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Report of the training workshop

ON

DATA SHARING USING VOLTA BASIN AUTHORITY (VBA) GEOPORTAL



ORGANISED BY

**Sustainable Development of Research Capacity based on the
GLOWA Volta Project**

AT

Hotel Residence Prestige 2000, Ouagadougou

FROM

2nd to 3rd November 2011

INTRODUCTION

Within the framework of SDRC/GLOWA VOLTA project's activities, the SDRC project organized a training workshop about data sharing using the Volta Basin Authority Geoportal (VBA-GP) from 2nd - 3rd November 2010 at Hotel Residence Prestige in Ouagadougou, Burkina Faso.

The main aim of this workshop is to train participants on data management and data sharing using Geoportal.

Specifically, the workshop outline is about:

- ❖ Presentation of architecture and services of VBA-Geoportal;
- ❖ Searching and accessing data in Geoportal;
- ❖ Creating groups, users, profiles and privileges;
- ❖ Creating metadata and uploading of data on Geoportal.

29 participants took part in this workshop. The first session of the workshop started at 9 o'clock. The initial part of day's activities was facilitated by Dr B. Barry, coordinator of WASCAL project. In a brief statement, Dr. Barry welcomed participants to the workshop and gave a background statement about the workshop. He also informed participants that officially the activities of the SDRC project ends in November 30. Present also at the workshop was Dr. Charles Biney, Executive Secretary of Volta Basin Authority (VBA), in a remark; he was full of praise of SDRC for organizing the workshop and informed participants about a signed agreement between University of Bonn and VBA for the Geoportal to be housed at VBA. The resource persons for the workshops were Antonio Rogmann (Center for Development Research, University of Bonn, Germany), Symphorien Meda and Evence Zoungrana (Volta Basin Authority, Ouagadougou, Burkina Faso).



After a brief self introduction of participants, the resource persons presented a lecture on the theoretical background of Geoportal.

I. Theoretical background of the Geoportal

The resource person Antonio Rogmann began the session by presenting the frame of GLOWA project, which ended in May 2009. He also made it clear to participants that this workshop is organized by SDRC which is a follow-up project of GLOWA-Volta. Additionally, he gave participants a brief about the WASCAL¹ project, its partners and the possible role of the VBA Geoportal within the data management concept of the project. The first session presentations covered the following topics:

- Demands and motivation for data and information sharing in the Volta Basin water sector
- Architecture, services and standards of the Geoportal's as web-based data sharing systems within Spatial Data Infrastructures (SDI)
- Architecture and features of the VBA Geoportal
- Data preparation: data and metadata management
- Searching and assessing data in the VBA GP

During this session, participants asked questions to gain an understanding of the Geoportal and also a clarification on issues. Some of the questions asked are list below:

Question 1: Apart geographic information, what types of data can we store in Geoportal?

Answer: We can store all type of file-based data in the Geoportal. Georeferenced, meaning coordinate-based data can be stored in GIS formats and also be visualized as interactive

¹ West African Science Service Center on Climate Change and Adapted Land Use

maps in the web-browser as web map services (WMS). Apart from the fact that most of data have a kind of spatial reference, other data with and without any spatial reference can be stored as well. There is no restriction for the type of data. Accordingly, reports, charts, tables, pictures, software, etc. can be stored.

Question 2: What is the difference between Geoserver, Mapserver and GeoNetwork software?

Answer: The GeoNetwork is the server software we use for the portal of the VBA-GP, the metadata catalogue and the databases. GeoServer is a map-server-software (there are several) we use to provide the map viewer, which is embedded in the GeoNetwork portal, with interactive map layers. So we have two servers. One for catalogue- and data-services, and another one for map-services. Both are linked by the internet. Accordingly the portal as well as the map-viewer can access other catalogues and map-servers all over the world, because they use the same standardized internet protocols.

Question 3: Can we use Mapserver for analysis and also make map?

Answer: Yes, we can use it for analysis by the combination of several thematic layers provided as WebMapServices (WMS) within one map, and by querying for attributes of geometry objects as point or polygons on the layers. But it is limited contrary to ArcGIS that can do more analysis, because you cannot manipulate the layer content, e.g. by merging or intersection of geometries or statistical calculations on attribute values.

Question 4: Does Geonetwork manage only metadata?

Answer: No, it takes into account other data with regard to the management of its distribution. Data described by metadata can be hosted by the data server of the system, but must not. This is optional and depends on the authorization of the data owner.

Question 5: Did obligatory fields come from your system or standard norms?

Answer: The ISO 19115 metadata standard used by the Geoportal consists of around 400 metadata elements. But the standard defines 20 metadata elements as the mandatory and minimum set of metadata required to serve the full range of metadata applications (data discovery, determining data fitness for use, data access, data transfer, and use of digital data). But nevertheless, you are not obligated to fill in these 20 elements in case you are missing the corresponding information. A group of users could also define on their own which elements are mandatory as we did for the GLOWA project.

Question 7: How can one know that data stored in the system are good data?

Answer: Data are checked before storing in the system, and the person who stores these data is responsible of their quality. If we, respectively the user, notice that data are of bad

quality or when the level of quality is not yet sufficiently well known, the author of these data can be asked because his contact details are part of the metadata.

Question 8: Do we always need password before accessing the system?

Answer: No. You only need a password when you have an account on the system. You need an account to access restricted data or to upload metadata and data.

Question 9: What are the roles of Geoportal administrator?

Answer: The Geoportal Administrator can do all things in the system. He can control all the members of the system, but in the practice, there are agreements between him and other administrators, so called User Administrator. User Administrators are created by the Geoportal Administrator and have the rights to manage user accounts for a specific group. A group can be composed e.g. by members of an institution. The Geoportal Administrator can also create metadata do guide user toward institution that have data. Tomorrow we will do practices on these issues.

Question 10: How many administrators can we have for one group?

Answer: We can have more than one administrator for one group. It is technically possible.

The session of the first day end at 16:30 O'clock.



II. Practice of VBA Geoportal

The second session of the workshop on the 3rd of November 2010, began at 9 o'clock. At the start of the workshop, participants were asked to install the GeoNetwork software on their local machines, because the VBA Geoportal was not reachable as planned due to a very slow internet connection in the workshop hall. During the process of lecturing, participants asked the resources to be slow in their delivery. The training in this session consisted of:

- Showing how to search for data
- Demonstrating how to interpret metadata
- Showing how to create groups and user with different profiles (user administrator, editor, content reviewer, registered user)
- Creating metadata templates and metadata and uploading data using the Geoportal metadata editor
- Uploading of thumbnails and assigning of access privileges to metadata

Participants asked the resource persons questions in relation to the entire training:

Question 1: How can we create Geoportal administrator?

Answer: Only Geoportal administrator can create other Geoportal administrator.

Question 2: Can one user has different profiles if he is member of many groups?

Answer: It is not possible with one user account but possible if the user has different user accounts.

Question 3: What does time extent mean?

Answer: It is the period of time where the data is valid for, e.g. beginning date and end date of a time series with measurements.

Question 4: What are different stages of data treatment?

Answer: Data users or generators treat the data with the tools they daily work with. We only reformat the data to open exchange formats and rename the data. To convert GIS layers into WMS layers we use the GeoServer. SLD (Styled Layer Descriptor) files used to layout the WMS layers are generated by the ArcGIS extension Arc2SLD or by the open source GIS-tool uDig.

Before ending the session, the resource persons asked participants if they were able to download or upload metadata in Geoportal. Two participants answered favorably to the question. Most of the participants were of the view that they will be able to do it after this training.

Closure of workshop

Towards the end of Geoportal practice, the resource persons informed participants that they could keep their account created during the session for one month in order for them to continue practicing.

Participants were given the chance to comment on issue that will help to improve the Geoportal that is being developed and installed at VBA. The contributions of participants are stated below:

- ❖ The first participant thanked trainers for keeping their user account for one month and mentioned that the product is of importance to their field of work. He asked trainers if they will have user account after one month to animate Geoportal in order to make sure its continuity. Antonio reassured them that trainers are at their disposal for all their demand.
- ❖ The second participant asked trainers how the three groups created will be managed because they are more institutions than groups. He also suggested that groups find places to work together instead of using network. Antonio promised them that passwords will be created for groups of all institutions to use Geoportal. After, a team will come in your institution to evaluate the progress of the practice.
- ❖ The third participant suggested reducing information about metadata. Antonio noted this suggestion.
- ❖ The fourth participant recommended that VBA should contact all institutions, if possible for them to come to an agreement for the management of their data by VBA.
- ❖ The fifth participant encouraged participants to practice and use Geoportal to convince their superior about the importance of the Geoportal system. However, with a word of caution he said confidential data cannot and should not be used without institution agreement.
- ❖ The sixth participant maintained that time was not enough for the practice of Geoportal. Antonio explained that it is because internet connection wasn't good and lot of time was lost by the installation of the software on the lap tops during the morning. Dr Barry ask participant to constantly continue practice in order to have experience in the use of tool.

In his closing remarks, Dr Barry reminded participants that there are protocols that will ensure data security. The metadata guides data user to institution that has data. He also made them aware that it is the responsibility of VBA to protect data coming from institution. Finally, Dr Barry thanked participants and resource person for making the workshop a success and said there are more opportunities to participate in such trainings in the future. He reassured them that VBA data are public and invited everybody to contact him if he has a concern. Dr. Nyarko thanked the resources persons for impacting their knowledge and experience to the participants. He also asked the participants to

promote the use of the Geoportal and also endeavor to create metadata of data that is in their domain.

Appendix

Appendix 1: program of workshop

❖ 1st day: theory

(November, 2nd 2010, 9 am – 4:30 pm)

1. **Workshop agenda and introduction of participants**
 - *Presentation of workshop agenda*
 - *Introductory round of participants: working area, motivation and expectation to the workshop*
2. **Presentation of the project framework of the Geoportal**
 - *GLOWA Volta/VBA/WASCAL*
 - *Partner (GEF/UNEP/GEOSS ...)*
3. **Backgrounds: Architecture and services of the Geoportal as examples for web-based data sharing systems**
 - *Geoportal: global concept, architecture and services in the context of Spatial Data Infrastructures*
 - *Web GIS overview*
 - *Standards and interoperability*
4. **Software architecture and features of the VBA/GVP Geoportal**
 - *Architecture and software in use*
 - *Geoportal services*
5. **Preparing the data: data and metadata management**
 - *Gathering information about data (metadata)*
 - *Metadata: concept and standards*
 - *Quality assessment*
 - *Formats, file names, upload size*
6. **Searching and assessing data in the Geoportal**
 - *Walk through the Geoportal*
 - *Data search and retrieval*
 - *Geospatial data assessment and analysis based on WebMapServices using the OpenLayers map viewer*

2nd day: practices

(November, 3rd 2010, 9 am – 5 pm)

7. **Groups, user, profiles and privileges. User management by group administrators**
 - *Data ownership, access-rights and distribution channels*
 - *User management: user, groups and profiles in the Geoportal*
8. **Meta data templates**
 - *Sub sets of meta data elements derived from ISO 19115 metadata standard to describe specific groups of data sets*
 - *Creation of customized templates in the Geoportal*
9. **Creating meta data with the meta data editor**
 - *Editing new metadata*
 - *Uploading thumbnails*
 - *Linking and uploading data for download*
 - *Assigning categories to the metadata*
 - *Defining access privileges*

- *Uploading data*

10. Feedback and open questions with relation to the workshop content

Appendix 2: User accounts for the training

Utilisateurs et Groupes pour Burkina

Le nom de l'Utilisateur et du mot de passe sont sensibles à la casse!!

Création de compte d'utilisateur avec les profils dans son groupe

Edition et offre d'accès aux données aux membres de son groupe

Permission d'accès aux données aux membres de son groupe

Revision des metadonnées et offre d'accès à „tous“ les visiteurs du Géoportail

Accès et telechargement des metadonnées et des données

X = groupe principal

Utilisateur	MdP	Profile	Group-BF-A	Group-BF-B	Group-BF-C	Créé par	Créé
Utilisateur-BF-1	UB1UB1	Administrateur d'utilisateur	X			GP-Admin	X
Utilisateur-BF-2	UB2UB2	Editeur	X			GP-Admin	X
Utilisateur-BF-3	UB3UB3	Editeur	X			Utilisateur-Admin Group-BF-A	
Utilisateur-BF-4	UB4UB4	Editeur	X			GP-Admin	X
Utilisateur-BF-5	UB5UB5	Editeur	X			GP-Admin	X
Utilisateur-BF-6	UB6UB6	Relecteur	X			Utilisateur-Admin Group-BF-A	X
Utilisateur-BF-7	UB7UB7	Administrateur d'utilisateur		X		GP-Admin	X
Utilisateur-BF-8	UB8UB8	Editeur		X		Utilisateur-Admin Group-BF-B	x
Utilisateur-BF-9	UB9UB9	Editeur		X		Utilisateur-Admin Group-BF-B	

Utilisateur-BF-10	UB10UB10	Editeur		X		GP-Admin	X
Utilisateur-BF-11	UB11UB11	Utilisateur enregistré		X		Utilisateur-Admin Group-BF-B	
Utilisateur-BF-12	UB12UB12	Utilisateur enregistré		X		Utilisateur-Admin Group-BF-B	
Utilisateur-BF-13	UB13UB13	Administrateur d'utilisateur		X	X	GP-Admin	X
Utilisateur-BF-14	UB14UB14	Editeur		X		Utilisateur-Admin Group-BF-B	X
Utilisateur-BF-15	UB15UB15	Editeur		X		Utilisateur-Admin Group-BF-B	X
Utilisateur-BF-16	UB16UB16	Relecteur		X	X	Utilisateur-Admin Group-BF-B	X
Utilisateur-BF-17	UB17UB17	Utilisateur enregistré			X	Utilisateur-Admin Group-BF-B + C	
Utilisateur-BF-18	UB18UB18	Utilisateur enregistré			X	Utilisateur-Admin Group-BF-B + C	
Utilisateur-BF-19	UB19UB19	Editeur			X	Utilisateur-Admin Group-BF-B+ C	
Utilisateur-BF-20	UB20UB20	Editeur			X	Utilisateur-Admin Group-BF-B+ C	

Appendix 3: participants list

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