STI and Poverty Reduction – Developing Management Tools

Harry Swart, Cynthia Malan, Reinie Biesenbach
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Africa has traditionally been a developing region, with a large proportion of its approximately 1 billion people finding it extremely difficult to make ends meet, and most of the 53 African countries only being able to survive on the back of substantial foreign aid;

Foreign aid decisions are mostly taken in Boardrooms in developed countries, where the true extent and complexity of the challenges facing the destitute nations in need of development aid and/or partnerships is often not fully known;
This presentation centres around sub-Saharan Africa, a continent characterised by demographic and ethnic diversity and focuses on the scope and content of management approaches to assist the destitute millions.

In association with and under contract to the Africa Forum we are involved in a project to identify and assist the most marginalized populations in sub-Saharan Africa by working towards the development of a new architecture for assessing the effectiveness of development assistance;
Background and Introduction [4]

- The management framework discussed in this presentation is being developed in association with the Africa Forum;
- It is generally accepted that in sub-Saharan Africa there are groups of people who are marginalized and excluded from the mainstream political and social development agendas.

Background and Introduction [5]

- The deprivation levels of these marginalized communities are further exacerbated by the lack of a means of identifying their particular needs or indeed the sequencing of interventions that will assist them.
- Continental, national and international interventions have not widely impacted the marginalized populations largely because it has been difficult, if not impossible, to identify these groups and to determine the causes of their deprivation and marginalization.
An urgent need exists for the development of mechanisms that provide the information need for developing strategies to address the plight of the marginalized and deprived people of Africa.

For Africa to be fully integrated into the global economy it is essential to place African countries and people, both individually and collectively, on the path to sustainable development and to halt the economic and political marginalization of the continent.
Before understanding what can be done to aid or assist Africa’s poor, one needs to first understand (or describe) what is poverty;

Over the past four decades a lot of in-depth work has been done in the developed world on what is called “deprivation”, basically to identify and contextualise those parts of the population in these developed nations that are less privileged than the rest;
Poverty and Deprivation [2]  
– Concepts and Indicators –

- In 2002 Oxford University, in association with the HSRC and Stats SA developed a “multiple deprivation index” at community (ward) level in South Africa;

- Deprivation was characterised as the lack of proper, sustainable income sources, a lack of a reasonable livelihood, lack of access to proper health care and education, and the quality of the living environment within which these people had to live;

Poverty and Deprivation [3]  
– Concepts and Indicators –

- This approach, although developed for in-country assessment, had the potential to be expanded to compare the multiple deprivation of nations, provided that appropriate indicators were used to assess the deprivation;

- Once the multiple deprivation of nations has been determined, it would then immediately be possible to home in on the source of most pressing deprivation;
Poverty and Deprivation [4]

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Against the broad background as sketched above, the following are the high-level strategic aims of this study:

- The development of a dynamic framework to model, describe and predict the degree of marginalization of people and communities in Africa;
- Using this framework to highlight priorities and strategies for upliftment and empowerment; as well as support the implementation of a new architecture for development assistance in Africa; and

- Providing the governments of African states with the necessary tools to take ownership of and address the needs of marginalized communities, peoples and groups in their countries and thus helping them become developmentally capable states.
Making use of the multiple deprivation approach, as highlighted above, we developed indices for each of the five components of deprivation:

- Income deprivation;
- Livelihood deprivation;
- Healthcare deprivation;
- Education deprivation; and
- Living environment deprivation.
Assuming that one can assess the challenges in a country and then proceed to establish what it is they need, the question still remains:

*Does this country have the capacity and skills sets necessary to receive the assistance required to alleviate deprivation, and to use it on its own?*

In order to address this issue, we need to establish the scientific and technological readiness of a country, which we calculated/assessed through a Technology Capacity Index (TCI);
We used the Rand Corporation approach to characterize the Technology Capacity Index (TCI); and then developed indices for each of these three cornerstones of the TCI:

- The National institutional capacity;
- The National tertiary skills portfolio, a type of aggregated National Human Capital; and
- The National physical infrastructure, signifying the ease with which remote areas can be reached.

Technology Capacity Index (TCI)

INTERIM FORMULATION

- **National Institutional Capacity**
  - R&D expenditure as % of GNP; and
  - The number Institutions & universities per million of the population

- **National Tertiary Skills Portfolio**
  - The national education expenditure as % of GNP;
  - The number of scientists/engineers per million of population;
  - The S&T journal articles/scientists & engineers; and
  - The number of patents (USPTO & EPO)/scientists & engineers

- **National Physical Infrastructure**
  - The Communication infrastructure (access to land lines, cell phones and internet); and
  - The transport infrastructure (air fields, railways and roadways); and
  - The degree of urbanisation.
In the initial phases of this study, the multiple deprivation in first the most populous nations in the world, as well as in SADC, was assessed, and then also in 166 countries worldwide, including all 53 countries on the African continent;

The following slides show how this process unfolded, leading to valuable insights into what needs to be done to meaningfully use the outcomes of a multiple deprivation assessment;
**PDI versus TCI**

Description of the MEANING of an PDI vs. TCI graph

- **High PDI** signifies extreme deprivation and poverty.
- **Low PDI** signifies lack of deprivation and poverty.
- **High TCI** signifies readiness to embrace technology.
- **Low TCI** signifies low ability to embrace technology.

Countries/regions with high deprivation and little ability to embrace technology:

Countries/regions with low deprivation and good ability to embrace technology:

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**PDI versus TCI**

Results by applying interim formulation to SADC & most populous countries

- **South Africa**
- **Western Cape**
- **Gauteng**
- Other SA provinces

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**PDI versus TCI**

Results by applying interim formulation to all countries

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**Multiple Deprivation Results**

- Results by applying interim formulation to all countries in Africa -

- It was shown that there is only one African economy that falls in the least deprived category (Seychelles);

- The most deprived countries lie in a swathe across central Africa;

- The north African states are less deprived than those in the south of the continent, with HIV/AIDS making the difference.
Developing a Dashboard to guide investment
– Concepts, Principles, Components and Layout –

- So, in conclusion, the results for the concepts as shown in the preceding slides will be recalculated after the concepts have been reviewed and finalised;
- The principles for the dashboard mostly centre on transparency and that the dashboard should at all times have the most in-time data at its disposal;
- The components of the dashboard are on the one hand diagnostic (the “What?”) and on the other advisory (the “How?”); and
- The layout & content of the dashboard follow on the next slides.

Application of the Dashboard
– Diagnostics vs. the management of investment advice –
Application of the Dashboard

- Diagnostics vs. the management of investment advice -

- The **diagnostic** side of the dashboard will deal with what the situation is in a given country/province/local area. It covers the poverty, deprivation and marginalization dimensions, governance and technology capacity;

- The **advisory** side of the dashboard will specifically look at the results from the diagnostic side, and use these to make specific, unique recommendations about the best remedial approach.

Relative deprivation levels at country level across Africa

Normalised relative deprivation levels inside Mozambique

EXAMPLE
Application of the Dashboard

– Diagnostics vs. the management of investment advice –

The framework as described earlier for poverty, deprivation and marginalization will be augmented through a consultative process during the study. We anticipate that the framework as outlined on the next slide will help to scope and define the improvements.

Developing a Marginalization Dashboard

– Data at different geographic scales; country; province & even at local level –

Classes of Parameters to assess aspects of Marginalization

<table>
<thead>
<tr>
<th>Africa Region Growth and Development</th>
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<tbody>
<tr>
<td>At country level:</td>
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<tr>
<td>1. Country deprivation;</td>
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<td>2. Technology Capacity;</td>
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<td>3. Governance, security and conflict;</td>
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<td>4. Foreign investment confidence;</td>
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<td>5. Eco-Zones;</td>
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<td>6. Regional / country dialogue &amp; confidence.</td>
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<tr>
<th>Country Challenges, Governance &amp; Infrastructure</th>
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<tr>
<td>Country deprivation;</td>
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<td>Foreign investment confidence;</td>
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<tr>
<td>Institutional Capacity &amp; Infrastructure;</td>
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<tr>
<td>Human Capital Development;</td>
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<td>Governance, security and conflict;</td>
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<tr>
<td>Physical Infrastructure;</td>
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<tr>
<td>Social fabric and societal governance;</td>
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<tr>
<td>Regional / country / community dialogue &amp; confidence.</td>
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<tr>
<th>Community Marginalization</th>
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<tr>
<td>Income, employment &amp; entrepreneurship;</td>
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<tr>
<td>Quality of life;</td>
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<tr>
<td>Health Care;</td>
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<tr>
<td>Education (pre-school, primary &amp; secondary);</td>
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<tr>
<td>Living environment;</td>
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<tr>
<td>Community security, governance and conflict;</td>
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<tr>
<td>Social fabric &amp; empowerment;</td>
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Developing a Marginalization Dashboard
– Data at different geographic scales; country; province & even at local level –

**Mozambique – Relative Deprivation**

**EXAMPLE**

**ACTIONS required at COUNTRY level**
- Items which come out of the Marginalisation Dashboard as “deficiencies” at country level will be listed here.
- It has to be augmented by actions to ameliorate the root causes of deprivation and marginalisation.
- Items on this list are prerequisites or pre-conditions that have to be addressed **BEFORE** marginalisation at community level can be properly tackled and turned into a development prerogative.

**ACTIONS required at COMMUNITY level**
- Proper development assistance at the community level can only be given once the pre-conditions at country level (see far left box) have been adequately addressed.
- Items which come out of the Marginalisation Dashboard as “deficiencies” at community level will be listed here.
- It has to be augmented by actions to ameliorate the root causes of deprivation and marginalisation, if not already addressed from country level.

The action plans at country and community level should dovetail and need to be supported by a robust and sustainable development and implementation strategy.

**Using the Marginalization Dashboard**
– The Dashboard design should ensure transparency –

- The detail and composition of the indicators at each of these three geographic levels will only be finalised after we held consultations with experts and interested and affected parties in the countries; as well as after conducting community hearings in at least four countries. These community hearings will be done on location;

- We will be making use of the culture-sensitive Mmogo-method to discover community views and interactions. All hearings will be properly recorded and transcribed for later cross-referencing, should that become necessary.
We believe that the Marginalization Dashboard should be available at least at two levels, namely at Africa level and at country level. The following schematic shows what views would potentially be available:

- **Africa Region Growth and Development**
- **Country Challenges, Governance & Infrastructure**
- **Community marginalization**

What is important is that all stakeholders and interested parties would view the **SAME data**. Countries can view their own data down to community level.

A key success factor for the approach on the previous page to work, would be our ability to eventually populate the data bank underpinning the Marginalization Dashboard with not only country data but also provincial and even community/ward data.
Discussion and Next Steps

The Marginalization Dashboard as described herein is a first step towards establishing a managed approach to development aid, with the African countries responsible to drive the process;

- It will on the one hand identify the real needs of the marginalized, initially at country level but eventually at community level, and on the other highlight unacceptable practices at country level, which would need to be rectified prior to development aid being forthcoming;
Discussion and Next Steps

- We would welcome any advice concerning the structure and functionality of the Marginalization Dashboard.

Thank you.

CONTACT DETAILS

Dr Reinie Biesenbach  
rbiesenbach@theinnovationhub.com

Ms Cynthia Malan  
cmalan@theinnovationhub.com

Dr Harry Swart  
harrys@what-works.co.za