Chapter 15
The National Spatial Database Infrastructure (NSDI) in the Context of E-Governance Initiatives in Botswana

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ABSTRACT

The National Spatial Database Infrastructure (NSDI) is presented in this chapter as ideal for sharing information that can help improve the lives of citizens. It takes into consideration technologies, policies, and people as necessary resources to promote sharing of geospatial data at all levels of government, private, and academic community. To this effect, the government of Botswana has a service portal where anyone, anywhere in the world who is networked can use it. NSDI is part of this portal. This chapter presents NSDI as a mitigation tool for e-governance in the monitoring of natural resource like deforestations and land for agriculture. For example, the Ministry of Agriculture use NSDI to help farmers to locate the best soils suitable for certain types of crops like land suitability for rainfed crops. The Department of Geological Survey uses it for monitoring and assessing for mineral prospects in the country. The Botswana Defence Force could employ it for poaching or for wildlife movement surveillances. Challenges to the use of NSDI include low level of literacy, lack of technical knowhow and communication framework necessary for NSDI building. This leads to some stakeholders being excluded in the planning and access of the technology.

INTRODUCTION

This chapter concentrates on a higher level of the country's engagement in the ICT; that is, the collection of geospatial data and its attributes, the analysis of these data sets and the dissemination of information in the form of seamless digital maps, whereby the geographical location, the scale and what is to be included on the map requested for, is at the discretion of a customer. This has been realised by the country-wide implementation of technologies of the National Spatial Data Infrastructure (NSDI) and that of Geographical Information System (GIS) as mitigation tools for e-governance in the monitoring of natural resource like deforestations, land for agriculture and cities sprawl; how much is available and how much is being consumed. As we are all aware this sort of data could be useful for an array of research topics like poverty alleviation which would normally call for studying and combating phenomena like desertification, sustainable resource use and advocacy to arrest population explosion and natural disaster preparedness. These topics are in line with the millennium goal of poverty eradication for all humankind by 2016. Thus, this chapter discussed GIS and NSDI as monitoring, assessment and mitigation tools for e-governance in Botswana.

Ideally, the world over, sustainable NSDI takes into consideration technologies, policies, and people as necessary resources to promote sharing of geospatial data at all levels of government, the private and non-profit sectors, and the academic community (National Spatial Data Infrastructure (NSDI) - FGDC, 2007). In this context of the case in point, the database base infrastructure respected the involvement of all the sectors of the community as direct beneficiaries, the government of Botswana represented by the Department of Surveys and Mapping whose mandate is the collection, management and dissemination of geospatial data using technologies such as: surveying, mapping, remote sensing and GIS acting as the provider. The collaborated involvement of these

structures would, in the long run ensure smooth running of the database. For example, the Department of Surveys and Mapping was able to ensure that relevant and sufficient geo-spatial data are provided to be used for NSDI. The coordination described here has been implied in the Federal Geographic Data Committee (FGDC) which coordinates the development of the NSDI (FGDC, 2007). There are seventeen federal agencies that make up the FGDC in developing the NSDI as organizational tools for the reduction of duplication of effort among agencies; the improvement of quality and the reduction of costs related to geographic information (GIS). It goes therefore without saying that such collaboration in Botswana will make geographic data more accessible to the public. This will increases the benefits of using available data. Thus, Botswana National Spatial Data Infrastructure (BNSDI) will be used as the driving force for the development of the nation as a whole; as it will be used to drive economic development. It also supports better governance hence the title of this chapter suggesting that it is a viable e-governance structure that mainly promotes such country's endeavours like land use monitoring and environmental sustainability.

Insights into the Case of Botswana National Data Infrastructure (BNSDI)

BNSDI is presented as a platform that stakeholders can use to build relationships for data sharing information. The increased ability to share data through these common standards and networks serves as a stimulus for learning more about how this system can help improve the lives of the community, for example, in commerce and industry, it could provides the entrepreneur with information of where sources of land or water are located and how much is available.

Accurate and current geospatial data are needed on daily basis by all sectors of government, private organizations, NGO and academia that are sometimes called upon to make quick, efficient

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