

# **African requirements for SDI standardization**

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# Acknowledgements

- This presentation draws from two surveys of SDI in Africa, conducted by:
  - The Geoinformation Systems Section (GiSS) of the ICT and Sciences & Technology Division (ISTD) of the United Nations Economic Commission for Africa (UN ECA), reported at the CODIST-I meeting, Addis Ababa, April 2009
  - Makanga P & Smit J, “A review of the status of spatial data infrastructure implementation in Africa”, FOSS4G2008, Cape Town, October 2008
- Different perspectives of what is important for an SDI
  - Hence, different questions

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# Comparing the two surveys

- **UN ECA survey**
  - Circulated to more than 53 Countries
  - Responses from 14 countries
    - Algeria, Botswana, Burkina Faso, Cameroun, Congo, Guinea Bissau, Lesotho, Madagascar, Namibia, Niger, Senegal, South Africa, Togo, Uganda
- **Makanga & Smit survey**
  - Circulated to 269 people in 47 countries
  - SDI coordinating agencies, national mapping agencies, NGOs, academia, etc
  - Also a desk-top study
  - 29 countries used in the survey
    - Botswana, Burkina Faso, Cameroun, Chad, Congo, Egypt, Ethiopia, Gabon, Kenya, Lesotho, Libya, Madagascar, Malawi, Mali, Morocco, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Tunisia, Uganda, Zimbabwe

32 countries covered in total

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# Comparing the two surveys

- **UN ECA survey**
  - 5 have SDIs
  - 5 have national coordination boards for SDIs
  - 4 have working groups or sub-committees
  - 4 have held meetings of the SDI Committee and WGs
  - Implementation in many has stalled with setting up committees
- **Makanga & Smit survey**
  - 20 have an SDI coordinating body
  - Minimal political support for SDI activities
  - 10 have reasonable political support
    - 2 very high-level political support
    - Directly from the President's Office
  - 4 have adequate funding
  - 6 have satisfactory participation by stakeholders
  - 3 have an SDI clearinghouse

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# Comparing the two surveys

- **UN ECA survey**
  - 8 have a geographical names authority
  - 5 have undertaken activities to implement SDIs
  - High cost of implementing the technical aspects of the SDI
  - 7 have validated and available fundamental datasets
- **Makanga & Smit survey**
  - Some NGO initiatives have created SDI clearinghouses or geo-portals
  - 6 have parts of the legal framework for an SDI implemented
    - **Some even SDI Acts**
  - Most are still advocating for the legal framework

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# Comparing the two surveys

- **UN ECA survey**
  - 16 have new mapping initiatives or projects
  - 12 have undertaken map revision
  - 3 have established a metadata & clearinghouse gateway
  - 6 have Global Navigation Satellite Systems (GNSS) reference stations
    - Being addressed by UN ECA's AFREF project
- **Makanga & Smit survey**
  - 2 SDI clearinghouses in 2003
  - 3 in 2008
  - But the 2 from 2003 have closed down

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# Comparing the two surveys

- UN ECA survey
  - Limited capacity in all the relevant disciplines
    - Photogrammetry, Geodesy, Cadastral, GIS, Remote Sensing, Databases, Mapping
  - Limited training courses and workshops being held
    - Except in South Africa

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# Issues identified by the two surveys

- **UN ECA survey**
  - Lack of Policies
  - Getting government to implement policy guidelines
  - Lack of clarity on roles and responsibilities at national, provincial and local levels of government
  - Lack of available mapping
  - Very limited funding for SDIs
  - Lack of facilities
  - Obsolete equipment
  - Lack of capacity Building
    - Staff are technicians or graduates without SDI skills
  - Reluctance to share data
  - Incompatible data formats
  - Major data in Analogue format
- **Makanga & Smit survey**
  - Appears bottom-up approach exploiting existing structures and relationships works best
  - Hand-over strategy to move from a thematic or informal SDI to a national SDI
  - Exploit availability of free and open source software
    - That implement standards!
  - Further research is needed
    - Quantify the informal SDI activity
    - Funding models in an African context
    - Making SDI development sustainable
    - Models for handing over informal SDIs to governments

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# CODIST-Geo resolution on SDIs

- Considering that Geospatial Data Infrastructure is the basic infrastructure for sustainable national development.
- Noting that NSDI's are underpinned by effective partnerships and co-operation amongst a wide variety of multi-disciplinary stakeholders in the public and private sectors and the end user communities.
- Recognizing the commendable efforts that have been made towards the integration of geospatial information in the NICI policy.
- Recommends
  - **Member States**
    - To set up where national SDI bodies to engage the formulation of appropriate policy and institutional frameworks and facilitate co-operation amongst the stakeholders. These National NSDI bodies should involve end user representation.
    - To establish unambiguous naming conventions as a key component of their NSD, following the guidelines produced by the UNGEGN.
    - Each country to enact (1) a National Geoinformation Policy and (2) a National Mapping Policy to provide an enabling environment and legal backing for geoinformation activities in Africa.
  - **ECA**
    - To continue to assist Member States to harmonize national policies in various sectors, as support to integration efforts and seeking to integrate SDI policies into others plans and strategies, such as National Information and Communication Infrastructure (NICI) and National Statistics Development Strategies (NSDS).

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# Conclusions and acknowledgements

- Questionnaires come out of different environments (UN vs academia) so have different emphases
- Limited number of responses to these surveys
  - Respondent bias
- Acknowledgements
  - UN ECA and Makanga & Smit for publishing their surveys on SDDI in Africa
  - ISO/TC 211 for the invitation to make this presentation

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***Thank you!***

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