

Development of Spatial Data Infrastructure (SDI) for NWS&DB

Hiththariyage Samantha B.Sc. Engineering, CEng, MIE (Sri Lanka)

In the past, within the NWS&DB, many attempts have been made by various concerned parties to develop maps depicting the water utility network, and building up of GIS applications have been taken, those attempts were limited to the certain region and/or to projects and were sustained for a significantly limited period. The reason for this is the importance of the development of **Spatial Data Infrastructure (SDI)** which has the capacity to radically improve the geo-spatial activities within the organization has not been understood.

Spatial Data Infrastructure (SDI)

In order to facilitate usage, access, delivery and sharing of spatial information, utility organizations are developing **Spatial Data Infrastructure (SDI)**. SDI contains **Policies, Peoples and Technologies**. It is an initiative that creates an environment where users of geo-spatial data can cooperate, and thus improvements on usage, management and exchange of spatial information.

SDI mainly includes;

- **Spatial Data Model & Data Standards for the organization** that enable uniformity and integrity of the spatial data.
- **Spatial Data Policy for the organization.**
- **GIS/Map Server and Catalogue of Spatial Data** that allows users to view, query and download maps and geo-spatial information.
- **Spatial Data Up-loading & Sharing Policy** for users and information providers.
- **Governance Structure & Institutional Development Program**

It is true that in the early implementations, mapping was done as a starting point; however, in the modern systems, as the real world scenarios need to be incorporated with scalability and continuous value addition, formation of **Spatial Data Model** is critical. The issue of **standardization** can be very contentious since different user groups tend to draw up according to their own standards for specific tasks.

The NWS&DB has a vast collection of geo-spatial information collected by various parties of the organization. In spite of this, spatial information is not easily accessible or shared between various sections of the organization at present. In this context, institutionalization of a properly designed **Spatial Data Policy** is a primary requirement for the success of geo-spatial activities within the NWS&DB.

Proposed Spatial Data Infrastructure of NWS&DB includes **GIS/Map Server and Catalogue of Spatial Data** that provide access to spatial data for staff members of the NWS&DB and also for those who are allowed to access same. An approach should be introduced to regularize the **data uploading and data sharing mechanism**. Users are pleased, and wish to help in developing geo-spatial information & maps for GIS/Map Server, and hope to enjoy participating in this virtual community.

Formation of a **new governance structure** is required to meet accountability and outcome of provisions with regard to geo-spatial activities within the NWS&DB. This governance structure may include **SDI Steering Committee of NWS&DB and SDI Operational Committee**.

Finally, the success of SDI development within NWS&DB depends on all of its contributing aspects like legislation (legal framework), partnerships and the cooperation of spatial data producers (in terms of availability, standardization of geo-spatial data and metadata), IT infrastructure availability, funding for SDI development activities and human resources. The lack or absence of even one of these aspects can impede development of SDI for NWS&DB.

Hiththariyage Samantha

Engineer - IT

GIS & Mapping Section, NWS&DB, Thelawala

Mobile : 077 1898227 Phone : 011 2636770 / 045 2228275 Fax : 011 2624727 / 045 2228273

Email : sam_hith@yahoo.com , chengsab@waterboard.lk