Terms of Reference

Advanced Training on GeoNode for Geospatial Data Managers
Curriculum Development and Facilitation

Urban and Disaster Risk Management Unit (LCSDU)
Latin America and the Caribbean Region (LCR)

Background

The mission of The World Bank's Latin America and the Caribbean Region (LCR) Disaster Risk Management (DRM) team is to work with national and local governments and with communities to identify hazard risk, assess vulnerability to adverse natural events and mitigate the impact of disaster through structural and non-structural measures, including risk financing and transfer.

In the Caribbean region, the World Bank is implementing a grant from the ACP-EU Disaster Risk Reduction Program for the initiative "Caribbean Risk Information Programme to support the Integration of DRM Strategies in Critical Sectors". This initiative aims at (i) the creation of an information basis, (ii) the development of a methodological framework for the elaboration of hazard and risk information required in the DRM context at different levels, the performance of national pilot project using the methodological framework and institutional strengthening. These terms of reference form part of the first component, the creation of an information basis. The, "information basis" relates to the establishment of a spatial data infrastructure (SDI) for data management and sharing as well as related issues such as metadata standards, institutional arrangements regarding data, etc., as well as the data itself.

Over the past one and half years, the LCR DRM Team has initiated trainings and workshops to support the establishment of national and regional data sharing platforms in the Eastern Caribbean and in Belize. In particular, four of our client countries including Dominica, Grenada, Saint Lucia (SLU), and Saint Vincent and the Grenadines (SVG) have begun to utilize or have plans to install the GeoNode, their first ever national data-sharing platform aimed to improve data accessibility to help inform decision making. These four countries are currently participating in the Caribbean regional Pilot Program for Climate Resilience (PPCR) to develop climate adaptation strategies that help to reduce their risk to disasters. Additionally, Grenada and SVG are participating in the Regional Disaster Vulnerability Reduction Program (RDVRP), which leverages PPCR and World Bank financing to support regional collaboration to improve disaster risk management by sharing risk analyses, technologies, data improvements, and investments strategies.

GeoNode is a spatial data infrastructure platform used by multiple Caribbean countries and regional agencies; it is an open source software platform that facilitates the creation, sharing, and collaborative use of geospatial data. To promote collaboration, the GeoNode is designed on Web 2.0 principles to:

- Make it very simple to share data;
- Provide user statistics;
- Easily add comments, ratings, tags;
- Allow collaborative filtering;
- Provide rankings of best 'views' and data sets contributed—such as highest rated, most viewed, most shared;
- Allow connectivity between several GeoNode instances to augment the collaborative potential of government GIS programs.

Two previous regional data management workshops and GeoNode trainings were held, including the a.) Eastern Caribbean Open-Source Geospatial Data Sharing and Management workshop that took place on October 6-7, 2011 in Grenada, and b.) the Caribbean Risk Assessment & Open Geospatial Data Management that took place in Trinidad and Tobago on February 2-3, 2012. The audiences were composed of spatial data managers and programmers for spatial data infrastructure (SDI), as well as regional development partners, who came to discuss tools and policy issues to improve geospatial data sharing and management, specifically as it relates to disaster risk reduction in the Caribbean. More details on these trainings can be found below in the Additional Resource section of these terms of reference.

As a result of these regional efforts, the University of West Indies (UWI) in Trinidad and Tobago has decided to establish a GeoNode curriculum that would cover both a.) the development and customization of the GeoNode software, as well as b.) the management and sharing of geospatial data via the GeoNode. The materials and training developed under this consultancy will, as far as possible, feed into the proposed curriculum. UWI itself will also participate in the training.

Objective

The selected consultant will be required to develop and facilitate a one-week (six days) Advanced Training on GeoNode for Geospatial Data Managers (ATGDM). The ATGDM should focus on advanced theory and practice for the GeoNode to enhance GIS data use. The services to be provided include the following:

i) a detailed table of contents of the training program along with learning outcomes,
ii) a training manual with visuals (power points), case studies, and references, and
iii) a guidance note for the adoption of the training materials as a university level II course.

The ATGDM training will also be held in parallel to the Advanced Training for Software Developers (ATGSD) for GeoNode software developers in the region. Therefore, the selected consultant will be expected to collaborate with the ATGSD facilitator to identify sessions in which both training groups would meet to discuss their work responsibilities and build collaboration to integrate software developer and user groups.

Target Audience

The target audience will primarily be advanced GIS users and GIS data managers (mainly from ministries of physical planning division) with basic knowledge of GeoNode platforms and competent in GIS technology. There will be approximately 15 participants.

Required Components and Expected Results of the Training

The advanced training will focus on sessions that aim to create lessons that include practical exercises that directly relate to each trainee's respective country/agency needs; and thusly, the training should help advance the particular project needs to complete the installation, launch and/or improve the use of the SDI. In all instances, the training is meant to build capacity and improve knowledge sharing of open-source platforms between spatial data managers and software developers in the Caribbean, and support LCR DRM operations in Eastern Caribbean and Belize. The training should be structured on the following components and dependencies of the GeoNode:

The training will be structured on the following components of the spatial data management:

- Common GIS analysis and practices;

- Advanced GeoNode configuration and use;
- Using Open Source desktop GIS (QGIS);
- Integrating GeoNode into existing GIS workflow;
- OSM[1] mapping concept, tools and field work for collecting exposure data;
- Data quality control (QA/QC);
- Spatial data infrastructure;
- Advanced map projection system;
- Advanced metadata concept;
- Advanced cartography.

Tasks

The consultant will undertake the following tasks, based on the schedule of activities (below):

1. Propose a draft agenda and outline for the training manual
2. Develop a draft and final version of the training manual based on feedback from the Bank team
3. Conduct the ATGDM training in parallel to the ATGSD training in Trinidad and Tobago
4. Develop evaluation questions for an online survey to conduct a training assessment by the participants;
5. Submit a summary report on the training, including a description of the initial knowledge of the participants, the knowledge level after the training and lessons learnt from the training
6. Develop a conceptual curriculum for a university level curriculum in collaboration with the ATGSD facilitator.

Selection Criteria

The consultant will be evaluated based on the following criteria:

Minimum Requirements:

- Advanced degree in GIS or similar field
- Minimum 3-years experience with ArcGIS or other desktop GIS software

Preferred Qualifications:

- Demonstrated ability to work in international contexts
- Familiarity with DRM-specific data needs
- Familiarity with open source GIS and data management tools such as OpenLayers/GeoExt, PostGIS, GeoNetwork, GeoServer, and OpenStreetMap
- Experience with teaching and/or conducting trainings on technical topics

Supervisory arrangements

The consultant will report to Fernando Ramirez (Task Team Leader). The deliverables will be coordinated and monitored by Bishwa Pandey (Senior Data Management Specialist), Bradley Lyon (Knowledge Management Analyst) and Melanie Kappes (Disaster Risk Assessment Specialist).

[1] Open Street Map, is an open-source mapping tool used to deliver community-based maps used in disaster risk assessments.

Timeline

The contractor will conduct the training for duration of 6-days during November 26 – December 1, 2012.

Schedule of Activities

Task	Deliverable	Description	Estimated Due date
1	Training Manual Outline and draft training agenda	Draft outline of training contents to be discussed and agreed by LCR DRM Team	5 weeks before training
2	Draft Training Manual and revised agenda	Draft training manual materials and agenda to be developed by consultant	3 weeks before training
3	Final Training Manual	Final training manual to be submitted to Bank team for review, final comments, and printing	2 weeks before training
4	Final Agenda	6-day agenda for the training designed in collaboration with ATGSD training facilitator	2 weeks before training
5	Evaluation Questions	Submit draft evaluation questions for training assessment to be conducted online	1 week before training
6	Facilitation of training	Conduct ATGDM training	Tentatively Nov. 26- Dec1
7	Final Report	Final documentation of materials, recommendations to improve the training, and conceptual outline for a university level curriculum	December 12

Location and Costs of the Training

The training will be held at University of West Indies (UWI), at Trinidad and Tobago. The costs of travel, hotel and per diem will be paid by the Bank.

Compensation

The selected consultant will be issued a 26-day contract to complete the consultancy, and will be offered a daily rate that will commensurate with qualifications and experience related to these Terms of Reference, and will be negotiated with the World Bank. The duration of consultancy is subject to extension depending on the need for additional support and the performance of the consultant.

To Apply

Interested candidates should submit their CVs and cover letter by email to Bishwa Pandey, Data Management Specialist (bpandey@worldbank.org) with copy to Justin Locke, Disaster Risk Management Specialist (jlocke@worldbank.org), and Bradley Lyon, Knowledge Management Analyst (blyon@worldbank.org) by Tuesday, October 9, 2012 by COB (6 pm, EST). In the subject line, please include your last name, and the name of the training for which your are applying (example: Smith: A: Advanced Training for GeoNode Software Developers (ATGSD).

Additional Resources

Additional resources information, apart from these links, will be submitted to the selected candidate and discussed with LCR DRM team before submitting the deliverables.

Climate Investment Fund website for the Pilot Program for Climate Resilience:
http://www.climateinvestmentfunds.org/cif/ppcr

Caribbean Risk Assessment & Open Geospatial Data Management Workshop
http://go.worldbank.org/XM7Z7VT0N0

Eastern Caribbean Open-Source Geospatial Data Sharing and Management Workshop
http://go.worldbank.org/FGTJ7ON9D0

SLING
http://sling.gosl.gov.lc/

PPCR
http://go.worldbank.org/IAWTOFNJE0

RDVRP
http://go.worldbank.org/517HGGWXX0