

2014 GSDI Small Grant Project Final Report

Title of Project/Activity

Towards GIS Interoperability For Environmental Protection And Sustainable Development

Focal Point Institution

Makerere University, Kampala
P.O Box 7062, kampala
Uganda, East Africa

Contact Person (business street address, phone/fax, email, and website)

Dr. Anthony GIDUDU
agidudu@cedat.mak.ac.ug
College of Engineering Design Art and Technology
Department of Geomatics and Land management
Makerere University, Kampala,
P.O Box 7062, Kampala

List of Collaborators (Contact Information)

Name	Role
Makerere University, department of Geomatics and Land Management	Dr. Anthony GIDUDU agidudu@cedat.mak.ac.ug Department of Geomatics and Land Management College of Engineering Design Art and Technology Makerere University, Kampala, P.O Box 7062, Kampala, UGANDA
Uganda Bureau of Statistics	Muhwezi Bernard Head Geoinformation department Uganda Bureau of Statistics, Plot 9, Colville Street Statistics House, Fl 5, Rm 5.4 P.O. Box 7186 Kampala Uganda +256711706037
National Planning Authority	Ongora Emmanuel ongoremmanuel@gmail.com Plot 17, Hannington Road, 4th Floor, Short Tower, Crested Towers Building/P.O. Box 21434 Kintu Road (Siad Barre) Ave, Kampala, Uganda +256 256414250212

Summary of Deliverables as per Grant Proposal

- Project report (Including an annex and presentation slides attached separately)
- Scientific Paper to be compiled and submitted to conference in August
- Geoportal with ISO 19115 compliant Metadata documentation
<http://196.43.134.8:8080/geoportal/catalog/main/home.page>
- Geographic services (WFS, WMS, WCS)
<http://196.43.134.8:2292/geoserver/web/>

Note: The portal is still on intranet until January when the university will put it on internet (pending university bureaucratic process). As soon as it is available, details will be availed to you

Itemized Use of Project's Budget (including summary of labor hours)

Activity	Man-days	Cost per Man day	Persons	Total Cost
Project Initiation Meeting	5	10	Dr. Anthony Gidudu & Mr. Allan Mazimwe	100
Identification of data sources	10	10	Dr. Anthony Gidudu & Mr. Allan Mazimwe	200
Data collection and validation	10	10	Mr. John Kakala, Mr. Victor Muhumuza & Mr. Elijah Sekittp	300
Metadata documentation	20	15	Dr. Anthony Gidudu & Mr. Allan Mazimwe	600
Geoportal Development	30	15	Dr. Anthony Gidudu & Mr. Allan Mazimwe	900
Stakeholder meeting	2	20	Mr. Allan Mazimwe	40
Report Compilation	5	20	Mr. Allan Mazimwe	100
Report Submission	1	20	Dr. Anthony Gidudu	20
Additional Expenses				
Stationary				190
Total				2450

Our Contribution: \$900 for purchase of server hosting the Geoportal

Timeline of the Project

Activity	M	J	J	A	S	O	N	D	Results	Personnel
Project Initiation Meeting	■	■							<ul style="list-style-type: none"> • Signing of contract • Discussion and agreement of timelines 	<ul style="list-style-type: none"> • Dr. Anthony Gidudu • Mr. Allan Mazimwe
Identification of data sources		■	■							<ul style="list-style-type: none"> • Mr. Allan Mazimwe
Data collection and validation			■	■	■	■			<ul style="list-style-type: none"> • Collection of preliminary datasets 	<ul style="list-style-type: none"> • Volunteers
Metadata documentation				■	■				<ul style="list-style-type: none"> • ISO 19115 compliant datasets 	<ul style="list-style-type: none"> • Dr. Anthony Gidudu • Mr. Allan Mazimwe
Geoportal Development						■	■		Database construction, Metadata and spatial data publication and update. Search and discover, resource access and evaluation through the ESRI geoportal server	<ul style="list-style-type: none"> • Mr. Victor Muhumuza • Mr. John Kakala • Elijah Ssekito
Stakeholder meeting							■		<ul style="list-style-type: none"> • Feedback on presented Geoportal 	<ul style="list-style-type: none"> • Mr. Allan Mazimwe
Report Compilation							■	■	<ul style="list-style-type: none"> • Draft report 	<ul style="list-style-type: none"> • Dr. Anthony Gidudu • Mr. Allan Mazimwe
Report Submission								■	<ul style="list-style-type: none"> • Final report 	<ul style="list-style-type: none"> • Dr. Anthony Gidudu

Potential or Actual Follow-up Activities

Going forward, we hope to

- Increase on the datasets
- Train users on how they can make use of the portal and add more information

Unanticipated obstacles you encountered

- Data validation is a huge challenge as there are different datasets of the same phenomenon
- Several institutions had poor quality data thus necessitating much longer data cleaning and validation
- We didn't anticipate that it would take this long to have the Geoportal approved for hosting at the university. If this continues we will have to explore its hosting at one of the collaborating institutions
- From the user meeting, one of the key issues that came out was the need to develop a policy paper to guide government on developing a policy to guide sharing/usage of SDIs.

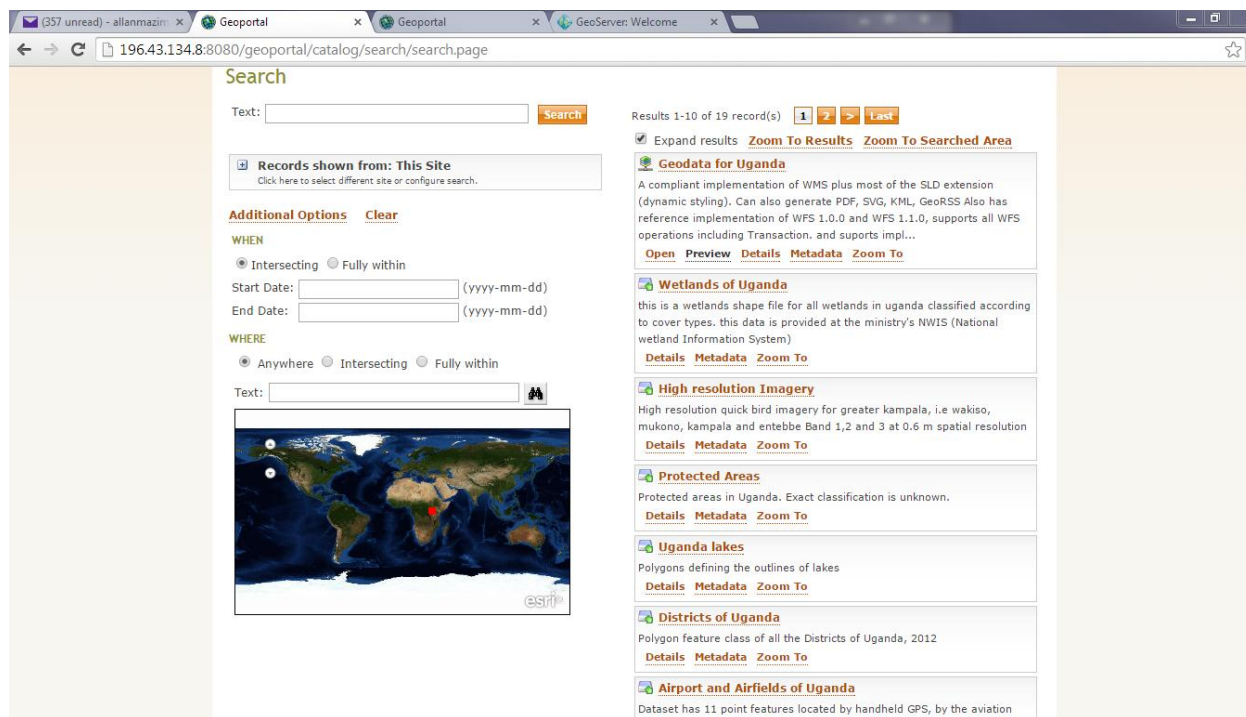
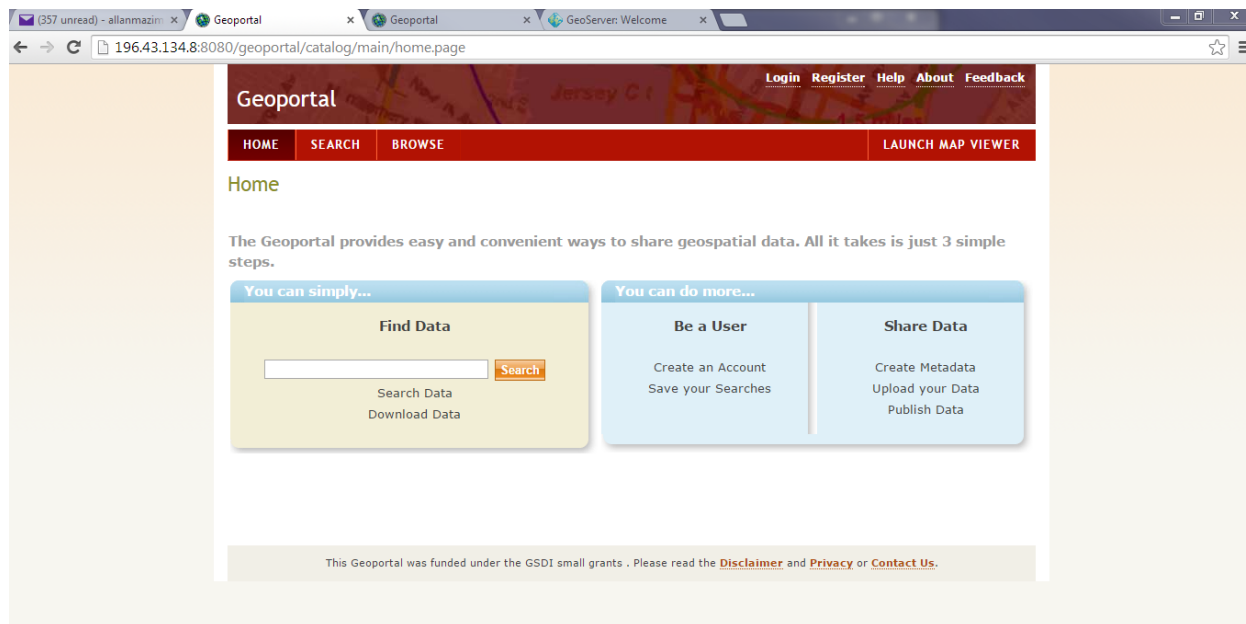
Do you think you have reached your goal?

Thanks to GSDI support, we have achieved our goal. We hope to build up on this support to further establish SDI research and usage in Uganda

Appendix

Photos, maps, graphics, or illustrations of project activities

Include in the report or as attachments in .jpg format



GeoServer Layer Preview

196.43.134.8:2292/geoserver/web/?wicket:bookmarkablePage=:org.geoserver.web.demo.MapPreviewPage

Logged in as admin. Logout

Layer Preview

List of all layers configured in GeoServer and provides previews in various formats for each.

Results 1 to 25 (out of 35 items)

Type	Name	Title	Common Formats	All Formats
<input type="checkbox"/>	it.geomatics:Ug_Subcounties	Subcounties of uganda	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Ug_Parishes	Ug_Parishes	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Districts of Uganda_2011	Districts of Uganda_2011	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:uganda Rivers	uganda Rivers	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:DrainageBasins in uganda	ug_DrainageBasins	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Lakes in uganda	Ug_Lakes	OpenLayers KML GML	Select one
<input checked="" type="checkbox"/>	it.geomatics:quickbird kampala	Lubigi and northernbypas	OpenLayers KML	Select one
<input type="checkbox"/>	it.geomatics:Wetlands1994	Wetlands1994	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Protected Areas in uganda	Protected Areas _conserved areas	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Air ports and Airfields	Ug_Airfields	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:kampala_city_roads	kampala_city_roads	OpenLayers KML GML	Select one
<input type="checkbox"/>	it.geomatics:Uganda health centres	uganda health centres	OpenLayers KML GML	Select one

GeoServer Welcome

196.43.134.8:2292/geoserver/web/

Logged in as admin. Log

Welcome

Welcome

This GeoServer belongs to Department of Geomatics and land management, makerere University, Uganda "Financial support provided by GeoConnections, a national collaborative initiative led by Natural Resources Canada. GeoConnections supports the integration and use of the Canadian Geospatial Data Infrastructure (CGDI), an on-line resource that improves the sharing, access and use of open geospatial information".

- 33 Layers [Add layers](#)
- 23 Stores [Add stores](#)
- 8 Workspaces [Create workspaces](#)

Warnings:

- The master password for this server has not been changed from the default. It is **highly** recommended that you change it now. [Change it](#)
- The administrator password for this server has not been changed from the default. It is **highly** recommended that you change it now. [Change it](#)
- No strong cryptography available, installation of the unrestricted policy jar files is recommended

This GeoServer instance is running version **2.6.0**. For more information please contact the [administrator](#).

Service Capabilities

- WCS: 1.0.0, 1.1.0, 1.1.1, 1.1, 2.0.1
- WFS: 1.0.0, 1.1.0, 2.0.0
- WMS: 1.1.1, 1.3.0
- TMS: 1.0.0
- WMS-C: 1.1.1
- WMTS: 1.0.0

For more information about the GSDI or to subscribe to the GSDI News List, please see <http://gsdi.org>. For questions about this report, please contact grants@gsdi.org.

GEO-INFORMATION MANAGEMENT (GEO-IM) WORKING GROUP MEETING,
THURSDAY 27 NOVEMBER 2014, 9.00 AM IN THE CONFERENCE ROOM, 1TH
FLOOR

Draft Agenda

1. Chair's Opening Remarks
2. Presentations
 - a. World Geography Awareness Week –Richard Senoga (USAID) - 15min
 - b. Towards GIS Interoperability in Uganda: How well can we share geo-information –Allan Mazimwe (MUK) -15min
 - c. New GIS –based Projects, District and Urban Roads Mapping and Road Database Project –BJ Muhwezi (for MoWT) -15min
 - d. Review of Membership of the Geo-IMW Group –Richard Senoga - 15min

HEALTH BREAK and NETWORKING (10.00-10.30hrs)

- e. Dissemination of Census 2014 GIS Layers with Provisional National Population and Housing Data –BJ Muhwezi (UBOS) -20min
3. Updates from member agencies -30min
4. Review of Minutes of the Previous Meeting -10min
5. Discussions and Way-forward -20min
6. AOB -5min
7. Closure



Stakeholders identified

Datasets	Data source
Coordinate reference systems	Entebbe mapping centre
Geographical names	Entebbe Mapping centre
Administrative units <ul style="list-style-type: none"> - Administrative boundaries - Parishes, counties and sub counties - Town councils - Districts 	UBOS, Ministry of Local Government
Addresses	Post office
Cadastral parcels	Ministry of lands, housing and urban development
Transport networks	Ministry of works and transport
Hydrography <ul style="list-style-type: none"> - Lakes - Rivers - Drainage basins 	Ministry of water and environment, National Water and Sewerage Corporation
Protected sites <ul style="list-style-type: none"> - Wetlands - Forests - National parks 	NEMA Uganda wildlife authority National forestry authority

Annex 2

Datasets	Data source
Elevation Aster	National Forestry Authority
Land cover	Entebbe Mapping centre
Ortho-imagery (kampala)	KCCA GIS section and Entebbe Mapping centre
Geology	Meteorological department, Entebbe

Annex 3

Datasets	Data source
Statistical units <ul style="list-style-type: none"> - 	UBOS
Buildings ---not available	
Soil	National Agricultural Research Centre, Kawanda
Land use	Not available
Human health and safety <ul style="list-style-type: none"> - health facilities/ centres (from DHIS uganda) - DHS data 	Ministry of health
Utility and governmental services <ul style="list-style-type: none"> - Water - Electricity ○ 	Ministry of works and transport
Environmental monitoring facilities <ul style="list-style-type: none"> - Imagery sources 	NEMA, open portals
Production and industrial facilities	Private sector Foundation

- Banks and financial services - Industrial parks	
Agricultural and aquaculture facilities - production zones	Ministry of agriculture, aquaculture and fisheries, Kawanda
Population distribution-demography - census 2002 and may be will include 2014 - afripop gridded pop data	UBOS
Schools	Ministry of education

Annex 4

Datasets	Data source
Area management/restriction/regulation zones & reporting units	Not available
Natural risk zones	Office of the Prime Minister
Atmospheric conditions	Meteorological department, Entebbe
Meteorological geographical features	Meteorological department, Entebbe
Bio-geographical regions	
Habitats and biotopes	Uganda Wildlife Authority
Species distribution	Not available
Energy resources	Ministry of energy, UETCL
Mineral resources	Ministry of energy