



Spatial data via the internet in East Africa? Is it possible?



The increasing use of GIS in private and public sector organizations has made the availability of spatial data an important issue in developing countries. Since spatial data is difficult and/or costly to collect for many organizations, this concern has translated into the question of how to get data from other parties, especially in emergencies. The principle of Spatial Data Infrastructure (SDI) concerns the deployment of standardized access protocols that allow users to access data, which is not locally stored in their computers, via the internet.

Towards making the dream of access to spatial data a reality in East Africa, UNEP and SWALIM have been 'recruiting' interested parties under the umbrella of the United Nations (UN) SDI to test and implement these technologies in Nairobi, given that many UN and other international organization have their offices for the region in Nairobi.

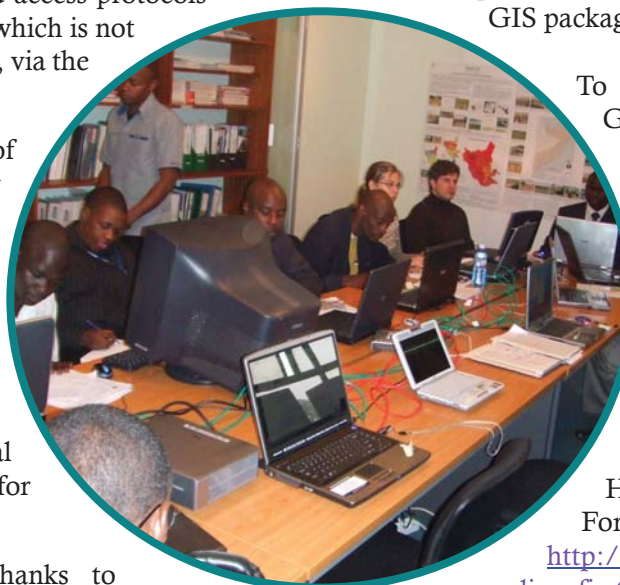
This initiative is possible; thanks to geoserver, an open source server software that connects users' geodata to the web. Geoserver implements the following Open Geospatial Consortium (OGC) standards for data sharing and distribution: WMS (Web Map Service) that enables a user to view a geo-referenced map (jpeg, gif, png, etc); WFS (Web Feature Service) that enables a user obtain actual vector data for the area of interest, including the attributes; and WCS (Web Coverage Service) that enables a user obtain a grid dataset.

Geoserver enables a user to edit, publish and access data in a large variety of formats such as maps/images or actual geospatial data. Geoserver focuses on ease of use and support for standards in order to serve as 'glue' for the geospatial web, connecting from legacy databases to many diverse clients. So far, UNEP, SWALIM, ICRC and OCHA Regional Office have installed and implemented the software. UNHCR, ILRI, ICRAF and KNSDI all look

set to join soon.

What resources does one need to be part of this initiative? To quote Mick Wilson (UNEP) on the SDI-East Africa blog (<http://sdi-ea.blogspot.com/>): *It is entirely feasible to get going with open web services without major investments in hardware, software, time or effort. Sure, you can upgrade later, once your experience tells you that data services are something that you really want to get into, but you can start today as getting started is the important part.*"

In addition to Geoserver, one needs a client, that is, your existing GIS software (e.g. ESRI ArcGIS, ESRI ArcExplorer), or one of the many free open source GIS packages (uDig, QGIS, SVsig).



To demonstrate how to install Geoserver, load spatial data and serve it over the internet, one-day training was held at the SWALIM office in Nairobi on 5 July 2007, which was attended by 20 representatives of various organizations. Agencies that attended were AFREC, CEFA, DEPHA, FSAU, SWALIM, OCHA Regional, RCMRD, UNEP, UN-HABITAT and UNHCR-Somalia.

For more on the training, please visit <http://sdi-ea.blogspot.com/2007/07/sdi-ea-first-handzon-training-changes.html>

However, spatial data availability initiatives primarily depend on the willingness of different organizations to engage in spatial data sharing in order to overcome bottlenecks in the availability of spatial data.

For more information on Geoserver, open standards, SDI-EA blog and the SWALIM project, please visit the following sites respectively:

- <http://geoserver.org/>,
- <http://www.opengeospatial.org/standards>,
- <http://sdi-ea.blogspot.com>,
- www.faoswalim.org.

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