived constituencies are new entrants and were not in the top 20 in 2001. Comparing data

zones (smaller areas) with constituencies (larger) shows that there are pockets of multiple deprivation within constituencies.

Material deprivation has declined in all regions except the economic hub of Erongo (a fisheries centre). This may be caused by migration to Erongo. The labour force participation rate is about 80% and unemployment around 30%. The most materially deprived constituency in 2011 was Epembe but it was much better by 2011 then ranking eleventh. Conversely, Kapako was ranked 59<sup>th</sup> in 2001 but was 9<sup>th</sup> in 2011. Employment deprivation has increased in most regions. Health deprivation was clearly getting worse by 2011 and there is a change in the ranking of the top 20 since 2011. Despite spending a lot on education educational deprivation has increased in almost all regions except for Erongo, Khomas and Oshana. For most of the top 20 there have been increases in educational deprivation. Living environment deprivation has declined in almost all regions although the declines are very small and amount to only about two per cent over 10 years. If this trend continues Namibia cannot achieve the targets by 2030 and the overall deprivation levels are very high (98%).



**Figure 5 NIMD 2001 (left) and 2011 (right) by constituency. Dark blue = most deprived, Yellow = least deprived**

*Conclusion*

1. There are wide regional disparities with regards to multiple deprivation.
2. Three of the five most deprived constituencies are located in Kavango, and three of the five least deprived constituencies are located in Khomas (the regional containing the capital).
3. Kapako in Kavango is the most deprived constituency followed by Tsumkwe in Otzondjupa region, Mashare in Kavango, Kongola in Zambezi and Kehenge in Kavango.
4. There was a 16.6 per cent decline in material deprivation nationally between 2001 and 2011.
5. Living environment and educational deprivation declined by 4.7 and 0.1 per cent between 2001 and 2011.
6. Employment deprivation increased by 6.1 per cent nationally, but it declined in three regions, namely, Erongo, Oshana and Oshikoto.
7. Half of the regions registered declines in the proportion of people who are educationally deprived. These declines were greatest in urban areas.
8. All regions except Khomas registered declines in living environment deprivation.

*Recommendations*

1. Prioritize resource allocation according to regional and constituency developmental needs;
2. Ensure efficient use of resources allocated; and
3. Improve service delivery by targeting the most deprived areas.

**Q&A**

**Q: Ben Roberts, HSRC.** It is encouraging to see the NIMD work moving ahead. Looking across the domains and work done in the early 1990s to the early 2000s from household surveys showed the

effects of climatic shocks and variability; what is the cumulative effect of climatic shocks on material deprivation? Asset erosion may have occurred and this could explain the decrease in material deprivation.

**A:** We think the decline in material deprivation is related to very high levels in the past and at certain very low levels it is hard to reduce it further. We were shocked to see that Erongo is increasing and we are still investigating what is the contributing factor. We are looking at the data but may need to talk to the planners who can inform us about any interventions that might explain the changes we observe.

**Q: Katherine Hall, UCT.** You seem to find that there were inconsistencies in the ranking across different domains which is different from what we see in South Africa. Can you explain this?

**A:** We are comparing data on poverty and deprivation to see if they are correlated. Kapako is the most deprived and the poorest constituency in Namibia. We want to see if there has been any impact where there are interventions, for example the 'Green Scheme'<sup>2</sup> in Kavango.

**Q: Isaac Choge, University of Johannesburg.** Could we take lessons from things that worked well in some provinces and apply them elsewhere?

**A:** This is an interesting question which we need to take to the planners to ask what they have done that might explain the changes. In the very rural areas we would expect things to change for the better but in some there is an increase in deprivation.

**A:** The more we know, the more we realise that we need to know more. We have to get beyond the data to find the reasons for what has happened. There is a lot more work to be done.

Patterns of poverty closely mirror deprivation. The most poor are the most deprived in a multidimensional sense. There is a good reason for analysis by Region (= province), Constituency (= ward) and datazones (= small areas). To tie analysis to levels of political accountability it is best done at constituency level because these have elected representatives. Regions are administrative areas and this is where planning takes place. The data zone was conceived to allow areas of deprivation to be singled out for analysis.

**Q: John Kruger, Planning Commission.** According to the National Statistics Agency, income poverty numbers for Namibia show dramatic reductions since the 1990s but NIMD seems to show much more variation. Can you explain the worsening educational deprivation?

**A:** We would like to compare patterns of poverty and deprivation at a point in time and changes over time. We have tried a poverty mapping exercise between 2003, 2004, 2009 and 2010 using the National Household Income and Expenditure Surveys. Using different econometric models we get different poverty head counts for the 2001 and 2011 census. We can then compare these measures of poverty and the changes over time to see how they correspond with deprivation changes over time.

With regard to education and the point that deprivation is increasing in certain areas, when looking at the MDG indicator 'universal access to primary education' it is good, i.e. 90-95%, but the completion rate is not there. We have high drop-out rates, especially at grade 8 to 10. We need to look beyond the numbers to quality and relevance of education.

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<sup>2</sup> The Green Scheme is an initiative led by the Namibian Ministry of Agriculture, Water and Forestry to "increase production of crops under irrigation at the national level and to promote import substitution."

## SESSION 4

### RECENT DEVELOPMENTS IN THE UK: USING THE INDICES AND THE UNDERPINNING DATA

*Dr Tom Smith, Oxford Consultants for Social Inclusion (OCSI)*

The UK index of multiple deprivation is currently being updated and there are similar discussions going on about the value of grants and targeted programmes or area-based initiatives. There are trade-offs between resource allocation to local services and national targeted top-up programmes.

There is a long history of using the English multiple deprivation indices for allocating and targeting resources going back to at least the 1970s. The aim is to tackle inequality of opportunity and outcome. Government set some very challenging national ambitions and targets and in particular that 'no one should be seriously disadvantaged by where they live'. Another target is that child poverty should be halved within 20 years.

During the 2000s, indices of deprivation were used to direct area-based programmes utilising one to two per cent of government spending focused on deprived areas, which amounts to about £5 - 10 billion (R88 - 176 billion). This was aligned with a renewed emphasis on evidence-based policy.

The English index of multiple deprivation was based on seven domains and similar ones were used for the Scottish, Welsh and Northern Irish indices. These are: income, employment, education, skills and training, health deprivation and disability, crime, barriers to housing and services, and living environment deprivation. Each domain is based on a set of indicators, giving rise to 40 in all, and using data from different sources. A single overview indicator is then produced to show how areas compare for deprivation levels. The methodology includes standardisation and various statistical techniques to correct for small area data reliability, transformation and ranking for comparisons, and weighting to give greater impact to the more important domains.

The Education Skills and Training domain seeks to capture 'the lack of attainment and skills in the local population'. This uses a combination of children's educational attainment and adult skills in the population (Table 4).

**Table 4 Education, Skills & Training Indicators (UK) Indicators and Sources of Data**

| Indicator                                       | How is it measured?   |
|---|---|
| Adults with no or low qualifications            | UK Census, self-reported  |
| English language proficiency                    | UK Census, self-reported  |
| Pupil attainment for national 'Key Stage' exams | School pupil exam results, by pupil home address                            |
| Secondary school absence                        | School registers, by pupil home address                                     |
| Staying on in education (beyond 16)             | 17 year olds receiving government benefit payable to those in education     |
| Entry to Higher Education                       | Successful entry to University/ Higher Education, by address of application |

The census is a rich source of small area data with nearly 100 per cent coverage but it is only updated every 10 years. Supplementing this with administrative data collected as a by-product of other processes such as school examinations and benefit payments provides rich detail on a wide variety of issues relevant to deprivation. However, the multiple data sources are not linked, so they do not

typically allow multi-dimensional analysis on single individuals. But all the school datasets are linked to pupil's home address which then makes this a very sensitive dataset. There are limitations caused by changes in examinations and benefit eligibility which mean that the ability to track trends over time may be compromised.

*How the indices and underpinning data are used*

Allocation of central government funding to local services is based on quite complex formulae for mainstream funding, e.g. National Health Service and Local Government. These are primarily based on demographics but there is substantial 'top up' funding based on deprivation indicators. There is also direct funding for large scale targeted national and regional programmes for 'helping to turn around the hardest hit areas'. Other uses include commissioning and targeting Sure Start and Children's Centres, the Big Lottery, which comprises R14 billion per year allocated to 'good causes', and the neighbourhood renewal fund which allocates around R4 billion per year.

The indices of deprivation have become a driver for increased use of evidence-based policy and resulted in widespread increase in the use of data and analysis. There is also pressure on government to make 'open data' available. There is better understanding at senior level of the need for better evidence (chief executive, directors) pushed by national demands for an evidence-base and local needs for information.

In summary, the uses for the English Indices of Deprivation include:

1. Funding and commissioning using relatively big sums;
2. 'Unexpected consequences' include providing incentives for local authorities to increase benefits uptake;
3. Measuring impact of programmes and changes in deprived areas;
4. Research and analysis – a potential driver of other outcomes (particularly health research);
5. Dissemination and transparency and answering the question 'What services and programmes are we running in which areas?'

**CRIME AS A POTENTIAL ADDITIONAL DOMAIN**

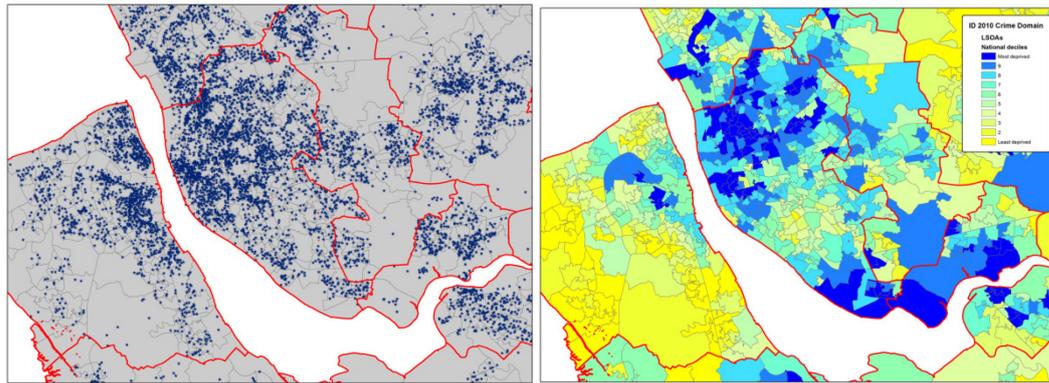
*David McLennan, University of Oxford*

An integral feature of indices of deprivation is the need to continually review and refine them. Improvements may arise in the conceptualisation, or from new datasets, or new domains of deprivation. Crime has been included as a domain in the UK index since 2004 and there is potential to do the same in South Africa. This is important because not only does South Africa have some of the highest violent crime rates in the world but crime is an important dimension of deprivation. Impacts of crime can be economic, physical and psychological and can prevent people going about their normal activities.

We are not yet able to do this in South Africa due to limitations of available data but the UK approach may show how it can be done. In the UK, the police collect data on every crime reported to them and this includes a grid reference, date and time. The information is very sensitive because it can identify potential victims and consequently high data security is required. A series of very rigorous data sharing agreements were signed with the various police forces. Once this was done, the National Index of Deprivation allowed crime data to be mapped at the local level for the first time.

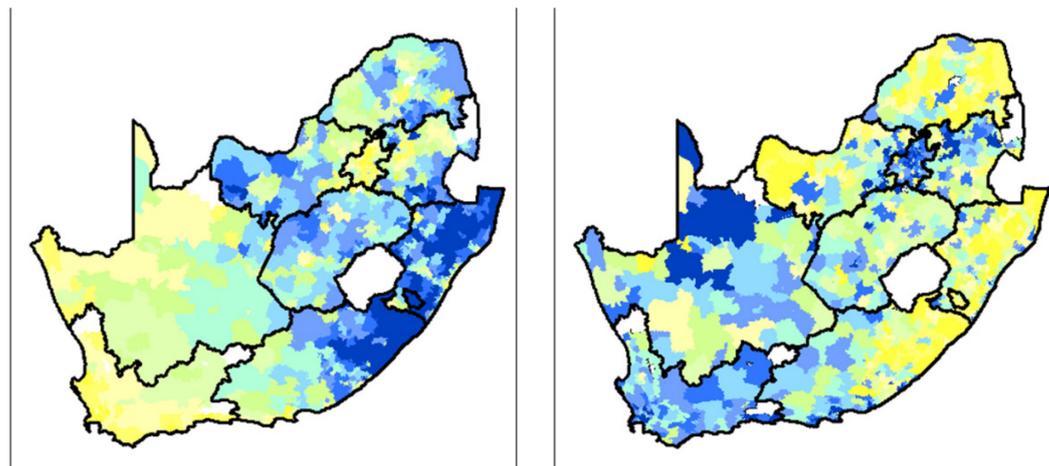
Using the example of Merseyside, Liverpool, each blue dot in Figure 6 (left) is a crime with linked data on date and time and sometimes how the crime happened. Aggregating neighbourhood data allows mapping of crime (Figure 6, right) which show how crime is concentrated in certain areas.

It would be useful to do similar analysis for South Africa. The South African Police Service collects similar data and although some of this is made available for research purposes it is at police station level and not neighbourhood. This is docket level data. The dockets should contain detailed area information but the data is not currently released and it is therefore unclear what proportion of crimes are missing detailed locational data.



**Figure 6 Location of crimes reported in Merseyside, Liverpool (left) and neighbourhood mapping of crimes (right).** Dark blue = 10% of neighbourhoods with highest crime rates, yellow = 10% of neighbourhoods with lowest crime rates.

Analysis of police station data for South Africa shows that the distribution of crime is the inverse of the multiple deprivation index. There is little crime in the most deprived areas of the Eastern Cape and more crime in the Northern and Western Cape. Part of the explanation may be that it is easier to report crime in urban areas but we need to find alternative ways of obtaining information on crime in rural areas. This needs further investigation.



**Figure 7 South African Index of Multiple Deprivation 2001 (left) and Total Crime Rate all years combined (right)**

In the case of Johannesburg, which is relatively less deprived relative to rest of South Africa, we find the highest crime rates in the country. But Soweto and Alexandra have slightly less crime than Sandton and the City Centre. The murder rate is high in Alexandra and low in Sandton. Property crime is higher in Sandton than either Soweto or Alexandra. Here again, reporting rates may affect the results. Property crime may be less likely to be reported in poorer areas but murder is usually reported everywhere. Inclusion of crime could strengthen the SAIMD greatly but if we are to include another indicator we must be sure that it is based on reliable data.

*South Africa: moving forward*

- There is a collaborative project between HSRC and Oxford University (with contributions from SASPRI and ISS) on links between crime, poverty and inequality in South Africa.
- Attempts to obtain more detailed South African Police Service data are ongoing.
- Analysis of under-reporting is being explored using the Victims of Crime Survey
- Further statistical analyses of the linkages between crime, poverty and inequality at police station/precinct level are planned.

## **Q&A**

**Comment: Michael Noble.** It was a culture change in government that allowed administrative data on school attainment in the UK to be better utilised. In the early Blair Government the Prime Minister charged the cabinet office to set up a Social Exclusion Unit. This unit was able to use the authority of the Prime Minister to insist that various departments revealed what data they had. The necessary data was found to exist and it was computerised at school level. It did not need much to change annual school-level reporting to annual pupil-level reporting but it needed 'political clout' to make this happen.

**Comment: John Kruger, Planning Commission.** The UK approach shows what can be done and will help us show our education colleagues where we want to go in SA. We need to get this team to look at the schools administration system. I also wonder if the work on crime statistics has helped the police.

**A:** The police in the UK do not have access to data from other forces but the National Index of Deprivation gives them comparative data for other forces. Because we demonstrated that it was possible technically and legally to collate nationally consistent datasets of detailed crime data the Home Office has begun to replicate our approach. They are now releasing detailed (anonymised) crime data on the public website so that members of the public can access data about crimes happening on or near their streets.

**A:** While the authorities were initially unwilling to share data it has eventually led to publishing the information quite widely and even software which helps people in unfamiliar cities to map their way home and avoid high crime spots.

**Comment: Ben Roberts, HSRC.** Crime was proposed as a domain for SAIMD as much as 10 years ago and it is worrying that it has not been added yet, despite David's persistent attempts. In the South African Social Attitudes Survey, concern about crime is ranked second after unemployment and is clearly a high public priority. What did it take to convince the officials that this was the route to take in the UK?

**A:** When we were trying to collate crime data in 2002 - 2003 they said it could not be done and that the data was not available. But I had spent a year working with police data and knew what was there and that it could be done. In the end, I think it was down to personal relationships. The Home Office kept asking for data but the Police didn't provide it. Whereas I spent many days on the phone to data analysts, to the data protection officers and to chief constables. Often you need to speak to the right person in the right organisation to be able to make things happen.

**Comment: Michael Noble.** I was called up before the Permanent Secretary of the Home Office and asked how could we get data that the Home Office could not.

**Q: Vundli Ramokola, MRC.** How will you deal with under-reporting? Indices are only as good as the primary data used to calculate them.

**A:** People see little point in filling out a database field if they do not think it will be used. But there is something of a virtual circle, so that once you start using information people start seeing its value and that the data can lead to new programmes being funded.

**A:** With regard to underreporting, if we are not convinced that the data are robust we cannot include them. Some only use murder rates because they are the most widely reported but they are not ideal because the frequency is low at the local area level. I think we need to engage more closely with SAPS and the analysis team at SAPS. We have got valuable datasets in the Victims of Crime Survey at StatsSA and the Social Attitudes Survey managed by HSRC which give much more nuanced insights into crime. We need to pull this information together but it is not going to be within a year or so, it will take longer.

**A:** We are trying to obtain data centrally through SAPS but we are also trying to identify local police analysts who might allow access to a subset of data to kick-start the quality assurance process. We could use cooperation in one area to encourage others to participate.

**Q: John Ashipala, National Planning Commission, Namibia.** How were you successful in getting the local municipalities to start using the indices for policy decisions?

**A:** There was a strong belief at the top that policy should be more evidence-based and this came down through parliament to local authorities. There were contracts between local government and central government and in exchange for receiving funding, and freedom about how it would be spent, they agreed to deliver certain outcomes. These contracts were framed around data. So in order to demonstrate what they were achieving in terms of the unemployment rate, crime rates, deprivation, they needed data. Some of the chief executives in local authorities became very interested in data and that was what really helped embed it and I think 10 years later we still see that.

**A:** It helped that there were huge amounts of money that the local authorities were competing for at least in early stages. That sharpens the mind and you start wanting to really engage with data to make a case that you should be the local authority to attract a larger share of that money.

**Comment: Ojjo Odihambo, UNDP.** Including crime got me thinking. What is the ideal number of indices that should go into a National Index of Deprivation? In Namibia there is a problem with alcoholism. Is it context specific?

I see merit in what has been done in South Africa and Namibia by getting indices covering the whole country – both urban and rural and homeland and township. But once we are at the lower level, should we differentiate the indicators of deprivation? In the Eastern Cape, measures of deprivation will differ from urban areas. For example, access to water within 200 m in rural Namibia is just not realistic.

**A:** We have resisted changing the thresholds because we are looking at the social right of citizenship to have running water. We always ask local people what they want and what they need. SASAS shows that people have the same expectations wherever they live. This is a challenge for policy makers and the fiscus about how to redistribute wealth to provide as much for the rural areas as we do in the urban areas.

**A:** With regard to the question 'Do you keep adding domains?' One of our mantras was to measure each index only if it added value and we did not add domains unless they contributed something to the one overall index. We tend to talk about Indices of Deprivation (plural) not just one. The important question is are these domains *distinct* aspects of deprivation or just parts of the same domain that you have already defined?

**A:** Could you use different indicators in different areas? The risk is that you undermine the use of the index at national level. Both sides have bought into the idea that the overall index is one they will support and they would not do that if you split it up. So, I think that is something to be mindful of.

## **CONCLUSIONS AND RECOMMENDATIONS**

### *Practical application of Indices of Multiple Deprivation*

- SAIMD has the potential to answer crucial social policy questions by defining the problem, identifying the social groups involved and describing their location.
- SAIMD marked a watershed in policy development because it solved the problem of a 'myriad of poverty lines' being applied inconsistently.
- Despite good correlation between income poverty and deprivation, we should not just use income poverty because it does not identify *what* people lack in the way that SAIMD can.
- SAIMD helps to identify areas needing intervention and then household profiles are used to make referrals to the relevant government departments.
  - Examples include issuing birth certificates in order to allow parents to claim child benefits or getting an affidavit that allows immediate access to social grants while other documents are being prepared.
- An innovation prompted by SAIMD is the principle of 'localized universalization'. Essentially, this implies that there is no need for a means test when SAIMD shows that virtually everyone in a certain area is poor.
  - This concept is not yet formal policy but warrants wider application and testing.
- The Department of Social Development brought about a transformation of the NPO sector using SAIMD to identify areas requiring NPO support.
- SAIMD has been used by DSD to target Early Childhood Development interventions in areas where multiple deprivation exists.
- SAIMD 2011 should send a strong message to policymakers about where their deprivation remediation efforts need to be focused; namely the former homelands in general and former Transkei in particular.
  - The 10 most deprived local municipalities all fall within the Eastern Cape and KwaZulu-Natal, as do the 20 most deprived wards. Eighty-five per cent of these are in the former Transkei. Mapping vividly highlights former homelands, particularly Transkei and KwaZulu, as areas of maximum deprivation.
- SAIMD has synergy with a rights-based policy approach to dealing with poverty and inequality through redistribution.
- Although SAIMD produces an overall Index, the individual domains are worthwhile measures in their own right. Combining variables into an index has to be done in such a way that success in one domain does not override deprivation in another, i.e. the measures are cumulative and should not cancel one other out.
- SAIMD is not a panacea; it often shows what needs to be explored in more depth. It can be an area-level explanatory variable when looking at particular issues.
- The Namibian Index of Multiple Deprivation (NIMD) shows wide regional disparities. This provides information that can help prioritize resource allocation according to regional and constituency developmental needs and improve service delivery by targeting the most deprived areas.
- The census is a rich source of small area data but its value is limited because the census takes place only every 10 years. Supplementing this with administrative data, such as school examinations or benefit payments, can provide more detail on a wide variety of issues relevant to deprivation. However, there are methodological challenges because the multiple data sources are not linked and they do not typically allow multi-dimensional analysis on individuals.
- The UK indices of deprivation have become a driver for increased use of evidence-based policy and services and resulted in an increase in the use of data and analysis. There were contracts between local government and central government through which, in exchange for receiving funding and freedom about how it would be spent, they agreed to deliver certain outcomes. In order to demonstrate what they were achieving in terms of the unemployment rate, crime rates, deprivation, etc., they needed data. There is now much better understanding of the need for better evidence among senior officials which is driven by national demands for an evidence-base and local needs for information.
- Crime is an important dimension of deprivation because its impacts can be economic, physical and psychological and can prevent people going about their normal activities. Crime

has been included as a domain in the UK index of deprivation since 2004 and there is potential to do the same in South Africa. However, there are currently major limitations with available data. Inclusion of crime could strengthen the SAIMD but if we are to include another indicator we must be sure that it is based on reliable data.

- Some of the breakthroughs in use of data in the UK only required minor changes in the way statistics were reported. For example, changing annual school-level reporting to annual pupil-level reporting allowed information to be mapped by place of residence rather than by location of the school. This needed 'political clout' to make it happen but once it had been done, local authorities quickly recognised its value.
- There was some discussion around whether to include more domains or indicators and whether there should be different indicators for urban and rural areas. The risk this creates is that it may undermine the use of the index at national level. The consensus appears to be that an overall index is to be preferred and will be more widely supported than if it were to be split up.

*Directions for potential further research*

- There is strong resistance in government with regard to the value of grants; some see it as a drain on the fiscus and potentially creating dependency. We therefore need to know more about the outcomes produced by grants.
- There is a need to promote greater availability and use of administrative data which would allow more regular updating of SAIMD and increased use for area-based targeting. There is scope for further research to explore ways of linking administrative datasets with multiple deprivation data.
- There is potential for using different types of data to construct, for example, new types of inequality measures. This could include linking household surveys of attitudes to inequality and small area measures of deprivation to inequality.
- A weakness of the education domain is that it does not measure quality but only attainment of secondary education. There is a need for further research on this.
- Case studies of success stories are needed to show why certain interventions have worked well and whether this can explain some of the regional variations observed.
- 'Localised universalism' should be applied more systematically and then evaluated to see if it produces greater or more cost-effective change.
- 'The more we know, the more we realise that we need to know more.' Where there are unexplained changes in deprivation it may be necessary to consult planners to identify interventions that might explain these changes. We have to get beyond the data to find the reasons for what has happened.
- The links between crime, poverty and inequality in South Africa are being examined in a collaborative project between HSRC and Oxford University (with contributions from SASPRI and ISS). Attempts to obtain more detailed SAPS data are ongoing and analysis of under-reporting of crime is being explored using the Victims of Crime Survey (StatsSA).

## APPENDIX 1: PROGRAMME

Rapporteur: Prof. John Seager, Freelancer

Chair: Prof. Michael Noble, Executive Director of the Southern African Social Policy Research Institute (SASPRI), Honorary Research Fellow HSRC, Visiting Professor Rhodes University

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| 08:00 - 09:00 | Registration, Tea & Coffee |
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| 09:00 - 09:10 | Introduction |
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| 09:00-09:10 | <b>Welcome and Introductions</b><br>Prof. Robert van Niekerk Director of ISER Rhodes University |
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| 09:10 – 10:10 | Session 1 |
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| 09:10 - 09:40 | <b>The importance of the SAIMD for Policy Development</b><br>Dr Wiseman Magasela, Deputy Director General at the Department of Social Development |
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*Accurate information and data on the geographic location of communities living in poverty and facing multiple forms of deprivation is crucial for policy formulation, policy implementation and policy review. In the social development sector the SAIMD has directed the work of the sector towards communities that need different government services. The policy relevance and application of the SAIMD is evident in government's war on poverty, take-up of social grants, the identification of areas in urgent need of NPOs to be supported and in many other policy implementation instances.*

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| 09:40 -10:10 | <b>Q&amp;A</b> |
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| 10:10 -10:40 | Tea break |
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| 10:40 – 12:40 | Session 2 |
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| 10:40 – 10:50 | <b>Introduction by the Chair for this session</b><br>Mr Ben Roberts, Research Specialist, HSRC |
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| 10:50 – 11:30 | <b>Introducing the South African Index of Multiple Deprivation 2011</b><br>Prof. Michael Noble, Prof. Gemma Wright and Dr Wanga Zembe, SASPRI |
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*This session will begin with a brief introduction to the theory underpinning the concept of multiple deprivation at small area level from a sociological/social policy perspective. Concepts of poverty will be distinguished from concepts of deprivation. A background to the use of small area indices of deprivation to inform policy interventions will be given. This will be followed by an account of the development of South African Indices of Multiple Deprivation beginning with the Provincial Indices Multiple Deprivation 2001 and culminating in this current SAIMD 2011. The methodology underpinning the SAIMD 2011 will be described and results presented at provincial, local municipality and ward level. In addition a ward level measure of income poverty will be described and the relationship between income poverty and multiple deprivation at ward level will be explored.*

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| 11:30 – 11:50 | <b>Q&amp;A</b> |
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| 11:50 – 12:20 | <b>The former homelands: focussing on the Eastern Cape</b><br>Dr Wanga Zembe and Prof. Gemma Wright, SASPRI |
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*This session presents a situational analysis of deprivation and poverty within South Africa's former homelands in 2011, using both the ward level SAIMD 2011 and the ward level income poverty measure. In particular, there will be a focus on the Eastern Cape containing, as it does, two former homelands – the former Transkei and the former Ciskei.*

12:20 – 12:40     **Q&A**

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12:40 – 13:40     LUNCH

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13:40 – 14:40     Session 3

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13:40 – 14:10     **The Namibian Indices of Multiple Deprivation 2001 and 2011 and their uses**  
Mr Johannes Ashipala, National Planning Commission, Namibia and Mr Ojijo Odhiambo,  
UNDP Regional Bureau for Africa

*This presentation estimates the level of deprivation in Namibia. The paper uses the 2001 and 2011 National Population and Housing Censuses data to produce the Namibian Indices of Multiple Deprivation (NIMD) at regional, constituency and datazone levels. The NIMD is a composite index reflecting five dimensions of deprivation: material deprivation, employment deprivation, health deprivation, education deprivation and living environment deprivation. The regions are administrative and planning, as well as programme execution units in Namibia while constituencies are important political representational units. The methodology adopted is based on a similar process undertaken in South Africa which in turn was adapted from techniques developed in the United Kingdom. Results will be presented showing current patterns of deprivation and changes in deprivation between 2001 and 2011.*

14:10 – 14:40     **Q&A**

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14:40 – 15:40     Session 4

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14:40 – 15:10     **Recent developments in the UK in the use of indices and the underpinning data**  
Dr Tom Smith, Oxford Consultants for Social Inclusion (OCSI) and Mr David McLennan

*The various countries that comprise the UK have moved away from census-based Indices to Indices of Multiple Deprivation (IMD) based largely on administrative data. In part this was driven by a dearth of census data in key areas of deprivation but also it was driven by the fact that censuses in the UK are only conducted at 10 yearly intervals. Because parts of the UK, most especially England, have historically transferred considerable resources to deprived areas using the IMD, regular updating was deemed a very high priority. Examples will be given of how UK indices have been used to allocate resources to deprived areas. The IMD in the UK has been a major driver of small area statistics more generally e.g. Neighbourhood Statistics. Examples will also be presented of local government using IMD, census **and** administrative data to target and improve local services. In order to illustrate the shift to administrative data two domains of the English **Index** of Multiple Deprivation – Education and Crime will be described and the possibilities of utilising similar data in South Africa will be raised for discussion.*

15:10 – 15:30     **Q&A**

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15:30 – 16:00     Session 5

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15:30 – 16:00     **Way forward**  
Prof. Michael Noble and Prof. Robert van Niekerk

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## **APPENDIX 2: BIOSKETCHES**

### **Mr Johannes Ashipala**

*Mr Johannes Ashipala* is a deputy chief and national development advisor, at the National Planning Commission, Namibia. He has about 13 years of professional work experience in economic research. Mr Ashipala served as a National Economist in the United Nations Development Programme (UNDP), Namibia and as a Researcher for the Namibia Economic Policy Research Unit (NEPRU). He holds Master degree in Economics, from the University of Manchester, an Honours degree from the University of South Africa and a Bachelor degree in Economics from the University of Namibia.

### **Dr Wiseman Magasela**

*Dr Wiseman Magasela* is the deputy director general of Social Policy at the National Department of Social Development. He heads up the social policy programme responsible for promoting and institutionalising evidence-informed policy making in the social development sector. Prior to joining the Department of Social Development, Wiseman Magasela held the position of a research manager at the Centre for the Analysis of South African Social Policy, University of Oxford, England. He worked as a chief researcher at the National Research Foundation in the Research Capacity Development Directorate which promoted and supported research at South African universities. Wiseman Magasela holds a Doctor of Philosophy from the University of Oxford.

### **Dr Temba Masilela**

*Dr Temba Siphon B. Masilela* is the Deputy CEO of Research at the Human Science Research Council (HSRC), South Africa. His wide-ranging research interests include social policy, public management reform, social innovation, research communication, the research-policy nexus, and stakeholder engagement. He was the founding director of the Policy Analysis Unit at the HSRC and was previously the executive director of the Policy Analysis and Capacity Enhancement cross-cutting programme at the HSRC.

### **Mr David McLennan**

*Mr David McLennan* is a senior research fellow at the Centre for the Analysis of South African Social Policy (CASASP), University of Oxford. His primary research interest is in the spatial distribution of poverty and deprivation at small area level within South Africa and the UK. He has extensive experience of working with large national individual-level administrative and Census datasets.

### **Prof. Michael Noble**

*Prof Michael Noble* is executive director of the Southern African Social Policy Research Institute (SASPRI), a visiting professor at Rhodes University and an honorary fellow at the Human Sciences Research Council. He is also emeritus professor of Social Policy at the University of Oxford in the UK. His main research interests are in poverty, deprivation, inequality and income maintenance policy particularly in sub-Saharan Africa. He specialises in quantitative research methods and is committed to evidence-informed policy making.

### **Mr Ojijo Odhiambo**

*Mr Odhiambo* is an economic advisor for UNDP Namibia. He has served in senior management positions over the past 23 years, handling a wide range of tasks in diverse (developed and developing) country contexts and professional roles serving *inter alia*, as governance advisor and MDGs advisor. Mr Odhiambo has served in policy research, advocacy and advisory roles to governments, the UN, and other actors such as CSO and private sector in the areas of environmental management, international trade and environment, macroeconomic policy reforms, and poverty reduction and deprivation. Apart from employment at the UNDP, Mr Odhiambo has also had opportunity to work for other UN agencies, including UNEP, UNICEF and UNITAR.

### **Mr Ben Roberts**

*Mr Ben Roberts* is a research specialist in the Democracy, Governance and Service Delivery unit at the HSRC. He has a BSc in town and regional planning (*cum laude*) from the University of the Witwatersrand and an MSc in urban and regional planning (development) (*cum laude*) from the University of Natal. Before joining the HSRC, he was research fellow in the Population and Poverty

Studies Programme at the School of Development Studies at the University of Natal. His areas of research interest include the analysis of poverty and inequality dynamics, sustainable livelihood development, poverty reduction strategy papers (PRSPs), and monitoring progress towards the Millennium Development Goals (MDGs). More recently, he has conducted poverty and inequality analysis for Namibia's MDGR, run training on national poverty line specification in Zimbabwe, and participated in a scoping exercise to help inform the design of DFID's envisaged regional hunger and vulnerability programme for Southern Africa.

**Prof. John Seager**

*John Seager* is a freelance research consultant with over 30 years public health research experience in Africa. His research has covered AIDS and development, tuberculosis, diabetes care, urban health systems, and social determinants of health. He obtained a PhD in Ecology and Population Dynamics at the University of Wales and holds positions as an extraordinary professor at the University of the Western Cape and the University of Stellenbosch. His main research interest is social determinants of health among the poor in developing countries. Recent work includes health systems evaluation, HIV and AIDS, homeless populations and social aspects of climate change. Prof. Seager serves on the editorial advisory board of *Development Southern Africa* and is a reviewer for local and international journals. His publication record spans the authoring and co-authoring of more than 60 journal articles, 50 research reports and 100 presentations at scientific meetings.

**Dr Tom Smith**

Dr. Tom Smith is chief executive & co-founder of OCSI, working collaboratively with public and community organisations to improve services through better information. As well as leading OCSI projects with more than 100 public and community organisations across the UK and internationally, Tom is chair of the UK Environment Agency Data Advisory Group, project lead on the UK government Indices of Deprivation, and regular speaker/ contributor on data and public services.

**Prof. Robert van Niekerk**

*Robert van Niekerk* is the director of the Institute of Social and Economic Research and associate professor of Social Policy at Rhodes University. His research, teaching and publication cover the institutional history, ideologies and understandings of social policy and social change in South Africa. Prof. van Niekerk is currently the project lead researcher (or co-leader) on several research projects, including a multi-country large-scale study on the developmental state and social policy; a research programme on health policy and private medical practitioners; and a research study on the social policy positions of political parties and the views of social citizenship and the post-apartheid good society that those social policy positions reflect.

**Prof Gemma Wright**

*Gemma Wright* is SASPRI's research director. She is also a professor extraordinarius at the Archie Mafeje Research Institute at the University of South Africa (UNISA), a research associate at Rhodes University, and a research fellow at the Centre for International Education at the University of Sussex in the UK. Her research interests include poverty, child poverty, and social security policy.

**Dr Wanga Zembe**

*Dr Wanga Zembe* is a director and research fellow of SASPRI. She is also a senior scientist at the Medical Research Council and has research experience in child poverty and child health. Her main interests are research and teaching in social policy, specifically as these relate to poverty and inequality.

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**APPENDIX 3: ATTENDANCE**

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| 4                | Dr    | Isaac     | Choge     |   | University of Johannesburg                    |                                   | isaacc@uj.ac.za                               |
| 5                | Mr    | Derek     | Davids    |   | HSRC  |                                   | ydavids@hsrc.ac.za                            |
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| 12               | Ms    | Arlene    | Grossberg | RIA   | HSRC  | 012 302 2811                      | acgrossberg@hsrc.ac.za                        |
| 13               | Ms    | Kath      | Hall      | Senior Researcher, Children's Institute                   | UCT   | 021 650 1441,<br>082 678 5747     | kath.hall@uct.ac.za                           |
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| 15               | Dr    | Crick     | Lund      | Dept of Psychology  | UCT   | 0825107998                        | crick.lund@uct.ac.za                          |
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| 28  | Professor | Michael   | Noble    | Executive Director                                 | Southern African Social Policy Research Institute | 021 813 6495 or 083 330 2993            | Michael.noble@saspri.org   |
| 29  | Dr        | Ojijo     | Odhiambo |  | UNDP  | 264.61.204.6238 , cell 264.81.4214165   | ojijo.odhiambo@undp.org  |
| 30  | Dr        | S G       | Petros   | Deputy Director Health Research                    | UCT   | 0839870391                              | sabelageorge4@gmail.com  |
| 31  | Ms        | Vundli    | Ramokola |  | MRC   |   | Vundli.Ramokolo@mrc.ac.za  |
| 32  | Mr        | Ben       | Roberts  | Coordinator: South African Social Attitudes Survey | HSRC  | 031 242 5606, 0845230374                | Broberts@hsrc.ac.za  |

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| 35                               | Dr    | Margie   | Schneider     | Project manager   | University of Cape Town                        | 073 253 5080                   | Marguerite.schneider@uct.ac.za |
| 36                               | Prof. | John     | Seager        |   | Freelancer                                     | 082 443 0553                   | johnrseager@yahoo.co.uk        |
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| 41                               | Mr    | Peter    | Van den Ben   |   | AMB  |                                |                                |
| 40                               | Ms    | Ina      | Van der Linde | Adjunct Director, Corporate Communications, Media Liaison         | HSRC   | 0823310614                     | ivdlinde@hsrc.ac.za            |
| 42                               | Prof  | Robert   | Van Niekerk   | Director: Institute of Social and Economic Research               | Rhodes University                              | 046 603 8111                   | r.vanniekerk@ru.ac.za          |
| 43                               | Dr    | Gemma    | Wright        | Research Director   | SASPRI   | 0218136435,<br>0718920000      | gemma.wright@saspri.org        |
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| 54                                    | Mr    | Fourie | Seloane  | Intern  | HSRC                 |                |                             |
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| <b><i>Oxford – via video link</i></b> |       |        |          |   |                      |                |                             |
| 56                                    | Mr    | David  | McLennan | Senior Research Fellow, Centre for the Analysis of South African Social Policy (CASASP) | University of Oxford |                | david.mclennan@spi.ox.ac.uk |

## APPENDIX 4: PRESENTATIONS

# THE IMPORTANCE OF THE SAIMD FOR POLICY DEVELOPMENT AND POLICY IMPLEMENTATION

Department of Science and Technology Research Seminar  
Measuring multiple deprivation at a small area level in SA  
WK Magasela, Department of Social Development  
16 October 2014

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Department of Social Development  
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"Building a Caring Society, Together"

1

## The SAIMD as a policy development tool

- **The crucial policy questions**
  - Defining the problem
  - Identifying the social group/s
  - The geographic location of the social problem

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## Outline of the presentation

- **Data, information and knowledge** for policy development and programme planning
- A brief overview of **the predominant approach in poverty measurement in SA**
- **Application of the SAIMD** in policy development, policy implementation and policy review

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## Application of the SAIMD in policy development and policy implementation

... Examples from Social Development

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## The predominant approach in poverty measurement in SA ... a brief overview

- **Historically** - (i) lack of data (ii) incomplete and not integrated (iii) deliberate obscuring of facts on living conditions for blacks in SA
- The PDL, HSL and MLL
  - Key Indicators of Poverty in SA (1995)
  - Poverty and Inequality Report (1998)
- Definitions and measurement of poverty based on **income** (a myriad of poverty lines in SA)

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## 1. The War of Poverty

- Launch of the War on Poverty by the Presidency in Jacobsdal
- President's War on Poverty Programme
- Identification of geographic areas for **urgent government interventions**
- The **profiling of households** in these most deprived areas
- **Referrals** to relevant government departments and agencies for immediate interventions (eg. Home Affairs, SASSA, Health, Local Government, etc)

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## 2. The take-up of social grants

- Identifying geographic areas **where poverty is most severe**
- **Infrastructure** challenges for deprived rural areas
- **ICROP** (Integrated Community Registration Outreach Programme)
  - Mobile trucks in rural areas for grants registration and processing
- SAIMD has necessitated the consideration of '**localized universalization**'

## 5. Building partnerships with specific organisations

- SAIMD and the **depth of deprivation** in former homeland areas
- **Partnerships** with traditional leadership and Faith Based Organisations in these area
- Access to land and other **resources for development**

## 3. The Non-Profit Sector in SA

- Location of NPOs in SA
- A strong **urban bias**
- Dialogues at provincial level and a national summit
- DSD imposed a **Transformation of the NPO sector** agenda based on SAIMD to identify areas for NPO support

## 6. Radical socio-economic transformation

- Exploration of using social grants for local social and economic development  
*(What possibilities exist to leverage social grant payments for **collective local action**?)*
- Social cooperatives (producing food for ECD centres, bulk-buying cooperatives, etc)
- The focus is on former homeland areas identified using the SAIMD

## 4. Implementing ECD policy

- DSD conducted a **National Audit of ECD centres** in SA
- **SAIMD crucial in the implementation of ECD policy** through providing mainly infrastructure, facilities and trained personnel.



## Introducing the South African Index of Multiple Deprivation 2011

Michael Noble  
Wanga Zembe  
Gemma Wright



## Concepts and definitions of poverty

- Concepts – the theoretical framework
- Definitions – the line or threshold dividing the poor from non poor



## Outline

- Concepts of deprivation, multiple deprivation and poverty
- The South African Indices of Multiple Deprivation 2001 - 2011.
- The SAIMD 2011 at provincial, local municipality and ward level.
- Multiple Deprivation at ward level compared to income poverty at ward level
- Using small area indices of deprivation to inform policy interventions
- Conclusion



## Concepts of Poverty

- A range of different concepts of poverty e.g. notions of survival, capabilities approach, livelihoods approach, quality of life approach, relative poverty debates
- All of these conceptualisations of poverty have their own aetiologies and academic discourses and traditions.
- Straddle a range of academic disciplines: Economics, Social Policy, Development Studies, Sociology



## Concepts of deprivation, multiple deprivation and poverty



## Concepts of Relative Poverty: Participation in Society

*'Individuals, families and groups in the population can be said to be in poverty when they **lack the resources** to obtain the types of diet, **participate in the activities and have the living conditions** which are **customary, or at least widely encouraged or approved, in societies to which they belong**. Their resources are so seriously below those commanded by the average family or individual that they are in effect excluded from ordinary living patterns, customs and activities.'* (Townsend, 1979, p31).



## Poverty or Deprivation

“Deprivation may be defined as a state of observable and demonstrable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs. The idea has come to be applied to **conditions** (that is, physical, environmental and social states or circumstances) rather than **resources** and to specific and not only general circumstances, and therefore can be distinguished from the concept of poverty.”

Townsend, P. (1987) 'Deprivation', *Journal of Social Policy*, Vol. 16, Part 2, p 125



## A Small Area Index of Multiple Deprivation

- Long history dating back to 1971 in many developed countries e.g. Countries of UK, Australasia.
- A relative measure of multiple deprivation expressed at small area level and covering an entire country
- Primary purposes
  - target anti-poverty initiatives (Area Based Initiatives) to complement mainstream policies
  - Inform allocation of resources for poverty alleviation/ regeneration



## Multi-dimensional Deprivation

“People can be said to be deprived if they lack the types of diet, clothing, housing, household facilities and fuel and environmental, educational, working and social conditions, activities and facilities which are customary, or at least widely encouraged and approved, in the societies to which they belong ....

*People may not fall below the majority's standard of living but they may fall below what could be the majority's standard—given a better redistribution of resources or a reorganisation of institutions in that society”*

Townsend, P. (1987) 'Deprivation', *Journal of Social Policy*, Vol. 16, Part 2, p 126



## South African Indices of Deprivation



|   |
|---|
| Provincial Index of Multiple Deprivation 2001 at ward level                               |
| South African Index of Multiple Deprivation 2001 at Datazone level                        |
| Municipality level Indices of Multiple Deprivation 2001 and 2007                          |
| Modelled South African Index of Multiple Deprivation 2007 at Datazone level               |
| Municipality level South African Index of Multiple Deprivation for Children 2001 and 2007 |
| South African Index of Multiple Deprivation for Children 2001 at Datazone level           |
| South African Index of Multiple Deprivation 2011 at Ward level                            |



## The South African Indices of Multiple Deprivation 2001 -2011



## South African Indices of Deprivation



|   |
|---|
| Provincial Index of Multiple Deprivation 2001 at ward level                               |
| South African Index of Multiple Deprivation 2001 at Datazone level                        |
| Municipality level Indices of Multiple Deprivation 2001 and 2007                          |
| Modelled South African Index of Multiple Deprivation 2007 at Datazone level               |
| Municipality level South African Index of Multiple Deprivation for Children 2001 and 2007 |
| South African Index of Multiple Deprivation for Children 2001 at Datazone level           |
| South African Index of Multiple Deprivation 2011 at Ward level                            |



## Establishing a clear theoretical framework

- Townsend's formulation of multiple deprivation (1987):
  - Relative concept
  - Deprivation is multidimensional
  - Experienced by individuals
- An Index of Multiple Deprivation conceptualises multiple deprivation as a composite of different dimensions or domains of deprivation experienced by individuals or households and expressed at area level using relative measures.
- E.g. It is possible to state that a % of the population of a particular area experiences a particular form of deprivation and a % experiences another form.



## The SAIMD 2011 at provincial, local municipality and ward level



## Model of multiple deprivation at small area level

1. Dimensions of deprivation must be clearly identified.
2. Dimensions must be measured as accurately as possible with indicators that pass certain tests of fitness.
3. Problems of unacceptable standard error must be dealt with.
4. Indicators must be combined to form domains in such a way as to best measure the construct in question.
5. Domain scores must be capable of being ranked to generate a relative picture of that form of deprivation.
6. Domain scores must be standardised and transformed in a way that allows their weighted combination into an overall index.
7. Appropriate domain weights should be selected.



## SAIMD 2011 Domains and Indicators

The SAIMD 2011 contains 4 domains which were each constructed at ward level:

| Material Deprivation Domain  | Employment Deprivation Domain   | Education Deprivation Domain  | Living Environment Deprivation Domain  |
|--|---|---|--|
| % households with:<br>• no fridge; or<br>• no cell and no landline; or<br>• no TV and no radio | % working age people who are:<br>• unemployed (official definition); or<br>• unemployed (discouraged) | % 18-64 year olds who:<br>• have no schooling at secondary level or above | % total population who:<br>• have inadequate water supply; or<br>• have inadequate sanitation; or<br>• do not use electricity as main source for lighting; or<br>• live in a shack |

Each domain score was standardised and transformed to a common distribution and then combined with equal weights (i.e. 25% per domain)

South African Index of Multiple Deprivation 2011 at ward level

For more details about the SAIMD 2011's components and construction see Noble et al. (2013).



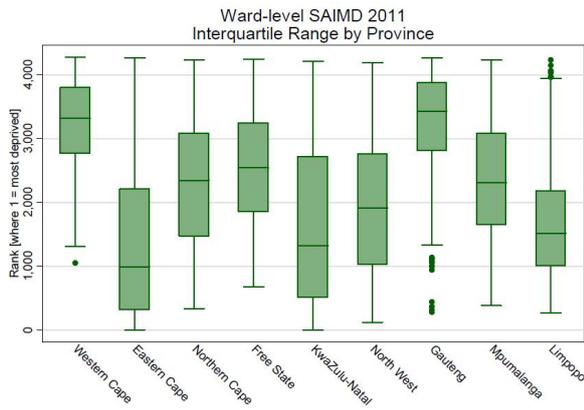
## Data and Methodological issues

- Selecting domains
- Selecting variables
- Denominators
- The spatial scale
- Small numbers/unreliable data
- Combining variables into an index
  - Standardisation
  - Explicit and implicit weights
  - Cancellation effects

Table 2: Provincial rates of deprivation for the four domains of the SAIMD 2011

|               | Material Deprivation % | Employment Deprivation % | Education Deprivation % | Living Environment Deprivation % |
|---------------|------------------------|--------------------------|-------------------------|----------------------------------|
| Western Cape  | 24.8                   | 25.1                     | 16.8                    | 19.1                             |
| Eastern Cape  | 52.0                   | 47.3                     | 28.5                    | 59.6                             |
| Northern Cape | 39.5                   | 34.1                     | 30.0                    | 32.1                             |
| Free State    | 33.3                   | 38.9                     | 23.4                    | 32.9                             |
| KwaZulu-Natal | 43.0                   | 42.3                     | 23.4                    | 55.3                             |
| North West    | 41.7                   | 37.9                     | 28.7                    | 55.4                             |
| Gauteng       | 30.8                   | 29.8                     | 12.6                    | 21.5                             |
| Mpumalanga    | 34.9                   | 38.2                     | 24.4                    | 54.5                             |
| Limpopo       | 40.2                   | 46.4                     | 24.3                    | 71.9                             |
| South Africa  | 37.1                   | 36.0                     | 20.9                    | 43.8                             |

Figure 1



## Local Municipalities – Least Deprived

Table 4: Population weighted average ward rank of the SAIMD 2011 for the least deprived 10 local municipalities in South Africa

| Province      | District             | Local Municipality   | Population weighted average rank of wards in the local municipality (where 1=most deprived) | National rank (where 1=most deprived) |
|---------------|----------------------|----------------------|---|---------------------------------------|
| Northern Cape | Namakwa              | Richtersveld         | 3285  | 225                                   |
| Western Cape  | Overberg             | Overstrand           | 3297  | 226                                   |
| Mpumalanga    | Nkangala             | Steve Tshwete        | 3306  | 227                                   |
| Gauteng       | City of Tshwane      | City of Tshwane      | 3319  | 228                                   |
| Western Cape  | Eden                 | Mossel Bay           | 3350  | 229                                   |
| Western Cape  | Cape Winelands       | Stellenbosch         | 3362  | 230                                   |
| Western Cape  | Cape Winelands       | Drakenstein          | 3385  | 231                                   |
| Western Cape  | West Coast           | Saldanha Bay         | 3406.7  | 232                                   |
| Gauteng       | City of Johannesburg | City of Johannesburg | 3407.4  | 233                                   |
| Western Cape  | City of Cape Town    | City of Cape Town    | 3482  | 234                                   |



## Ward Level SAIMD 2011 presented at Province level

Table 1: Population weighted average ward rank of the SAIMD 2011 for each province in South Africa

| Province Code | Province Name | Population weighted Average Rank | Rank Order where 1=most deprived |
|---------------|---------------|----------------------------------|----------------------------------|
| 2             | Eastern Cape  | 1572                             | 1                                |
| 9             | Limpopo       | 1772                             | 2                                |
| 6             | North West    | 2016                             | 3                                |
| 5             | KwaZulu-Natal | 2020                             | 4                                |
| 3             | Northern Cape | 2312                             | 5                                |
| 8             | Mpumalanga    | 2318                             | 6                                |
| 4             | Free State    | 2611                             | 7                                |
| 7             | Gauteng       | 3275                             | 8                                |
| 1             | Western Cape  | 3339                             | 9                                |



## 20 Most Deprived Wards in South Africa

|    | Province      | District Municipality | Local Municipality     | Ward Number |
|----|---------------|-----------------------|------------------------|-------------|
| 1  | Eastern Cape  | O.R.Tambo             | Port St Johns          | 11          |
| 2  | KwaZulu-Natal | Umzinyathi            | Msinga                 | 16          |
| 3  | KwaZulu-Natal | Umzinyathi            | Msinga                 | 18          |
| 4  | Eastern Cape  | Chris Hani            | Engcobo                | 5           |
| 5  | Eastern Cape  | Amathole              | Mbhashe                | 17          |
| 6  | Eastern Cape  | O.R.Tambo             | King Sabata Dalindyebo | 25          |
| 7  | Eastern Cape  | Alfred Nzo            | Ntabankulu             | 3           |
| 8  | Eastern Cape  | O.R.Tambo             | King Sabata Dalindyebo | 27          |
| 9  | Eastern Cape  | Alfred Nzo            | Mbizana                | 12          |
| 10 | Eastern Cape  | O.R.Tambo             | Nguza Hill             | 24          |
| 11 | Eastern Cape  | O.R.Tambo             | Port St Johns          | 18          |
| 12 | KwaZulu-Natal | Umzinyathi            | Msinga                 | 2           |
| 13 | Eastern Cape  | Chris Hani            | Engcobo                | 20          |
| 14 | Eastern Cape  | Alfred Nzo            | Mbizana                | 28          |
| 15 | Eastern Cape  | O.R.Tambo             | Port St Johns          | 17          |
| 16 | Eastern Cape  | Alfred Nzo            | Ntabankulu             | 18          |
| 17 | Eastern Cape  | Alfred Nzo            | Ntabankulu             | 17          |
| 18 | Eastern Cape  | O.R.Tambo             | Nyandeni               | 26          |
| 19 | Eastern Cape  | Amathole              | Mbhashe                | 11          |
| 20 | Eastern Cape  | Alfred Nzo            | Mbizana                | 15          |



## Local Municipalities – 10 Most Deprived

Table 3: Population weighted average ward rank of the SAIMD 2011 for the most deprived 10 local municipalities in South Africa

| Province      | District     | Local Municipality | Population weighted average rank of wards in the local municipality (where 1=most deprived) | National rank (where 1=most deprived) |
|---------------|--------------|--------------------|---|---------------------------------------|
| KwaZulu-Natal | Umzinyathi   | Msinga             | 176   | 1                                     |
| Eastern Cape  | Alfred Nzo   | Ntabankulu         | 280   | 2                                     |
| Eastern Cape  | O.R.Tambo    | Port St Johns      | 304   | 3                                     |
| KwaZulu-Natal | Ugu          | Vulamehlo          | 383   | 4                                     |
| KwaZulu-Natal | iLembe       | Maphumulo          | 388   | 5                                     |
| Eastern Cape  | Alfred Nzo   | Mbizana            | 395   | 6                                     |
| Eastern Cape  | O.R.Tambo    | Nguza Hill         | 399   | 7                                     |
| KwaZulu-Natal | Umkhanyakude | Umhlabuyalingana   | 400   | 8                                     |
| Eastern Cape  | Chris Hani   | Engcobo            | 449   | 9                                     |
| KwaZulu-Natal | Uthungulu    | Nkandla            | 453   | 10                                    |

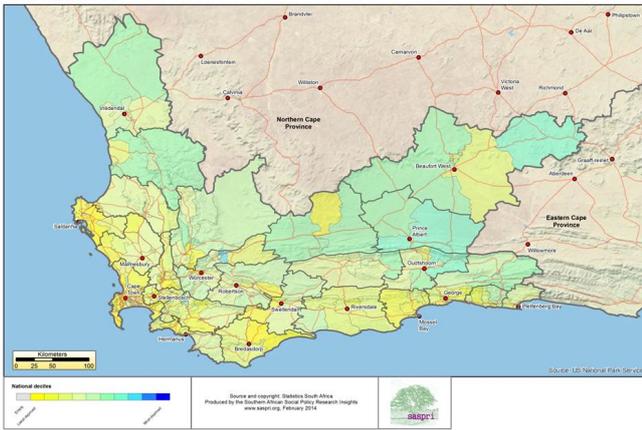


## % wards in most deprived decile and most deprived quintile

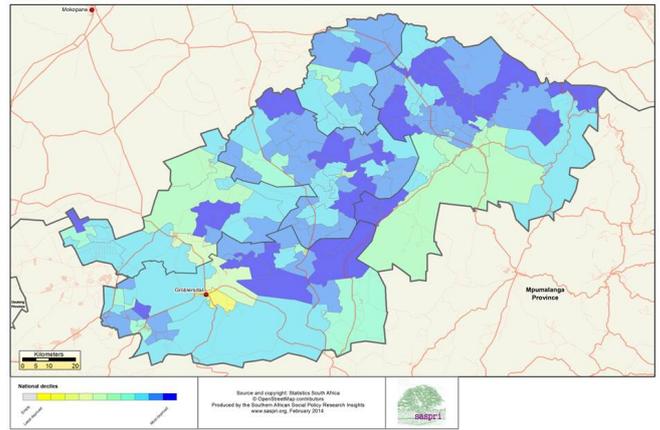
|                     | N wards | N in 10% most deprived | N in 20% most deprived | % in 10% most deprived | % in 20% most deprived |
|---------------------|---------|------------------------|------------------------|------------------------|------------------------|
| Western Cape        | 387     | 0                      | 0                      | 0                      | 0                      |
| Eastern Cape        | 715     | 222                    | 336                    | 31.1                   | 47.0                   |
| Northern Cape       | 194     | 3                      | 18                     | 1.5                    | 9.3                    |
| Free State          | 317     | 0                      | 3                      | 0                      | 0.9                    |
| KwaZulu-Natal       | 828     | 173                    | 313                    | 20.9                   | 37.8                   |
| North West Province | 383     | 20                     | 74                     | 5.2                    | 19.3                   |
| Gauteng             | 508     | 3                      | 4                      | 0.6                    | 0.8                    |
| Mpumalanga          | 402     | 2                      | 19                     | 0.5                    | 4.7                    |
| Limpopo             | 543     | 4                      | 88                     | 0.7                    | 16.2                   |

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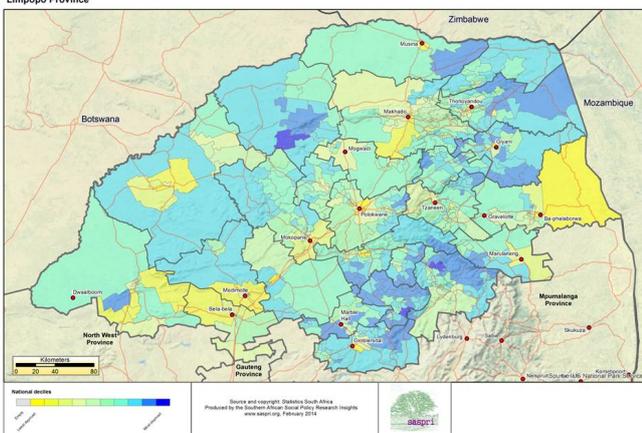
Ward-level SAIMD 2011  
 Western Cape Province



Ward-level SAIMD 2011: Living Environment Deprivation  
 Limpopo Province, Greater Sekhukhune District (National Deciles)

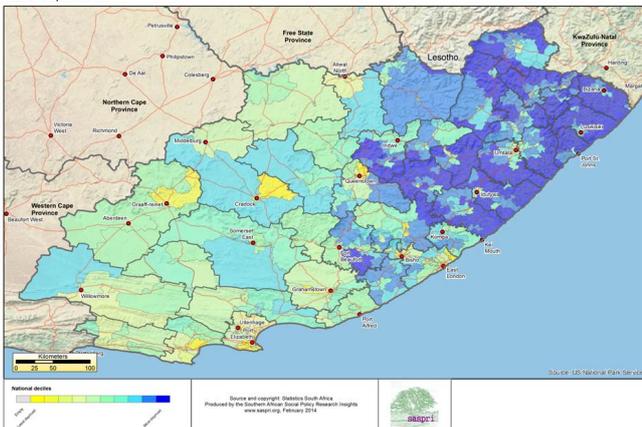


Ward-level SAIMD 2011  
 Limpopo Province



Income poverty at ward level

Ward-level SAIMD 2011  
 Eastern Cape Province



For Comparison – Income Poverty at Ward level

- Hoogeveen and Özler (2006).
- “lower bound” poverty line = R604 and an “upper bound” poverty line = R1113 pcm in 2011
- Uses published (Superstar) ward level tables using household income and household size



## Methodology

- Banded household income translated into point income using log mean of the band
- per capita income created using hhszise.
- proportions of individuals falling below the lines for each ward computed.
- Necessarily there is some loss of information when the banded income is translated into point income.
- Particularly 'noisy', as Stats SA derived banded household income from banded individual income!



## 20 Poorest Local Municipalities

| Province      | Local Municipality Code | Local Municipality Name | % of population below Lower Bound Poverty Line | Rank (Where 1=area with highest lower bound poverty rates and 226 = area with lowest lower bound poverty rates) |
|---------------|-------------------------|-------------------------|--|---|
| Eastern Cape  | 291                     | Port St Johns           | 86.7   | 1   |
| Eastern Cape  | 298                     | Ntabankulu              | 86.3   | 2   |
| KwaZulu-Natal | 559                     | Indaka                  | 86.2   | 3   |
| KwaZulu-Natal | 576                     | Msinga                  | 85.5   | 4   |
| KwaZulu-Natal | 575                     | Nqutu                   | 84.7   | 5   |
| Eastern Cape  | 290                     | Nguza Hill              | 84.3   | 6   |
| Eastern Cape  | 297                     | Mbizana                 | 84.2   | 7   |
| Eastern Cape  | 292                     | Nyandeni                | 84.2   | 8   |
| KwaZulu-Natal | 582                     | Umhlabuyalingana        | 82.9   | 9   |
| North West    | 665                     | Ratlou                  | 82.6   | 10  |
| KwaZulu-Natal | 580                     | Nongoma                 | 82.4   | 11  |
| KwaZulu-Natal | 583                     | Jozini                  | 82.3   | 12  |
| Eastern Cape  | 284                     | Engcobo                 | 82.3   | 13  |
| KwaZulu-Natal | 546                     | Maghumulo               | 82.1   | 14  |
| KwaZulu-Natal | 588                     | Ntambanana              | 81.9   | 15  |
| KwaZulu-Natal | 598                     | Umzimkhulu              | 81.7   | 16  |
| Eastern Cape  | 293                     | Mhlonito                | 81.7   | 17  |
| Eastern Cape  | 270                     | Mihaihe                 | 81.5   | 18  |
| Limpopo       | 985                     | Makhuduthamaga          | 81.5   | 19  |
| KwaZulu-Natal | 542                     | Nkandla                 | 81.4   | 20  |



## But despite methodological imprecision ...

Provincial income poverty rates using lower bound H&O poverty line

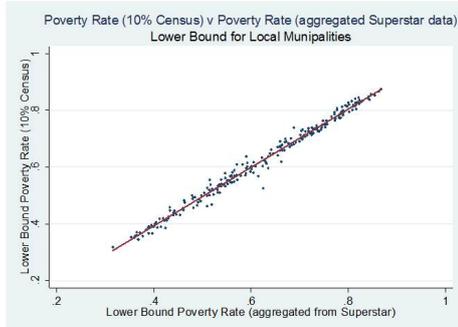
| Province      | Lower Bound Poverty Rate (10% Census) % | Lower Bound Poverty Rate (Aggregated from Superstar) % |
|---------------|---|--|
| Western Cape  | 40.1                                    | 40.1   |
| Eastern Cape  | 69.3                                    | 69.0   |
| Northern Cape | 55.0                                    | 54.7   |
| Free State    | 58.1                                    | 58.9   |
| KwaZulu-Natal | 63.9                                    | 62.7   |
| North West    | 58.8                                    | 58.7   |
| Gauteng       | 40.0                                    | 40.7   |
| Mpumalanga    | 59.2                                    | 60.2   |
| Limpopo       | 69.4                                    | 70.3   |



## % Wards per decile – lower bound poverty line

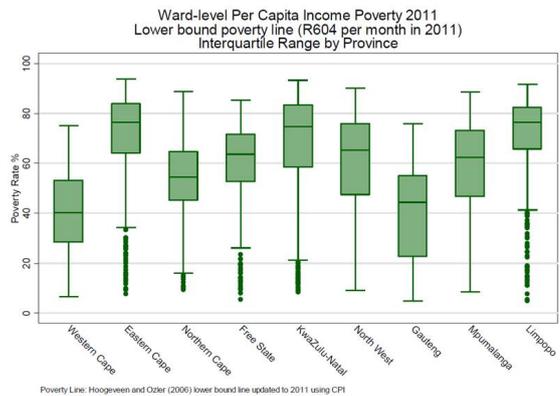
|               | Deciles |      |      |      |      |      |      |      |      |      | N   |
|---------------|---------|------|------|------|------|------|------|------|------|------|-----|
|               | 1       | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |     |
| Western Cape  | 20.2    | 31.8 | 20.4 | 8.8  | 11.9 | 5.4  | 1.6  | 0.0  | 0.0  | 0.0  | 387 |
| Eastern Cape  | 3.4     | 2.9  | 4.8  | 6.7  | 8.0  | 10.9 | 11.8 | 15.0 | 15.1 | 21.5 | 715 |
| Northern Cape | 8.3     | 10.3 | 20.6 | 23.2 | 12.4 | 10.3 | 6.7  | 2.1  | 3.6  | 2.6  | 194 |
| Free State    | 8.2     | 7.3  | 6.3  | 12.9 | 20.5 | 16.4 | 13.6 | 9.8  | 4.7  | 0.3  | 317 |
| KwaZulu-Natal | 6.8     | 6.5  | 5.6  | 6.0  | 8.7  | 8.0  | 11.0 | 11.4 | 16.9 | 19.2 | 828 |
| North West    | 6.3     | 12.0 | 9.1  | 9.1  | 12.0 | 14.6 | 12.0 | 12.0 | 8.6  | 4.2  | 383 |
| Gauteng       | 28.6    | 16.0 | 19.7 | 18.7 | 8.7  | 5.7  | 2.6  | 0.0  | 0.0  | 0.0  | 507 |
| Mpumalanga    | 9.0     | 10.0 | 10.5 | 13.4 | 11.9 | 13.2 | 12.2 | 9.7  | 7.0  | 3.2  | 402 |
| Limpopo       | 4.2     | 3.7  | 5.7  | 4.8  | 4.6  | 9.8  | 15.3 | 19.5 | 17.9 | 14.6 | 543 |

Note: Decile 1 = the 10% of wards with the lowest poverty headcount (using lower bound poverty line)



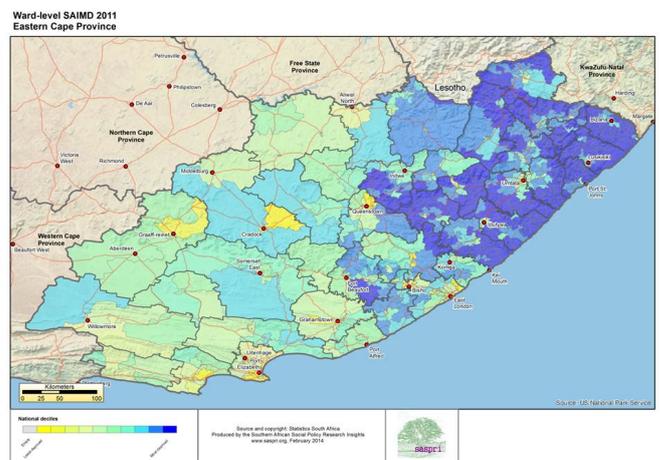
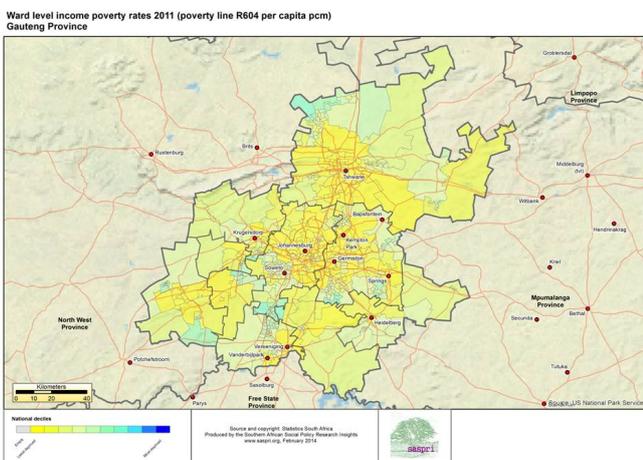
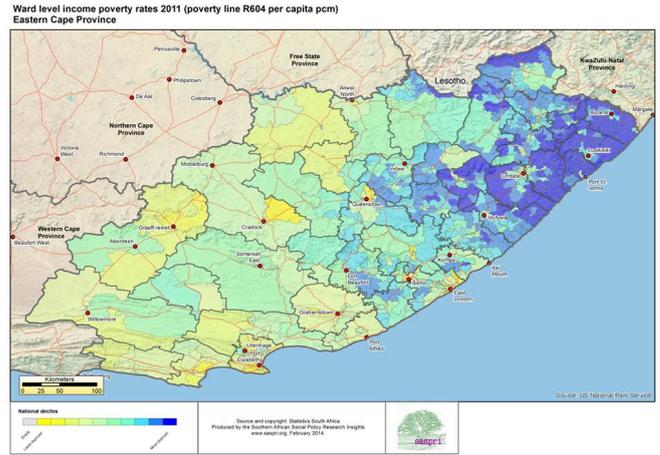
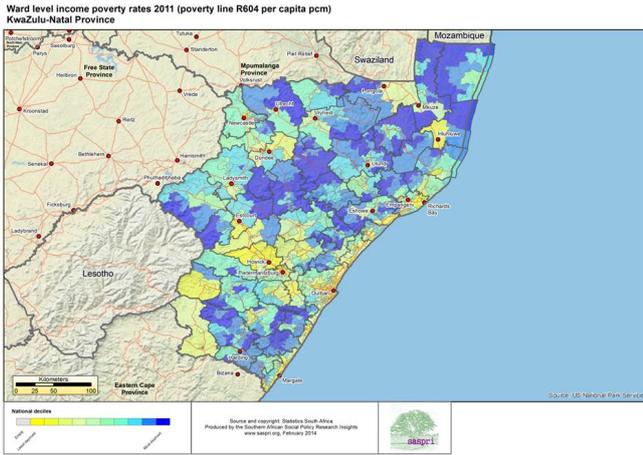
Spearman's rho = 0.9930

Test of Ho: tot\_pop\_pov\_rate\_L and low\_pov\_rate are independent  
 Prob > |t| = 0.0000



Poverty Line: Hoogveen and Ozler (2006) lower bound line updated to 2011 using CPI

*Measuring Multiple Deprivation at a Small Area Level in South Africa  
DST, SASPRI, ISER and HSRC Human and Social Dynamics Research Seminar 16 October 2014*



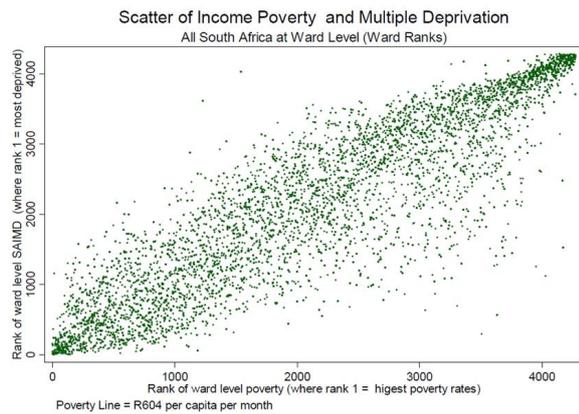
Comparing Multiple Deprivation and  
Income Poverty at Ward Level

Table 10 Spearman Rank Correlation at Ward Level between SAIMD and Poverty Rates

|                     | SAIMD   | Lower Bound Poverty | Upper Bound Poverty |
|---------------------|---------|---------------------|---------------------|
| SAIMD 2011          | 1       |                     |                     |
| Lower Bound Poverty | 0.8944* | 1                   |                     |
| Upper Bound Poverty | 0.8873* | 0.9921*             | 1                   |

( $p < .001$ )

Figure 3



## Uses of the SAIMD

- Direct Uses – national and international examples
  - Diagnostic Evaluation
  - Targeting Resources
  - Academic uses
- Springboard for further research – moving from ‘what’ and ‘where’ to ‘why’ and ‘how’
- Tracking change over time



## Change between 2001 and 2011



## Conclusion

- The spatial patterns of deprivation are not markedly different in 2011 than in 2001
- There has been an improvement in absolute terms between 2001 and 2011. Though not shared equally across all areas
- However, in absolute and relative terms the rural former homeland areas still bear the brunt of multiple deprivation (and income poverty)
- The SAIMD 2011 provides a useful tool to identify areas for policy prioritisation



## Change 2001 to 2011

National and Provincial Deprivation rates 2001 to 2011

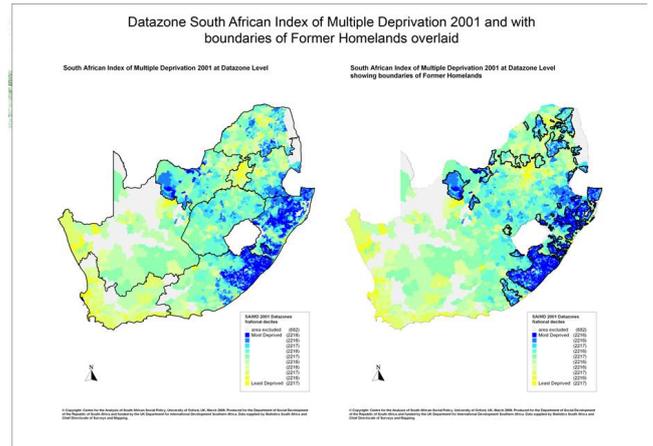
|               | Employment Deprivation 2001 % | Employment Deprivation 2011 % | Education Deprivation 2001 % | Education Deprivation 2011 % | Living Environment Deprivation 2001 % | Living Environment Deprivation 2011 % |
|---------------|-------------------------------|-------------------------------|------------------------------|------------------------------|---------------------------------------|---------------------------------------|
| Western Cape  | 27.7                          | 25.1                          | 27.2                         | 16.8                         | 41.2                                  | 19.1                                  |
| Eastern Cape  | 56.3                          | 47.3                          | 45.2                         | 28.5                         | 81.2                                  | 59.6                                  |
| Northern Cape | 37.7                          | 34.1                          | 44.2                         | 30.0                         | 53.7                                  | 32.1                                  |
| Free State    | 44.7                          | 38.9                          | 41.5                         | 23.4                         | 67.1                                  | 32.9                                  |
| KwaZulu-Natal | 50.7                          | 42.3                          | 40.0                         | 23.4                         | 74.4                                  | 55.3                                  |
| North west    | 46.1                          | 37.9                          | 42.3                         | 28.7                         | 75.3                                  | 55.4                                  |
| Gauteng       | 37.3                          | 29.8                          | 23.0                         | 12.6                         | 43.9                                  | 21.5                                  |
| Mpumalanga    | 43.9                          | 38.2                          | 44.0                         | 24.4                         | 74.9                                  | 54.5                                  |
| Limpopo       | 52.9                          | 46.4                          | 45.7                         | 24.3                         | 89.3                                  | 71.9                                  |
| All SA        | 43.5                          | 36.0                          | 36.4                         | 20.9                         | 67.2                                  | 43.8                                  |

NB Domains similar but not identical



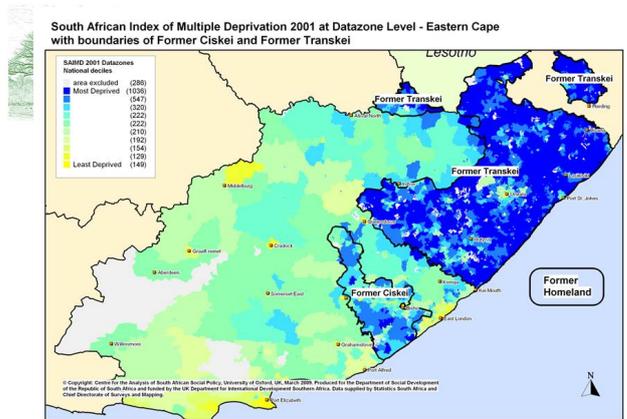
The former homelands: focussing on the Eastern Cape

Wanga Zembe  
 Gemma Wright



Outline

- Deprivation in the Former Homelands 2001
- The most deprived areas on the SAIMD at local municipality and ward level revisited ....
- Deprivation in the former homelands 2011
- Income Poverty in the former homelands 2011
- Conclusion



Multiple Deprivation in the Former Homelands 2001



The most deprived areas on the SAIMD at local municipality and ward level revisited ....

Measuring Multiple Deprivation at a Small Area Level in South Africa  
 DST, SASPRI, ISER and HSRC Human and Social Dynamics Research Seminar 16 October 2014



Population weighted average ward rank of the SAIMD 2011 for the most deprived 10 local municipalities in South Africa

| Province      | District     | Local Municipality | Population weighted average rank of wards in the local municipality (where 1=most deprived) | National rank (where 1=most deprived) |
|---------------|--------------|--------------------|---|---------------------------------------|
| KwaZulu-Natal | Umkhanyakude | Mkinga             | 176   | 1                                     |
| Eastern Cape  | Alfred Nzo   | Ntabankulu         | 280   | 2                                     |
| Eastern Cape  | O.R.Tambo    | Port St Johns      | 304   | 3                                     |
| KwaZulu-Natal | Ugu          | Vulamehlo          | 383   | 4                                     |
| KwaZulu-Natal | iLembe       | Maphumulo          | 388   | 5                                     |
| Eastern Cape  | Alfred Nzo   | Mbizana            | 395   | 6                                     |
| Eastern Cape  | O.R.Tambo    | Nguza Hill         | 399   | 7                                     |
| KwaZulu-Natal | Umkhanyakude | Umkhanyakude       | 400   | 8                                     |
| Eastern Cape  | Chris Hani   | Engcobo            | 449   | 9                                     |
| KwaZulu-Natal | Uthungulu    | Nkandla            | 453   | 10                                    |

|                          |
|--------------------------|
| Former Transkei homeland |
| Former KwaZulu homeland  |



Table 5: Deprivation in the former homelands in 2011

| Province containing greater part of former homeland | Material Deprivation % | Employment Deprivation % | Education Deprivation % | Living Environment Deprivation % |
|---|------------------------|--------------------------|-------------------------|----------------------------------|
| Former Bophuthatswana                               | 38.1                   | 46.8                     | 26.0                    | 67.0                             |
| Former Ciskei                                       | 41.5                   | 56.2                     | 24.3                    | 50.5                             |
| Former Gazankulu                                    | 36.9                   | 58.3                     | 28.9                    | 77.6                             |
| Former KaNgwane                                     | 33.7                   | 47.2                     | 29.1                    | 71.4                             |
| Former KwaNdebele                                   | 29.0                   | 45.9                     | 27.6                    | 65.0                             |
| Former KwaZulu Natal                                | 48.7                   | 54.5                     | 27.0                    | 67.4                             |
| Former Lebowa                                       | 38.7                   | 57.2                     | 23.3                    | 81.9                             |
| Former Qwa Qwa                                      | 36.8                   | 56.0                     | 22.8                    | 61.4                             |
| Former Transkei                                     | 69.0                   | 58.4                     | 37.2                    | 87.8                             |
| Former Venda  | 36.9                   | 54.5                     | 24.0                    | 77.0                             |
| All former homelands                                | 46.4                   | 53.8                     | 28.0                    | 73.7                             |
| Rest of South Africa                                | 33.0                   | 30.1                     | 17.9                    | 27.6                             |
| All South Africa                                    | 37.1                   | 36.0                     | 20.9                    | 43.8                             |



20 Most Deprived Wards in South Africa

| Province         | District Municipality | Local Municipality     | Ward Number |
|------------------|-----------------------|------------------------|-------------|
| 1 Eastern Cape   | O.R.Tambo             | Port St Johns          | 11          |
| 2 KwaZulu-Natal  | Umkhanyakude          | Mkinga                 | 16          |
| 3 KwaZulu-Natal  | Umkhanyakude          | Mkinga                 | 18          |
| 4 Eastern Cape   | Chris Hani            | Engcobo                | 5           |
| 5 Eastern Cape   | Amathole              | Mbhashe                | 17          |
| 6 Eastern Cape   | O.R.Tambo             | King Sabata Dalindyebo | 25          |
| 7 Eastern Cape   | Alfred Nzo            | Ntabankulu             | 3           |
| 8 Eastern Cape   | O.R.Tambo             | King Sabata Dalindyebo | 27          |
| 9 Eastern Cape   | Alfred Nzo            | Mbizana                | 12          |
| 10 Eastern Cape  | O.R.Tambo             | Nguza Hill             | 24          |
| 11 Eastern Cape  | O.R.Tambo             | Port St Johns          | 18          |
| 12 KwaZulu-Natal | Umkhanyakude          | Mkinga                 | 2           |
| 13 Eastern Cape  | Chris Hani            | Engcobo                | 20          |
| 14 Eastern Cape  | Alfred Nzo            | Mbizana                | 28          |
| 15 Eastern Cape  | O.R.Tambo             | Port St Johns          | 17          |
| 16 Eastern Cape  | Alfred Nzo            | Ntabankulu             | 18          |
| 17 Eastern Cape  | Alfred Nzo            | Ntabankulu             | 17          |
| 18 Eastern Cape  | O.R.Tambo             | Nyandeni               | 26          |
| 19 Eastern Cape  | Amathole              | Mbhashe                | 11          |
| 20 Eastern Cape  | Alfred Nzo            | Mbizana                | 15          |

|                          |
|--------------------------|
| Former Transkei Homeland |
| Former KwaZulu Homeland  |



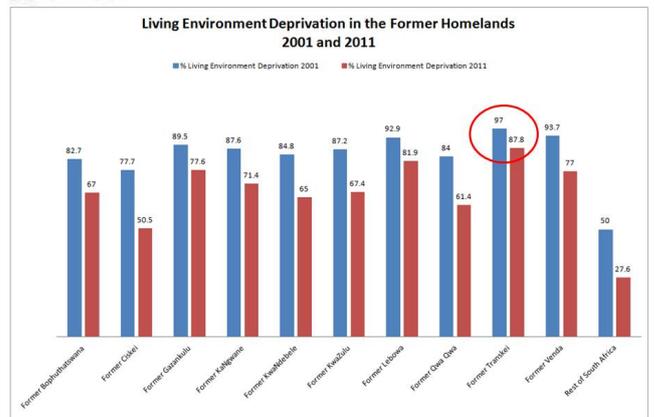
Change in Rates of Deprivation\* 2001 2011

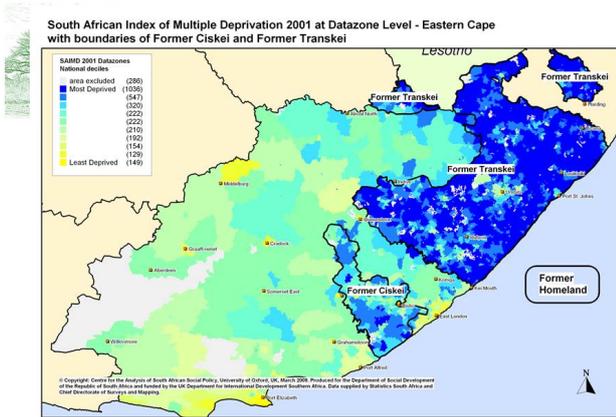
| Region                | % Employment Deprivation 2001 | % Employment Deprivation 2011 | % Education Deprivation 2001 | % Education Deprivation 2011 | % Living Environment Deprivation 2001 | % Living Environment Deprivation 2011 |
|-----------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|---------------------------------------|---------------------------------------|
| Former Bophuthatswana | 55.8                          | 46.8                          | 41.6                         | 26.0                         | 82.7                                  | 67.0                                  |
| Former Ciskei         | 69.2                          | 56.2                          | 38.5                         | 24.3                         | 77.7                                  | 50.5                                  |
| Former Gazankulu      | 63.4                          | 58.3                          | 50.3                         | 28.9                         | 89.5                                  | 77.6                                  |
| Former KaNgwane       | 56.8                          | 47.2                          | 50.2                         | 29.1                         | 87.6                                  | 71.4                                  |
| Former KwaNdebele     | 56.2                          | 45.9                          | 45.4                         | 27.6                         | 84.8                                  | 65.0                                  |
| Former KwaZulu        | 66.6                          | 54.5                          | 47.2                         | 27.0                         | 87.2                                  | 67.4                                  |
| Former Lebowa         | 63.4                          | 57.2                          | 45.6                         | 23.3                         | 92.9                                  | 81.9                                  |
| Former Qwa Qwa        | 64.4                          | 56.0                          | 40.3                         | 22.8                         | 84.0                                  | 61.4                                  |
| Former Transkei       | 71.5                          | 58.4                          | 56.9                         | 37.2                         | 97.0                                  | 87.8                                  |
| Former Venda          | 60.3                          | 54.5                          | 44.6                         | 24.0                         | 93.7                                  | 77.0                                  |
| Rest of South Africa  | 37.3                          | 30.1                          | 30.2                         | 17.6                         | 50.0                                  | 27.6                                  |

\* Minor Changes in Domain Definition



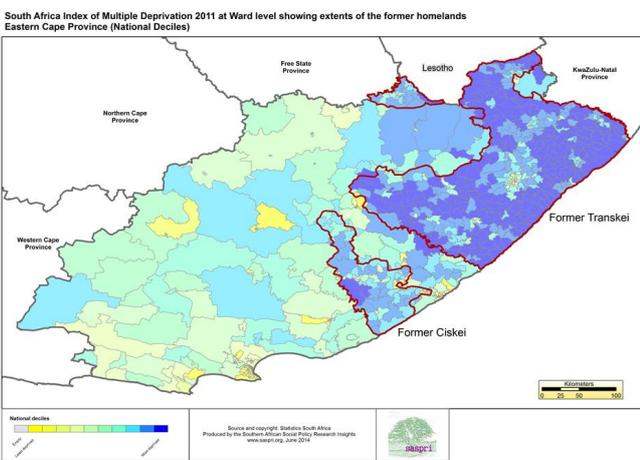
Deprivation in the Former Homelands 2011



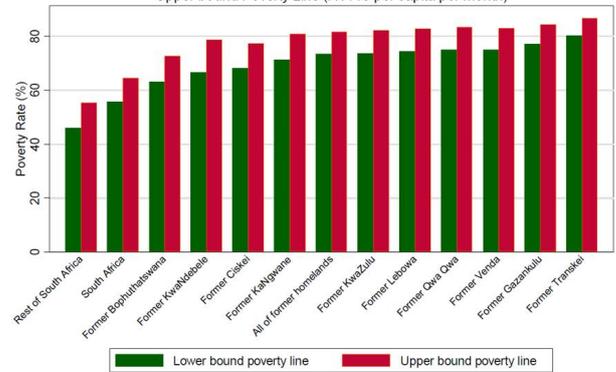


## Poverty in Former Homelands

| Area                    | Lower Bound (R604) % | Upper bound (R1113) % |
|-------------------------|----------------------|-----------------------|
| Former Bophuthatswana   | 63.1                 | 72.7                  |
| Former Ciskei           | 68.0                 | 77.2                  |
| Former Gazankulu        | 77.0                 | 84.2                  |
| Former KaNgwane         | 71.4                 | 80.9                  |
| Former KwaNdebele       | 66.7                 | 78.5                  |
| Former KwaZulu          | 73.6                 | 82.3                  |
| Former Lebowa           | 74.5                 | 82.7                  |
| Former Qwa Qwa          | 74.9                 | 83.4                  |
| Former Transkei         | 80.3                 | 86.6                  |
| Former Venda            | 75.1                 | 82.9                  |
| All of former homelands | 73.4                 | 81.7                  |
| Rest of South Africa    | 46.0                 | 55.3                  |
| South Africa            | 55.7                 | 64.6                  |



Income Poverty in the Former Homelands 2011  
 Lower bound Poverty Line (R604 per capita per month)  
 Upper bound Poverty Line (R1113 per capita per month)



## Income Poverty in the Former Homelands 2011



## Conclusion

- Deprivation (and income poverty) in the former homelands is significantly higher than in the 'rest of South Africa'
- Though there has been some absolute improvement between 2001 and 2011 the rates remain unacceptably high
- Though all former homelands continue to have high rates of deprivation/income poverty – they are particularly high in the former Transkei in the Eastern Cape.



# Namibia Index of Multiple Deprivation (NIMD)

By

JM Ashipala  
National Planning Commission

Ojijo Odhiambo  
UNDP

Regional Scores and Changes over the 2001-2011 period

| REGION       | Material |      | Employment |      | Education |      | Environment |      | Change (2001-2011) |            |           |             |
|--------------|----------|------|------------|------|-----------|------|-------------|------|--------------------|------------|-----------|-------------|
|              | 2011     | 2001 | 2011       | 2001 | 2011      | 2001 | 2011        | 2001 | Materials          | Employment | Education | Environment |
| Caprivi      | 53.3     | 73.5 | 38.3       | 17.5 | 64.1      | 63.2 | 89.2        | 90.2 | -20.2              | 20.8       | 0.9       | -0.9        |
| Erongo       | 33.0     | 27.4 | 30.3       | 34.2 | 59.3      | 63.0 | 53.0        | 56.2 | 5.6                | -3.8       | -3.7      | -3.2        |
| Hardap       | 34.1     | 42.9 | 35.6       | 33.9 | 70.8      | 69.4 | 62.9        | 65.5 | -8.8               | 1.7        | 1.4       | -2.6        |
| Karas        | 33.0     | 37.2 | 33.2       | 28.6 | 66.5      | 67.8 | 59.5        | 65.3 | -4.2               | 4.6        | -1.3      | -5.8        |
| Kavango      | 64.4     | 75.1 | 50.8       | 20.4 | 73.3      | 72.4 | 90.4        | 95.5 | -10.7              | 30.4       | 0.9       | -5.1        |
| Khomas       | 30.5     | 38.0 | 30.4       | 29.4 | 48.8      | 51.4 | 52.7        | 52.1 | -7.5               | 1.0        | -2.7      | 0.7         |
| Kunene       | 63.4     | 79.4 | 36.2       | 23.5 | 81.6      | 75.2 | 84.4        | 87.8 | -16.0              | 12.7       | 6.3       | -3.4        |
| Ohangwena    | 54.3     | 86.0 | 43.7       | 37.3 | 69.9      | 65.4 | 94.2        | 97.2 | -31.8              | 6.5        | 4.5       | -3.0        |
| Omaheke      | 49.2     | 62.8 | 39.8       | 24.0 | 78.4      | 71.6 | 83.0        | 86.3 | -13.6              | 15.7       | 6.8       | -3.2        |
| Omusati      | 58.5     | 83.2 | 42.7       | 36.5 | 63.0      | 63.1 | 92.0        | 95.1 | -24.6              | 6.2        | -0.1      | -3.1        |
| Oshana       | 53.3     | 57.5 | 38.7       | 40.8 | 54.6      | 58.4 | 73.0        | 81.4 | -4.2               | -2.2       | -3.8      | -8.4        |
| Oshikoto     | 52.9     | 83.4 | 40.6       | 45.2 | 67.6      | 65.8 | 85.8        | 88.8 | -30.5              | -4.7       | 1.8       | -2.9        |
| Otjozondjupa | 41.7     | 57.0 | 38.3       | 31.7 | 73.0      | 68.2 | 69.2        | 74.2 | -15.3              | 6.5        | 4.8       | -5.0        |
| Namibia      | 48.1     | 64.7 | 37.5       | 31.4 | 63.5      | 63.5 | 76.4        | 81.1 | -16.6              | 6.1        | -0.1      | -4.7        |



# Content



- ▶ Introduction
- ▶ Deprivations patterns and Trends
- ▶ Conclusions
- ▶ Recommendations



# Introduction



- ▶ V2030 Target: GDP growth rate of 6%, low unemployment rate of 2.3%, Gini coefficient of 0.3.
  - ▶ 15 years to 2030
- ▶ NDP4 target: GDP growth of 6%, create 90 615 jobs, reduce extreme poverty to below 10%, reduce Gini coefficient by 3% per year.
- ▶ Education & health the enablers
  - ▶ 2 years to NDP4, 2016
- ▶ First NIMD created in 2010 for Khomas Region using data from the 2001 NPHC
  - ▶ Resource allocation within the region
- ▶ Five dimensions of deprivation: material deprivation, employment deprivation, health deprivation, education deprivation and living environment deprivation.
- ▶ NIMD produced at regional, constituency and datazone levels using the 2001 and 2011 NPHC.



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Deprivations

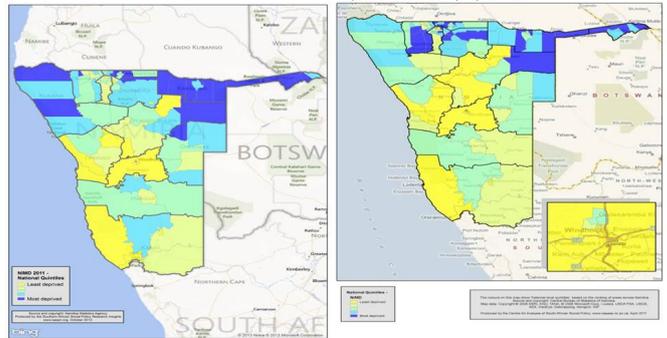
4



# NIMD constituency 2001 - 2011



Map 1: Namibia Index of Multiple Deprivation 2011 at Constituency Level



▶ 5

Deprivation

10/31/2014

20 Most Deprived Constituencies overall NIMD in 2011

>50% (55%) of 20 most deprived constituencies new entrants

| Constituency        | Region       | Rank 2011 | Rank 2001 |
|---------------------|--------------|-----------|-----------|
| Kapako              | Kavango      | 1         | 24        |
| Tsumkwe             | Otjozondjupa | 2         | 26        |
| Mashare             | Kavango      | 3         | 27        |
| Kongola             | Caprivi      | 4         | 2         |
| Kahenge             | Kavango      | 5         | 23        |
| Ndiyona             | Kavango      | 6         | 1         |
| Omundaungilo        | Ohangwena    | 7         | 14        |
| Onesi               | Omusati      | 8         | 36        |
| Linyanti            | Caprivi      | 9         | 25        |
| Mukwe               | Kavango      | 10        | 18        |
| Rundu Rural East    | Kavango      | 11        | 22        |
| Sesfontein          | Kunene       | 12        | 29        |
| Epupa               | Kunene       | 13        | 13        |
| Sibinda             | Caprivi      | 14        | 10        |
| Epembe              | Ohangwena    | 15        | 11        |
| Mpungu              | Kavango      | 16        | 38        |
| Otjineno            | Omaheke      | 17        | 87        |
| Omulonga            | Ohangwena    | 18        | 4         |
| Katima Mulilo Rural | Caprivi      | 19        | 34        |
| Ondobe              | Ohangwena    | 20        | 16        |

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Measuring Multiple Deprivation at a Small Area Level in South Africa  
 DST, SASPRI, ISER and HSRC Human and Social Dynamics Research Seminar 16 October 2014

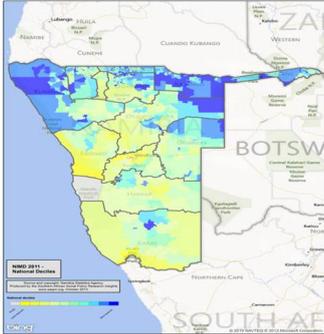


NIMD Datazone 2001 - 2011

Are there are pockets of multiple deprivation within constituencies

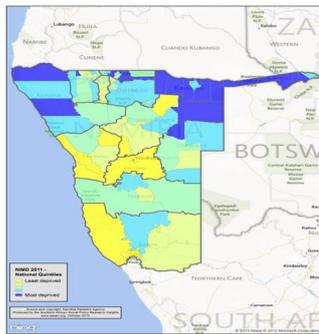


Map 7: Namibia Index of Multiple Deprivation 2011 at Datazone Level



7

Map 8: Namibia Index of Multiple Deprivation 2011 at Constituency Level



Deprivation

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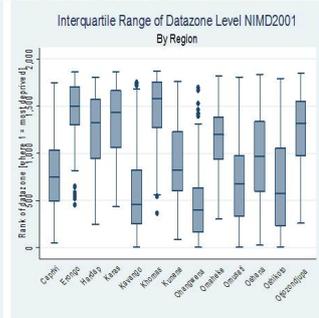
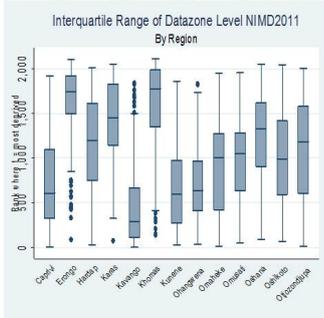
20 most material deprivation constituencies

| Constituency | Region       | Rank | 2001 | Rank | 2011 | 2001-2011 |
|--------------|--------------|------|------|------|------|-----------|
| Epupa        | Kunene       | 15   | 91.3 | 1    | 89.4 | -1.9      |
| Tsumkwe      | Otjozondjupa | 8    | 95.3 | 2    | 81.2 | -14.2     |
| Onesi        | Omusati      | 28   | 86.4 | 3    | 76.5 | -9.9      |
| Kongola      | Caprivi      | 10   | 93.4 | 4    | 76.3 | -17.1     |
| Kahenge      | Kavango      | 52   | 72.3 | 5    | 73.3 | 1.0       |
| Sesfontein   | Kunene       | 6    | 96.7 | 6    | 73.2 | -23.5     |
| Mpungu       | Kavango      | 55   | 69.9 | 7    | 73.0 | 3.0       |
| Omundaungilo | Ohangwena    | 2    | 98.6 | 8    | 72.8 | -25.8     |
| Kapako       | Kavango      | 59   | 64.8 | 9    | 72.8 | 8.0       |
| Eengondi     | Oshikoto     | 5    | 98.3 | 10   | 71.9 | -26.4     |
| Epembe       | Ohangwena    | 1    | 98.9 | 11   | 70.8 | -28.1     |
| Mashare      | Kavango      | 12   | 93.0 | 12   | 70.7 | -22.3     |
| Okankolo     | Oshikoto     | 3    | 98.3 | 13   | 70.5 | -27.9     |
| Uukwiyu      | Oshana       | 64   | 62.0 | 14   | 70.4 | 8.4       |
| Mukwe        | Kavango      | 27   | 86.4 | 15   | 69.8 | -16.6     |
| Sibinda      | Caprivi      | 11   | 93.3 | 16   | 69.5 | -23.7     |
| Otjombinde   | Omaheke      | 40   | 79.6 | 17   | 68.9 | -10.6     |
| Linyanti     | Caprivi      | 16   | 90.8 | 18   | 68.2 | -22.6     |
| Opuwo        | Kunene       | 20   | 89.7 | 19   | 65.8 | -23.9     |
| Okaku        | Oshana       | 49   | 74.7 | 20   | 65.5 | -9.2      |

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Interquartile NIMD 2001 - 2011



8

Deprivation

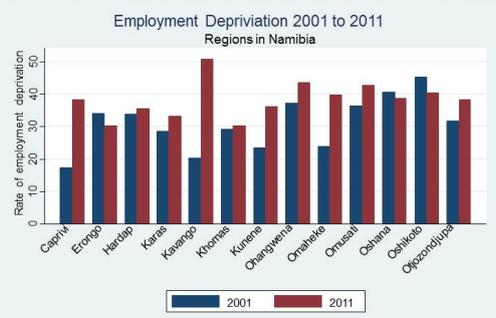
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Changes in Employment Deprivation over 2001 - 2011 period by region



Erongo, An increase in material but a decline in employment



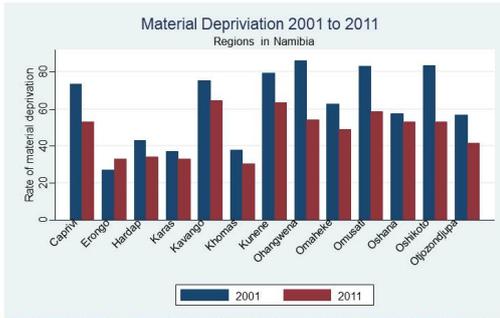
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Changes in Material Deprivation over 2001 - 2011 period by Region



- Erongo an economic hub
- LFPR of 80%
- Unemployment 30%

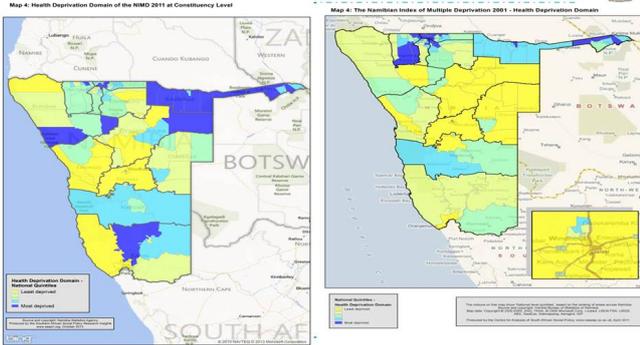


20 most employment deprived constituencies

| Constituency        | Region       | Rank | 2001 | Rank | 2011 | Change |
|---------------------|--------------|------|------|------|------|--------|
| Rundu Rural East    | Kavango      | 45   | 33.2 | 1    | 70.8 | 37.6   |
| Onesi               | Omusati      | 47   | 32.5 | 2    | 59.5 | 27.1   |
| Kapako              | Kavango      | 95   | 13.5 | 3    | 58.0 | 44.5   |
| Rundu Rural West    | Kavango      | 78   | 23.5 | 4    | 57.3 | 33.7   |
| Mashare             | Kavango      | 80   | 23.1 | 5    | 55.5 | 32.4   |
| Omuthiyagwiipundi   | Oshikoto     | 19   | 43.1 | 6    | 54.7 | 11.6   |
| Rundu Urban         | Kavango      | 63   | 28.3 | 7    | 52.8 | 24.5   |
| Tsumkwe             | Otjozondjupa | 84   | 21.3 | 8    | 50.7 | 29.5   |
| Katima Mulilo Urban | Caprivi      | 57   | 30.1 | 9    | 50.1 | 20.0   |
| Otamanzi            | Omusati      | 11   | 60.5 | 10   | 49.6 | -10.9  |
| Otjinene            | Omaheke      | 90   | 17.7 | 11   | 49.2 | 31.6   |
| Oshikango           | Ohangwena    | 18   | 43.9 | 12   | 48.9 | 5.0    |
| Ohangwena           | Ohangwena    | 28   | 38.9 | 13   | 47.7 | 8.8    |
| Khorixas            | Kunene       | 17   | 44.2 | 14   | 47.5 | 3.3    |
| Okalongo            | Omusati      | 91   | 16.0 | 15   | 47.5 | 31.5   |
| Okatana             | Oshana       | 54   | 31.0 | 16   | 47.4 | 16.4   |
| Ondobe              | Ohangwena    | 26   | 39.5 | 17   | 47.3 | 7.9    |
| Sesfontein          | Kunene       | 67   | 27.3 | 18   | 47.0 | 19.8   |
| Aminuis             | Omaheke      | 70   | 26.1 | 19   | 47.0 | 20.9   |
| Okakarara           | Otjozondjupa | 15   | 48.5 | 20   | 47.0 | -1.5   |



### Constituency Level Health Deprivation in 2011 and 2001



13 Deprivations 10/31/2014

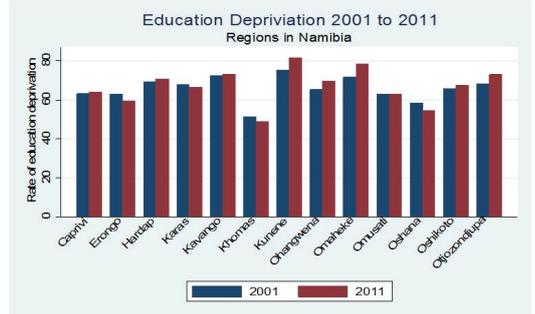
**20 Most Health Deprived Constituencies**

| Constituency        | Region       | Rank 2001 | Rank 2011 | Change |       |        |
|---------------------|--------------|-----------|-----------|--------|-------|--------|
| Khorixas            | Kunene       | 61        | 404.9     | 1      | 793.1 | 388.2  |
| Linyanti            | Caprivi      | 49        | 551.7     | 2      | 778.8 | 227.1  |
| Mukwe               | Kavango      | 42        | 607.4     | 3      | 758.3 | 151.0  |
| Ohangwena           | Ohangwena    | 7         | 949.2     | 4      | 600.1 | -349.0 |
| Ndiyona             | Kavango      | 29        | 691.8     | 5      | 597.3 | -94.5  |
| Rundu Urban         | Kavango      | 36        | 653.6     | 6      | 596.8 | -56.7  |
| Katima Mulilo Rural | Caprivi      | 6         | 982.7     | 7      | 592.9 | -389.8 |
| Kongola             | Caprivi      | 1         | 1374.9    | 8      | 584.8 | -790.1 |
| Kapako              | Kavango      | 22        | 776.4     | 9      | 576.2 | -200.2 |
| Okaku               | Oshana       | 3         | 1006.7    | 10     | 574.9 | -431.8 |
| Mashare             | Kavango      | 37        | 634.8     | 11     | 568.2 | -66.5  |
| Kahenge             | Kavango      | 25        | 736.7     | 12     | 566.4 | -170.3 |
| Endola              | Ohangwena    | 10        | 910.8     | 13     | 563.1 | -347.7 |
| Mpungu              | Kavango      | 35        | 654.1     | 14     | 555.6 | -98.5  |
| Omulonga            | Ohangwena    | 8         | 922.3     | 15     | 540.3 | -382.0 |
| Berseba             | Karas        | 80        | 322.3     | 16     | 533.4 | 211.1  |
| Tsumkwe             | Otjozondjupa | 91        | 259.4     | 17     | 521.8 | 262.3  |
| Rundu Rural West    | Kavango      | 38        | 634.4     | 18     | 520.1 | -114.2 |
| Outjo               | Kunene       | 51        | 519.8     | 19     | 519.5 | -0.3   |
| Ondobe              | Ohangwena    | 2         | 1070.8    | 20     | 515.6 | -555.2 |

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### Education Deprivation Domain

Erongo  
Oshana  
Khomas  
Karas



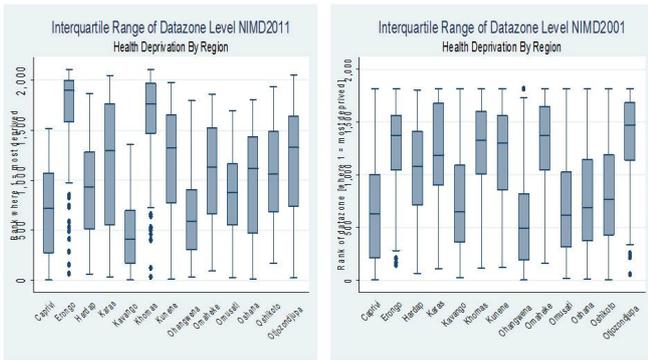
**20 Most Education Deprived Constituencies**

| Constituency   | Region       | Rank 2001 | Rank 2011 | Change |      |      |
|----------------|--------------|-----------|-----------|--------|------|------|
| Epupa          | Kunene       | 1         | 83.4      | 1      | 91.1 | 7.7  |
| Tsumkwe        | Otjozondjupa | 4         | 78.9      | 2      | 85.8 | 6.9  |
| Rehoboth Rural | Hardap       | 6         | 77.1      | 3      | 85.2 | 8.1  |
| Steinhausen    | Omaheke      | 3         | 79.3      | 4      | 84.1 | 4.8  |
| Guinas         | Oshikoto     | 2         | 80.0      | 5      | 83.9 | 3.9  |
| Sesfontein     | Kunene       | 11        | 76.1      | 6      | 83.5 | 7.4  |
| Kamanjab       | Kunene       | 20        | 74.8      | 7      | 82.3 | 7.6  |
| Otavi          | Otjozondjupa | 13        | 75.8      | 8      | 82.1 | 6.2  |
| Omatako        | Otjozondjupa | 27        | 72.2      | 9      | 81.5 | 9.3  |
| Daures         | Erongo       | 25        | 72.8      | 10     | 81.1 | 8.3  |
| Otjinene       | Omaheke      | 66        | 64.6      | 11     | 81.0 | 16.4 |
| Otjombinde     | Omaheke      | 22        | 73.9      | 12     | 80.9 | 7.0  |
| Opuwo          | Kunene       | 24        | 73.3      | 13     | 80.6 | 7.2  |
| Eengondi       | Oshikoto     | 10        | 76.3      | 14     | 80.2 | 4.0  |
| Kapako         | Kavango      | 12        | 76.0      | 15     | 80.2 | 4.2  |
| Epukiro        | Omaheke      | 62        | 63.5      | 16     | 79.7 | 14.2 |
| Kahenge        | Kavango      | 7         | 76.9      | 17     | 79.5 | 2.5  |
| Kalahari       | Omaheke      | 5         | 78.2      | 18     | 79.2 | 0.9  |
| Ndiyona        | Kavango      | 14        | 75.7      | 19     | 78.9 | 3.1  |
| Outjo          | Kunene       | 23        | 73.8      | 20     | 78.6 | 4.8  |

All 20 most education deprived constituencies registered an increase

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### Inter-quartile Range Health Deprivation by Regions in 2001 and 2011



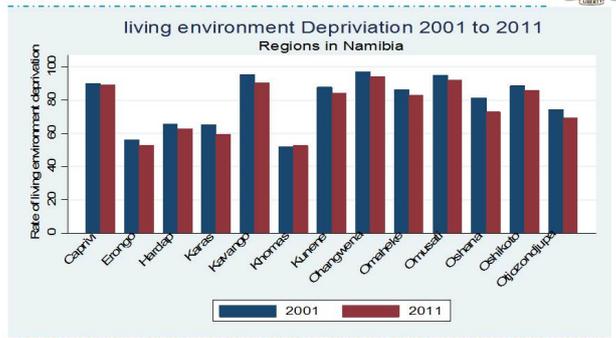
10/31/2014

Deprivation

15



### Changes in Living Environment Deprivation over 2001 – 2011 period by region



| 20 most Environment deprivation constituencies | Constituency        | Region    | Rank 2001 | Rank 2011 | Change |      |      |
|--|---------------------|-----------|-----------|-----------|--------|------|------|
|  | Epembe              | Ohangwena | 3         | 99.8      | 1      | 99.8 | 0.0  |
|  | Okankolo            | Oshikoto  | 6         | 99.6      | 2      | 99.0 | -0.6 |
|  | Kabe                | Caprivi   | 9         | 99.4      | 3      | 98.9 | -0.5 |
|  | Linyanti            | Caprivi   | 1         | 99.9      | 4      | 98.7 | -1.2 |
|  | Omundaungilo        | Ohangwena | 11        | 99.2      | 5      | 98.7 | -0.5 |
|  | Kapako              | Kavango   | 5         | 99.6      | 6      | 98.6 | -1.0 |
|  | Epupa               | Kunene    | 4         | 99.7      | 7      | 98.6 | -1.1 |
|  | Kahenge             | Kavango   | 7         | 99.4      | 8      | 98.4 | -1.0 |
|  | Kongola             | Caprivi   | 16        | 98.6      | 9      | 98.3 | -0.2 |
|  | Sibinda             | Caprivi   | 2         | 99.9      | 10     | 98.3 | -1.6 |
|  | Eengondi            | Oshikoto  | 14        | 98.8      | 11     | 98.1 | -0.7 |
|  | Katima Mulilo Rural | Caprivi   | 20        | 98.2      | 12     | 98.0 | -0.2 |
|  | Omulonga            | Ohangwena | 15        | 98.8      | 13     | 98.0 | -0.8 |
|  | Mashare             | Kavango   | 12        | 99.2      | 14     | 97.9 | -1.2 |
|  | Ondobe              | Ohangwena | 13        | 99.0      | 15     | 97.9 | -1.1 |
|  | Mukwe               | Kavango   | 17        | 98.6      | 16     | 97.6 | -0.9 |
|  | Otamanzi            | Omusati   | 22        | 97.6      | 17     | 97.5 | 0.0  |
|  | Okongo              | Ohangwena | 8         | 99.4      | 18     | 97.3 | -2.1 |
|  | Ndiyona             | Kavango   | 10        | 99.2      | 19     | 97.2 | -2.0 |
|  | Mpungu              | Kavango   | 18        | 98.5      | 20     | 96.3 | -2.2 |



## Conclusions...



- ▶ Wide regional disparities with regards to multiple deprivations.
- ▶ 3 (5) most deprived constituencies located in Kavango while 3 (5) least deprived constituencies located in Khomas.
- ▶ Kapako in Kavango, the most deprived constituency followed by Tsumkwe in Otzondjupa region, Mashare in Kavango, Kongola in Zambezi and Kehenge in Kavango.
- ▶ 16.6 percentage points decline on materially deprived, 2001 – 2011.
- ▶ Living environment and education deprived declined by 4.7 and 0.1 percentage points.
- ▶ Employment deprivation increased by 6.1 percentage points at national, but in three of the regions – Erongo, Oshana and Oshikoto, it declined.
- ▶ Half of the regions registered declines in people who are education deprived
- ▶ All regions except Khomas, registered declines in living environment deprivation

▶ 1 Deprivation 10/31/2014



## Recommendations



- ▶ Prioritize resource allocation according to regional and constituency developmental needs
- ▶ Ensure efficiency of resources allocated
- ▶ Improve service delivery by targeting most deprived areas.

▶ 1 Deprivation 10/31/2014

## Recent developments in the UK

### Using the indices and the underpinning data

Tom Smith, @\_datasmith  
 Oxford Consultants for Social Inclusion (OCSI)

David McLennan  
 University of Oxford



## Overview

- The English Indices of Deprivation
  - Methodology & structure
  - One domain in detail – Education, Skills & Training
  - Administrative & census data sources
- How the Indices & underpinning data are used
  - National & local examples
  - Summary of uses
  - A driver for increased use of evidence-based policy and services
- The potential for South African crime domain



## The English Indices of Deprivation



## English Indices of Deprivation

- Long history of Indices in the UK, for allocating and targeting resources
- Since the late 1990s, major programmes of regeneration aimed at 'closing the gap'
  - To tackle inequality of both opportunity and outcome
  - Challenging national ambitions & targets – for example "people should not be seriously disadvantaged by where they live"
- Indices of Deprivation 2000 and updates used to support area-based programmes & interventions
  - Targeting resources, perhaps 1-2% of central government spend
  - Focus on 'deprived areas', as part of broad range of approaches
  - Renewed emphasis on 'evidence-based policy'



## English Indices – structure

- Index of Multiple Deprivation based on seven domains
  - Income
  - Employment
  - Education, skills and training
  - Health deprivation and disability
  - Crime
  - Barriers to housing and services
  - Living environment deprivation.
- Each domain is based on a set of indicators
  - 40 indicators in total, from different sources
- Single overview indicator of how all areas compare on deprivation levels



## English Indices of Deprivation – methodology

- Indicators are combined into domains
  - Standardised to enable comparison
  - Factor analysis used to combine indicators
- Domains combined into the headline Index of Multiple Deprivation
  - Standardised to enable comparison
- Statistical techniques
  - Shrinkage, for small area data reliability
  - Exponential transformation, to minimise 'cancellation'
  - Ranking, to allow indicators & domains to be combined
  - Weighting, to give greater impact to more important domains



## Education, Skills & Training Domain

"The lack of attainment & skills in the local population"



## Education, Skills & Training indicators

| Indicator                                       | How is it measured?   |
|---|---|
| Adults with no or low qualifications            | UK Census, self-reported  |
| English language proficiency                    | UK Census, self-reported  |
| Pupil attainment for national 'Key Stage' exams | School pupil exam results, by pupil home address                        |
| Secondary school absence                        | School registers, by pupil home address                                 |
| Staying on in education (beyond 16)             | 17 year olds receiving government benefit payable to those in education |
| Entry to Higher Education                       | Successful entry to University/ HE, by address of application           |



## Administrative & census data sources

- UK Census is a very rich source of small area data
  - Carefully designed question set, rigorous survey
  - Cross-tabulated data eg unemployment by age / gender / ethnicity
  - But ... only updated every 10 years
  - And, does not ask Income questions
- 'Administrative' data collected as by-product of some other process (school exams, benefit payment etc)
  - Rich detail on wide variety of issues relevant to deprivation
  - Regularly updated, and easier (cheaper) to collect
  - Data can be improved over time, eg linking school exam results to pupils homes (rather than schools)
  - But ... data changes; eg changes to exams, benefit eligibility etc
  - Also, multiple data sources are not linked – so do not typically allow multi-dimensional analysis on single individuals



## How the English Indices & underpinning data are used



### How the Indices & underpinning data are used – national examples

- Central government funding allocations, including:
  - ‘Mainstream’ funding - NHS Area & Local Government formulae
  - ‘Top-up’ funding for regional/ local regeneration pots
- Direct funding for targeted large-scale national regeneration programmes
  - Neighbourhood Regeneration Fund & Working Neighbourhoods Fund – “helping turn around the hardest hit areas”
- Indirect use in commissioning and targeting
  - Sure Start & children’s centres
  - Big Lottery – 14 billion rand per year on ‘Good causes’
  - New Deal for Communities, 10 year 200 billion rand programme
- Tax relief on property & land transactions



### How the Indices & underpinning data are used – local examples

- Local programmes and funds
  - Local Authority controlled grants and funds
  - Commissioned services & delivery; Benefit take-up programmes
- Targeting funds to voluntary (non-profit) organisations
  - London Councils funding for organisations across the capital
  - Local Authority support funding
  - Bids to provide services typically highlight impact in deprived areas
- Social housing associations – community investment
  - 100s of (independent) housing organisations
  - Total funding similar to Big Lottery (15 billion rand per year)



## A driver for increased use of evidence-based policy and services

- Indices of Deprivation and Census have underpinned widespread increase in the use of data & analysis
  - Supporting national and local programmes & services
  - Pressure on government to make ‘open data’ available
- Better understanding at senior level of the need for better evidence (chief executive, directors)
  - Pushed by national demands for evidence-base, and local needs for information
- Building research, data and skills capacity
  - Neighbourhood renewal partnership capacity building
  - Local data systems
  - Local Improvement Advisors & other support



### Summary of uses for the English Indices of Deprivation

1. Funding and commissioning – relatively big sums
2. ‘Unexpected consequences’. Positive incentives for some projects, eg increasing benefits take-up
3. Impact of programmes – changes in deprived areas
4. Research & analysis – potential driver of other outcomes (particularly health research)
5. Dissemination and transparency – “what services and programmes are we running in which areas”



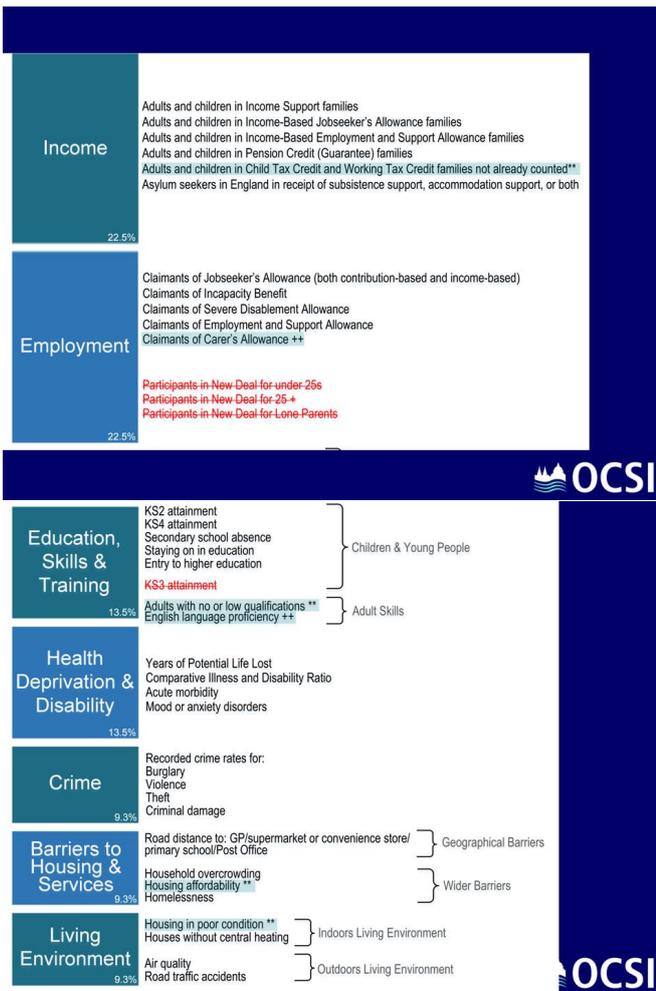
## Recent developments in the UK

### Using the indices and the underpinning data

Tom Smith, @\_datasmith  
Oxford Consultants for Social Inclusion (OCSI)

David McLennan  
University of Oxford





**saspri**

Southern African Social Policy Research Institute  
 Southern African Social Policy Research Insights

## Crime: An additional domain of deprivation?

David McLennan



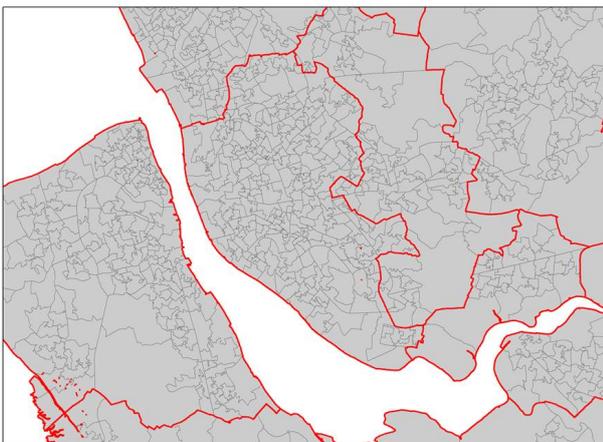
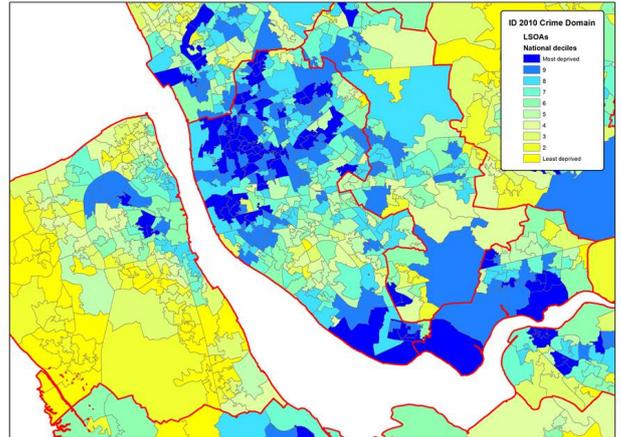
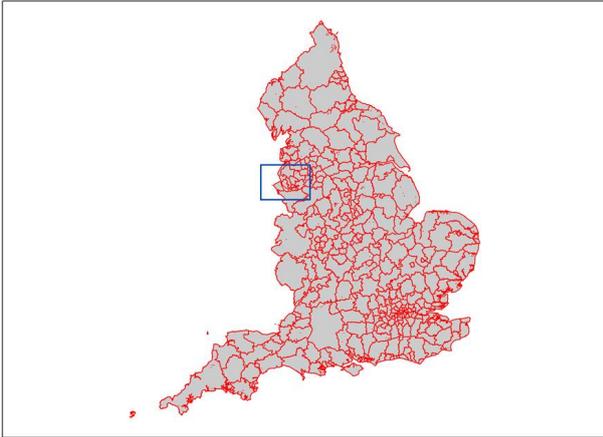
## Crime in South Africa

- South Africa has one of the highest violent crime rates in the world (UNODC).
- According to the StatsSA Victims Of Crime Survey 2012:
  - 14% of people feel unsafe walking alone in their neighbourhood during the day.
  - 64% of people feel unsafe walking alone in their neighbourhood at night.
- Crime has economic, physical and psychological consequences, for victims and wider community.



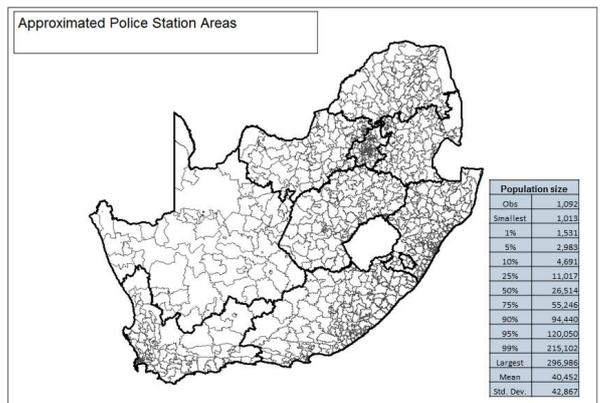
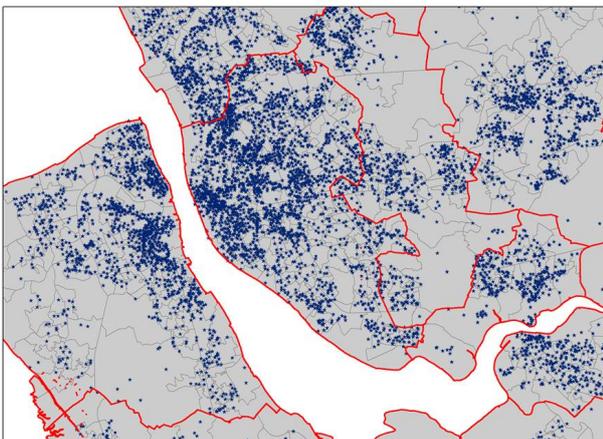
## Experience in the UK

- Crime Domain initially introduced in English Indices of Deprivation 2004 (then 2007, 2010 & 2015).
- Data exists on every crime recorded by the police, including the detailed grid reference of location – but highly sensitive.
- Data sharing agreements with police forces.
- Crimes mapped and assigned to neighbourhood of occurrence.



### Crime data in SA

- Recorded crime data collated by SAPS.
- Currently available for research purposes aggregated to Police Station/Precinct level.
- Underlying 'docket' -level data *should* contain detailed locational data, such as grid references, but...
  - Currently not possible to obtain from SAPS.
  - Unclear what proportion of crimes are missing detailed locational data.



Measuring Multiple Deprivation at a Small Area Level in South Africa  
 DST, SASPRI, ISER and HSRC Human and Social Dynamics Research Seminar 16 October 2014

