

LADM Implementation in Colombia

– Process, Methodology and Tools Developed and Applied

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SUMMARY

The Swiss Government, through the State Secretariat for Economic Affairs (SECO), is currently financing a project for giving technical assistance to the Colombian Government for establishing the conceptual and technical bases of a modernized Land Administration, as demanded by the National Development Plan.

Because of the large number of institutions involved in Land Administration in Colombia, and consequently the need for improved data interoperability, the project Implementing Agency decided to suggest the adoption of the Land Administration Domain Model (LADM), ISO19152:2012. All leading land related institutions eventually accepted the LADM proposal and successively a Colombian profile was developed with international expertise and with participation of the National Geographic Institute (IGAC), National Registry (SNR), National Land Agency (ANT), and Land Restitution Unit (URT), among others.

Another important milestone in the process of modernizing Colombia's Land Administration, and an important element of the newly conceptualized Multipurpose Cadastre, is the possibility of delegating cadastre works to third

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1 LADM country profile with INTERLIS, a data-model description- and exchange-standard applied in the Swiss Cadastre. During a modelling workshop with participation of above-mentioned institutions, an INTERLIS based LADM-COL data-model was developed and is now part of the technical specifications of the Multipurpose Cadastre pilot projects.

To facilitate implementation of the LADM-COL, several tools are developed. Of specific interest for this paper is; a tool for the generic implementation of any INTERLIS based LADM in a PostgreSQL database (Staub, 2016); a QGIS plugin for detecting the generated database scheme and editing data of the LADM main packages; and finally, an INTERLIS data validation tool for testing third-party data against the official data-model.

The full paper provides an overview of the needs in Colombia for new standards in Land Administration that increase data-interoperability and -exchange between institutions. The detailed data-modelling process, from the conceptual country profile of the LADM to the implementing model based on INTERLIS is then described. Furthermore, some technical details regarding the “INTERLIS for LADM approach” are discussed and the specific tools developed and used for managing the standard are explained. A special focus will be given on the Data Validation Tool and its integration in a web-service, for the testing of cadastral data against the model, as part of the Quality Assurance System. The importance of the discussed issues toward establishment of a Land Administration Node in the framework of the National Spatial Data Infrastructure will also be highlighted. Lessons learnt and recommendations for using the applied process and tools as a LADM Implementing Toolkit will conclude the article.

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