



Integration of Geospatial and Statistical Information

The African Spatial Statistical Framework

United Nations
Economic Commission
for Africa

Geoinformation &
Spatial Statistics

Andre Nonguierma

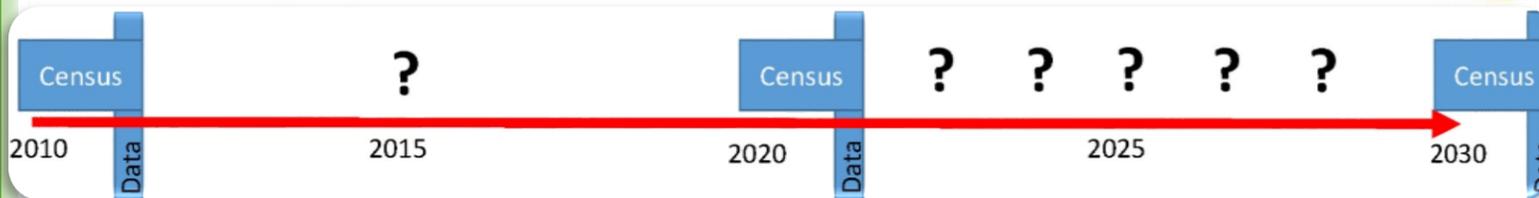
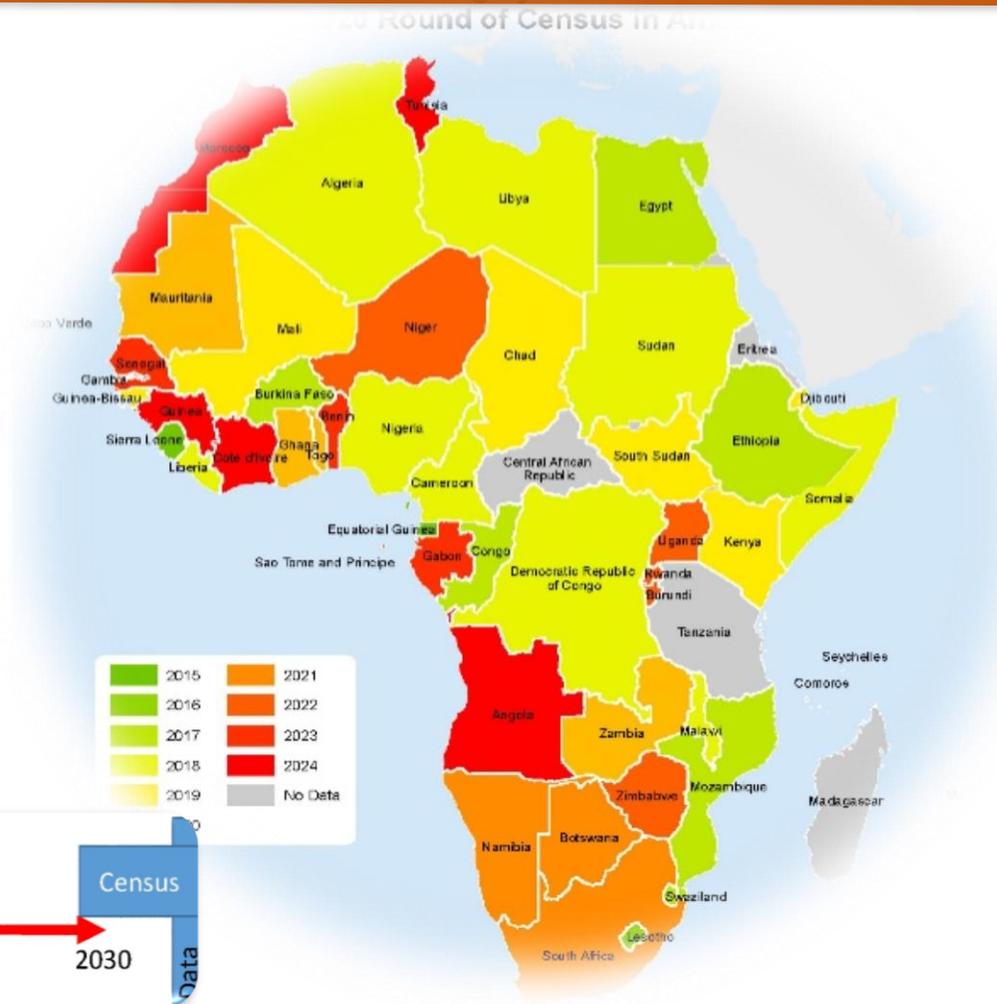
Joint UNECE/UN-GGIM Workshop on Integrating
Geospatial and Statistical Standards
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Stockholm, Sweden



UN-GGIM: AFRICA
UNITED NATIONS INITIATIVE ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

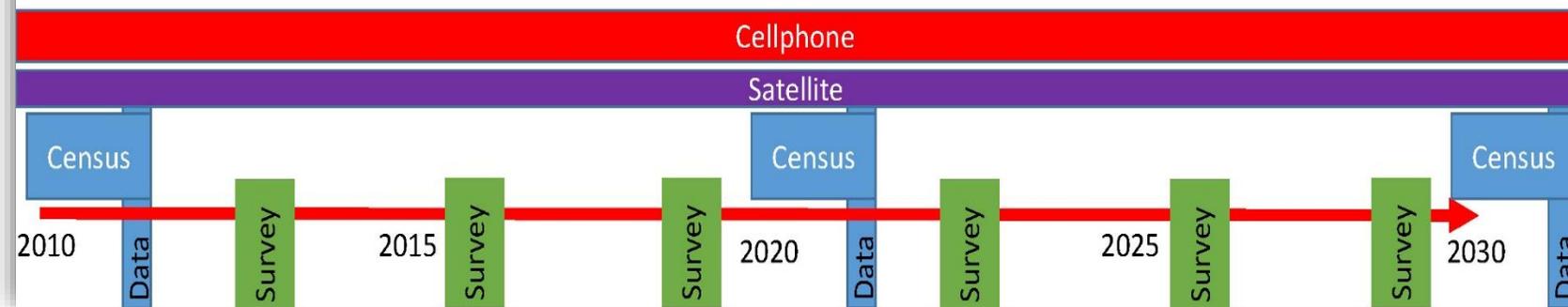
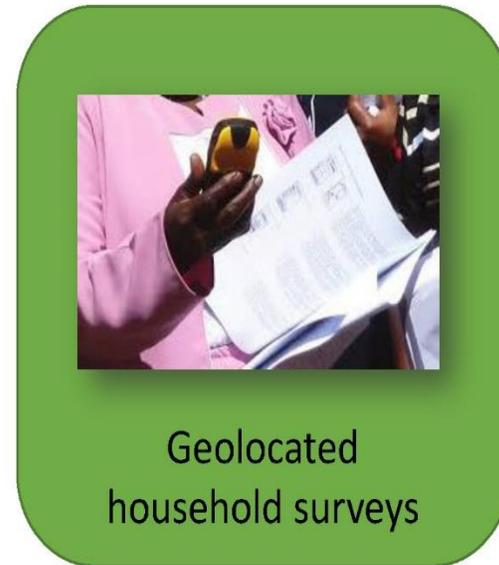
The Challenge : Counting and Locating

- National census data will continue to be our most important data source
- Typically we need just one census data point : So, no consideration for the location attributes.
- After we count “beans and heads” we start looking for anchoring the number to place.



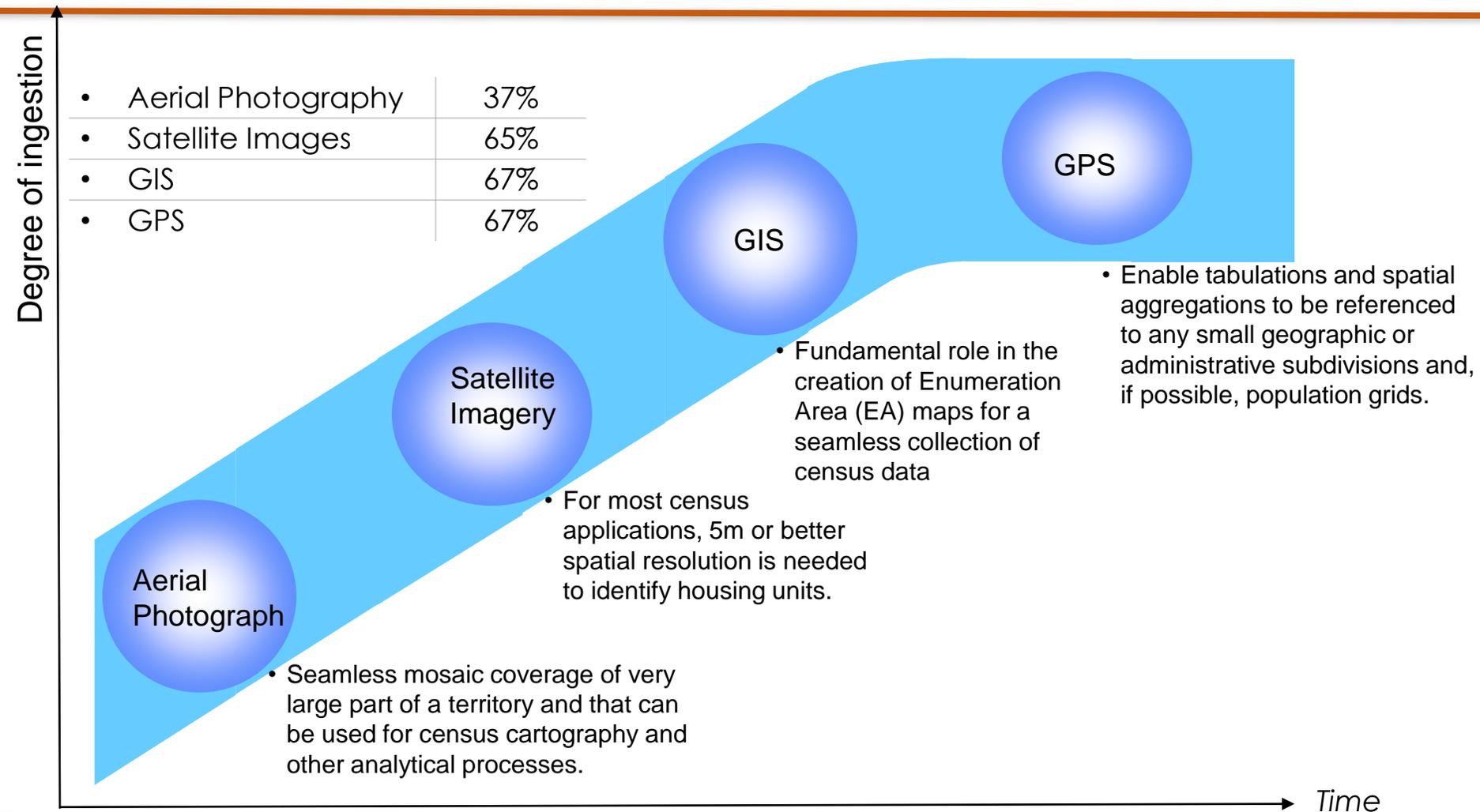
The Challenge : Counting in Real Time

- All SDGs are based on ensuring a certain percentage of the population has access to specific services or resources, or achieves a certain level of social, economic, or environmental health
- Need for accurate, subnational, ongoing data on denominators
- Translating complex cycle of data acquisition, processing, analysis, visualisation and decision making into real time monitoring and management
- Geospatial industry is moving from analyzing and presenting discrete data sets towards working with streams of spatially-enabled data (e.g. real time location-based



Status of Mainstreaming Geospatial into Statistical Processes in Africa

The question is no longer about the ingestion of geospatial technology, but what are some of challenges and commonalities in Africa



Use of geospatial technologies in censuses operations by African countries

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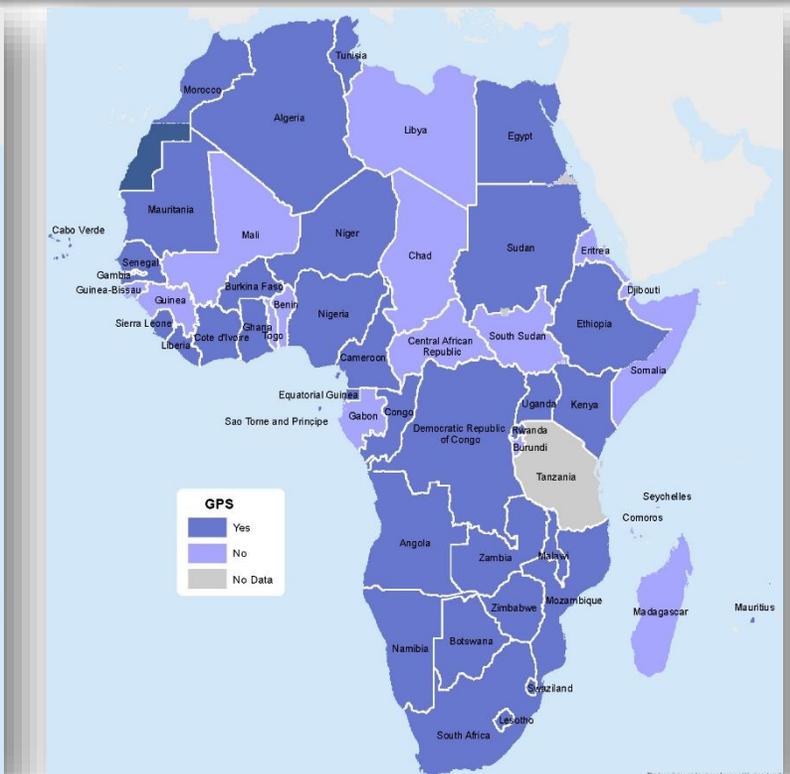
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GIS

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GPS

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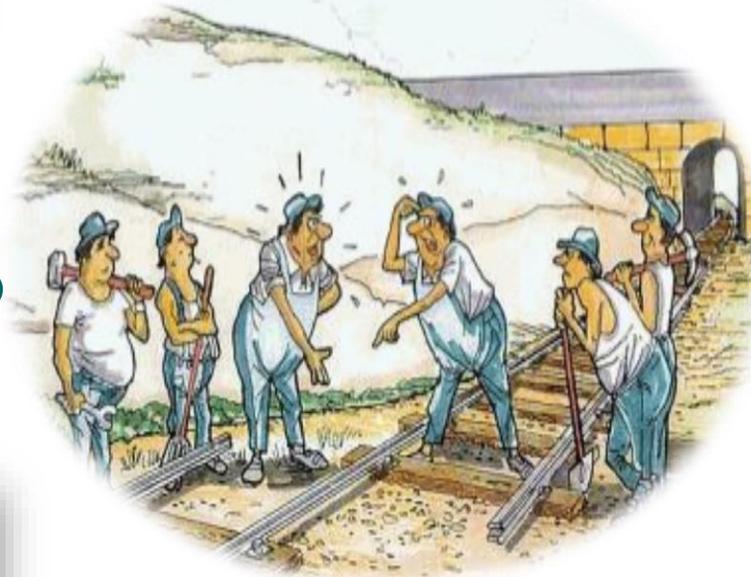
Nexus Issues in Linking Geography and Statistics

- Lack of suitable base maps in scale and currency
- Lack of coordination: there is no linkages between the statistical systems and the geospatial systems and infrastructures
- Duplication of Effort: the statistical offices create their own data on administrative boundaries and topographic maps



Leadership

Leadership: Establishment of effective national leadership



Cooperation

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



Resources

Mobilization of resources needed to effectively produce development information



Capabilities

Member States capabilities to ensure geospatial data, products and services are readily available

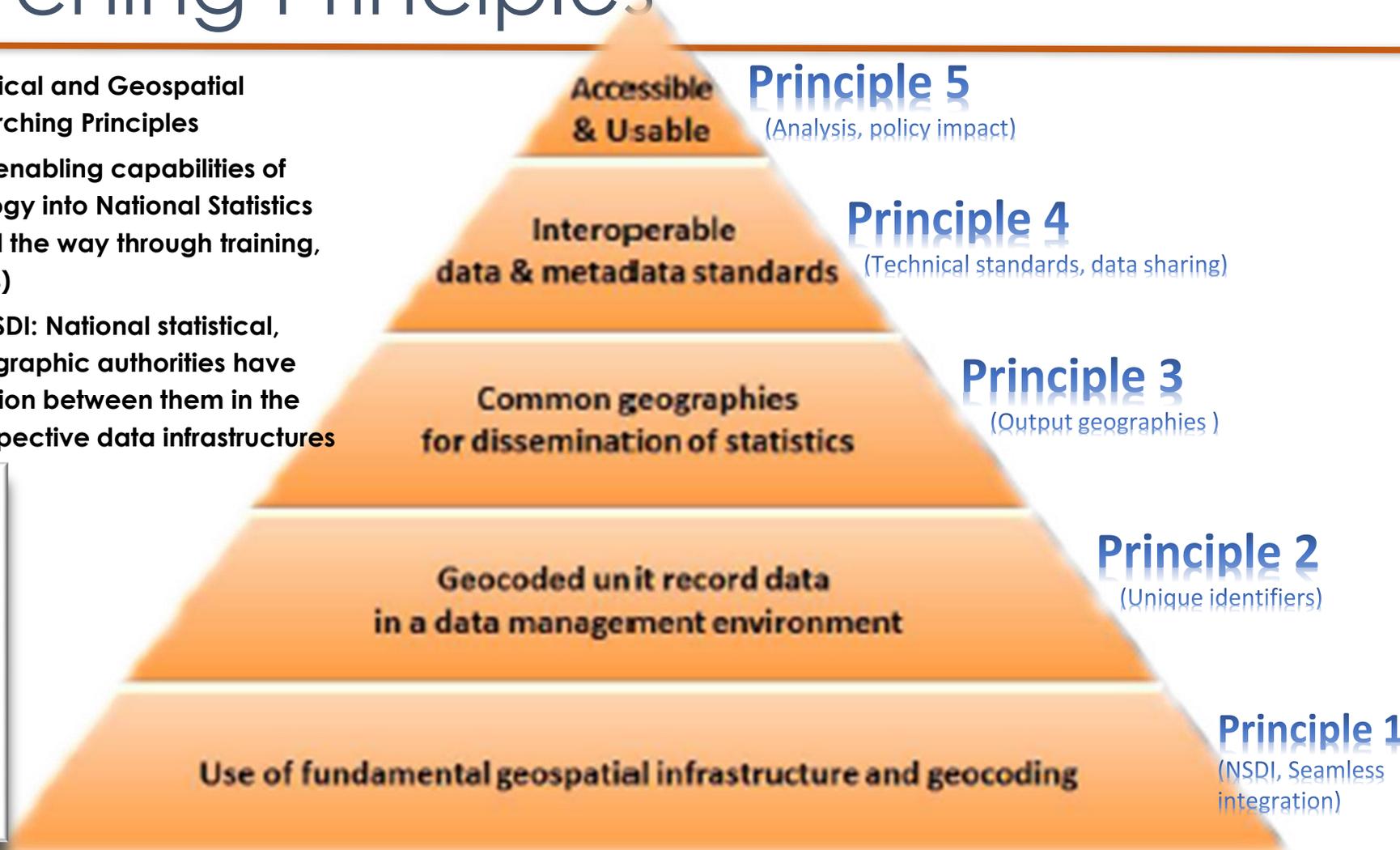


The African Statistical Spatial Framework : Overarching Principles

- 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 and systems.

Tips:

- High-level framework
- Not a one-size-fits-all
- Start anywhere



Demand for small geography data.
More frequent data.
Policy impact

ISO Standards
OGC Standards
Statistics Principles

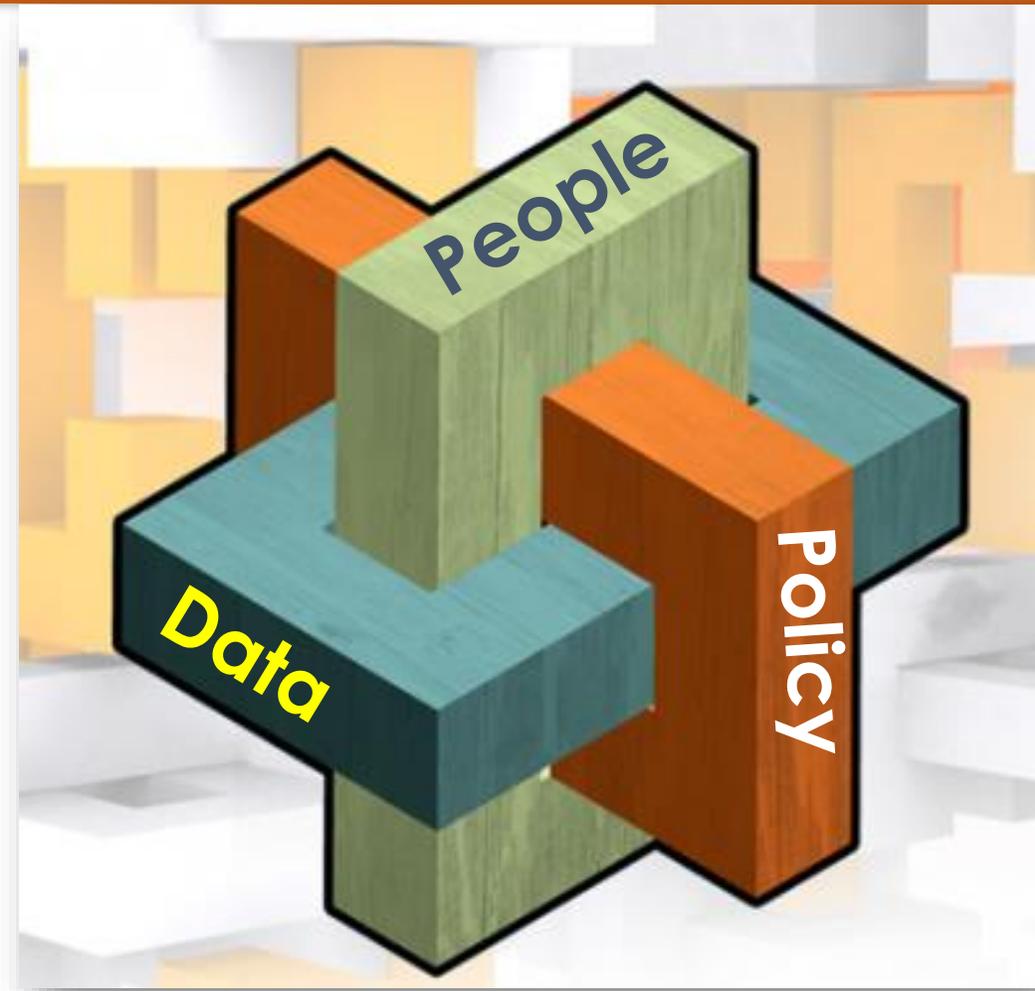
Standard geographic administrative boundaries (province, municipality, etc.).

No PIN.
Link mainly through the geography.
Geography not always standardised.

Policies
More institutional
Political leadership and support

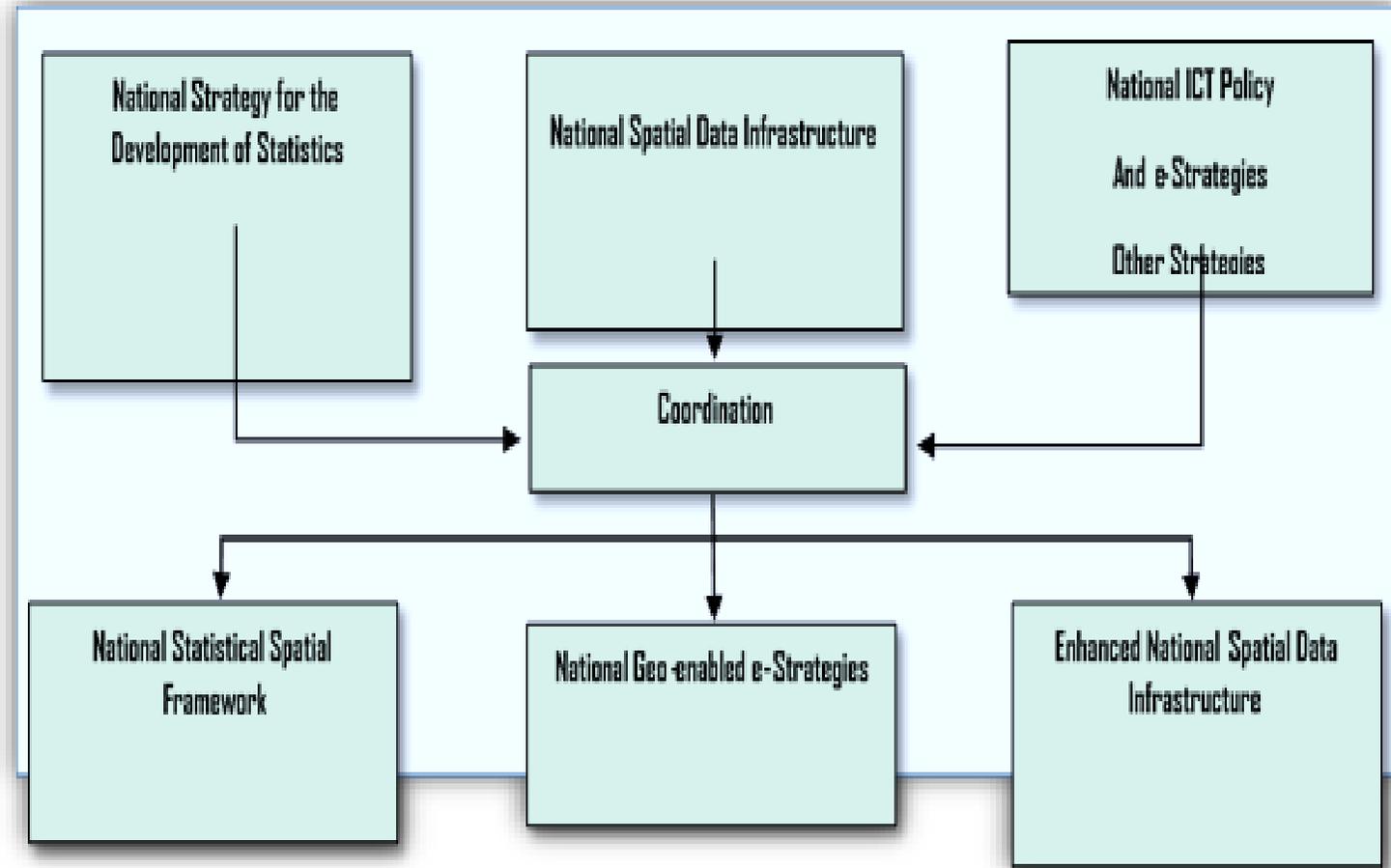
The African Statistical Spatial Framework: Dimensions

- A successful integration of geospatial information and Statistical Information requires to look at the following dimensions: (1) Scale; (2) Policy; (3) Institutional; (4) Modelling.
- **Scale** : The scope of the geographic space in which the integration is due to take place.
- **Policy** : The policy dimension necessary at all levels on the Scale axis to initiate and harmonise the strategies and related regulations in order to smoothly achieve full integration
- **Institutional** : The institutional arrangements necessary to achieve real integration, in accordance with the orientation of the two compatible policies.
- **Modelling** : The component of the integration process dealing with the technical, technological, scientific abstraction and their related functional and procedural interactions :) GSGF



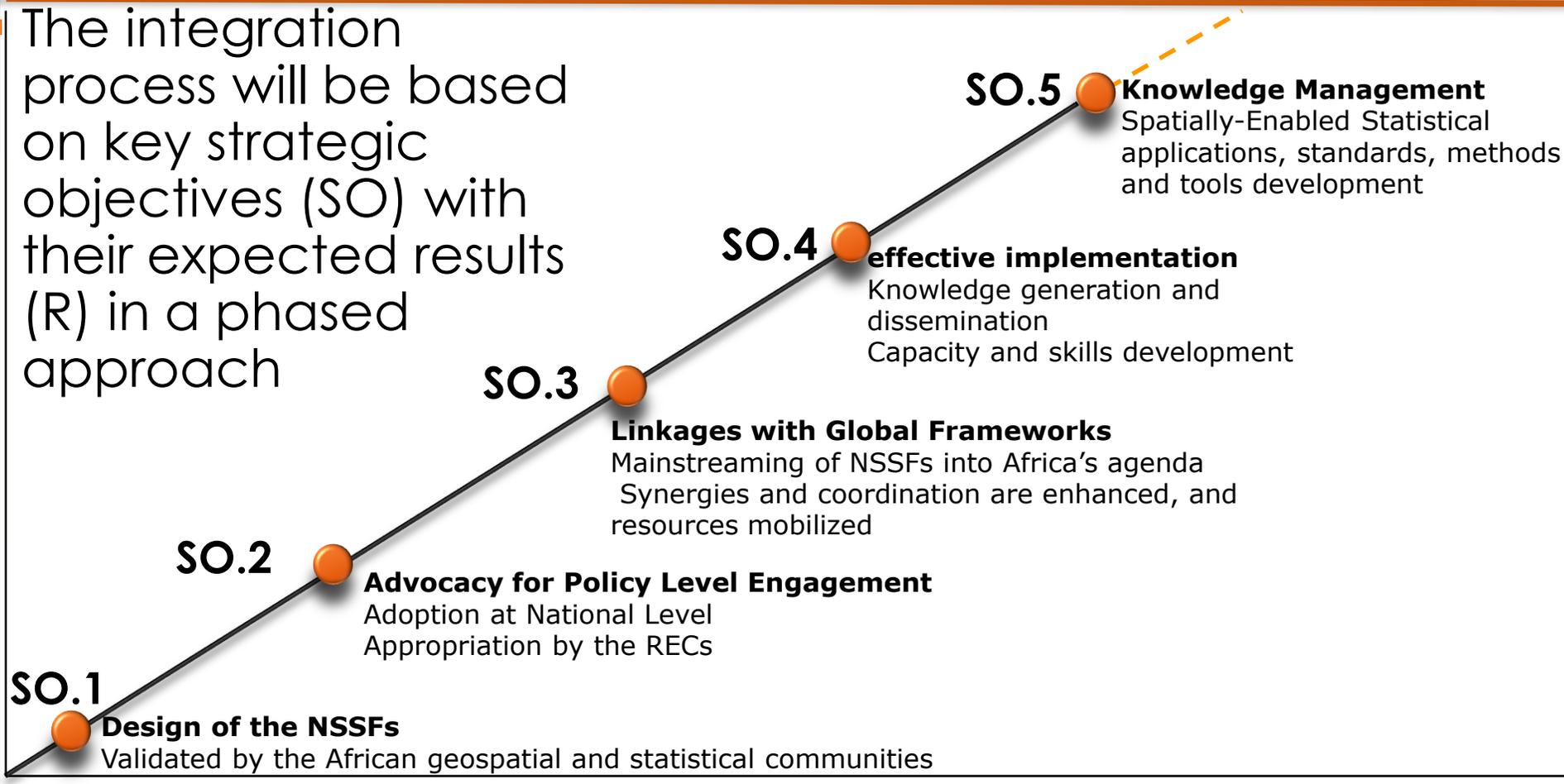
The African Statistical Spatial Framework: Downscaling into NSSF

- The strategy includes a deconvolution mechanism to downscale the framework at national level, where Member States can adopt, adapt and apply their own National Statistical Spatial Framework (NSSF) based on the prevailing environment and realities in each country



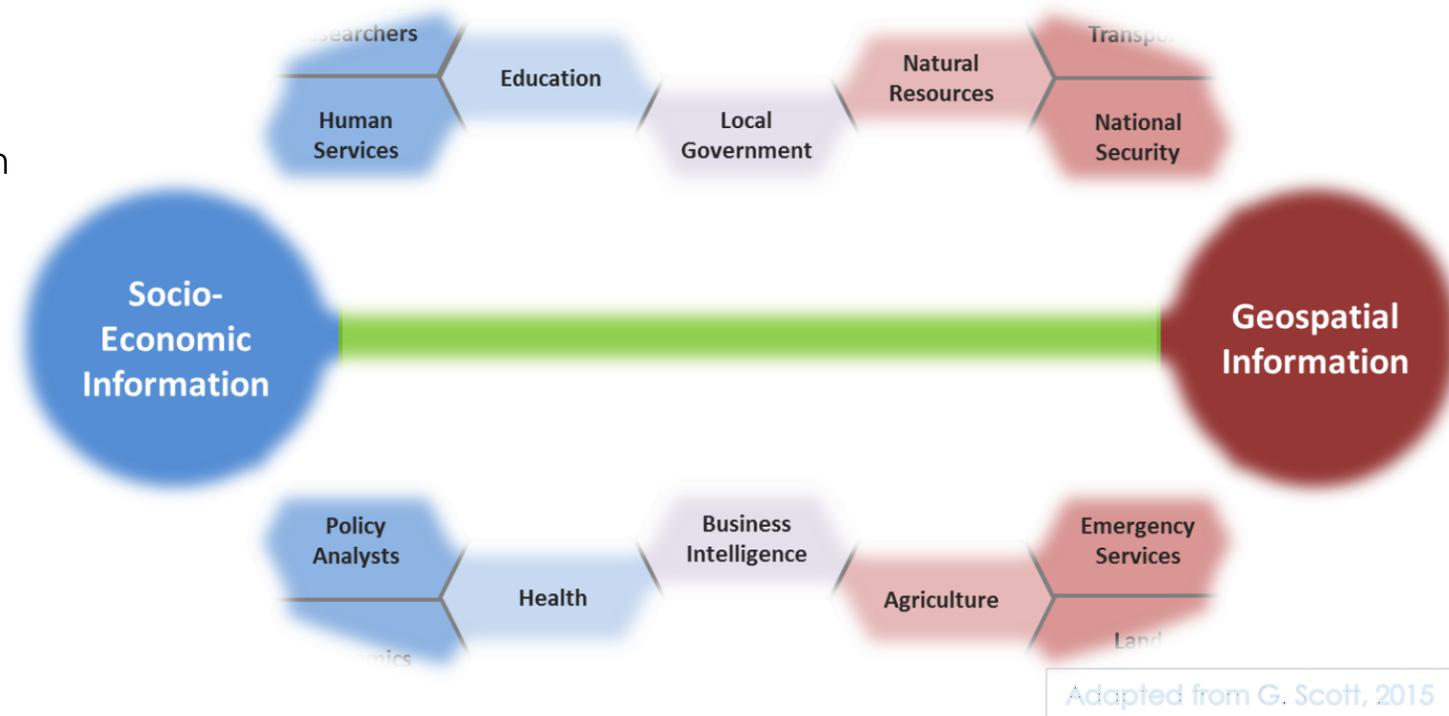
The African Statistical Spatial Framework: Strategic Objectives

The integration process will be based on key strategic objectives (SO) with their expected results (R) in a phased approach



The African Statistical Spatial Framework: Quick Wins

- 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
 - Integration of geospatial and statistical information, NSDI and NSDS Linked
- SALB Project :
 - Building, updating and sharing common administrative boundaries.
- 2020 Round of Censuses
 - Promote Geospatially enabled censuses in Africa. Build geo-referenced dwelling frames



Concluding Remarks :

You cannot count what you cannot locate

- Geography is important to Statistics : Visible benefits have been accomplished through the adoption and sound application of GIS, Remote Sensing and other geospatial solutions, tools and techniques (including standard and interoperability) in the creation, analysis and presentation of statistical data.
- Invariably, GIS have modified the way in which data from national statistics offices are collected and stored and are produced.
- Many countries have integrated GIS into their census mapping processes and household listings in some regard, and most now have developed a solid geo-referenced (GPS) database of dwelling locations, clearly delineated enumeration area boundaries and a complimentary set of high-resolution satellite imagery.
- Geospatial analysis must become a core competency in any Census Office : Our aim is to mainstream geospatial information technology into national statistics offices activities in Africa, all the way through training, data and processes.



