NSDI HIGHLIGHTS

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1st Committee for Spatial Data term Comes to an End

The three (3) year term of the first Committee for Spatial Data terminated on the 17th November 2016. The Honourable Minister Tom Alweendo extended the term to March 2017 in order to facilitate the appointment of a new committee. The committee had one annual ministerial interaction in October 2015 to report back on progress made and obtain approval for the first NSDI strategic plan (2015 -2020).

A new committee is expected to be appointed by the Minister in consultation with the Minister of Land Reform by April 2017. One of the NSDI areas which need reinforcement is coastal and marine environment and national security. Coastal and marine datasets must form part of the fundamental datasets of government data. Given the sensitive nature of some of the locational information, it is important that these are protected in order to achieve sustainability and guaranteed national security.

NSDI Partnership Agreements

The NSA has since February 2016 to date conducted more than 20 high level management socialisations to government Offices, Ministries and Agencies (OMAs) with the aim to sign and formulate NSDI partnership agreements (memoranda of understanding). As of end of March 2017 the NSA has concluded 10 memoranda of understanding (MoUs). The following table shows the 10 institutions that have signed the NSDI MoU with the NSA.

S/N	OMA	DATE SIGNED
1.	Ministry of Mines & Energy (MME)	10 May 2016
2.	Ministry of Land Reform	10 May 2016
3.	Telecom	10 May 2016
4.	Roads Authority	17 June 2016
5.	Ministry of Education, Art & Culture	28 June 2016
6.	Ministry of Environment and Tourism	7 July 2016
7.	Ministry of Industrialisation and SME Development	29 July 2016
8.	NamPower	17 August 2016
9.	MTC	5 September 2016
10.	Ministry of Urban & Rural Development	06 December 2016
11.	Ministry of Economic Planning & NPC	Serving as Ex-officio

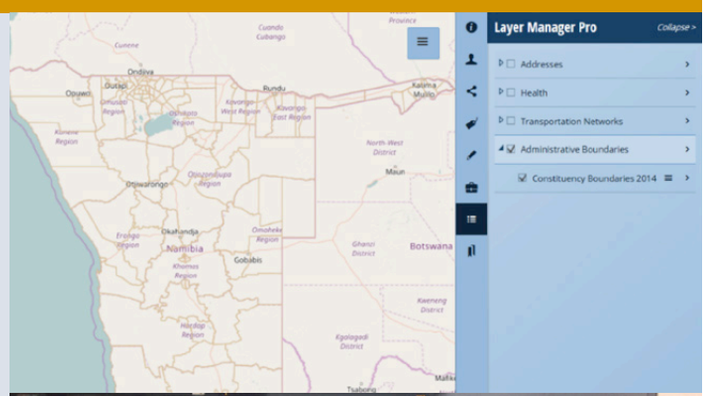
The following major institutions are yet to sign the partnership agreement:

1. Ministry of Agriculture, Water and Forestry (MAWF)
2. Ministry of Fisheries and Marine Resources (MFMR)
3. Ministry of Health and Social Services (MoHSS)
4. Ministry of Works and Transport
5. TransNamib Holdings
6. NamWater Corporation
7. City of Windhoek
8. The Regional Electricity Distributors (REDs)

Development of the National Geographic Portal of Namibia

The NSDI Policy for Namibia states that the NSDI Secretariat (NSA) is to provide an access portal to spatial data and metadata. In so doing, it will provide users with directions/links to all spatial data and related metadata held by custodians. In addition, it is to provide a means to discover, visualise, and evaluate the data for its use. The spatial data custodians shall make their fundamental spatial data and metadata available for public access except in cases where the data is sensitive or privileged.

Three (3) staff members from NSA travelled to Norway from 25 March to 7 April 2017 to kick-start the process of developing the national geographic portal. The main objective was to discuss, negotiate and finalise the system requirements before the contracted company could start with the development. Another objective was to look at the pre-development of the system as part of capacity building and to make sure that technical glitches with data are jointly detected as early as possible. The Geoportal model to be implemented in Namibia was agreed and concluded on. In addition, the technical glitch regarding data transformation which caused our national data to shift northward when superimposed on global datasets such as Google Maps and Open Street Map was resolved.



The Geoportal is expected to be piloted on the NSA IT infrastructure by end of May 2017 and it will have the following features:

1. A metadata browser

A metadata browser to be developed as the main key element of the Geoportal as per the NSDI policy requirements. The metadata browser will be available to the public to perform the four basic functions of metadata which are to discover, evaluate, access and use government data. The metadata browser will direct users to the authorised government custodian of data. The catalogue will be built based on the Catalogue Service Web (CSW) architecture which is ISO compliant developed by the Open Geospatial Consortium (OGC). Geonetwork will be used to develop the browser.

2. Online metadata editor

The metadata browser will host a metadata editor which will be used by authorised institutions as per the signed NSDI memoranda of understanding. The authorised users will be able to create, edit and download metadata online. The downloaded metadata files in XML format will then be stored by the custodians and a copy will be emailed to the NSA for validation and inclusion in the catalogue. The editor will follow the structure of the metadata standard/ profile.

3. Download facility

Complete fundamental spatial datasets that are freely available will be downloaded from the metadata browser.

4. Map viewer

The map viewer will be developed to view and perform basic analysis online for fundamental datasets. The view will be developed based on the new architecture of Adaptive Geoportal system which follows the Web Map Service (WMS), another ISO compliant specification from the OGC.

The main features of the map view service is the ability to organise data into three sections known as the layer manager, themes and base maps. The map viewer will allow for quick view of metadata of a selected dataset and partially download such selected area. The system is divided into public and authorised views. The public view of the system allows users to view, download and perform basic functions such as map overlay with other datasets, geometry calculations, map printing, online sharing via social media, etc. the authorised view will only be used by authorised and log in users from the participating institutions.

This view allows for more analysis functions such as editing and integration of own data. This view will be controlled closely by the NSA.

One of the main features of the Adaptive system is the ability to create graphic user interfaces for specialised user groups and also the collection of spatial data using the system. A project can be created online and survey instruments developed for data collection using mobile devices. The field collected data can be synchronised through the system to a database.

5. A PostgreSQL/PostGIS database

In the absence of enterprise geodatabases and online services across the NSDI institutions, a PostgreSQL/PostGIS database will be developed at the NSA in the initial phase, to host all the fundamental datasets and metadata. The Geoportal services will then be built on top of this database.

NSA staff also visited Statistics Norway and the Norwegian Mapping Agency to familiarise themselves with the different technologies and methods used to collect, manage and disseminate geospatial information.

NSDI Steering Executive Sub Committee (SEC)

Section 12.1 of the NSDI Policy stipulates that production of spatial data and development and operation of the NSDI shall be carried out in an inclusive, cooperative and collaborative manner under the current policy and legal frameworks, under the leadership of the NSA.

As per the approved NSDI coordination platform, an Inter-Agency Steering Executive-Subcommittee (SEC) was established in August 2016 to avail a platform for interagency collaboration, cooperation and coordination while ensuring that the derived NSDI benefits are shared nationally. SEC members are management representatives from various government institutions who have signed the NSDI partnership agreement (MoU) with the NSA. During the 2017/18 financial year two SEC meetings were held. The following institutions are currently represented on the SEC:

- Ministry of Education
- Ministry of Mines and Energy
- Ministry of Land Reform
- Roads Authority
- Nampower
- Telecom
- NSA
- NPC (Ex-officio)
- Ministry of Environment and Tourism

Government Data Environmental Scan

As per the activity plan of the NSDI strategic plan, the NSDI Secretariat (NSA) is required to conduct an environmental scan of both data, systems and capacity in the NSDI. The first phase of the environmental scan is focusing on existing government spatial data. The exercise involves mainly the listing of all the spatial datasets that each government data custodian is mandated with. The exercise is aimed at compiling a fairly complete inventory of all government data sets and creation of metadata for such data sets. Institutions that have signed the NSDI partnership agreements and others that are yet to sign have nominated focal technical people who work together with the NSDI Secretariat to complete the environmental scan of their institutions. Currently, a total of 388 data sets have been listed, although only 142 out of those have basic metadata available. The following institutions have commenced with the environmental scan process:

- Ministry of Land Reform
- Ministry of Mines and Energy
- Ministry of Education, Arts and culture
- NamWater
- Ministry of Agriculture, Water and Forestry
- Roads Authority
- Telecom Namibia
- Ministry of Environment and Tourism
- NamPower

Some institutions have already listed all their spatial data sets and this first phase is expected to be completed by the end of June 2017. Thereafter regular updates will be done.

NEWS FROM NSDI STAKEHOLDERS

GIS Degree Programmes at NUST

The Namibia University of Science and Technology (NUST), more specifically the Faculty of Natural Resources and Spatial Sciences (FNRSS), has since the early 2000's been active in producing graduates in the field of Geographical Information Sciences (GIS). To-date, the Department of Geo-Spatial Sciences and Technology, within FNRSS, provides both graduate and postgraduate degree programmes as follow:

- Bachelor of Geoinformation Technology (NQF Level 7)
- Bachelor of Geoinformation Technology Honours (NQF Level 8)
- Master of Spatial Science (NQF Level 9)
- Master of Geoinformation Science and Earth Observation (NQF Level 9)
- Doctor of Philosophy in Spatial Science (NQF Level 10)

The Master of Spatial Science and the Master of Geoinformation Science and Earth Observation are relatively new programmes, which kick-started in January and July 2016 respectively. Another relatively new programme is the Doctor of Philosophy in Spatial Science, which started in 2017, and aims to further capacitate both national and international prospective students turning them into highly motivated and confident professionals and scientists in the agendas of spatial sciences. The Doctor of Philosophy builds from the two Master programmes, as well as related masters within the faculty and university. Prospective students are encouraged to enquire with the Department of Geo-Spatial Sciences and Technology.

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GIS Services

PLANx Technologies is a Namibian owned company dedicated to service clients with integrated geospatial technology focusing on innovative spatial data acquiring tools and databases, spatial analytics tools and visualisation applications using secure, cost effective and user friendly technologies that are developed with individual clients based on their individual needs.

Some of our services

- Integrated enterprise GIS
- Data acquisition tools and spatial database development
- Interaction web/mobile GIS and visualisation application development
- Cartography, indoor mapping and satellite image analysis

PLANx Technologies is currently servicing business in medical field, forestry management, mining and agriculture across Southern Africa (South Africa, Madagascar, Angola and Botswana respectively). In the process creating tools that enable health practitioner to monitor their patient remotely, app to monitor and analyse satellite images, a method to keep track of farm water condition, monitor livestock's movements and map grazing area condition across the farm. All these applications are web based meaning they can be accessed everywhere anytime.

PLANx specialises in Mining, Agriculture, Telecommunication, Health, Education, Business Intelligence, Banking, Transportation, Asset management, Retail, Policing, Defence, Emergency, Town and Regional planning.

PLANx anticipate data acquisition and analytic to be a competitive advantage to future business and organisation that uses spatial technology will be able to offer superior customers services, increase operation efficiency and transform their respective industries, PLANx is committed to create open source tools, accessible, speed and cost effective technologies and reach out to organisation that are committed to improve their data and get competitive value out of those data.

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Global Spatial Industry Outlook 2017 Edition

In this progressively complex and interconnected world, issues that impact our everyday lives are often analogous. One of the most powerful and astute ways of exploring the physical and digital landscapes for individuals, businesses and governments today is through the 'where' dimension. Geographic information and intelligence not only underpins all decision-making, it improves efficiency and productivity leading to sustainable development. No wonder then geospatial technologies have become all-pervasive, driving to major disruptions across industry segments.

A geospatial readiness index has been used to assess the readiness of fifty (50) countries. The index provides a key tool of detailed metrics for 50 economies representing 75% of the world's population and 89% of the world's total GDP. The countries have been chosen based on geographic Economic representation considerations. Additionally, the counties have been chosen by leveraging the 20+years of global geospatial knowledge of professionals of Geospatial Media and Communications. The following pillars which are not independent of each other and keep reinforcing each other constantly have been used to rate the fifty (50) countries:

- Geospatial infrastructure and policy framework
- Institutional capacity
- User adoption level
- Industrial capacity

For any country to flourish in the Geospatial domain, it is important that the country has an efficient and extensive Geospatial infrastructure. However most African countries are missing from the global ranking and the ones that are featured there are given low ratings due to poor performance in many areas including access to online services. The NSDI in Namibia aspires to have tools and online services that can put Namibia on the global spatial map. With the NSDI legal framework, NSDI Strategic Plan, institutional arrangements and gazetted standards in place, and the development of a Geoportal; Namibia is already working towards achieving such aspirations. Lack of quality data, lack of capacity, limited infrastructure and uncoordinated activities are some of the challenges that are being faced.

For the full report visit the following link: http://geospatialmedia.net/global-geospatial-outlook-report-2017-download.html

Did you know?

Spatial data quality is mainly evaluated based on the following parameters:

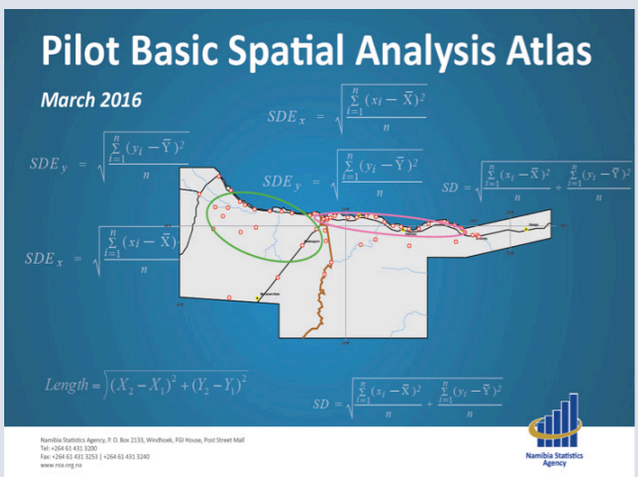
- Positional Accuracy
- Thematic Accuracy
- Temporal Accuracy
- Logical consistency
- Completeness
- Lineage

For more information on these parameters, get a copy of the gazetted NSDI spatial data quality standard (Gazette No. 6145 of 2015) from the NSA.

UPCOMING SPATIAL-RELATED PRODUCTS

1. Pilot Basic Spatial Analysis Atlas

As part of the NSA's effort to showcase the value of spatial data and statistics, the Department of GIS and NSDI Coordination has developed a pilot basic spatial analysis Atlas. The analyses in the Atlas are based on basic centrographic spatial statistics. A total of 9 regions are used as case study and printed Atlases will be shared with Regional Councils as part of our effort to promote evidence-based planning. A digital copy of the Atlas can be obtained from the NSA.



2. National Infrastructure Atlas

The infrastructure atlas will provide information about the location of infrastructures in all fourteen (14) regions of Namibia. This will give an indication of various types of government services that people can have access to in different parts of the country. The atlas is further expected to be used as baseline information for improving the available infrastructures and services in areas where such improvements are required. Expected in May 2017.

3. National Geographic Portal

Expected in August 2017

Namibia Statistics Agency

NSDI Namibia

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