LINKING LAND ADMINISTRATION SYSTEMS IN THE PHILIPPINES USING THE LAND ADMINISTRATION DOMAIN MODEL

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Good afternoon!
Selamat Petang!
What is the problem?

“There are 23 agencies in the government bureaucracy with interest in land. “ (PA-LAMP, 2003)

“However, there is a lack of a coordination mechanism among them, particularly on data exchange and sharing.” (Dealca, 2009)
**Looks like a job for**

![Diagram](image)

**Major Land Agencies**

<table>
<thead>
<tr>
<th>Land Administration Agency</th>
<th>Jurisdiction</th>
<th>Documents produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Environment and Natural Resources</td>
<td>All government lands</td>
<td>Free patent</td>
</tr>
<tr>
<td>Department of Agrarian Reform</td>
<td>Agrarian lands</td>
<td>Certificate of Land Ownership Award, Emancipation Patent</td>
</tr>
<tr>
<td>National Commission on Indigenous Peoples</td>
<td>Customary lands</td>
<td>Certificate of Ancestral Domain/Land</td>
</tr>
<tr>
<td>Land Registration Authority</td>
<td>Land registration</td>
<td>Torrens Titles</td>
</tr>
</tbody>
</table>
Major databases

<table>
<thead>
<tr>
<th>Land Administration System</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emancipation Patent Information System</td>
<td>Department of Agrarian Reform</td>
</tr>
<tr>
<td>Certificate of Land Ownership Award Information System</td>
<td>Department of Agrarian Reform</td>
</tr>
<tr>
<td>Land Administration and Management System</td>
<td>Department of Environment and Natural Resources – Land Management Bureau</td>
</tr>
<tr>
<td>Ancestral Domain Database and Information System</td>
<td>National Commission on Indigenous Peoples</td>
</tr>
</tbody>
</table>

Conflicts between the agencies

**JOINT DAR-DENR-LRA-NCIP ADMINISTRATIVE ORDER NO. 01-12**

**SUBJECT**: Clarifying, Restating and Interfacing the Respective Jurisdictions, Policies, Programs and Projects of the Department of Agrarian Reform (DAR), Department of Environment and Natural Resources (DENR), Land Registration Authority (LRA) and the National Commission on Indigenous Peoples (NCIP) in Order to Address Jurisdictional and Operational Issues Between and Among the Agencies
How can the LADM help?

<table>
<thead>
<tr>
<th>Existing Database</th>
<th>Party Package</th>
<th>Administrative Package</th>
<th>Spatial Unit Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAMS (Land Administration and Management System) DENR</td>
<td>LADM</td>
<td>LADM</td>
<td>LADM</td>
</tr>
<tr>
<td>ADDIS (Ancestral Domain Database and Information System) NCIP</td>
<td>CADT_claimant CADT_register</td>
<td>ApprovedCALTs CADT CADTIssued</td>
<td></td>
</tr>
<tr>
<td>CLOAIS/EPIS (Certificate of Land Ownership Award Information System/ Emancipation Patent Information System) DAR</td>
<td>CL_FarmerBeneficiary CL_FarmerBeneficiaryList CL_LandOwner EmancipationPatentList</td>
<td>CL_DistributedLand</td>
<td></td>
</tr>
</tbody>
</table>

Proposed model for linking the multiple LAS

- **Party Package**

```
class Party
  - LA_PartyType
    - group
    - naturalPerson
    - nonNaturalPerson
  - LA_GroupPartyType
    - association
    - family
    - tribe
  - LA_PartyRoleType
    - bank
    - certifiedSurveyor
    - citizen
    - conveyancer
    - employee
    - farmer
    - moneyProvider
    - notary
    - stateAdministrator
    - surveyor
    - writer

versionedObject «featureType» LA_Party
  - extPID: Oid [0..1]
  - name: CharacterString [0..1]
  - pID: Oid
  - role: LA_PartyRoleType [0..*]
  - type: LA_PartyType

PH_Party
  - roleIPR: PH_PartyRoleType «featureType» LA_Party
  - groupID: LA_GroupParty

CL_FarmerBeneficiary
  - LA_PartyMember
  - share: Fraction [0..1]
  - groupID: Oid
  - type: LA_GroupPartyType
```

XXV International Federation of Surveyors Congress, Kuala Lumpur, Malaysia, 16 – 21 June 2014
Proposed model for linking the multiple LAS

**Administrative Package**

![Diagram of Administrative Package]

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Proposed model for linking the multiple LAS

**SpatialUnit Package**

![Diagram of SpatialUnit Package]

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Conclusions

- The LADM is flexible enough to accommodate the data models of the different major agencies.
- The existing Philippine land information databases lack a spatial component which is needed before integration can occur.
- The modularity of the LADM makes it usable by systems of varying complexity.
  - Fit for purpose. Use only what is needed.
- Perfect is the enemy of good.

Recommendations

- Further investigation, include other agencies
- Use LADM SpatialUnit class as blueprint for extending the existing databases that still don’t have spatial components
- Implement proof of concept for communication
Acknowledgements

Thank you very much
Terima kasih