UNCEEA – June 2016: SEEA Implementation with regard to data, harmonisation, classifications, statistical tools and platforms

Statistics South Africa (Stats SA) is in the process of revising the Statistics Act (Act No. 6 of 1999), which should raise its profile in coordinating spatial and non-spatial data across the National Statistical System (NSS). It is important in the context of South Africa to strengthen the Statistics Act to provide legislative support to government bodies as data providers and custodians of statistics outside Stats SA.

There is a need to integrate information with the collaboration of stakeholders. In the Strategic Plan of Stats SA, there is movement towards statistical reform and coordination with regard to sustainable resource management that could serve as an umbrella for the System of Environmental Economic Accounting (SEEA) Central Framework (CF) and related initiatives such as the SEEA-Experimental Ecosystem Accounting (EEA).

Stats SA is engaged in spatial population and dwelling frame and georeferencing can be expanded to include a spatial frame for environmental data. As a member of the Spatial Data Infrastructure (SDI) Committee, this could serve as a platform or forum for Stats SA to influence spatial standards, metadata and data quality and standards nationally.

Additional expertise will be required to facilitate expanding Stats SA's work in various areas:

- Expansion of spatial frames into environmental data;
- Collaborative efforts to harmonise data and spatial data; and
- Enhance the South African Quality Assessment Framework (SASQAF) to include issues of spatial and environmental data quality.

There are opportunities to include this work in future Stats SA Work Plans guided by the overall Strategic Plan. Work should be prefaced by training and capacity building in Stats SA and across the government. A priority is to create a professional body of statistical and spatial analysis across the country.

Data harmonization and administrative data

The harmonisation of statistical tools should be aided by metadata driven statistical production and architecture such as the South African National Environmental Information Metadata (SANEIM) initiative that is driven by the Department of Environmental Affairs in coordination with the South African Environmental Observation Network (SAEON) in terms of completeness and comprehensiveness with respect to discovering data required to improve priority SEEA accounts.

South Africa is in the process of creating a national GHG inventory system to simplify and manage its climate change obligations. Data will be prepared, managed and collected based on the Single National Entity (SNE) concept managed by the Department of Environmental Affairs. This entails coordination with sectors such as agriculture, forestry, land use and waste. A point to consider is how does this harmonize with land use and ecosystem accounts and the role of the national statistical office?

Spatial Data, Metadata, Standards and Classifications, and Software Tools

Data and methods are seldom perfect and change over time, and that as data and methods change and improve, revisions of previously published results will be required. A national accounting approach also implies a focus beyond the local level or an individual sector – the aim is to develop a broad picture that covers the full scope and territory of the concepts concerned, such as the Land Cover Classification or the International Standards Organization (ISO) used by SAEON that is applicable to all member countries. Are these classifications and standards sufficient on a regional or national scale?

For example, principles for enabling land and ecosystem accounting are suggested as follows:

- Land cover classes and ecosystem units should be distinct;
- Land cover classes should link to socio-economic drivers in the landscape; and
- As far as possible, land cover classes should link to ecological impact.

In South Africa, The South African National Biodiversity Institute (SANBI) map and classify ecosystem types according to the National Ecosystem Classification System (SANBI 2013). National ecosystem types are mapped across terrestrial and aquatic realms, and include vegetation, river, wetland, coastal, inshore and offshore types. The challenge is to provide a basis for comparison on a global scale as well as sufficient detail for regional and national analysis.

SAEON has adopted the standards developed by the International Organization for Standardization (ISO) and is one of 157 member countries with the Central Secretariat in Geneva. ISO's principal function is to develop technical standards, which add value to all types of business operations. Spatial data and metadata use the ISO 9000 and ISO 14000 families of management system standards are used for purposes of quality management, quality assurance and environmental management mainly in the areas of spatial data and metadata.

South Africa's Energy Accounts are based on the Energy Balances that is provided by the Department of Energy (DoE). The DoE has an obligation to the International Energy Agency (IEA) in terms of the methodology and classifications. There are various classifications, such

as the International Standard Industrial Classification (ISIC) and the Standard Industrial Classification (SIC). Stats SA uses SIC, while the software developed by the IEA is based on ISIC. Considerations need to be given on how to bridge and resolve the standardisation of administrative data for purposes of comparison.

Coordination

In terms of coordination, create an environment (SEEA) Working Group across government departments that would provide data to support the information needs of the SEEA and other forums, including the Sustainable Development Goals (SDGs) and National Plans. The goals of the Working Group should be to ensure the coherence of data and appropriate integration of spatial data and indicators. Timely data collection is an area that is urgently required in all areas of SEEA implementation.

Stats SA has been in agreement at the senior level to cooperate and to develop a country plan to implement the SEEA in South Africa. This will be linked to informing the National Development Plan (NDP) 2030 and the SDGs. Institutional relationships are at the heart of making progress. UNSD noted that SEEA implementation would result in a National Sustainable Development Information System that would serve multiple purposes. South Africa's economic information system is of high quality, as it became Statistical Dissemination Data Standards (SDDS) compliant in 1996. Creating a sustainable development information system across the NSS would benefit from the UNSD's concept of One System (the NSS), One Method (the SEEA), One Data (the information system) and One Map (a central, shared geospatial information system). Besides Stats SA, other institutions are not bound by statistical principles for official statistics, which provides Stats SA the legitimacy and recognition to lead the creation of the sustainable development information system across the NSS. Moreover, the related statistical programme of work should also strengthen the statistics/science/policy interface as a cross functional feature in the new institutional arrangements that are in the process of being established to govern the programme.

Resources, training and capacity building

Many projects are funded, such as the development of Water Accounts for South Africa. The Water Research Commission (WRC) formed a partnership with Stats SA to develop and capacitate an ongoing and sustained work programme. Various initiatives need to become an integral part to the development of the various aspects of water accounts. Key role players such as the Department of Water and Sanitation who will be one of the main data providers need to form an institutional arrangement to ensure continuity, quality and hydrological expertise. SANBI is currently engaging with the Global Environmental Facility (GEF) on unlocking biodiversity benefits from infrastructure development. The fact that

systems for environmental accounting do not currently fully include ecosystems was identified as a barrier hindering the integration of biodiversity values in infrastructure development. South Africa's recent work on piloting ecosystem accounting, as part of the global project Advancing Experimental Ecosystem Accounting led by the United Nations Statistics Division (UNSD), lays a good foundation for the upcoming GEF project to build on in taking these pilot studies to scale through systemic interventions. Discussions to link water accounts to these projects provide an opportunity for coordination and as a platform for capacity building and integration of resources across government bodies and statistical offices that faces budget constraints.

Additional training and technical assistance should be a priority. Priority should also be given to standard approaches and software packages. Some of the training can be addressed using the UN's Global e-learning initiative. Technical assistance should be on using standard software as approved by Stats SA (SAS and ArcGIS).

The SEEA provides the "big picture" framework. It is the role of the statistical office to ensure that environmental, social and economic information are appropriately integrated.

Ensure that the institutional framework for the SDGs is conducive to applying the SEEA methods, converging on One Map and One Data, and establishing Stats SA as the broker of social, economic and environmental data. Additional training, technical support and resources may be required to accomplish this. Continue the ecosystem accounting initiative with SANBI, focussing on national land accounts (integrating rivers, wetlands, coastal and marine areas), and testing river accounts in volume terms. Additional funding will be required to accomplish this. Assess the spatial metadata held by DRDLR with respect to spatial standards, quality and comprehensiveness. This may be taken on as a capacity building project of Stats SA's Geography Division. Assess the metadata compiled by SANEIM/SAEON in terms of completeness of the elements (e.g., statistical quality, standards used, etc.) and coverage of the datasets (e.g., to identify gaps in terms of data required for priority SEEA accounts). This could be taken on as a project under Stats SA's NSS division.