



Responsible Land Governance: Towards an Evidence Based Approach

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MOZAMBIQUE PARTICIPATORY FIT FOR PURPOSE MASSIVE LAND REGISTRATION

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Abstract

It is now twenty years since a new land law was enacted in Mozambique, after 16 years of civil war. The new law establishes that the state recognizes community and individual rights acquired through customary and good-faith occupation, although no provision was made for the registration of such occupation. Historical, political, economic and social context at the time of the law enactment determined the land cadastre and administration system was based on a demand and case by case basis.

The development in the last two decades has prompted the need to systematically register and map land occupation, to secure the occupants rights, to avoid conflicts and to promote efficient land use, and development.

Mozambique has approximately 4 to 5 million households in rural areas and some 4 to 5 thousand communities congregating more than 8 thousand villages without land rights registration and land management guidance, both in rural and peri-urban areas. A massive effort is required to build the national cadastre based upon a short-time first-registration to a point where it becomes meaningful for social harmony and sustainable development, as well as for business decisions.

The problem being addressed is the creation of an efficient land administration. We claim that the best approximation is achieved through a standards-based participatory and all-inclusive bottom-up cadastre and land management. This paper discusses the main features believed to be critical for this massive Land Tenure Regularization in view of the experience of the last five years in constructing the national land cadastre and how they can be implemented through participatory and de-centralized land administration, under a Mozambican FFP approach, using any means available, including crowdsourcing data acquisition for which quality controls need to be put in place.

Key Words:

Community Participation, Crowdsourcing Land Cadastre, Fit-For-Purpose Land Administration, Land Tenure, Tenure Security.



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1. Context

Mozambique is one of the countries where significant changes to the land law occurred in the 90s. The effort took into account the historic, cultural and economic backgrounds of the country, establishing legal provisions that valued the recognition of occupation rights, customary and use rights (good faith), as well as promoting the effective use of land as a resource for wealth creation. Another form of acquiring land rights is based on specific authorization with community involvement in the consultation process. The latter is a smaller proportion of all other types of occupations, being more than 95% those of good-faith and customary practices.

It should be noted that some provisions of the current land law, specifically the concept of communities and their rights, community public domain, and community consultation and participation, were adopted in the revision of the constitution that occurred in 2004, and the concept of common and security of tenure became present in all related legislation (mining law from 2002 and 2014, environmental law (1997 and respective bylaws, land planning law from 2007, among others).

There are still some inconsistencies in various laws dealing with main functions of land administration as proposed by Williamson et al., (2009): land tenure, land valuation, land use and land development, and an alignment between land legislation and overall development policy is needed to conform to the new national, regional and global realities. This process is taking and will certainly take more time, and even now asymmetric information is resulting in local level re-arrangements with loss of rights for some, which brew renewed social discontent and potentially new conflicts both at local and national levels.

Conflict situations are usually caused by boundary disputes or land rights disputes. Most intra-community conflicts are resolved by local mediation and justice administration bodies. When conflicts involve entities external to the community, or when dealing with conflicts between communities, state intervention is required. In these cases, in addition to testimonial evidence, there has been an advantage in the existence of documentary evidence. Therefore, the existence of a document proving the ownership of the rights and the respective boundaries of spatial units or land parcels, for all tenants, is of vital importance.

Based on examples drawn from experience, and from the expropriation processes associated with the creation of public infrastructures, it is recognized that the cadastral registration of land occupations



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facilitates, on the one hand, the protection of customary or occupation land rights and, on the other hand, the acquisition of rights by authorization.

By recognizing this need, the Government of Mozambique launched a five year, nation-wide program to promote Land Tenure Security. The purpose of this massive land registration is to provide its own citizens (individual or collective persons and communities) with security of tenure and useful information for their economic and social life, to provide the State with information for proper decision-making and greater tax collection, and possibly to improve the future conditions of land administration.

Having that in mind, the question then would be: "how can 5 million parcels and respective rights be massively register, country-wide, in a relatively short period, and in a cost-effective manner?". This question can hardly be answered without involving the active participation of communities, both for legal compliance and for a matter of feasibility of the entire endeavor.

2. The Fit-for-Purpose Land Administration Guidelines

Up to 2010, the National Land Cadastre had a maximum of 50 thousand land parcels registered in a paper based cadastre, and circa 700 communities were recognized. In 2012, under the Millennium Challenge Corporation Land Tenure Regularization Program, a Land Information Management System (LIMS/SiGIT) was developed and implemented. Parallel to this effort, circa 200 thousand parcels were registered and regularized, mostly in urban areas, and inserted into the LIMS land cadastre. These registrations cost around 20 USD/parcel. Additional to these parcels, 60 thousand more were converted from historical paper data into the LIMS, although some these parcels still require additional data to fully integrate the land cadastre. By the end of 2016, under the "Terra Segura" program, launched in April 2015, targeting the registration of 5 million parcels and 4 thousand communities in 5 years, a total of 220 thousand parcels were registered in rural areas, at an approximate cost of 50 USD per parcel.

At this pace and with these costs, the targets will not be met, and more importantly, security of tenure will not be reached for all as it would be difficult to regularize the 5 million parcels and delimited the 4 thousand communities as intended.



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New solutions in land administration are required that can deliver security of tenure for all, are affordable and can be quickly developed and incrementally improved over time. The Fit-For-Purpose (FFP) approach to land administration has emerged to meet these simple, but challenging requirements. This FFP approach has been recognized and supported by the International Federation of Surveyors FIG and by the World Bank and is described in a joint FIG and World Bank publication (FIG/WB, 2014). UN-Habitat/Global Land Tool Network (GLTN) decided to elaborate this approach further by initiating a project in cooperation with Dutch Kadaster on developing a Guide for Fit-For-Purpose Land Administration in collaboration with key partners. This guide (Enemark et al., 2015) underpins the GLTN land tool development activities and enables implementation of sustainable land administration systems in less developed countries at scale.

Enemark et al. (2016) describe the key principles for building sustainable and Fit-For-Purpose (FFP) land administration systems. The FFP approach has three fundamental characteristics. Firstly, there is a focus on the purpose and then how to design the means for achieving it as well as possible; secondly, it requires flexibility in designing the means to meet the current constraints; and, thirdly, it emphasizes the perspective of incremental improvement to provide continuity. Enemark et al. further describe the three core components of the FFP concept: the spatial, the legal, and the institutional frameworks. Each of these components includes the relevant flexibility to meet the actual needs of today and can be incrementally improved over time in response to societal needs and available financial resources.

McLaren et al. (2016) describe the approaches and issues associated with implementing FFP land administration, including change management, capacity development and project delivery.

“Making the Fit-For-Purpose Approach work” should be linked to a focus of implementation in providing secure land rights for all. This is strongly related to the recognition of the continuum of land rights (UN Habitat, 2008). Implementation of the FFP approach means to ‘recognise’, ‘record’ and ‘review’ land rights. ‘Recognise’ involves a procedure for recognition, classification and development of a typology in land rights on the basis of an assessment of existing legitimate rights at the country level. ‘Record’ means collecting data on evidence of land rights based on FFP approaches in land administration following the FFP principles as introduced in Enemark et al. (2015) and Enemark et al. (2016) for building the spatial framework. ‘Review (Conversion)’ means assessing the evidence of rights and any possible outstanding claims and when conditions are met, the security of the rights will be increased.

The FFP approach, is flexible in terms of accuracy and also in relation to the variety of tenure types to be secured. Different authorities have different responsibilities in the process of recognition,



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recording, registering and managing the various tenure types within different areas such as urban and rural. Therefore, at national level coordination is suggested. Further it is recommended that the National Tenure Atlas be up-to-date for providing an overview of the spatial distribution of legitimate tenure types across a country, e.g. areas of customary tenure, areas of informal tenure, areas of private ownership, state land, etc. This will help to define zoning for better manage natural resources, identify where a land market can exist and enable administration and coordination between state and customary authorities through co-management. The Land Administration Domain Model is recommended. This Model allows modelling and managing the complex tenures or relationships between people and land found within legitimate rights.

By its own nature, such an approach would also mean fit-for-future, as it can always be updated and improved in precision of information, reliability of data and technical accuracy.

2.1. Criteria satisfied by the FFP approach

- **Adequate accuracy for public and community lands**

The FFP approach is about flexibility in terms of demands for accuracy in relation to the wide variety of tenure types to be secured in Mozambique. This includes public lands and protected areas, usually large areas. In other words: the scale and accuracy should be sufficient for securing the various kinds of legal rights and tenure forms recognized through the legal framework in the country. The areas where customary or occupation land rights apply should be identified, many of the boundaries are visible boundaries that can be identified as such. Other boundaries are fuzzy or even dynamic (e.g. rivers). Visible, fuzzy and dynamic boundaries should not be fixed by monuments or beacons. Monumentation is a time consuming and it delays the process of land administration and with that it delays the availability of a nationwide, complete overview of people to land relationships.

- **Adequate Accuracy for individual land parcels**

Accuracy relates to the purpose rather than technical standards. It should be sufficient to bring tenure security. Most boundaries have a low intrinsic accuracy. Regulations are flexible to accommodate a range of methods to measure and record spatial unit boundaries, including identifying visible boundaries on imagery. However, land rights acquired by authorizations require formal demarcations with a higher accuracy and therefore should pay for it. These are not considered under the good-faith and customary right occupations.



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- **Universality or inclusiveness**

The Social Tenure Domain Model (FIG/GLTN, 2010) should be applied, which provides a standard for representing the people to land relationships independent of the level of formality, legality and technical accuracy. This STDM is a specialization of and thus included in the Land Administration Domain Model which is already applied in Mozambique. All legal and legitimate rights should be recognized and recorded. Criminal activities as illegal land grabbing should be excluded. Areas with conflicts or within protected areas should be recorded for further action. For this reason it is important to get a nationwide overview as quick as possible – from that moment human activities can be easily identified with satellite imagery and checked on legality in the field.

The entire process of land registrations and regularizations should cover all the land and must take into consideration the fact that there are already existing parcels in the land cadastre and that these should be visible to avoid parcel overlaps. One issue to consider could be the update of information with regards to these parcels as a cost-effective manner to do so since economies of scale play in this activity.

- **Participation of citizens**

The FFP is participatory in its nature. Existing legislation already demands this and the RDUAT/DelCOM methodology pays a substantial attention to this matter. This participatory process of adjudication should be managed by locally trained land officers acting as trusted intermediaries while the land professionals (surveyors) should manage the overall process of building the spatial framework. In this way, a nationwide coverage could be achieved in a relatively short and cost-effective manner. The participation should be organized in such a way that women and vulnerable groups are thoroughly included, not only to have their rights recognized and recorded but also to promote their full citizenship.

- **Reliability**

The FFP approach is an integrated approach with a focus on properly linked spatial and administrative data. This means that the people to land representation in the system will be of a high quality. Community participation right from the beginning, with a solid social preparation, will enhance the reliability of the entire process. The history of each parcel within a community boundary is known to the community members and their participation in the data collection process increases data quality and reliability.

- **Update or ability to be updated**

Demands for updating and opportunity for upgrading and ongoing improvement is one of the principles in the FFP approach.



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Building the spatial framework in a FFP Land Administration should be seen in the context of opportunities for ongoing updating, sporadic upgrading and incremental improvement whenever relevant or necessary for fulfilling land policy aims and objectives. This requires that all mapping and surveys are linked to a national grid system (such as MozNet) through a positioning infrastructure based on the Global Navigation Satellite System (GNSS) and fed into SiGIT as an instrument of the National Land Cadastre. See (GLTN/UNHabitat/Kadaster, 2016). The issues of updating and maintenance refer to the need for registers to be trustable and reflecting the actual spatial and legal/legitimate situation, while upgrading relates to improving the accuracy for specific purposes or more generally in relation to meeting societal needs. Appropriate processes should be in place, preferably at the community level, to ignite the required updates when they occur.

2.2. Criteria satisfied by the FFP approach, but not yet legislated

- **Gradually increased accuracy**

The gradually increased accuracy is one of the principle approaches in FFP Land Administration. First completeness with reliable representation of people to land relations then improved accuracy where needed. The current manuals and field guides do not provide for gradual increased accuracy. This needs to be accommodated in the methodology and related artifacts, as well as legislation if and where applicable.

- **Possibility of local land administration**

The FFP approach includes both top-down and bottom-up approaches. See *Figure 1* based on in (GLTN/UNHabitat/Kadaster, 2016). The ‘column’ to the left represents the local approach, the column in the middle the national approach. Finally all data are integrated in a national system.

- **Possibility of other forms of documentation - in addition to DUATs and Certificates**

This is supported by LADM and STDM as recommended in the FFP approach. SiGIT is prepared to issue provisional and definitive titles for cases of rights acquired through authorization. For cases of rights recognized with due to good-faith or customary practice occupations, the system is only prepared to issue definitive titles and requirements for spatial data recordation are the same as the ones for a formal demarcation. Our proposal is that these requirements could be reviewed and specific land tenure



documents be issued, specifically for LTR processes. This would allow future update of data with more accurate spatial information if and when needed.

3. Participation of Citizens

In current legislation, community consultation is an imperative for the land registration process. The Land Tenure Regularization (LTR or RDUAT in Portuguese) and Community Delimitation (DelCOM) Fit-For-Purpose Methodology requires that communities participate in the collection of data and respective validation (Balas et al., 2016).

This is very important as it not only increases community ownership of the registration process but also increases the reliability of the data that is provided. To ensure a full understanding by community members and a better participation, communities must be prepared. This includes explaining the benefits of the registration and delimitation processes, the rights and duties contemplated in the land law, gender equity, conflict resolution amongst other subjects important for the purpose. One of the main important aspects is the validation of all collected data by the community itself, as data from registered parcels and delimited communities are published in edicts posted in communities and local administration public areas for validation, and it is up to community members to validate the data.

The practice and experimentation support the need for public participation to ensure the completeness, up-datedness, accuracy and sustainability of a decentralized land administration approach, which is provided for by the legal instruments. We believe that the involvement of communities must go beyond mere support to data collection and validation.

Experience from the past 5 years illustrate that the data collection process can be slow and costly, compromising the results. On average, in a family of 2 co-title holders, the alphanumeric data collection time can be up to 15 minutes, involving a large number of people, from the inquirer, the surveyor, the sensitizer, most of them external to the community, which increases the cost per registration. Our belief is that most of these activities can be performed by community members with the support of 1 or 2 external people. This would lower the current costs (around 50 USD per regularization) and speed up the massive registration in general as communities would be doing the work within their boundaries at their own pace. It would also create the conditions for a cadastre maintenance based on community feeds.

However beautiful these ideas can be, they can only bring satisfactory results if the conditions for their implementation are made available. Such public participation, to be effective and useful in the



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overarching mission to construct a democratic and citizen-centered land administration, must be based, at least, on: (a) standards, applicable for urban and rural areas; (b) knowledge, through inclusive education, training and information sharing; (c) technology in the right balance in view of the existing practices, access, skills and knowledge available at community level, as well as the existing infrastructure and access hitherto; and (d) logistics. Furthermore, these aspects can only be effective if a (e) strong leadership is in place, with appropriate management systems.

First, current technical standards should be reviewed to levels that are enough to meet current needs, but also can be later completed and adjusted. This implies a standard on data structure, on accuracy and precision of geographical and alphanumeric data. Standards should also be expanded to include the performance of surveys to assess customer satisfaction.

Second, knowledge is a precondition for effective participation. This is to be raised through minimum requirements on information and about existing laws, environment and physical planning legislation, and basic concepts and skills of map handling. The immediate and long-term implications of its implementation for family life and business decision making must also be known. All media available – meetings, dedicated school classes and presentation over the radio and TV, drama, leaflets, social networks, among them – should be used to spread information and knowledge. A communications and state-citizen connection plan must be set. This is highly important and the RDUAT/DelCOM methodology specifically indicates that such a plan is mandatory before any work is started, and it should be disseminated at all levels.

Third, technology to be acquired, adapted, distributed, networked and supported, include imagery, user-friendly software incorporating the validated results of the pilots undertaken so far. Levels of aggregation and provincial and national laboratories are to be set, staffed, equipped and maintained at adequate service levels. Rules for integration and quality control of field data collection into the community, district, provincial and national land cadastre must also be set and subject of massive open online and in situ training of interested and potential power-users, including school masters, paralegals, and the Community Committees for Natural Resources Management. This is what we call the ability of using the community members to populate the land cadastre with their own data, what we defined community-based crowdsourcing. Technology can also be made available and suitable for communities to update and maintain their cadastre. Online services can also be utilized for citizens to access the land administration services and submit new requests with regards to their land parcels.



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Fourth, logistics have proved to be a crucial part of the endeavor and should be based on a processes management approach. Resources are to moved, maps and equipment are to be acquired, printed and distributed, training must be timely organized in venues and with the appropriate staff. The existing sector logistics capacity is limited. A collaboration mindset and structure should involve municipalities and local governments, as well as other public administration institutions namely those with logistic capacity dealing with population census (INE) and cartography (CENACARTA, Mineral Resources Cadastre), schools, private surveyors and ICT and mobile telephony operators and managers. Civil society organizations while having their own agendas, must also be invited to join along all the phases.

Finally, such a complex combination of stakeholders, tools and infrastructure require that skilled leaders, managers and supervisors are identified, duly and timely trained and appointed.

The remaining of this document will detail further these aspects as the authors believe they constitute the pillars for the this proposed approach for the massive land tenure regularization.

4. The Five Pillars For Participatory Land Cadastre

4.1. Standards

Up to 2015, different methodologies existed both for individual regularizations (RDUAT) and DelCOM. Community Delimitations were done based on a technical document, known as "technical annex". This document has its advantages and limitations. With the challenges imposed by the "Terra Segura" program, a new methodology had to be developed, fit for the program, with specific objectives:

1. Design harmonized working processes for community delimitations and individual land tenure regularizations. Integrate management processes within the methodology;
2. Include the guidelines for a FFP approach to Land Administration;
3. Establish standards for managing and executing all proposed activities under the methodology, with details for implementing, measuring and enhancing processes;
4. Assess necessary capacity to execute all processes;
5. Disseminate the information to all levels (central, provincial, district and community);
6. Create mechanisms to evaluate performance at all levels.

The creation of standards ensures uniform ways of working, collecting and processing data becomes a norm, ensuring more error free, accurate, and time saving cadastral information on land use. This also



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ensures that monitoring and control activities can be better executed, with specific measuring mechanisms, enhancing the overall management of the activities and creating the possibility to improve.

This however may pose some constraints as new methods are proposed, new processes are designed and challenges are imposed to improve and achieve more with less resources and a limited time frame: resistance to change still remains a serious threat to most innovation proposals. This issue must be carefully analyzed if these innovations are to be implemented. This methodology, although it considers that work can still be done in its traditional variant, it also suggests that one must think outside the box and embrace more innovative and modern solutions. A good example of this is the proposal to capture spatial information based on mobile technology and utilizing images to draw parcels. Another example would be the community-based crowdsourcing as a way to register the 5 million parcels and delimitate the 4 thousand communities that the "Terra Segura" program intends to. This might be considered a true sin for certain professionals that see traditional way of doing the work as the only and correct way and might consider that the data being collected and processed in a different manner will not have adequate quality and therefore mistrust the entire process.

The only way to overcome resistance is to explain the benefits and train people for these new methods of work, illustrating the benefits of embracing challenging alternatives.

4.2. Knowledge and Awareness

Previous and current initiatives and programs of land tenure regularization have regularly included a communication and awareness component. The general purpose is to ensure free, prior and informed consent and participation. This stems both from the obligation of consultation enshrined in the legislation, and the understanding that closing the gap of asymmetry of information results in a good participation, the acquisition of more complete and accurate information for the records and conflict prevention to the benefits of the target groups – in this case communities and good faith occupants – and to the benefit of the state and land management bodies at various levels.

All layers of the community are expected to participate. This involves different messages and levels of information to different target groups (HTSPE-VA, 2013:12-23). The communication and awareness components usually include the public, women and vulnerable groups and land administration officers and local leaders. For all, a communication and awareness compounded with their participation, envisage the provision of information about the laws and by-laws, the importance of consultation and participation



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and their rights and duties, and the limits of such rights and duties. This is also a major focus of Central Statistics Offices in their day-to-day activities and campaigns.

However, understanding the knowledge basis of some articles of law and their implications is required to achieve a successful massive land first-registration. That goes beyond public awareness. Those participating in data acquisition need to have training on the functioning of the systems, a good command of map-reading and manipulation, enquiry techniques and the operation of the hardware and software involved, as well as techniques to ensure data quality and reliability. When this is not done, a high level of rejection of records is the result, which was seen in at least one test – in Mopeia (Balas, 2016a).

At a higher level, new content is needed to equip the system to develop, update and upgrade the standards, the technology and even to contribute to the legal and institutional framework. They need to have knowledge: (i) on the relationship between the purpose and the set of standards to enforce; (ii) of the methods to assess and improve the land management functions at community, district, provincial and national level; (iii) of experiences from other countries; (iv) on the dynamic of tenure typologies, land use and development; (v) on the complexities related to multiple tenure and use rights and tenants. At this level, it is also important to understand that cadastre and resources administration are only a part of a broader duty of the state to enable good governance.

Thus, participation effectiveness can be improved if the massive land registration is done along with a public communication, officers training and managers education plan for various players and layers of the society, with adequate level of detail, resources and flexibility to be implemented along with other field activities.

4.3. Information and Communication Technology (ICT)

Several attempts were made to develop a LAS/LIS using the traditional and conventional approach of surveyor provided cadastre. The current capacity is insufficient and renders this traditional and conventional approach utterly incapable of promoting the change needed.

With the advances of ICT, although in Mozambique at a slower pace, it is possible to take advantages of this tools and enhance the communication mechanisms, create tools that increase the quality controls based on the defined standards, ensure a faster processing of data and consequently reduce the overall time and cost of doing RDUAT and DelCOM.



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In the last five years, a more mature LAS/LIS (called SiGIT) is being used, supported and expanded; the technology has evolved to allow expedite remote and reasonably accurate data acquisition for a wide range of requirements; several studies and field pilot exercises were undertaken to test and validate such technologies with hard evidence; and advances in communication and local-central linkages are being made (Balas, 2016). There is therefore the need to capitalize the investments already made, and ensure that new investments are made for the future. An incremental approach is recommended although the phasing and pace of new investments should not compromise the operation currently being run.

4.4. Logistics

A massive FFP land registration requires attention to logistics. While this is a regular function of management, the sheer breath and scale of such endeavor, logistics deserves to be treated separately.

The Land Tenure Security Program is expected to cover 106 districts, with 190 administrative posts and 530 localities. The estimated number of communities is of 4 to 5 thousand. These communities have a leadership involving 5-6 members. There are also some 1200 paralegals and approximately 1000 Community Committees for Natural Resources Management. This will result in a total of some 20.000 – 25.000 people who will need to benefit directly from awareness-raising activities, and it can be estimated that some will qualify for specific training in data acquisition.

The logistics involved may be distributed, based on standard or minimum specifications.

To adequately manage the processes, an information and management protocol has to be developed, so as the available resources are known all along the program, in terms of place and time. This is essential to ensure that field activities are undertaken smoothly. Trainers, trainees and supervisors need to be known and some will require access codes to operate the software for the acquisition, validation and upload of data. The public communication and training material need to be developed, printed and distributed. Maps and imagery with the adequate resolution will need to be procured, acquired, geographically corrected and uploaded by the time of local training; edictals (public notices) which include processed local imagery, will also need to be printed and sent to the communities to support the participation in reviewing the reliability and grievances settlement process. Current experience shows that major IT infrastructure, at central, provincial and district level require an intensive assistance to allow that the activities undertaken at community level are stored, processed and devolved without glitches. Some manuals and guidelines cannot be online only, and also need to be printed and distributed.



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It would be of great advantage if such logistical activities benefit from the experience of the Census Bureau, which is preparing the national census and regularly undertake surveys covering the districts included in the program.

4.5. Management and Leadership for performance

In today's world any organization may be considered a complex entity. Both management and informed and knowledgeable leadership skills are required to create and make these organizations successful. This is true for the private as well for the public sector.

In our days, society economic successes in advanced economies resulted from a fundamental change in how organizations are created and run. We see a lot of initiatives being implemented just because someone learned some modern technical skills, which are being applied successfully somewhere to solve certain types of problems. But we must not forget that these skills need to be part of an organizational system, and part of its capabilities, i.e. what it really can do and deliver.

To be successful, any organization needs to be designed in response to the defined purpose and environmental and internal operating conditions. Every initiative needs to be properly framed within its organizational system, contemplating the key elements of the environment, the customers' requirements, the sponsors and investors interests, the competitors – also applicable in the public sector, the suppliers of various products and services for the core operation, and the design of the operation itself contemplating the organizational structure and the business processes end to end, from request to deliver of the product or service. These same concepts are applicable to complete organizations, or to a department, or when business wants to initiate a new business.

When someone executes a task he/she must have a good understanding of the required performance if the defined targets for the process under execution are to be satisfied. At the process level, all core processes should achieve their targets for the organization to achieve its goals and objectives.

We may understand that long term existence, period term results and daily deliveries need to be managed by managers with different preoccupations in mind. The strategic managers should be dedicated to manage how effective its organization is, managing the business cycle from the time of design of the organization for the purpose in mind to the time of annual or multiannual results.



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The process and function managers should be dedicated to the performance of the established capabilities improving the results after the execution of each process or task. These managers care about the efficiency of the business.

Customers and Owners and Sponsors are the ones that ultimately should evaluate how well the organization is doing and accountability mechanisms should work to motivate for better results.

A leader that does not have a good understanding of these paradigms of modern organization management will have difficulties in delivering as expected, from its design to manage its performance at the different levels – task, process and organization.

It is not enough to spell the goals and objectives and the overall strategy. One may also define the organizational hierarchical structure, but without a good design of the operation and its business processes, it will be very difficult to define and implement the real capabilities that the envisioned business requires, and from there to lead the construction of that organization.

So leadership is not only to define objectives and a general direction. One must be prepared to understand the complexities of forming and managing the evolution of an organization in response to its purpose and the internal and external conditions. One must understand how to manage performance at his/her level of management.

More experienced and well prepared individuals need to be identified and motivated to play the role of champions. Appropriate training and coaching from experts and consultants of the market will also be required. We can understand that professional experts will become suppliers of services to help the organization along its journey for a mature operation and excellence. The organization may have to choose what parts it will be able to execute immediately and which ones it should buy from outside as it gains these competences and capabilities.

In terms of networking, one very powerful mechanism to create synergies and in a way, share among all the existing or learn knowledge should be the creation of “communities of practice”, today much facilitated through powerful and cheap communication technologies. These should be organized bodies with purpose and well defined practices and norms in order to achieve the end in mind. The world is full



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of success stories resulted from these practices. These could be established to collaborate not only at the level of technical expertise but also for the managerial skills spelled in general in previous paragraphs.

In the public-sector case, other aspects need due consideration, as there is the law, and no innovation can be implemented if it does not abide to the current laws. This means managers and other participants need to be well aware of this and include specific work to review the law, engaging influential politicians, government agents and law makers, if that is mandatory for the desired and valuable innovations.

5. Conclusions

The land tenure regularization programs being currently implemented imply affordable and purposeful knowledge of the rights, value, use and improvements attached to any parcel of land anywhere, anytime, as well as the power to promptly recognize, adjust, update, complete and correct the records in response to the citizen's interests, social and business needs and capacity, either individually or collectively.

Cadastre and land administration is developed with a view to improve the life and predictability of people and nations. It is to be as simple as possible to the citizen and as complete as needed by the state.

The 5 pillars proposed in this document come as a response challenge to the existing constraints, inviting all stakeholders to think out of the box and create innovative ways to achieve the goals that have been established.

Imagine having, within the next five years, Mozambican communities where all citizens are informed and make informed decisions on land rights, land value, land use and land development, where schools have local maps exhibited, along with national and global maps, prepared to manage land and natural resources in an environment from rural to urban and their everchanging interactions.

Imagine a system that combines communal and collective rights with those of all individuals, in their diversity. Imagine local systems simple enough to be maintained and regularly synchronised into a national inclusive and efficient land and real estate ("Registo Predial") cadastre.

This is the vision we tried to contribute to convert this endeavor into a successful experience, a reference for future work.



6. References

Balas, M., Carrilho, J., Murta, J., Pascoal, T., Queface, D., Carimo, R. Pinheiro, A., Tualufo, J., *Secured Land Tenure Program In Mozambique - A Fit For Purpose Approach*, 2016, World Bank Conference on Land and Poverty, The World Bank - Washington DC, March 14-18, 2016

Balas, M., 2016, *National Land Cadastre in Mozambique - SiGIT as a lever to success*, FIG Commission 7 Conference on Cadastre 4.0, 24-28 October, Coimbra Portugal

Enemark, S.; Bell, K.; Lemmen, C.; McLaren, R., 2014, *Fit-For-Purpose Land Administration*, joint FIG/World Bank publication. FIG Guide 2014. ISBN 978-87-92853-10-3. International Federation of Surveyors, Copenhagen, Denmark

Enemark, S.; Clifford, K.; Lemmen, C.; McLaren, R., 2016, *Fit-For-Purpose Land Administration - Guiding Principles for Country Implementation*. FIG/World Bank.

Enemark, S., McLaren, R. and Lemmen, C.H.J. (2016): *Scaling Up Responsible Land Governance: Guiding Principles For Building Fit-For-Purpose Land Administration Systems In Developing Countries*. 2016 World Bank Conference on Land and Poverty, The World Bank - Washington DC, March 14-18, 2016

FIG/WB, (2014): *Fit-For-Purpose Land Administration*. FIG Publications No 60, FIG Office, Copenhagen. <http://www.fig.net/pub/figpub/pub60/figpub60.htm>

GLTN/UN-HABITAT/Kadaster (2016): *Fit-For-Purpose Land Administration: Guiding Principles for Country Implementation*. Nairobi, Kenya 120pp. <http://www.gltn.net/index.php/publications/publications/publications-list/send/2-gltndocuments/2332-fit-for-purpose-land-administration-guiding-principles-for-countryimplementation>

HTSPE-VA, 2013, *Provision of Long and Short Term Consultancy and Technical Assistance Services to the MCA (Mozambique) Land Component (May 2009 – August 2013). Final Report*. Ministry of Agriculture/DNTF, Mozambique, 2013

Lemmen, C.H.J., Enemark, S., McLaren, R., Antonio, D., Gitau, J., Dijkstra, P. and De Zeeuw, C.J. (2016), *Guiding Principles for Building Fit-For-Purpose Land Administration Systems in Less Developed*



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Countries: Providing Secure Tenure for All. 2016 World Bank Conference on Land and Poverty, TheWorld Bank – Washington DC, March 14-18, 2016

McLaren, R., Enemark, S. and Lemmen, C.H.J. (2016): *Guiding Principles For Building Fit-For-Purpose Land Administration Systems in Developing Countries: Capacity Development, Change Management and Project Delivery.* 2016 World Bank Conference on Land and Poverty, The World Bank – Washington DC, March 14-18, 2016

McLaren, R., 2016, *Crowdsourcing Land Rights*, FIG Commission 7 Conference on Cadastre 4.0, 24-28 October, Coimbra Portugal.

RICS., 2011, *Crowdsourcing support on land administration. A new, collaborative partnership between citizens and land professionals* . RICS Research.

UN 2030 Millennium Sustainable Development Goals, UN Agenda for Sustainable Development, <https://sustainabledevelopment.un.org>. UN.

UN-HABITAT, (2008). *Secure land rights for all.* Nairobi, Kenya, United Nations Human Settlements Programme: 40 p.

Williamson, I.; Enemark, S.; Wallace, J.; Rajabifard, A. , 2009, *Land Administration for Sustainable Development*, ESRI Press Academic

7. List of Figures

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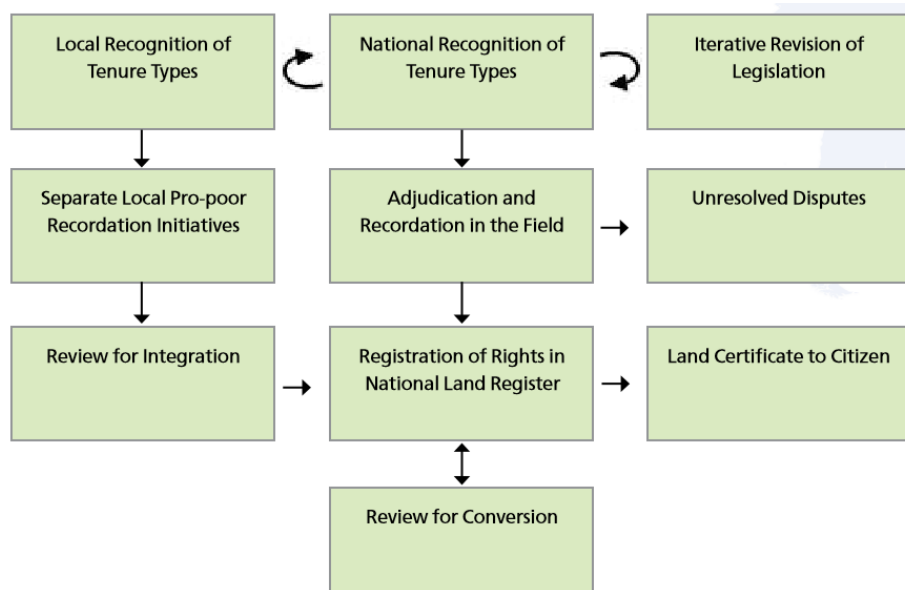


Figure 1: Local and National Land Administration Processes (GLTN/UN-HABITAT/Kadaster, 2016)