Science for society Research and development for a knowledge-based economy

The link between innovation and social and economic development is the subject of much of the research undertaken by the HSRC. Studies conducted in this area reflect the global movement of economies to a more knowledgeintensive orientation. They also highlight new data collection techniques using mobile technology, being pioneered by the HSRC.

Indicators for research and development

The focus

Since 2002, the Centre for Science, Technology and Innovation Indicators (CeSTII) has completed six full research and experimental development (R&D) surveys on behalf of the department of science and technology (DST) and reported on the 2007/08 survey during the reporting year.

The R&D survey results for 2007/08 indicate that although South Africa's R&D expenditure increased from R16.5 billion in 2006/07 to R18.6 billion in 2007/08, this did not keep pace with the growth of South Africa's GDP and R&D expenditure, as a percentage of GDP fell slightly from 0.95% of GDP in 2006/07 to 0.93% in 2007/08.

In terms of the number of full-time equivalent researchers per 1 000 total employment, South Africa scores a low of only 1.5 researchers per 100 total employment, compared to 1.9 for China, 2.9 for Argentina and 9.5 for Korea. This is indicative of the general shortage of skilled workers in South Africa.

The bigger picture

CeSTII has undergone the South African Statistical Quality Assessment Framework (SASQAF) with Statistics South Africa and the department of science and technology and its joint Quality Management Plan (QMP), and is on the verge of being approved by Statistics South Africa. Hence, the R&D surveys are now a component of South Africa's official statistics. The results of the surveys are also published internationally by the OECD and UNESCO.

The work informs government's strategic planning processes and provides inputs for policy-makers. Expenditure on R&D as a percentage of GDP and the number of researchers measured through the survey comprise Development Indictor number 10 on future competitiveness in the Development Indicators 2009, produced by the Presidency.

Mobile phones for data collection

The focus

Using mobile phones as a platform for data collection, Child, Youth, Family and Social Development has pioneered innovative data collection techniques as well as faster ways of delivering essential services to health facility clients and data to researchers.





Standard cellphones have been programmed as data collection tools, replacing paper questionnaires and providing researchers with a mobile technology that has strong quality and fieldwork controls.

Mobile Researcher has assisted us to build in alerts to detect, for example, psychological distress among responses to a questionnaire, so that potentially depressed women can be immediately referred to a counselling service for assistance.

The bigger picture

Data from interviews in either Zulu or English, as selected, stream in through the low-cost general packet radio service (GPRS) system, and become immediately available in a variety of data formats, including being represented graphically. By these means, researchers can track trends as they emerge from the data as well as detect outliers for verification.

- Child, Youth, Family and Social Development

South African Social Attitudes Survey (SASAS 2003-2009)

The focus

The South African Social Attitudes Survey (SASAS 2003-2009) aims to measure specific attitudes, opinions, beliefs and behaviour patterns of a representative sample of 7 000 individuals aged 16 years and older on a diverse set of topics of national relevance. Topics range from beliefs and attitudes on crime, violence and corruption; democracy and governance; youth and children; and quality education

and skills development, to employment, health care, land reform and service delivery.

The first publication of the various themes was released in 2006 and the second publication is due for release in September 2010. Articles based on the results of the surveys have appeared in various publications and presented in conferences and seminars both locally and internationally.

The bigger picture

The attitudinal evidence from SASAS is increasingly quoted by policy-makers and featured in official documentation. Outputs from SASAS include two books, 15 peer-reviewed journal articles, six book chapters and six reports, dissertations, occasional papers, policy briefs and 31 articles in the *HSRC Review*.

SASAS' project has contributed to capacity development by providing students and researchers with skills in analysing large data sets; survey methodology; source material for dissertations and peer-reviewed publications; and data curation, used by the HSRC to pilot a data curation project.

Data curation project

The focus

The main aim of the data curation project is to preserve and archive HSRC research data and make it accessible to stakeholders, where applicable, and to ensure their preservation and usability. Another aim is to develop a questionnaire database. The data curation project has focused solely on SASAS data and has achieved the following outputs:

- Data and metadata for SASAS 2003 have been disseminated on a web portal.
- Data and metadata have been curated and archived for SASAS 2004 to 2006.

All data is preserved in ASCII-fixed format and is converted to other data formats such as SPSS, SAS and STATA.

The bigger picture

All the remaining social attitudes surveys, including client surveys undertaken by the HSRC, will be curated and preserved to ensure future accessibility of data with prior approval. Documents such as terms of reference, project proposals and any supplementary documentation containing information about a project will also be digitally preserved and maintained for further use and analysis.