Geospatial Information Governance
Overarching Issues and the Way Forward from the Africa Region Perspective

A Presentation to the 9th Session of UN-GGIM: Africa

By

Sultan Mohammed Alya, Independent Consultant
Agenda

1. GI Governance Defined
2. GI Governance in Africa: The Journey To Date
3. Overarching Issues and Recommendations
4. Implementation mechanisms: The Way Forward
**What is governance?**

Governance is the process of making and enforcing decisions within an organization or society.

---

**Two frameworks for Geospatial Information Governance**

1. National Spatial Data Infrastructure (NSDI), which includes:
   - NSDI Proclamation + Data Sharing Policy
   - Lead Organization
   - Funding

2. Integrated Geospatial Information Framework (IGIF), in which GI governance has three Pathways:
   1. Governance and Institutions
   2. Policy & Legal
   3. Financial
IGIF: Governance as an enabler with three pathways

- Governance
- Technology
- People

![Diagram showing governance, technology, and people as enablers with knowledge, decisions, and development pathways.](image-url)
GI Governance Defined

GI Governance in Africa: The Journey To Date

Overarching Issues and Recommendations

Implementation mechanisms: The Way Forward

Agenda
GI Governance in Africa: The Journey To Date

1961 – 1997
UN Regional Cartographic Conference for Africa

1999 - 2007
The Committee on Development Information (CODI)

2009 - 2013
The Committee on Development Information Science and Technology (CODIST)

2015 -
UN-GGIM: Africa
**UN Regional Cartographic Conference for Africa (UNRCC)**

**Timeline**

**Objectives**
Provide a regional forum where government officials, planners, scientists and experts from the public and private sector, from Africa and abroad, meet to address common issues and exchange experience.

**Meetings**
Held biennial meetings at the UNECA HQ in Addis Ababa, Ethiopia; nine meetings were held in total.

**Achievements**
- The African Regional Institute for Geospatial Information Science and Technology (AFRIGIST) - formerly Regional Centre For Training In Aerial Surveys (RECTAS) - was established in 1972.
- The Regional Centre for Mapping of Resources for Development (RCMRD) was established in 1975.

**Shortcomings**
- Little to no participation from the political leadership/policy decision makers of African countries in meetings.
- Limited institutional participation as most African countries were in the process of establishing their National Mapping Organizations (NMOs).
- Limited achievement in terms of the implementation of meeting resolutions.
The Committee on Development Information (CODI)

One of the 7 Technical Committees established by the ECA Conference of Ministers during its review of the Intergovernmental machinery in May 1997 and lasted until 2007

Objectives
• Take over the functions of the joint Conference of African Planners, Statisticians, Population and Information specialists, and of the UNRCC
• Ensure the implementation of the African Information Society Initiative (AISI).

Meetings
Held meetings every two years; 5 total CODI meetings, all of which were held in Addis Ababa, Ethiopia

Achievements
• Conceived and launched the African Geodetic Reference Frame (AFREF) in 2000 to unify Africa’s geodetic reference frames and vertical datums.
• Promoted the implementation of NSDI in African countries since 2001
• Launched Mapping Africa for Africa (MAFA) Initiative in 2003

Shortcomings
• Limited focus on Geospatial information as CODI was also about ICT & Statistics;
• As its predecessor UNRCC, CODI meetings also had little or no participation from the political leadership of African countries;
The Committee on Development Information Science and Technology (CODIST)

### Timeline
Replaced CODI following the restructuring of UNECA Development Information Services Division (DISD) as Information Science and Technology Division (ISTD) in 2009 and lasted until 2013.

### Objectives
- A continuation of CODI

### Meetings
Three CODIST meetings (CODIST I – CODIST III) were held.

### Achievements
- Same as CODI

### Shortcomings
- Same as CODI
## UN-GGIM: Africa

### Timeline

Established in November 2015 by the resolution of the third session of CODIST meeting held on 13th March 2013.

### Objectives

- Improve the capacity of member States in terms of national geospatial information management policy direction;
- Establish and promote the necessary institutional arrangements and frameworks that enable Member State to attain an operational level of geospatial consistency and maturity;
- Coordinate funding proposals to be submitted to donor organizations & Governments.

### Meetings

UN-GGIM: Africa meetings were held on annually basis since 2015, and we are now holding the 9th session here in Cape Town.

### Achievements

- Guidelines for the establishment of NSDI in Africa developed.
- Assessment of NSDI implementation in Africa completed.

### Shortcomings

- Despite the various valuable documents produced and meeting recommendations adopted, implementation of the recommendations was far from satisfactory.
## Summary of Africa’s journey so far

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Meetings and deliberations on Geospatial Information (GI) among UNECA Member States ongoing since 1961, Over 60 years up to now.</th>
</tr>
</thead>
</table>
| Objectives | • Create/enhance awareness among African Policy Decision makers and GI practitioners about the role of geospatial information for Africa’s development;  
• Develop the capacity of Member States in terms of national geospatial information management policy direction;  
• Establish and promote the necessary institutional arrangements and frameworks that enable Member State to attain an operational level of GIM. |
| Meetings | A total of 25 formal meetings were held, including the current UN-GGIM: Africa 9th session, during these 62 years. |
| Achievements | • Awareness creation regarding the role of GI in sustainable development;  
• Capacity development in various aspects of GIM in Africa;  
• Initiation of valuable initiatives such as AFREF, NSDI/ARSDI, MAFA, etc.  
• Publication and dissemination of various valuable documents to Member States. |
| Shortcomings | • All meetings ended with well-structured and well intentioned resolutions, however, little was achieved in terms of the implementation of resolutions of the meetings. **Meetings were reduced to mere ‘talk shows’ among peers.** |

---

*Timeline*

- All meetings ended with well-structured and well intentioned resolutions, however, little was achieved in terms of the implementation of resolutions of the meetings. **Meetings were reduced to mere ‘talk shows’ among peers.**
Overarching Issues and Recommendations

1. Governance and Institutions
2. Policy and Legal
3. Financial
<table>
<thead>
<tr>
<th>Overarching Issues</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geospatial Information Management Agencies or Institutions with similar role in</td>
<td>• Attain <strong>high level political endorsement</strong></td>
</tr>
<tr>
<td>most African countries have 3 main issues:</td>
<td>• <strong>Strengthen institutional mandates</strong></td>
</tr>
<tr>
<td>1. Have <strong>limited cross-cutting roles</strong> as they are appended to specific</td>
<td>• <strong>Build a cooperative data sharing environment</strong> through a shared understanding</td>
</tr>
<tr>
<td>functional ministries</td>
<td>of the value of an Integrated Geospatial Information Framework, and the roles</td>
</tr>
<tr>
<td>2. Do not have adequate institutional mandates</td>
<td>and responsibilities to achieve the vision.</td>
</tr>
<tr>
<td>3. Lack <strong>cooperative data sharing environment</strong></td>
<td></td>
</tr>
</tbody>
</table>
Overarching issues & recommendations: Policy and Legal

Overarching Issues

Most African countries have no or have outdated GI Policy & Legal Frameworks.

Recommendations

• **Enact or Improve laws and policies** associated with, and having an impact on geospatial information management;

• **Proactively monitor the legal and policy environment**, particularly with regard to designating the official responsibility for the regulation and production of data, and with respect to the issues raised by emerging technologies and the evolving innovative and creative use of geospatial information.
Overarching Issues

- Most African countries lack adequate funding to produce relevant and timely geospatial data and to maintain existing data sets;
- While most developed countries allocate 2-3% of their GDP to Research and Development, African countries only allocate less than 0.5% of their GDP.
- As a result, dependence on foreign donors is widespread.

Recommendations

- Understand the implementation costs and ongoing financial commitment required to deliver sustained integrated geospatial information management.
- Identify sources of funding and allocate annual budget, minimizing dependence on foreign donors.

1. World Bank Data
Despite over 60 years of independence and “Development Aid”, Africa is still the “Dark” Continent

Large segment of the African population still does not have access to electricity.

Only 50.6% of the African population has access to electricity¹

Compared to 91.4% of the World average¹

Internet penetration remains low across the continent.

Internet penetration in Africa is only 43.2%²

Compared to a world average of 67.9%²

Very little of the continent is mapped in detail.

Authoritative data coverage for Africa at a scale of 1:25,000 is only about 3%

Compared to a world average of about 33.5%

---

1. According to World Bank Data (2021)
2. World Internet Statistics 2023 est.
So, What is To Be Done? To make progress, we need to take a novel approach

**Engage**
Let's stop talking only to ourselves! We need to start engaging the political leadership/policy decision makers in the continent.

**Demystify**
Geospatial information should be regarded as other forms of information that are widely recognized and appreciated by the political leadership/policy decision makers.

**Be Self-Reliant**
Africans take full responsibility for financing our development Goals (AU Agenda 2063: Goal 20).
We have to get away from the idea that there is some Father Christmas who's going to come and develop our continent for us -- there is no Father Christmas, there is just us, ......the time has come for us to take our destiny in our own hands.

H.E. Nana Akufo-Addo, President of Ghana, in an address to representatives of the African diaspora in France gathered at the Elysee Palace in Paris – July 11, 2019
Implementation Mechanisms: The Way Forward - Governance and Institutions

- GI Patron (Cabinet level Minister in Charge of Geospatial Information)
- National GI Executive Council
- National GI Secretariat

Proposals/Recommendations
- Fundamental Data WG
- Standards WG
- Policy and Legal Affairs WG
- Finance WG
- Capacity Building WG
- Communication/Advocacy WG

Policies, Decisions/Approvals
Implementation Mechanisms: The Way Forward - Policies and Legal Framework

African countries urgently need to draft and implement Geospatial Information Management Policies and Legal Frameworks that are commensurate with advances in technology, especially in the wake of AI, to enable Geospatial Information Agencies in Africa to regulate, produce and share timely and accurate geospatial information to all users;

Otherwise?

Geospatial Information Agencies in Africa will soon become irrelevant as their roles will be taken over by big hi-tech companies with the grave consequence of breaching the sovereignty of our countries and our continent.
Implementation Mechanisms: The Way Forward – Financial

- Let’s do away with our dependency syndrome; donor support, if available, needs to be considered as something complementary but not the main source;

- Implement the now forgotten Lagos Plan of Action, African Union Heads of State Summits and Science with Africa Conference recommendation (1980) of setting at least 1% of the country’s GDP for Research and Development.

- Sub-Saharan Africa GDP (2022): 2.05 trillion (WB data)

- If only 5% of the 1% of GDP R & D fund can be allocated for GI, Africa can generate over 1 Billion USD annually for GI.
  - N.B. the African Action Plan estimated the budget for implementation of about 154 million USD over a period of 15 years.
Implementation Mechanisms: The Way Forward – Financial..

Research & Development Expenditure as % of GDP (World Bank Data)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Region</th>
<th>Year</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Africa</td>
<td>2007</td>
<td>0.44</td>
</tr>
<tr>
<td>2</td>
<td>OECD Countries</td>
<td>2020</td>
<td>2.96</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>2020</td>
<td>2.4</td>
</tr>
<tr>
<td>4</td>
<td>World</td>
<td>2020</td>
<td>2.63</td>
</tr>
</tbody>
</table>
Implementation Mechanisms: The Way Forward – Financial..
But How? The recommended novel approach for Geospatial Information governance in Africa

1. Establish a committee for Geospatial Information Advocacy in Africa
   - UNECA
   - AU
   - UNGGIM: Africa
   - Academia
   - Private Sector

2. Identify and contact influential leaders that can champion GI promotion in Africa
   - UNECA
   - UNGGIM: Africa
   - Executive Bureau

3. Prepare a Policy Brief with focus on:
   - Importance of Geospatial Information in guiding Policy formulation & implementation;
   - Expound role of GI in SDGs and AU Agenda 2063 implementation, (Quick wins);
   - Demonstrate with tangible evidence.

4. Present the Policy Brief to the identified leaders/champions

5. Gain the support of the Identified Leaders to recommend to African Heads of State to hold a special conference to establish an Intergovernmental Mechanism (Conference of Ministers equivalent to StatCom Africa) for Geospatial Information Management in Africa.
THANK YOU!