

Interaction of Land Objects from LADM Models to Improve Citizen Services

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SUMMARY

Colombia is going through an interesting stage of modernizing land administration processes because of the peace agreement. One of the transformation strategies is to adopt the LADM standard (ISO 19152), which involves modeling cadastral information and other legal land objects with a set of rights, restrictions, and responsibilities. This improvement in information management is expected to also impact the processes and procedures positively through which citizens access public services.

The design framework guided by Colombian models involves creating extended models for the different sectors of territory governance (environment, risks, planning, mining, and energy, etc.). The Land Use Plan is one of these models; it is needed for the issuance of most of the licenses related to land use by municipalities, such as construction permits, urban development, business operations, and natural resource exploitation. This model has been designed to be compatible with the LADM-COL core, applying the concept of a legal land object to each of the 10 types of planning units resulting from the formulation of the plan approved by each municipality.

The standardization process required the proposal of minimums for the administrative units and spatial units, applied by the 1,013 municipalities under the current regulations. An inter-institutional committee was formed that includes territorial regulatory entities, such as the Ministry of Agriculture, the Agustín Codazzi Institute, the Ministry of Housing, and the National Planning Department, among others. Once a consensus on these objects was reached, data mining was carried out on more than 100 management plans in force to obtain approximate domains, given the dispersion from a lack of minimum standardization. Finally, a regulation was approved with a margin for gradual adoption that allows guidelines to be created while supporting the first municipalities to implement it; a migration of the plans still in force was also

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approved.

When applied to three of the ten objects in the land use plan, this standardization resulted in simplified procedures, which positively impacted citizens. Thus, one of the most requested certificates (Land Use Certificate) has been made available on the Internet to be generated automatically by the citizen, rather than the traditional procedure of needing to request it from the municipal authorities. In addition, the Ministry of Trade and Industry has approved the official validity of this certificate, meaning its use is authorized for all procedures.

This article presents the process that has led Colombia to adopt the LADM standard for land use planning and related regulations. In addition, if the method of cross-referencing land use planning objects with land registry properties to automatically generate licenses and certificates is also adopted for the other objects in the Spatial Data Infrastructure (SDI), it would simplify procedures, thus meeting citizens' requests.

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