

Chapter 6

Geospatial Indicators

ABSTRACT

The chapter presents the geospatial indicators. Over the last 10 years, development of spatial data infrastructures (SDIs) has become an important subject being a driving force for the national geospatial strategies and plans, increasing the availability and accessibility of geographic information and the exchange and sharing of spatial data. It has become a necessity to have reliable methods and instruments to assess these SDI initiatives. SDI monitoring and evaluation can provide justification for providing public sources to SDI and a measure of success of SDI strategy. The chapter presents the newly developed Country Geospatial Readiness Index.

INTRODUCTION

SDI monitoring and evaluation is becoming operational and is already part of some SDI implementations and practices. The chapter presents some available Frameworks for analysis and comparison on the design and application of operational SDI monitoring systems, and identify common issues to be taken into account.

Most of the SDIs are still faced with the hurdles of implementation, hence less attention is given to performance evaluation.

The result shows that there are currently a variety of assessment models of which four of them; 1. INSPIRE State of Play, 2. Key variable, 3. Goal-oriented SDI assessment view, and 4. Multi-view SDI Assessment are currently in practice for NSDI development assessment.

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An initial framework proposed by the Economic Commission for Africa for NSDI assessment in Africa is also presented.

BACKGROUND

SDI assessment is problematic for the following reasons: SDIs are dynamic, multifaceted and complex. There is high evidence that SDI behave like Complex Adaptive Systems - dynamic networks of many agents acting in parallel and constantly, and reacting to what the other agents are doing.

A multi-view GDI assessment framework is proposed. 1) covers multiple assessment purposes; 2) acknowledges the dynamic, complex, and multifaceted character of SDI; 3) acknowledges multiple actors with the different views on SDI; 4) reduces the potential biases of assessment outcomes; 5) includes the possibility to analyze SDI-behavior. (Grus, L., 2006, Noucher, M., Golay, F., 2010, Rix J., Fast, S., Masser, I., Salgé, F., Vico, F., 2011, Wirowicz-Rutkowska, A., 2017).

MAIN FOCUS OF THE CHAPTER

In the absence of agreed international Geospatial indicators in the context of SDG (Trainor, T., 2017), we refer to some available frameworks in the field (Antoniou, V., Skopeliti, A., 2015, Cicone, R., Way, D., Parris, T., Miller, J., Cunningham, D., Koeln, G., 2002, Miller, J., B., Cunningham, D., Koeln, G., Way, D., Metzler, J., Richard Cicone, R., 2002, Noor, N., M., Rosni, N., A., 2013).

Evaluation of SDI Performance

To date there is no methodology(s) in place to effectively measure benefits to be gained from the implementation of SDI, and to justify the resources expended on their implementation.

One technique that could be used to justify the existence of SDIs is the evaluation of their performance (Giff, G., Lunn, R., 2008), Giff, G., Cromptoets, J., 2008).

Table 1 lists the indicators for the evaluation related to data-metadata, Web services, and standards. Data capture and updating procedures (indicator

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