

Geospatial Landscape – a United Nations Perspective

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Outlines

- ⦿ Geospatial information Nexus issues and Policy drivers for spatial data needs.
- ⦿ Challenges and Contemporary Critical Issues
- ⦿ Global Efforts to improve Global Geospatial information Management
- ⦿ Benefits from a Global and Integrated Framework.
- ⦿ Priority Actions, Strategies and Way Forward.

Nexus Issues | Policy Drivers | Global Need for Spatially-Enabled Complex Information

- Need for spatially-enabled information to address and rapidly respond to key global challenges including climate change, disaster management, peace and security, and environmental quality
- Changing roles of governments in the emergence of growing capability of the private sector in geospatial information development and location-based services, reducing the influence of the Governments
- Weak coordination among Member States, and between Member States and international organizations on geospatial information management globally and regionally.

UN reforms to deliver services “as one and overcome system fragmentation” extended to Geospatial information Systems

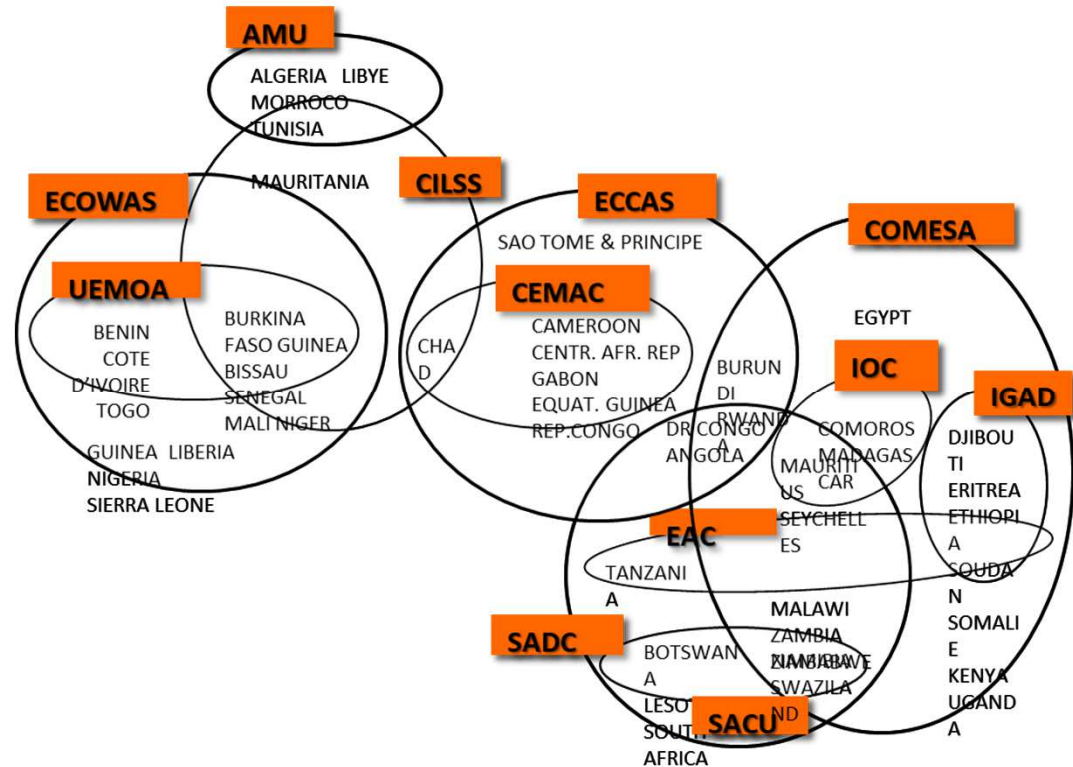
The image features a collage of elements related to African development. At the top, it shows the 17 Sustainable Development Goals (SDGs) icons arranged in a grid. Below this, there is a map of Africa with the text 'Africa 2063' and 'AFRICA We Want'. To the right, there is a table titled 'Society's Needs' with columns for 'Policy Framework' and 'Required Complex Informations'.

Society's Needs	Policy Framework	Required Complex Informations
Food Security	CAADP Land Policy	Rainfall, Yield, production, Crops Distribution..
Water Resources	Africa Water Vision 2020	Hydrography, aquifers, waterbodies
Environment	NEPAD - EPF	Ecosystems, biodiversity, Vegetation, Land cover
Climate Change	Clim.Dev	Rainfall, temperature, wind, aerosols...
Security and Emergency	Africa Regional Strategy on Disaster	Vulnerability, Risk
Health Planning	Africa Health Strategy	Disease

Challenges | Fragmented Regional Frameworks

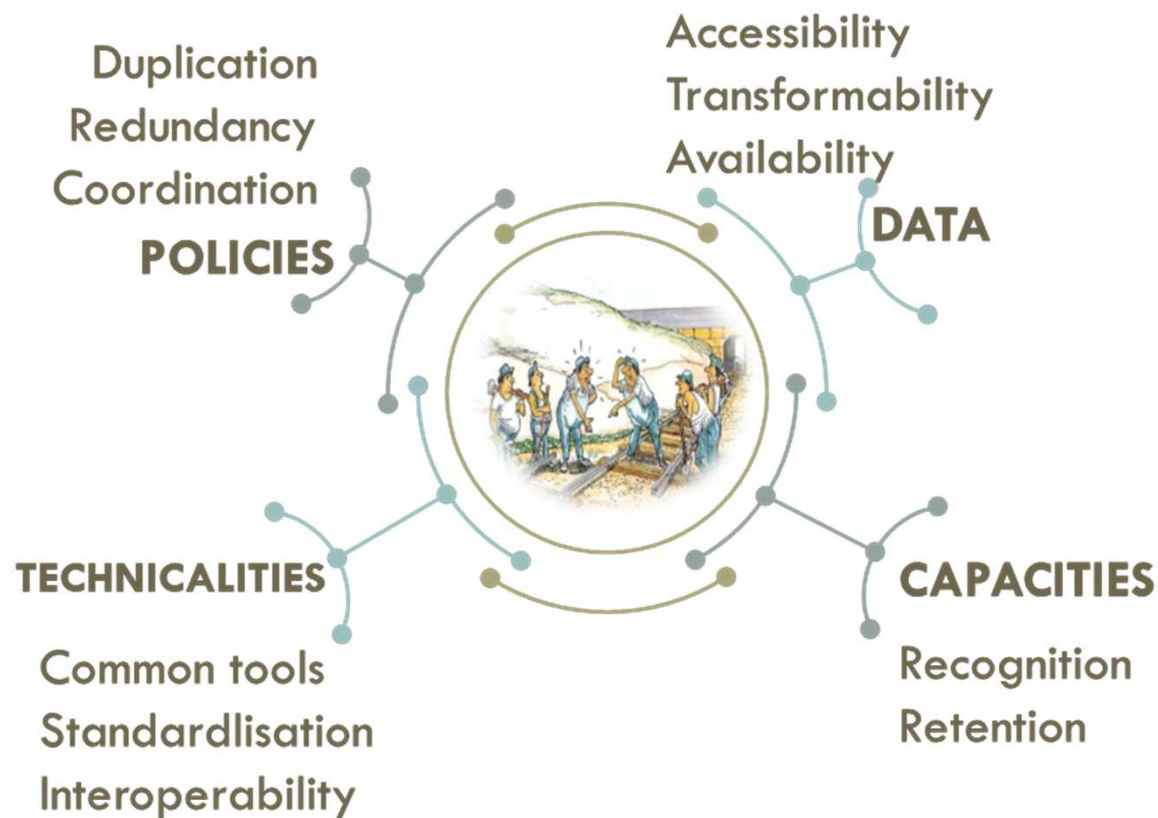
- UN Regional Cartographic Conference for the Americas (UNRCC – A)
- UN Regional Cartographic Conference for Asia and the Pacific (UNRCC – AP)
- Committee on Development Information (CODIST) Conference- Africa
- UN Statistical Commission
- UN Conference on the Standardization of Geographical Names
- UN Spatial Data Infrastructures (UNSDI)
- Group on Earth Observation (GEO)
- Other Regional Groupings

All maintain geospatial activities



Contemporary Critical Issues

Core Data : Poor Mapping Coverage Lack of consistency	2.5 % of the Continent is Mapped at 1/25.000 (Europe: 86.9% ; Russia : 100%)
Frameworks & Tools	Poor Interoperability Lack of Standardization Non codified rules for data access
Applications: Duplication of efforts	Several applications build repetitively the same datasets Data are not publicized
Capacity : Recognition & Retention of Professionals	Critical mass. Turnover
Governance: Lack of Coordination	Redundancies in initiatives. Inadequacy



What to Do | Integration and Common Frameworks

- Put in place Policies, Infrastructures & Institutional arrangements : Adopt cooperative, multi-stakeholder approach to production, of spatially enabled data
- Unlock the hidden potential in the data in integrating geospatial and statistical data
- Improve regional scale development decision-making in ensuring that reliable information is easily available for policy, investment, planning, management and monitoring at the regional and national scales.
- Empower users to do as much as possible by themselves through a long-term vision driven development of capacities



Strengthening governance

2. Political Support

- Harmonization & Coordination
- Strengthen existing Initiatives

Providing a service

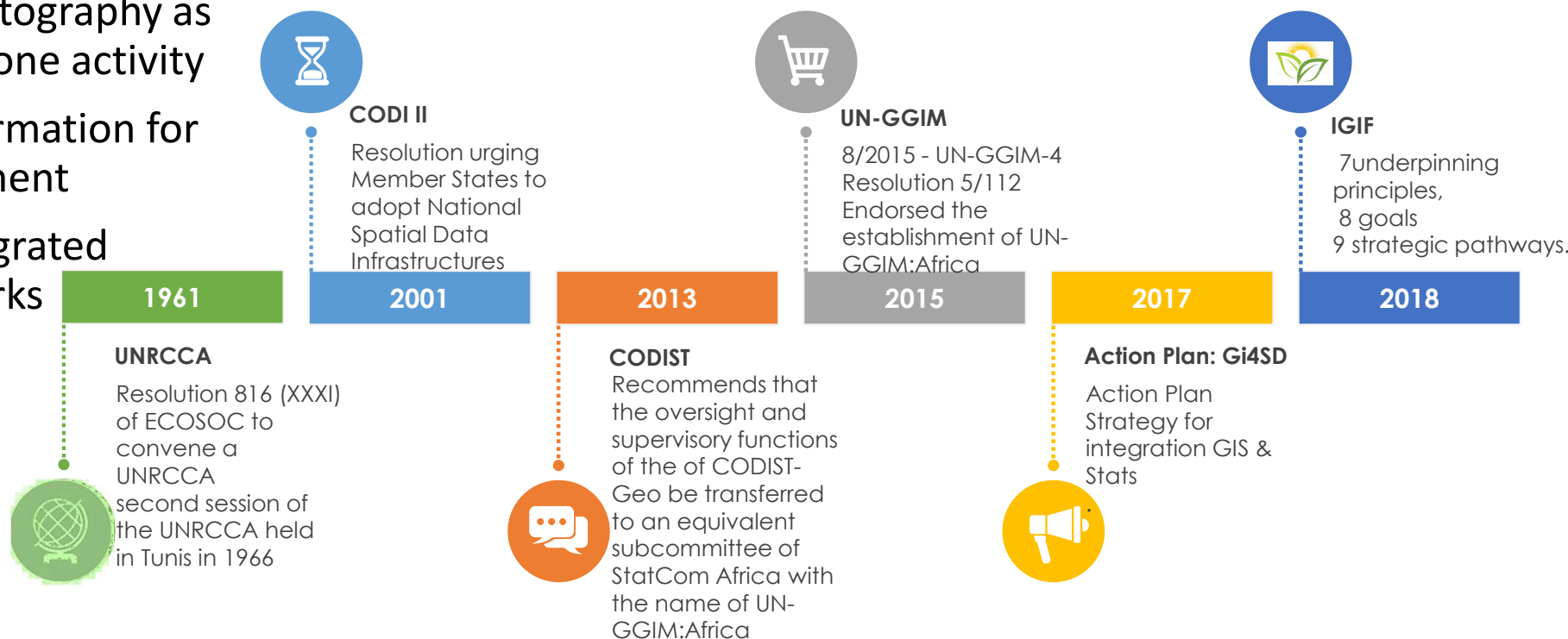
3. Operational Environments

- Sustainability
- Development of a critical mass of capacity

The Journey so far | From UNRCCA... to ...UNSDI... to ... UN-GGIM... toIGIF

We journeyed

- From cartography as a standalone activity
- ...To information for development
- ...To integrated frameworks

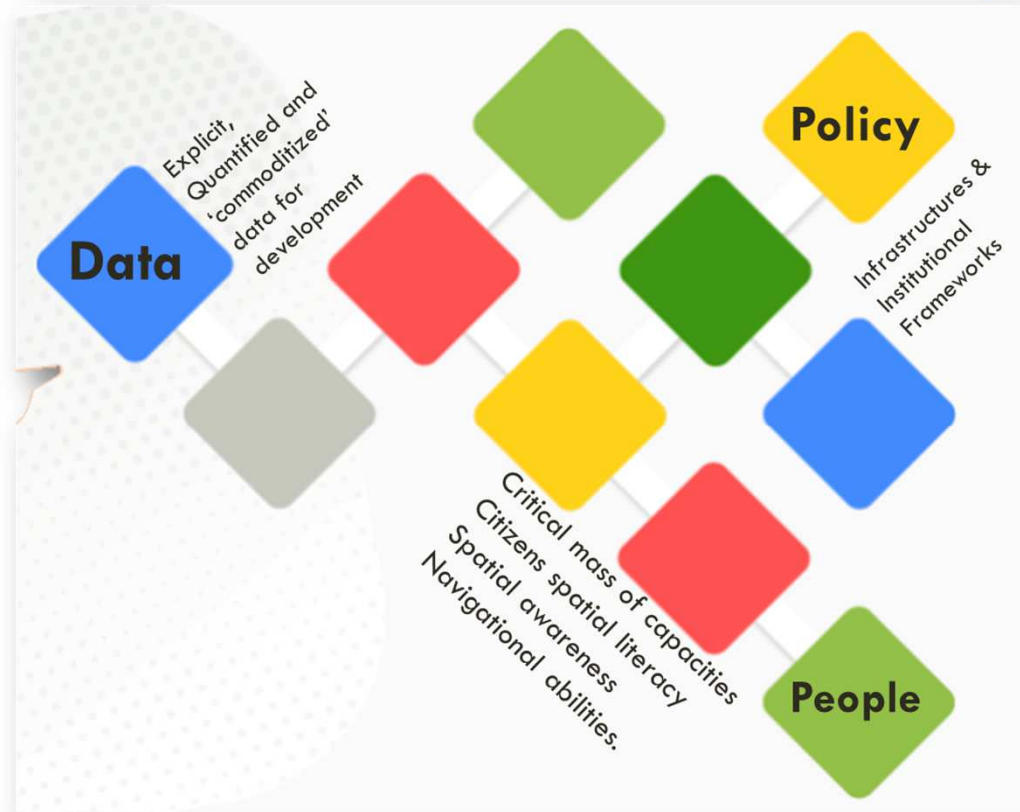


Global Efforts to improve Global Geospatial information Management | Transitioning from SDI To IGIF

No matter where we are, the need of a global framework for geoinformation management to ensure that reliable spatially enabled information is easily made available in support of needs and priorities at regional and regional and national levels is constant.

- ⦿ Despite the efforts of ECA and other partners, progress in developing SDIs in Africa has been very slow
- ⦿ Spatial enablement of services that society needs is still not achieved
- ⦿ Ubiquitous availability of relevant spatial data/information as common goods is still a nice to have
- ⦿ If we want to provide spatially-enabled services, we need to incorporate geospatial information and location into problem solving
- ⦿ Enabling platform, helping to link services across jurisdictions, organizations and disciplines.

This lead to the concept of integrated geospatial information framework, an expected progression from the concept of Spatial Data Infrastructures.

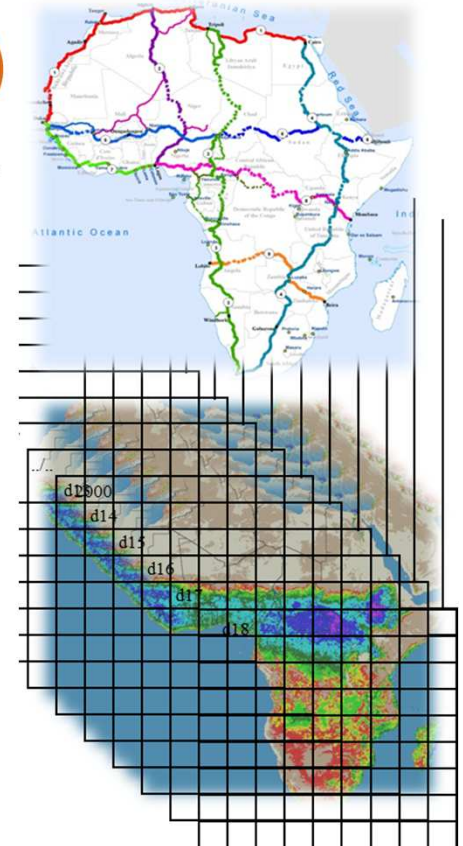
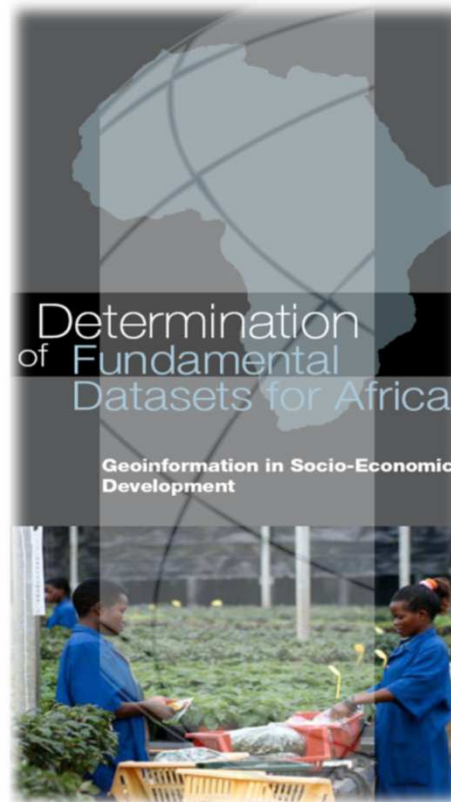


Benefits ... Global and Integrated Framework

- From a Policy point of view
 - ⦿ Policy makers can benefit from the right information at the right moment (when they need it; where they need it; in a form they can use) to make the appropriate decision for sustainable development.
- From an Institutional point of view
 - ⦿ The policy framework shall help develop a cooperative, multi-stakeholder approach to geoinformation, strengthening prevailing networks or building new ones to meet the actual and future potential use of spatial data and resources to address emergent issues.
- From a Technological point of view
 - ⦿ The integrated geospatial framework can assure strong transfer of related applicable technology to developing countries that will enable them build their own technologies and systems,
- From a Societal point of view
 - ⦿ We can build coherent seamless and equivalent spatially enabled information is an essential precondition for setting up coordinated policy and strategy for regional and national burning issues with global impact

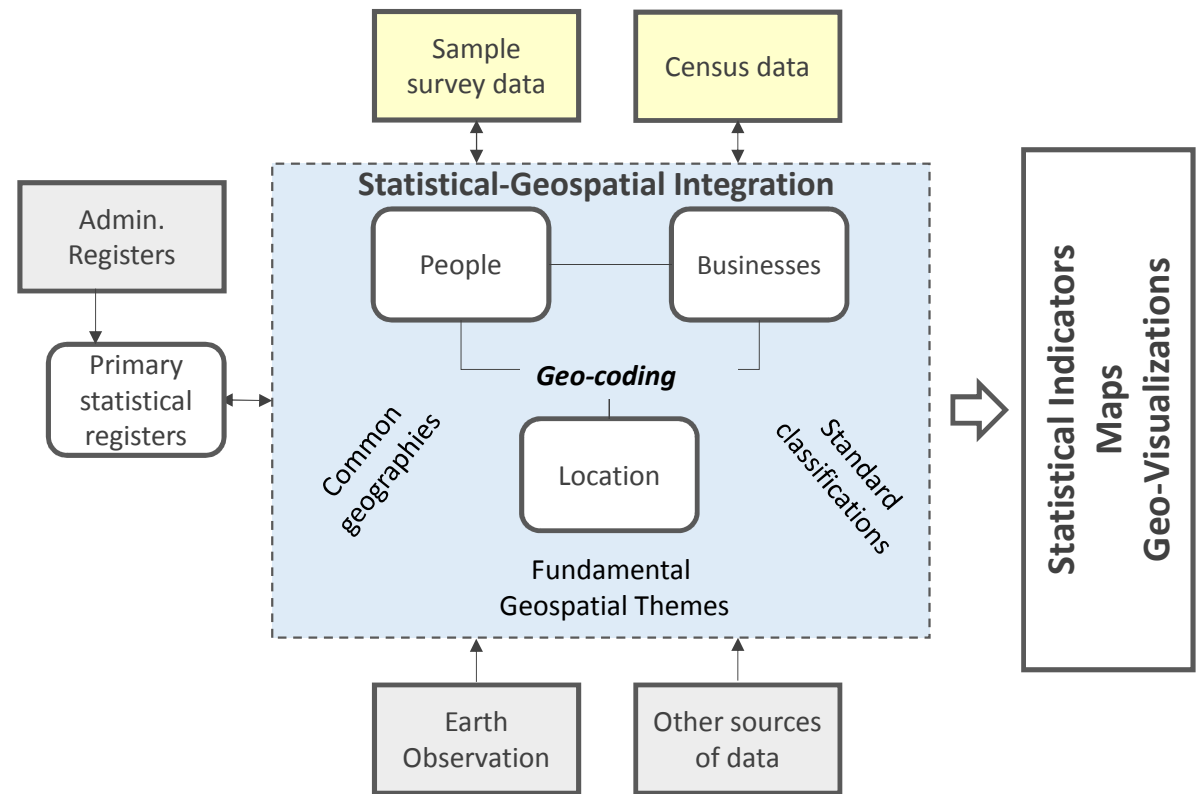
How to Get There? | Advance Fundamental Mapping

- Advance regional efforts to build :
 - Purpose-oriented datasets
 - Structured and comprehensive data foundation that would be consistent, comparable and compatible at the local, national, regional, and global levels.



How to Get There? | Augmenting the Integration of Statistical and Geospatial Information

- **Common Geographies**
 - ⦿ Updating and sharing common administrative boundaries
- **Responding to the SDG**
 - ⦿ Building, Holistic, Active, All-inclusive Information
 - ⦿ Enriching statistical data
- **2020 Round of Censuses**
 - ⦿ Fostering geospatially-enabled censuses.
 - ⦿ Building geo-referenced dwelling frames



Adapted from G. Luis Morales 2018

How is the Future? | ... A Paradigm Shift

The international and regional landscapes are changing



Political Support

Political Buy-in
More and more political awareness and engagement



Indigenous Capabilities

New Business Model
African Initiatives and Centres of Excellence (Regional Centres, National Mapping Agency, Private Sector...)



Constructive Partnership

Enhanced and expanded International Cooperation with emphasis on South-South Cooperation involving locals, diasporas and partners



National Efforts

National Programmes
More and more regional Initiatives and Centres of Excellence

Taking advantages of

- Geospatial policies in Africa
- Institutional coordination and arrangements
- Synergistic approaches
- Guiding principles on data, applications and services



Integrated Management
Shared vision / Synergism
Constructive partnership



People Needs

Accessibility of evidence-based information.
Connectivity & data exchange between producers and users
Information, Products & Services
Linking global to local



Enabling Operational Environments

Multi-level long term Infrastructures and Networking
Indigenous Geospatial Capabilities



High-Level Education and Holistic Capacity

Education is essential : Leads to technology adoption, ingestion & use
Basic training : To maintain operational capacity in geospatial applications for technicians, managers, scientists and basic users
High Level Training : Empower African youth in geospatial science and technology culture.

How is the Future? | ... Emerging Trends

1. Improved Data Acquisition, Processing and Dissemination

- ⦿ A streaming service delivering access to satellite imagery.
- ⦿ Volunteer Geographic Information: Individuals becoming more involved with the creation, maintenance, and distribution of their own geospatial information.

2. Consistent Methods and Tools

- ⦿ Cloud Computing | The support to geospatial content in cloud will increasingly become the standard by making geospatial information resources accessible to anyone, anywhere, anytime.
- ⦿ Real time applications : moving from analyzing and presenting discrete data sets towards working with streams of spatially-enabled data
- ⦿ Virtualization of mapping feature services (Geovisualisation). e.g. the explosion of dashboards during the COVID-10 pandemic.
- ⦿ Location Based Mobile Services. With an increased convergence of geospatial technology, location-based mobile services and enterprise information technology into one integrated system.

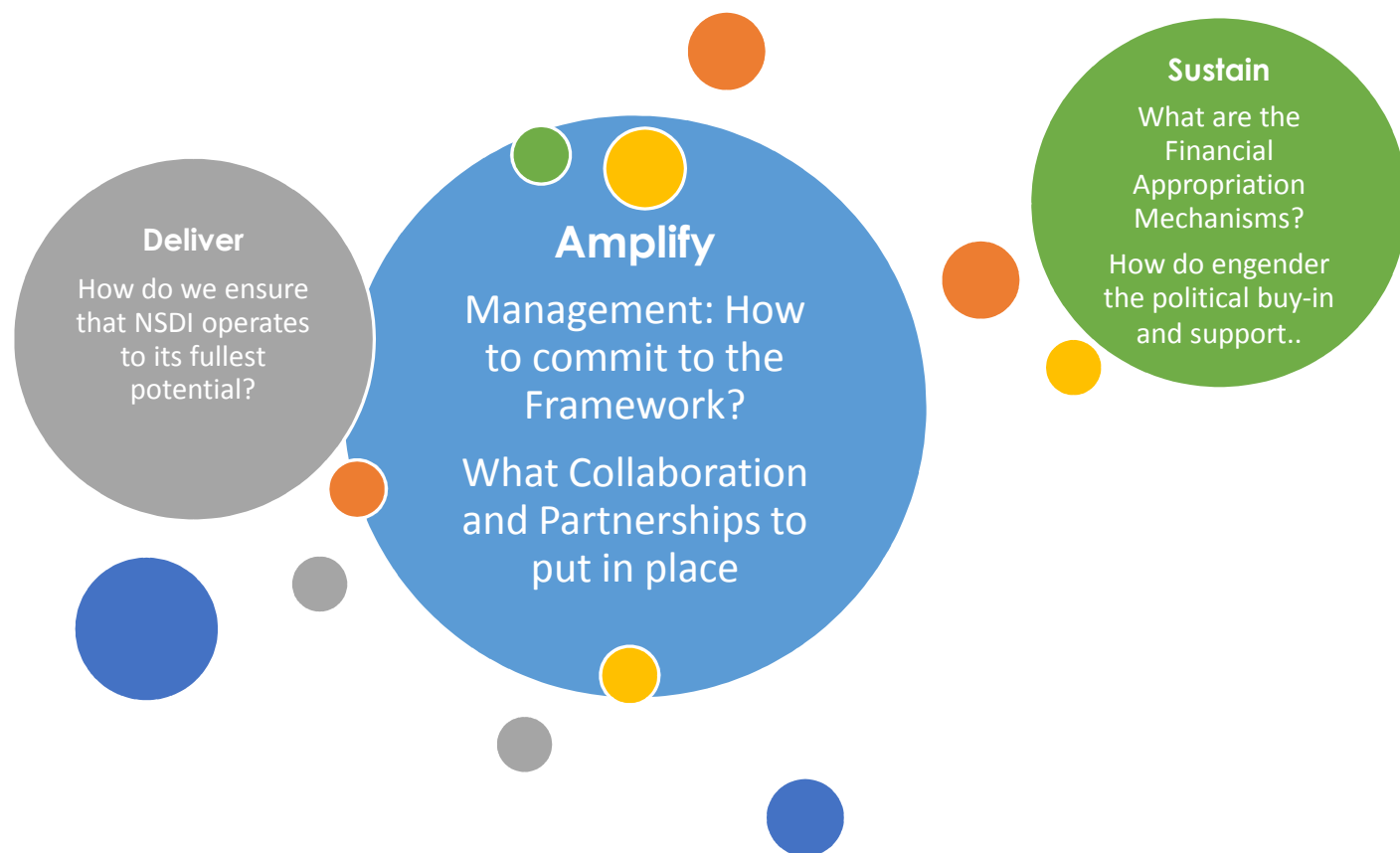
3. Comprehensive, Holistic, Vision-driven Education

- ⦿ Spatial awareness : building spatially aware citizens with the essential technological skills and abilities
- ⦿ Empowering the community (technicians, decision-makers, communities, etc...) to do as much as possible by themselves.

Conclusions | Fostering the dialogue

The international and continental landscapes are changing. We must consistently adapt and adjust our efforts to:

- Foster the dialogue between the governments, the NGOs, the academia and the private sector
- Appraise Best practices in legal and policy instruments, institutional management models
- Develop technical solutions and standards, interoperability of systems and data
- Share mechanisms that guarantee that geospatial information and services are accessible easily





THANK YOU!

Ideas
to
Action