

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/IV-2-W1/145/2016/>

Section A. General questions for property valuation systems in Turkey country

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>Local assessment committees for urban parcels - <i>Arsalara ait asgari ölçüde birim değer tespitinde takdir komisyonu</i></p> <p>Local assessment committees for rural parcels - <i>Araziye ait asgari ölçüde birim değer tespitinde takdir komisyonu</i></p> <p>Ministry of Finance - <i>Maliye Bakanlığı</i></p> <p>Municipalities - <i>Belediyeler</i></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>According to Property Tax Law (<i>Emlak Vergisi Kanunu</i>), dated 1970, Turkey has two types of annually levied immovable property tax:</p> <p>(1) Land Tax (<i>Arazi Vergisi</i>)</p> <p>(2) Building Tax (<i>Bina Vergisi</i>)</p> <p>Land Tax is levied from all unimproved parcels, whereas Building Tax is levied on improved parcels (land and building together).</p> <p>Valuation objects for Land Tax include only unimproved parcels.</p> <p>Valuation objects for Building Tax include parcels and buildings together (as property or condominium).</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>According to Property Tax Law, property taxes are levied on the tax values of land and building. See C.1 for definition of the tax 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>Cadastre, Land Register, Address Register, Land use plans.</p> <p>Municipalities also maintain property tax inventories which were established and are updated by data provided with taxpayer declarations.</p>
<p>5. Which methods are applied for collecting market data needed for valuation?</p>	<p>Market data (e.g. rents, price trends, population trends) is mainly based on knowledge of local assessment committees.</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>There are no special valuation databases.</p> <p>Municipalities have their own property tax inventories to record property characteristics. Some of these inventories are computerized and managed in local databases mostly as part of municipal (geographical) information systems.</p>

<p>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.</p>	<p>The parcel unit values (minimum value of the per square meter and per decar of the parcels) determined by local assessment committees, and costs of construction determined by Ministry of Finance and Ministry of Environment and Urbanism are published in web pages of Ministry of Finance and municipalities.</p> <p>Municipalities are entitled to prepare ‘property tax maps’ and ‘sales price lists’ for the assessment of properties, but such maps and lists have never been produced so far.</p>
<p>8. How frequently are general revaluations made?</p>	<p>General revaluations are made in every four years.</p>
<p>9. Is there a system of indexation affecting property value between regular revaluations?</p>	<p>In between general revaluations, tax values are increased in accordance with the half of the revaluation rate determined annually by the Ministry of Finance.</p>
<p>10. Do taxpayers have a right to appeal against the appraised values? If yes, please indicate how disputes are resolved.</p>	<p>Yes, taxpayers can appeal tax values in the first stage municipalities, then tax tribunals.</p>

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 Turkey country

Questions	Responses
1. Do you have a (computer aided) mass appraisal system in your country? If yes, please indicate also responsible authorities.	There is no (computer aided) mass appraisal system in Turkey. But there are some ongoing initiatives led by General Directorate of Cadastre and Land Registry for the establishment of mass appraisal system for property taxation.
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.	-
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Section C. Questions for single property valuation procedures in Turkey country

Questions	Responses
<p>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).</p>	<p>The tax value of the unimproved <i>urban</i> parcel is determined by multiplying the parcel area by parcel unit value (minimum value of the per square meter) estimated by the local assessment committees for every street or value zone in urban areas.</p> <p>The tax value of the unimproved <i>rural</i> parcel is determined by multiplying the parcel area by unit value (minimum value of the per decar) estimated by the local assessment committees for every province or districts in rural areas.</p> <p>Local assessment committees are entitled to apply sales comparison, income and cost methods for the estimating average unit values in urban and rural areas.</p> <p>The tax value of the <i>building</i> has two components: (1) Parcel value and (2) Construction cost of improvements (e.g. building or condominium unit value).</p> <p>Parcel values are calculated as described above.</p> <p>Construction costs of improvements are determined through the cost method by multiplying the gross floor area of buildings or condominium units by the average construction costs per square meter of the building (including 20 % of cost as constructor profit), and the extraction of depreciation that has occurred in the building. If building has central heating / air conditionin system and elevator, calculated construction cost is increased by 8% and 6%, respectively. Moreover, some adjustments are made to construction costs for the different floors and frontage of buildings.</p> <p>The average construction costs per square meter for different types of buildings are determined annually by the Ministry of Finance and the Ministry of Environment and Urbanism.</p> <p>Depreciation amount is calculated based on the construction type and age of the building according to a depreciation scheme issued by the Ministry of Finance in 1972.</p>
<p>2. Which geographical or spatial datasets are used for single property appraisal? Please describe the source(s) of these datasets.</p>	<p>Cadastral maps are used for identification of immovable properties that are subject of taxation and valuation.</p>

<p>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.</p>	<p>Legal characteristics include right holders and their ownership shares; area and type of immovable properties, as well as private law and some public law restrictions in relation to immovable properties.</p> <p>Legal characteristics are derived from declaration submitted by the taxpayers, and validated by land registry records.</p>
<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>In the assessment of parcel unit values in urban areas, following land use characteristics are taken into consideration:</p> <ul style="list-style-type: none"> - Permitted land use - Type, size, and maximum floor area and height of buildings that can be constructed over the parcel <p>Land use characteristics are derived from land use plans.</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>In the assessment of parcel unit values in urban areas, following locational and environmental characteristics are taken into consideration:</p> <ul style="list-style-type: none"> - Location - Closeness to commercial and residential areas, green areas, transportation conditions - Availability of amenities, such as water, electricity, sewer - Topography <p>In the assessment of parcel unit values in rural areas, following locational and environmental characteristics are taken into consideration:</p> <ul style="list-style-type: none"> - Type of rural land according to irrigation conditions (e.g. dry land or irrigated land) - Type of rural land according to produced agricultural crops (e.g. farmland, meadow, pasture, vineyard) <p>Environmental and locational characteristics are mainly based on knowledge of local assessment committees.</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>In building value assessment, the following factors should also be take into consideration:</p> <ul style="list-style-type: none"> - Building type (e.g. residential, office) - Construction type (e.g. steel, concrete, stone) - Building quality (e.g. luxury, first class, second class)

	<ul style="list-style-type: none"> - Availability of elevator, heating/ventilation/ air conditioning system - Gross floor area - Size of the building, number of rooms, number of bathrooms - Closeness to commercial and residential areas, green areas, transportation conditions - Availability of amenities, such as water, electricity, sewer, - Availability of detached structures - View <p>Building and improvement characteristics are derived from declaration submitted by taxpayers, and validated by land registry records, building permits, and local investigations.</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>There is no such a special valuation database in Turkey.</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 special valuation database in Turkey.</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 special valuation database in Turkey.</p>

Section D. Information concerning respondent(s)

Questions Z..A have been answered by	Respondent
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5. Comments	-

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5. Comments	-