DEVELOPMENT OF A WEB-BASED
CADASTRAL SURVEY PROJECT
MANAGEMENT INFORMATION SYSTEM
IN SUPPORT OF THE LANDS MANAGEMENT BUREAU OF THE
PHILIPPINE GOVERNMENT

Randolf S. Vicente, MSc.
Proprietor, RSV Geoconsulting and Management Services, Philippines

OUTLINE

I. Background
II. Situationer
III. Project Description
IV. Implementation Approach
V. Work Completion
VI. Initial Impacts
VII. Conclusion
Pursuant to Executive Order (EO) No. 192, LMB serves as the staff bureau of the DENR to carry out the functions on:

✓ Planning;
✓ Policy development; and
✓ Monitoring and evaluation of cadastral surveys, among others.

Role of the Lands Management Services (LMS) on Cadastral Survey Program Implementation

Manage the following:

✓ Procurement of consulting services;
✓ Contract administration;
✓ Operations management including inspection, verification and approval of surveys (IVAS) processes; and
✓ Submission of reports to DENR-Central Office through the LMB, and other higher authorities.
The Marching Order of His Excellency
President Benigno Simeon Aquino III

Hasten and complete the Cadastral Survey Program of the country!

• The Program mirrors the government’s seriousness to pursue programs that bring immediate and substantial benefits to the poor.
• It aims to contribute to the poverty alleviation thrusts of the Aquino Administration on land distribution.

II. Situationer

Implementation Issues in Broad Themes

Unmet Goals and Objectives

Dysfunctions yielded to

Technical
Operational
Institutional
Legal/Policy
Financial
1. The National Cadastral Project Coordination Office (NCPCO), created pursuant to DENR Memorandum Order No. 2011-03, is responsible to the following:

- Preparation of work and financial plan;
- Coordination;
- Monitoring;
- Submission of reports;
- Facilitation of the timely releases of project funds; and
- Establishment and maintenance of database on physical and financial status of implementation of the National Cadastral Survey.

2. NCPCO is headed by a National Cadastral Project Coordinator (NCPC) under the direct supervision of the LMB Director.

Project Management Information Needs

- Develop and operationalize appropriate project management tools to satisfy and sustain the operational requirements of all phases of work at all levels.
- Continuous use and exchange of reliable data or information are crucial in policy development, planning, and decision making.

Hence, the Cadastral Survey Project Management Information System (CSPMIS) was considered for design and development.
The Service Provider: RSV Geoconsulting and Management Services (RSV-GEMS)

A sole proprietorship firm engaged in:

✓ Surveying and Mapping Services
✓ Geographic Information and Communications Technology (Geo-ICT) Solutions
✓ Among others

III. Project Description

Project Objectives

• To develop a project management tool which will be utilized by the End-users from the LMB and LMS in the Regional Offices;
• To achieve an improved internal capacity for a functional near-real time monitoring and better feedback mechanism; and
• To enhance transparency and accountability in cadastral survey project management.
III. Project Description

Role of RSV-GEMS (In collaboration with LMB and LMS Offices)

- Design and develop a Web-based CSPMIS in support to cadastral survey project management;
- Establish in-house capability concerning the utilization of CSPMIS at the LMB and LMS offices;
- Develop the implementing guidelines for the utilization and maintenance of the CSPMIS consistent with the ICT policy of the DENR; and
- Prepare and submit reports, system technical documents, Users’ Manuals, and training materials.

System Modules Covered

- Project Summary;
- Service Provider’s Profile (Sole Proprietorship, Corporate or Partnership);
- Profile of Government Geodetic Engineer In-charge;
- Procurement Process;
- Project Resources and Other Inputs;
- Contract Information and Management;
- Document and Action Tracking; and
- Physical and Financial Reports.
### Scope of Work and Schedule

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>SCOPE OF WORK/COMPONENT ACTIVITIES</th>
<th>DURATION (MONTHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>System Analysis</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Database Design</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>System Design and Development</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Evaluation and Modification</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Integration and Operationalization</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Capability Building</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Preparation of Implementing Guidelines</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Documentation and Turn-over</td>
<td></td>
</tr>
</tbody>
</table>

### Context Diagram

[Diagram showing the interaction between Administrator, CSPMIS, Storage, and User actions (add, delete, edit)]
IV. Implementation Approach

- Proto-type version developed within two (3) months;
- End-Users given 14 days to evaluate the Proto-type;
- CSPMIS completed in six (6) months time;
- Installed and made operational in a Server environment;
- Accomplished an orientation kick-off meeting/seminar, two (2) training programs, two (2) workshops and series of focus group discussions on policy development;
- Prepared technical documents, Users Manuals, training materials, and reports; and
- Complied with after-sales support is three (3) months from the date of turn-over of deliverables.

V. Work Completion
General System Features

- User friendly;
- Selected data fields have input validation;
- Converts data into different file formats;
- Compatible with all operating system platforms;
- Contains advance search functionality;
- Contains security features such as login page, setting of User’s permission and others for the protection of data and information;
- System operation is governed by implementing guidelines;

General System Features

- Operates in real-time - Users may receive data and information once these are uploaded or published;
- Provides outputs by generating Web pages;
- User interface accepts inputs via devices such as iPods and smart phones;
- System is accessible to Users over a Network such as Internet or an Intranet through a Web Browser;
- Single installation through the LMB Web Server; and
- Usable by multiple and concurrent Users nationwide.
System Administration

- NCPC presently acts as the System Administrator (SA).
- MIS Unit provides technical assistance to the SA.
- Administrator Page is provided solely for use by the SA.
- SA can set User’s permissions and privileges in using the system.
- A “Listbox” is used to cluster, assign, authorize and add/delete User groups.

V. Work Completion

Initial Impact

- Availability of data for project study, planning, monitoring and evaluation, and impact assessment;
- More detailed overall project profile and status together with the required documentary attachments are now available and accessible;
- Better monitoring system and feedback mechanism as information on issues and concerns needing immediate intervention became available and easily accessible;
- Increase in number of personnel that are capable of utilizing the system in support of project management;
- Assurance of minimizing unnecessary delays which will contribute to better time and fiscal management;
Initial Impact

• Enhanced internal and external coordination and implementation arrangements;
• Increased internal capacity in project management and improved productivity;
• Enhanced transparency in some regions viz internal control and field operations from procurement until project turn-over; and
• Initial improvement in terms of accountability mechanism for all officials and employees directly involved in the project.

Lessons Learned

• There is no amount of brilliant public investment managers that can assure the government to effectively and efficiently manage the cadastral survey projects without using real, up-to-date, and reliable data and information;
• The use of ICT solutions such as the Web-based CSPMIS redounds to the project’s initial impacts and benefits which evidently outweigh the cost of investment; and
• Among the major challenges are the commitment and dedication of the employees and officials who are directly involved in CSPMIS operationalization.
Thank you for listening!

Randolf S. Vicente, MSc.
Proprietor, RSV Geoconsulting and Management Services (Philippines)
rsvgeomatics@gmail.com