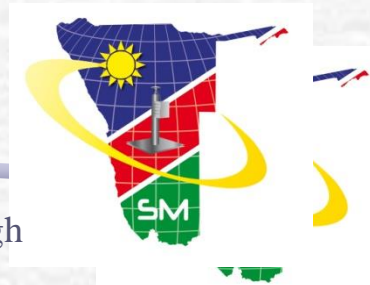# COMMON FRAMEWORK & METHODOLOGY FOR SDI DEVELOPMENT

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United nations Global Geospatial Information management High level forum- Seoul, Korea 24-26 October 2011

OUTLINE

1. RATIONALE FOR STANDARDISATION

2. SDI Policy Development in Namibia

3. Recommendations/Conclusion

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OUTLINE

1. **RATIONALE FOR STANDARDISATION**

2. **SDI Policy Development in Namibia**

Recommendations/Conclusion

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RATIONALE FOR STANDADISATION

- Understanding each other, context, etc
- Expansion of users – geospatial professional vs mass market
- Disparate data sources and management
- Maximising impact of GI
- Multiple SDI initiatives
- ICT Developments
- Funding mechanisms

Common Understanding

- Definitions
  - Core, fundamental, reference, etc
    - Set of GI necessary for optimal use of most GIS applications
    - Fundamental data set: dataset cuting across multiple agencies
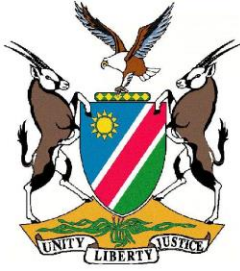   - Fundamental dataset- a subset of framework data

Common Understanding

- Common identities of Real world Objects
    - Authoritative spatial representation of a feature
    - Provides logical model for organizing related geospatial information
    - Creation of data alignment layer of prominent features to help vertical integration of spatial data from different sources
    - Improves validity , creates one version of truth

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EXPANSION OF USERS- GEOSPATAIL PROFESSIONALS VS NON PROFESSIONALS

- Decades ago- geospatial industry dominated by professionals and by Governments
  - Templates exist, common reference, hard copies- national interoperability not serious issue
  - National products across border similar – cadastral maps 1: 100 to 1:5000; Topo maps, 1: 20 000 to 1:250 000
- GIS Technology- Monopoly Gone
  - Mass market, integrated in hard and SW solutions
  - usage , type and sources now increasingly diverse

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DISPARATE DATA SOURCES AND MANAGEMENT

- SDI –more than a single data set or database – hence coordination at local, regional & transnational scale
- Interoperability Complications (GSDI COOKBOOK, 2004)
  - Cross-border: edge matching btw diff data sets
  - Cross-sector: data sets created from diff sector-based applications
  - Cross-type: raster vs vector
  - Overlap: same features coming from different sources and process
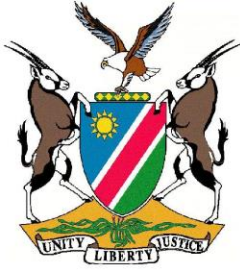- Resolution- technology, common concept & Policy backing

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MAXIMISING IMPACT

- Common framework of standards & tools – promotes impact

- Concentrate on your strengths and then we share

- Improved collaboration within geospatial industry makes the benefit of GI part of every day life

- SDI initiatives need to develop in harmony for maximum impact

MULTIPLE SDI INITIATIVES

- Isolated initiatives need to develop in harmony to reap the benefits of working together

- Common definitions of data layers – SW designed to interact with a particular application model will fit into datasets from different sources and organizations

- Common framework assists global cooperation- global community calls for transnational implementations and common knowledge

ICT DEVELOPMENTS

- Incorporation of metadata collection (Discovery, exploration or exploitation) within data management process – need to be predictable in both form and content.

- Development of standards assists commercial SW developers

- Implementing an international standard reduces cost- possibility of using standard metadata tools

- Non conformance with standards- metadata may not be directly exchangeable by SW

FUNDING

- Sharing cost of fundamental data – development cost minimised
- Appropriate pricing scales for standard spatial data – adaptable models
- Public good versus different price models
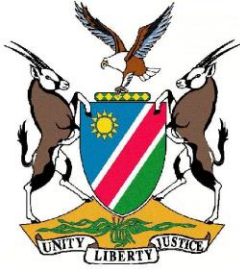- Consistent prices to public & private sector??

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OUTLINE

1.   Rationale for standardisation

2.   SDI Policy Development in Namibia

3.   Recommendations/Conclusion

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Scope of Namibian SDI Policy

Purpose of the Policy

Definitions

NSDI Objectives

Establishment of Enabling Framework for the NSDI Policy

General Policies

Data Collection

Data Processing

Integration

Storing

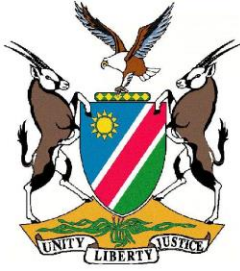**Distribution**

Improved utilisation

Capacity Building

Policy Implementation

Review of Policy

Glossary

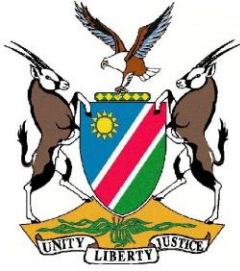United nations Global Geospatial Information management High level forum- Seoul, Korea 24-26 October 2011

SDI POLICY DEVELOPMENT

- Guided by the following:
  - Data should be collected once and maintained at the level this can be done effectively
  - It should be possible to combine seamlessly data from different sources and share it between many users & applications
  - Spatial data needed for good governance should be available on non-restrictive conditions
  - It should be easy to discover which data is available, evaluate its fitness for purpose & know what conditions apply for its use (http://inspire.jrc.it)

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Definition, Vision & Mission…

- Definition
    - <u>Spatial Data Infrastructure (SDI)</u> is a set of policies, standards and procedures under which organisations and technologies interact to foster more efficient use, management and production of spatial data
    - A <u>National Spatial Data Infrastructure (NSDI)</u> is a framework that is consistent for the entire country
- Vision
    - The Government of Namibia's vision is to formalise NSDI to inform development planning and decision-making in a timely and effective manner
- Mission
    - To improve the collection, production, integration, storing, exchange, dissemination and accessibility of spatial information as a means to achieve stated national developmental goals

- **POLICY FINALISED IN 2010**

SDI POLICY DEVELOPMENT…

- Institutional, technical, policy & socio-economic considerations
- Need to address insufficient flow of information and poor data management
- Need to access, integrate & use spatial data from disparate sources for decision making
- Developing communication & consultation channels
- To clarify the value placed on spatial data in Namibia
- To link the impact of spatial data sharing to the ultimate utilisation of all spatial data
- To establish guiding principles and strategies to enhance accessibility
- To avoid the duplication of efforts and unwise use of limited resources

SDI POLICY DEVELOPMENT…

- The overall goals of the SDI Policy are:
  - To update Namibia's metadata directory
  - To make the metadata directory freely available and accessible to the public and private sectors and civil society
  - To provide all fundamental datasets free of charge to all users
  - To coordinate the collection of spatial data by government
  - To strengthen the capacity of the responsible role players
  - To build awareness about the use and benefits of the NSDI
  - To establish Public Private Partnerships for the value addition of datasets pertinent to the development of Namibia
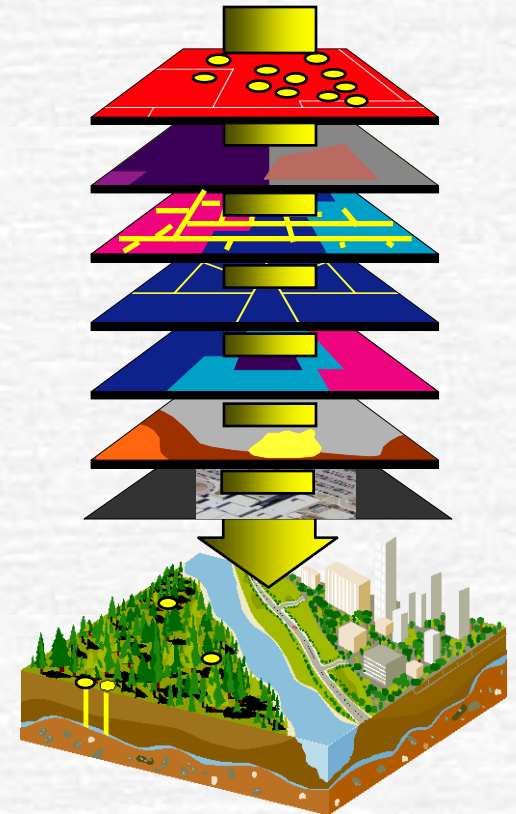
Framework Themes

Seven core data themes are considered Framework Data of critical importance to the NSDI –

- Geodetic Control
- Orthoimagery
- Elevation and Bathymetry
- Hydrography
- Cadastral
- Governmental Units
- Transportation (Air, Road, Rail, Transit, Waterways)

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FUNCTIONS OF NSDI COMMITTEE

Advise Minister

Authority on NSDI standards

- Update and maintain metadata

Produce national release calendar for NSDI

Determine custodians of data

Establish sub-committees

Direct NSDI Secretariat

Liaise with international bodies on NSDI matters

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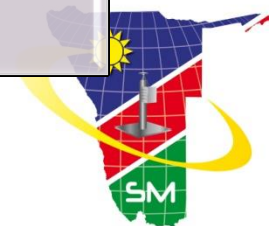
EXCERPTS FROM NSDI POLICY

General Policies

- Production of new datasets should be cleared with NSDI Clearing house
- All data produced with public funds to be certified for general public access
- Publish all existing NSDI data and new initiatives

General Policies…

- Transparency of practices and procedures to be ensured
- Spatial data producers to remain independent of political and institutional influences
- Free Open Source software recommended in case of comparative advantage

Standards

- NSDI Committee to propose standards in all domains
- Namibia to adopt ISO standards
- Minimum data quality set out must be complied with

EXCERPTS FROM NSDI POLICY...

Funding/Pricing
- A fund for NSDI activities to be established
- Committee to propose appropriate funding for fundamental datasets

Funding/Pricing
- Public domain data (fundamental datasets and thematic) free of charge
- Inter and intra ministerial sharing of datasets – free of charge
- Prices shall be consistent for all data users

EXCERPTS FROM NSDI POLICY...

Fundamental datasets

- All data without value addition
- Continuously updating, not later than 10years
- List to be updated periodically

EXCEPRTS FROM NSDI POLICY…

Integration

- Every spatial data to have metadata
- Metadata to conform to the min requirement set in the policy
- Conformance certificate to be issued to every complying data producer
- There should be a catalogue of metadata

OUTLINE

1. Rationale for Standardization

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Recommendations

- Global Approach is needed – UN (GGIM) best suited for this task
  - Promote legal framework required to ensure standardization
  - Promote adoption/adaptation of ISO TC 211 recommended standards
  - Support regional initiatives for developing common frameworks and methodology
    - Technology governance
    - Data governance
    - Standards governance &
    - Data modeling

Conclusion

SDI realises its full potential and value when anchored on a shared common framework and internationally adopted standard

A Common Framework and standard provide harmonisation and cooperation and coordination and amplifies the impact of collaboration.

Thank you

NAMIBIA