

**Geospatial information for  
sustainable development in Africa**

*African Action Plan on Global Geospatial  
Information Management*

**2016-2030**



# Global Geospatial Information Management in Africa Action Plan 2016 - 2030

A Call for action to strengthen and sustain national geospatial information systems and infrastructures in a coordinated manner

United Nations  
Economic Commission  
for Africa

Geoinformation &  
Spatial Statistics

Andre Nonguierma

UNWGIC  
Deqing, China  
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**UN-GGIM: AFRICA**  
UNITED NATIONS INITIATIVE ON  
GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT

# Outlines

## UN-GGIM Context

At its July 2011 substantive session, following extensive consultation with geospatial experts of Member States, the Economic and Social Council (ECOSOC) considered the report of the Secretary General (E/2011/89) and adopted a resolution to create the United Nations Committee of Experts on Global Geospatial Information Management (2011/24). <http://ggim.un.org/about.html>. The United Nations Global Geospatial Information Management (UN-GGIM) initiative was established to create a formal geospatial information coordination mechanism involving Member States as the key stakeholders.

## Why we need Geography?

The Policy Drivers : Global Need for Spatially-Enabled Complex Information  
Everything that happens, happens somewhere over space and time  
80% of all human decisions involve a “Where?” question  
You cannot count what you cannot locate  
Location affects nearly everything we do in life.

## UN-GGIM : African Holistic Geospatial information Vision

Coordinated approach for cooperative management of geospatial information that adopts common regional standards, frameworks and tools  
Management of global geospatial information to address key global challenges including Sustainable development, climate change, disaster management, peace and security, and environmental stresses  
Intergovernmental Process where the Member States play the key role

## Geography Nexus Issues

### Availability

Finding the appropriate information at the required time and at the relevant scale of aggregation.

### Accessibility

Even where information is available, it may not be easily accessible, either because of the lack of technology for effective access or because of associated costs

### Transformability

There is a general lack of infrastructure capacities for the collection and assessment of data, for their transformation into useful information and for their dissemination.

### Governance

There is also need for improved coordination among environmental, demographic, social and developmental data information, applications and services.

## Key Pillars

Key Pillars  
SDI : Frameworks with related policies & structures  
FDS : Fundamental Geospatial Datasets  
AFREF : African Geodetic Reference Frame  
SALB : Second Administrative Level Boundaries  
GeoNyms : Geographic Names  
Geo-Stats : Locate & Count

## Way Forward

Policy : Institutional mechanisms aligned with national efforts, while taking into account international perspectives

Data democracy : Ubiquitous availability of relevant spatial data/information as common goods. Adhering to agreed standards : metadata, data models, encoding, interoperability

People : High Level Education to empower African youth in geospatial science and technology culture at all education levels (schools, universities)



Strengthening governance of geospatial information



Meeting urgent development needs

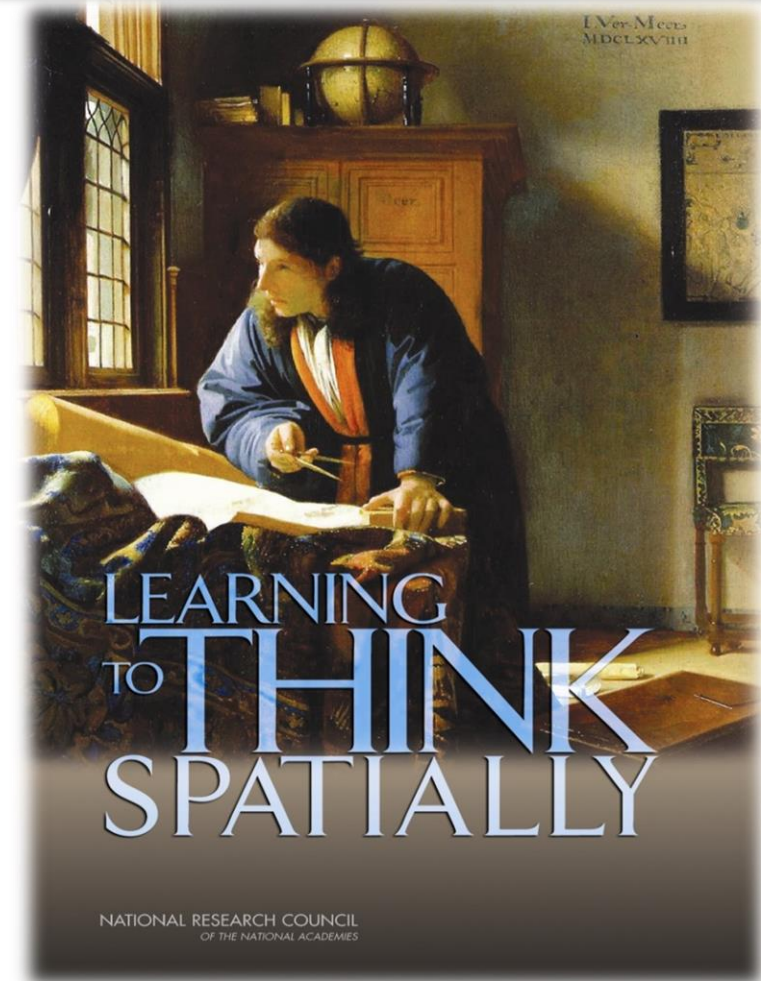


Providing a service (Spatial enablement)



# Geospatial Information Management in Africa: Key Messages

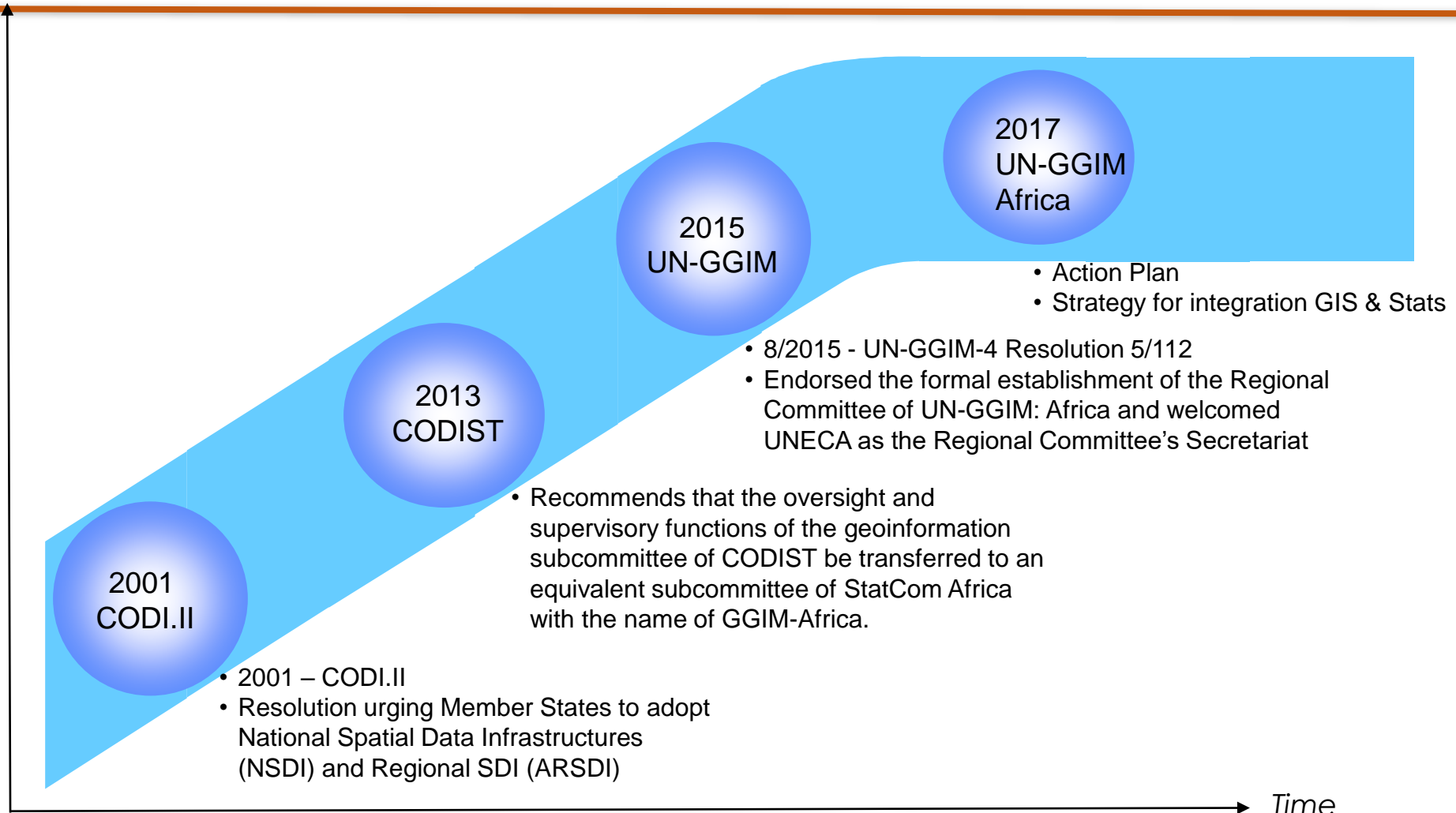
- Africa making its own marks in the geospatial arena
  - If you think you're too small to make a difference you haven't spent a night with a mosquito.
- Putting Africa First
  - Until the lion has his or her own storyteller, the hunter will always have the best part of the story
- New Business standards: Collective approach to implementing key initiatives
  - Wisdom is like a baobab tree; no one individual can embrace it



# Geospatial Information Management in Africa A Continued Vision...

- Coordinated approach for cooperative management of geospatial information that adopts common regional standards, frameworks and tools
- Management of global geospatial information to address key global challenges including Sustainable development, climate change, disaster management, peace and security, and environmental stresses
- Intergovernmental Process where the Member States play the key role

Phased Approach





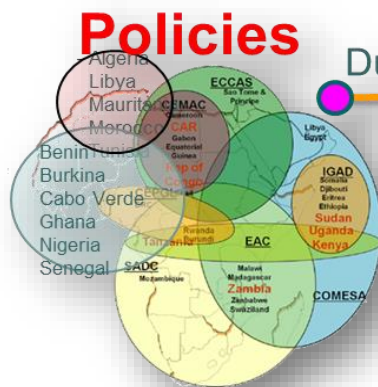
# The African Action Plan : Holistic Geospatial information Vision

Geospatial Inform. for Sustainable Development (Gi4SD) in Africa  
Collective approach to addressing key global challenges



# The African Action Plan : Based on African Contemporary Issues and Challenges

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



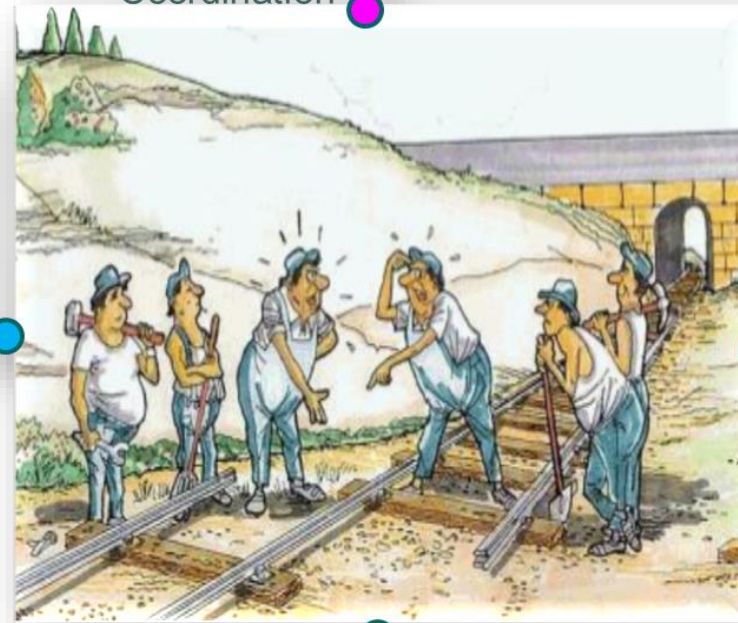
**Technicalities**

Duplication

Redundancy

Coordination

Interoperability



Standardisation

Common Tools

**Data**



Accessibility

Transformability

Availability

**Capacities**



Recognition

Retention

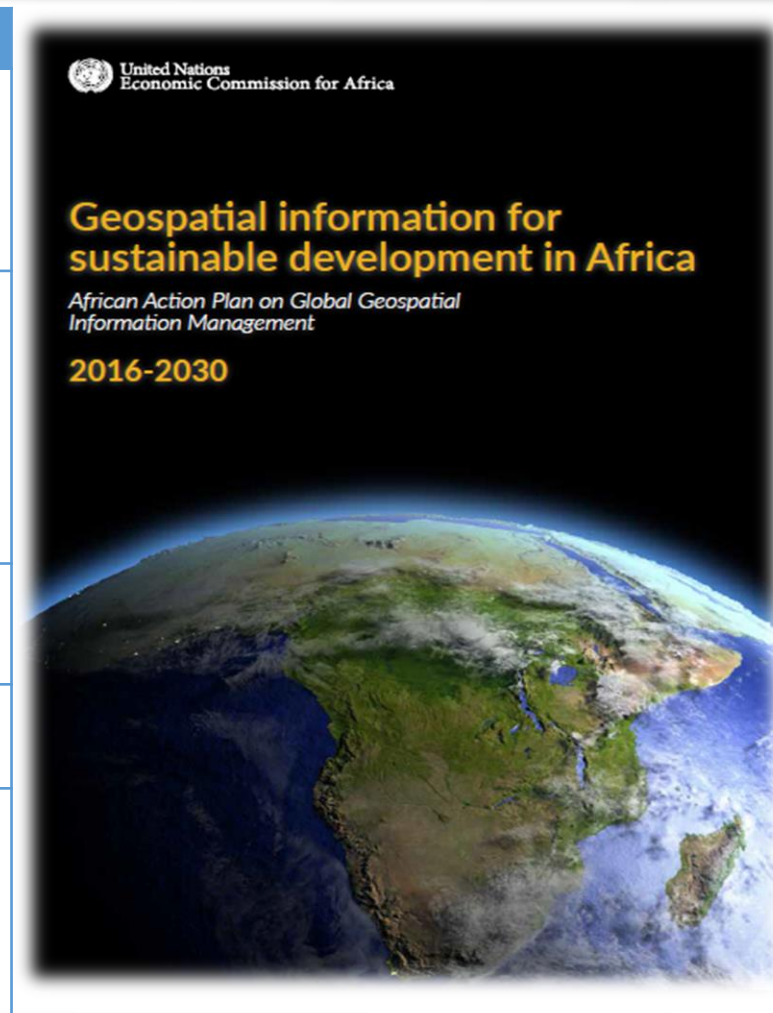




# The African Action Plan : Logic of Intervention

- The Vision of GI4SD for the 2030 horizon on the African continent is "Advancing Africa's Sustainable Development Agenda through sound Geospatial Information Management".
- The Mission Statement of GI4SD in Africa is as follows: Africa Produces and Uses Authoritative and Evidence-Based Geospatial Information for the Attainment of its Sustainable Development Goals and Agenda 2063 objectives.

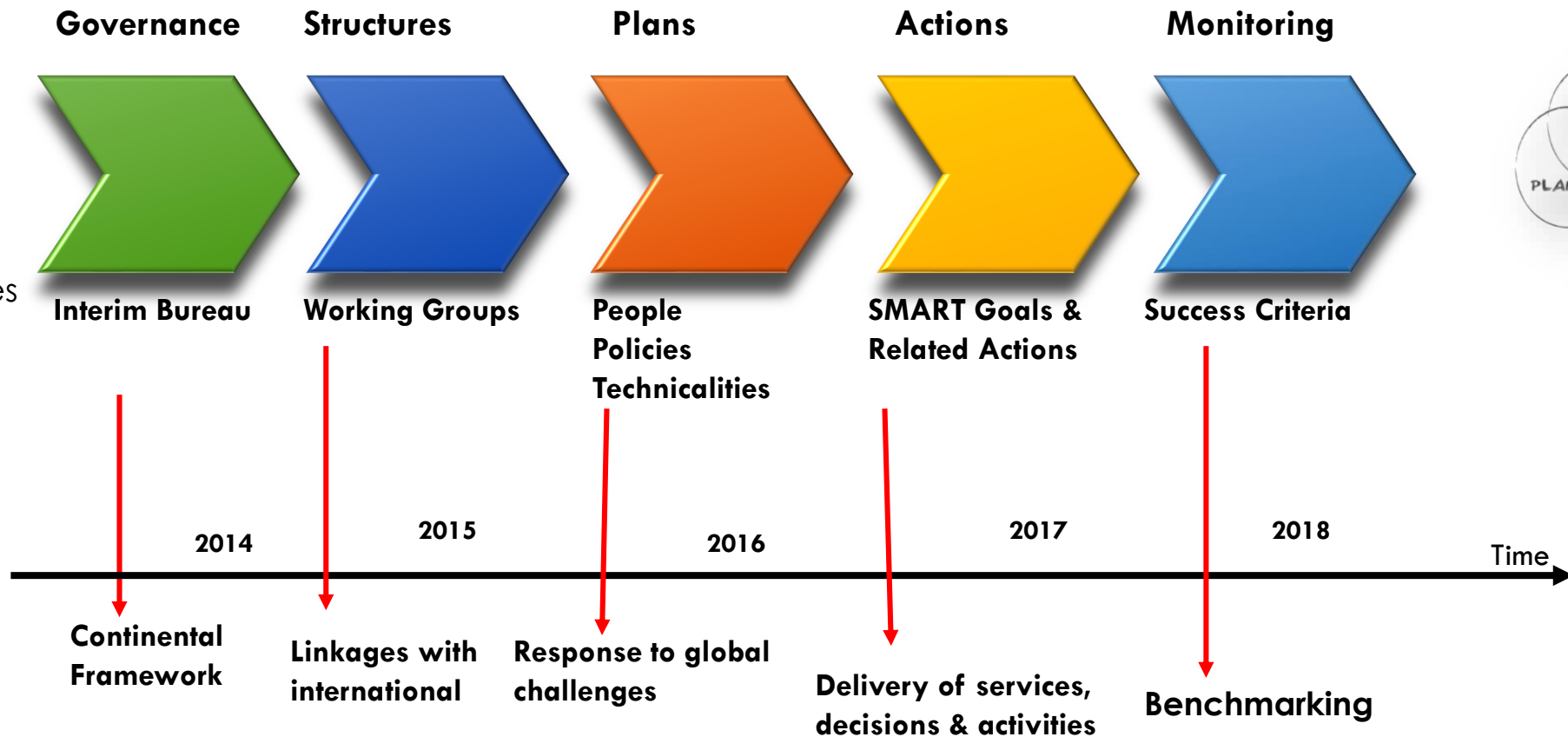
Strategic Objective	Focus Areas
<b>Policy and Governance</b>	<ol style="list-style-type: none"> <li>1). Geospatial information management is adopted as a critical development enabler by member States in Africa</li> <li>2). A specific geospatial information policy is in force in every member State</li> <li>3). Policy action to ensure integration of geospatial and statistical information.</li> </ol>
<b>Common framework, Fundamental Datasets, Tools, Standards, Services</b>	<ol style="list-style-type: none"> <li>1). Action to use geospatial information for the attainment of the SDGs and Agenda 2063 targets</li> <li>2). A high-quality ground-level infrastructure for geospatial information production</li> <li>3). Fundamental data sets, metadata and geospatial standards are developed with related geoportals and online services</li> <li>4). Private sector is involved in the geospatial information management (Funding)</li> </ol>
<b>Capacity development and knowledge transfer</b>	<ol style="list-style-type: none"> <li>1). Development of institutional, Infrastructural and Individual capacity</li> <li>2). Building spatial awareness (critical mass of spatially-aware citizens)</li> </ol>
<b>International coordination, And cooperation in meeting global needs</b>	Operations are based on United Nations project and programme management rules.
<b>Integration of geospatial information and statistics</b>	<p>Design a National Statistical Spatial Framework for the integration of geospatial and statistical information</p> <p>Advocacy to ensure policy-level engagement and user commitment to employ the NSSF</p> <p>Geospatial information technology is mainstreamed (all the way through training, data and processes) into national statistics offices activities in Africa</p>



# The Business Model

- Coordinated process that adopts common regional standards, frameworks and tools
- Addressing key global challenges including Sustainable development, climate change, disaster management, peace and security, and environmental stresses

## Phased Approach





# Governance & Administrative Arrangement

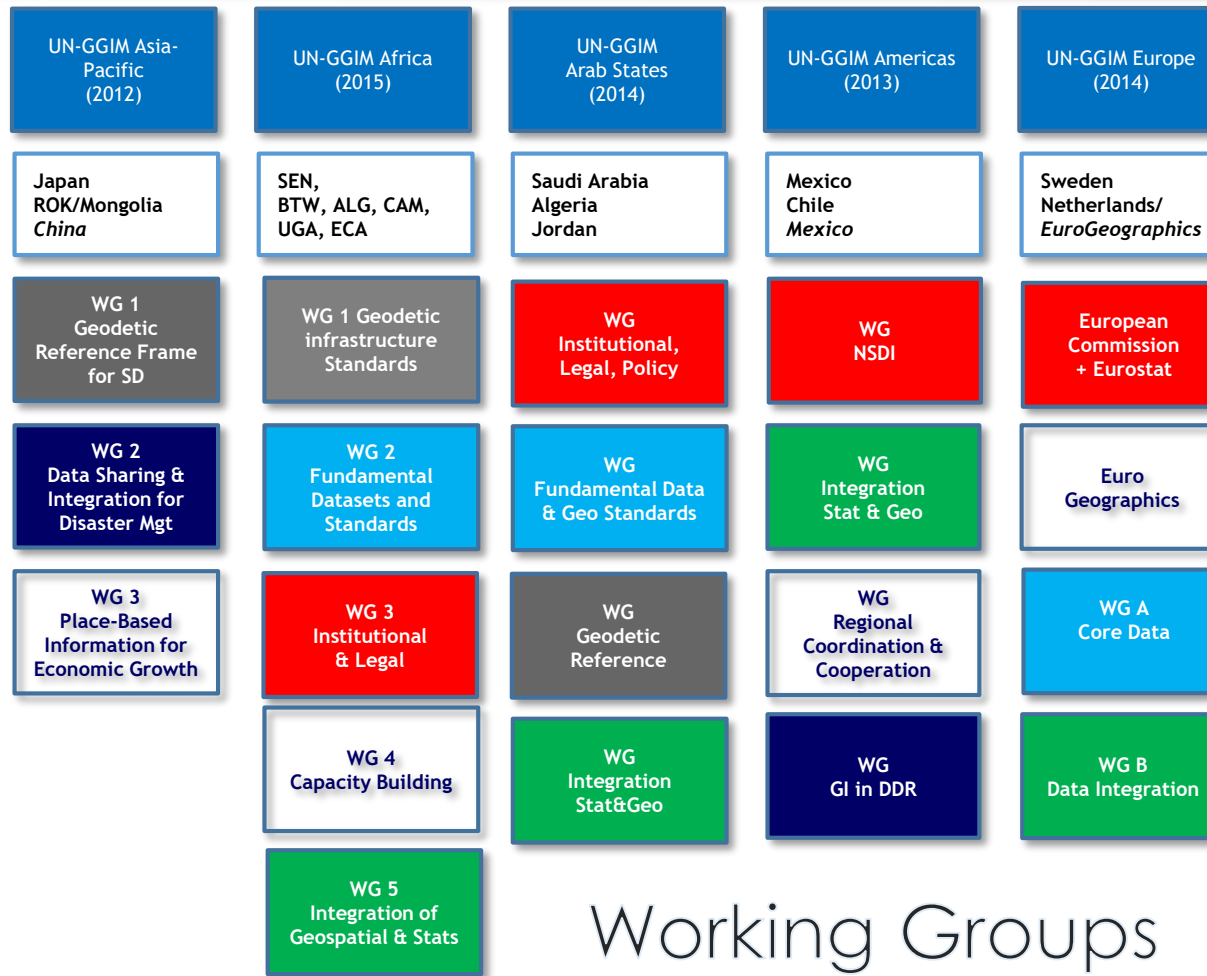
- Executive Board
- Chair: Senegal
- 1st Vice-Chair: Botswana
- 2nd Vice-Chair: Algeria
- 1st Rapporteur: Cameroon
- 2nd Rapporteur: Uganda
- Secretariat: Economic Commission for Africa



# The African Action Plan : Mechanisms & Frameworks

## UN-GGIM: Africa Pillars

- SDI : Frameworks with related policies & structures
- FDS : Fundamental Geospatial Datasets
- AFREF : African Geodetic Reference Frame
- SALB : Second Administrative Level Boundaries
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## Working Groups

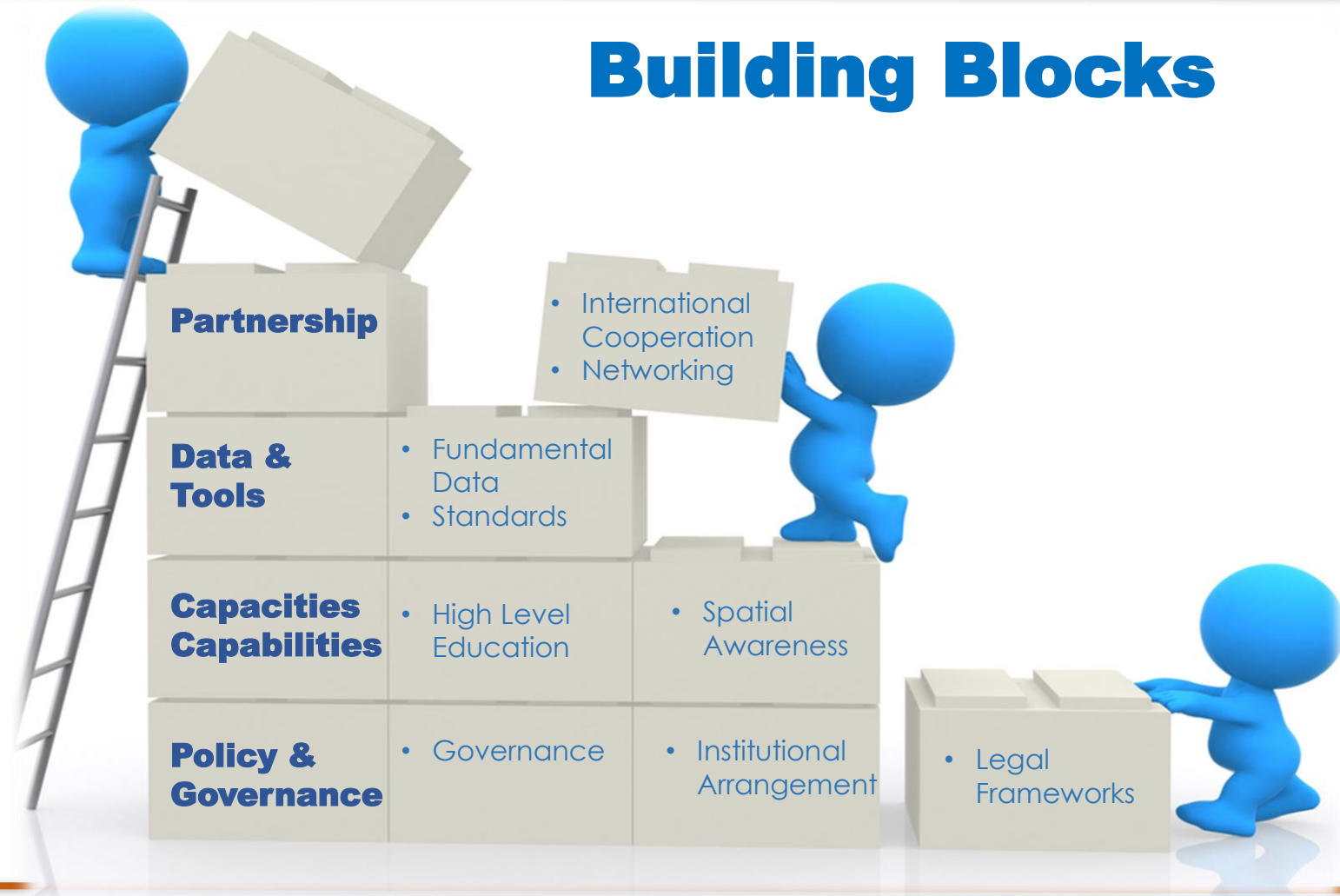
Working Group (2018)	Chair	Members	No Voting Members
WG1: African Geodetic Reference Frame	1. Kenya	2. Burkina Faso 3. Morocco 4. Botswana 5. Cameroon	Madagascar Nigeria Senegal South Africa AFRIGIST RCMRD UNECA
WG2: Fundamental Geospatial datasets and Standards	1. South Africa	2. Cameroon 3. South Sudan 4. Burkina Faso 5. Algeria	Côte d'Ivoire Madagascar Mali Niger Nigeria Senegal UNECA
WG3: Institutional arrangements and Legal frameworks	1. Algeria	2. Nigeria 3. South Africa 4. Ethiopia 5. Central Africa [TBD]	Burkina Faso Morocco UNECA
WG4: Capacity and capability development	1. Nigeria	2. Kenya 3. Eswatini 4. Côte d'Ivoire 5. Central Africa [TBD]	South Africa Burkina Faso AFRIGIST RCMRD AARSE UNECA
WG5: Integration of Geospatial and Statistical Information for Sectoral Applications	1. South Sudan	2. Namibia 3. Mali 4. Cameroon 5. North Africa [TBD]	Burkina Kenya Niger Senegal Togo UNECA

# Key Building Blocks and Pillars

## ■ Key Pillars

- SDI : Frameworks with related policies and Structures
- FDS : Fundamental Geospatial Datasets
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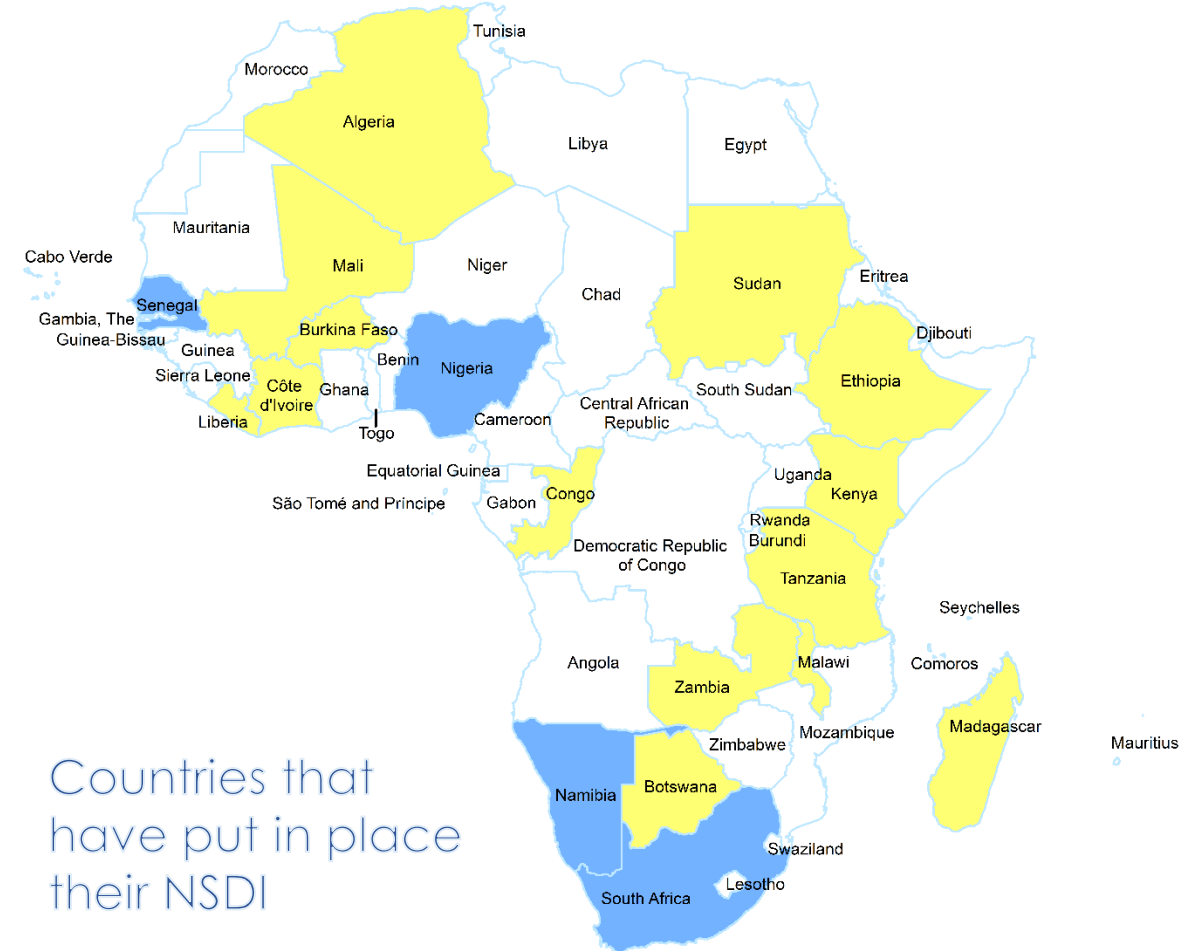
## Building Blocks





# Key Stumbling Blocs

- Arousing political interest among decision-makers and policymakers.
- Lack of Financial resources
- Most of African countries face with challenges to put in place policies, resources and structures to make available geographic information technologies easily accessible to decision makers and the community.
- For instance, many NSDI initiatives were stalled after setting up the management committee
  - Exceptions are Namibia, Nigeria, Senegal South Africa
- Capacity Development : Lack of critical mass of highly trained "geospatialists"



# Action Plan : Logical Framework

- The African Action Plan on Global Geospatial Information Management (AAP-GGIM), is the implementation tool of the United Nations initiative on Global Geospatial Information Management for Africa.
- It focuses on five key strategic areas.
- Each focus area is set out in detail with specific objectives, expected results, estimated budget figures and related activities.
- The Action Plan requires a total provisional budget of \$154,300,000.

Areas	Costing (\$US)
Policy and Governance	3 090 000
Common frameworks, Fundamental Datasets, Tools, standards and services	132 086 000
Capacities development	14 100 000
International Coordination and Cooperation in Meeting Global Needs	90 000
integration of geospatial and statistical information.	5 023 000
<b>Total Cost</b>	<b>154 300 000</b>

# Logical Framework: Policy & Governance

- **Goal** : Geospatial Information Management in Africa is supported by solid, consensus-based and coherent geospatial information policies at national sub-regional and regional levels
- **Strategic objectives 1** : Geospatial Information is adopted as a full Development sector by member states in Africa
- **Strategic Objective 2**: Geospatial Information is made accessible to the Civil Society in Africa
- **Strategic Objective 3**: Sub-regional Geospatial Information Directives are developed to harmonize national Geospatial Information policies internally in the Regional Economic Communities



# Logical Framework: Common Framework and Tools

- National and regional geodetic infrastructure development
- Production of fundamental datasets
- National & regional policies for space, mapping and geoinformation
- Development of metadata, geospatial standards and geoportal
- Technology Transfer
- Infrastructure support
- Private sector simulation
- New trends

# Logical Framework: Capacities Development

- Institutional Capacity Building
- Infrastructural Capacity Building
- Individual Capacity Building (African indigenous capacity and skills retention)
- Spatial awareness : Building spatially-aware citizens with the essential technological skills and abilities to critically participate and contribute to an information society

# Logical Framework: Integration of Statistics and Geospatial

- Design of a National Statistical Spatial Framework (NSSF) for the integration of geospatial and statistical information in Africa
- Advocacy action is taken to ensure policy level engagement and user commitment to use the NSSF in Africa member States
- Action is taken to ensure effective implementation of an Africa Spatial Statistical Framework at national, sub-regional and regional levels in African Africa Member States, and the Regional Economic Communities (RECs)



# Action Plan : Priority Issues and Challenges

- **Leadership: Governance & Management**
- **Framework: Data, Information, Services**
- **Capabilities**
- **Resources Mobilisation**
- **Partnership**
- **Communication**



## National

- Establishment of effective national leadership
- Member States capabilities to ensure geospatial data, products and services are readily available



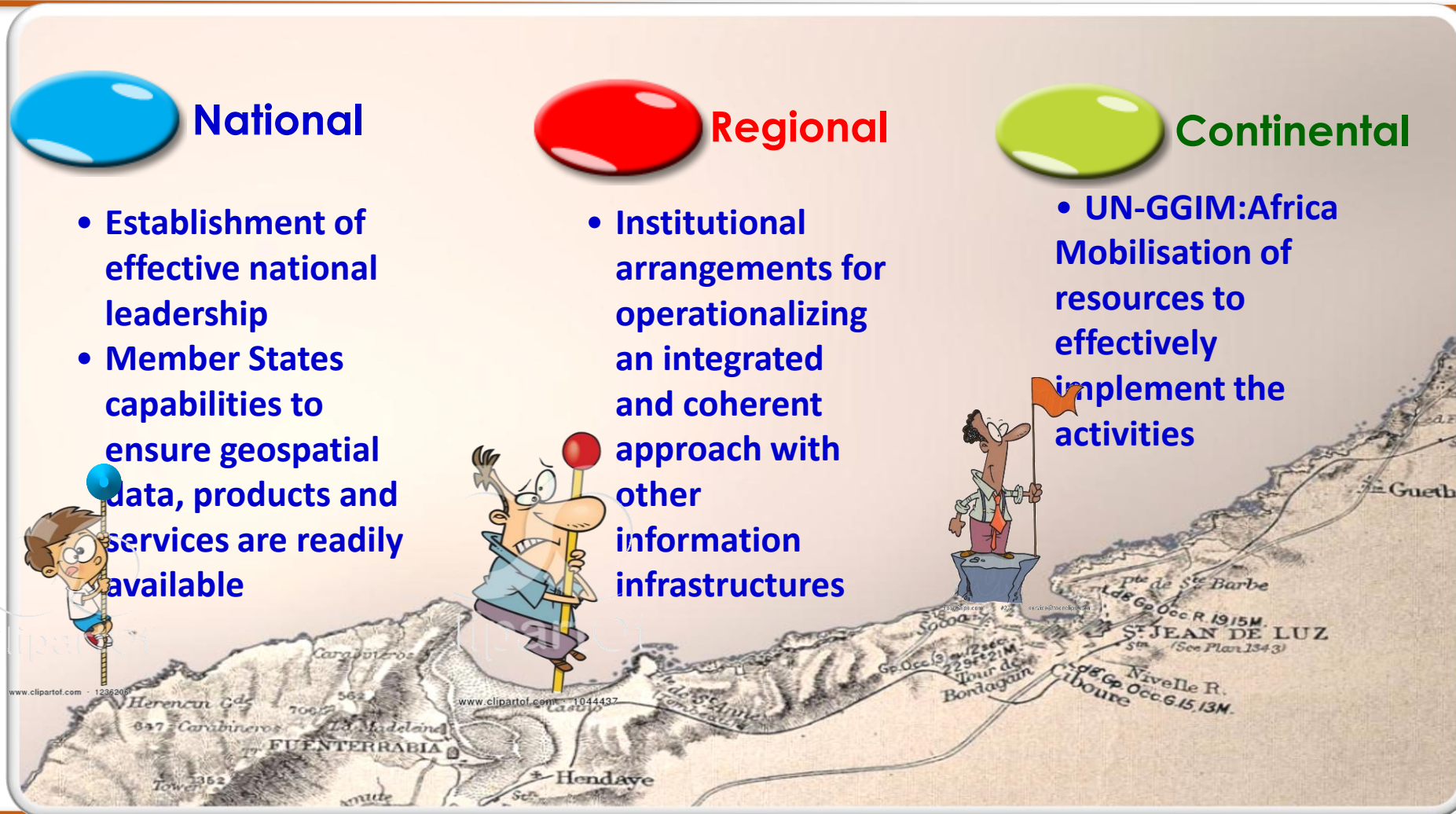
## Regional

- Institutional arrangements for operationalizing an integrated and coherent approach with other information infrastructures



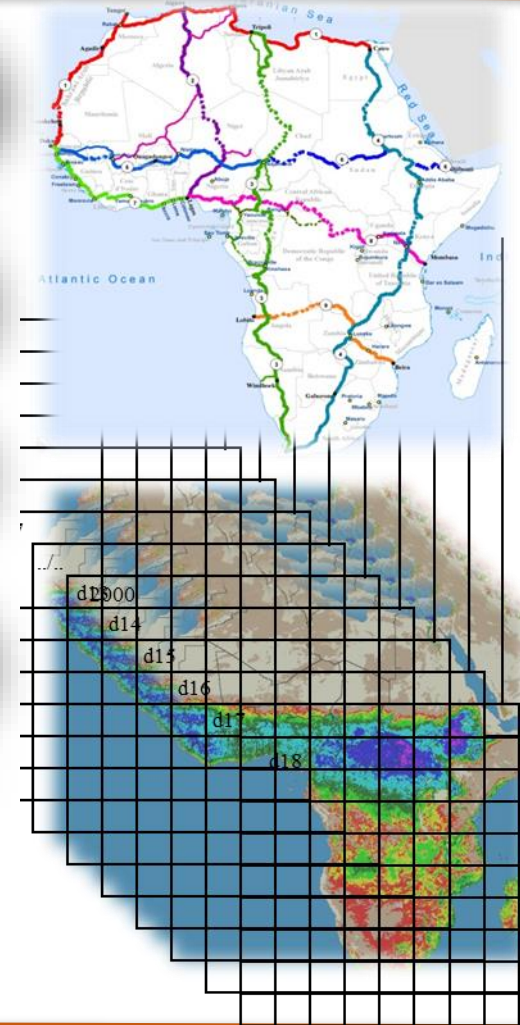
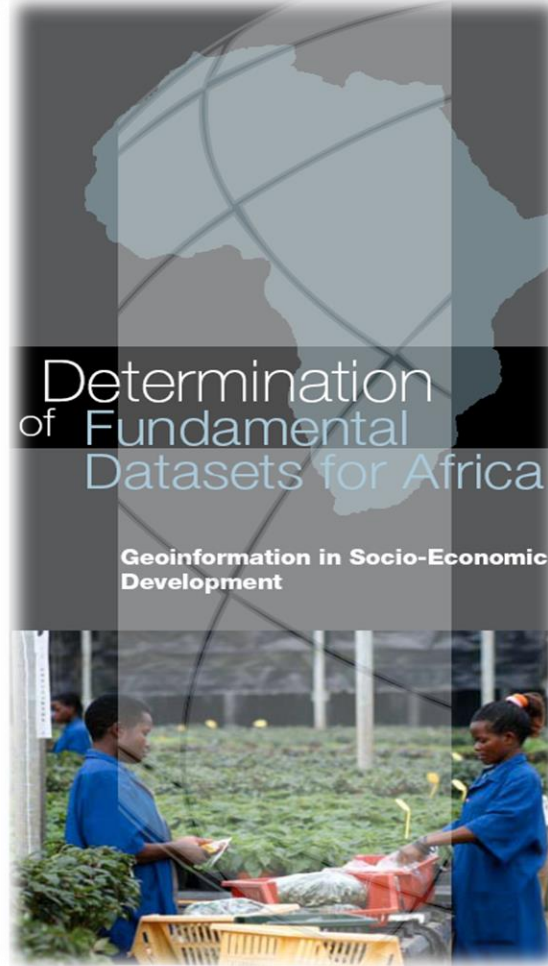
## Continental

- UN-GGIM: Africa Mobilisation of resources to effectively implement the activities



# Quick Win 1 : MAfA

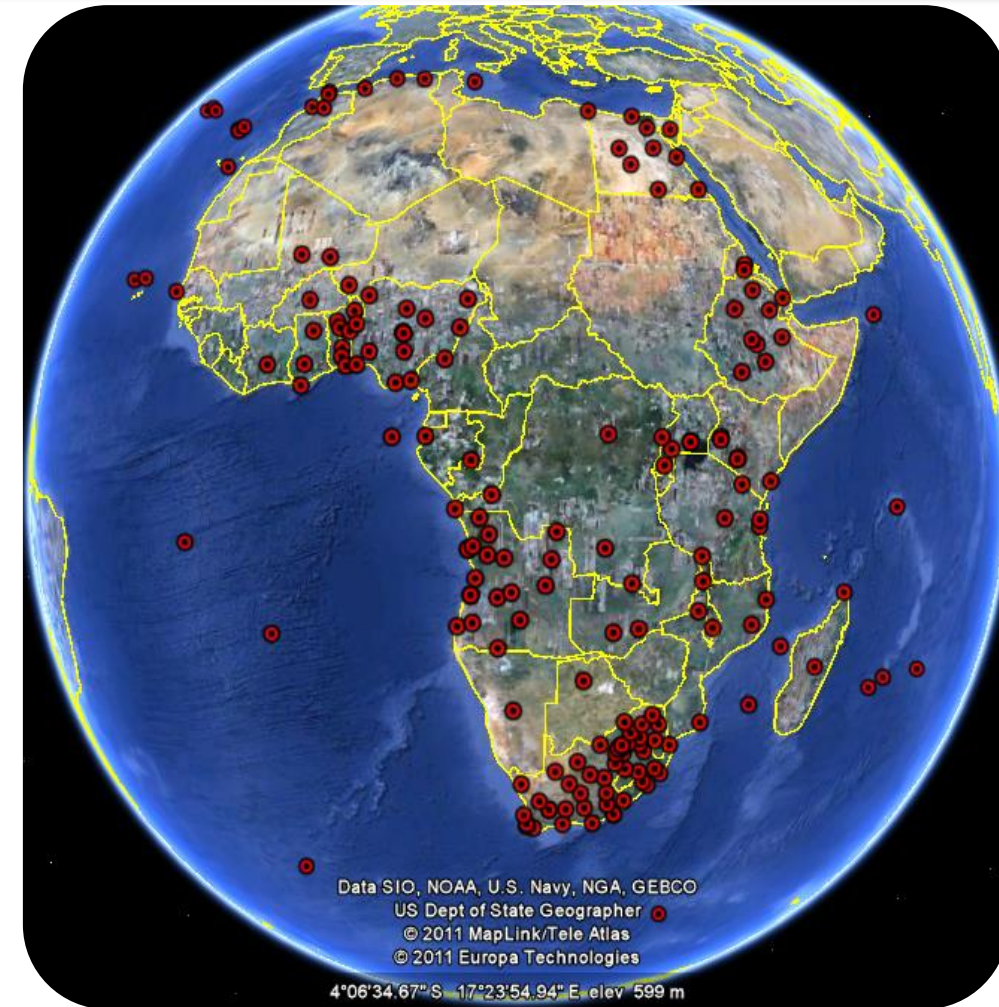
- Purpose-oriented datasets
- Structured and comprehensive data foundation that would be consistent, comparable and compatible at the local, national, regional, and global levels.





# Quick Win 2 : AFREF

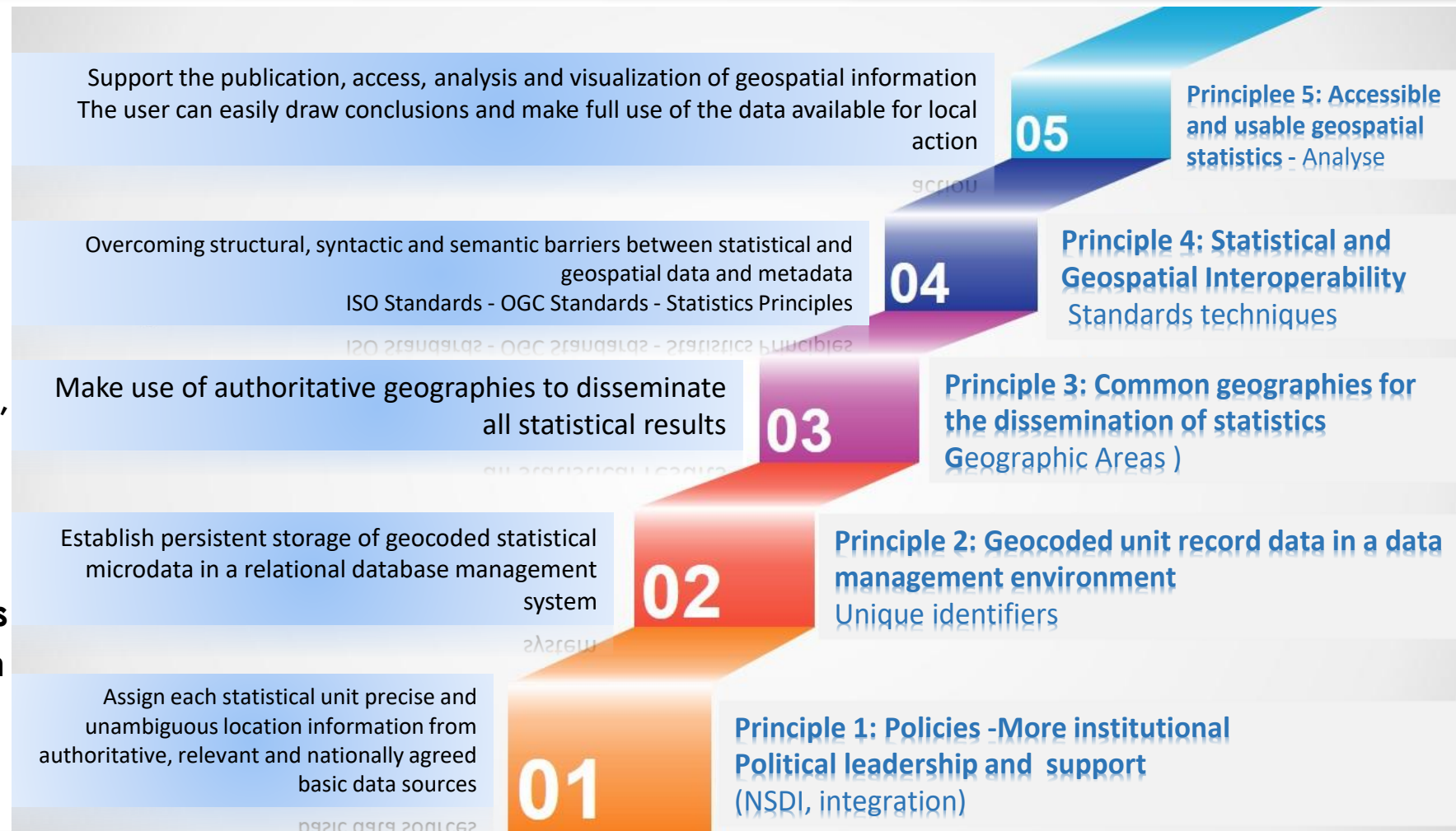
- Network of permanent GPS/GNSS base stations covering the whole continent
- At least two in every country
- Eventually, everywhere in Africa less than 500 km from a base station
- Uniform geodetic reference frame
- Consistent with the International Terrestrial Reference Frame (ITRF)
- Basis for national three-dimensional reference networks





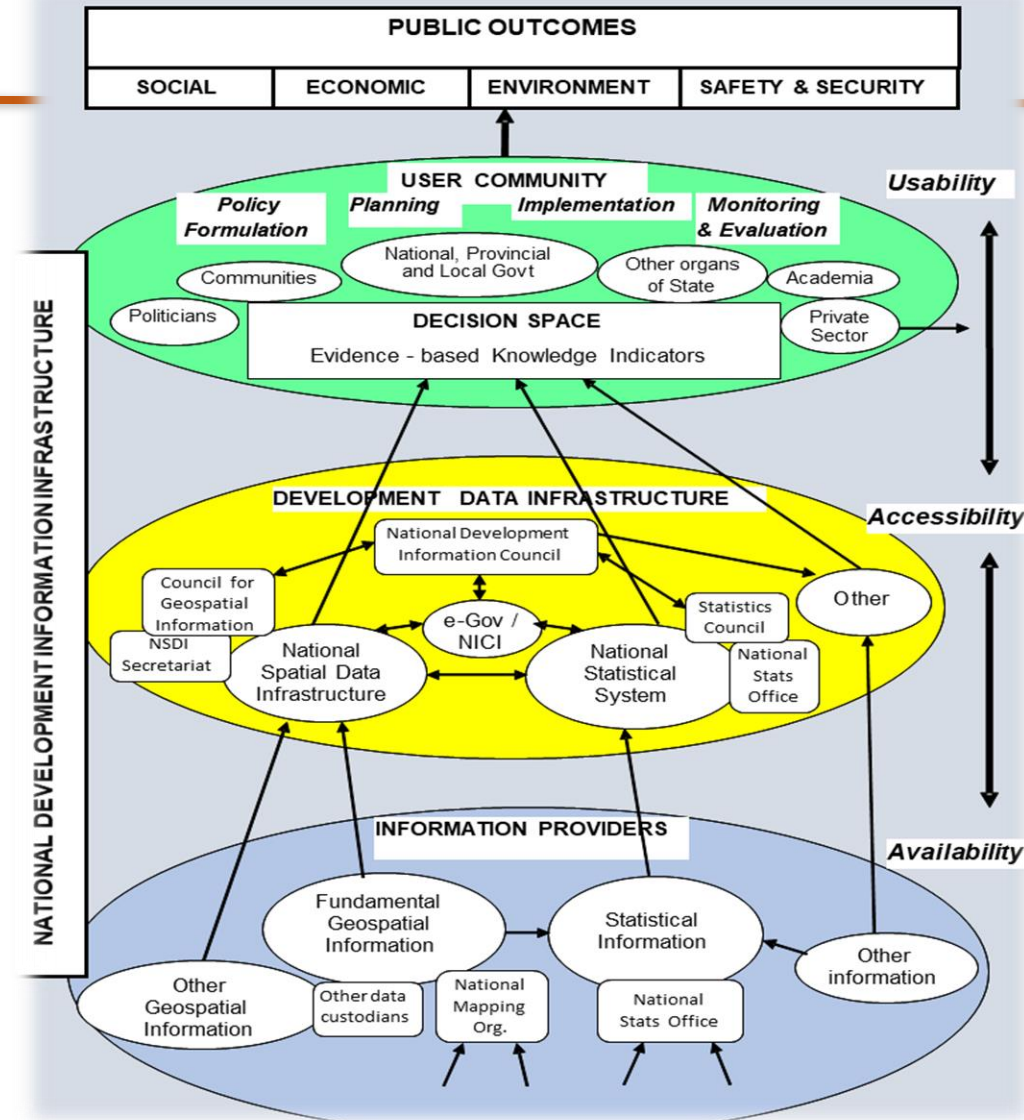
# Quick Win 3: The African Statistical Spatial Framework : Overarching Principles (From the GSGF)

- **Integration of Statistical and Geospatial Information :  
Overarching Principles**
- **Mainstreaming the enabling capabilities of geospatial technology into National Statistics Offices activities (all the way through training, data and processes)**
- **Linking NSDs and NSDI:  
National statistical, planning and cartographic authorities have effective collaboration between them in the development of respective data infrastructures**

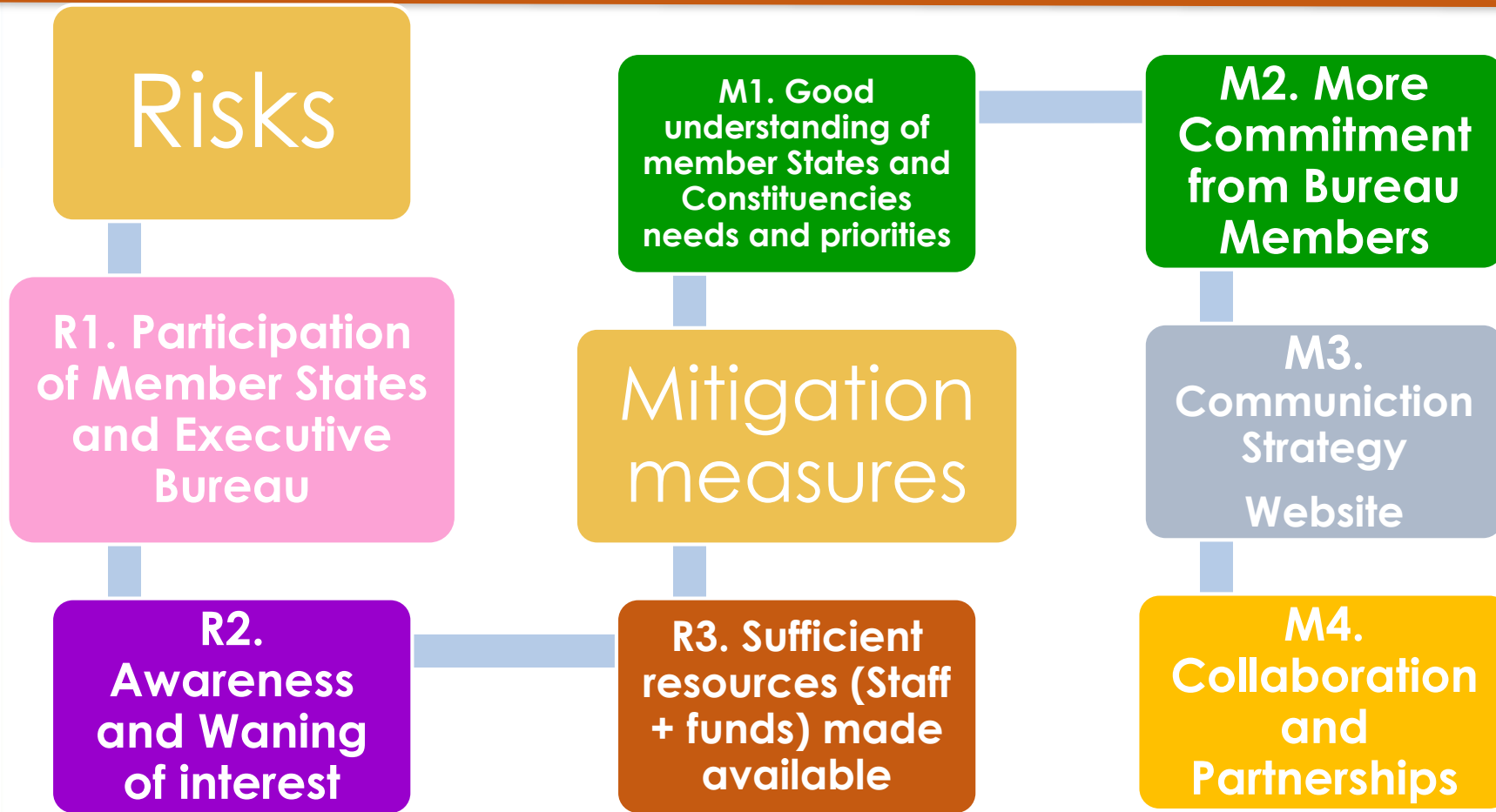


# Quick Win 3 : NDII

- A New Paradigm : The National Development Information Infrastructure (NDII)
- The foundational, authoritative and up-to-date spatially-enabled statistical information that are consistently available and accessible over time for informed decision-making at the local, national, regional, and global levels.
- The Global Statistical Geospatial Framework



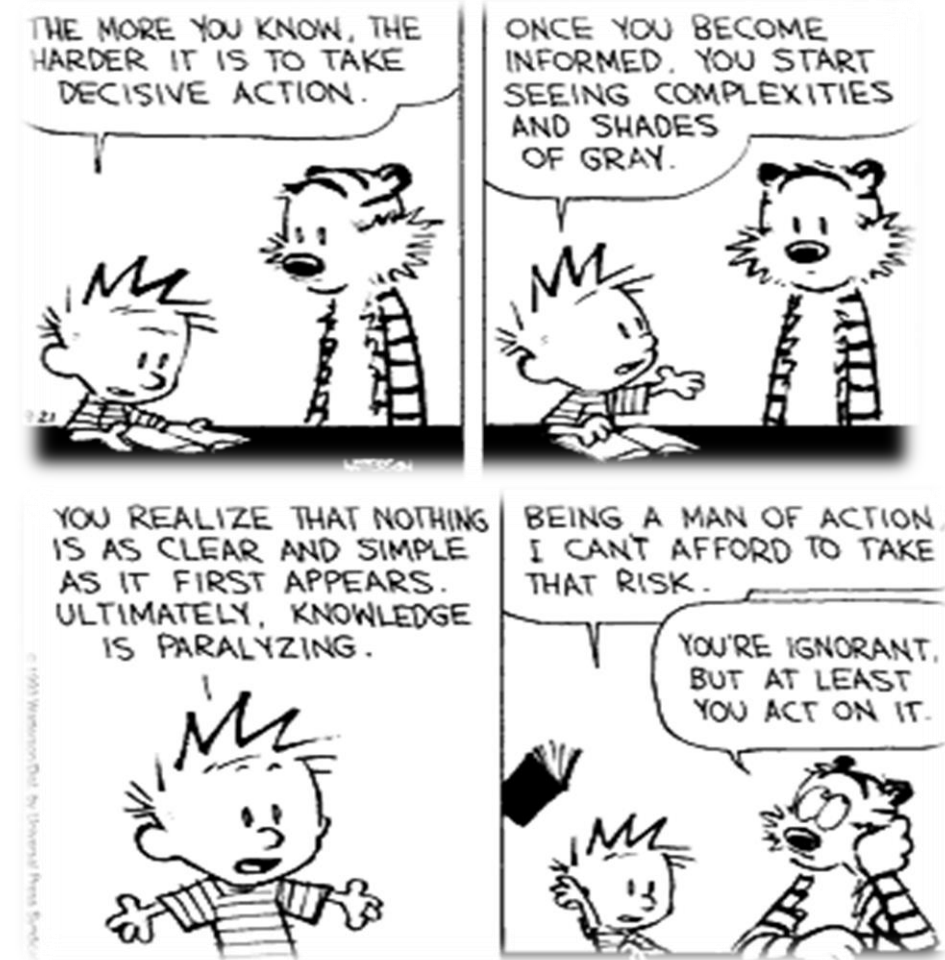
# UN-GGIM: Africa Action Plan : Risks



- Lao Tseu : Do not fear going forward slowly. Fear only to stand still..
- New Business standards: Collective approach to implementing key initiatives
- UN-GGIM:Africa : Africa making its own marks in the geospatial arena

# Getting There... Without Getting Lost...

- Leaving No One Behind
  - More active participation of Member States and Executive Board Members
- Mobilizing resources for Implementation
  - Involvement of the Private Sector
- Translating the Action Plan into concrete projects
  - How can the UNWGIC be an enabler for the implementation of the Action Plan





# Thank You [www.un-ggim-Africa.org]

- Download the Action Plan here:
- English:  
[www.uneca.org/sites/default/files/PublicationFiles/un-ggim\\_-\\_geospatial\\_information\\_for\\_sustainable\\_development\\_in\\_africa-20171115.pdf](http://www.uneca.org/sites/default/files/PublicationFiles/un-ggim_-_geospatial_information_for_sustainable_development_in_africa-20171115.pdf)
- French :  
[www.uneca.org/sites/default/files/PublicationFiles/geospatial\\_information\\_for\\_sustainable\\_development\\_in\\_africa\\_fre-20171115.pdf](http://www.uneca.org/sites/default/files/PublicationFiles/geospatial_information_for_sustainable_development_in_africa_fre-20171115.pdf)

