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Knowledge Systems (KS)

Harness organisational information to do new things

KS is now in its second year of operation and has displayed both cohesion and productivity. Its three components: Socio-Economic Surveys (SES), the Geographic Information Systems (GIS) Centre and the Centre for Science, Technology and Innovation Indicators (CeSTII) have all contributed to this success.

Completed projects

In the past year, Knowledge Systems engaged in a wide range of research initiatives.

Geo-spatial datasets for Africa

The GIS Centre developed a catalogue of fundamental geo-spatial datasets across Africa, in collaboration with six African partner organisations. The findings indicate that the majority of the 30 fundamental datasets are available in Africa, but that the quality of the datasets needs to be assessed. Data in postal code zones is available for only 30% of African countries, while airports and ports, bathymetry, digital elevation model, feature names, natural water bodies, populated places, railways, roads and satellite imagery exist for all countries on the continent. A gap analysis was also conducted for each country. The findings of the project were accepted by the May 2007 meeting of the Committee on Development Information-Geo (CODI-Geo) of the UNECA and countries have been requested to give priority to collect datasets that are lacking.

Food Insecurity and Vulnerability Information Management System (FIVIMS)

A project on the validation of food insecurity and vulnerability information with local users in Sekhukhune District, funded by the World Food Programme (WFP) and conducted under the auspices of the Department of Agriculture (DoA), piloted the development of a Food Insecurity and Vulnerability Information Management

System (FIVIMS) in the district municipality of greater Sekhukhune. Activities included a user-needs assessment among stakeholders; validating information collected during a previous phase of the project; conducting a livelihood survey to assess the food insecurity and vulnerability situation and to examine trends; development of a web-based decision support system and the capacity of users. A key activity of the project was to develop information products (for example information briefs, brochures, posters) that would convey simple messages to decision- and policymakers.

Situation analysis of rural and farm schools

This project in KwaZulu-Natal determined the average and worst-case distances learners of school-going age in the general population have to travel to reach the nearest rural or farm school. The aim of the project was to provide GIS-based decision-making products to the provincial Department of Education to determine which schools should be closed, without impacting negatively on the accessibility of schools in the affected areas.

The Socio-Economic Surveys (SES) section completed a number of client projects successfully.

Attitudinal surveys

A national survey commissioned by SARS sought to collect information on the behaviour, attitudes and perceptions of South Africans towards tax compliance. A tax compliance model was developed that indicated the key drivers of tax compliance. Another national survey that gathered information on access to and affordability of information communication technology (ICT) was conducted for the national Department of Communication.

SES continues to collaborate with the HSRC's Urban, Rural and Economic Development and Research Surveys (a private

research organisation) in assessing the attitudes of South Africans towards government initiatives and projects in a study for the Government Communication and Information System (GCIS). The project tracks the general mood of the nation and four quarterly reports in a year are prepared for the client.

SES is also finalising the editing of chapters for an omnibus publication based on the South African Social Attitudes Survey (SASAS) 2003-2005 and developing articles for submission to peer-reviewed journals.

Social grant beneficiaries

In collaboration with Geospace International, SES gathered data from 14 000 respondents for the Social Grant Beneficiaries project (7 000 social grant beneficiaries and 7 000 in a control group). The fieldwork and data processing presented a significant challenge for SES because it was the first time hand-held computers were used to collect data.

Red Door project

One of the SES researchers worked with the HSRC's Society, Culture and Identity research programme in Cape Town on the Red Door project of the Western Cape Department of Economic Development and Tourism. The main aim of the Red Door intervention was to assess the impact of tourism on the Western Cape and it was found to have a significant effect in expanding the activity of the informal economy.

Research methodologies and statistical techniques are core to the activities of SES, and existing survey datasets will thus continue to be utilised to test the application of various statistical and modelling techniques to social science data. Data archiving and dissemination projects will continue and be expanded to cover other HSRC research programmes.

Research and development (R&D) and innovation surveys

The Centre for Science, Technology and Innovation Indicators (CeSTII) undertakes national surveys on R&D and innovation and compiles resultant R&D and science and technology (S&T) data for the Department of Science and Technology (DST).

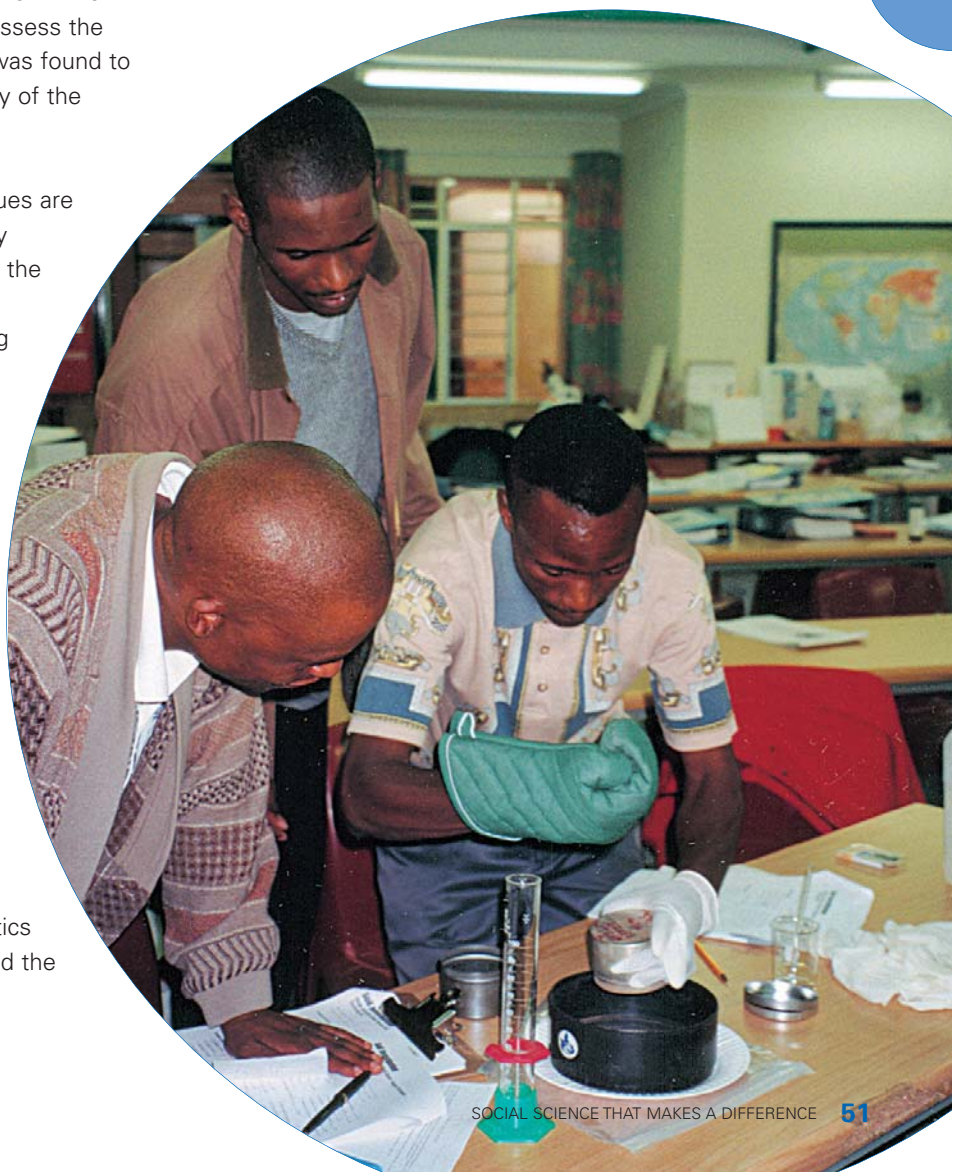
The 2004 memorandum of understanding (MoU) between the DST and Statistics South Africa regarding the provision of official science and technology statistics for the National Statistics System applies to the survey work of CeSTII and the

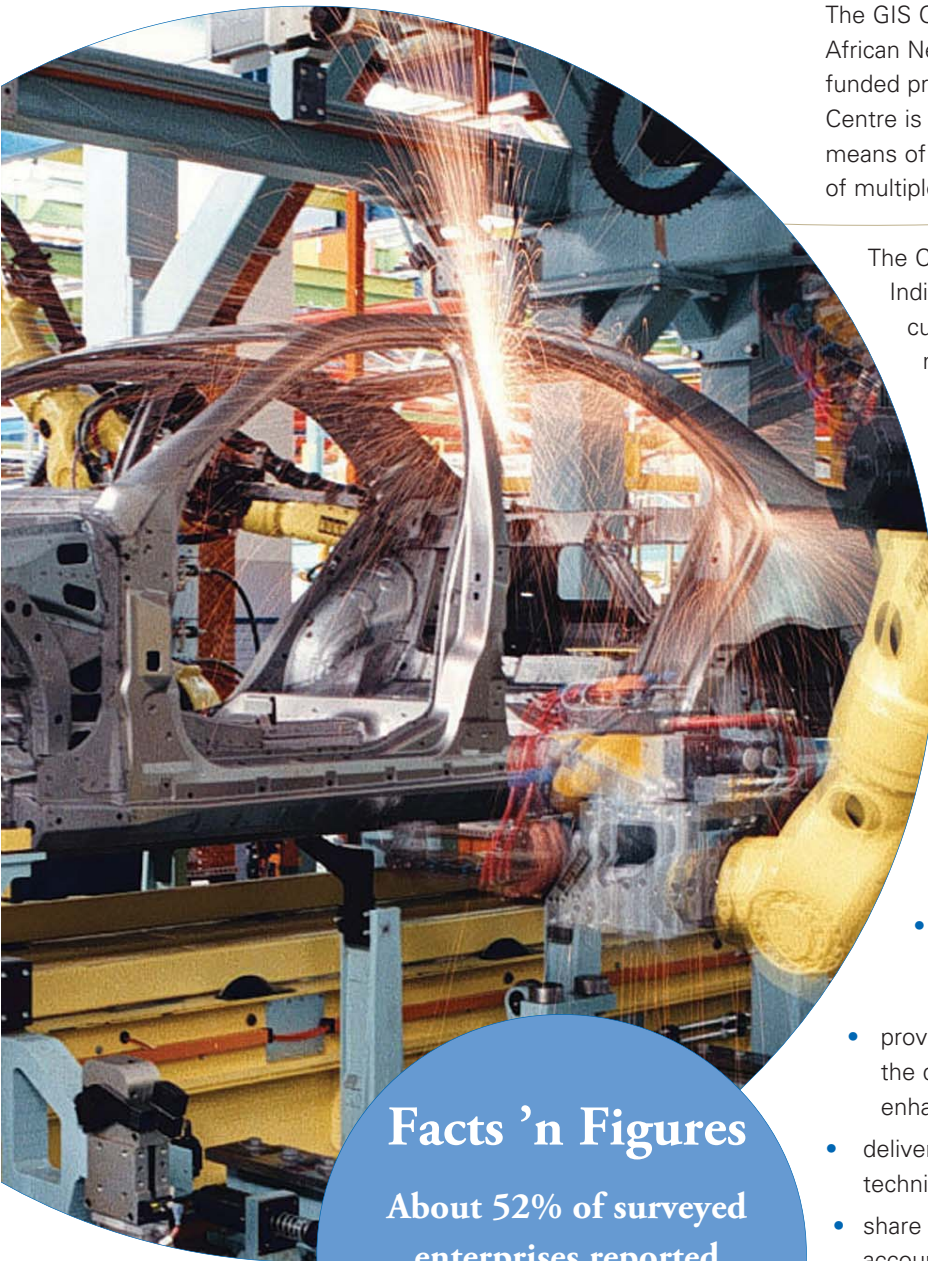
data produced by the R&D Survey series comprise official statistics.

The first official South African Innovation Survey was completed by CeSTII on behalf of DST in 2006/07 and the outputs of this important survey will be reported on in 2007/08. The random stratified sample to populate the Innovation Survey address database was supplied to DST/CeSTII by Statistics South Africa from their official business register.

CeSTII supplied South African R&D and S&T country data submissions to both the Organisation for Economic Co-operation and Development (OECD) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Institute for Statistics. The OECD data are published in the international benchmark publication, *OECD Main Science and Technology Indicators*.

CeSTII coordinated a large project on tracking R&D expenditure on behalf of the National Advisory Council on Innovation. The project has already provided useful insights into the returns on public investment in R&D.





Facts 'n Figures

About 52% of surveyed enterprises reported innovative activity, which is well above the average of 42% for Europe

The results of the first HSRC-wide Knowledge Management Practices Survey were released and incorporated into executive-level discussions surrounding the establishment of the HSRC as a regional knowledge hub.

Impact of research

SES is currently analysing data gathered over three years for the South African Social Attitudes Surveys project that provides a rich platform for in-depth research of societal dynamics. SES through its Client Surveys contributes directly to a better understanding of the dynamics of service delivery.

The GIS Centre has been instrumental in developing the African Network for Social Accountability, a World Bank-funded project across African countries. In addition the GIS Centre is constructing a new nationwide master sample by means of aerial photography that will serve as the source of multiple household samples for a variety of inquiries.

The Centre for Science, Technology and Innovation Indicators and the Research and Development Survey cumulatively provide the means for government to monitor and steer the national system of innovation. The R&D Survey data provided the evidence base for the introduction of an enhanced tax allowance for firms that conduct R&D. In addition, CeSTII contributed to and managed the service providers of the Tracking R&D expenditure project that the National Advisory Council on Innovation is carrying out in response to a Cabinet request.

Ongoing projects

The African Network on Social Accountability (ANSA-Africa) is a joint initiative between the World Bank (WB) and the Human Sciences Research Council (HSRC). The objectives of the Network that was created in August 2006 are to:

- develop cross-country collaboration on social accountability and demand-side governance initiatives;
- provide technical assistance to different countries so the quality of social accountability initiatives is greatly enhanced;
- deliver training programmes on specific tools and techniques; and
- share country experiences and lessons from social accountability and demand-side governance initiatives regionally and globally.

ANSA-Africa is governed and guided by a Pan-African Executive Committee and Technical Advisory Group and will operate through a network of implementation partners across the continent. Projects will be carried out based on needs expressed by stakeholders and will be aimed at improving accountability methods and implementation. As such, ANSA-Africa is informing policy implementation and impact across the continent. The successful establishment of ANSA-Africa has led to the subsequent establishment of ANSA-Asia and it has thus also informed international policy.

The World Bank provided funding to pilot the use of Citizen Report Card Surveys (CRCS) in metropolitan and rural areas of South Africa. The CRCS is used to collect information on service delivery issues at a local level and to disseminate

this information to citizens and local authorities alike. The aim of the CRCS is to facilitate an engagement between citizens and service providers so that the needs of citizens are addressed and a compact between the two parties is established. The CRCS in Tshwane was completed but experienced difficulty in getting municipal officials to engage with citizens to discuss the results of the study. Similar frustrations are being experienced in facilitating stakeholder participation in the process in OR Tambo district municipality. It is hoped that CRCS will be implemented in all district municipalities of South Africa.

The R&D Survey data provided the evidence base for the introduction of an enhanced tax allowance for firms that conduct R&D

Specialist researchers 2006/07

Mr William Blankley

MSc, MBA, University of Cape Town
Science and technology (S&T) policy analysis, S&T indicators, R&D and innovation surveys, strategic planning, feasibility studies, public understanding of science



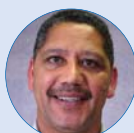
Mr Julien Rumbelow

BSocSci, MBA, University of Cape Town
National R&D Survey – Business Sector. R&D and innovation studies



Mr Derek Davids

MA, University of the Western Cape
Poverty assessment, data management, statistical analysis and modelling



Mr Graig Schwabe

BSc, University of KwaZulu-Natal
Dipl Business Management, Damelin
Spatial database development, spatial analysis, small area estimation modelling, spatial modelling



Mr Adlai Davids

MSc, ITC (The Netherlands)
Socio-economic applications of Geographical Information Systems (GIS)



Ms Carly Steyn

MPhil, University of Stellenbosch
Survey methodology and analysis, research and development indicators, value analysis and policy formulation, organisational behaviour



Dr Mbithi wa Kivilu

DPhil, University of Alberta
Educational and psychological assessment, data management, statistical analysis and modelling



Ms Gina Weir-Smith

MA, University of Stellenbosch
Socio-economic applications in GIS, spatial aspects of unemployment, spatial and accessibility modelling



Dr Neo Molotja

PhD, University of Cape Town
Science and technology (S&T) policy analysis, S&T indicators, R&D and innovation surveys



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