Development of Unified Spatial Infrastructure Status Index for Developing Nations

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Definition

SDI   = Spatial Data Infrastructure

Groot, 2000 defined the Spatial Data Infrastructure SDI as the processes that enhance the spatial data availability and management. It is a set of institutional, technical and economical arrangements that facilitate access to and responsible use of integrated and timely geo-information at affordable cost.

Introduction

- Spatial data as an asset
- GIServices and Products
- Spatial data and Decision Making/Investment
- Effort waste in data gathering
- How to build SDI? (Copy & Paste)
- Who build SDI?
- Need for Standards

SDI Building Blocks

SDI Evaluation

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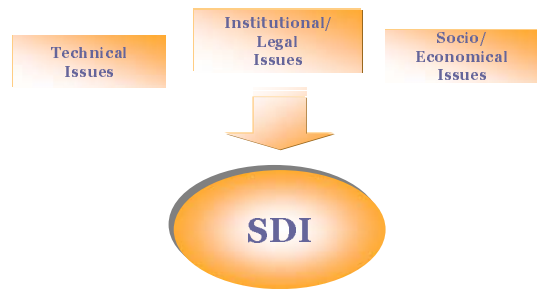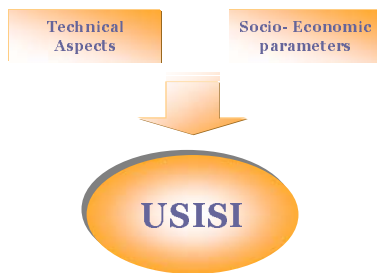
i. Geospatial and Technical Aspects

- Status of Spatial reference frames (G1)

Index element	Status of spatial reference frames		
sub index	Accuracy of reference frames	Availability of conversion parameters	Method of accessibility
value	6-0	2-0	2-0

1

i. Geospatial and Technical Aspects (cont.)

- Existence of Analog Maps (G2)

- Availability of Spatial DB (G3)

- Existence of Global Data Model and Metadata (G4)

ii. Institutional and Socioeconomic Aspects

- Quality of Human Resources (S1)

Rank	Country name	Human development Index	technical Index
7	Finland	0.930 ==> 4.65	0.744 ==> 3.72
6	New Zealand	0.917 ==> 4.59	0.548 ==> 2.74
72	China	0.726 ==> 3.63	0.299 ==>1.50
97	Algeria	0.697 ==>3.49	0.221 ==> 1.11

Human development and the technical indices (source: UNDP, 2003)

ii. Institutional and Socioeconomic Aspects (cont.)

- Cultural Awareness of the Benefits of Spatial Information (S2)

- Cultural Ability to Reform (S3)

- Level of Centralism (S4)

- Involvement Level of Non-Governmental Organizations (S5)

- Transparency Index (S6)

- Financing and Pricing Policies (S7)

Example

Geospatial Aspects				Socioeconomic Aspects						
G1	G2	G3	G4	S1	S2	S3	S4	S5	S6	S7
4	2	2	4	2	5	5	0.2	0.15	0.00001	6	0	0.9	5	1	1	2	0.4	7

USISI for country X

Geospatial Aspects				Socioeconomic Aspects						
G1	G2	G3	G4	S1	S2	S3	S4	S5	S6	S7
4	0	2	2	4	0	0	0.3	0.2	0.00001	0	0	1	0	0	0	1	0.4	4

USISI for country Y

Summary and Conclusion

- The purpose of this paper was to develop a unified status index to help decision makers and funding organizations to direct their priorities and funds toward the most appropriate country (ies).

- The preliminary elements of the proposed index have been developed. More revision for these elements will be done and a case study gathering several developing nations will be applied
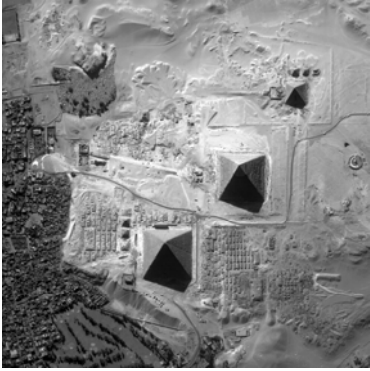
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Good Infrastructure will remain

Thanks for your Attention

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