المؤتمر العربي
الثاني للأراضي

Second Arab Land Conference

22-24 FEBRUARY 2021
CAIRO, EGYPT

Technical Session 3A: Land Management and Administration

Recent land administration experiences from the Arab region: Findings from Egypt, Lebanon and the Palestinian Territories

Date: Monday 22nd February 2021

Author(s): Rohan Bennett[1], Kholoud Saad[2], Eva-Maria Unger[1], Chrit Lemmen[1]

[1] Advisors, Kadaster – The Netherlands Cadastre, Land Registry, and National Mapping Organization, The Netherlands rohan.bennett@kadaster.nl
[2] Director, ESRI Northeastern Africa, Egypt

Keywords: *VGGTs, GLTN, Post-Conflict, land tenure security*

Executive Summary

The MENA region is crucial for furthering global peace stability. Land issues are central to conflicts in the region – both locally and at cross-border levels. Consequently, land administration systems in MENA countries demand attention. A proven strategy for enabling system renewal is via regional collaborative networks of land sector actors. The work underpinning this paper - undertaken in Egypt, Lebanon, and the Palestine Territories - shows that despite ongoing instability and post-conflict contexts, and clear differences between national land administration systems, there are many common land administration problems and opportunities. Moreover, there is observable good will from land sector managers and land administrators; good will that can be built upon and supported by the global land community – to support the delivery of more effective land administration systems, and land tenure security in the region.

Table of Contents

1. Introduction

The MENA[1] region variously constitutes anywhere between 19 and 38 countries, a population of up to 400 million, and depending on definitions can be seen to geographically spread from Morocco to Iran, west to east, and Turkey to Somalia, north to south. Countries in the region are typically underpinned economically by large reserves of natural gas and petroleum, and spiritually speaking, Islam is the prevailing religion for over 90% of the population. Conflict and instability are another regional feature of the 20th century and early parts of the current one, brought about in large part by fragmentation in governance following the breakup of the Ottoman Empire, tensions over the mineral resources, and the strategic geographical location of MENA from a global perspective. The MENA region is crucial for furthering global peace stability. Land issues are central to conflicts in the region – both locally and cross-border levels[2]. Consequently, land administration systems in MENA countries demand attention, if not scrutiny, lest they are utilised to violate specific human rights[3]. Land resources will also be crucial for the sustainable development of the region[4]. A proven strategy for enabling system renewal is via regional collaborative networks of land sector actors. The work underpinning this paper seeks to contribute to a dialogue on land tenure security in the MENA region. Cases described from ongoing collaborations in Egypt, Lebanon, and the Palestine Territories show that despite ongoing instability and post-conflict contexts, and clear differences between national land administration systems, there are many common land administration problems and opportunities. Moreover, there is observable good will from land sector managers and land administrators; good will that can be built upon and supported by the global land community – to support the delivery of more effective land administration systems, and land tenure security in the region.

Therefore, the overarching aim of this paper is to present results from studies undertaken in three MENA case countries, in order to further highlight the diversity of land related issues in the region, but also to shed light on the shared challenges and therefore opportunities for more regional dialogye. First, a brief background and overview of land related issues in the region is presented. Second, an outline of the approach and method used to compile the paper is provided. Third, the results of each case are presented in sequence, using a framework inspired by the UN-GGIM Integrated Geospatial Information Framework (IGIF). Each of these sections ends with a summary of major findings for that case country. Finally, a brief synthesis from across the case countries is provided, opening up the possibility for further dialogue and further work collaborative work in the region. It

[1] Middle East and Northern Africa
[2] Zimmermann, W. (2011). Towards land governance in the Middle East and North Africa region. *Land Tenure Journal*, (1).
[3] Schechla, J. (2012). Land grabs and the Arab Spring: A chronicle of corruption as statecraft. *Nairobi: Habitat International Coalition's Housing and Land Rights Network*.
[4] Ncube, M., Anyanwu, J. C., & Hausken, K. (2014). Inequality, economic growth and poverty in the Middle East and North Africa (MENA). *African Development Review*, *26*(3), 435-453.

should be noted that the paper does not intend to be comprehensive in term of relaying and describing all land tenure security and land administration concerns and issues within the case countries, rather it provides a sample and snapshot of example issues for each country, and by extension, the MENA region.

2. Background

Subsequent to recent conflicts commencing with the so-called Arab Spring uprisings of 2011 onwards, and leading to the Syrian Civil War (2011-), related ISIS and ISIL wars (2014 - 2019), including those in Iraq, and the significant population out-migration from MENA countries during 2015, oft towards European countries, an increase in attention from the global land sector has been observed. Specifically, a growing push to build collaboration and share capacity within the MENA region is evident, particularly with regards to land administration and land management. Awareness campaigns surrounding the launch of the VGGTs[5] provided for an initial workshop and dialogue in the region. Subsequently, larger scale milestones were the 1st Arab Land Conference conducted in Dubai in 2018, and the planned follow-up scheduled for 2020. Each of these programmes is backed by the UN Habitat Global Land Tool Network (GLTN), World Bank, Arab League, and Arab Union of Surveyors. GLTN is also sponsoring other exploratory work in the region, in collaboration with GIZ, looking at post-conflict land rights in up to 9 contexts, and challenges surrounding those.

In many respects, as has already been documented elsewhere, the 'MENA' concept is entirely un-useful: the diversity of political, social, economic, legal, and environmental country contexts covered by MENA means making sensible statements about the regional state-of-play or future MENA development strategies highly problematic. This issue equally applies to the domains of land administration and land management in the region, where a great diversity in existent land surveying, mapping, registration, and land information systems can be observed. This diversity relates both to the contemporary quality and completeness of those systems, and also the historical establishment of those systems: remnants from various European colonisations, the Ottoman period, and other influences can be observed in different country contexts.

The problems of MENA regional generalisation aside, at least from the perspective of seeking increased regional stability, there are exists enough commonalities and shared history on land administration to seek stronger inter-country collaborative ties. Whilst international politics often impedes dialogue at higher levels of office, lower-level land sector managers and administrators are less encumbered and have much to gain from regional collaboration. In this vein, the successes of the Network of Excellent for Land

[5] Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security, from FAO and CFS 2012

Governance in Africa (NELGA), East African Land Administration Network (EALAN), and more broadly the Global Land Tool Network (GLTN), provide directions, if not blueprints for enabling and scaling collaboration efforts.
Among the key common challenges facing the implementation of modern land administration systems within MENA states is the intense focus on achieving highest accuracy in cadastral surveying. Like other contexts, this is thought to have considerably hindered the progress of the land registration, and is in contradiction with the increasingly recognised fit-for-purpose (FFP LA) concept and approach.

3. Approach and Methods

In support of the abovementioned efforts to build regional collaboration on issues of land administration in the MENA region, the Netherlands Ministry of Foreign Affairs has an explicit focus on backing programs that support land sector development for countries within the region: the Ministry's 6-year 30M EU flagship 'Land-at-Scale' program is expected to extensively focus on supporting the MENA region. Additionally, Kadaster International, the international development arm of the Dutch Kadaster, is placing increased emphasis on building collaborative ties – putting in place a dedicated MENA Regional Manager – and supporting land administration developments in selected MENA countries. Across 2019 this included cooperative and start-up work primarily in Egypt, Lebanon, Jordan, and Palestinian Territories.

This paper reports on the outcomes of the work undertaken in Egypt, Lebanon, and Palestine, with a view to providing a snapshot of the diversity of issues evident in the region, but, also in identifying common challenges and opportunities, so as to further support efforts in the establishment of a regional land administration network. Generally speaking, to create structure to the discussion, and enable some level of cross-comparison, results are presented under similar headings used within the UN-GGIM IGIF[6]. These categories include governance, institutions, and accountability; law and policy; finance; data and processes; standards; innovation; partnerships; awareness and advocacy; and capacity and education. It should be noted that in some of cases, the data gathering, and analysis undertaken did not enable all of the categories to be covered.

4. Egypt

In Egypt, a recent national multi-stakeholder dialogue and related workshop activity, coordinated by Kadaster International in collaboration with the Egyptian Survey Authority (ESA), exposed the issues of large numbers of informal transactions occurring within the ccountry, and inadequate land rights recognition for women, despite the legal framework providing support. Promisingly, increased high-level political interest and willingness to

[6] See: https://ggim.un.org/UN-GGIM-Intergrated-geospatial-information-framework/

expedite the completion and update of digital cadastral coverage, in both urban and rural settings, was observed. The need for improved inter-agency communication and coordination was identified, and also better awareness raising and trust-building activities with citizens. Most encouraging was that fit-for-purpose surveying and mapping techniques, built around the use of imagery and citizen participation, were appreciated. Plans to leverage off the findings via a comprehensive future strategy are now being explored. Due to space and time limitations, the following descriptions focus primarily on the role and activities of the ESA, rather than the full body of land administration agencies and stakeholders.

In terms of **governance, institutions and accountability**, key institutions involved in land registration and mapping processes in Egypt include ESA, the Ministry of Justice's Real Estate Publicity Department (REPD), Real Estate Taxation Authority (RETA), the Ministry of Agriculture, the Ministry of Communications and Information Technology, and the Ministry of Local Development. REPD mirrors the same office and institutional setup as ESA. ESA is one of the key nodes amongst a constellation of Ministries and related departments and authorities, dealing with land registration and cadastre in Egypt. ESA has interlinking procedures with numerous other agencies with regards to registration and cadaster. Within ESA, the organization is setup as conventional government authority consisting of a hierarchy of departments reporting to the ESA Chairman. The ESA Chairman reports directly to the Minister of Water Resources and Irrigation. ESA has yearly targets to meet in terms of accountability, however, all revenues flow centrally. ESA has a central office, 5 regional offices, 28 governorate or provincial offices, and 180 district offices. The different levels are structured in a hierarchy with lower levels organized into groups that report directly to the level above.

ESA is primarily accountable for the spatial aspects of land registration and cadaster. It's key roles are to i) support registration of land and buildings; ii) support boundary dispute resolution; and iii) support land valuation and expropriation procedures. It is important to note that this mandate applies only to lands that are formally registered, with existing documentation. This is a key point as some internal estimates suggests that anywhere from 75% to 99% of legitimate interests in rural areas, may not be formally documented by ESA. Moreover, the entirety of urban areas in Egypt were not traditionally mapped or documented by ESA. This means many millions of land interests are not recorded. ESA also has key roles in delivering the national geodetic reference frame, and undertaking national mapping (primarily surrounding topographic mapping).

In terms of land **law and policies**, Egypt has no formalized national land policy. The national institutional approach to allocation and recognition of land tenure, use, and value is complex, constituting a mix of methods from various colonial periods and other historical events. The major forms of tenure are private and state lands: common and customary land tenures are not formally recognized. Private freehold tenure is available to citizens, provided documentation and eligibility requirements are met. State lands are also

significant in proportion of lands, and current government initiatives show a significant focus is being placed on large-scale state-based infrastructure development, meaning a significant amount of land is being converted (acquired) from private to public.
Whilst there are no specific land-related policies directed at enhancing the land tenure security of women and vulnerable groups, it is suggested that at the policy and legal level, there exists the measures required to enable ownership by these groups. However, in practice, it is social and cultural practices that act as the major barrier to increased tenure recognition for these groups.

In terms of specific laws, land registration and cadastral activities are primarily mandated by the 1964 Registration Law and the 1978 Executive Regulation, containing amendments for enablement of adverse possession, even for State land, although not over Utilities. These laws, coupled with others, means both deeds and title registration approaches exist within Egypt. New draft legislation for land registration are under development, with a specific focus emphasis for urban areas, with the objective that fit-for-purpose methods and thinking should guide the process: making it cheaper and more reliable for citizens.
With regards to **financial** issues, the land sector in Egypt, and particularly urban areas is viable with respect to market forces. ESA is cost recovering, and currently the lower level governorate and district offices, at least the ones included in this analysis, meet the financial indicators set. As an example, the Giza governate delivers a revenue at a ratio of 2:1 against outgoings (e.g. wages, overheads). However, it is not clear whether these targets are appropriate for the volume of transactions taking place, comparative of more developed contexts. Also, it needs to be recognized that perhaps 90% of transactions happen informally, this means all the revenues that could be gained from those transactions are lost. Moreover, the revenue the does arrive, flows to consolidated government revenue, with no direct relationship between revenue generation and the budgets of ESA, REPD, or other land related agencies – and also limited transparency on how the land related revenues are delivered back to land related infrastructure (e.g. roads, water) and services. Egypt's government land agencies operate on a traditional financing model, of a yearly budget, not directly connected to performance and revenue generation. It appears there is also little exploration of expedient financial partnerships that could reduce duplication across agencies and create mutually financial benefits. The recent focus for ESA and other related agencies appears to have been on cost reduction via staff retirements, rather than exploring new funding sources to support innovation. There appears little to no initiatives to demonstrate the value of ESA to higher level government or citizens, and measurement of the benefits the organization provides.

Regarding land administration **data[7] and transactions**, ESA has data stored in both paper format and digitally. Its fundamental themes are land tenure data, specifically land parcels – incorporating information about owners and extend or rights, restrictions and

[7] Note: ESA collects and creates a range of other spatial and textual data, relating to the geodetic framework, topographic domain, and other geographic features.

responsibilities. It can be considered the acquisition manager, curation and delivery, and custodian of these datasets: data on land value, land use (planning), and development is not directly under the mandate of ESA, and are managed by other agencies. Data supply chain linkages with these other agencies – surrounding these datasets – are complicated, inefficient, non-existent, and/or not formalized.

In terms of the paper-based data, a distinction needs to be made for urban and rural districts. Historically, all rural and agricultural lands were mapped by different colonial regimes. These were completed in the late 1800s by the British, and also the Grammond maps of the 1930s. For the latter, 75% of the area was mapped at 1:000 and the remainder at 1:2500. Upwards of 95% of all rural areas are captured in this way, however, the maps were not updated regularly after initial. This means what is represented in the paper maps does not reflect the reality on ground: informal subdivisions have occurred over decades. The result is that large proportions of land holdings are not mapped: an ESA study showed the difference could be anywhere between 75% up to 99% parcels are missing on a given maps. On these maps each parcel has an ID, that can be related to mutation and cadastral identifier forms (CIF) – instruments required by ESA – for completing land transactions. In addition, to these fundamental land parcel related datasets, there are extensive historical archives of surveyor plans and calculations used to generate coordinates for or from the cadastral maps. In addition, REPD also has its own forms and data relating to people/legal aspects of the land tenure. For urban areas, these areas are represented on the agricultural maps, however, details about specific parcels is not captured. This is significant given the population in Cairo alone is approx. +20M people.

In terms of the digital data, all the data in the paper-based maps (140K maps) was converted, into vector data, during a project following support from a Finnish pilot project (2002-06), between 2006-2012. The data is housed in a (distributed) geodatabase, with copies of the database housed at various governorate locations (19 out of 28 governorates). Whilst the conversion project was a success, the boundary inaccuracies in the paper-based maps were also transferred across into the digital data. Other challenges were also evident in that the management of the conversion process resulted in some maps being converted twice, challenges with making the digital data match spatially, and so on. Another project conducted 3-4 years ago involving scanning and digitizing all mutation and CIF forms (28K forms in one district alone).

In terms of the processes that create, use, and change the data for transaction purposes, despite much data being digital, the procedures remains paper based. Citizens approach REPD to lodge transactions, and ESA is activated when the transaction involves a spatial aspect. The transfer of these forms between citizens, REPD, and ESA, is all physically done. The completion of the forms remains paper based, as do the searches for documents in the district offices. In the offices visited, there is some resistance to move to digital processes. That said, when new mutation and CIF forms are drafted, these are scanned and added to the archive. Also, it is suggested there are processes for

transferring the changes from the submitted mutation and CIF forms into the geodatabases.

In terms of technological advances and **innovation**, the last major donor project for IT was with Finland between 2002 and 2006. This pilot resulted in an internally funded project, commencing in 2006, until 2012, and involved the establishment of a network of databases (unclear if truly distributed environment) across 19 of the 28 governorate sites – and incorporated the converted agricultural cadastral maps (140K maps). The technology and contract ultimately sat with CSICO, however, 4-5 years ago they changed the contract from 1M per year to 20M year for maintenance. In addition, the ownership information in REPD was also converted. This is actually still ongoing, and not fully supported, and required further development Since then, the system has gone largely unmaintained. ESA do not have the staff to manage it. They are in the process of putting out a tender to bring in maintenance support again. In addition, 3-4 years ago, a project was undertaken to scan all historical mutation forms (some 28K forms in the one of the district offices housed on site). This is really just an archive for searching, and is not used for day-to-day searches and tasks (yet). In terms of field data collection, use is made of total stations, GNSS, and other modern surveying equipment, selected on an as-needs basis.
Unfortunately, the establishment of the geodatabases and scanned archives did not translate to process improvement: daily transactions and management activities are still largely paper based. The geodatabases appear to act as a secondary or duplicate system, albeit, less up to date than paper vased system. There are sections in ESA that are fully digital, however, this relates more to departments that undertake piecemeal consulting activities (e.g. Cartography group; Lands Application Department). The Lands Application Department is responsible for developing the 'one map' concept, which appears to be an NSDI-type goal, of integrating the rural cadastre with the envisaged urban cadastre, and all other available datasets held by ESA. Unfortunately, this department has lost many staff in the past few years, inhibiting efforts.

Since the end of the analogue-digital data conversion project, promotion of innovation and creativity has largely been stifled. This is due to funding shortages, no donor support, and a workforce that is largely heading towards retirement (and lacking modern skills training). That said, there are sparks of innovation, particularly at the Departmental leadership levels. Also, ESA now contracts many more freelancers who tend to be young and tech savvy. In terms of bridging the digital divide, ESA leadership is aware of what needs to be done, however, getting the resources and overcoming institutional inertia, and the moral sapping side effects of the staffing freeze, are major challenges.

One area of innovation worth noting is the R&D underway regarding 3D cadastre and urban environment. This is taking place in the urban conversion department. Whilst standards or approach for urban cadastre in Egypt, the Department is undertaking an FFPLA or minimum viable data approach to possible establishment. With the 2017 title registration

act, they're looking at how best to create the urban cadastral/registration process. They have been doing pilots, but, notice that the agricultural approach is not suitable for urban environment. They have been trialling approaches on 10 areas: some old, some new, some in-between (e.g. El Doqie). They are ignoring the old parcel ID approach completely and are making use of architectural diagrams, and logic, to complete the internal layout of buildings. Interestingly, verification activities show the approach to be good accuracy and viable. They have trouble getting access to go into buildings, therefore, are using contextual knowledge of buildings to 'best guess' internal layouts - and it is working! 95% can be done by estimates. The approach seems to be scalable and is already applies. They are using 2016 aerial imagery of 1:5000 (=30cm resolution). In terms of implementation into the geodabase, a 2D or 2.5D approach is being used: each level of an apartment block becomes a new layer. The querying is quite efficient – but, there are issues with capturing more complex 3D volumes.

The other area of innovation to mention is the Geodesy Department. Like other departments, many of the processes and data are fully paper based – and rely up on the knowledge of long serving, but rapidly decreasing, workforce. However, in the area of GNSS/CORS, there are significant developments. The national ellipsoid, previously established in 1907, was aligned with ITRF in 1995. In the 2000s, there were significant developments with regards to the update of the geodetic reference stations, the establishment of a CORS network (continuously operating reference stations) of 40 stations (commenced 2012, 2 destroyed during political upheaval). The stations still only enable post-processing of data, and even that is only made available to government. The stations are maintained by Trimble in a type of PPP arrangement. Budget = about 1 new station per yea. Another challenge for the geodesy group is the calculation of transformation parameters, when needing to work between Egypt's different local datums of the earth-centered data of GNSS (i.e. WGS84 ellipsoid): the parameters are still not public and guarded by military. Transformation parameters differ across the geographic extent of the country. ESA create these on a case by case basis for different projects. There are also plans for the development of an international ARABREF and the future reference system to be used all over the country, with coverage including the Nile area, eastern and western desert – red sea beach and North cost beach was further discussed. Cooperation options with other agencies to update the existing Geoid Model to improve the CORS networks is also being considered. The Governorate level is all generally equipped with GNSS, however, District offices tend not to use GNSS. Horizontal and Vertical datums are separate. They are working to produce a new geoid model for Egypt, but, last calls from GNSS were to inaccurate.

With regards to international **standards**, ESA does not have formally recorded standards with regards to interoperability of law, data, semantics, and technology, particularly in terms of integration with partners (e.g. REPD). This is considered a major barrier. That said, all levels of offices use the same key mutation and CIF forms, and procedures are generally uniform across the country. Interestingly, the data conversion project did create

some issues with standards: not actors all followed the same approach, and this meant there was some duplication. This issue was largely solved over the previous 2-3 years.

On **partnerships** in the land sector, within which ESA operates, includes several key actors: Ministry of Justice, and Real Estate Publicity Department (REPD); Real Estate Taxation Authority (RETA); and to a lesser extent - Ministry of Agriculture; Ministry of Communications and Information Technology; and Ministry of Local Development. Where interactions are needed, these occur (e.g. parcel mutation), however, this appears to happen due to historical norms – rather than any formal and organised ongoing partnership maintaining initiative. Within ESA, there is good communication and awareness between Departments, however, this is driven by personal and professional linkages, rather than formal agreements existing between departments.

In terms of **capacity development and education**, ESA's workforce can be considered highly trained – particularly at central and leadership levels. However, the majority of staff members are middle-aged or above, and rapidly moving towards retirement. ESA staff numbers have dropped from 11K to 5K since 2006, and will drop to 2.5K in the next few years. A staff hire freeze has been in place for 8 years. In addition, those who hold BSc or MSc degrees, earned these degrees more than 15+ years ago, and there has not been enough attention to ongoing professional development – either within the workplace or externally. This means capacity in terms of formal education is actually on the decrease within ESA. Also, whilst the areas of law and spatial science are generally well covered, IT skills and education are lacking, particularly the skills to maintain the geodatabases and the connectivity between nodes. Surveying and the land sector generally are not seen as attractive for new graduates, and there are no specializations for land administration or land management in Egyptian tertiary programs at BSc or MSc level. Moreover, there are no active programs creating awareness of the importance of the field for Egyptian development, and also no programs exist to enable entrepreneurship within the sector. To bridge the widening capacity gap, ESA is beginning to utilize external companies and contractors to complete work, such as the updating up the rural cadaster. On a positive note, it is worth noting that ESA is more than 50% female in terms of staffing, although, whether this translates to management level is less clear.

In terms of **advocacy and awareness**, ESA communicates in the traditional manner of a bureaucratic government department. It is internally facing with the concepts of customer satisfaction, service quality, one-stop-shops, and e-services, yet to be taken up. There exists no organized land sector consumer body, and likewise, ESA does not have a detailed stakeholder identification procedure, integrated engagement strategy, communications planning program, or monitoring and evaluation thereof. These are key areas for concentration, as ESA staff identify that citizen trust are very low – and this is reflected in the fact that 9/10 transactions are dealt with informally. This translates to dealings with other government agencies, academia, and private sector actors.

In **summary**, the overarching message is that ESA and the land sector in Egypt is ripe for renewal. The organisation has a long history and legacy, and much of this is still preserved in existing processes, archives, and staff. However, the older paper-based data is rapidly decaying, staffing numbers are quickly reducing to an 8-year staff freeze and many retirements, the scale of transactions that are informal or make use of the court system, bring into serious question, ESA's mandate. Moreover, the digitisation and modernisation activities undertaken in the mid 2000s mainly focused on converting paper-based forms and maps into digital – and concentrated only on agricultural lands. This means the urban cadastre is completely undeveloped; and the geodatabases created operate as mere archives, rather than being used locally for transactional efficiencies. Egyptian land sector stakeholders need to agree upon the level of reform the country needs, and a prioritisation of actions. There full set of land administration elements can be reviewed. It appears there are fundamental issues regarding governance, accountability, law policy (inc. gender issues), and law that first require addressing: streamlining and simplification should be the goal. Clarity on these issues can guide developments surrounding finance (i.e. business models), organisational partnerships, and then further developments in the areas of data, processes, and innovation (incorporating fit-for-purpose concepts) – for both urban and rural transactions. There is also significant opportunity to work on renewed legal, data, and semantics standards for the land sector. Developing communications and awareness programs, for citizens and high-level government alike – along with capacity and education programs, in collaboration with the academic sector, is also seen as crucial.

5. Lebanon

In Lebanon, the Kadaster International undertook work focused on exploring the current status of land administration arrangements, and sharing the basic concept and approach for FFPLA with the General Directorate of Land Registry and Cadastre (GDLRC) of Lebanon (Ministry of Finance). GDLRC has the ambition and vision for implementation of a state of the art modern land administration system, however, faces three main challenges: 1) around 35% to 50% of the country remains not surveyed and has no title records; 2) the automated system developed in the nineties are now obsolete and must be replaced by a modern system; and 3) registration transaction workflow is very complex and based on the very old legal framework designed in 1926. Efforts are now underway to develop strategies for dealing with the three issues in a combined fashion with the view to establishing a modern and sustainable modern Land Administration system in Lebanon.

In terms of **governance, institutions, and accountability**, both cadastral surveying and the property registration are under the responsibility of the General Directorate of Land Registration and Cadastre (GDLRC). According to the GDLRC, Lebanon has around 3 million land parcels. The GDLRC has about 800 employees working in 17 offices distributed across the country. The property valuation and taxation comes under the responsibility of another governmental agency: Built Properties Taxes Bureau. However,

both agencies are under the Ministry of Finance. Meanwhile, the topographic mapping is carried on by the Directorate of Geographic Affairs under the Lebanese Army. The Directorate of Geographic affairs was established on 6/2/1962 and was correlated to the Army Command with aim of performing geodetic works, surveys, topographic works, organizing maps of different measurements and aerial photography and filming[8]. The National Center for Remote Sensing is responsible for application of Remote Sensing and GIS in support to production of reports and studies on land resources in Lebanon[9]. The agencies listed here are the ones initially identified as relevant stakeholders in possible establishment of FFPLA activities.

In terms of **laws and policies**[10], the legal framework for the land and properties registration comes from the French colonial system (France, Azas province). The main law dates back to the French occupation time and is from year 1926. Specifically, the current legal framework for registration in Lebanon is based on *decisions no. 186, 189, 188 of 15/03/1926* and legislative decree no. 12 of 28/02/1930. The Land Registry organization led to rights and principles that were stipulated and organized by the Property Law, by virtue of *decision no. 3339 of 12/11/1930*. These four decisions are the main foundations of real estate and agricultural reforms. Decision no. 186 concerned the demarcation and drafting of estates and established specialized committees to undertake surveying works and judicial supervision prior to their registration in the Property Register. Decisions 189 and 188 established the Land Registry and described how it should be opened and kept, in addition to giving directives on how to register rights in it and make them public so citizens can benefit from them. As for legislative decree no. 12, dated 28/02/1930, it organized the offices of the Land Registry Department (Tabo) and the registration offices, while stipulating that contracts and agreements pertaining to estates located in regions outside the Land Registry organization should be entered in the records of the Land Registry Department and registered according to its provisions. After the implementation of these decisions, relevant amendments were issued in decisions no. 44, 45 and 46 dated 20/04/1983, in order to fill the gaps and pursue what was needed.

With regards to **financing**, the Land Registry has become open to the public, and anyone can, after paying the legal fee, get any information entered or check the title registers in the presence of the Registrar or any of his employees. The registration fees is a percentage from the sale price. It is common that applicants try to record lower prices in the process to avoid paying higher registration fees. In 2011, after the Syrian crisis, with the migration of thousands of Syrian refugees, the property prices increased significantly. In some areas prices doubled or even tripled.

[8] Source: https://www.lebarmy.gov.lb/en/content/directorate-geographic-affairs-0
[9] Source: http://rsensing.cnrs.edu.lb/geonetwork/srv/eng/search
[10] Source: GDLRC Website: https://www.lrc.gov.lb/en/content/historical-overview#overlay-context=ar

In terms of **data and processes**, the development of the Lebanese digital cadastral information system started in 1998. During the project, title sheets (cadastral certificates) were renewed and replaced as a first step for the establishment of an integrated IT system for real estate transactions. Paper sheets were turned into digital automated ones, which saved time and facilitated the registration process and the issuance of deeds and affidavits[11]. At the moment GDLRC estimates that about 50 to 65% of the country is mapped and ownership is registered into the automated system. The automation was carried on using Micro Station (Integrated Cadastre Mapping and Surveying System ICMSS) and Oracle technology (Integrated Registration System IRS). The registration system runs on nine regional databases, one database per region. The two systems are not integrated, however they both operate using the same property identifiers. The identifier is composed based on administrative coding: province ID, Cadastral Area ID, Parcel ID, Apartment ID. Although they developed an automated system they continued working in the paper records system manually. Thus they are running two parallel systems: digital and paper based. *This means that the paper based system has legal meaning; the digital system not.* Each unit/department has someone dedicated to data entry of the results into the digital system.

However, the system has not been upgraded since its development. This has left the system subject to incompatibility with newer version of the Microsoft operating systems and unreliable performance. The lack of available funds is the main reason the system has not been upgraded, and this instigated the World Bank loan, described in more details under 'partnerships'.

In former times, the deeds simply mentioned the property location and the name of the city or village, without any topographical representation or clear and accurate measurements of their area. Moreover, the deeds issued to concerned parties were not established on clear legal grounds and did not reveal the adjacent owners.

The registration procedure in Lebanon relies mainly on the notary similar to that in the Netherlands. However, a main difference is that the sale contract is provided to the new owner(s) and then it is up to the owner(s) to proceed with the registration at the GDLRC or simply keep the new sale contract safe at home. At the moment there is no digital system for the notary to submit their deeds to GDLRC. A hard copy of the deed given to the new owners to process the registration with GDLRC via a big paper folder. The registration records are the title cadastral certificates that are stored in the registration office archive for safe keeping and organized by geographical areas. For each requested certificate extract copy, a new entry is listed on the cadastral certificate listing the name of the applicant and the date of the copy. When the cadastral certificate paper copy is worn out, it is replaced with a new one with the old information hand copied to the new certificates.

[11] Source: GDLRC Website https://www.lrc.gov.lb/en/content/historical-overview#overlay-context=ar

For a subdivision request, where the land is divided into two or more new parcels, a pre-approval from the municipality for the suggested subdivision sketch is required. The new parcels are not reflected on maps until the registration is approved by the registrar, who send the application to the Cadastre department for survey and maps update. For the built-up properties, the property tax certificate from the taxation authority is part of the requests application documents and is the basis used by the registrar for fees estimation. For the rural areas, the registrars rely on their own knowledge and experience to estimate the land parcel value based on similar sales within the area. After the registration is finalized and all documents are processed, the title certificates are updated manually and the data entered into the digital oracle system. Currently, LRC has 17 offices in Lebanon, each office has registrar.

Meanwhile, the cadastral survey is carried on by internal surveyors in GDLRC. Private surveyors are not involved in the registration cadastral survey. The cadastral survey teams are distributed over the 17 offices – same as the registration offices. Only transactions that require spatial modification in the parcels are forwarded from the registrar to the Cadastre section for field surveying of the new boundaries and processing on the maps. The work is done entirely using the paper cadastral maps and drawing of the boundaries on a parcel sketch. The original maps were surveyed in the sixties and seventies of the last century. They originally are maintained within daily transactions and when the map deteriorate beyond use, they draw a new paper map.
Currently they are using modern survey tools (total stations and GPS), the coordinate data from the survey work is stored in the digital MicroStation system (ICMSS). However, their daily work is done completely using the paper maps. For example, when parcels are merged they hash on the boundary line that was removed to create the new consolidate parcel and point with an arrow on the parcels that were merged into new parcel. The parcel number of the original parcel is kept and the area is updated to the newly created boundary area. This means that one single parcel ID can have different representations over time and that it is important to know the dates where merging took place. The same goes for the subdivision. The original parcel number is maintained and the new subdivided parcel get the next available number in the cadastral area. Due to the use of the old paper maps, they are facing a key challenge with the boundary disputes between neighbors. Since the paper map has a scale of 1:500 the line thickness on the map represents 50 cm in reality. Looking at the map below, disputes on such maps are very difficult to resolve due to unclarity in the original map. Luckily, these maps are not the smudged common norm.

Beside the Cadastre section responsibility for the daily transactions' cadastral survey, they are also responsible for the establishment of the title registration for the whole country. As we have mentioned earlier, at the moment it is estimated that round 50 to 65% of the country is survey and title registration for ownership is recorded. The plans for the survey of the remaining area will involve the use of private surveying companies. GDLRC has earlier attempted to use private surveying companies in survey of rural villages, however

set a very low budget which caused the companies to reduce their work quality to meet the financial conditions. As a result the delivered data were not accepted by the technical team in GDLRC. Currently they have assigned two villages for survey by private companies with a higher budget (they didn't share the cost difference). The surveyors at GDLRC are positive about the results from the work in these villages.

In terms of **innovation**, given the age of systems and the highly manual paper-based approaches, for day to day work, developments can be considered limited. However, there are a range of e-services[12] that can be used by applicants to estimate the registration fees.

Several formalized **partnerships** are evident. First, GDLRC has recently negotiated a 43 MUSD loan from the World Bank to improve access to land use and value data, property rights data, and geospatial information through the Land Registry and Cadastre System modernization. The WB project is designed around main five components with the following estimated budget: Modernization of the Digital Land Registry and Cadastre System, 19.00 MUSD; National Spatial Data Infrastructure, 2.50 MUSD**;** Property Valuation and Taxation, 11.00 MUSD; State Land Inventory and Management, 3.00 MUSD**;** Institutional Development, Capacity Building and Project Management 7.40**.** The first component will be mainly focusing on enhancement of the digital system to manage the already registered land properties. The WB project will not be involved in the national efforts to finalize the ownership registration across the country by completing the remining 35% to 50% land coverage (about *one million land parcels*). For these parcels, owners have a sort of old deed or proof of ownership document[13]. Second, The French-Lebanese twinning project for real estate affairs is a two years project (March 2018 – March 2020) with a budget of 1.5 Million Euro. The project is an institutional cooperation between the General Directorate of Land Registry and Cadastre (GDLRC) in Lebanon and the General Directorate of Public Finance in France. The overall cooperation purpose covered by the project is supporting the initiative launched by the political and administrative authorities in Lebanon to modernize the activities of GDLRC. The main objectives are to contribute to the modernization of real estate laws and regulations to increase revenues, the organizational and institutional development of GDLRC, the enhancement of the services provided to citizens in relation to the functions of real estate registrations conducted by the notaries, and also to benefit from data to support the decision-making process. The project activities are currently focusing on the review and analysis of the current legal framework and recommendations for enhancements. The project has already undertaken one study visit to France and they are currently planning for another study visit, preferably Netherlands. They have selected to visit Netherlands given the similarity with the notary system and given that Kadaster is one of the leading agencies in land administrations worldwide. The tentative schedule for the study visit has been discussed as by March/April 2020. The project comes under the umbrella of a new

[12] See https://www.lrc.gov.lb/en/content/fees-simulation-0
[13] Source: GDLRC Website https://www.lrc.gov.lb/en/content/historical-overview#overlay-context=ar

program initiated by the French government in 2017. The Fund for Technical Expertise and Experience Transfers (FEXTE)[14] funds technical-cooperation programs and project-preparation studies in developing countries (FEXTE – Le Fonds d'expertise technique et d'échanges d'expériences).

In **summary**, land administration in Lebanon faces three major challenges: 1) around 35% to 50% of the country remains not surveyed and has no title records, 2) the automated system developed in the nineties are obsolete and must be replaced by a modern system, and 3) registration transaction workflow is very complex and based on the very old legal framework designed in 1926. These key challenges are the obstacles that needs to be tackled to pave the way for a establishment of Lebanon modern land administration system. The response to each challenge, including those already being coordinated via the French and World Bank cooperation, will needs to address the specific issues mentioned above, and also take into account issues of awareness and advocacy; capacity and education; and use of standards[15].

6. Palestinian Territories

The Palestinian Territories have a unique history and existence, and an equally unique set of historically developed land challenges[16], land administration institutions[17], processes, and supportive systems[18]. Work by the Kadaster International team exposed the several challenges including registration of specific types of land (e.g. Areas C, see below); document recognition by authorities; the costs for registration; administration of the Gaza strip; women's ownership and access to land; Bedouin land rights; State land management; land fragmentation; and inheritance. These issues are now unpacked.

In terms of **governance, institutions, and accountability**, conflict has resulted in the creation of four different agencies responsible for the land administration, depending on the status (registered / not registered) and land classification (A, B or C). Land registration activities are executed by one of four agencies. The responsibilities division between Area A, B and C are governed by the Oslo Interim Agreements which designated the responsibility of land parcel transactions in Area C to the Israeli civil authority in Beit El. The three other agencies involved in the land registration namely General Directorate of Property Tax (GDPT); Land and Water Settlement Commission (LWSC); and Palestinian Land Authority (PLA) are all governed under the Palestinian Authority (PA). It should be

[14] Source : https://www.afd.fr/en/fexte-cooperation-and-project-preparation-instrument
[15] These were not specifically analysed in the work underpinning this study
[16] For example see: Hadawi, S. (1957). *Land ownership in Palestine* (pp. 29-31). New York: Palestine Arab Refugee Office.
[17] Home, R. (2006). Scientific survey and land settlement in British colonialism, with particular reference to land tenure reform in the Middle East 1920–50. *Planning Perspectives*, *21*(1), 1-22.
[18] Gavish, D., & Kark, R. (1993). The cadastral mapping of Palestine, 1858-1928. *Geographical Journal*, 70-80.

stated that the PA has the full leverage of the re-organization of these entities into one entity that has the sole responsibility over land management in the West Bank and Gaza Strip[19].

Other relevant agencies include the Ministry of Agriculture whose main focus is to register land use. A census will start in 2020 they are now building a system for this registration of land use. Also, the Ministry of Local Government is involved in land administration, primarily through supporting both local and national land use planning. Ministry of Interior administers ID cards provided through PA. This ID card is obligatory and there is currently no provision for digital signatures for signing of official forms. The LWSC is keen to be connected with the Ministry of Interior as it has the official information about the persons stored in a database. Whilst the mandate for each agency is seemingly clear, there are undoubtably overlaps in responsibilities, and this flows through to incoherence or incomplete administrative processes, datasets, and duplicated technology infrastructures. Moreover, whilst integration with all the ministries is envisioned, there is very limited connection.

On specific land related **laws and policies**, it is outside the scope of the paper to mention all relevant laws, however, several are mentioned here. PLA was established by presidential Decree No.10 of 2002 as a legal entity with its own budget, subordinate to the Council of Ministers, with the responsibility for both the Survey and Registration Departments. The registration department handles the daily transaction applications and supervises the local offices across the West Bank. They are also legally responsible of supervising the work in the Gaza Strip however due to the political conflict they are not able to carry this mandate out. Currently PLA has seven registration offices beside the central office in Ramallah. The ownership original records and ledgers are maintained and managed by the registration department.

GDPT was founded in 1994 after the Oslo Agreement and the establishment of the Palestinian Authority. GDPT collects taxes on real estate property. For this task it has established a database with valuation data of all lands in Palestine. The data collection and system development were completed with support of around 8 foreign donors.

LWSC was established by Law No. 7 of 2016 issued on 22/3/2016. The aim of LWSC is recording, documenting and resolving all matters and problems relating to any right of disposal, possession or benefit, and any other rights that are registrable in land and water. Prior to that, the work of the settlement was carried out by PLA as one of the departments. The establishment of LWSC was in order to give more focus and pressure on completing the first registration (settlement work) across WBGS. In the beginning, the LWSC focus

[19] For more detail, see FAO report: “Study of the land tenure planning and management in the West Bank and Gaza Strip” for more details.

was on the settlement work in Area A, and B. However, since 2018, LWSC started working intensively in Area C following a legal study that they carried out. Accordingly, LWSC concluded that they have legal grounds for carrying on first registration in Area C as well. It needs to be noted that this decision was not welcomed from the Beit El (land registration department of the Israeli civil administration).

State land and related laws are also worth mentioning. They are vulnerable to land grabbing. In many cases farmers or urban landowners tend to cross the boundary of their own parcel when doing their agricultural activities or building a house. And when such illegal use of state land continues for 15 years, the land use can legally be converted into ownership. So, for the state it is important to have the state lands registered, including the boundaries. This is being done as part of the settlement procedure. A new project to deal with state land, especially focussed on agricultural use, is being prepared. On the other hand Area A does not contain much state land, although there is a need for land to support public services like schools. PLA advises the government to buy land in this area, when something is for sale. Expropriation is the ultimate option, but not popular among both politicians and citizens.

With regards to **financial** aspects, cost of registration is another challenge, especially for farmers. The cost for land registration which is calculated as a percentage of the land value. In general, it is 3% of the land value and in case of close relatives it is 1% of the land value. For the first registration (settlement work) the PLA fees is exempted by law. However, the local government insist on collecting survey and administrative fees as they decide upon. For settlement work, local government is directly involved, and some local governments sets higher fees that are difficult for citizens to pay. In short, there is no standard fee being charged for the settlement work. The registration fees to issue titles under the settlement work has been waived through a presidential decree. However there have been delays in PLA to issue the titles as the LGUs have requested that fees and charges for tax, water, and other services are paid before the title is issued.[20] This high fees demand is contradicting with the national objective of securing the land tenure for the citizens and the different fees for the same parcel area because it is located within different municipality cannot be justified.

In terms of land **data and processes**, it is necessary to consider developments at PLA, LWSC, and GDPT separately. At PLA, the ownership registration database is based on SQL server and it links to the GIS spatial Geo-Database based on the Parcel ID. A challenge of the database is the missing owner ID and this enables possible fraud attempts and/or mistakes in case of name similarities. The department has expressed the need for a project to record the owners ID in the database and ensure proper protection against land grapping. The SQL server database is populated through conversion of the ownership tables as received from the settlement authorities and through data entry of the old data

[20] Source: LWSC Plan to complete settlement surveys

records upon receiving new registration transactions. The survey department is responsible for maintaining the GIS spatial database and managing the maps. The department receives the digital survey maps resulted from the settlement work from the LWSC as AutoCAD file. They use ESRI-ArcGIS to process and convert the parcels and spatial layers into a personal Geo-Database and then convert this into QGIS to be used in the department GIS web system. The survey department also has the responsibility of the old maps in the archive. Currently a project for digitisation of the paper archives is going on. A special complication is that PLA does not possess documents concerning Area C. For the maps a workaround was found. The Jordanian cadastral authority supplies old maps of the West Bank for digitisation. Jordan possesses these documents from the period that the West Bank was under Jordanian rule. The registration transaction processing is managed through an in-house developed application named Computerized Land Registration System (CLRS). The system is developed based on a SQL server and .Net technology. However, the system is working on a local office level Database with data synchronized to the headquarter through a CD copy at the end of every day. Thus, there is one central database for the ownership on national level.

For LWSC, they work towards results for two main datasets i) the survey maps accurately mapping the parcels boundaries as per the field survey and; ii) the ownership tables listing the owners name, shares and when available ID number. These results are then transferred to PLA to be converted into their database system. LWSC provides private surveyors with all the raw data (maps, old data, value, ownership… without restrictions) which is saved and stored in LWSC and integrate it into the database. For the survey for land registration, LWCS tries to use private surveyors to speed up the process, however when the work doesn't meet the standard then LWSC stops the cooperation with that private surveyor. LWSC has a special team for the quality assessment. Issues were: the accuracy is not met; equipment was wrongly set up; or didn't finalise the drawing; or didn't measure the points correctly (+-1m).

GDPT uses the parcel information that is registered by PLA/LWSC, but this is just 35% of the properties. For the other part, GDPT collects their own valuation data. For each property the valuation data presents a subset of the data needed for a land administration system, however these data can be used as subset for the land titling processes.
In terms of **innovation**, within PLA, as mentioned, currently a project for digitisation of the paper archives is going on. Both the maps and the tables of rights and adhering source documents are being scanned and indexed. The project is working backwards in time. For the scanning, the year 2002 has been reached. Processing the scanned data in the GIS system has reached the year 2008. The process looks organised but involves a lot of manual actions.

Meanwhile, in an effort to speed up and enhance the settlement work, LWSC has acquired high resolution aerial photos (2018) for the West Bank. This enables the introduction of the Fit-For-Purpose Land Administration (FFP LA) approach in land registration where the

community could work together in mapping their land parcel on the photos and avoid the timely and costly process of field survey. This further allows a workaround for the settlement work in the sensitive areas (Area C). In order to further investigate the possibilities of the use of aerial photos with the FFP LA approach, the legal requirement for the parcels' boundaries definition needs to be reviewed. Additionally, LWSC has developed a website called : "My Settlement" (https://gis.lwsc.ps/) with the objective to use it for announcing the work of the settlement. Within LWSC offices, a banner is displayed for public awareness about the website. The citizens have the right to contact LWSC for getting access to the ownership tables in their area. However, the website displays a lot of information. It also offers possibilities of querying the database based on attributes. The website currently allows querying all the layers attributes and shows detailed information as shown below as an example. Having said that, the website is a valuable tool for analysing the land management within WBGS. However, its access should be regulated and monitored through users' privileges. For example, this map shown below demonstrate the distribution of the Israeli settlement within the West Bank with the help of the online GIS system of LWSC.

Within GDPT, the use of GIS is limited. At this moment they cooperate with GIZ to improve their GIS and related capacities. Personal data for taxation is available in the Palestine's persons register. This register is well organised and (partially) under control of the Israeli Authority.

With regards to **partnerships**, and use of **standards**, beyond those connections and linkages already mentioned between PLA, LWSC, and GDPT - the LWSC is keen to be connected with the Ministry of Interior as it has the official information about the persons stored in its database. Also, MoLG is using the same GIS system as LWSC. There they have a strong cooperation. MoLG is using the cooperation by using the same program - using the same data - and also updating the data. Further MoLG is providing all the offices also for the LWSC staff. MoLG appreciates the work of LWSC but raise its concerns that process probably are too quick. The plan by LWSC is tp be finished in 2022, which is welcomed by MoLG. GDPT is linked to the Ministry of Finance and is cooperating with several agencies at the central government level (amongst others the PLA and LWSC). However, GDPT has no cooperation with the Ministry of Local Government and the Palestinian government's policy is to decentralise parts of the taxation tasks from the central government to the local governments.

The administration of the Gaza Strip also presents a special challenge in terms of partnerships. Whilst it is legally under the Palestinian Territories, the PA has no control on the land management within the Gaza Strip. These complications means that for the senior management of land agencies it is not possible 'to come up with a holistic overview on the land management' in the territory, while for citizens it means complexities in dealing with land as they search for the right agency to contact for processing their land transactions.

In terms of **awareness and advocacy**, there are several points to make. First, the registration of Area C is perhaps the most significant challenge. Whilst 63% of Palestine is agricultural land, 90% of that agricultural land is located in Area C. Additionally, farmers mostly live in Area B, but their farmland is in Area C. Moreover, most Palestinian citizens are outside of the country and it is hard to get in contact with them and to submit a tenure registration application. LWSC started to use social media to reach out e.g. through making a campaign announcement with settlement - whoever has some property should get involved and get their properties known to the authorities. So, whenever they have a settlement order, LWSC announce the settlement order in all offices all over the world e.g. in the village next to Ramallah - most of the people are living in Chicago (US). Hence, LWSC started awareness campaigns in Chicago. Because of these efforts the whole village is completely registered. LWSC is conducting a social study in each village (wherever they have the settlement order) in order to find out where people are currently living. The registration can be done by a representative (by lawyer or family representative using power of attorney). Most importantly, LWSC is using the local 'know how' technology (old people) and in each village they make a committee of the old people (the oldest) and they have all the knowledge of all the people-to-land-relationships. That committee is essential. In the cities this process cannot be done at once. There they are organising the work in zones and also the municipality plays a crucial part there. The municipality supports the LWSC to identify the right people (e.g. in Bethlehem one person is essential as this person knows everything). Further making use of the knowledge of the farmers who are working in these areas since decades. Participation varies from 40-90%. Making use of the (social) media plays a crucial role in reaching the people e.g. for those who are living in Golf area. They have a page on Facebook - and there everybody can connect. Also, their ArcGIS system is often used, which is explained below.

The work of UAWC (Union of Agricultural Work Committee) is worth noting since they are working at the middle level, they are working directly with local work committees. These committees are acting as mediators who are trained very well on (e.g. how to do assessments, trainings on how to use the seeds, and trainings on financial management). All over Palestine different committees are set up. Many committee members are mixed gender, many if not all of them involve women and are working very hard. In some areas some local committees are just run by women. In comparison of the committees which are set up from LWSC - UAWC committees are different: youth, old, women and men are involved in order to reflect all different backgrounds who are working for the agricultural sector.

In terms of **capacity and education**, not all aspects can be covered within the scope of this work. However, several issues are discussed. First, recognition of women's land ownership and access is a major issue. It is suggested that 60% of farmers (workers in the land) are women and that at least 80% of the food is produced by the women. However, they generally merely work on the agricultural land which a man receives, for example through

inheritance. The challenge in Palestine is similar to other neighbouring Arabic countries, where there is a social norm that the land belongs to the men. In inheritance processes, the family expects the women to sell their land (or in some extreme cases give it up) to their male relatives so that the land remains with the male members of the family. This represents a major challenge in breaking this social norm so that female members of the family, asking for their rights in their inherited land/properties, are not perceived in any way as demeaning their male members respect or appreciations.

The need for better recognition of the Bedouins is also a special case. They use the land but do not own the land, and this brings social problems. They suffer from several land related threats. The Khan Al-Ahmar village is an example of this[21]. Based on a UN-OCHAA study, 160,000 people belong to the Bedouin community**.** In the West Bank there are around 5% Bedouins, mainly working with livestock. Further land awareness for 114 Bedouin communities is needed- from south to north.

In **summary**, all the above ultimately results in the unsatisfactory land tenure status and land relates services for citizens. Some of these issues are intended to be dealt with by the World Bank's US$12.6 million 4-year West Bank and Gaza Real Estate Registration Project. It seeks to advance registration of properties making, making use of the private sector, and support the automation of the real estate registration system and related services for citizens and businesses. The Netherlands will seek to align work with the World Bank programme and continue to work to build dialogue between the diversity of land agencies involved in land registration and management. Meanwhile, FAO in its report is also pushing for awareness raising and update of the VGGTs across PA[22].

7. Discussion and Conclusions

The MENA region, whilst criticised conceptually, constitutes a crucial area with regards to further global sustainability and peace. Land issues sit at the heard of many of the challenges in the region – both at local and inter-country level – and consequently land administration systems in MENA countries demand attention. A proven strategy for enhancing and renewing those systems is inspiring and enabling regional collaboration between land sector actors in those countries – via networks.

[21] More information can be read in this article: Khan al-Ahmar: Israel court approves demolition of Bedouin village "https://www.bbc.com/news/world-middle-east-45420915"

[22] See FAO study: 'Status of Land Tenure, Use Planning and Management in the West Bank and Gaza Strip' in which land tenure insecurity and capacity are clearly mentioned as an issue.

The work underpinning this paper shows that despite ongoing instability and post-conflict contexts, and clear differences between national land administration systems, there are many common problems and opportunities within legacy land administration. These include fragmented or overly complex governance arrangements; equally complex legal frameworks in terms of overlapping agency mandates, contradicting procedures, heavy documentary requirements, and that do no recognize and project the land rights of the vulnerable (specifically women); financial models where gains from land registration are not used to improve the land administration system (and thereby donor support is needed); incomplete datasets in terms of coverage and temporal accuracy; innovation that is contingent on projects and donor support, rather than being embedded into day-to-day business; a lack of standard processes and data standards between agencies and that align with international standards; high barriers between agencies that scuttle partnership opportunities; limited awareness (but increasing advocacy) of the importance of protecting State lands, enhancing women's rights, and protecting vulnerable communities; and often ageing work forces that threaten the land agencies in terms of longer-term capacity and education.

However, despite the challenges, there is reason for optimism: amongst senior land sector managers and land administrators good will can be observed and this can be built upon and supported by the global land community – to support the delivery of effective land administration systems, and land tenure security in those country contexts.

Acknowledgements

The authors would like to thank the support of land agencies in Egypt (Samir El Rouby), Lebanon, and the Palestinian Territies. Additionally, thanks to Kadaster Netherlands and esri Northeastern Africa for the support in developing this work. In addition, we would like to acknowledge the ongoing efforts of Willi Zimmerman and UN-Habitat/GLTN to promote land tenure security initiatives in the MENA region. We would also like to acknowledge that this manuscript was originally prepared for the 2020 World Bank Conference on Land and Poverty that was subsequently cancelled due to the covid19 pandemic.

References[23]

[23] References are provided in footnotes on each page.