

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 Macedonia

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>Every municipality (општина) in the country has it's own department for taxation of properties that is responsible for valuation of properties for tax purposes.</p> <p>The Agency for real estate cadastre (Агенција за катастар на недвижности) is obliged by the law to implement a system for mass valuation of properties and the Agency is still working on implementation of such a system.</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>Every type of immovable property comes under the law for valuation of property taxation except :</p> <ul style="list-style-type: none"> - Property that is in state ownership, which is used by state authorities, property owned by the municipality which is used by the authorities of the municipality, organs of the municipalities in city of Skopje and the bodies of the city Skopje, except property that is used by the party to physical or legal entities - Property on the foreign diplomatic and consular representations and the representations of international organizations, if the property is in their ownership, under the condition of reciprocity - Property owned by the National Bank of Republic of Macedonia - Buildings and land that is owned by the religious communities - Administrative premises that serve for performing the activities of the taxpayer, except administrative buildings and administrative offices - Property that according to the law is declared as a cultural succession

	<ul style="list-style-type: none"> - facilities for protection of land, waters and air - Residential buildings in villages in the mountainous areas defined by the Government of Republic of Macedonia - Facilities of enterprises for vocational training, vocational rehabilitation and employment of disabled citizens - Land used for surface mining and geological survey - Economic buildings in agriculture - Agricultural land used for agricultural production <p>Law for property taxation Official Gazette of Republic of Macedonia No. 61/2004</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>The basis of the property tax represents the market value of the property.</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>The database of property that of every municipality have. The real estate cadastre database.</p>
<p>5. Which methods are applied for collecting market data needed for valuation?</p>	<ul style="list-style-type: none"> - For tax of property, the municipality use inventory of property or inspection of the property - For mass valuation we collect data by statements that are fulfilled by the owner of the property if the property is part of transaction. This statement is given in the notary office and it has verification of the signature of the owner verified by the notary.
<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>	<ul style="list-style-type: none"> - The databases for valuation are created and maintained by the municipalities. They contain the tax payer, the parcel number, cadastre municipality, the address of the property and of the tax payer, classification of the property, area, value and etc. - The database for transactions of the properties is implemented and maintained by the Agency for real estate cadastre. The database is called Registry for pieces and lease. It contains information about

	the prices of the property, owner of the property, address and many additional information about the property that are in need for implementation of the system for mass valuation of properties.
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.	There isn't any web based application that is open for public with information about estimated value of the property. However, on the Geo portal of the Agency of real estate cadastre there is information about the prices and leases of the properties that have been part of transaction. On the geo portal can be find information about the prices of the transaction, currency, the type of property, the date of transaction, and the area of the property.
8. How frequently are general revaluations made?	Depends on the municipalities, but however they are very rare, and in most of the municipality's general revaluations is not made for more than 20 years.
9. Is there a system of indexation affecting property value between regular revaluations?	There is no such a system.
10. Do taxpayers have a right to appeal against the appraised values? If yes, please indicate how disputes are resolved.	They have a right to appeal against the appraised values within a period of 15 days from receiving of the decision for appraised value. The appeal is submitted to the Minister of finance. The appeal does not suspend the levying of tax

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 XX country

Questions	Responses
1. Do you have a (computer aided) mass appraisal system in your country? If yes, please indicate also responsible authorities.	
2. Is there any other use of the mass appraisal system than property taxation?	
3. Which CAD/GIS/CAMA (Computer-aided design / Geographic information system / Computer Assisted Mass Appraisal) software packages are used in mass appraisal?	
4. Which geographical or spatial datasets are used in mass appraisal? Please describe the source of these datasets.	
5. Which geographic or spatial analysis methods (e.g. visibility analysis, proximity analysis) are applied in mass appraisal?	
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.	
7. Is there any relationship between the CAMA system and other public registers (e.g. cadastre, land registry, building registry, ...)?	
8. Please describe the statistical models (e.g. additive, multiplicative) applied in mass appraisal according to type or functions of properties?	
9. Please indicate statistical analysis methods (e.g. multiple regression analysis, artificial neural network) applied in mass appraisal?	
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.	
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.	
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.	
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.	
14. Please indicate whether single property appraisal is applied for improving accuracy of mass appraisal estimations.	

Section C. Questions for single property valuation procedures in Macedonia

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).	For every type of property according to the law for valuation that is on force in our stat is used cost-method approach.
2. Which geographical or spatial datasets are used for single property appraisal? Please describe the source(s) of these datasets.	For singe property appraisal are used datasets for macro and macro locations. This data set are set out in the Methodology for valuation of immovable property Official Gazette of Republic of Macedonia No. 54/2012.
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.	For single property appraisal according to the law a only a property certificate is used. Subject of assessment can only be property that has a property certificate issued by the Agency of real estate cadastre.
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.	For singe property appraisal are used macro zones that are set out in the Methodology for valuation of immovable property Official Gazette of Republic of Macedonia No. 54/2012. The value of the zones are set out in the Methodology, but which land is in which zone is set out by the municipal tax authorities.
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.	Micro location characteristics that are used are determined by the valuator that inspects the property on the field. The micro location characteristics that are taken in account are : <ul style="list-style-type: none"> - Supply centers: shopping malls or shops complex - Health centers: hospitals and clinics - Educational centers: kindergartens, primary and secondary schools - Communication links: bus station for public transport, long distance bus station and train station
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.	In single apprise the building characteristics that are taken in account are : <ul style="list-style-type: none"> - Type of construction

	<ul style="list-style-type: none"> - Plant - Lift - Floor - Suspended ceiling - Sanitary - Facade joinery (windows and balcony doors) - Door - Facade - Roof cover - Isolation - Gutters - Year of construction - Exclusivity - Depreciation
<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>There is no such a base.</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>There is no such a base.</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>There is no such a base.</p>

Section D. Information concerning respondent(s)

Questions X..Y have been answered by	Respondent
1. Name	Vasil Miskovski
2. Affiliation / position	Head of sector for mass valuation
3. Country	Macedonia
4. E-mail	v.miskovski@katastatar.gov.mk
5. Comments	/

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