A CONCEPTUAL FRAMEWORK FOR LAND ADMINISTRATION SPATIAL DATA INFRASTRUCTURE IN COLOMBIA

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ABSTRACT

1. Introduction

National regulations in relation to cadastral management, the incorporation of conceptual models, the implementation of geospatial technologies and the adoption of a territorial administration policy have been significant advances in the implementation of public policy about the Multipurpose Cadaster in Colombia. In this context, the Spatial Data Infrastructure for Colombia (IDE-AT) aims to articulate capacities and institutional efforts to optimize the production, availability, access, use and exploitation of geospatial data related to the territory.

In this sense, the four components of the IDE-AT are defined: the management model, the legal framework, standards and the technological platform. Similarly, the LADM standard *(ISO 19152:2012 "Land Administration Domain Model")* has been adopted, which aims to standardize the creation of the reality model in the theme of Territorial Administration by providing an abstract conceptual model with four distinct packages: LA party (people and organizations) LA RRR (rights, responsibilities, and restrictions); LA Baunit, and LA spatialunit. Therefore, it is required, that the institutions in charge of land management use technological tools for information management, which fulfill with the standards defined for land administration in the country. The objective of this paper is to show this administrative and technological process that has been developed in the last four years in relation to the updating of land administration and its impact in Colombia.

2. Why an IDE-AT

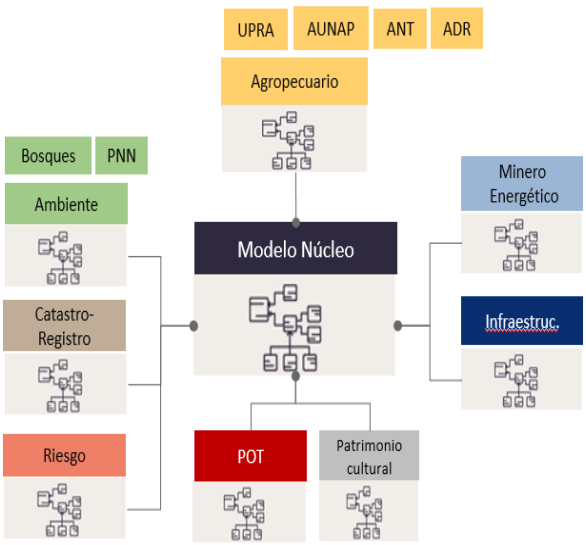
Colombia's land administration system vision seeks to promote an improvement of a systemic approach in land management processes. Nevertheless, in Colombia, diverse institutions engage in land issues in a disjointed and dispersed manner, resulting in issues of insufficient coordination, duplication of information, and rigid procedures, thereby causing governance problems.

The IDE-AT aims to articulate institutional capacities and efforts to optimize the production, availability, access, use and exploitation of geospatial data related to land, including cadastral and Territorial Planning.

This policy was born from the document CONPES 3859 public policy for the adoption and implementation of a rural-urban multipurpose cadastre of 2016, which mentioned: "The cadastre, the registry and the other land information systems that are part of the SAT are articulated with each other through the Spatial Data Infrastructure (SDI), which facilitates the harmonious action of the state entities or agencies that develop land-related policies and manage their information systems. It also facilitates access to land information for all interested persons, public and private". In addition, The LADM_COL profile is adopted based on the LADM standard (ISO 19152:2012 "Land Administration Domain Model"). The LADM_COL model has allowed for a relationship between different institutions in relation to management, access, and standardized information.

3. The IDE - AT

The IDE AT is a tool that will allow access, use and integration of information related to land in Colombia. The institutions that comprise the IDE-AT are organize into diverse sectors, where the multipurpose cadastre is the core model. These sectors are environment, mining-energy, agriculture, risk, territorial planning, cultural heritage, infrastructure, and land-registry



(IGAC, 2020)

Institutions in charge of land management are required to use technological tools for information management, as many of them continue to use conventional methodologies that take too much time and do not meet the standards defined for land administration.

Since the LADM_COL has only developed the model related to the information produced within the framework of the multipurpose cadastre, further work needs to be done on the implementation of the extended models.