

Questionnaire for the development of ISO 19152:2012 LADM Valuation Module

The ISO 19152:2012 Land Administration Domain Model (LADM) presents a conceptual schema for the specification of property units and their legal and geometric characteristics recorded at cadastre and land register, and relates these datasets with other property related datasets (e.g. addresses, utility networks, building (units), valuation, taxation, land use, land cover) recorded at external registrations.

A recently initiated collaborative research aims at developing a LADM based international information model for one of these external registrations, namely in terms of a Valuation Module for the ISO 19152:2012 LADM. The purpose of this research is to define the semantics of valuation information maintained by public authorities especially for recurrent taxes on immovable property¹, and to extend the scope of LADM from a fiscal perspective to provide an information model that could be used to construct information systems for immovable property valuation. The preliminary results of this research were documented at the 11th 3D Geoinfo Conference².

This questionnaire is prepared as a part of methodology applied for the above-mentioned research which is also supported by FIG Presidency and Chair of FIG Commission 9 Valuation and the Management of Real Estate. The purpose of the questionnaire is to create a world-wide inventory that reveals commonalities and differences among valuation systems used for recurrently levied immovable property taxes. The result of the questionnaire is expected to provide an understanding of the situation of valuation systems, and will be used as source data for the elaboration of the LADM Valuation Extension Module.

Please reply the following questions, and contact us if you have any comments and suggestions:

Volkan Cagdas: volkan@yildiz.edu.tr

Peter van Oosterom: P.J.M.vanOosterom@tudelft.nl

Erik Stubkjær: est@land.aau.dk

¹ Recurrent taxes on immovable property covers taxes levied regularly in respect of the use or ownership of immovable property. These taxes are levied on land and buildings, in the form of a percentage of an assessed property value based on a national rental income, sales price, or capitalised yield; or in terms of other characteristics of real property (e.g., size or location) from which a presumed rent or capital value can be derived. They can be levied on proprietors, tenants, or both; they can also be paid by one level of government to another level of government in respect of property under the jurisdiction of the latter (The OECD classification and interpretative guide 2015, <http://www.oecd.org/tax/tax-policy/oecd-classification-taxes-interpretative-guide.pdf>)

² For more information, see: <http://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/IV-2-W1/145/2016/>

Section A. General questions for property valuation systems in Costa Rica

Questions	Responses
<p>1. Please indicate the organizations responsible for valuation of properties for property taxation purposes through name in national language and English translation.</p>	<p>La valuación fiscal es responsabilidad de las oficinas de valoración de los Municipios. The fiscal valuation is the responsibility of the valuation offices of the municipalities. Dirección de Tributación Directa del Ministerio de Hacienda. Directorate of Taxation Directorate of the Ministry of Finance. Instituto Costarricense de Valuación. Costarican Institute of Valuation.</p>
<p>2. What are the types of objects of valuation for property taxation (e.g. unimproved parcel, building)? Name and date of the ordinance to be listed.</p>	<p>Se valoran terrenos y construcciones de uso residencial y comercial. Land and buildings for residential and commercial use are valued. Terrenos y construcciones de uso Agrícola Land and buildings for agricultural use</p>
<p>3. Please mention value type (e.g. market value, tax value, capital value) used by the responsible organization for property taxation?</p>	<p>Se usa de referencia el valor comercial para establecer el valor fiscal. En terminos generales el valor fiscal corresponde al 80% del valor commercial. Commercial value is used to establish the fiscal value. In general terms, the fiscal value corresponds to 80% of the commercial value.</p>
<p>4. Please mention the public registry datasets (e.g. cadastre, land registry, building registry) which are used in valuation procedures, and their mutual functions?</p>	<p>Base de datos del Registro Inmobiliario Nacional que contempla el Catastro Nacional, los catastros municipales y las oficinas de permisos de construcción. Database of the National Registry of Real Estate that includes the National Cadastre, the municipal cadastre and the offices of building permits.</p>
<p>5. Which methods are applied for collecting market data needed for valuation?</p>	<p>Estudios de compras y ofertas de bienes inmuebles, no existe un observatorio de inmobiliario. Studies of purchases and offers of real estate, there is no real estate observatory</p>
<p>6. Is there any special valuation database for storing datasets <i>used in</i> (e.g. property characteristics) or <i>produced with</i> (e.g. sales statistics) valuation procedures? If yes, please give the name of database, indicate responsible authority, and describe its content.</p>	<p>Los municipios llevan su propias bases de datos para realizar las valoraciones, donde contemplan las características del terreno y de las construcciones. Se usan mapas de valores de terreno por zonas homogéneas y manuales de tipología constructiva. The municipalities carry their own databases to carry out the assessments, where they contemplate the characteristics of the land and</p>

	of the constructions. Maps of terrain values are used by homogeneous zones and manuals of construction typology.
7. Is there a web-based dissemination of valuation information? If yes, please indicate which data (e.g. sales statistics) is open to the public.	No existe publicada. Does not exist published.
8. How frequently are general revaluations made?	Existen 2 fechas. Cuando hay autodeclaración es de 5 años y cuando es por avaluo administrativo 3 años. There are 2 dates. When self-declaration is 5 years and when it is for administrative assessment 3 years.
9. Is there a system of indexation affecting property value between regular revaluations?	No
10. Do taxpayers have a right to appeal against the appraised values? If yes, please indicate how disputes are resolved.	Si tienen derecho a presentar revocatoria y apelación. 1. Recurso de revocatoria ante la Oficina de Valoraciones. 2. Concejo Municipal. 3. Tribunal Fiscal del Ministerio de Hacienda. If they have the right to file recall and appeal. 1. Appeal of revocation before the Office of Evaluation. 2. Municipal Council. 3. Tax Court of the Ministry of Finance

Please continue with Section B, if mass appraisal procedures are applied in your country for immovable property taxation. If single property appraisal methods are used -even if as complementary part of mass appraisal, please answer questions given in Section C.

Section B - Questions for mass appraisal procedures in Costa Rica

Questions	Responses
1. Do you have a (computer aided) mass appraisal system in your country? If yes, please indicate also responsible authorities.	<p>Existe un programa diseñado por el Órgano de Normalización Técnica (ONT) del Ministerio de Hacienda y algunos Municipios han diseñado sus programas de valuación bajo la supervisión del ONT.</p> <p>There is a program designed by the Technical Standardization Office (ONT) of the Ministry of Finance and some municipalities have designed their valuation programs under the supervision of the ONT</p>
2. Is there any other use of the mass appraisal system than property taxation?	No
3. Which CAD/GIS/CAMA (Computer-aided design / Geographic information system / Computer Assisted Mass Appraisal) software packages are used in mass appraisal?	<p>ArcGIS</p> <p>Autocad</p> <p>GvSIG</p> <p>Quantum</p>
4. Which geographical or spatial datasets are used in mass appraisal? Please describe the source of these datasets.	<p>Cada municipio desarrollo sus bases de datos. Por Ley se utilizan 11 variables urbanas (fincas urbanas) y 13 variables rurales (rurales y agropecuarias).</p> <p>Each municipality developed its databases. By law, 11 urban variables (urban properties) and 13 rural variables (rural and agricultural)</p>
5. Which geographic or spatial analysis methods (e.g. visibility analysis, proximity analysis) are applied in mass appraisal?	No
6. Is three-dimensional (3D) data used in mass appraisal? Please describe source of 3D data (e.g. floor plans). Does Valuation objects include condominium, strata title, freehold flats or other 3D units.	<p>No, solo en la Municipalidad de Escazú, los aplicamos para estudios de valor, pero no son valores oficiales.</p> <p>No, only in the Municipality of Escazú, we apply them for studies of value, but they are not official values.</p>
7. Is there any relationship between the CAMA system and other public registers (e.g. cadastre, land registry, building registry, ...)?	No
8. Please describe the statistical models (e.g. additive, multiplicative) applied in mass appraisal according to type or functions of properties?	<p>El modelo de valoración de Costa Rica de un modelo de regresión establecido por el Ministerio de Hacienda en 1985 y el mismo no ha sufrido cambios desde esa fecha.</p> <p>The Costa Rican valuation model of a regression model established by the Ministry of Finance in 1985 and has not changed since that date.</p>
9. Please indicate statistical analysis methods (e.g. multiple regression analysis, artificial neural network) applied in mass appraisal?	<p>Modelo de regresión múltiple.</p> <p>Multiple Regression Model.</p>

10. Which land use characteristics (e.g. land use zones) are used as variables in mass appraisal models? Please describe the source(s) of these characteristics.	El uso de la tierra es una de las bases de los mapas de zonas homogéneas. Land use is one of the bases of homogeneous zone maps.
11. Which environmental and locational characteristics (e.g. location nuisance, distance to points of interest / POIs, environmental risks) are used as variables in mass appraisal models? Please describe the source(s) of these characteristics.	Ninguna Any
12. Which building or improvement characteristics (e.g. number of unit, construction type and material) are used as variables in mass appraisal models? Please describe the source(s) of these characteristics.	La valoración de construcciones considera los acabados, materiales, área de construcción, cantidad de cuartos, cantidad de baños, piso, paredes, tipos de puertas, ventanas, etc. The valuation of constructions considers the finishes, materials, area of construction, quantity of rooms, quantity of bathrooms, floor, walls, types of doors, windows, etc.
13. Does valuation legislation prescribe an investigation into the general quality or performance analysis (e.g. 'ratio study') of the mass appraisal system? If yes, please describe the indicators used in the performance analysis.	No
14. Please indicate whether single property appraisal is applied for improving accuracy of mass appraisal estimations.	En realidad en Costa Rica, no se puede decir que existe una verdadera valoración en masa, dado que hay que ir valorando propiedad por propiedad, utilizando los mapas de valores de terreno por zonas homogéneas y el manual de tipología constructiva del Ministerio de Hacienda. In fact, in Costa Rica, it is not possible to say that there is a true mass valuation, since we have to value property by property, using the maps of land values by homogeneous zones and the manual of constructive typology of the Ministry of Finance.

Section C. Questions for single property valuation procedures in Costa Rica

Questions	Responses
1. Which valuation methods are used for single property appraisal for property taxation? Please relate valuation methods with the type of valuation objects (e.g. sales comparison approach for unimproved parcels).	Metodo comparativo. Comparative method.
2. Which geographical or spatial datasets are used for single property appraisal? Please describe the source(s) of these datasets.	Uso de la tierra, ubicación, área y servicios públicos. Land use, location, area and public services.
3. Which legal property characteristics (e.g. property rights) are taken into account for single property appraisal? Please describe also the source of these characteristics.	La parte proporcional del derecho de propiedad debe ser considerado. The proportional part of the right of ownership must be considered.

<p>4. Which land use characteristics (e.g. land use zones) are taken into account for single property appraisal? Please describe also the source(s) of these characteristics.</p>	<p>Se considera uso comerciales, residenciales y rurales según el uso real que se les estan dando a las propiedades. Se consideran diferentes variables de área, frente, regularidad, pendiente, servicios publicos, uso del suelo, hidrología entre otras.</p> <p>It is considered commercial, residential and rural use according to the actual use that they are giving to the properties. Different variables of area, front, regularity, slope, public services, land use, hydrology and others are considered.</p>
<p>5. Which environmental and locational characteristics (e.g. location nuisance, distance to POIs, environmental risks) are taken into account for single property appraisal? Please describe the source(s) of these characteristics.</p>	<p>La características ambientales y de ubicación son consideradas para la elaboración de los mapas de valores de terrenos por zonas homogéneas.</p> <p>The environmental and location characteristics are considered for the mapping of land values by homogeneous zones.</p>
<p>6. Which building or improvement characteristics (e.g. number of unit, construction type and material) are taken into account for single property appraisal? Please describe the source(s) of these characteristics.</p>	<p>Para las construcciones se consideran materiales, acabados. el Ministerio de Hacienda elabora cada 2 años un manual de valores base por tipología constructiva para cada tipo de construcción, comercial, residencial, rural y agropecuaria. Se considera la edad y el estado de mantenimiento de las mismas.</p> <p>For the constructions are considered materials, finished. The Ministry of Finance prepares every 2 years a manual of basic values by type of construction for each type of construction, commercial, residential, rural and agricultural. The age and the state of maintenance of the same are considered.</p>
<p>7. If there is a special valuation database, please indicate which sales comparison method related data (e.g. comparable property identifiers, monetary adjustment for time, physical differences) are kept in this database.</p>	<p>No</p>
<p>8. If there is a special valuation database, please indicate which cost method related data (e.g. type and source of cost price, chronological age, depreciations) are kept in this database.</p>	<p>Se utiliza el Manual base de valores por tipología constructiva, que considera materiales, acabados, edad, estado de mantenimiento de las diferentes construcciones.</p> <p>The Manual is based on values by type of construction, which considers materials, finishes, age, maintenance status of different constructions</p>
<p>9. If there is a special valuation database, please indicate which income valuation method related (e.g. gross income, net income, capitalization rate, discount rate) are kept in this database.</p>	<p>No</p>

Section D. Information concerning respondent(s)

Questions X..Y have been answered by	Respondent
1. Name	M.V. Ing. Julián Morales Díaz
2. Affiliation / position	Colegio Federado de Ingenieros y de Arquitectos de Costa Rica
3. Country	Costa Rica
4. E-mail	jumodi@cfia.or.cr
5. Comments	

Questions Z..A have been answered by	Respondent
1. Name	M.V. Ing. Julián Morales Díaz
2. Affiliation / position	Colegio Federado de Ingenieros y de Arquitectos de Costa Rica
3. Country	Costa Rica
4. E-mail	jumodi@cfia.or.cr
5. Comments	