Expert meeting and consultations on
Enhancing Geospatial Information Management Arrangements and Accelerating the Implementation of the Sustainable Development Goals and Sub-regional workshop on implementation of the United Nations Integrated Geospatial Information Framework for the Southern Africa

Maputo, Mozambique
24-28 March 2025

Enhancing Geospatial Information Management arrangements
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Country Report
(Order of Presentation)

1. Burundi
2. Cameroon
3. Comoros
4. Eswatini
5. Lesotho
6. Malawi
7. Mozambique
8. South Africa
9. Zimbabwe

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REPUBLIC OF BURUNDI

GEOMATIC CENTER OF BURUNDI

Coordination, management and sharing geospatial information in Burundi

Where are you today as a country on enhancing geospatial information?

Policy and Legal

The Geomatics Center of Burundi was created by a presidential decree of January 19, 2013. It is currently governed by the Decree No. 100/135 of September 27, 2022.

It is under the authority of the Prime Minister and manages geospatial information at the national level. His **main responsibilities include the coordination of geomatics activities, the archiving and sharing of geospatial data, the quality control and metadata management. The National Geomatics Center of Burundi also develops a data catalogue and delivers geomatics visas.**

Other legal and regulatory texts related to the management of Geospatial Information :

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Where are you today as a country on enhancing geospatial information?

Policy and Legal

Other legal and regulatory texts related to the management of Geospatial Information :

The order No. 121/PM/001 of February 28, 2023 establishing the National Technical Committee for geospatial information management.

The Order No. 121/VP2/0002/2016 of February 12, 2016 instituting the geomatics visa.

The Decree No. 100/071 of 8 May 2020 creating and regulating the Steering Committee for Toponymic Standardization and the Order No. 011/121/PM of 4 August 2021 establishing the Technical Committee of Experts for geographical names standardization.
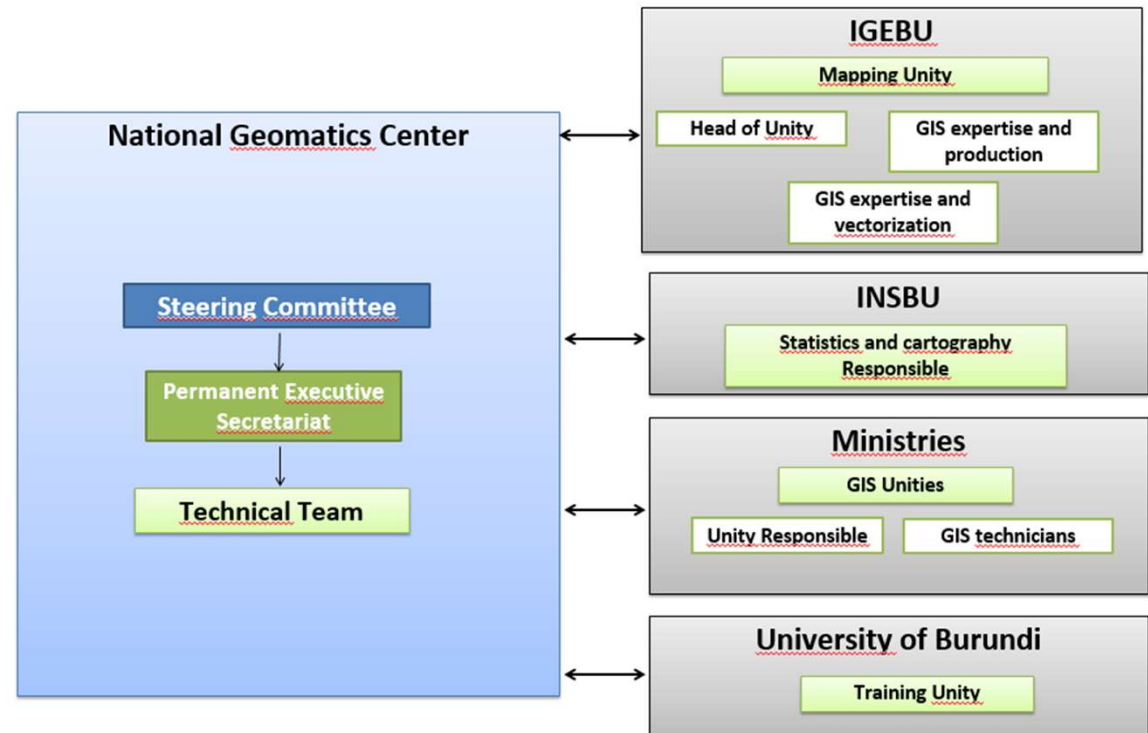
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Where are you today as a country on enhancing geospatial information?

Governance and Institutions

The institutional set-up of geospatial information management in Burundi involves various actors who play key roles in the establishment of the National Geospatial Data Infrastructure.

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Where are you today as a country on enhancing geospatial information?

Governance and Institutions

Currently, the main organizations involved in Geospatial Information management in Burundi are:

- **The National Geomatics Center of Burundi**
- **The Geographic Institute of Burundi**
- **The National Institute of Statistics of Burundi**
- **The University of Burundi**
- **The** National Cadastre

In addition to these key actors, other national agencies also contribute to the management of geospatial information in Burundi.

The development partners, such as the Global Fund, the International Organization for Migration (IOM) , the United Nations Development Programme (UNDP), the European Union, The Food and Agriculture Organization(FAO) , The World Food Programme (WFP), The World Bank(WB), United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA) play an important role in the use and production of geospatial data in the country.

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Where are you today as a country on enhancing geospatial information?

Geospatial data Centralized at National Geomatics Center of Burundi

Désignation	Type d'IG	Format	Couverture	Scale, resolution, or precision	Source	Intitution	Metadata
Geodetic network and levelling	Fundamental data	vector	National	-	Geodetic Survey	IGEBU	Yes
Adressing	Fundamental data	Vector	A part of Bujumbura, Gitega et Ngozi	-	Compilation and interpretation	Ministère in charge of Infrastructure	Yes
Building and groupement	Fundamental data	Vector	National		Multi-risk Mapping	Ministry of interior	No
Digital Elevation Model	Fundamental data	Matrix	National	10 m	Imagery	National Geomatics Center	Yes
Administrative boundaries	Fundamental data	Vector	National	1/10 000	Imagery and field survey	Ministry of interior	Yes
Geographical Names	Fundamental data	Vector	National	-	-	IGEBU	-
Geologie and Mining	Fundamental data	Vector	National	1/50 000	Imagery and field survey	Ministry in charge of mines	Yes
Pedology	Fundamental data	Vector	National	1/50 000	Imagery and field survey	Ministère en charge de l'agriculture	Yes
Land cover and Land use	Fundamental data	Matrix	National	-	Imagery and field survey	IGEBU	Yes
Cadastre	Fundamental data	Vector	Some cities	-	Field survey	National Cadastre	No
Physical Infrastructure	Fundamental data	Vector	NR-PR	-	-	-	No
Population distribution	Fundamental data	Matrix	National	-	Compilation and interpretation	INSBU	No
Ortho-imagery	Fundamental data	Matrix	National	0.5 m	Imagery and field survey	National Geomatics Center	Yes
Transportation Network	Fundamental data	Vector	National	-	Imagery	IGEBU	Yes
Water	Fundamental data	Vector	National	-	Imagery	AHAMR	Yes
Schools	Fundamental data	Vector	National	-	Imagery and field survey	Ministry in charge of education	Yes
Markets	Sectoral data	Vector	National	-	Imagery and field survey	MIDCSP	No

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Where are you today as a country on enhancing geospatial information?

Geospatial data Centralized at National Geomatics Center of Burundi

Health Facilities	Sectoral data	Vector	National	-	Imagery and field survey	Ministère in charge of health	Yes
Gas stations, oil depots and power dams	Sectoral data	Vector	National	-	Imagery and field survey	Ministry energy and Mining	Yes
Malti-risk Mapping data	Sectoral data		National	-	Imagery and field survey	Ministry of interior	Yes
Maps of international organizations, churches and non-profit organisations	Sectoral data	Vector	National	-	field survey	Ministry of interior	Yes
Touristics attractions	Sectoral data	Vector	National	-	Imagery and field survey	Ministry of Trade	No

Currently Burundi has recent data from the General Census of Population, Housing, Agriculture and Livestock, 2024 Edition. This data will be published to the public soon.

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Where does your country want to be in the next 5 years?

The strategic objectives set for geospatial information management in Burundi come from the nine strategic pathways (United Nations Integrated Geospatial Information Framework , UN-IGIF):

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Period
1	Policy and Legal	Strengthen the policy and legal framework	❑ Adopt the National Geospatial Information Strategy ❑ Develop and adopt legislation governing the acquisition, access, use and dissemination of geospatial information	0-3 years
2	Governance and Institutions	Strengthen the existing Governance and Institutions to ensure effective management of geospatial information	❑ Strengthen the National Geomatic Center, national intitutes managing geospatial information and sectoral ministries ❑ Integrating the private sector into the existing institutional setup ❑ Create 5 decentralised provincial geomatics centers	

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Period
3	Standards	Strengthen production and dissemination standards to facilitate the use and sharing of geospatial information	❑ Create a Working Group on Geospatial Data Standards ❑ Adopt standards for the production, dissemination and protection of geospatial data	0-3 Years
4	Innovation	Promoting innovation in geoinformation management	❑ Create a Working Group on Geomatics Innovation ❑ Develop a strategy for innovation in geomatics ❑ Implement the strategy (Develop, improve, adapt or integrate new tools, methods and/or processes)	

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Periode
5	Financial	Enhance the level of funding for geospatial information	❑ Establish a budget line in the annual work plan and budget dedicated to the management of geospatial information ❑ Mobilize additional financial resources from partners for the management of IG	5 years +
6	Data and related technologies	Improve the production of geospatial data and their availability to users to facilitate the implementation of public policies	❑ Acquire hardware and software equipment for the implementation of the national geospatial data infrastructure ❑ Develop a Data Catalogue for the National Geospatial Data Infrastructure ❑ Establish the national database centralizing all fundamental and sectoral data	

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Period
6	Data and related technologies(Next)	Improve the production of geospatial data and their availability to users to facilitate the implementation of public policies	❑ Develop online data and metadata access services for the National Geospatial Data Infrastructure ❑ Densify the existing geodetic and levelling networks, define a national spatial reference system and a transformation model, and set up a network of permanent GNSS stations ❑ Update the national coverage of high-resolution imagery and produce highly accurate Digital Elevation Model ❑ Strengthening the national cartographic repositories (1/50K and 1/25K)	3-5 Years

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Period
7	Partnerships and collaboration	Building international partnerships and strengthening stakeholder collaboration to improve geoinformation information management	❑ Identify and initiate contact with potential partners who can contribute to the management of the geospatial information ❑ Strengthen the framework for exchanges between stakeholders by establishing partnership agreements / memoranda of understanding / contracts	
8	Communication and Engagement.	Promote increased communication and engagement on the use of geospatial information in public policies	❑ Develop a communication plan with an engagement strategy ❑ Set up an operational system with a dedicated team and resources ❑ Develop content for communication (National Radio and Television broadcasts, key messages, …) and execute the communication plan	3-5 Years

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Where does your country want to be in the next 5 years?

Order	IGIF-strategic pathway	Strategic objective	Activity	Periode
9	Capacity and Education	To train a critical mass of competent human resources for the management of IG	❑ Develop new curricula for diploma courses purely in geomatics (B.Sc. and M.Sc.) and for professional university courses ❑ Integrate and implement the new created curricula ❑ Create a department at univetsity of Burundi specializing in geomatics (including topography and geodesy) ❑ Strengthening the skills of professionals from the Geographical Institute of Burundi and the National Institute of Statistics ❑ Revision of the national training plan associated with the National Geospatial Information Strategy ❑ Implementation of the revised national training plan	3+5 years

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

❑ Limited skills in geospatial information management to meet the needs of the sector.

❑ Weak technical, human and financial capacity limiting geospatial information operations.

❑ Chronic underfunding of Geospatial Information, dependent on external funding, leading to constant difficulties in the acquisition, storage and dissemination of Geospatial information.

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

❑ Lack of structured and managed operational data according to industry standards in some departments and agencies, compromising their ability to effectively plan and execute their missions.

❑ Difficulty in accessing centralized geospatial data at the Geomatics Center of Burundi due to the lack of digital tools to facilitate sharing, and non-updated and non-standardized data compromising their usefulness and relevance.

❑ Risks related to the insufficient integration of geospatial technologies

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Opportunities

❑ Existence of a solid institutional and governance framework through the National Geomatics Center, promoting effective coordination of the geospatial information at the national level.

❑ Establishment of legal bases for the coordination of geospatial information management, in particular with the National Commission on Toponymy and the application of the geomatics visa for the validation of geomatics projects.

❑ Active communication on geospatial information through awareness-raising programs broadcast on National television and capacity building and institutional stakeholder outreach initiatives by the National Geomatics Center.

❑ Creation of GIS units within ministries and agencies, promoting harmonized management of geospatial data and strengthening geospatial information governance.

❑ Alignment of geospatial information with Burundi's priority public policies, ensuring effective use of geospatial information in decision-making and planning.

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Where are you today as a country on enhancing geospatial information?

- …The CAP has not yet been formally adopted by the Government.

- …It was not the subject of a formal order from the Government.

- …Does not have the support of my hierarchy

- …We are considering implementing some partways within the framework of the National Statistical Information System (SNIS) projects in which the Institute is a stakeholder.

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Where does your country want to be in the next 5 years?

- … Good governance
- …The development of laws
- …Our biggest challenge is the adoption of the Action Plan which will lead to a chain movement.

- Building a strong partnership with the United Nations Centres of Excellence, particularly the UN-GGKIC.

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

- Establish good governance (National Council for Geospatial Information)
- Develop laws that govern the production, sharing, storage, access and dissemination of geospatial data.
- The development of a stakeholder platform
- Development of an economic model (to improve the quality of STATE spending)
- Application development with AI integration

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Any other opportunity/challenge?

- The UN-GGKIC is an opportunity for our countries to save time and, above all, to make a technological leap forward.

- The quality of the training and, above all, the innovative tools that will be developed will allow countries to catch up and adopt new geospatial information management techniques.

- Building a strong partnership with the United Nations Centres of Excellence, particularly the UN-GGKIC.

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UNION OF COMOROS

CARTOGRAPHIC UNIT

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General presentation of the country

- The Comoros , officially the Union of the Comoros , is a sovereign archipelago island nation in the Indian Ocean located in the Mozambique Channel off the eastern coast of Africa between Mozambique and Madagascar. Its capital is Moroni, on Grande Comore.

- At **1,861 km2** (719 sq mi), the Comoros is the fourth-smallest African country by area. In 2019 its population was estimated to be 850,886..

- **EEZ : 160 000 km^2**

- The Union of the Comoros has three official languages – Comorian, Arabic and French.

- The country consists of three major islands and numerous smaller islands, all in the volcanic Comoros archipelago. The major islands are commonly known by their French names: Grande Comore (Ngazidja); Mohéli (Mwali); and Anjouan (Nzuwani). In addition, the country has a claim on a fourth major island, Mayotte (Maore)

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Where are you today as a country on enhancing geospatial information?

Until 2022, there was no national repository for basic geographic data.

➢**Topography service** under the supervision of the Ministry of Finance but their work is essentially based on the realization of cadastral plans. This work is carried out by sworn surveyors

➢**Geological Office of the Comoros:**

A body responsible for developing and valorize the natural and geological resources of the country. The BGC has become the technical arm of the state in the implementation of the national petroleum project and the development of geothermal

➢**CATI (Center for analysis and information processing) :**

The Center is a service of COSEP(Emergency Operation center and Civil Protection), It has Established and manage a georeferenced database related to natural hazards and consequently to the prevention and management of disaster .

➢**GIS department**: Under the Ministry of Agriculture, Fisheries and Environmentthe Council of Government approved the establishment of an Information and Decision Support Center (GIS), in the Vice Presidency in charge of Production, Environment and Urban Planning (VIPEAU).

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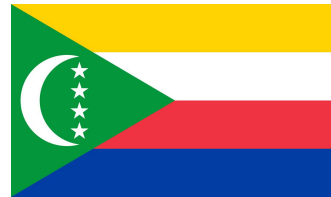Sub-regional Workshop on UN-IGIF for the Southern Africa

➢ Recent creation of a cartographic unit within the ministry of territorial planning that plays the role of a national reference mapping center/agency with a reliable database such as country boundaries, infrastructure, etc.

As of 19th march 2022 the Council of Government approved the establishment of the cartographic unit within the Ministry of lands .

P l a y t he role of a reference center holder a national geo-referenced database in the absence of a national mapping agency

Serve as a forum for exchange and validation for geodata management between the different national actors

Produce maps at different scales, to support the government, local authorities and other partners in planning and implementation of public policies
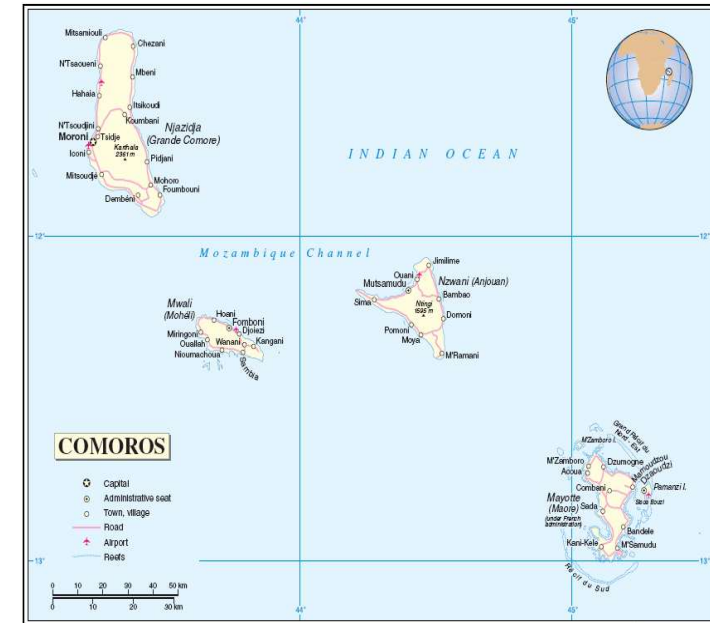
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- The cartographic unit has started the process of setting up a database of the 14 Themes:

Orthophotos (10 à 30 cm
de résolution) :

The 14 Global Fundamental Geospatial Data Themes

Global Geodetic Reference Frame | Addresses | Buildings and Settlements | Elevation and Depth

Functional Areas | Geographical Names | Geology and Soils | Land Cover and Land Use

Land Parcels | Physical Infrastructure | Population Distribution | Orthoimagery

Transport Networks | Water

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Community conflict resolution :
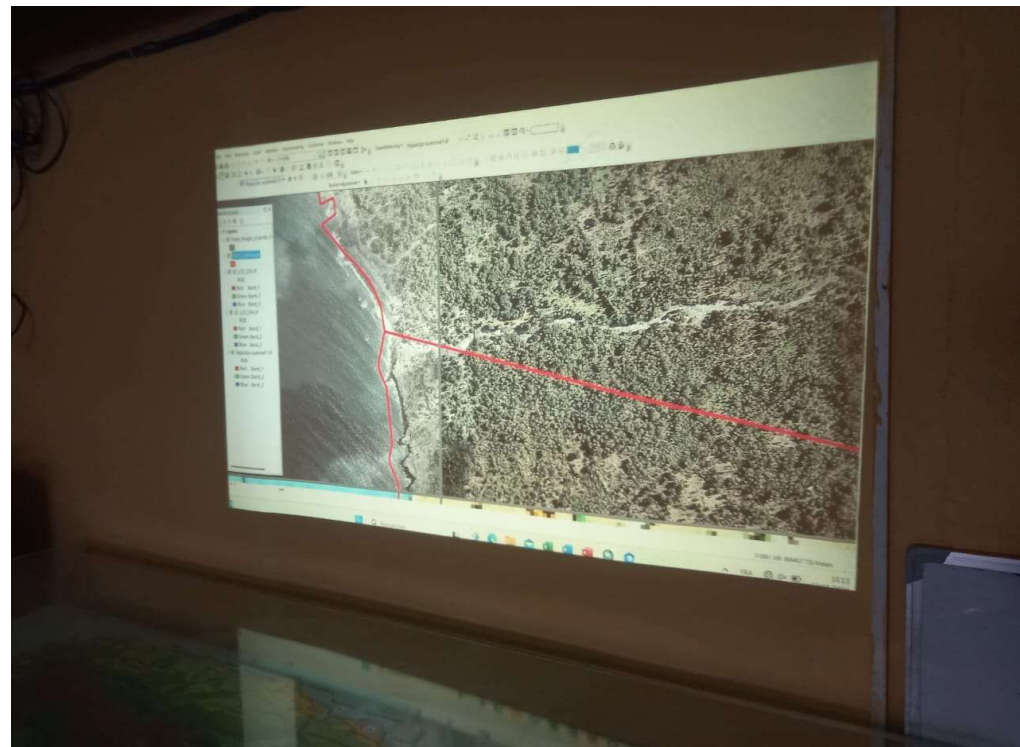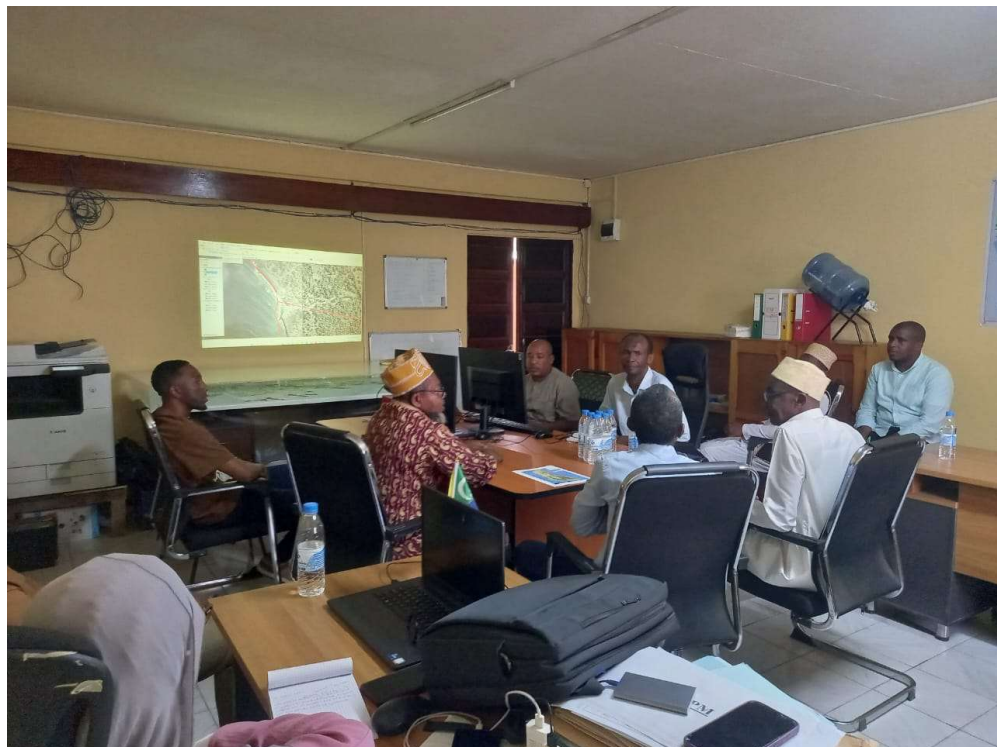
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It is with this in mind that the agents of the cartographic unit are ordered to carry out a basic data collection mission in the field and from identified national institutions.

- A first pilot phase will concern the following themes:

- Administrative buildings

- Health facilities

- Education

- Place of worship

- Garage

- Commercial equipment

- Protected areas

- Drilling site

BATIMENT ADMINISTRATIF
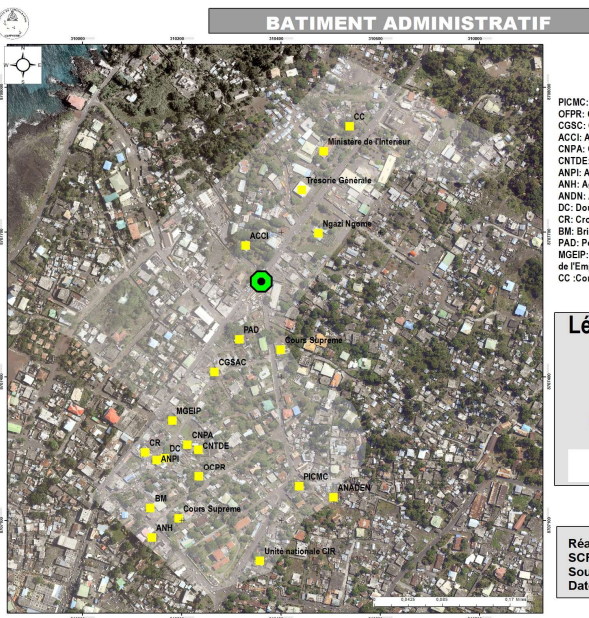
ACRONYME

PICMC: Projet Inter Connectivité Maritime des Comores
OFPR: Office Comoriennes des Produit de Rente
CGSC: Comisariat des Jeunesses de Sport , Arts et de Culture
ACCI: Agence Comorienne de Coopératon International
CNPA: Conseil Nationa de Presse et de l'Audivisuel
CNTDE: Centre National de Traitement des Données Electorale
ANPI: Agence National pour la promotion des Investissement
ANH: Agence National de l'Habitat
ANDN: Agence National de Developpement du Numerique
DC: Douane Comoriennes
CR: Croissat Rouge
BM: Brigade des Mineurs
PAD: Police Anti Drogue
MGEIP: Ministère de la Jeunesse
de l'Emploie del'InvestissementProfetionnelle
CC :Comores Cables

Légende

- Batiment
- Rondpoint EGT
- Zone d'étude

Réalisée par La Cellule de Cartographie
SCR;WGS_1984_UTM_Zone_38S
Source:
Date:27/06/2024

ETABLISSEMENT SANITAIRE
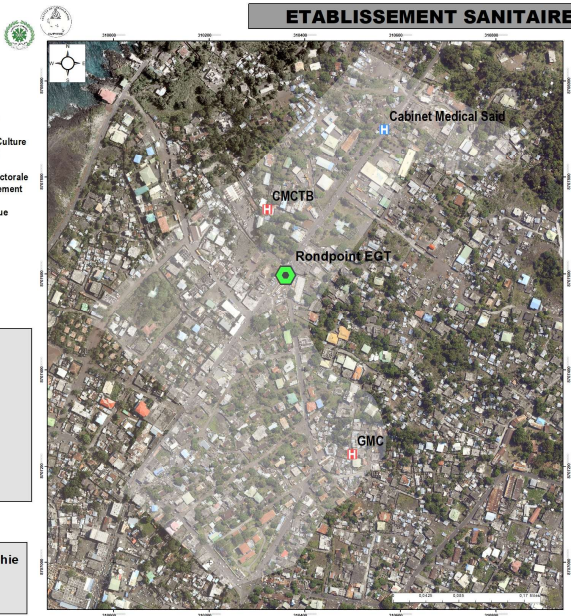
Tableau de Bord

Service	Nombre
Chirurgie	2
Pédiatrie	1
Total	3

Légende
- Délimitation
Santé
Service
- Chirurgie
- Pédiatrie
- Rondpoint EGT

Réalisée par La Cellule de Cartographie
SCR;WGS_1984_UTM_Zone_38S
Source:
Date:01/07/2024

Where does your country want to be in the next 5 years?

- Finalize fundamental geo data collection in all the country

- Mechanism of systematic updating data

- Set up a platform for data sharing

- Demystify geo data so that it can be used in an essential manner at the highest level of the state for decision-making

- Explore the possibilities for geographic information management to generate economic benefits

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

- Limited human capacities

- Obsolete data

- No data sharing protocol between institutions

- Sensitization towards decision makers

- Limited funds to carry out activities

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- Marahaba Mengui !
- Merci !
- Thank you !
- Muito obrigado !

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KINGDOM OF ESWATINI

SURVEYOR GENERAL'S DEPARTMENT

Patrick B.S. MKHONTA

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Where are you today as a country on enhancing geospatial information?

- Eswatini is at the point of completing its Country-level Action Plan (CAP) and looks forward to its implementation once completed.
- No governance mechanism in place for coordinating geospatial information management between geospatial agencies.

- Currently, there is no legislation for geospatial information management and no policies or laws that encourage data sharing and use of geospatial information in general.

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Where are you today as a country on enhancing geospatial information? (cont)

- No central geoportal to discover available data with its metadata.

- Lack of knowledge of the importance of Standards when collecting, processing and storing data

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Where does your country want to be in the next 5 years?

- Increased awareness of the importance and value of geospatial information to the development of the country's economy.
- A governance mechanism in place to coordinate and encourage geospatial information sharing across relevant agencies
- To have stablished both a legal and institutional frameworks that address geospatial information management.

- A geoportal established to facilitate access to geospatial information from anywhere.

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

- A change of government whose policies may not amplify the existing development agenda.

- Institutional resistance- difficulty in achieving multi-level government and cross-sector collaboration.

- Data privacy and security-Reluctance of geospatial information agencies to share data and information. They have a preference for working in silos.

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LESOTHO
Department of Land Survey and Physical Planning(LSPP)

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Where are you today as a country on enhancing geospatial information?

- Started capacity building in geoinformation within different ministries
- Undertaking data sharing initiatives
- Established geospatial platform for territorial planning
- Undertaking a study on National Spatial Development Framework(NSDF)

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Where does your country want to be in the next 5 years?

- To have a policy regulating geospatial information and data sharing
- To establish National Spatial Development Infrastructure(NSDI)
- Sensitization of stakeholders on geoinformation, from national to local councils

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What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

- Capacity building in geoinformation
- Financial constrains(Budget)
- Limited hardware's and software
- Data storage/ server's issues
- Data standards for uniformity

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Any other opportunity/challenge?

- Need for continuous career development
- Avoid data duplication
- Promote budgeting by reducing duplication of effort
- Dictatorship by the development partners from lack of standards

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MALAWI

[MINISTRY OF LANDS, DEPARTMENT OF SURVEYS]

https://www.lands.gov.mw/

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Where are we today as a country on enhancing geospatial information?

Malawi has a legal framework in place, The Malawi Geographic Information Council (MAGIC) under The Land Survey Act, 2016. Amongst others, the body has functions to:

- Establish and enforce national spatial data standards.

- Develop centralized and decentralized access points for spatial data.

- Provide policy and technical guidance on spatial data development and management.

- Support the development and maintenance of national spatial data infrastructure.

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Where do we want to be in the next 5 years?

- Integrating our geospatial information into world acceptable standards.
- Advancing data acquisition technologies, such as using airplanes for photogrammetric work and drones for capturing imagery to address various challenges, including natural disasters like floods.
- Enhancing aerial data processing capabilities to better analyze and utilize collected data.
- Ensuring that spatial data coverage of Malawi, along with map series at various scales, is comprehensive and accessible, supporting economic development through multiple projects.
- Integrating advanced geospatial programs into tertiary education, including courses in remote sensing and GIS, to develop a skilled workforce.
- Establishing a robust GIS server to efficiently store, manage, and share all spatial data across government, research, and development sectors.
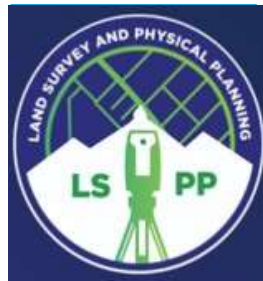
Enhancing Geospatial Information Management arrangements
Accelerating the Implementation of the SDGs
Sub-regional Workshop on UN-IGIF for the Southern Africa

What do we see as the **main** challenges in our country to get to this 'ideal' situation in the next 5 years?

To reach the ideal geospatial landscape in the next five years, Malawi faces several challenges:

- Limited advanced training in key data-producing fields like Remote Sensing (RS) and GIS.
- Gaps in data analysis skills, particularly in programming languages such as Python, R, and JavaScript.
- Insufficient resources for data collection, including vehicles for capturing imagery.
- Outdated syllabuses that lack advanced geospatial technologies.
- Weak internet and ICT infrastructure, hindering access to online data and web mapping tools.
- Low awareness among decision-makers and the public, leading to under-utilization of GIS technology.

Any other opportunity/challenge?

- The Malawi Spatial Data Centre (https://www.masdap.mw/) is a data-sharing portal, used by MAGIC. Needs further enhancements, dedicated members and funding).
- Partnerships between government, private companies, academic institutions and other international organizations.
- Creation of Land Information Management System in Malawi to provide services in land administration and manage geo-information in Malawi for security of tenure.
- Establishment and operationalization of Continuously Operating Reference Station for hamonisation of African and World Datasets.
- Availability of base map data and map series at various scales provides a solid foundation for further geospatial advancements and development, enabling better planning and decision-making.

Enhancing Geospatial Information Management arrangements
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Where are you today as a country on enhancing GI?

- Através da Lei 3/2023 - 24 Março, Parlamento autorizou GoM a criar IDEMOC
- IDEMOC criada por Decreto-Lei 2/2023 6 Nov
- ADE, IP, com mandato de promover a produção harmonizada, uso and disseminação de toda informação espacial actualizada e com qualidade
- No processo de operacionalizar a IDEMOC cujo plano de acção deve ser harmonizado com CAP
- 1o Comité Nacional presidido pela PM por ser agendado para finais Abril'25

Where does your country want to be in the next 5 years?

- Plataforma com dados actualizados com a precisão e resolução adequadas para suporte aos processos de tomada de decisão e desenvolvimento
- Plataforma de referência, dotada de recursos tecnológicos e humanos de qualidade e suportada por uma ampla rede de entidades promotoras
- Modelo de gestão efectivo e inclusivo, dotado de competências e recursos financeiros adequados

What do you see as the main challenges in your country to get to this 'ideal' situation in the next 5 years ?

- Apropriação por parte da Liderança e instituições capacitadas
- Uso efectivo da IG em todo processo de planificação e decisão
- Regulamentação efectiva – produção, partilha e uso de dados com padrões e qualidade
- Modelo de Negócio e Financiamento

UN-INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

IMPLEMENTATION IN SOUTH AFRICA

Date: 24 March 2025

Presenter: Clinton Heimann

agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

NDP 2030

30 YEARS OF FREEDOM
South Africa 1994 - 2024

National Policy Directives

Constitution

National Spatial Observatory
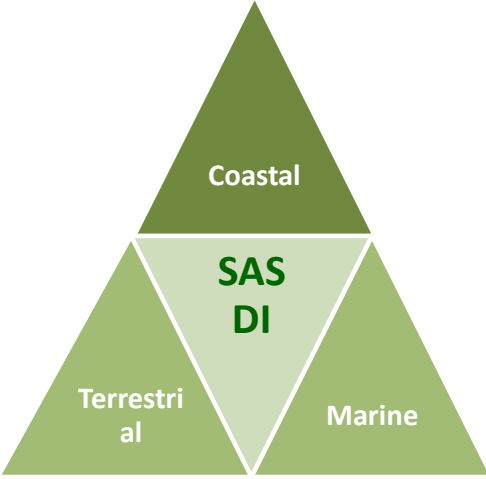
National Spatial Data Infrastructure
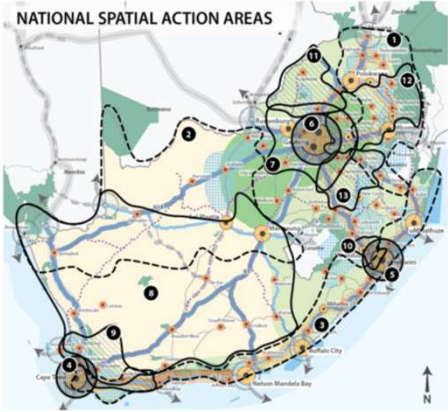
National Spatial Action Areas

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30 YEARS OF FREEDOM

The SDI Act

establishes:

An Electronic Metadata Catalogue

- The **South African Spatial Data Infrastructure** (SASDI) as the national, technical, institutional; and policy framework to regulate the collection, management, maintenance, integration, distribution, and use of spatial information for improved socioeconomic development.

- The **Committee for Spatial Information** (CSI). Established in terms of section 5 of the Spatial Data Infrastructure Act, Act 54 of 2003. The role of the CSI: to advise the Minister, the Director General or an organ of state dealing with spatial information on any matter the CSI considers necessary or expedient for achieving the objectives of South African Spatial Data Infrastructure (SASDI).

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30 YEARS OF FREEDOM
South Africa 1994 - 2024

COMMITTEE ON SPATIAL INFORMATION ROADMAP

2020
• Quarterly reporting sessions, revamp of EMC with DCPR incorporation, and review/approval of Themes to align with UN-GGIM's Fundamental Geospatial Data Themes.

2021 -
3rd CSI Inauguration

2018
• Considerations for capturing spatial information according to Regulations 5(2) and Standards identification for publication under section 11 of the Act.

2019
• Form D and F considerations, launch of SASDI Website (www.sasdi.gov.za), and approval of SDI terminologies.

2016
• Policies Published on Data Custodianship and Pricing, Full Regulations Published, CSI Code of Conduct Approved

2017
• Approval of CSI Code of Conduct, Ministerial approval of Land Cover Standard, Metadata Training, 1st Compliance Audit, Appointment of Coordinators, Custodians for base data sets appointed, Base Data Set Governance Model established, and regulations for section 5 published.

2012
• Data themes, datasets, and custodians identified with prioritization of 10 themes.

2015
• 2nd CSI Inauguration
• SDI Act implemented fully
• Published policies on data custodianship and pricing of spatial information products and services

2008
• Section 5 Committee Establishment Regulations Published

2010
• 1st CSI Inauguration

2006
• Sections 1 to 11, 13, and 19 to 22 of the Act are now in effect.

2004
• The Spatial Data Infrastructure Act was assented

CSI

COMMITTEE FOR SPATIAL INFORMATION

UN-IGIF INSPIRED STRATEGY (2022 - 2025)

MAGALIES DECLARATION

GOVERNANCE STRUCTURE

Morena Letsosa
Chairperson
CSI

Michael Manyama
Chairperson:
Governance
Subcommittee

Marlanie Moodley
Chairperson:
Technology
Subcommittee

S'lindile Mhlongo
Chairperson:
People
Subcommittee

Members of the CSI

- Morena Letsosa - Rep SAGC
- Michael Manyama - Rep SAPO
- S'lindile Mhlongo - Rep ESKOM
- Marlanie Moodley - Rep DFFE
- Rajesh Makan - Rep the Minister
- Serena Coetzee – Rep CHE
- Flora Makgale - Rep a Rural DM
- Gareth Muthumuni - Rep DPME
- Terence Turnbull - Rep SANDF
- Tumisang Modiole - Rep DSI
- Ndiyafhi Denge - Rep Limpopo Province

Working Groups

- Governance and Institutions
- Policy and Legal
- Financial

Working Groups

- Data
- Innovation
- Standards

Working Groups

- Partnerships
- Capacity and Education
- Communication and Engagement

Office of the Secretariat

- Clinton Heimann
- Nontuthuzelo Ntshabele
- Maroale Chauke
- Vutomi Ndlovu
- Serati Mashamaite

Outcomes

| An enabled environment for the capture, use, sharing and maintenance of geospatial information | A standardized Data, Processes and Technology | A nation that is geospatially aware and engaged |

agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

NDP 2030

30 YEARS OF FREEDOM
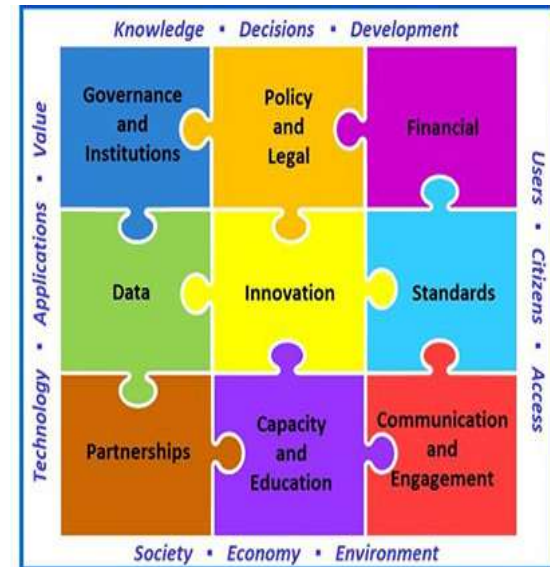South Africa 1994 - 2024

Governance

Governance and Institutions | Policy and Legal | Financial

Status-quo: legislation, regulations and policies in place
Challenge(s): legislation is outdated and lack some key elements of GIM.
Plan: Repeal the SDI Act to ensure alignment with international frameworks. Review regulations to ensure efficiencies in the management of geospatial information

Status-quo: Two policies in place (Custodianship and Pricing of data) **Challenge(s):** SASDI Guidelines are still in draft format.
Plan: More policies identified by the CSI for development and the SASDI Guidelines to be finalised for approval by the Minister.

Status-quo: the current policies promotes good governance and accountability.

Challenge(s): Lack of implementation and poor enforcement of polices results in lack of governance and accountability
Plan: Repeal the SDI Act to include penalties and filter penalties to policy level.

Status-quo: Several good laws in terms of data protection (Copyright Act, POPI, etc) exist. Some of these elements are included in the SDI Act.
Challenge(s): Lack of implementation and poor enforcement of polices results in lack of governance and accountability
Plan: Repeal the SDI Act to strengthen the data protection, licensing and sharing elements.

Status-quo: governance model is in place established through the SDI Act, and managed through regulations policies, standards and guidelines.
Challenge(s): Not at the level as prescribed by the IGIF and currently applies only to organs of state.
Plan: Repeal the SDI Act to ensure interrelated relationship and partnerships across.

Status-quo: leadership structure in place in the form of a statutory body (Committee for Spatial Information).
Challenge(s): participation excludes other critical thematic bodies such as the private sector and civil society.
Plan: Repeal the SDI Act to ensure inclusion of. of the private sector and other key stakeholders.

Status-quo: institutional arrangements in place. All structures of the CSI are made up of members from various organs of state.
Challenge(s): exclusive to organs of state. A drive to be inclusive.
Plan: Repeal the SDI Act to ensure interrelated relationship and partnerships across

Status-quo: value proposition within the national strategy not in place yet.
Challenge(s): Lack of instruments to showcase GI as a valuable government asset.
Plan: Strategy development including the Country-Level Action Plan to be development the current year. Delays within the procurement process.

Status-quo: A National Address Dataset project has been identified to evaluate potential components of a future business model. An agenda item already booked with Cabinet to present proposals.
Challenge(s): current funding approach not sustainable and adequate
Plan: Develop a funding model for Cabinet approval

Status-quo: No formal and well-coordinated techniques and methods for aligning integrated geospatial use cases with national strategic policy
Challenge(s): Lack of firm motivation for funding for some data custodians)

Plan: Develop more use cases to support the national strategy (e.g. National Address Dataset project

Status-quo: some data custodians receives investment from government. No private sector investment in place
Challenge(s): Lack of diverse funding sources for SASDI
Plan: Encourage private sector participation and explore funding sources and options

Status-quo: No plan in place to measuring and evaluating the benefits of a national integrated geospatial information management program.
Challenge(s): Lack of a Country-Level Action Plan
Plan: Prioritize the development of the South African Geospatial Information Management Strategy.

Data | **Innovation** | **Standards**

Technology

Standards Governance and Policy
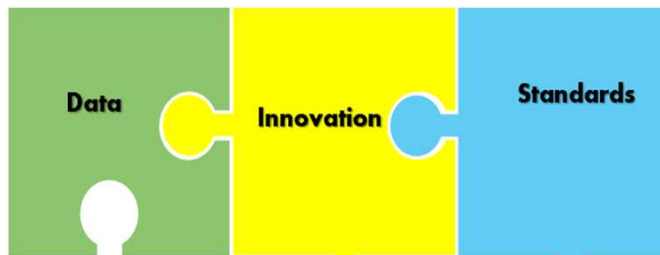
Status-quo: standards governance and policy in place. Standards are gazetted for implementation by the Minister. Standards are sourced from SABS, ISO and OGC and made available to custodians for implementation. **Challenge(s):** Lack of understanding and implementation of standards.

Plan: Capacitate organs of state in standards. Capacitate the office to provide support to organs of state.

Technology and Data Interoperability

Status-quo: Data interoperability in place especially for data custodians contributing data within one data theme.

Challenge(s): Technology interoperability still a challenge

Plan: formulate guidelines to encourage different technologies, systems, and geospatial data to work together seamlessly.

Community of Practice

Status-quo: no community of practice to accelerate the benefits of standards and interoperability through standard-based good practices.

Challenge(s): Lack of understanding of standards.

Plan: Capacitate the office to provide support to organs of state.

Compliance Testing and Certification

Status-quo: Compliance testing and certification to ensure proper implementation of standards not in place

Challenge(s): New process to be established with the SABS and OGC including benchmarking with other countries.

Plan: Capacitate the office to provide support to organs of state.

Data Themes

Status-quo: 14 Data themes aligned to the globally endorsed fundamental geospatial themes. Base Data Coordinators and custodians formally appointed

Challenge(s): Inadequate technical support and training to coordinators and custodians (e.g. metadata and standards training). Current APP Target of 12 with over 600 to support.

Plan: Capacitate the office to provide support to organs of state.

Custodianship Acquisition and Management

Status-quo: Custodianship responsibilities allocated to the data coordinators and data custodians in accordance with their respective legal mandates.

Challenge(s): Principles of data custodianship not adhered to. Some custodians still struggle to understand their roles and responsibilities.

Plan: Capacitate the office to provide support to organs of state.

Data Curation and Delivery

Status-quo: process to support data curation and ensure data is continually update, retrievable for future purposes in place. **Base Data Custodianship Policy**

Challenge(s): Lack of implementation and poor enforcement of polices results in lack of governance and accountability

Plan: Capacitate the office to provide support to organs of state. Repeal the SDI Act and penalties

Data Supply Chains

Status-quo: Data supply chains processes not in place

Challenge(s): Inadequate technical support and training to coordinators and custodians in preparing their data management plans.

Plan: Capacitate the office to provide support to coordinators and custodians.

Technological Advances

Status-quo: drone technology has brought the new industrial paradigm to produce, share, analyze and deliver information to enrich knowledge economies.

Challenge(s): the need to formulate or adopted international standards

Plan: Appoint a base data custodian for drone data. Develop/ adopt and implement standards.

Innovation and Creativity

Status-quo: digital transformation strategies, policy and legal instruments and innovation centers not in place.

Challenge(s): the uptake of GIM was very slow in the last ten years including lack of funding.

Plan: Funding for research and innovation in place. Engagements are held with institutions of higher learning to partner in developing the digital transformation strategy.

Bridging the Geospatial Digital Divide

Status-quo: the gap between organisations that have access to modern geospatial and innovative ICTs and those that do not have is not known.

Challenge(s): Lack of resources to conduct a full-scale assessment of the digital divide, especially in local municipalities.

Plan: Partnership with Universities to conduct research.

Process Improvement

Status-quo: processes to achieve efficiencies, productivity gains and new products and services not in place yet.

Challenge(s): new initiatives and new products and services are not coordinated

Plan: formulate processes on new developments as well as improvements to existing processes and systems.

![People diagram with Partnerships, Capacity and Education, Communication and Engagement puzzle pieces]

People — Partnerships | Capacity and Education | Communication and Engagement

Status-quo: no contact and/or online courses available promoting the needs and benefits of geospatial information.
Challenge(s): Engagements with institutions of higher learning taking longer than expected
Plan: Continue to facilitate engagement and formalize arrangements with institutions of higher learning.

Status-quo: Formal education not aligned with industry needs.
Challenge(s): Lack of partnership between industry and institutions of higher learning .
Plan: Continuous engagements with the Academia and formalise collaborations through MoUs

Status-quo: Few new entrants in Geospatial industries.
Challenge(s): current systems does not encourage capacity through innovative and creative applications, , design and launch of start-ups.
Plan: growing the digital economies underpinned by geospatial information.

Status-quo: professional training including hand-on training provide on Data Quality and Metadata standards
Challenge(s): Professional training on other elements of the IGIF is lacking.
Plan: Outsource some of the professional training to institutions of higher learning.

[Puzzle labels: Awareness, Formal Education, Entrepreneurship, Professional Training]

Status-quo: Cross-sector and interdisciplinary cooperation not existing. (e.g. Geo and Stats)
Challenge(s): lack of benefit form economies of scale and interdisciplinary knowledge sharing.
Plan: Continuous engagements and value proposition.

Status-quo: Private sector and Academia collaboration engagement started
Challenge(s): Lack of trust between government and private sector organisation.
Plan: Continuous engagements with the Private sector and Academia and formalise collaborations through MoUs

Status-quo: community participation in some areas. Drone awareness campaigns at schools.
Challenge(s): Crafting message to the level of audience.
Plan: Capacitate the office and host more community outreach events.

Status-quo: International collaboration commenced with OGC. Engagements underway with Mozambique and Zambia to benchmark and identify areas of collaboration.
Challenge(s): International relations protocols in GI concepts not yet fully established
Plan: Capacitate the IR office of possible collaborations in GI.

[Puzzle labels: Cross-sector and Interdisciplinary Cooperation, Private Sector and Academia Collaboration, Community Participation, International Collaboration]

Status-quo: no established stakeholder and user engagement process.
Challenge(s): communication is haphazard and adhoc
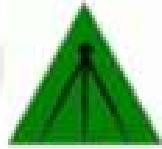**Plan:** Develop and stakeholder engagement plan.

Status-quo: Two policies in place (Custodianship and Pricing of data) **Challenge(s):** SASDI Guidelines are still in draft format.
Plan: More policies for development identified by the CSI and the SASDI Guidelines to be finalised for approval by the Minister.

Status-quo: the current policies promotes good governance and accountability.
Challenge(s): Lack of implementation and poor enforcement of polices results in lack of governance and accountability
Plan: Repeal the SDI Act to include penalties

Status-quo: The country have good laws in terms of data protection (Copyright Act, POPI, etc). Some of these elements included in the SDI Act.
Challenge(s): Lack of implementation and poor enforcement of polices results in lack of governance and accountability
Plan: Repeal the SDI Act to strengthen the data protection, licensing and sharing elements.

[Puzzle labels: Stakeholder and User Engagement, Strategic Messaging, Monitoring and Evaluation, Strategy, Plans and Methods]

MINISTRY OF LANDS, AGRICULTURE, FISHERIES, WATER AND RURAL DEVELOPEMNT
ZIMBABWE

BY
PLS Cephas Magauze

Enhancing Geospatial Information Management arrangements
Accelerating the Implementation of the SDGs
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BIRTH OF THE DSG AND LAND RECORDS MANDATE

...background

- **Land** Survey Act [20:12]
- 1st May 1933 ...... *'consolidation of existing laws relating to the survey of land'*
- Part V ......Establishment of the Office of the Surveyor General
  - Section 7(1)(c) *'take charge of and preserve all records appertaining to surveys of land which were, prior to 1st May 1933 preserved as records in the S.G's office, or which may become, after such date , records of the S.G's office'*
  - *...obligation to avail such records/information/data when requested to do so by any person*

Our Mandate

Enhancing Geospatial Information Management arrangements
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WHERE ARE YOU TODAY AS A COUNTRY ON ENHANCING GEOSPATIAL INFORMATION?

- DSG (and Deeds) datasets being computerized and availed online.
- Approx 2,5 million land parcels title surveyed ~25% of the Country
- 80% registered with Deeds Registry Office.
- Web based E-cadastre platform
- Online access and dissemination of geospatial information.
- Integration of MDAs.

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WHERE ARE YOU TODAY AS A COUNTRY ON ENHANCING GEOSPATIAL INFORMATION.. ? Cont..

Phantom 4 Pro

Topographical Map Series
- ❑ 1:1 000 000 (whole country)
- ❑ 1:250000
- ❑ 1:50000 (584 sheets whole country except national parks)
- ❑ 1:25000 **(NEW MAP SERIES hard copy +shapefiles)**
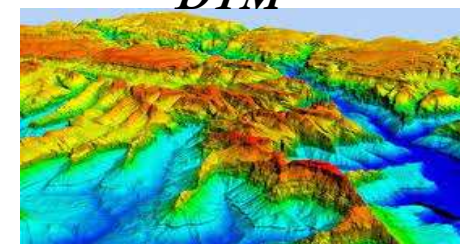- ❑ 1:10000
- ❑ **1:5000 (urban)**

Satellite imagery

DTM

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ZIMBABWE : TOWARDS THE DIGITAL AGE

Smart City

- Complete Digital base layer: Cadastral and maps
- 3D cadastre for major Cities
- Control Network (CORs)-Whole Country (60)
- Updated maps: Topography, tourism, navigation etc
- Integration of Land Information Systems
- Digital dissemination and sharing of Land Information
- Surveyed Communal, Urban and rural land by year end 2026
- Full fledged e-cadastre-NSDI-eGovernance

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WHAT DO YOU SEE AS THE MAIN CHALLENGES IN YOUR COUNTRY TO GET TO THIS 'IDEAL' SITUATION IN THE NEXT 5 YEARS ?

- Competing needs to financial resources
- Ideal structures to coordinate geospatial information acquisition and sharing.
- High Costs of Data Collection
- Training and availability of experts
- Bringing together different MDA (different database systems, data formats
- Legislative changes/enhancements
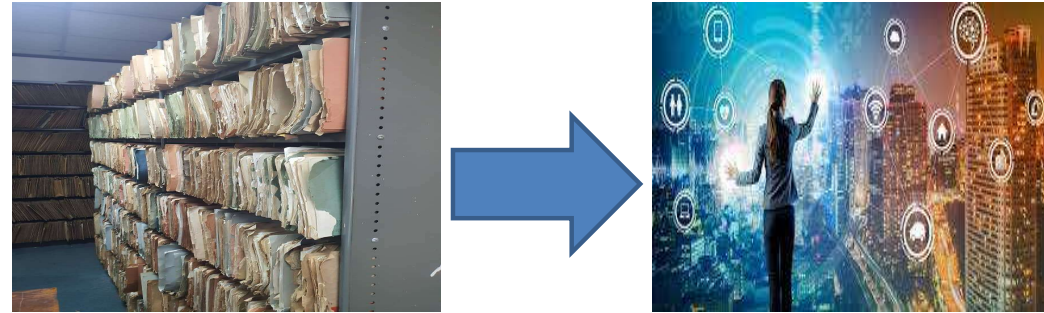- Different coordinate systems…
- Volunteers

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ANY OTHER OPPORTUNITIES

- ❑ Government support (LTIP), International Agencies.
- ❑ Government approval for NSDI
- ❑ Existing data sets in different MDA, private players
- ❑ Robust cadastral and mapping datasets

ANY OTHER CHALLENGE?

- ❑ Bringing all MDAs
- ❑ Thousands of documents deteriorating through wear-and-tear
- ❑ Connectivity issues and costs
- ❑ Difficult to Share: this seriously affects the ease and cost of doing business (MDA's unstandardized silos challenge)
- ❑ Scattered datasets (SG and Deeds)

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