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Evaluation of the Current Land Registration System in the Gaza Strip

Maher A. El-Hallaq, and Mahmoud I. El-Sheikh Eid

Abstract—The increasing demand on land in Palestine has been significantly increasing from time to time by the ever rapidly growing need of the human and livestock population. It may be known that there are some troubles facing the decision makers regarding managing and utilizing the available data in some of the governmental organizations, especially in the Gaza Strip. In addition to, what the local residents in it are facing in identifying their land properties' borders and what the municipalities are facing regarding maps and drawings. Moreover, the Gaza Strip suffers from the lack of advanced techniques that may help and support land registration such as GIS technology. Palestinian Land Authority, PLA, in the Gaza Strip starts using GIS since 2007, and that is limited by the dealings that are being accomplished, as it is all about just drawing the piece of land and recording its owner's name, in addition to the basic data regarding to the land itself and its owner. This study aims to evaluate the currently-used system for land registry in the Gaza Strip. It is concluded that this system for land information, in general, and land registry, in particular, is extremely traditional and mainly paper based procedure. It is strongly recommended to be developed in order to reflect the changes occurred regarding land information management.

Index Terms—Gaza Strip, GIS, Land Registration, Palestinian Land Authority, SWOT Analysis.

I. INTRODUCTION

Zevenbergen [1] defines land registration as the process of official recording of rights in the land through deeds or titles. It means that there is an official record of right on land or deed concerning changes in the legal situation or defined units of land. It gives an answer to the question “who” and “how”. In law, land registration is a system by which the ownership of estates in land, is recorded and registered, usually by government, in order to provide evidence of title and to facilitate dealing.

The increasing demand on land, especially in the Gaza Strip has been significantly increasing from time to time by the ever rapidly growing need of the human and livestock population. An extensive area of land has been brought to agriculture without considering proper land management practices, beside the deforestation that is increasing at an alarming rate, creating a big gap between demand and supply, all of these factors came as a direct result to the Israeli Occupation and the continuous restrictions on the Gazans' daily life, as the Gazans farmers are prevented from accessing 24% of the agricultural areas in the Gaza Strip

[2], which the Israeli Forces called it the buffer zone. Conflict over land use is another big problem that needs urgent solution [3].

Palestine has a long history tied to land, since the Islamic period. The first land law and land policy were established 162 years ago in 1858. During this period, Palestine was under Turkish control, from 1917 to 1948, through the British mandate, and new laws and policies were put in place. Following this Jordanian land laws and policy regulated the West Bank from 1948 to 1997 and Egyptian land laws and polices regulated land use and ownership in the Gaza Strip. During Israeli occupation, military orders and land policy superseded previous land laws and policies in the West Bank and the Gaza Strip. During initial periods of establishing the Palestinian Authority in 1993-1994, the necessity of devising a land policy was recognized and it would be developed to encourage good management of Palestinian land and natural resources and harmonization of various laws, regulations and practices operating in the West Bank and the Gaza Strip [4].

PLA in the Gaza Strip has started using GIS since 2007, and that's limited by the dealings that are being accomplished, as it is all about just drawing the piece of land and recording its owner's name, in addition to the basic data regarding to the land itself and its owner. The proportion of registered lands using, GIS techniques, in the Gaza Strip doesn't exceed 2% of the total area of the Gaza Strip [5].

It may be known that there are some troubles facing the decision makers regarding managing and utilizing the available data in some of the governmental organizations in the Gaza Strip, in addition to what the local residents in the Gaza Strip are facing in identifying their land properties' borders and what the municipalities are facing regarding maps and drawings.

II. LAND REGISTRATION

Land management is the way of managing the usage and development of land resources in a possible way. Related to land administration, even though a cadastre could be a tool in land management and one parcel-based Land Information System LIS, has records of interest in land (like rights, restrictions and responsibilities associated with the land). It's impossible to have an effective and sustainable land management without a cadastre. Fig. 1 shows the basic elements of land registration [6].

Published on March 8, 2020.

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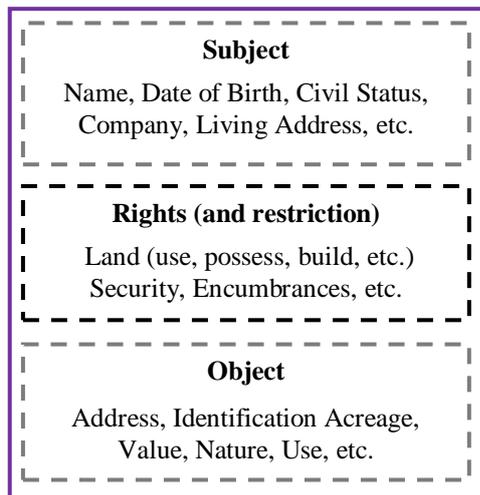


Fig. 1. The basic elements of land registration.

Larsson [7] indicates that, a suitable Land Registry System LRS, helps local authorities to create a fair land taxation system and to be able to carry out land policies through proper land management. LRS has been improved significantly and took a huge step forward to a better management system in the last few decades. The significant contributions include, data recording, data management and analysis. Most important, it will facilitate conveyance, a one will have no obstacles to transfer his right in land to another, and it will make the transfer of rights in land easier by supplying a mechanism for these transfers. That ensures one's investments in or purchase rights in land. It will reduce the time and minimize the cost of transferring such rights, and lead to stimulation of the land market and to more cost-effective use of land [8]. Some might argue about the development of countries, they said a country can't be developed without efficiently operating land markets. The likes of these land markets need a mechanism for the transfer of rights in land that is based on an efficient system of land registration.

There are no countries or jurisdictions that have effective land registration (most of the developed countries, although some exceptions exist, and several other countries), they don't have the same system or even a similar one, everyone has its own system of land registration, which satisfy its needs, partly determined by the incidences of its (historic) development. This forms the question if it is possible to say anything about land registration in general at all of models and the complexity of the systems which leads to even researchers needing years to dig out the similarities. It is possible, because the number of basic differences between systems of land registration at a functional level is smaller than it is normally thought. The differences of the task level have much attention when describing system of land registration [9].

A. Types of Land Registry

According to [10], there are two existed types of LRS; registration of titles and registration of deeds.

1) Registration of titles

This system appeared for the first time in Australia, in 1858, by Sir Robert Torrens. Torrens believed that "a land register should show the actual state of ownership, rather than just provide evidence of ownership." This system

helped the government to protect all rights shown in land register. After Torrens introduced the concept registration in Australia, a very similar system developed in England.

2) Registration of deeds

This method was developed first. In the United States, this system called "land recordation" it is about registering or recording documents affecting interests in land developed centuries ago in European countries to prevent double selling of land, to put an end to land scam. With registration or recordation of the deeds at a government office, the priority of claims could be established in the event of double selling.

Land registration is a process by which rights in land are officially recorded through deeds or titles (on properties). It means that there is an official record (the land register) of rights on land or of deeds concerning changes in the legal situation of defined units of land. And it answering the questions of "who" and "how" [1]. Cadastre is a scientifically method of arranging public inventory of data about properties in a country or district, based on a scan of their boundaries. Those properties are orderly identified by means of some separate designation. The parcel identifier and boundaries of property are normally shown on large scale maps, which side by side with registers, may tell information about property like separation from other, nature, size, value and legal rights associated with the parcel. It answers the question of "where" and "how much". Land recording is usually used to indicate land registration and cadastre together as a whole. Land registration and cadastre usually complement each other; they operate as interactive systems.

B. The Role of GIS at Land Registry

As GIS and involved technologies mature and more data become in hand in computerized form, the usage of GIS for uniting land and all related data becomes more suitable. Improvements to the existing land administration systems are being made through developments in the technology. For providing the administrators and data users with accurate and updated information about the land, more systems have been developed rapidly and efficiently for data capture, storage, updating and distribution. The key feature of GIS technology is the full-support for spatial data-based management system, the availability of digital maps, and proliferation of higher network bandwidth, have all promoted the provision of map-based national land information system solutions.

The improvements of land registration system and the developed of LIS or GIS are very important requirement for the efficient management of land in a developing-world context. Therefore, the need to develop and introduce GIS is more in response to pressing internal need than to competitive pressure. The reform of existing organizations will involve an examination of traditional data recording, data quality procedures and data maintenance, and recognition of the changes in work practices and communication behavior that would have to occur within a new GIS institutional framework [11]. These pose a great challenge to agencies in the lands sector, yet to fully embrace geo-technology.

Saad [12] states that transformation of land registry

services is an integral part of the Libyan Government's modernization program. This transformation is to support the country's modernizing growth via matching the appropriate GIS technology to Libyan Registry Authority business processes and providing an open architecture that can flexibly be integrated with any legacy or future systems. In addition to, describes the system applications, and how benefits from such transformation of the services using GIS technology.

Wood [13] explores the range of technologies that have been or might be applied to such efforts. It will also present a few select examples of such implementations in Ethiopia and throughout Africa and discuss the issues involved. It addresses how spatial data created from the cadastral mapping effort can both contribute to and benefit from the development of land management systems and spatial data infrastructure.

Spinney et al. [14] state that spatial decision support system framework using GIS technology have been utilized in the developed countries to combine geospatial information, perform spatial analysis, and provide interactive visualization capabilities in order to cleanse LRS data. The purpose of the framework in the developed countries is all about: (i) to apply land use and neighborhood information to Land Registry data, (ii) to extract vacant land sales from the population of real estate transactions, and (iii) to provide a mechanism to identify and remove erroneous price.

There is another major problem lies in data processing and analysis. Nearly all cadastral and LRS have focused on record management, instead of information exploitation. While there has been much promotion of GIS/LIS, GIS technology has not been used for real to any great extent in land administration, except for drawing maps. By overcoming the problems successfully, many countries computerizing their cadastral records and creating a large national database. The databases about land-related are now being integrated, analyzed and distributed in ways which until now were not possible. The computerized system will guide users and thus minimize the possibility of any malpractice. Searching information will be easily, very fast and efficient from the database. Lately updated GIS will give the possibility to produce print-outs, maps, forms, reports and statistics easily, accurately and fast.

III. LAND REGISTRY IN THE GAZA STRIP

The General Administration for Land Registration (GALR) is considered as one of the most crucial departments of PLA, which is responsible for the following tasks:

- Keeping land records and files related to land registry.
- Hold records of transactions and restrictions on the land, parcel and flat.
- Produce registration and ownership certificates in accordance with the restrictions listed in records.
- Conduct the mortgage transactions and the acquisitions of lands.
- Record Registration applications for transactions, standardization and assembling properties.

- Collect legal fees due on transactions.

Land classification in Palestine is generally described as follows; (i) Mulk – privately owned, (ii) Miri – ultimate power lies with the Sultan (State) and can be converted, (iii) Mattrouk – public use land for the greater good, (v) Mawat – uncultivated and unclassified land, can be converted to Miri, and (iv) Waqf – land held in religious trusts, some land in trusts are granted to villages and held privately. Waqf land is managed by the Ministry of Waqf.

As money in transactions are confined to the GALR, it is not transfer of ownership, but to register in the records of the land registry, which help the new owner to confirm his acquisition under the law of the land registry, unlike contracts customary, which is a temporary contract. The law granted "Tabu Contracts" strong immunity and official ethnicity by the courts so no one has the power to cancel it without a court decision.

GALR involves three departments, namely; the Reception Department (three employees), the Audit Department (four employees) and the Registration Department (four employees). Gaining a Tabu registration from the General Administration passes through three steps; registration certificate request, free-responsibility request and under-extractor request.

A. Procedure for New Registry

1) Submission Stage

Application is submitted with all required papers after the payment of fees and forwarded to the legal department for auditing. In case of Saba land and any other lands that are not within the old town, a financial certificate is necessary either in the land of the old town and the bodies of the country and the village is very essential. In case of failure to provide a certificate of finance and the sequence of title deeds and any other proof of ownership of the right of the Registration Committee, renewed request of the citizen of any papers or documents stating the disposition quiet and stable on the ground intended to be recorded along with papers that require treatment in normal circumstances.

If a neighbor refused to sign on the draft map, initial draw him a book by PLA to give reasons prevented him from signing within 15 days of receipt of the book. In the event of non-attendance during the period mentioned above brought him notice by PLA that during a week if did not sign the map will be walking in the initial transaction without regard to his signature on the map, taking into account the proper ways to report securities. In case one of the neighbors does not exist and is unknown, an ads should be firstly announced in the newspaper that a neighbor ground mentioned descriptions of the location of land, or on behalf of the attendees to PLA to signing on the initial map within 15 days from the date of publication, or the transaction will be continuous without his signature. Second, assign the applicant to bring pledged that the border is correct and will bear no liability appear in the future. In case the applicant is able to provide the required papers and audit it legally the file can be referred to the Survey Department to study it technically

2) Technical Stage

If a site visit conducted in order to measure the land and the presence of any objections from neighbors or any other area team. The survey team should leave the site peacefully.

The Committee should examine all objections made during the period of objection either to be presented after objections that are not taught and gives the applicant period a week only provable in front of the judicial authorities. After the completion of the technical, the transaction moves to the auditing stage.

3) Audit Stage

The file will be checked by the Registration Committee. In the absence of any comments on it, the file is finally signed by the members of the Committee and will be then referred to the Commission to estimate the price per square meter and then will be signed the document by PLA Chief.

4) Registration Stage

The transaction will be given a reference number in the land registry after the payment of the fees which is 0.5% of the land price. The file will be referred again to the Survey Department to give it a final detail. Registration of land will be recorded and the owner will be given a "Certificate of Registration".

B. Procedure for Registry Transform

The following stages illustrate the ownership transformation process.

1) Scribes and Lawyers Stage

The ownership go to the writer "must be licensed and has its own stamp" for the mobilization of the application for registration. They prepare all papers needed to open an application, for example land registration contacts should include refillable sales contract "Cartoon Contract" which shows the names and numbers identities of the involved parties, the share sold, widget, quotas, and agreed price. The writer collects fixed fees set by the ministry of interior affairs.

2) Submission Stage

The ownership transaction process starts with applying an application to the Reception Department, and then it passes through two separate stages, as follows:

The handiwork stage involves:

- Submitting a request to open a new transaction.
- Requesting an ownership request to prove legal ownership of the land.
- Paper checking in order to open a transaction.
- Being sure that the land parcel has no objections are by querying the land parcel through the computer.
- Verifying the application and the purpose of this agreement, the application should be thoroughly edited. In addition to that all involved parties in the contract should be verified; (the seller by fingerprint and write his name, ID number, and other parties by signature only) Any error in the application for registration must be invalidated and cancel the transaction.
- Making sure all the necessary paperwork for the transaction from contracts of tax-free party and others.
- Giving each transaction annually serial number.
- Paying a fixed fee
- Recording the contract in the transaction book which contains; transaction number, the date of opening of

the transaction, name of seller and the transferee, the type of transaction, parcel, and the city in which the land is located.

- Marking process and record the process of marking transactions are open by entering the transaction number\year in the notes box in front of the owner's name, that is done in Registration Department.
- Sending the transaction to the Audit Department.

The computer stage involves:

- Checking the status of the land and parcel and make sure that there are no reservations or objections about this land in the system.
- Entering the transaction to the system
- Marking transactions that are opened through the system.
- Checking the status of the transaction through the system.

3) Audit Stage

The work is divided into two stages; First, auditing pre the guessing committee and Second, auditing and calculating the audit fees and payment receipts. Each of the aforementioned stages passes through two processes: starting with the manual preparation; and then finalizing registration by the computerized system. The following ordered steps will illustrate the whole audit procedure:

- The transaction is transferred to the audit department to disclose the transactions that have been opened and make sure that the transaction is kept in its own file.
- Checking the ownership certificate and make sure there is no variation from the data on the computer.
- Making sure that the land or parcel has no registered rights or objections or reservations.
- For selling transaction, a check will be made to assure that the owner has the land he is willing to sell.
- For sales transaction which include documents of procuration, specific procedures should be followed to make sure that the procuration is certified and if the procuration specified by the spaces that will be sold must make sure that the selected area equal to or greater than the area of the owner of any that space sufficient for the transaction must also make sure that he is not selling the selected area before in previous transactions are sure of that reference to contracts or transactions that are opened to the same owner.
- Procuration agreement should be published in the Official newspaper as agreements that are over the 15 years and more dependent implemented directly in the Land Registry either public procuration are published for two weeks and is valid for 6 months from the date of announcement, and after the announcement must be renewed, either procuration periodic on the rights of others are published for a whole month, and a year from the date of publication.
- Making sure to publicly declare the agreement by official newspaper in terms of the name of the clients as well as the land and parcel number. In the case of private agencies, the transaction opened, after that it

is publishing in the Official newspaper and writes the transaction number.

- In the case of the discovery of an error in the newspaper announcement, it is requested to correct it or republish the advertisement again.
- Checking the availability of all required documents.
- Making sure that all involved parties have free-tax records.
- Filling out a special form each transaction showing all documents included in the transaction.
- In transferring transaction, all documents should be legally certified.
- Ensuring that the legacy of deed relationship to the inherited person.
- Checking who transferred lands previously by tracking the quotas that have been moved through the system, and this is done by check notes and keep track of the quota transferred contracts.
- Calculating quotas transferred to the heirs on the deed legacy (in the case of the earth kind of meri and date of death before 1965 and planted after 1331 Hijri or Muftlhh or Hakura are supported distribution transitional or formal to the legacy of any of the male like the share of female and whether planted year before 1331 Hijri and the date of death by the year 1965 distribution is illegal and it is illegal.
- In the case of inheriting transitions happened before 1955, the English reference should be adopted.
- Writing the land quotas, area, and price on the cover of the transaction application.
- Transfer of application from the audit team to the committee.
- First stamp by the auditor and a signature.
- Printing a list with all applications sent from the Committee and to make sure that all transactions sent from the Commission audited and sealed.
- Transfer the application to the secretarial to fill out a form and write on application covers the estimated price per meter.
- Computer work phase including: i) Inquiry about the land parcel that he there is no rights of or objections of Reservations; ii) Transfer the application from the estimating team to the committee by the system.

4) *Guessing Committee Stage*

It is the committee that estimate the price of square meter based on the maps provided. The committee is chaired by the Chief of PLA and members of the Ministry of Local Government and the Ministry of Agriculture and two employees from the Land Authority; the PLA register and a representative from the Survey Department.

- The estimated price will be written in the transaction cover and in guessing form.
- The form should be signed.
- All forms should be signed by the Chairman of the Committee, Chief of Land Authority.
- Submit the agreed price by the secretariat of the Minister's Office.

5) *Waiving Stage*

It includes waiver of land by the owner. This stage to

confirm that the land owner waives his full ownership to the buyer in front of Registered Lands Gaza that capture the full price being recorded date of signature, the date is important and so recorded in the book of contracts.

6) *Registration Department Stage*

Activities are divided into two steps; contract registration in a book and its registration in a file.

After the completion of the final signature for all parties involved, the application will be passed to the Registration Department in order to create a record in the book of contracts. Registration on the contracts book is the direct following step. This process starts by issuing a unique serial number for the application; and then calculating the quotas. Data required for the contracts book includes: Contract number, contract date, the transaction number on the year, part number, parcel number, city name, buyers' names, the transferees' names, transaction type, and any other notes. Numbers of contracts included in the transaction and the date of registration of this contract in the book of contracts are being written on the transaction files. This is being followed by a computerized stage, where the book will be forwarded to another employee to record the contract on the system.

The Land Registry Tabu has 123 records to document properties which are classified according to land parcel number. The old contract will be crossed by red line in case of the transfer of all quotas to a new owner. A note will be written down to refer to the new contract. In some cases, part of contracts will be cancelled, such as reallocating any contracts remaining quota of the inheritors without cancellation until transfer all the inheritors and writes in the notes box "quota value" quoted contract (New Contract No.'s |Year). Data is recorded according to pre-defined procedures, including: Contract number, which was recorded from book contracts, the date of the contract, and quotas calculated and notes. After registration records, contracts will be linked through a computerized system as follow:

- Land's number is entered, parcel and query data from display button.
- Once the new contract gets a reference number, the old contract will be marked as "cancelled" and moves to the notes of the new contract.
- If the old contract is not fully cancelled, it will be written in the note section.

7) *Final Reporting and Registry Printing*

To confirm the success of the data entry process for all contracts, a report can be printed to check all data. The report should include; New contract number, the names of current and previous owners and their quotas and the current owner space in addition to the total quota in the contract. From the window of printing, any contract can be printed by selecting the contract by pressing the printing button. Then it can be stamped and sent to be collected by the owner.

IV. EVALUATION OF THE CURRENT SYSTEM

Prior to reforming organizational arrangements, attention needs to be on understanding the current government

structure and policies, and the current requirements for land information management and the constraints that deter its progress. SWOT analysis is a common tool in evaluation studies. SWOT is an acronym used to describe four strategic factors - strength, weaknesses, opportunities and threats – of an organization or system. SWOT analysis is often used in the preliminary stages of strategic planning. It involves the following basic steps: analysis of the internal environment of the organization/system to identify the existing strengths and weaknesses; analysis of the external environment of the organization/system to identify opportunities and threats; the generation of alternative strategies; and the formulation of a strategic choice.

A. Constraints and Opportunities

It is not an easy mission to institutionalize a full automated land registration system in the Gaza Strip as well as the whole developing countries. From the experiences of users; securing the potential benefits of computer-based technologies, including GIS, can be problematic. Due to consulting several experts via in depth interviews and brain storming sessions in the PLA and free lancers about the current LRS in the Gaza Strip the following constraints and opportunities are recognized to match the context of the Gaza Strip. There are various factors constrained to establishment of LRS/GIS. The major constraints are:

- The current LRS in PLA suffers from overlapping responsibilities leading to the duplication of data recording for land administration. This makes the maintenance and updating of the records more complex.
- PLA suffer from lack of trained operators and use technicians. Therefore, personnel management for the transition to a new technology should be given top priority.
- Due to lack of resources, PLA choose to retrain their own staff in conversion courses instead of employing outside experts. The needs for expertise are often underestimated. Without the essential expertise, advancement can be frustratingly slow.
- The absence of national information body that could provide an umbrella policy on information management and exchange within the Gaza Strip. This includes common national standards in data collection formats, procedures, storage medias etc., which could allow easy information sharing and the public access to them within the Gaza Strip.
- Lack of adequate skills in the area of managing computerized land management information systems, specifically in GIS/RS, Database Management Systems, Systems Administration and Networking.
- Shortage of external development funds to support the establishment and maintenance of the LIS/GIS at all levels.
- Lack of awareness of the benefits of LIS/GIS at higher decision-making levels.

Although different factors seem to constrain the LIS/GIS initiatives, opportunities for future establishment and efficient implementation of the systems exist in the Gaza Strip. These include:

- The advancement of Information and Communication Technologies (ICT) for processing and managing land data, like: GIS software, surveying advanced hardware, global position system applications, and web-based tools, etc.
- The technological advancement in ICT for providing effective access and ability to inquire and edit land registration data.
- The huge development in data gathering technologies such as: Remote Sensing and aerial photography and mapping.
- Increasing of the international development agencies interest in environment information management in MENA countries such as the UN, World Bank, African Development Bank, USAID, etc.
- Palestinian Authority's commitment to improve the ICT infrastructural capacity.

B. SWOT Analysis

In order to provide a better understanding of the current state of land registration in PLA, SWOT Analysis are undertaken. SWOT analysis is used here for a preliminary evaluation of the existing land method of land registration system in the Gaza Strip. The strength and weaknesses represent internal features of the systems while the opportunities and threats represent external factors that influence the systems. The list of strengths and weaknesses, based on a holistic examination of the system, gives valuable hints for improvements. The same can be said for the threats and opportunities, which hint in what way the system can develop in the future. The strengths in the current system involve:

- System is acceptable/legitimate to community.
- Actors' roles and tenure rules/types are clear.
- Improved perception of tenure security.
- Good security of land tenure information.
- Local expertise in land measurement

On the other hand, the weakness elements involve:

- Spatial difficulties in re-establishing surveyed boundaries to enable connection with GIS.
- Bureaucracy.
- Time consuming measures in dealing with land transactions.
- Limited capacity of writers (private freelancing scribes), which may cause unwelcomed delays.
- Not friendly registration templates.
- Not efficient data entry and achieving techniques.
- Limited utilization for the GIS applications.
- Limited access to information for the public users.
- Limited integration between Tabu information's and GIS map.
- Stakeholder participation and awareness are not supported
- System improvement is not a priority

The available opportunities include:

- Improved LRS.
- Improved perception of land security.
- Integrate spatial data with other sources of data.

- Involvement of public organizations/Civil Society Organization (CSO's).

Finally, the threats of the current system are concentrated on the disruption of the program.

V. CONCLUSION AND RECOMMENDATIONS

This study shows that the currently-used-system for land information, in general, and land registry, in particular, in the Gaza Strip is extremely traditional and mainly paper based procedure. It does not reflect the changes occurred regarding land information management. It is also based on complex manual processes which may take long period of time for land transaction. The use of GIS for this purpose is limited as well as data for land property and history is unavailable since property is not spatially oriented. Thus, conflicts between data on maps and on ground are frequently faced and decisions relating to these problems cannot easily be made. Therefore, a strong need to enhance this traditional system is strongly recommended. An efficient monitoring and reporting system for land registry should be established. This monitoring and evaluation system should focus on improved service delivery and assess key performance indicators such as the accuracy of PLA records, the time and cost of key services to clients. Comprehensive public awareness campaigns should be implemented, guide the landholders and businesses and explain the needs to update the register whenever any change takes place.

ACKNOWLEDGMENT

I would like to express my grateful appreciation and thanks to everyone who gives me support to bring this research alive, especially, the members of the Palestinian Land Authority (PLA). This gratitude is for their generosity and kindness to provide me with their time and all necessary information, that enabled me to complete this study.

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