

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:

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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/TV-2-W1/145/2016/>

Section A. General questions for property valuation systems in Cyprus

Questions	Responses
1. Please indicate the organizations responsible for valuation of properties for property taxation purposes through name in national language and English translation.	Department of Lands and Surveys (D.L.S).
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.	Land and buildings.
3. Please mention value type (e.g. market value, tax value, capital value) used by the responsible organization for property taxation?	Value for General Valuation purposes which is closest to Market Value.
4. Please mention the public registry datasets (e.g. cadastre, land registry, building registry) which are used in valuation procedures, and their mutual functions?	Land Information System including mapping database.
5. Which methods are applied for collecting market data needed for valuation?	Data Capture (Field survey, aerial photography, satellite imagery, collaboration with Local Planning Authorities and Municipalities).
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.	C.I.L.I.S (Computerised Integrated Land Information System) – Fiscal component.
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.	D.L.S. Web Portal. Open to the Public - Property characteristics, value of General Valuation, mapping, aerial photography, satellite imagery, GIS. Open to licensed Valuers – Sales data and GIS visualization.
8. How frequently are general revaluations made?	By Law, every five years. The latest General Valuation was completed as at 01.01.2013.
9. Is there a system of indexation affecting property value between regular revaluations?	Not yet.
10. Do taxpayers have a right to appeal against the appraised values? If yes, please indicate how disputes are resolved.	Yes. By application to the DLS at first stage and thereafter by referral to the Court if not resolved.

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 Cyprus

Questions	Responses
1. Do you have a (computer aided) mass appraisal system in your country? If yes, please indicate also responsible authorities.	Yes. Department of Lands and Surveys.
2. Is there any other use of the mass appraisal system than property taxation?	It is also used as a general guide in other Valuations prepared by the Department.
3. Which CAD/GIS/CAMA (Computer-aided design / Geographic information system / Computer Assisted Mass Appraisal) software packages are used in mass appraisal?	A tailor-made software integrated with GIS applications is applied, as well as the statistical package SPSS.
4. Which geographical or spatial datasets are used in mass appraisal? Please describe the source of these datasets.	Digital Cadastral DCDB and Survey Database SDB..
5. Which geographic or spatial analysis methods (e.g. visibility analysis, proximity analysis) are applied in mass appraisal?	Proximity Analysis.
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.	We do not apply 3D data. For General Valuation purposes we include condominium, strata title, and freehold flats.
7. Is there any relationship between the CAMA system and other public registers (e.g. cadastre, land registry, building registry, ...)?	We are partially connected with Municipalities, Local Authorities and the Inland Revenue Department.
8. Please describe the statistical models (e.g. additive, multiplicative) applied in mass appraisal according to type or functions of properties?	Direct comparison (additive and multiplicative), Investment Valuation Method, and the Base Model.
9. Please indicate statistical analysis methods (e.g. multiple regression analysis, artificial neural network) applied in mass appraisal?	The Base model, Multiple Regression (MRA).
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.	Planning Zones (E.g. Agricultural, Residential, Commercial, Industrial).
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.	Distance at points of interest.
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.	Age, condition, property type, construction type, building category, area.
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.	Legislation prescribes for evaluating the uniformity and level of values.
14. Please indicate whether single property appraisal is applied for improving accuracy of mass appraisal estimations.	Yes.

Section C. Questions for single property valuation procedures in Cyprus

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).	Direct Comparison, Base Method, and Investment Method of Valuation.
2. Which geographical or spatial datasets are used for single property appraisal? Please describe the source(s) of these datasets.	L.I.S (Land Information System).
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.	Access to the property, property service facilities, and planning Zones. General Valuations are based on Vacant Possession basis.
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.	Planning Zones.
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.	Distance at points of interest.
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.	Age, condition, property type, construction type, building category, area.
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.	Yes.
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.	The Base model. It is applied for mass valuations and not for single valuations yet.
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.	There is an Income Valuation Method but it is not yet operational neither for mass valuations or single properties.

Section D. Information concerning respondent(s)

Questions X..Y have been answered by	Respondent
1. Name	Anastasis Aristidou
2. Affiliation / position	Valuation Officer at the Department of Lands and Surveys
3. Country	Cyprus
4. E-mail	anaristidou@dls.moi.gov.cy
5. Comments	

Questions Z..A have been answered by	Respondent
1. Name	
2. Affiliation / position	
3. Country	
4. E-mail	
5. Comments	