

Application of Land Administration Domain Model to Recognition of Indigenous Community Rights in Indian Forests: *Indian Forest Rights Act, 2006,* *Examined with its Spatial Dimension*

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Use Cases and Instance Level Diagrams;
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Global Situation and Rights to Indigenous Communities

- Global Declarations on Indigenous Community Rights:
 - Article 17 of Universal Declaration on Human Rights states owning a property as a fundamental right;
 - UN Declaration on Indigenous Peoples Rights reaffirms protecting Indigenous property rights in Article 25-29.
- Global Scale Projects interacting with these rights:
 - REDD+
 - VCM;

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Forest Rights Act India, 2006

- Reason for the Declaration of Forest Rights Act:
 1. Inadequate recognition of forest rights on ancestral lands and their habitat under colonial government and later in independent India
 2. To address the long standing insecurity of tenure and access rights of such communities.

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Conventions in this presentation

- Regarding definitions in the Indian Forest Rights (IFR) Act 2006:
 - **IFR Specialized Class Name (LADM related Core Class):**
 - Definition of the specialized class, according to the Act.

LADM classes not preceded with the "LA_" or Land Administration prefix: they belong to the Rights, Responsibilities and Restrictions profile on informative annex F (ISO 19152 FDIS, 2011).

Note: Modeling used the UML2 diagramming available for Eclipse EMF open source IDE.

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Important Definitions under the Act: 1

- **Forest Land (LA_SpatialUnitGroup):**
Land of any description falling within any forest area and includes unclassified forests, undemarcated forests also
- **Habitat and Villages (LA_SpatialUnitGroup; LA_SpatialUnit):**
Customary habitat area in forests of primitive tribal groups . Villages are the settlements established inside the forests by the forest department or converted through the forest reservation process.
- **Gram Sabha (LA_GroupParty):**
A village assembly which shall consist of all adult members of a village with full and unrestricted participation of women.

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Important Definitions under the Act: 2

- **Nodal Agency (LA_Party):**

The ministry of the central government dealing with Tribal Affairs or any officer or authority authorised by the central government in this behalf

- **Forest Dwelling Scheduled Tribes and Other Traditional Forest Dwellers (LA_GroupParty, LA_Party):**

Members or community of the Scheduled Tribes who primarily reside in and who depend on the forests or forest lands for bona fide livelihood needs.

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Important Definitions under the Act: 3

- **Rights (LA_Rights):**

Right to hold and live in the forest land , Right of ownership, access to collect, use and dispose of minor forest produce, Rights for conversion of leases or grants issued by any local authority or any state government on forest lands to titles

- **Responsibilities (LA_Responsibilities):**

Responsibilities and authority for sustainable use, conservation of biodiversity and maintenance of ecological balance while ensuring livelihood and food security of the tribes .

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Important Definitions under the Act: 4

- **Restrictions (LA_Restrictions, AdministrativeServitude):**
Areas of National Parks and Sanctuaries where it has been specifically and clearly established, that such areas are required to be kept as inviolate for the purposes of wildlife conservation.
- **Source (LA_SpatialSource, LA_AdministrativeSource):**
 - Gram Sabha receiving claims, consolidating and verifying them and preparing a map, then
 - pass a resolution and thereafter forward a copy of the same to the sub-divisional level committee.
 - Committee prepare the record of forest rights.
 - Forwards the record to the District Level Committee for a final decision.

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SPATIO-TEMPORAL DIMENSIONS OF THE ACT - 1

- Rights for conversion of leases or grants land titles to a defined spatial unit.
- Gram Sabha shall be the authority to initiate the process for a claim by preparing a map delineating the area.
- Right of ownership, access to collect, use and dispose of minor forest produce describes the spatial limits of rights related to minor forest produce. It also has a vague time-spec element by referring to traditional collection.

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SPATIO-TEMPORAL DIMENSIONS OF THE ACT - 2

- Other community rights of uses or entitlements such as fish and other products of water bodies, grazing etc. refers to temporal element in resource access.
- Empowerment to protect adjoining catchment areas, water sources etc. clearly gives a spatial (2D and 3D) extension to the forest rights of the holders beyond their village or habitat limits.
- The recognition and vesting of forest rights under this act shall be subject to the condition that mentioned tribes or dwellers had occupied forest land before the 13th day of December, 2005.

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Extending Spatial Dimensions under LADM Framework

- Unclear whether the Act allows to raise credit against the entitled land holdings. This rules out the possibility of working with Case C27 of LADM i.e. Spatial Unit with Micro Credit.
- However, slight modification of Case C10 of LADM i.e. Mortgage on Ownership (Formal Rights), considering formal rights (access to collect, use and dispose of minor forest produce, entitlements to grazing or fishing) equivalent to Parcel Ownership rights, will enable credit rising for the right holders.

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Modeling IFR_LADM

- Methodology: An iterative and package-centric approach was applied in order to derive the specialized country model (IFR_LADM) out of the generic and proposed ISO standard (LADM);
- The following LADM packages were considered in succession:
 - Parties;
 - Administrative (Rights and Restrictions);
 - Sources (Spatial and Administrative);
 - Spatial Units.
- A final iteration integrates the different packages into a single model.

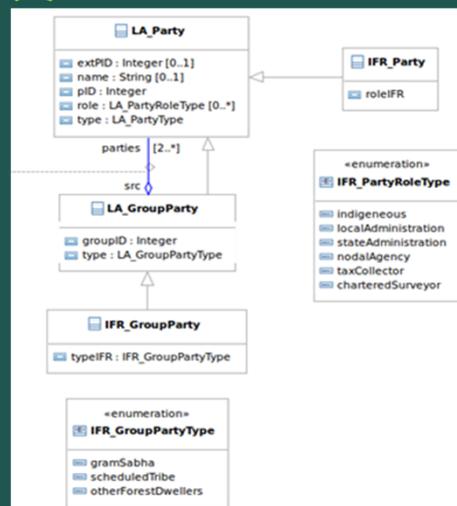
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Modeling Example (1)

- The Parties Package: identification of participating Actors and their roles.
 - New specialized classes for Group and Single Parties where defined;
 - For each one, new country level enumerations were defined, from the generic LADM code lists;
 - The new enumerations reflect the different parties and roles as identified in the Act.



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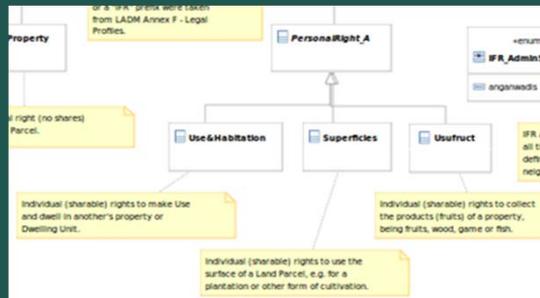
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Modeling Example (2)

- The Rights profile from LADM: Appurtenant to derived, personal rights;
- Civil Law (European) derived rights which can be shared and have an Act counterpart are shown.

Note: this is an extract from Figure 2 in the paper.



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Instance Level

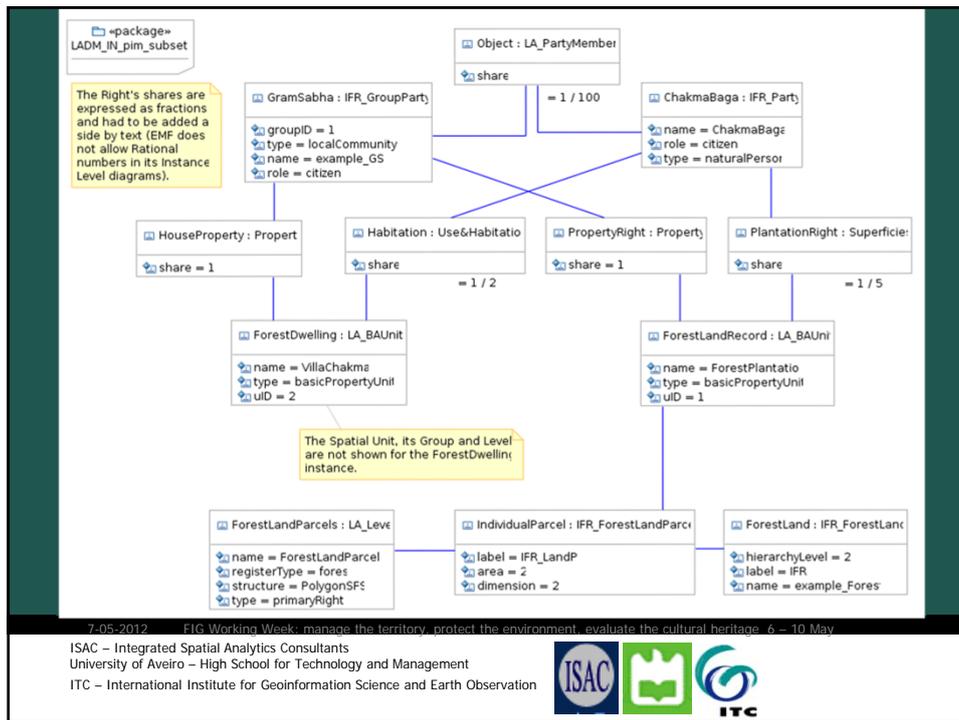
- Example for an individual sharing derived rights over a communal (GramSabha) ownership;
- The citizen is called “Chakma Baga”, and holds habitation and plantation rights;
- Chakma Baga has a 1/100 share on the communal Gram Sabha ownership;
- The basic ownership rights lie with the community, i.e. they belong to the Gram Sabha;
- Two different parcels are defined: one over (communal) Forest Lands, and other for Forest Dwelling;
- Each Spatial Unit has its own association to LA_Level and LA_SpatialUnitGroup specialized classes.

Note: diagram in the following slide.

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Conclusions and Recommendations

- LADM does have the base flexibility to be tailored to the specific needs of special contexts;
- It can ease the design of an appropriate land information system to help implement innovative legislation
- It can underpin and facilitate the design of a land administration system that supports all segments of society
- Future research should focus:
 - Conducting new case studies for other fast developing countries (such as Brazil or China) ;
 - Temporal aspects deserve further research, as well as cost effective survey methods and administrative procedures;
 - Results obtained for the Indian Forest Rights, at this detailed level, should then be compared to the new Case Studies

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