

West Bank and Gaza Real Estate Registration Project (RERP)

**Terms of Reference for
Property valuation system development (Single and Mass
valuation Standards, Methodologies and Software, Pilot project
in selected municipalities (incl. practical testing and adjustment
of methodology and software), Regulation drafting for
Valuation Profession**

Reference No.: GZ-PLA-246729-CS-QCBS

ACRONYMS

CAMA	Computer Assisted Mass Appraisal
AVM	Automated Valuation Modeling
PLA	Palestinian Land Authority
LWSC	Land and Water Settlement Commission
RERP	Real Estate Registration Project
COTS	Commercial Off-The Shelf
OSS	Open-source software
IAAO	Association of Assessing Officers
GDPT	General Directorate of Property Tax
PCMA	Palestinian Capital Market Authority
GPRBA	Global Partnership for Result-Based Aid
PID MDTF	Partnership for Infrastructure Development Multi-Donor Trust Fund
PDO	Project Development Objective
MOF	Ministry of Finance
JICA	Japan International Cooperation Agency
AVM	Automated Valuation Models
ECA	Europe and Central Asia
IVSC	International Valuation Standards
EVS	European Valuation Standards
USPAP	Uniform Standards of Professional Appraisal Practice
TS	Technical Specifications

Section I: Background

The Palestinian Liberation Organization, for the benefit of the Palestinian Authority, has received financing from the World Bank, and co-financing from the Global Partnership for Result-Based Aid (GPRBA), and from the Palestinian Partnership for Infrastructure Development Multi-Donor Trust Fund (PID MDTF) in the amount of USD 12.6 towards the cost of the West Bank & Gaza Real Estate Registration Project (RERP).

The project development objective (PDO) is to enhance tenure security and improve real estate registration services. These objectives will be achieved through: (i) advancing the registration of properties in the Palestinian territories in Areas A and B; and (ii) support the automation of the real estate registration system and related services for citizens and businesses. The project has three components: Component 1: Systematic Land and Property Registration which is carried out by the Land and Water Settlement Commission (LWSC); Component 2: Institutional Modernization of the Palestinian Land Authority (PLA); and Component 3: Project Management and Outreach. The project within component 2 (subcomponent 2.3) will support the development of methodologies, piloting of mass property valuation in selected municipalities, and development of proposals for the adoption of real property valuation standards and the regulation of the valuation profession.

Several different real property valuation practices exist in Palestine, probably because different organizations have been attending different valuation needs. Property valuations are partly conducted based on objective data and information, such as lease contracts, some portions of the valuations are conducted subjectively by valuers based on their past experiences. Some of the practices conducted are as follows:

- Palestinian Land Authority (PLA): PLA conducts valuation of lands for the purpose of verifying the validity of transaction prices which are declared by the parties involved in the transaction of the lands, mainly to calculate the fees (taxes) for the transaction, usually 3% of the higher price between valuated and declared price. The valuation method is basically based on market value. The PLA is also responsible for the valuation of state lands.
- The Land and Water Settlement Commission carries out valuations as part of the settlement process, for objections fees.
- General Directorate of Property Tax (GDPT) of Ministry of Finance (MOF): Valuation is conducted for the purpose of estimating property tax. The valuation method is basically based on rent value (Constructions) and market value (Land).
- The Palestine Capital Market Authority (PCMA): There are about 40 people registered as real estate valuers with PCMA. They conduct valuations mainly for financial institutions for the purpose of estimating the value of mortgages.
- Ministry of Justice: Valuation is conducted for the purpose of estimating the inheritance value of real properties.

- The Ministry of Waqf undertakes valuations for the development of waqf land used to generate commercial income for religious purposes.

The need to create a unified property valuation system and to create a qualification system for property valuers has been observed for several years. In the West Bank, the basis of property valuation and taxation is a Jordanian "Act regarding Building and Land in the Region of Municipalities and Local Government" of 1954, which does not reflect the current situation in Palestine. The General Directorate of Property Tax (GDPT) of the Ministry of Finance (MOF), in cooperation with the Japan International Cooperation Agency (JICA), has conducted the PROJECT FOR IMPROVEMENT OF LOCAL FINANCE SYSTEM IN PALESTINE (2015-2016), in the context of which Property Valuation Standards, and a technical manual and handbook for valuers have been developed (though they are not yet officially legalized). Both land and buildings that compose property are subject to appraisal of value under this Valuation Standards. Valuation of land is based on market value, while valuation of buildings is based on the rental value. The consultant should deeply review the results of the GDPT/JICA project in this task, including the standards, documents, and software and data collection tools/methods.

The property valuation development will increase market transparency, reduce banking sector/ mortgage risk as well as improve the future infrastructure for a recurrent property tax based on fair market value or on rental value generated from market value based-valuation module.

The development of the Valuation standards and methodologies must ensure that¹:

- Appropriate systems are used for the fair and timely valuation of property and that these systems promote social, economic, environmental and sustainable development objectives.
- As well as economic value, valuation systems take into account social, cultural, religious, spiritual and environmental values where applicable.
- Valuation Standards are developed that are consistent with international standards and that are publicized so valuers and other stakeholders are aware of them.
- Valuations of property and valuation information and methods are transparent, publicized and accessible.

Draft legislation approved by the Cabinet of Ministers in April 2019 and still pending Presidential approval for its enactment gives the PLA a broader mandate for property valuation, and to form qualification requirements for property valuers, to initiate the formation of a community of property valuers.

¹ *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT)*

A mass valuation system is expected to be developed for valuation of property for transactions, taxes and other economic needs when there is a need of the provision of valuations of *all* properties within a jurisdiction at a particular date. The mass valuation process is often supported by the use of Automated Valuation Models (AVM) which makes it more cost-effective than traditional “single property” valuations.

Within any jurisdiction there are likely to be some types of specialized properties – for example airports, Petro-chemical works, vehicle manufacturing plants, bus stations, properties used for the delivery of public services etc. – that cannot be accurately valued by automated valuation models and these are therefore valued by a single property approach. However, whatever approach is used to value properties for property taxation purposes, it is imperative that the valuations produced are accurate and reliable and based upon market values.

The development of the valuation system will be based on International and European Property Valuation Standards, Standards of International Association of Assessing Officers (IAAO), market-based property valuation methods, and use the best practices of other countries.

The Valuation Standards must include an appeal system and the procedure for its application.

Automated valuation modelling solutions will be used for mass valuation of land, apartments, single family dwellings, offices, retail properties, and many types of leisure properties such as hotels, restaurants, and bars. Statistical analysis tools will be applied to review and test the accuracy of the models. During the pilots, which will focus on high value residential and commercial properties, methodologies and standards will be reviewed and finalized as appropriate; they will form the basis for subsequent large-scale application and for accurate assessment of the costs and benefits of rolling this out across the West Bank.

Based on the PLA’s available cadastral, register, geospatial data and data collected during the pilots, the consultant will develop and implement software for property and market data processing and mass valuation modeling (several mutual applications that systemically and technically support the execution of valuation of property).

The use of geospatial data and graphical representation of value zones must be implemented in the Mass Valuation System and software.

The results of this assignment and the pilots will inform the decision-makers on the future direction of property valuation policies, and form the basis for the development of valuation capacity, including the formation of a professional Association of Valuers, the adoption of international valuation standards, the adoption of binding codes of ethics

and professional conduct for valuers, the creation of appropriate methods of education and training for valuers, the creation of a regulatory system for valuers, **and the development of a valuation software system for mass and single property valuation.**

SECTION II: Objective(s) of the Assignment

Valuations of property are required by the State and by the private sector for a wide variety of reasons, often forming and informing the basis of transactions, taxation, collateral, insurance, compensation, accounting and other.

Valuers, whether from the public or private sector, form the body of knowledge, skills and experience that can be commissioned to produce and regulate valuations and assessments. The existence of a trained body of valuers is therefore central to the implementation and maintenance of land and property valuation. Formal recognition of a valuation profession can encourage dissemination of market performance indicators, and the publication of market intelligence and statistics can be very useful to policy makers and advisors. Moreover, an active valuation profession can be a valuable resource to help undertake real estate tax assessments.

The consultancy services will help build the in-country property valuation capacity, both in the public and private sector, which is a critical constraint when developing modern, computerized land administration and management systems. The importance of intensive capacity building and technical assistance to ensure that the development and maintenance of such systems is effectively operational, efficient and responds to the country's needs, cannot be over-emphasized. Extensive experience in the Europe and Central Asia (ECA) region and elsewhere shows that land-related projects are more likely to be successful with complementary technical assistance and training to provide continuity of support for institutional strengthening and system development.

The objectives of this consultancy are to:

- (i) Develop the Palestinian Real Property Valuation Standards (for single and mass valuation) relying on internationally recognized property valuation standards (IVSC, TEGoVA2, USPAP3 and IAAO), market-based property valuation approaches, and best practices of other countries.
- (ii) Develop a Single and a Mass Valuation Methodologies.
- (iii) Design and implement software system for mass and single valuation, including data management, administration, data analysis, value calculation (modeling), presentation and administration of results.
- (iv) Carry out training of PLA staff on mass and single valuation methodologies and software system;

² *The European Group of Valuers' Associations*

³ *The Uniform Standards of Professional Appraisal Practice*

- (v) Draft the regulation of the valuation profession.

The consultant shall prepare a detailed specification of the valuation software system and develop the value calculation module to carry out a pilot mass property valuation project in selected municipalities. The detailed design of the valuation software system will be reviewed and accepted by the PLA.

Based on the results of the pilot project, the consultant will have to adjust and adapt the Valuation Standard, Methodologies and other documents and materials, mass valuation software system so that they can be practically applied in the West Bank context. Carry out a mass valuation and prepare mass valuation reports in the municipalities where the Pilot Project were carried out.

SECTION III: Scope of Services and Tasks

This section describes the requested services and the areas to be addressed in the Consultant's proposal.

Scope of Services:

The consultant is expected to carry out the tasks shown below, each with specific separate outcomes. However, logical integrity must be maintained.

In undertaking the assignments, the consultant team will work closely with the Project Implementation Committee, the PLA assigned staff and thematic working groups to develop and agree on outputs. The team will also liaise with relevant stakeholders from the government, private sector and civil society organizations. The PLA will be responsible for involving the stakeholders in the project activities.

It is expected that the consultant will spend extensive time in-country and will support the day-to-day operation of project implementation. The consultant shall develop a detailed time plan including Gantt Charts for each task of this consultancy stating the timetable for deliverables in compliance with the overall reporting schedule.

Tasks:

TASK 1. Mass valuation standardization and software:

- i. The consultant shall develop the Palestinian Valuation Standards (Mass Valuation), relying on the International Valuation Standards (IVSC), European Valuation Standards (EVS), The Uniform Standards of Professional Appraisal Practice (USPAP), International Association of Assessing Officer (IAAO) and other

- International Standards and guidelines on Mass Appraisal, Automated Valuation models, Ratio Studies and etc.
- ii. The Valuation Standards must include an appeal system and the procedure for its application.
 - iii. The consultant shall develop the strategy on the West Bank Mass Valuation Standards implementation and completion. The strategy will inform the PLA Valuation directorate the direction to extend the mas valuation activities toward other economical cities and the priority toward the completion and the timeline of the mass valuation in the West bank area.
 - iv. The consultant shall develop the Mass Valuation Methodology. The methodology must include: data handling (data collection and data management), data analysis, value calculation, administrative systems including the value presenting and appeals. Description of Mass valuation process and Mass valuation system is shown in Figure 1 and Figure 2, respectively.
 - v. The consultant shall develop Technical Manuals for Mass Valuation Standards and Field Handbook.
 - vi. The consultant shall prepare business process requirements for the application of CAMA and AVM systems in the PLA, technical specification, User Manual. The general AVM modeling workflow is shown in Figure 3. The detailed design of the valuation software system will be reviewed and accepted by the PLA.
 - vii. The consultant shall develop the Mass valuation software for data handling, data analysis, value calculation (modeling), visualization and administration of results.
 - viii. The software should be designed so that it can be easily modified; it should also be well documented, at both the valuer/user and system/developer levels.
 - ix. The software source code and related technical documentation should be transferred to PLA and in the ownership of PLA.
 - x. Mass valuation software should be able to import and use data from other related PLA systems, including geospatial data and their visualization.
 - xi. The Mass valuation software system must include a variety of statistical tools for managing and modeling property data for mass valuation purposes. Each tool must be easy-to-use, well-documented, and carefully validated against published results.
 - xii. The mass valuation software should be based on generic COTS⁴/OSS⁵ statistic package/software (PASS, NSCC, SPSS, Anova, or similar). If a COTS package/software is to be used, the Contractor must supply X licenses.
 - xiii. Mass valuation software system should be installed and used on desktop PCs and laptops/notebooks with Microsoft Windows 10 OS.
 - xiv. Based on the results of the pilot project, the practical application of Mass valuation software must be updated and demonstrated.

⁴ Commercial off-the-shelf

⁵ Open-source software

- xv. Consultant will provide training on the application of Mass valuation Standards, practical training on mass valuation (using developed Mass valuation software system) and should provide Trainer’s Guide for Valuation Standards Technical Training.

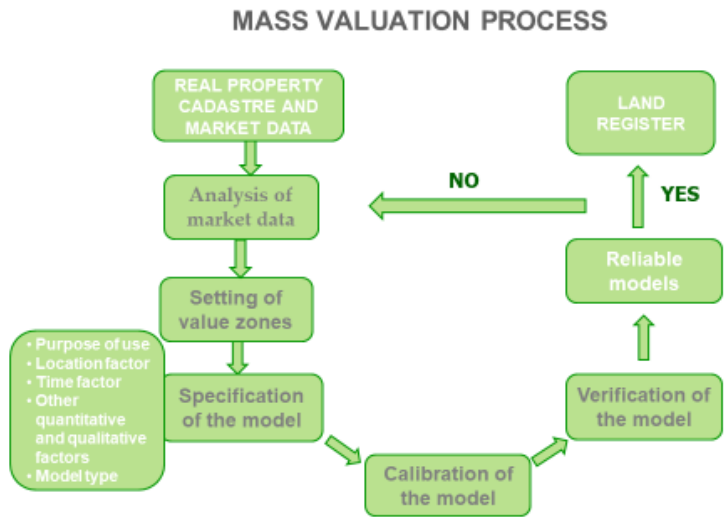


Figure 1: Mass valuation process

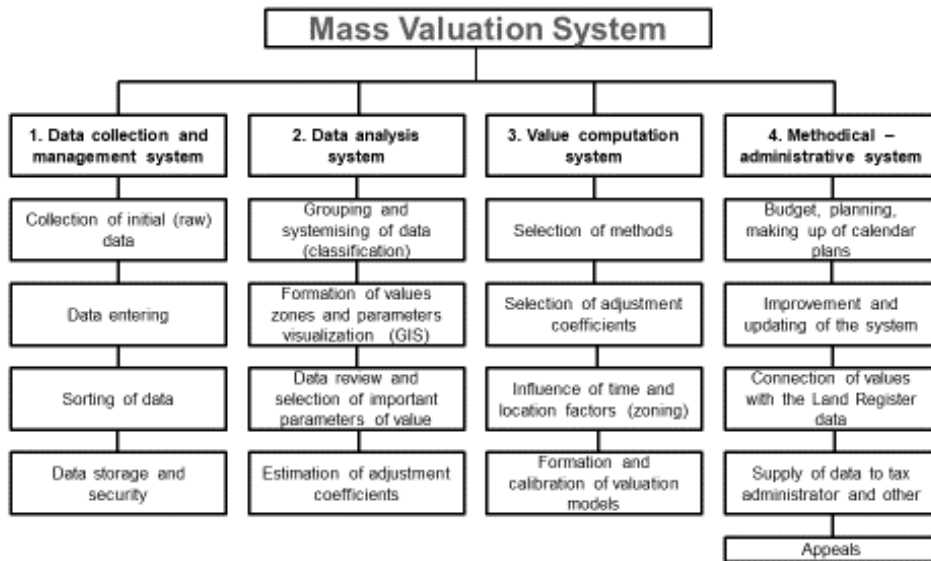


Figure 2: Mass valuation system

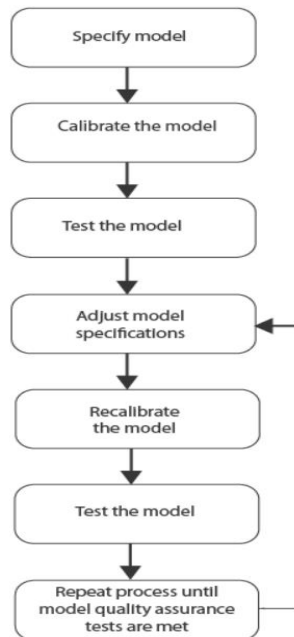


Figure 3: General workflow of development and use of an AVM

TASK 2. Single property valuation standardization and software

- i. The consultant shall develop the Palestinian Valuation Standards (Single Valuation), relying on the International Valuation Standards (IVSC), European Valuation Standards (EVS).
- ii. The consultant shall develop the Single Valuation Methodology. The methodology must include: the purposes of property valuation, the procedure of valuation, the approaches of property valuation and application.
- iii. The consultant shall prepare technical specification of Single valuation software system based on IVCS and EVS and the requirements listed in annex I, II and User manual. The detailed design will be reviewed and accepted by PLA.
- iv. The consultant shall develop a Single valuation software for the single property valuation that should apply the purposes of property valuation, the procedure of valuation, the approaches of property valuation and calculate the property value.
- v. Similar to Mass valuation software requirements, the Single valuation software module:
- vi. Shall include a variety of statistical tools for managing and modeling property data for mass valuation purposes. Each tool must be easy-to-use, well-documented, and carefully validated against published results.

- vii. Should be based on generic COTS/OSS statistic package/software (PASS, NSCC, SPSS, Anova, or similar). If a COTS package / software is to be used, the Contractor must supply X licenses.
- viii. Should be installed and used on desktop PCs and laptops/notebooks with Microsoft Windows 10 OS.
- ix. The software source code and related technical documentation should be transferred to PLA and in the ownership of PLA.

The single property valuation computer system shall comply with CAMA standards and specification specified in annex I and annex II.

TASK 3. Mass valuation Pilot Project and field data collection.

- i. The consultant shall prepare Technical Specifications (TS) for the field data collection and mass valuation pilot in selected municipalities. These TS must be satisfactory to the Project Manager in PLA.
- ii. The consultant shall carry out a pilot mass property valuation project in selected municipalities.
- iii. If the consultant hires local consultants for the data collection process and activities, he must ensure supervision and quality control.
- iv. Pilot project results verification and Adjustment of Mass Valuation Standards and other documents according to the results of the Pilot Project.
- v. Development of a mass valuation model based on the data collected during the Pilot project and preparation of Mass valuation reports in the Pilot municipalities.
- vi. The selected municipalities for the pilot project are Ramallah, Al-Biereh, Dura and Salfit municipalities.

TASK 4. Regulation of the Valuation Profession.

- i. The consultant shall make the arrangement of the needed workshops with close cooperation with the PLA project team with related parties (GDPT, LWSC, PCMA, etc.), including the group of the current licensed 6 valuers in the market to create the agreed Regulation of the Valuation Profession.
- ii. The Regulation of the Valuation Profession shall include the principles of formation of a professional Association of Valuers, the adoption of binding codes of ethics and professional conduct for valuers, the creation of appropriate methods of education, training and certification for valuers, the creation of a regulatory system for valuers.
- iii. The Regulation of the Valuation Profession shall be final draft to be submitted by PLA to the Prime Minister for ratification.

⁶ The Palestinian Capital Market: Authority currently licensing the Valuers for the Mortgage business.

SECTION IV: Deliverables

The overall consultancy will last for **18 months**, and assignments will be conducted concurrently. The assignment required deliverables are:

Deliverables of TASK 1:

1. Property Valuation (Mass valuation) Standards in Palestine.
2. Property Mass Valuation and Revaluation Methodology.
3. Technical Manual: Explanation on Property Mass Valuation Standards in Palestine. Business process requirements for the application of CAMA and AVM systems in the PLA.
4. Strategy on West Bank Mass Valuation implementation and completion.
5. Detail specification of Mass valuation software (based on CAMA and AVM) and User Manual.
6. Mass valuation software system, including maintenance and warranty for a period of 12 months. The source code and related technical documentation should be transferred to PLA and in the ownership of PLA.
7. Handbook for Valuers - Field Guide to Mass Valuation Standards in Palestine.
8. Training Plan.
9. Mass Valuation Standards Technical Training plus Training Completion Report. Trainer's Guide and Materials.

Deliverables of TASK 2:

1. Property Valuation (Single valuation) Standards in Palestine.
2. Property Single Valuation Methodology.
3. Technical Manual: Explanation on Property Single Valuation Standards in Palestine.
4. Detail specification of Single valuation software and User Manual.
5. Single valuation software system, including maintenance and warranty for a period of 12 months. The source code and related technical documentation should be transferred to PLA and in the ownership of PLA.
6. Single Property Valuation Standards Technical Training, practical application of single valuation software, plus Training Completion Report. Trainer's Guide and Materials.

Deliverables of TASK 3.

1. Technical Specifications for the field data collection and mass valuation pilot in selected municipalities.

⁷ Revaluation: the recurrent valuation that will be carried out every two-three year.

2. Real property Mass Valuation Pilot Project Completion Assessment.
3. Mass valuation reports in Pilot municipalities. A mass valuation report is a detailed, written presentation of the valuation of real properties. A report includes the analysis of all relevant factors and data that lead to the conclusions of value. The report is an exhaustive narrative and testing device representing the valuer's best effort.
4. Training Plan.
5. Training on Data Collection, Verification and Analysis, Automated Valuation Modeling (AVM) and practical application of mass valuation software, plus Training Completion Report, Trainer Guide and Materials.

Deliverables of TASK 4.

1. Final draft of the Regulation of the Valuation Profession that include but not limited to Regulatory requirements for property valuers (codes of ethics and professional conduct for valuers, qualification requirements, continuing education requirements, conditions for obtaining / losing qualification, guidelines for the activities of the Association of Property Valuers).

The consultant shall also provide adequate reports throughout the whole period on the consultancy as follows:

Inception Report:

1. Understanding of the task, confirmation of deliverables and methodology;
2. Technical and staffing plan;
3. Delivery detailed time plan work schedule of sub-activities and outputs.
4. Overall reporting schedule.

Quarterly progress reports:

Should highlight progress being made for each task and activity

Reports, manuals, inputs.

The consultant shall deliver final report associated to completion of each task.

Final report

with clear recommendations on the way forward (15 business days prior to the end of the consultancy period).

SECTION V: Supervision and Reporting Responsibility

The overall supervision for the assignment will be provided by The Project Implementation Committee established by the PLA to ensure compliance with the established schedule and attainment of expected results. The Committee will also receive and recommend assignment deliverables for approval and payment as per the signed contract. The consultant shall be responsible for undertaking the assignments consistent with the scope of work of each task and within the agreed time schedule.

SECTION VI: Required skills and experience

The work will be carried out by a team of international and local consultants in close collaboration with designated PLA counterpart and staff of the PIU. The consultancy firm should have the capacity to carry out the assignment in the number of months required (which should be demonstrated) and should have the following qualifications and experience:

General Experience: The Consultant shall demonstrate a minimum of 10 years in business operation, with a minimum of 5 years' experience implementing similar and related activities.

Specific Experience: The Consultant shall demonstrate the following:

- i. Implementation of at least 2 contracts that have been successfully and substantially completed, involving the development of similar valuation standards and methodologies for mass and single real property valuation within the last 5 years. The similarity shall be based on the size/scope, complexity, and methods/technology.
- ii. For the above or other contracts, experience in the following: (i) modernization of real property registry and cadaster and in particular of the sub-sectors of focus (including real estate registration and cadaster, property valuation (single and mass), (ii) data analysis and computer assisted data analysis and modeling, (iii) development of software for mass/single property valuation, (iv) legislation and regulation of valuation activities), and (v) experience in mentoring, training. Palestine and region experience will be an added advantage. The firm team must have at least 10 years of proven records of similar or related activities. Consultants should have very good spoken and written English skills and preferably knowledge of Palestinian Arabic, as well as good general knowledge of the Palestine country context.
- iii. The consultant team could include local consultants that could be part of the team, with at least 3 years of relevant practical experience in respectively (i) Data analysis and valuation IT applications, (ii) cadaster/registration and (iii)

property valuation experience in the pilot area. In addition, the Consultant team will include interpreter.

Key personnel:

- Key expert 1 – Valuation specialist (Team Leader) –University degree in the real estate economics, real estate/land management or valuation, or economics. At least 15 years of proven experience in the field of property rights/real estate/land administration process, developing property valuation strategies and the design and development of property mass valuation systems. He or she will be responsible for overall management of the TA project, and must have proven experience with managing a multi-disciplinary team;
- Key expert 2 – Property administration and valuation law specialist - Law degree, at least 7 years of proven experience in the field of property rights/real estate/land administration process (including valuation); prior experience in developing or amending legal frameworks; experience regarding real estate laws, land registration laws, and; experience in developing mechanisms for complaint handling and communication with customers;
- Key expert 3 – Data analyst - University degree in Computer Science, Data Science, Software Engineering, Information Technologies, Mathematics, Statistics or Engineering. Knowledge and competences in statistical analysis and geostatistics, as well as in using relevant tools (MATLAB, NCSS, SPSS, Pandas, R, or similar). At least 7 years of experience as a data analyst. A data analyst’s main objective is to organize and analyze data (including geospatial data), register (legal data) and market data, to develop mathematical models for assessing properties using mass valuation theory and statistical software designed for data analysis. Analyzes relationships for different classes of properties through multiple regression analysis and evaluates valuation models using sales ratio analysis and other statistical measurements.
- Key expert 4 – Software developer and IT specialist - University degree in Software Engineering, Computer Science, Information Systems, or Information Technologies. Experience in development ICT solutions for mass valuation systems. Experience in consulting the implementation of mass valuation systems in similar projects. Knowledge and experience in object-oriented programming languages (Java, JavaScript, Jscript, TypeScript or similar), relational and object-relational DBMS (PostgreSQL, MySQL, Oracle or MS SQL Server), geospatial

DBMS (PostgreSQL/ Post GIS, Oracle Spatial or similar), GIS (QGIS, ArcGIS, or similar). At least 7 years of experience as software developer.

All key specialists will conduct training within their respective area of competence. Each international specialist will spend a time relative to his/her tasks in PLA.

SECTION VII: Facilities and Data provided by the client:

The selected firm/company shall provide the team with an adequate office area rented at its own cost including services; telephone, internet access, central heating and air-conditioning. In addition, the selected firm/company, at its own cost, shall provide the necessary venue and technical facilities for holding workshops and presentations and shall ensure that experts are adequately supported and equipped. The selected company/firm shall use its own office equipment to perform its work. In addition to the Consultant's travel expenses and other costs associated with equipment shall be borne by the consultant himself.

SECTION VIII: Facilities and Data provided by the PLA:

The PLA will provide the firm/company team with the related data and information that is necessary to perform the work, provide assistance in arrangement of meetings with representatives of other agencies and will provide necessary advice if need be.

SECTION IX: Contract and Payments:

The contract will be Lump-sum contract and payments will be based upon the approved deliverables as follows:

- **15%** of contract value upon the completion, submission and acceptance of the Inception Report including the good understanding of the assignment deliverables and methodology, technical and staffing plan, detailed work plan with time schedule of all activities and sub activities and overall reporting schedule, all acceptable to the client;
- **20%** of contract value upon the completion, submission and acceptance of all deliverables under TASK 1 including property mass valuation standards, mass revaluation methodology, technical manual, strategy, detailed specification, mass valuation software, handbook and field guide for valuers, training plan and material all as per described in the TOR under TASK1, and all acceptable to the client;

- **20%** of contract value upon the completion, submission and acceptance of all deliverables under TASK 2 including property single valuation standards, single valuation methodology ,Technical manual, detailed specification of software and user manual , single valuation software including maintenance and warranty with source code transferred to PLA and in PLA ownership ,and technical Training with trainer’s guide and material , all as per described in the TOR under TASK 2, and all acceptable to the client;
- **25%** of contract value upon the completion, submission and acceptance of all deliverables under TASK 3 including Technical Specifications for the field data collection and mass valuation pilot in selected municipalities, Mass Valuation Pilot Project Completion Assessment, Detailed Mass valuation reports with analysis in Pilot municipalities with written presentation ,Training plan and training on data collection, Verification and Analysis, Automated Valuation Modeling (AVM) and practical application of mass valuation software, plus Training Completion Report, Trainer Guide and Materials , all as per described in the TOR under TASK 3, and all acceptable to the client;
- **10%** of contract value upon the completion, submission and acceptance of the Final draft of the Regulation of the Valuation Profession that include but not limited to Regulatory requirements for property valuers (codes of ethics and professional conduct for valuers, qualification requirements, continuing education requirements, conditions for obtaining / losing qualification, guidelines for the activities of the Association of Property Valuers) , all as per described in the TOR under TASK 4, and all acceptable to the client;
- **10%** of contract value upon the completion, submission and acceptance of the Final Completion Report with clear recommendations on the way forward, all as per described in the TOR, and all acceptable to the client;

SEXTION X: Selection Method:

A firm will be selected using the Quality and Cost Based Selection (QCBS) method set out in the World Bank Procurement Regulations dated in July 2016, and revised in November 2017 and August 2018.

Annex I

Functional and Non-Functional Requirements

TECHNICAL AND FUNCTIONAL REQUIREMENTS:

Main Technical and Functional Requirements for Computer-Assisted Mass Appraisal (CAMA) Software System Solution (more precise and detailed requirements must be developed by the Consultant during the formulation of Valuation Standards and during the Pilot project)

V. VALUATION APPROACHES

V1. Approaches must be appropriate for mass property valuation and individual property valuation.

V2. Multi Year Valuation - The CAMA system shall have the capability to retain and provide accurate assessment data for all years that the PLA uses the CAMA system. Each assessment year needs to be separate so data integrity will be maintained and historical information is made available.

V3. Annual Reassessment - The CAMA system shall provide ongoing annual reassessment capabilities.

V4. Value Adjustments - The system shall give the user the option of adjusting values without manipulating data. There needs to be a field to enter override values.

V5. The CAMA system shall have the capability of performing Correlation and Multiple Regression Analysis.

V6. Ability to distribute value between parcel and building, multiple parcels, buildings, condominium and apartments handling multiple approaches. (one parcel, one building, one building on 2 or more parcels, two buildings on 1 parcel, etc.).

V7. Ability to use the sales comparison approach, cost approach, and income approach for land parcels and all improvement types including special purpose properties.

V8. Ability to reconcile valuation methods between all approaches.

V9. Ability to populate the model.

V10. Ability to run reports from individual parcel data.

V11. Solution provides a step-by-step template/procedural guide (and workshop training) for developing market driven cost and regression models with the CAMA system including detail on how to use the system to statistically analyze variables and calibrate the model.

C. COST APPROACH

C1. Ability to prepare a cost approach using PLA Cost List, or other professionally accepted cost service(automated).

C2. Ability to manage (edit, store, lock, etc.) cost valuation components for different types of properties.

C3. Ability to produce a printable and on-screen viewable cost valuation document showing the cost calculations on each property, the appraiser's adjustments and the final value determination.

C4. The cost estimates shall be fully integrated with the sales comparison approach to develop reports to study depreciation schedules, land rate schedules, neighborhood factors, date of sale adjustments, and cost adjustment factors.

C5 The cost approach shall compute value estimates based on standard appraisal methodology (accepted by the International Association of Assessing Officers).

C6. The CAMA system shall be adaptable to time and location indices as well as neighborhood and subdivision adjustment tables. The depreciation tables shall be developed on a zone or municipal basis using the market and observed condition influences.

C7. Cost schedule additions shall not require program modifications. New codes shall be able to be added by updating cost schedules and data tables.

C8. In addition to observed physical condition depreciation, the CAMA system will accommodate functional obsolescence (curable and incurable). Economic obsolescence and cost-to-cure either as a percentage calculation or as a lump sum subtraction must also be available.

S. SALES COMPARISON APPROACH

S1. The sales comparison approach shall value individual properties as a mass appraisal tool. Weights, percentages and money amount adjustments, and selection criteria should be user definable.

S2. The sales comparison approach shall include the analysis and use of the standard units of comparison for various types of properties. The Contractor shall detail capabilities for this function. Adjustments for differences between the comparable and the subject must be available. Describe capabilities for this function, including adjustments for differences between the comparable and the subject.

S3. Ability to compare properties on the grid based on various units of comparison. (Per square m, per unit, etc.).

S4. Ability to prepare a sales comparison grid with ability to automatically or manually select sales from a sales table. Ability to adjust comparable on this grid based on differences in property characteristics, including but not limited to adjustments by money value or percent of sale price. Ability to time adjust sale prices on the above grid. Ability to compare properties on the above grid based on various units of comparison. (per square m, per unit, etc.). Ability to weight each sale based on comparability. Ability to calculate Simple Mean, Weighted Mean.

S5. Ability to produce a printable and on-screen viewable valuation document showing the valuation model on each property, the appraiser's adjustments and the final value determination.

S6. The sales comparison approach shall compute value estimates based on standard appraisal methodology (accepted by the International Association of Assessing Officers).

I. INCOME APPROACH

I1. Income approach (including gross income multiplier (GIM)) shall support the individual and mass appraisal of commercial, industrial and multi-family properties

I2. The CAMA System shall provide for direct and indirect capitalization and residual techniques. It shall provide for rate extraction, maintenance of income and expense data (actual and market), units of comparison analysis, and gross income treatment of excess land in the income approach.

I3. The income approach shall be fully integrated with the other approaches. There shall be tables (number and percent) available for various types of income (actual and market),

vacancy (actual and market), expenses (actual and market) and overall cap rate by neighborhood and use. Table driven multipliers and GIM rates shall be available.

I4. Ability to store multiple years' income and expense data.

I5. Ability to adjust cap rate, vacancies, and expenses by building type, size, age, and neighborhood (should be table driven).

I6. Ability to breakdown expenses by categories (e.g. reserves, tenant improvements, management fees, etc.).

I7. Ability to enter market and actual income data.

I8. Ability to assess properties by trend analysis based on stratified property characteristics or building type codes, and user-defined neighborhoods.

I9. Ability to do a Discounted Cash Flow analysis.

I10. Ability to produce a printable and on-screen viewable valuation document showing the valuation model on each property, the appraiser's adjustments and the final value determination.

I11. The income approach shall compute value estimates based on standard appraisal methodology (accepted by the International Association of Assessing Officers).

A. STATISTICAL ANALYSIS

A1. Ability to import/export data in multiple file formats (shp, XML, xls, xlsx, Text (Tab delimited, CVS)

A2. Ability to import Land Register data and then use this data to update ownership history and/or sales history.

A3. Ability to encrypt and/or redact sensitive data. Ability to protect sensitive data.

A4. Ability to update single records or perform mass update of all records. Supports automated workflow for setting up new properties.

A5. Ability to archive data.

A6. Ability to extract data with user defined criteria and format. Need flexibility for standard and ad hoc requests.

A7. Need adequate documentation for file and field layouts to facilitate ad hoc reporting and data extracts

A8. Statistical analysis of all sales, assessment area (geographic location), property type, value range or any other selected property attribute or a combination of attributes.

Ability to do sales ratio studies, including:

- Mean (simple mean, weighted mean)
- Median
- Moda
- Aggregate ratio
- Coefficient of Concentration
- Coefficient of Dispersion
- Price Related Differential
- Standard Deviation by Classification
- Coefficient of Variation
- Other ratios and indexes required to build mass valuation model.

A9. Ability to create “What if” (analysis takes the known factors and estimates of unknown factors) sales analysis for new appraisal factors and rates.

A10. Ability to perform Correlation and Multiple Regression Analysis, develop value calculation models.

A11. The ability to trend using user definable fields and characteristics. The system should have the capability to trend land and building assessments individually or en masse as a valuation technique and/or to adjust reassessed properties.

A12. Ability to generate A/S ratios (or S/A ratios) using the sale price of a parcel with its previous OR current assessed value.

A13. Ability to graph A/S ratios by a geographic area in order to identify outliers.

A14. Ability to produce a printable and on-screen viewable statistical analysis document showing.

G. Geospatial capabilities, i.e., interaction with a GIS system

G1. The system allows the user to perform queries within CAMA against geospatial data using any or all criteria.

G2. Ability to select non-contiguous parcels or areas using GIS selection tools

G3. The system allows the user to open a CAMA record by clicking on the parcel in the map in a GIS interface and selecting which CAMA module to open.

G4. Ability to create value zones using GIS tools.

G5. The system is able to allow the user to select a set of properties in the map in a GIS system and change CAMA attributes on all those properties as a group.

G6. When the user is accessing a record in the CAMA system, they should be able to click on a icon to drill down into the selected property in the GIS system.

G7. The system is able to display inspection requests on the map.

NF. NON-FUNCTIONAL REQUIREMENTS:

NF1. The software solution should be designed so that it can be easily modified; it should also be well documented, at both the appraiser/user and programmer levels. CAMA software works in conjunction with various general-purpose software, typically including word processing, spreadsheet, statistical, and GIS programs. These programs and applications must be able to share data, i.e., they should be interoperable. Security measures should exist to prevent unauthorized use and to provide backup in the event of accidental loss or destruction of data.

NF2. The software solution should be based on a generic (COTS or OSS) statistical software.

NF3. Interface with Cost List (s) for cost approach valuation.

NF4. Interfaces To / From Land Records from PLA DB(CLRS).

NF5. Interfaces To / From PLA GIS DB (Madenati).

NF6. Ability to save exported data into multiple file formats (shp, XML, xls, xlsx, Text (Tab delimited, CVS)

NF7. Includes Import / Export Utilities - such as SQL Server Integration tool or XML.

NF8. Software solution keeps data between separate modules in sync without need for manual triggers/intervention.

NF9. The creation of reports must not tie up the user interface for more than 1 minute. Report creation taking more than 1 minute should be done in the background with a notification presented to the user on completion.

NF10. Customizations or enhancements are incorporated into future product releases.

NF11. Development of the system should be in shared environment, using appropriate tools for software development, version control and source code management (GitHub, GitLab, Bitbucket, or equivalent).

NF12. Ability to configure a user-defined "workspace" to organize and have access to frequently-used functions, workflows, reports, and other information.

NF13. Ability to configure data entry screens to look like paper form/application (to allow for efficient data-entry).

NF14. Ability to customize data labels on screens.

NF15. Software Configuration as opposed to Customization; Tailor the solution with configurable options, rather than source code modification.

NF16. Implementation includes safeguards for an efficient, accurate and easily verifiable data conversion.

NF17. Contractor provides proven Implementation Methodology and Tools.

NF18 Preferred Operating Systems / Technical Platform: Windows server12/window 10

NF19. Supports Multiple Environments: Test, Production, Training, etc. with supporting maintenance utilities (tools to copy data, etc.).

NF20. Software solution includes all state required forms and electronic reports as developed reports.

NF21. Security should be user and role-based, with configurable options to promote security adherence: expiring passwords, supports effective passwords, etc. Solution supports record-level security.

NF22. The Contractor should provide Help Desk Technical Support.

NF23. Software solution should support data exchange and interoperability with the Land Register system, including scanned documents.

NF24. Audit Trail Capabilities: Maintain audit trail of all data changes - when change was made, by whom, etc. for specified data elements.

NF25. Integrated Solution: Single sign-on across modules, single point of data entry, common reporting toolset, common user interface/look and feel.

NF26. Capability to handle multiple jurisdictions as needed in the future.

NF27. Ability to access the system via web services.

NF28: The source code and related technical documentation should be transferred to PLA and in the ownership of PLA.

Annex 2: CAMA

Computer Assisted Mass Appraisal (CAMA) is a system composed of several mutual software modules that systemically and technically support the execution of evaluation and taxation of real estates. These modules assure effective automated evaluation of real estate entities and their complementary parts. CAMA system is a software system for maintaining property data, valuing property, notifying owners and other system users. CAMA systems must be designed and implemented to interact with other relevant systems in PLA.

There are four key functionalities of a CAMA system:

- Data collection and management, including import/export
- Data analysis,
- Value computation,
- Administration.

A CAMA system should perform these functions in an effective, easy-to-use manner.

Data collection and management

The success of any CAMA system is dependent on reliable data. Required data elements include property ownership, value zone map reference, current use and highest and best use (zoning), physical property characteristics for both land and buildings, site data (access and utilities), sales and rent data, income and expense data, and other pertinent market data. The system must provide for the efficient collection, storage, maintenance, and security of the data.

Important features of a modern data management system include:

- (1) The ability of users to define which variables (data items) to collect and maintain. Important variables can vary among communities.
- (2) Edit capabilities. The system should include range and consistency edits to help ensure the integrity of the data.
- (3) Multi-year processing. Users should be able to update records for at least the current and forthcoming assessment years simultaneously. Otherwise, all changes for the current year would have to be completed before new buildings and data changes can be processed for the upcoming year.
- (4) Data security. There should be various provisions for password protection and data backup, so that data is not lost and can only be changed by authorized users.

- (5) Audit trail. The system should keep track of the last several changes to a property, including what was changed and by whom. Values from at least the previous year should be available for comparison with the current value.
- (6) Sketching capabilities. Systems should have the ability to use geospatial data and to enter and print building perimeter sketches, land plots plan. The system should also be able to calculate land and building areas from the sketches.
- (7) Sales codes. There should be a series of codes for indicating whether real estate sales are valid indicators of market value and, if not, why.
- (8) Separate sales file. The system should logically separate property and sales data, so that a "snapshot" can be maintained of properties at time of sale.
- (9) Tracking system for land and building data changes (changes in use, lot splits, lot assemblage, etc.), tied into the audit trail and a reporting function.
- (10) Rent, income and expense data, replacement cost and depreciation manuals. The system should provide for the maintenance of sales, cost, income data, so that the sales comparison, cost and income approach to value can be automated.
- (11) Inquiry and reporting. Users should have the ability to make ad hoc queries to the system, selected property reports. The user should be able to build reports for the selected parcels or to export the data to a file for external analysis, for example, with a spreadsheet program.
- (12) Data import/export, filtering and transformation

Data analysis

In mass appraisal, valuation involves automated applications of the sales comparison, cost, and income approaches to value. A system should support all three approaches. Some specific desirable features include the following:

- (1) A replacement cost module tied to available cost manuals, so that costs can be routinely updated.
- (2) Flexibility in depreciation schedules, so that users can develop and modify the schedules by property type, building quality and neighborhood as appropriate.
- (3) Cost trend capabilities that allow users to adjust cost values to the market by at least property type and neighborhood.

(4) A land valuation module that allows the user to determine units of comparison (acre, square feet, front feet, depth, site), standard unit values, and site, topographic or neighborhood adjustments.

(5) Standard statistical procedures, including measures of dispersion and graphics, that can be used to compute typical sales price per unit and help develop benchmark values, depreciation schedules, and market adjustments.

(6) A sales comparison module that will retrieve a desired number of the most comparable properties to a given subject property based on a mathematical algorithm. Optionally, the system may adjust the comparable to the subject.

(7) A multiple regression feature for use by jurisdictions with adequate sales. Adaptive estimation procedure (AEP or "feedback") can also be used.

(8) A spreadsheet module for use in income and expense analysis.

Value computation

Performance analysis is the process of analyzing values to ensure that they meet required standards and are supportable. There are two broad aspects of assessment performance:

- (1) level, which relates to the overall ratio of appraised values to market values, and
- (2) equity, which relates to the consistency and uniformity of values. Assessment performance is largely evaluated through sales ratio studies, which compare appraised (assessed) values with recent sales prices.

Some specific aspects include:

- (1) Ability of the user to specify sale date range and other parameters (e.g., sale codes) for parcels to use in analyses.
- (2) Standard measure of assessment performance, including median, mean, weighted mean, coefficient of dispersion (COD), and price-related differential (PRD).
- (3) Ability to stratify data by neighborhood, size ranges, age groups, and so forth.
- (4) Geospatial capabilities, including value maps, bar charts and scatter diagrams, for displaying results.

(5) Ability to analyze values by "value source," so that one can, for example, compare the performance of values based on the comparable sales approach versus the cost approach.

Assessment Administration

- (1) Assessment administration includes a variety of functions related to preparation of the assessment roll (commitment) and general administrative activities.
- (2) Assessment administration includes an appeal system and the procedure for its application.